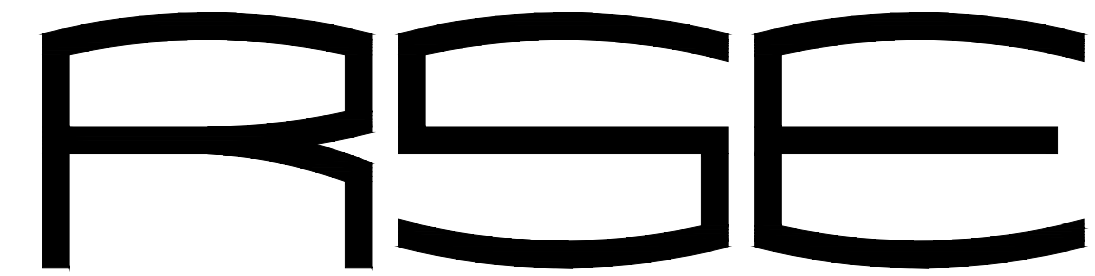


UPGRADE ELECTRIC NETWORK CAMP RISING SUN LAKE OF THE OZARKS STATE PARK KAISER, MISSOURI



ROGERS-SCHMIDT ENGINEERING CO., P.C.

CONSULTING ENGINEERS
MISSOURI STATE CERTIFICATE
OF AUTHORITY #000408

OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF STATE PARKS

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

DESIGNER: ROGERS-SCHMIDT ENGINEERING CO., PC.
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PHONE: 636-600-1551
EMAIL: BFREINER@ROGERS-SCHMIDT.COM

PROJECT NUMBER: X2202-01

SITE NUMBER: 5306
ASSET NUMBER: 7815306134

SHEET NUMBER:

G-001

1 OF 20 SHEETS
MARCH 28, 2023



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024

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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF STATE PARKS

UPGRADE ELECTRIC
NETWORK
CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
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DATE: _____

ISSUE DATE: 03/28/2023

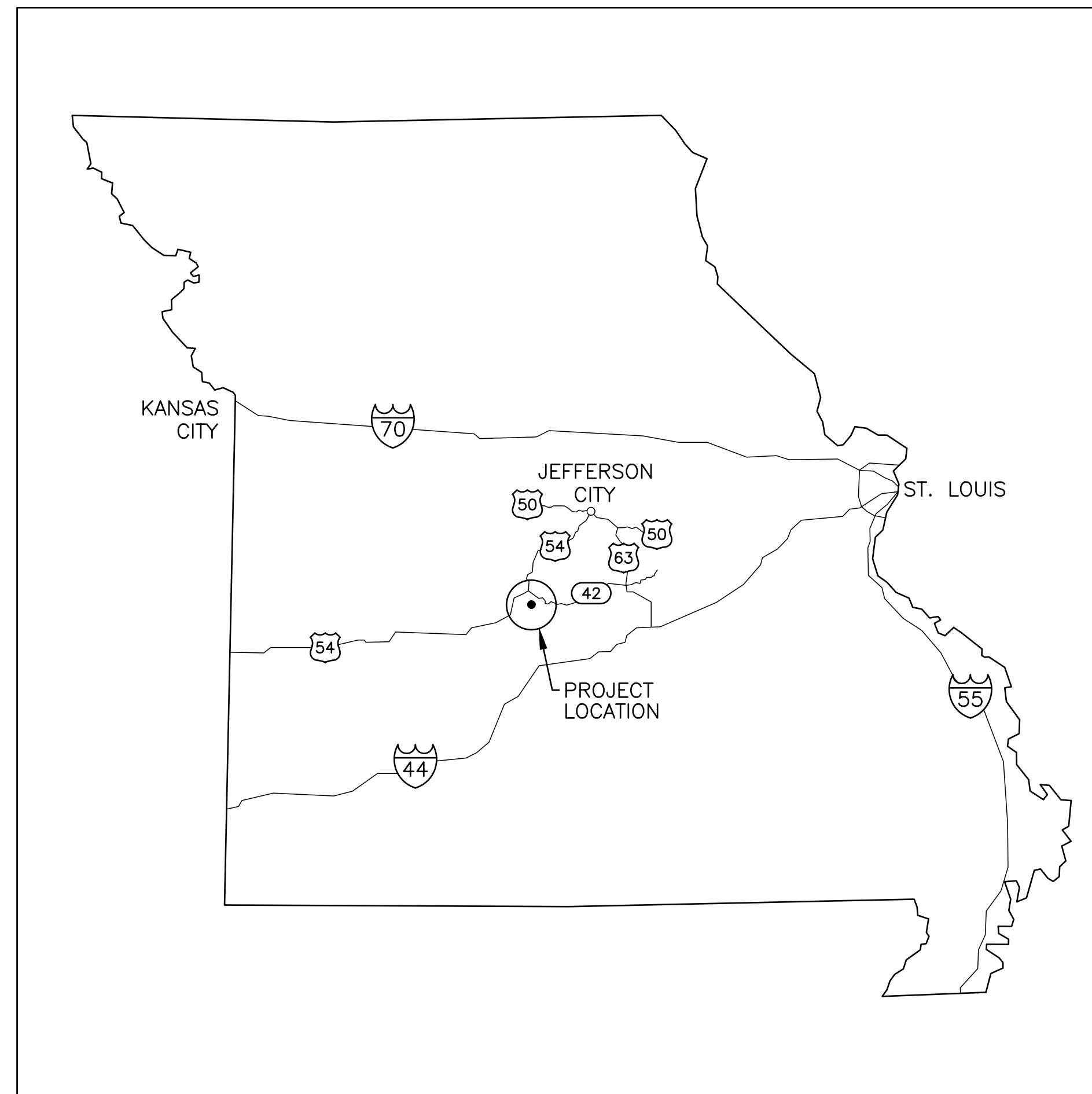
CAD DWG FILE: X2202-01-5306-
7815306134- G-002.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
SITE MAPS AND
DRAWING INDEX

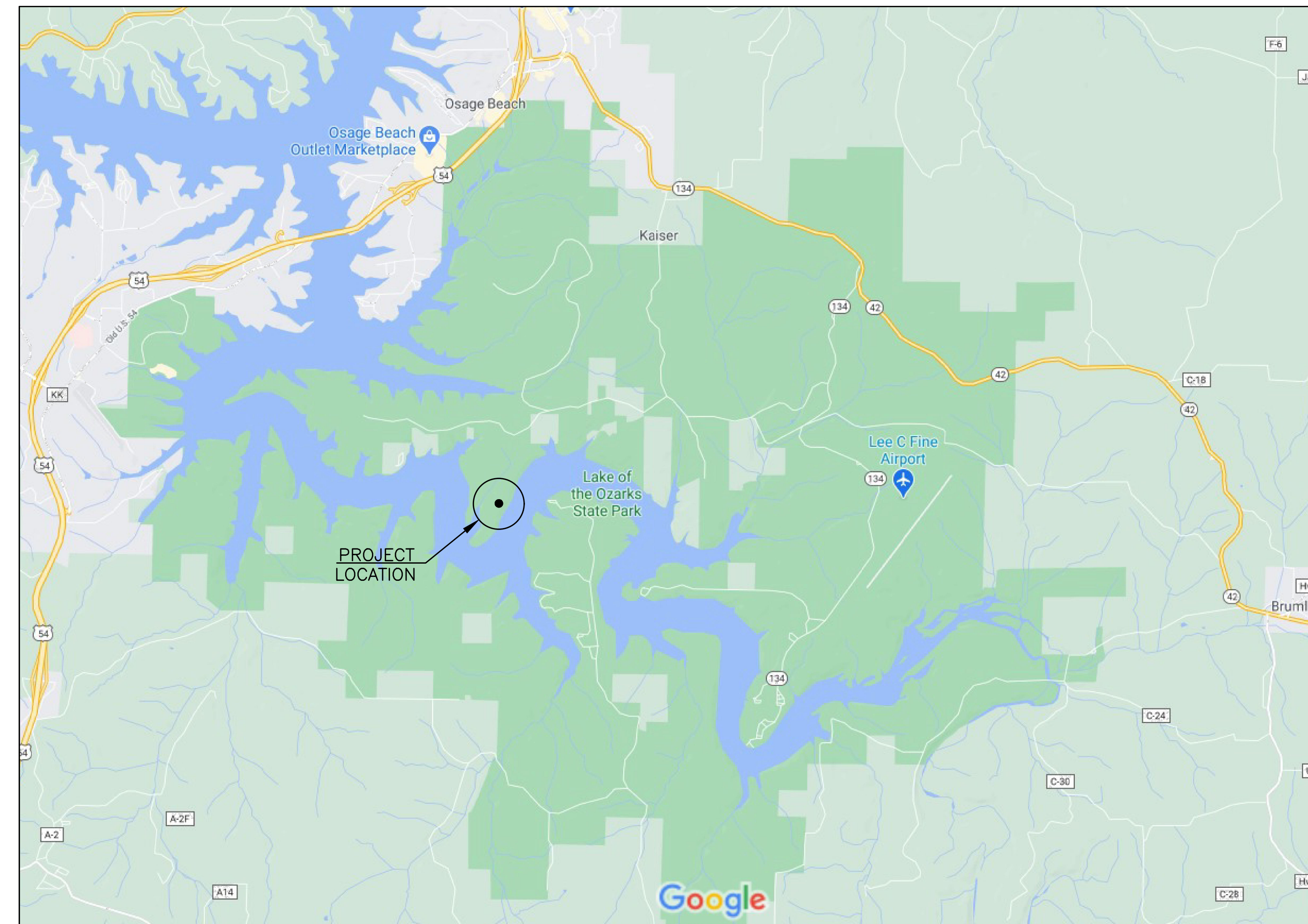
SHEET NUMBER:

G-002

2 OF 20 SHEETS
MARCH 28, 2023



LOCATION MAP
NO SCALE



SITE MAP
NO SCALE



BID ADD ALTERNATES:

1. ALTERNATE NO. 1:
 - a. REPLACE EXISTING LOAD CENTERS AT BLDGS B1, B2, B3, B4, B5, B6, B7 & B8 WITH NEW PNLBDS IN ACCORDANCE WITH SPECIFICATION 262416.
 - b. REPLACE ALL EXISTING SITE LTG AND WOODEN POLES WITH NEW LED SITE LTG FIXTURES AND STEEL POLES IN ACCORDANCE WITH SPECIFICATION 265613, THE INSTALLATION DETAILS ON DWG E-502 AND THE LTG FIXTURE SCHED ON DWG E-604 IN THE LOCATIONS INDICATED ON DWGS ES-103 AND ES-104.
2. ALTERNATE NO. 2: PROVIDE ALL NEW UG FDRS USING TYPE XHHW-2 SINGLE CONDUCTORS IN ACCORDANCE WITH SPECIFICATION 260519 INSTALLED IN DIRECT BURIED SCH 40 PVC CONDUIT IN ACCORDANCE WITH SPECIFICATION 260533.13 USING THE EXCAVATED SOIL AS BACKFILL, IN LIEU OF USING DIRECT BURIED, FACTORY PLEXED SECONDARY URD CABLE WITH TYPE USE-2 CONDUCTORS IN ACCORDANCE WITH SPECIFICATION 260519, BACKFILLED WITH SAND AS INDICATED IN THE DETAILS ON DWG E-501.
NOTE: THE MAIN FDRS FROM THE AMEREN MISSOURI XFMR POLE TO THE AMEREN CT CABINET & FDR CABLES AT ALL ROAD/DRIVE CROSSINGS ARE REQD TO BE INSTALLED IN PVC CONDUIT AS P/O THE BASE BID WORK PER THE DETAILS ON DWG E-501.
3. ALTERNATE NO. 3: PROVIDE A BUS MTD, SPD IN ACCORDANCE WITH SPECIFICATION 262416 FACTORY INSTALLED IN THE FOLLOWING PNLBDS:
 - a. PNLBD MP-CRS
 - b. PNLBD DH
 - c. PNLBD B8 (REPLACEMENT OF THIS PNLBD IS P/O ALT NO. 1)

D R A W I N G I N D E X

SHEET	DRAWING NUMBER	DRAWING TITLE
1 OF 20	G-001	COVER SHEET
2 OF 20	G-002	SITE MAPS AND DRAWING INDEX
3 OF 20	C-101	CIVIL SITE PLAN
4 OF 20	C-501	CIVIL DETAILS
5 OF 20	E-001	ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES
6 OF 20	ES-101	ELECTRICAL SITE DEMOLITION PLAN - NORTH
7 OF 20	ES-102	ELECTRICAL SITE DEMOLITION PLAN - SOUTH
8 OF 20	ES-103	ELECTRICAL SITE PLAN - NORTH
9 OF 20	ES-104	ELECTRICAL SITE PLAN - SOUTH
10 OF 20	ED-401	ELECTRICAL DEMOLITION PLANS
11 OF 20	ED-402	ELECTRICAL DEMOLITION PLANS - ALT BID NO. 1
12 OF 20	ED-601	ONE-LINE DIAGRAM - DEMOLITION
13 OF 20	E-401	ELECTRICAL PLANS
14 OF 20	E-402	ELECTRICAL PLANS - ALT BID NO. 1
15 OF 20	E-501	ELECTRICAL DETAILS
16 OF 20	E-502	LIGHTING FIXTURE INSTALLATION DETAILS - ALT BID NO. 1
17 OF 20	E-601	ONE-LINE DIAGRAM
18 OF 20	E-602	PANELBOARD SCHEDULES & ALT BID NO. 3
19 OF 20	E-603	PANELBOARD & LIGHTING FIXTURE SCHEDULES & ALT BID NO. 1
20 OF 20	E-604	PANELBOARD SCHEDULES - ALT BID NO. 1 & ALT BID NO. 3

GENERAL NOTE:

- A. IF ANY CULTURAL MATERIAL IS ENCOUNTERED DURING CONSTRUCTION, WORK MUST BE HALTED AND THE CULTURAL RESOURCE MANAGEMENT (CRM) SECTION NEEDS TO BE NOTIFIED.



BARRY D. FREINER
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UPGRADE ELECTRIC
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CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
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ISSUE DATE: 03/28/2023

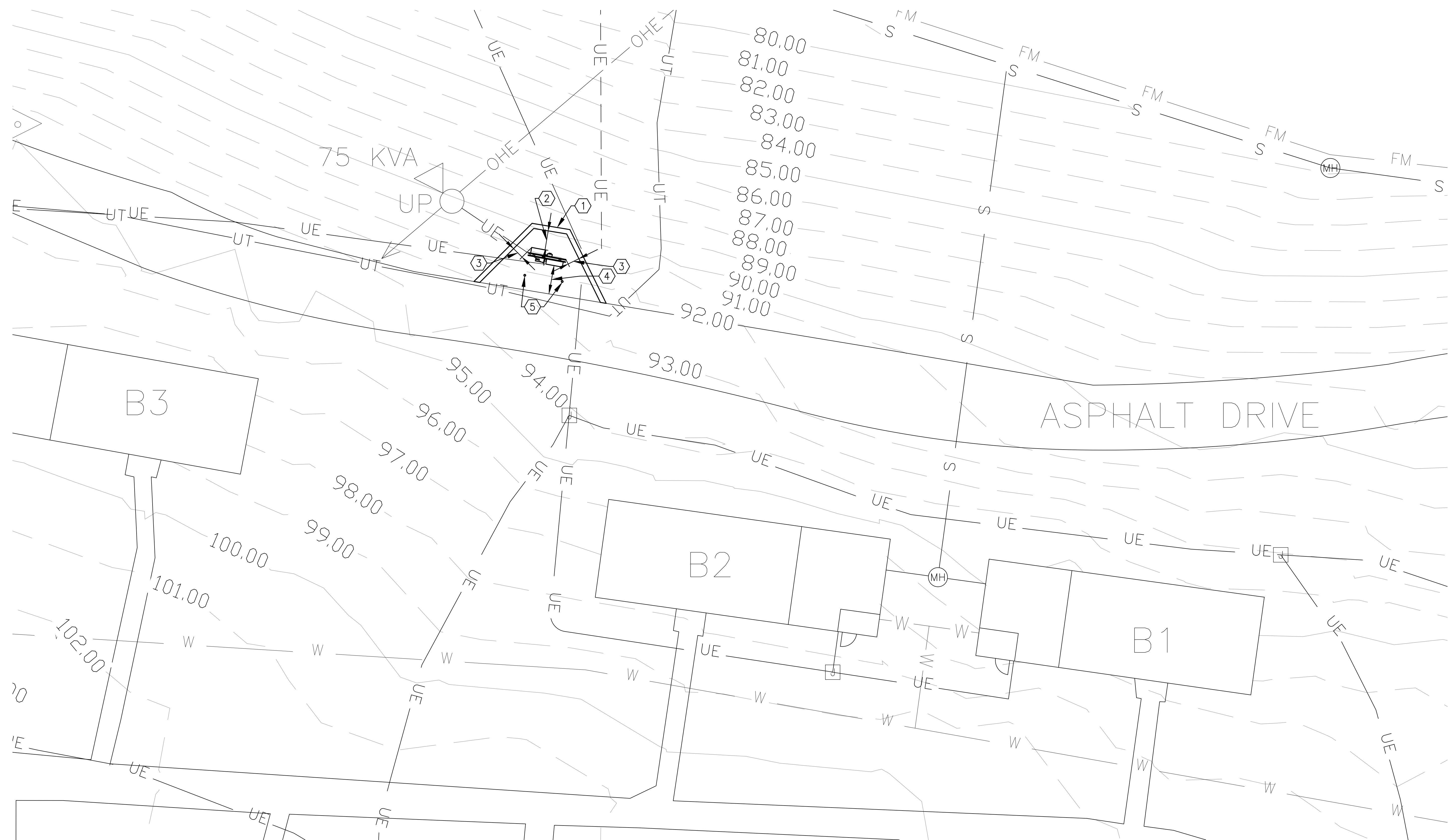
CAD DWG FILE: X2202-01-5306-
7815306134-C-101.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
CIVIL SITE PLAN

SHEET NUMBER:

C-101

3 OF 20 SHEETS
MARCH 28, 2023



CIVIL SITE PLAN
SCALE: 1"=10'-0" 0 10' 20'

GENERAL NOTES:

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. ALL UG UTILITIES ARE PRIVATELY (STATE) OWNED. FIELD LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATING.

KEY NOTES:

1. DELEGATED DESIGN: SEGMENTAL BLOCK RETAINING WALL, CONCRETE PAD AND GUARD RAIL PER THE DETAILS ON DWG C-501.
2. 4'-0" CLEAR FROM FRONT OF ENCLOSURE TO INSIDE EDGE OF RETAINING WALL.
3. 2'-6" CLEAR FROM EQUIP TO INSIDE EDGE OF RETAINING WALL.
4. FRONT OF PANEL 6'-0" OFF EDGE OF PAVEMENT.
5. SEE DETAIL 104 ON DWG E-501.



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PROJECT # X2202-01
SITE # 5306
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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134-C-501.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
CIVIL DETAILS

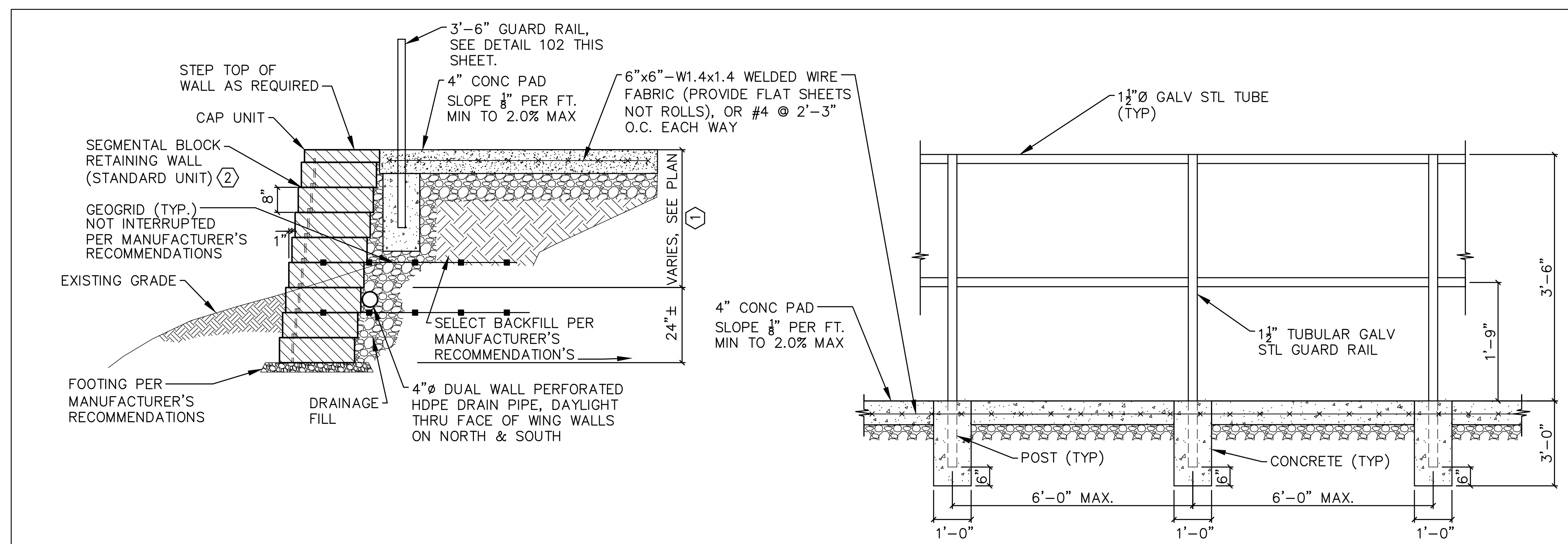
SHEET NUMBER:

C-501

4 OF 20 SHEETS
MARCH 28, 2023

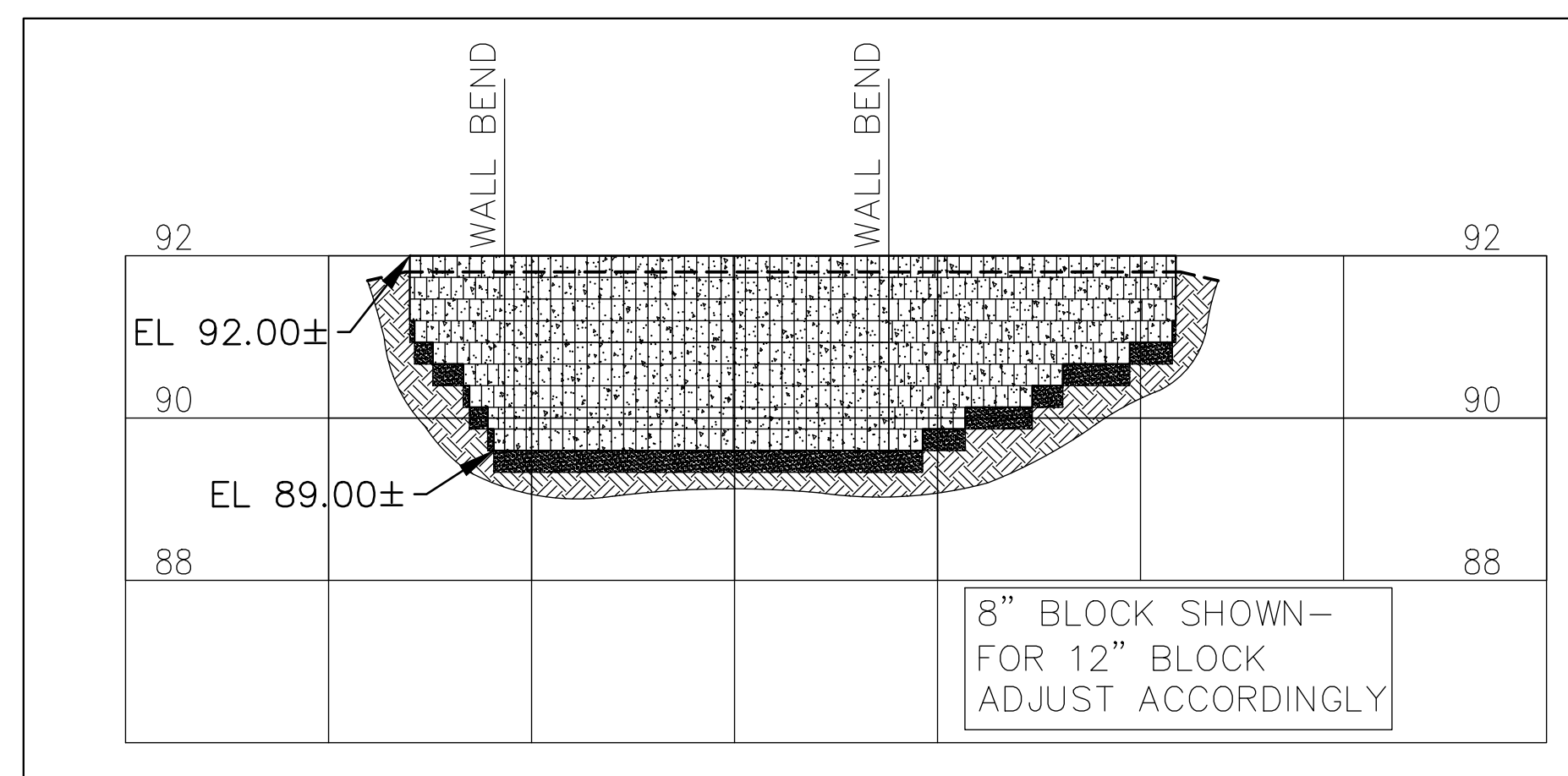
KEY NOTES:

1. WALL TO BE DESIGNED/BUILT BY CONTRACTOR PER MANUFACTURER'S GUIDELINES. CONTRACTOR TO SUBMIT MO PE SIGNED AND SEALED CALCULATIONS AND SHOP DRAWINGS FOR REVIEW AND APPROVAL.
2. OWNER TO SELECT COLOR FROM MANUFACTURERS FULL RANGE. CONTRACTOR TO PROVIDE SAMPLE MASONRY UNITS TO OWNER FOR REVIEW AND APPROVAL.

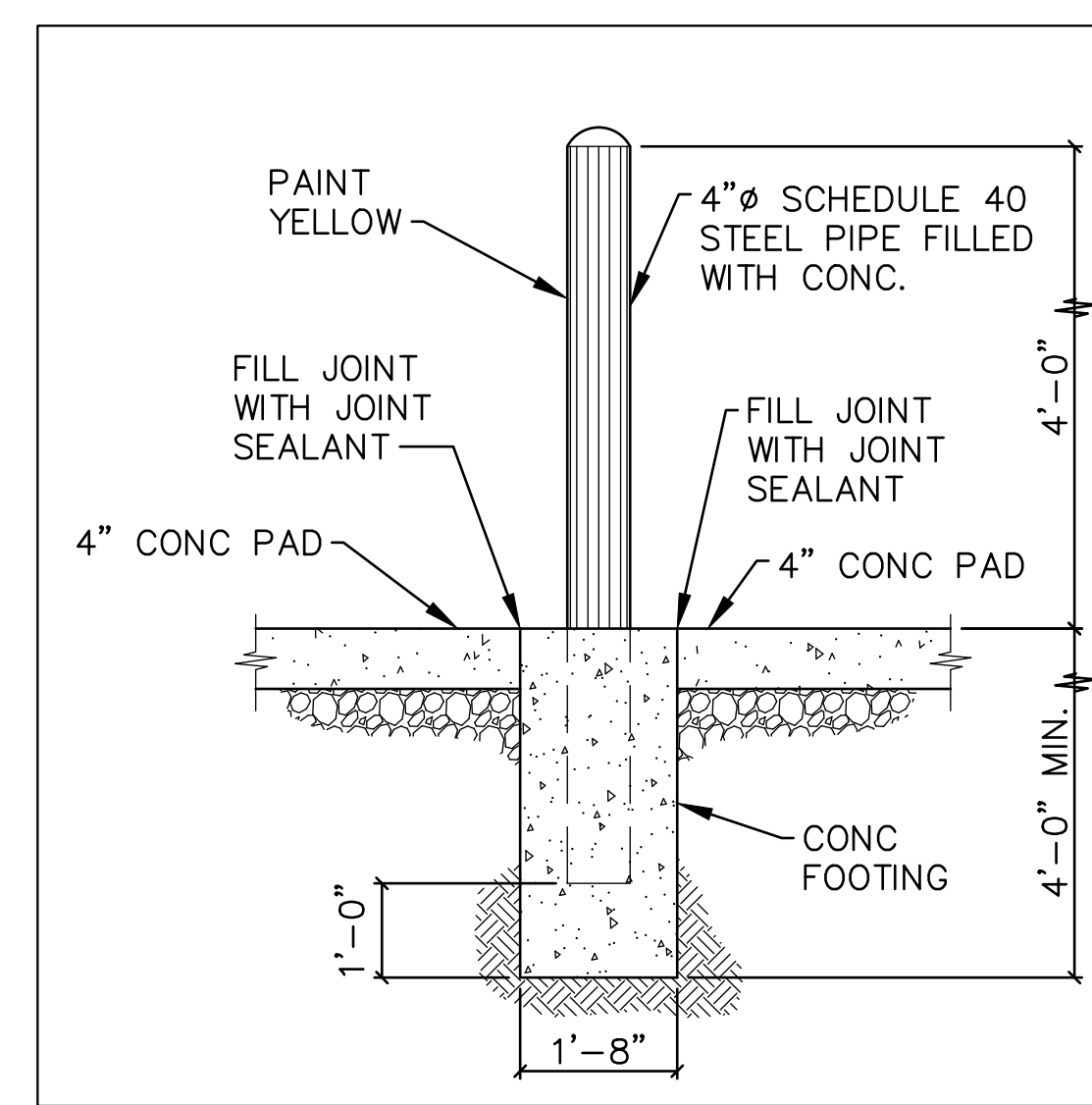


101
C-501
NOT TO SCALE
TYPICAL SECTION THROUGH
SEGMENTAL BLOCK RETAINING WALL

102
C-501
NOT TO SCALE
TYPICAL GUARD RAIL



103
C-501
NOT TO SCALE
RETAINING WALL PROFILE



104
C-501
NOT TO SCALE
TYPICAL BOLLARD DETAIL



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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- E-001.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL
SYMBOLS,
ABBREVIATIONS &
GENERAL NOTES**

SHEET NUMBER:

E-001

5 OF 20 SHEETS
MARCH 28, 2023

ELECTRICAL SYMBOLS

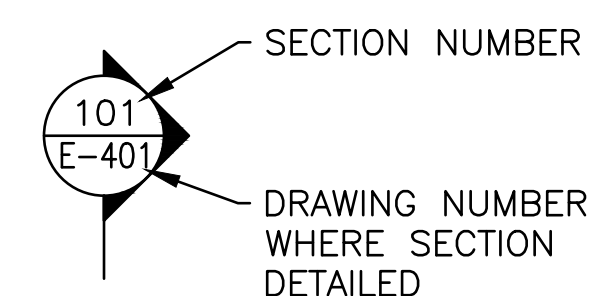
	KEYNOTE; SPECIFICALLY REFERENCED TO AN ITEM ON THE FIELD OF THE DRAWING. DIGITS IDENTIFY NOTE NUMBER.
	FDR NUMBER PER FDR SCHEDULE
	CONDUIT EXPOSED
	CONDUIT OR CABLE TURNED DOWN
	CONDUIT OR CABLE TURNED UP
	CONDUIT BELOW GRADE
	FLEXIBLE CONDUIT OR CABLE
	DISCONNECT SWITCH F = FUSIBLE C = CIRCUIT BREAKER
	JUNCTION BOX
	JUNCTION BOX W/ SPLICE(S)
	NEW PANELBOARD
	EXISTING PANELBOARD
	SINGLE POLE SWITCH
	120V DUPLEX RECEPTACLE
	120V GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE
	120V DUPLEX RECEPTACLE W/ WEATHERPROOF COVER
	SURGE PROTECTIVE DEVICE
	SURGE ARRESTER
	GROUNDING ROD
	EARTH GROUNDING CONNECTION
	WIRING CROSSING, CONNECTION
	WIRING CROSSING, NO CONNECTION
	EQUIPMENT CONNECTION
	FUSED SWITCH
	CIRCUIT BREAKER
	TRANSFORMER
	ELECTRIC METER
	CT CABINET

ELECTRICAL ABBREVIATIONS

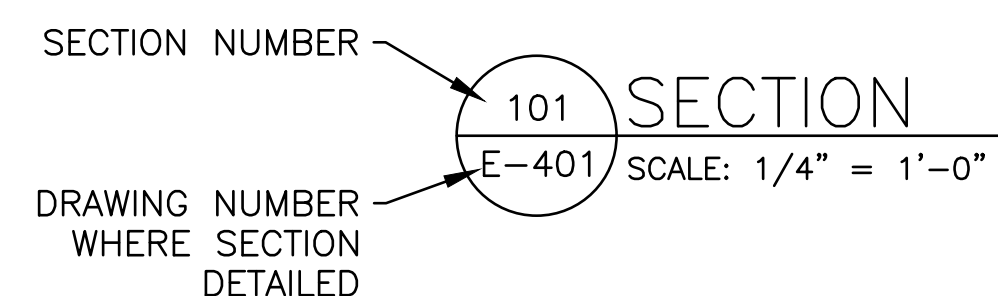
A	AMPERE(S)	LC	LOAD CENTER
ABAND	ABANDONED	LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
AC	ALTERNATING CURRENT	LP	LIGHTING PANELBOARD
A/C	AIR-CONDITIONER	M	METER
AF	AMP FUSE OR AMP FRAME	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISHED GRADE	MCCB	MOLDED CASE CIRCUIT BREAKER
AIC	AMPERE INTERRUPTING CAPACITY (RMS SYMMETRICAL)	MIN	MINIMUM
ALT	ALTERNATE	MLO	MAIN LUG ONLY
APPROX	APPROXIMATELY	MTD	MOUNTED
ASSOC	ASSOCIATED	N OR NEUT	NEUTRAL
ASSY	ASSEMBLY	N/A	NOT APPLICABLE
AVAIL	AVAILABLE	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAUGE	NFPA	NATIONAL FIRE PROTECTION AGENCY
BFG	BELOW FINISHED GRADE	NIC	NOT IN CONTRACT
BKR	BREAKER	NTS	NOT TO SCALE
BLDG	BUILDING	OH	OVERHEAD
C	CONDUIT OR CONDUCTOR	OHE	OVERHEAD ELECTRIC
CB	CIRCUIT BREAKER	P	POLE(S)
CKT	CIRCUIT	P/O	PART OF
CNTRL	CONTROL	PNL	PANEL
CONC	CONCRETE	PNLBD	PANELBOARD
CT	CURRENT TRANSFORMER	PSI	POUNDS PER SQUARE INCH
CTR	CENTER	PVC	SCHEDULE 40 POLYVINYLCHLORIDE CONDUIT
CU	COPPER	PWR	POWER
D OR DP	DEEP	REC OR RECP	RECEPTACLE
DG	DOWN GUY	REQD	REQUIRED
DIA	DIAMETER	REQMTS	REQUIREMENTS
DISC	DISCONNECT	RM	ROOM
DN	DOWN	RMC	RIGID METAL CONDUIT
DS	DISCONNECT SWITCH	RMS	ROOT MEAN SQUARE
DWG	DRAWING	RV	RECREATIONAL VEHICLE
ELEV	ELEVATION	SA	SURGE ARRESTOR
ELEC	ELECTRIC OR ELECTRICAL	S.C.	SHORT CIRCUIT
ENCL	ENCLOSURE	SCH	SCHEDULE
EQUIP	EQUIPMENT	SE	SERVICE ENTRANCE OR SERVICE EQUIP
EWB	ELECTRIC WATER HEATER	SP	SINGLE POLE
EXIST	EXISTING	SPD	SURGE PROTECTIVE DEVICE
EXT	EXTERIOR	SS	STAINLESS STEEL
F	FUSE OR FUSIBLE	STL	STEEL
FDR	FEEDER	STRD	STRANDED
FL	FLOOR	SYM	SYMMETRICAL
FRT	FRONT	TEMP	TEMPORARY
GA	GAUGE	TERM	TERMINATION
GALV	GALVANIZED	TMCB	THERMAL MAGNETIC CIRCUIT BREAKER
GF	GROUND FAULT	TYP	TYPICAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UE	UNDERGROUND ELECTRIC
GRC	GALVANIZED RIGID STEEL CONDUIT	UG	UNDERGROUND
G OR GRD	GROUND	UP	UTILITY POLE
HZ	FREQUENCY IN CYCLES PER SECOND	V	VOLT(S)
INCL	INCLUDING	VA	VOLT-AMPERE(S)
INFO	INFORMATION	W	WATT(S), WIRE(S) OR WIDE
INS	INSULATED	W/	WITH
J, JB, J-BOX	JUNCTION BOX	W/G	WITH GROUND
kA	KILOAMPERE(S)	W/O	WITHOUT
kAIC	KILOAMPERE INTERRUPTING CAPACITY (RMS SYMMETRICAL)	WP	WEATHERPROOF
KCM	THOUSAND CIRCULAR MIL(S)	XFMR	TRANSFORMER
kV	KILOVOLT(S)	Z	IMPEDANCE
kVA	KILOVOLT-AMPERE(S)	&	AND
kW	KILOWATT(S)	Δ	DELTA
kWh	KILOWATT-HOUR(S)	#	NUMBER
L	LINE OR LONG	%	PERCENT
LA	LIGHTING ARRESTER	∅	PHASE OR DIAMETER

GENERAL ELECTRICAL NOTES:

- THE CONTRACTOR SHALL PROVIDE ALL HOLES IN FLOORS AND WALLS AS REQUIRED FOR CONDUIT ROUTING. SEAL PENETRATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
- COORDINATE EXACT LOCATIONS OF CONDUIT RUNS WITH EXISTING CONDITIONS AND WITH THE OWNER'S REPRESENTATIVE. INDICATE FINAL ROUTING OF ALL CONDUITS ON "AS BUILT" DRAWINGS.
- ALL INFORMATION CONTAINED ON THIS DRAWING APPLIES TO ES, ED AND E SERIES DRAWINGS.
- THERE MAY BE SYMBOLS AND/OR ABBREVIATIONS SHOWN ON THIS SHEET THAT ARE NOT APPLICABLE TO THIS PROJECT.



SECTION MARK



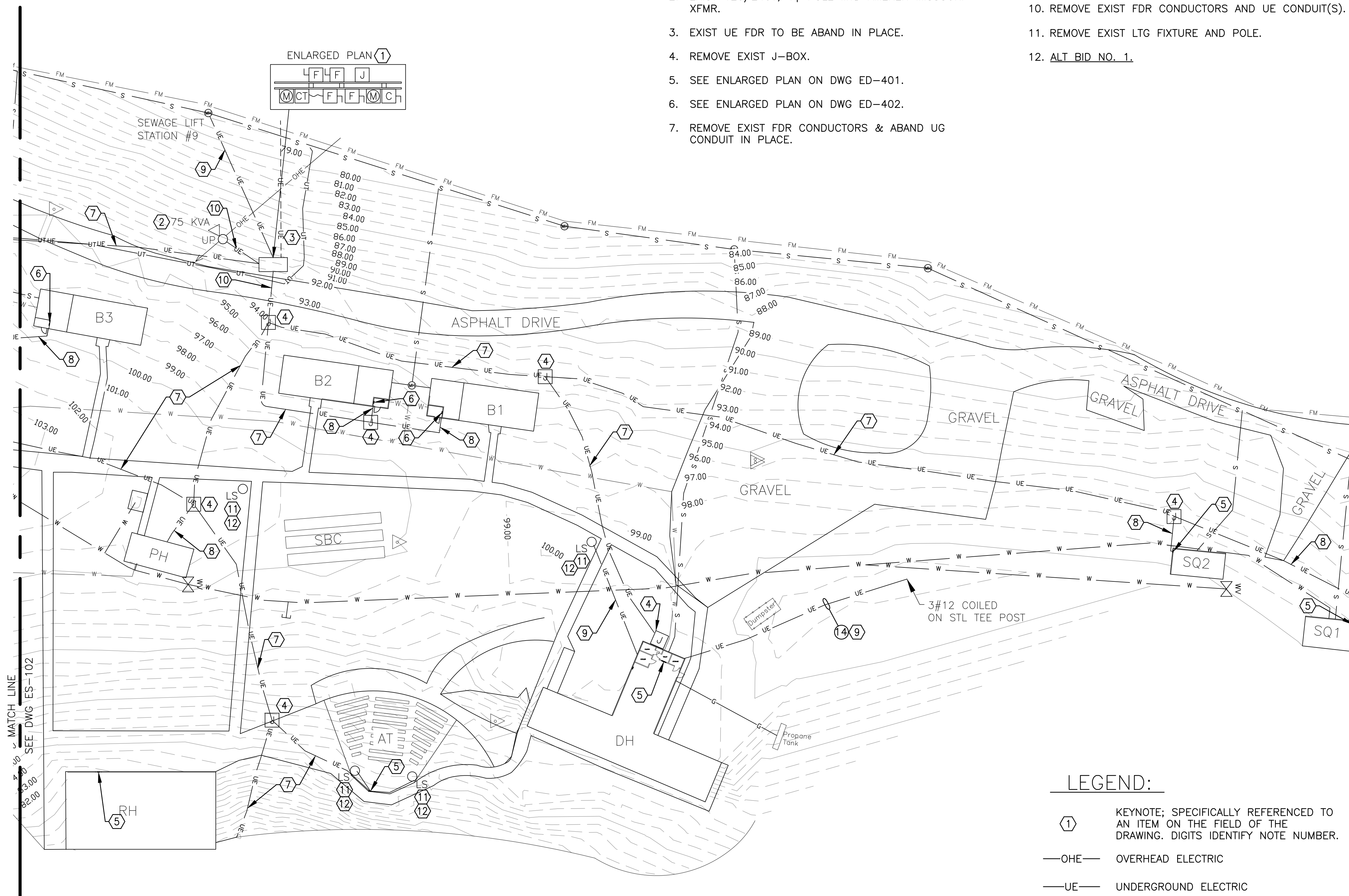
SECTION IDENTIFICATION SYMBOL

KEY NOTES:

1. REMOVE EXIST ELECT SERVICE EQUIP, INCL RACK AND POSTS. CONTACT AMEREN MISSOURI FOR REMOVAL OF CT CABINET & REVENUE METERS.
2. EXIST 120/240V, 1 ϕ POLE MTD AMEREN MISSOURI XFMR.
3. EXIST UE FDR TO BE ABAND IN PLACE.
4. REMOVE EXIST J-BOX.
5. SEE ENLARGED PLAN ON DWG ED-401.
6. SEE ENLARGED PLAN ON DWG ED-402.
7. REMOVE EXIST FDR CONDUCTORS & ABAND UG CONDUIT IN PLACE.
8. REMOVE EXIST FDR CONDUCTORS. UE CONDUIT TO REMAIN FOR INSTALLATION OF NEW CONDUCTORS.
9. EXIST UE FDR TO REMAIN.
10. REMOVE EXIST FDR CONDUCTORS AND UE CONDUIT(S).
11. REMOVE EXIST LTG FIXTURE AND POLE.
12. ALT BID NO. 1.

GENERAL NOTES:

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. ALL UG UTILITIES ARE PRIVATELY (STATE) OWNED. FIELD LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATING.
- D. COORDINATE ELECTRICAL SERVICE DISCONNECTIONS WITH AMEREN MISSOURI (866-992-6619).
- E. REMOVE ABOVE GRADE PORTION OF CONDUIT DOWN TO 2'-0" MIN BFG FOR UE FDRS THAT ARE SHOWN TO BE ABAND.
- F. SEE DWGS ED-401 & ED-402 FOR BLDG ELECTRICAL DEMOLITION PLANS.
- G. SEE DWG ED-601 FOR DEMO FDR SCHEDULE.
- H. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.



LEGEND:

- (1) KEYNOTE; SPECIFICALLY REFERENCED TO AN ITEM ON THE FIELD OF THE DRAWING. DIGITS IDENTIFY NOTE NUMBER.
- OHE— OVERHEAD ELECTRIC
- UE— UNDERGROUND ELECTRIC
- W— UNDERGROUND WATER
- S— UNDERGROUND SANITARY SEWER
- FM— FORCE MAIN
- UT— UNDERGROUND TELEPHONE
- G— UNDERGROUND LP GAS
- _{UP} UTILITY POLE
- ← DOWN GUY
- ▽ EXIST POLE MTD XFMR
- _{LS} LIGHTING STANDARD

STRUCTURE LEGEND:

- AT AMPHITHEATER
- B_ BARRACKS
- DH DINING HALL
- PH PUMP HOUSE
- RH RECREATION HALL
- SQ_ STAFF QUARTERS
- SBC SHUFFLE BOARD COURTS

ELECTRICAL SITE PLAN-NORTH
 SCALE: 1"=30'-0"
 NORTH



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 CAD DWG FILE: X2202-01-5306-7815306134-ES-101.DWG
 DRAWN BY: MNS/KET
 CHECKED BY: BDF
 DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL SITE
 DEMOLITION PLAN
 - NORTH**

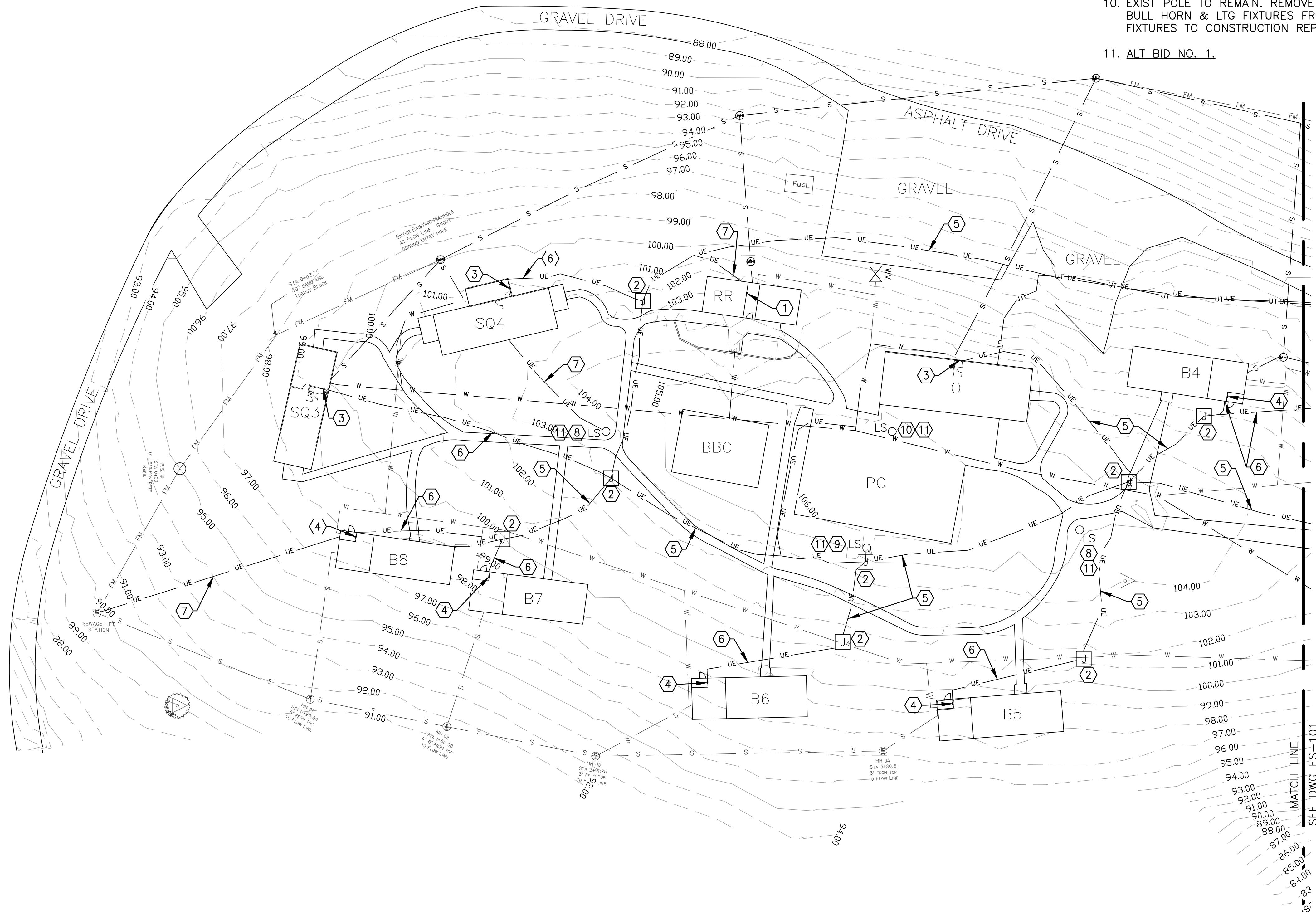
SHEET NUMBER:
ES-101
 6 OF 20 SHEETS
 MARCH 28, 2023

KEY NOTES:

1. EXIST LOAD CENTER TO REMAIN.
2. REMOVE EXIST UG J-BOX.
3. SEE ENLARGED PLAN ON DWG ED-401.
4. SEE ENLARGED PLAN ON DWG ED-402.
5. REMOVE EXIST FDR CONDUCTORS & ABAND UG CONDUIT IN PLACE.
6. REMOVE EXIST FDR CONDUCTORS. UE CONDUIT TO REMAIN FOR INSTALLATION OF NEW CONDUCTORS.
7. EXIST UE FDR TO REMAIN.
8. REMOVE EXIST LTG FIXTURE AND POLE.
9. EXIST LTG FIXTURES & POLE TO BE REMOVED. RETURN LTG FIXTURES TO CONSTRUCTION REPRESENTATIVE.
10. EXIST POLE TO REMAIN. REMOVE EXIST CB DISC SW, BULL HORN & LTG FIXTURES FROM POLE. RETURN LTG FIXTURES TO CONSTRUCTION REPRESENTATIVE.
11. **ALT BID NO. 1.**

GENERAL NOTES:

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. ALL UG UTILITIES ARE PRIVATELY (STATE) OWNED. FIELD LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATING.
- D. REMOVE ABOVE GRADE PORTION OF CONDUIT DOWN TO 2'-0" MIN BFG FOR UE FDRS THAT ARE SHOWN TO BE ABAND.
- E. SEE DWGS ED-401 & ED-402 FOR BLDG ELECTRICAL DEMOLITION PLANS.
- F. SEE DWG ED-601 FOR DEMO FDR SCHEDULE.
- G. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.



STRUCTURE LEGEND:

- BBC BASKETBALL COURT
- B_ BARRACKS
- O OFFICE
- PC PLAY COURT
- RR REST ROOMS
- SQ_ STAFF QUARTERS

LEGEND:

- ① KEYNOTE; SPECIFICALLY REFERENCED TO AN ITEM ON THE FIELD OF THE DRAWING. DIGITS IDENTIFY NOTE NUMBER.
- OHE— OVERHEAD ELECTRIC
- UE— UNDERGROUND ELECTRIC
- W— UNDERGROUND WATER
- S— UNDERGROUND SANITARY SEWER
- FM— FORCE MAIN
- UT— UNDERGROUND TELEPHONE
- Q_{LS} LIGHTING STANDARD



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MISSOURI STATE CERTIFICATE
OF AUTHORITY #000408

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF STATE PARKS

UPGRADE ELECTRIC
NETWORK
CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134-ES-102.DWG
DRAWN BY: MNS/KET
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL SITE
DEMOLITION PLAN
- SOUTH**

SHEET NUMBER:

ES-102

7 OF 20 SHEETS
MARCH 28, 2023

KEY NOTES:

- SEE ELEVATION VIEW 103 & PLAN VIEW 104 ON DWG E-501 FOR ELECTRICAL SERVICE EQUIP ARRANGEMENT. COORDINATE EQUIP LOCATION WITH AMEREN MISSOURI.
- DELEGATED DESIGN:** SEE CIVIL DWGS FOR SEGMENTAL BLOCK RETAINING WALL, CONC PAD & GUARD RAIL.
- EXIST 120/240V, 1 ϕ POLE MTD AMEREN MISSOURI XFMR.
- EXIST UE FDR TO REMAIN.
- PROVIDE NEW UG J-BOX. SEE DETAIL ON DWG E-501.
- SEE ENLARGED PLAN ON DWG E-401.
- SEE ENLARGED PLAN ON DWG E-402.
- PROVIDE NEW UE FDR(S). SEE DETAILS ON DWG E-501.
- PROVIDE NEW CONDUCTORS IN EXIST UG CONDUIT.
- REWORK EXIST UG 2"PVC-3#6 & 1#10 GRD INTO NEW PNLBD MP-CRS.
- PROVIDE CONDUIT EXPANSION FITTING AT 18" AFG & LB CONDUIT BODY FOR BLDG WALL PENETRATION.
- PROVIDE NEW LTG FIXTURE ON SQ STL POLE PER THE DETAILS ON DWG E-502 AND THE LTG FIXTURE SCHED ON DWG E-603.
- PROVIDE 1"C-2#12 & 1#12 GRD TO PNLBD AT.
- PROVIDE 2-GANG WP CAST BOX W/ (2) SP SWITCHES & 2-GANG WP COVER FOR ON/OFF CNTRL OF BOTH LTG FIXTURES ON BOTH POLES.
- ALT BID NO. 1.

GENERAL NOTES:

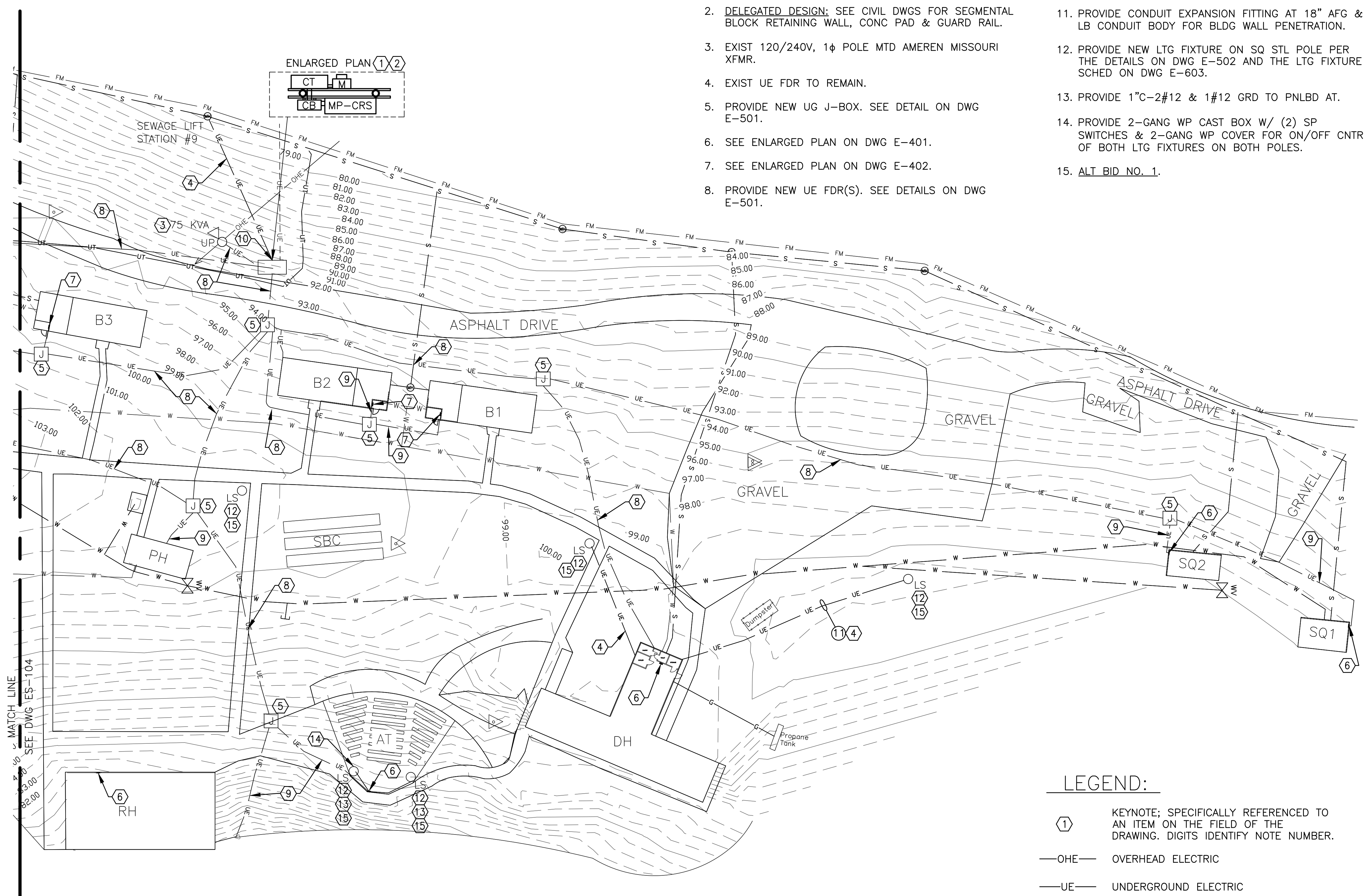
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- FIELD VERIFY ALL DIMENSIONS.
- ALL UG UTILITIES ARE PRIVATELY (STATE) OWNED. FIELD LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATING.
- CONTACT THE OSAGE BEACH FIRE DEPARTMENT (573-348-1221) FOR AN ELECTRICAL SERVICE INSPECTION. ONCE OBFD INSPECTION TAG HAS BEEN APPLIED TO THE ELEC SERVICE EQUIP, COORDINATE ELECTRICAL SERVICE CONNECTIONS WITH AMEREN MISSOURI (1-866-992-6619).
- THE ENTIRE INSTALLATION MUST BE INSTALLED IN ACCORDANCE WITH NFPA 70 (NEC) AND ANY AND ALL OTHER GOVERNING CODES AND ORDINANCES.
- ALL ELECTRICAL CONDUCTORS SHALL BE COPPER.
- ALL DIRECT BURIED CABLE SHALL BE XLPE-USE INSULATED POWER CABLES.
- DIRECT BURIED CABLES ENTERING OR LEAVING A TRENCH SHALL BE PROTECTED BY SCH 40 PVC CONDUIT.
- SCH 40 PVC CONDUIT SHALL BE USED FOR SE CONDUCTORS TO SE PNLBD. CABLES ARE ONLY PERMITTED TO BE DIRECT BURIED BETWEEN THE SE PANELBOARD AND THE MAIN PNLBD AT EACH BLDG.
- ALL EXTERIOR SWITCHES, CIRCUIT BREAKERS, RECEPTACLES, CONTROL EQUIPMENT, AND METERING DEVICES SHALL HAVE WEATHERPROOF ENCL.
- PROVIDE A 5/8-INCH x 8-FOOT GROUND ROD WITH #2 AWG STRANDED CU GRD AT THE MAIN PNLBD AT EACH BLDG.
- CARE SHALL BE TAKEN TO AVOID DAMAGING TREES. ROUTE NEW UG CONDUITS/CONDUCTORS AS REQD TO MINIMIZE ROOT DAMAGE. TRENCHES SHALL BE OUTSIDE THE CROWN WIDTH OF TREES OR A MIN OF 10FT FROM BASE OF TRUNK, WHICHEVER IS SHORTER. IF THE TREE SPACING DOES NOT PERMIT THIS, THEN BISECT THE DISTANCE BETWEEN THE TREES. UG FDRS MAY BE DIRECTIONAL BORED WITH SCH 40 HDPE CONDUIT IF NECESSARY TO AVOID DAMAGING LARGE ROOTS THAT MIGHT KILL TREES.
- SUBMIT A COPY OF THIS DWG AS A SHOP DWG SUBMITTAL SHOWING THE PROPOSED ROUTING & LENGTH OF THE UG FDR CONDUCTORS FROM THE SE PNLBD TO THE MAIN PNLBD FOR EACH BLDG TO ALLOW FOR VERIFICATION OF THE VOLTAGE DROP CALCULATIONS.
- MAINTAIN 6" MIN SEPARATION BETWEEN UG FDR CONDUITS/CABLES SHARING A COMMON TRENCH, 12" MIN SEPARATION BETWEEN UG FDR CONDUITS/CABLES AND UG SE CONDUITS AND 12" MIN SEPARATION BETWEEN UG FEEDER CONDUITS/CABLES AN ALL OTHER UG UTILITIES.
- SEE DWGS E-401 & E-402 FOR BLDG ELECTRICAL PLANS.
- SEE DWG E-601 FOR FDR SCHEDULE.
- REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

LEGEND:

- ① KEYNOTE; SPECIFICALLY REFERENCED TO AN ITEM ON THE FIELD OF THE DRAWING. DIGITS IDENTIFY NOTE NUMBER.
- OHE— OVERHEAD ELECTRIC
- UE— UNDERGROUND ELECTRIC
- W— UNDERGROUND WATER
- S— UNDERGROUND SANITARY SEWER
- FM— FORCE MAIN
- UT— UNDERGROUND TELEPHONE
- G— UNDERGROUND LP GAS
- _{UP} UTILITY POLE
- ← DOWN GUY
- ▽ EXIST POLE MTD XFMR
- _{LS} LIGHTING STANDARD

STRUCTURE LEGEND:

- AT AMPHITHEATER
- B_ BARRACKS
- DH DINING HALL
- PH PUMP HOUSE
- RH RECREATION HALL
- SQ_ STAFF QUARTERS
- SBC SHUFFLE BOARD COURTS



ELECTRICAL SITE PLAN-NORTH
SCALE: 1"=30'-0"
NORTH



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024
**ROGERS-SCHMIDT
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STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 03/28/2023
CAD DWG FILE: X2202-01-5306-7815306134-ES-103.DWG
DRAWN BY: MNS/KET
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL SITE
PLAN - NORTH**

SHEET NUMBER:
ES-103
8 OF 20 SHEETS
MARCH 28, 2023

KEY NOTES:

1. EXIST LOAD CENTER TO REMAIN.
2. PROVIDE NEW UG J-BOX. SEE DETAIL ON DWG E-501.
3. SEE ENLARGED PLAN ON DWG E-401.
4. SEE ENLARGED PLAN ON DWG E-402.
5. PROVIDE NEW UE FDR(S). SEE DETAILS ON DWG E-501.
6. PROVIDE NEW CONDUCTORS IN EXIST UG CONDUIT.
7. EXIST UE-FDR TO REMAIN.
8. PROVIDE NEW LTG FIXTURE ON SQ STL POLE PER THE DETAILS ON DWG E-502 AND THE LTG FIXTURE SCHED ON DWG E-603.
9. PROVIDE NEW BULLHORN & LTG FIXTURES ON EXIST ROUND TAPERED STL POLE PER THE LTG FIXTURE SCHED ON DWG E-603.
10. PROVIDE 1" C-3#10 & 1#10 GRD TO PNLBD 0 IN THE OFFICE BLDG.
11. PROVIDE 240V, 20A/2P, 10ka, GFCI CB DISC SW IN NEMA 3R ENCL ON POLE AT LOCATION WHERE EXIST CB DISC SW WAS REMOVED. SEE DWG ES-102.
12. ALT BID NO. 1.

GENERAL NOTES:

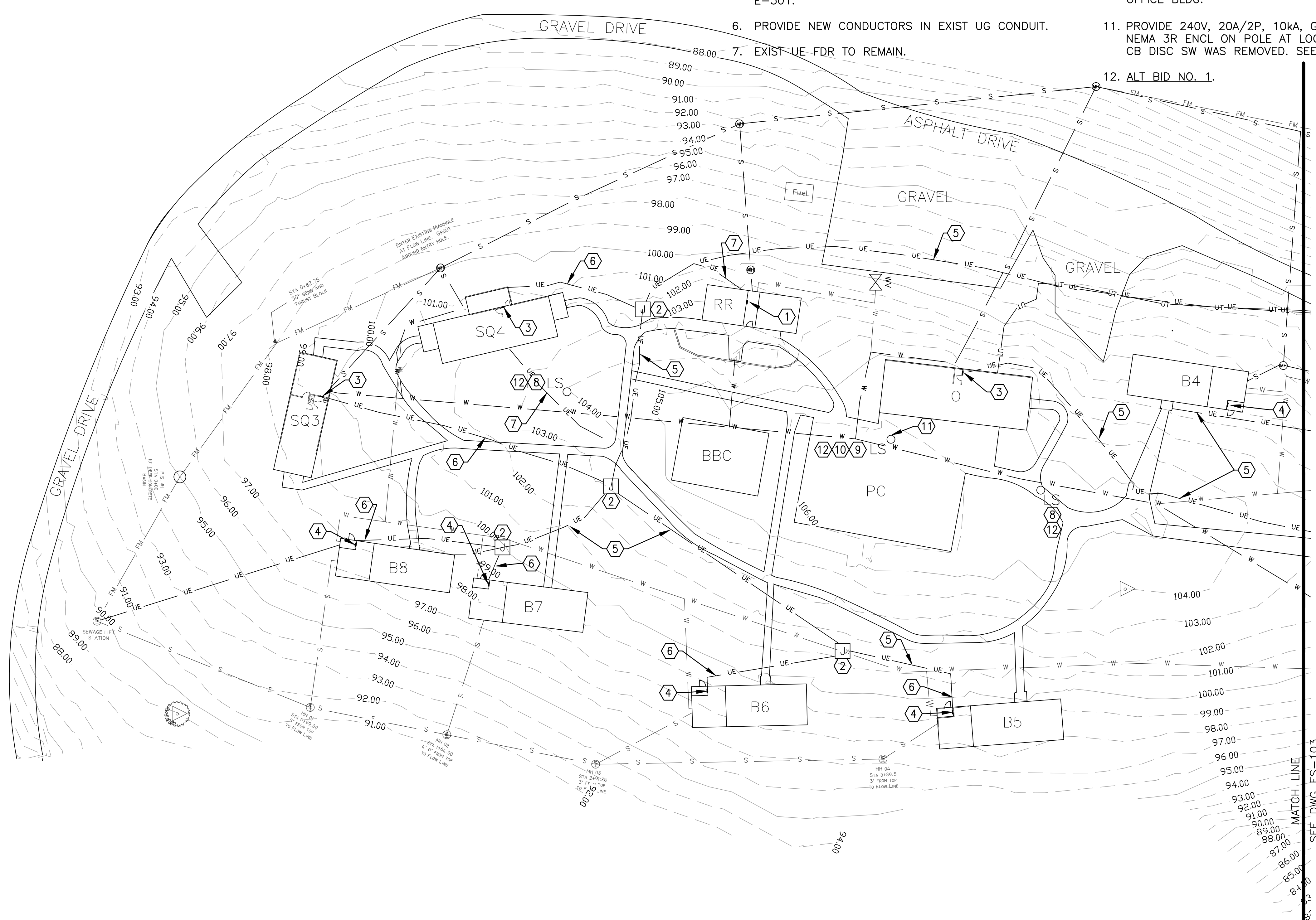
- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. ALL UG UTILITIES ARE PRIVATELY (STATE) OWNED. FIELD LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATING
- D. THE ENTIRE INSTALLATION MUST BE INSTALLED IN ACCORDANCE WITH NFPA 70 (NEC) AND ANY AND ALL OTHER GOVERNING CODES AND ORDINANCES.
- E. ALL ELECTRICAL CONDUCTORS SHALL BE COPPER.
- F. ALL DIRECT BURIED CABLE SHALL BE XLPE-USE INSULATED POWER CABLES.
- G. DIRECT BURIED CABLES ENTERING OR LEAVING A TRENCH SHALL BE PROTECTED BY SCH 40 PVC CONDUIT.
- H. SCH 40 PVC CONDUIT SHALL BE USED FOR SE CONDUCTORS TO SE PNLBD. CABLES ARE ONLY PERMITTED TO BE DIRECT BURIED BETWEEN THE SE PANELBOARD AND THE MAIN PNLBD AT EACH BLDG.
- I. ALL EXTERIOR SWITCHES, CIRCUIT BREAKERS, RECEPTACLES, CONTROL EQUIPMENT, AND METERING DEVICES SHALL HAVE WEATHERPROOF ENCL.
- J. PROVIDE A 5/8-INCH x 8-FOOT GROUND ROD WITH #2 AWG STRANDED CU GRD AT THE MAIN PNLBD AT EACH BLDG.
- K. CARE SHALL BE TAKEN TO AVOID DAMAGING TREES. ROUTE NEW UG CONDUITS/CONDUCTORS AS REQD TO MINIMIZE ROOT DAMAGE. TRENCHS SHALL BE OUTSIDE THE CROWN WIDTH OF TREES OR A MIN OF 10FT FROM BASE OF TRUNK, WHICHEVER IS SHORTER. IF THE TREE SPACING DOES NOT PERMIT THIS, THEN BISECT THE DISTANCE BETWEEN THE TREES. UG FDRS MAY BE DIRECTIONAL BORED WITH SCH 40 HDPE CONDUIT IF NECESSARY TO AVOID DAMAGING LARGE ROOTS THAT MIGHT KILL TREES.
- L. SUBMIT A COPY OF THIS DWG AS A SHOP DWG SUBMITTAL SHOWING THE PROPOSED ROUTING & LENGTH OF THE UG FDR CONDUCTORS FROM THE SE PNLBD TO THE MAIN PNLBD FOR EACH BLDG TO ALLOW FOR VERIFICATION OF THE VOLTAGE DROP CALCULATIONS.
- M. MAINTAIN 6" MIN SEPARATION BETWEEN UG FDR CONDUITS/CABLES SHARING A COMMON TRENCH, 12" MIN SEPARATION BETWEEN UG FDR CONDUITS/CABLES AND UG SE CONDUITS AND 12" MIN SEPARATION BETWEEN UG FEEDER CONDUITS/CABLES AN ALL OTHER UG UTILITIES.
- N. SEE E-400 SERIES DWGS FOR BLDG ELECTRICAL PLANS.
- O. SEE DWG E-601 FOR FDR SCHEDULE.
- P. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

LEGEND:

- ① KEYNOTE; SPECIFICALLY REFERENCED TO AN ITEM ON THE FIELD OF THE DRAWING. DIGITS IDENTIFY NOTE NUMBER.
- OHE— OVERHEAD ELECTRIC
- UE— UNDERGROUND ELECTRIC
- W— UNDERGROUND WATER
- S— UNDERGROUND SANITARY SEWER
- FM— FORCE MAIN
- UT— UNDERGROUND TELEPHONE
- Q_{LS} LIGHTING STANDARD

STRUCTURE LEGEND:

- BBC BASKETBALL COURT
- B_ BARRACKS
- O OFFICE
- PC PLAY COURT
- RR REST ROOMS
- SQ_ STAFF QUARTERS



ELECTRICAL SITE PLAN—SOUTH
 SCALE: 1"=30'-0"
 NORTH



BARRY D. FREINER
 Registered Professional Engineer
 MO # E-24220
 Expires 12-31-2024

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UPGRADE ELECTRIC
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LAKE OF THE OZARKS
 STATE PARK
 403 HIGHWAY 134
 KAISER, MISSOURI 65047

PROJECT # X2202-01
 SITE # 5306
 ASSET # 7815306134

REVISION: _____
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ISSUE DATE: 03/28/2023

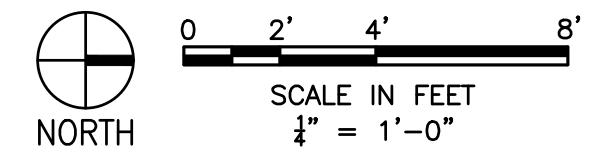
CAD DWG FILE: X2202-01-5306-7815306134-ES-104.DWG
 DRAWN BY: MNS/KET
 CHECKED BY: BDF
 DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL SITE
 PLAN - SOUTH**

SHEET NUMBER:

ES-104

9 OF 20 SHEETS
 MARCH 28, 2023



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MO # E-24220
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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- ED-401.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL
DEMOLITION
PLANS**

SHEET NUMBER:

ED-401

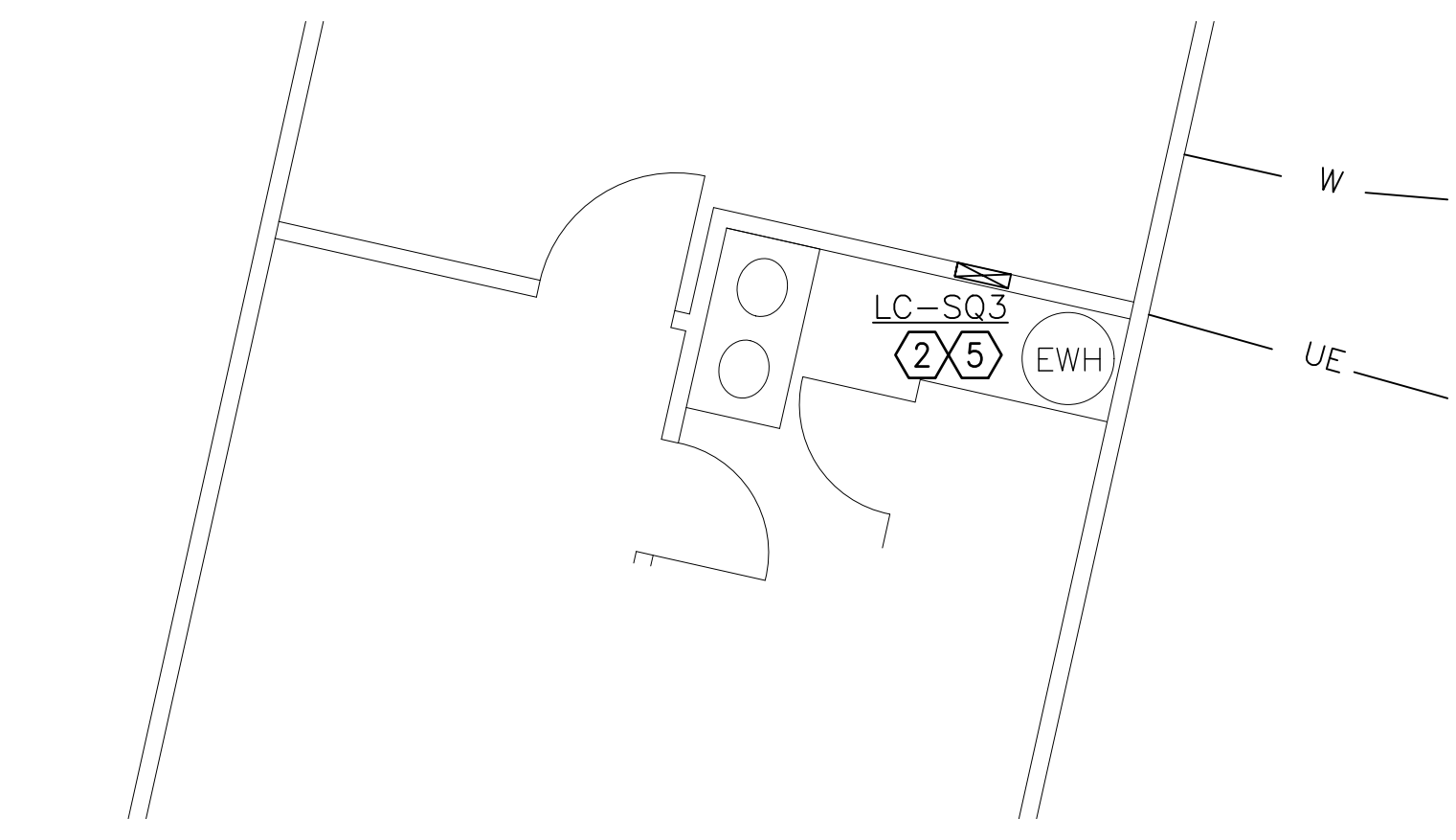
10 OF 20 SHEETS
MARCH 28, 2023

GENERAL NOTES:

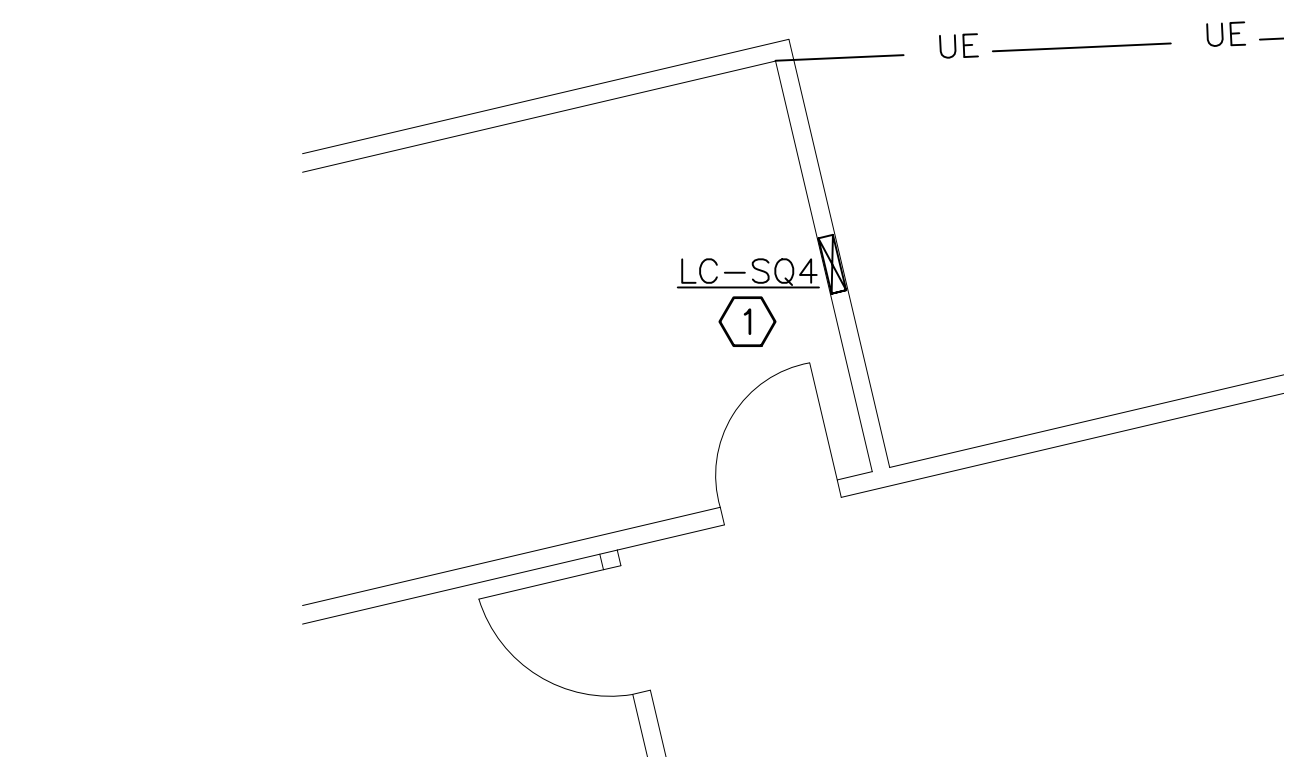
- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.

KEY NOTES:

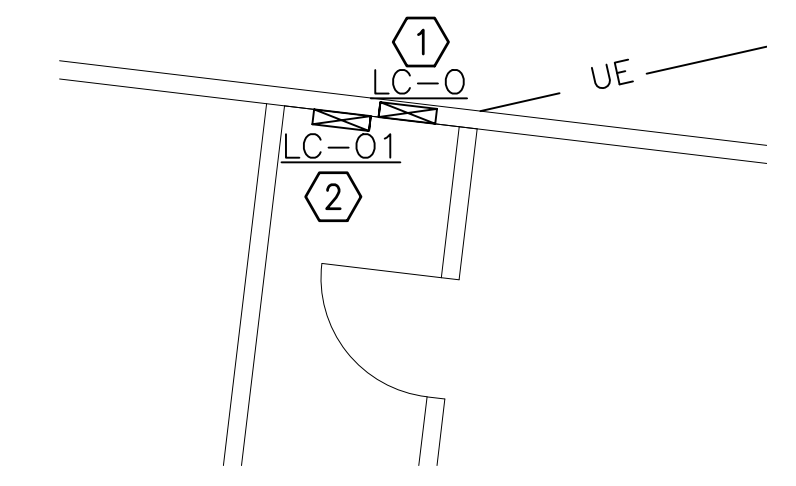
1. REMOVE INTERIOR FROM EXIST LOAD CENTER CONVERT TO A J-BOX. EXIST BRANCH CKT WIRING TO REMAIN.
2. REMOVE EXIST LOAD CENTER. EXIST BRANCH CKT WIRING TO REMAIN.
3. LOAD CENTER IS LOCATED BEHIND WOODEN ACCESS DOOR.
4. REMOVE EXIST LOAD CENTER LOCATED UNDER SS COUNTERTOP, RECPT BELOW AND DEMO FDR 13 BACK TO LOAD CENTER LC-DH1. EXIST 1" CONDUIT TO REMAIN.
5. RETURN TO CONSTRUCTION REPRESENTATIVE.



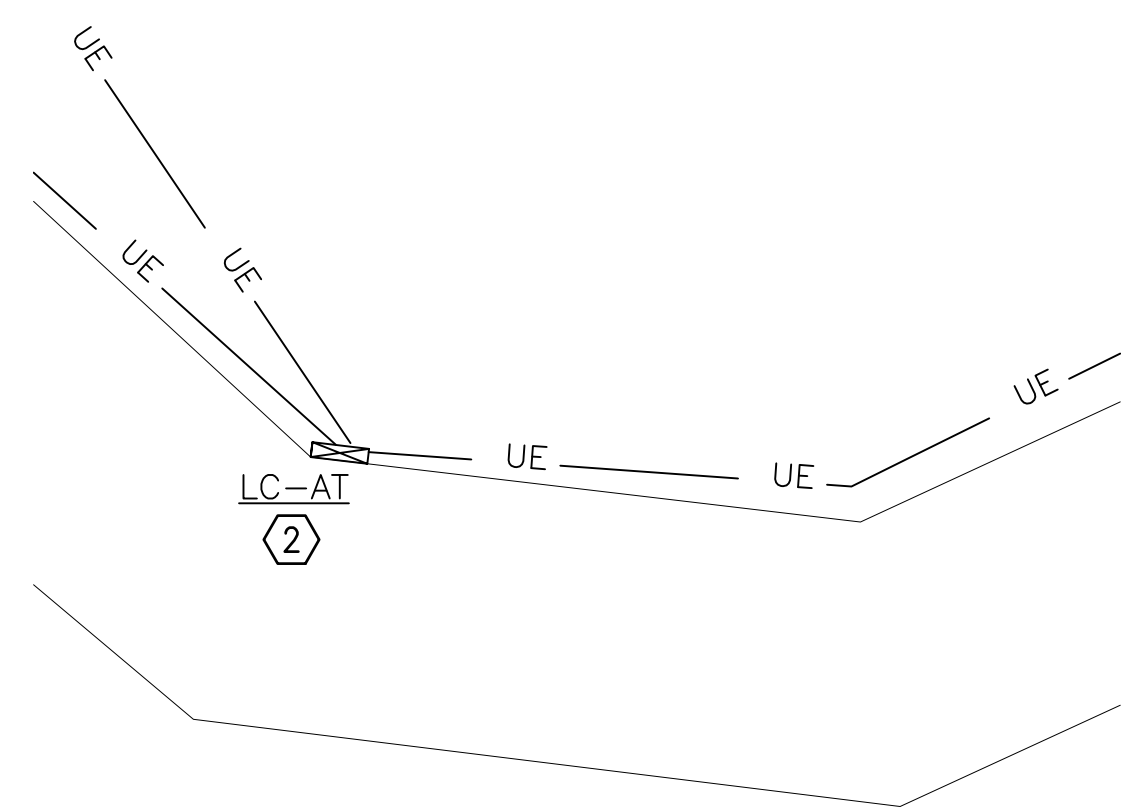
101 ELECTRICAL DEMOLITION PLAN-SQ3
ED-401



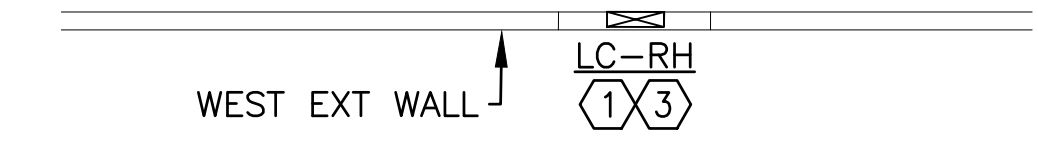
102 ELECTRICAL DEMOLITION PLAN-SQ4
ED-401



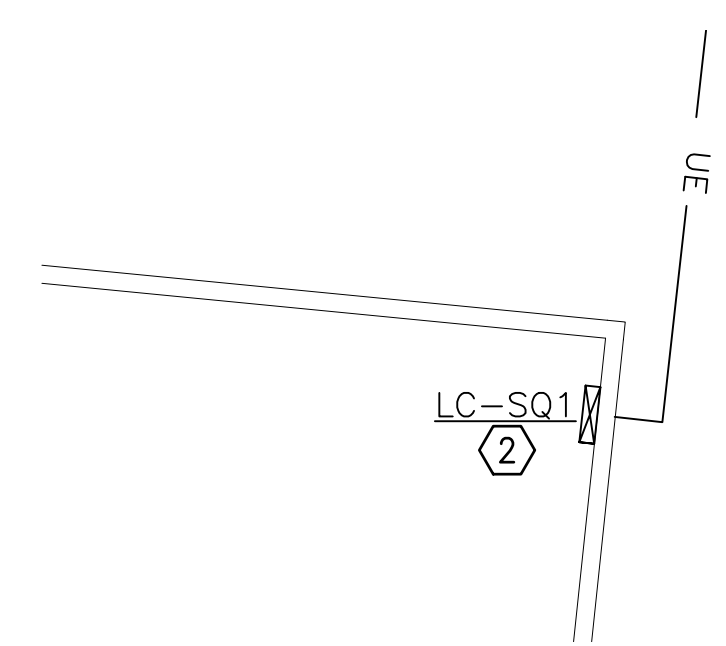
103 ELECTRICAL DEMOLITION PLAN-O
ED-401



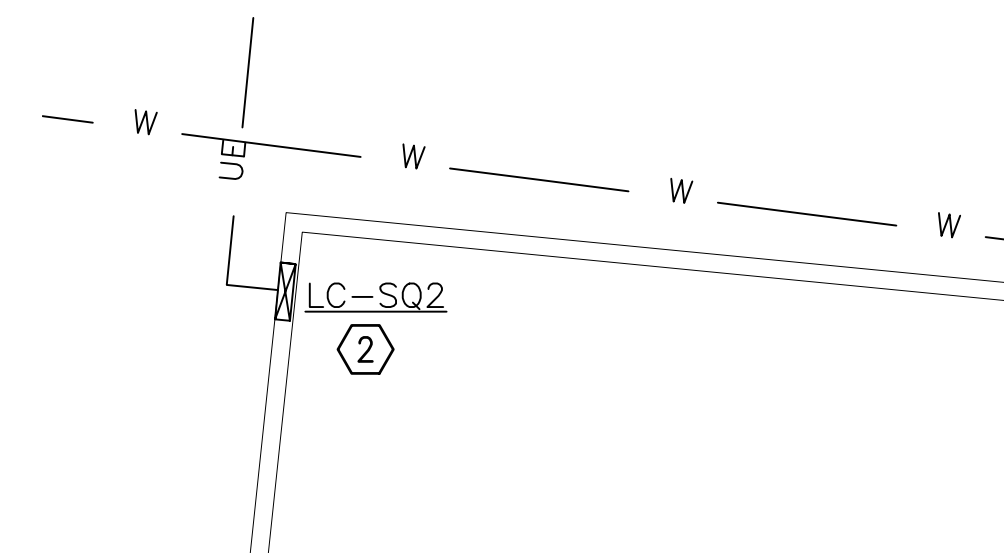
104 ELECTRICAL DEMOLITION PLAN-AT
ED-401



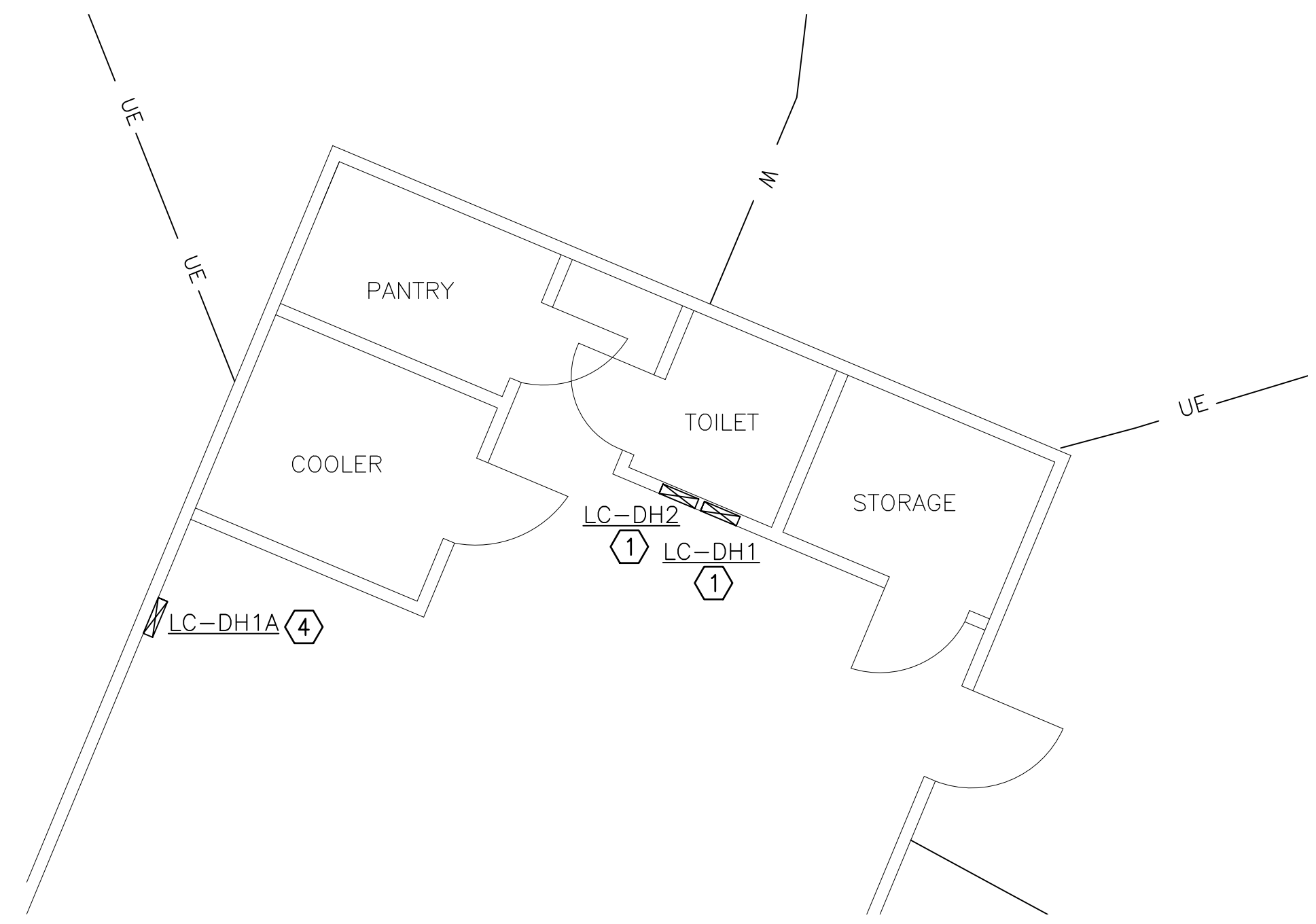
105 ELECTRICAL DEMOLITION PLAN-RH
ED-401



106 ELECTRICAL DEMOLITION PLAN-SQ1
ED-401



107 ELECTRICAL DEMOLITION PLAN-SQ2
ED-401



108 ELECTRICAL DEMOLITION PLAN-DH
ED-401



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024

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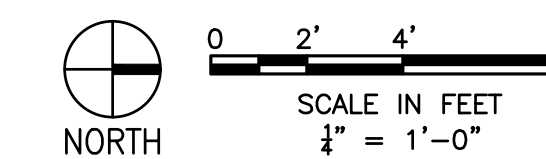
CAD DWG FILE: X2202-01-5306-
7815306134- ED-402.DWG
DRAWN BY: K E T/M N S
CHECKED BY: B D F
DESIGNED BY: B D F

SHEET TITLE:
ELECTRICAL
DEMOLITION
PLANS - ALT BID
NO. 1

SHEET NUMBER:

ED-402

11 OF 20 SHEETS
MARCH 28, 2023

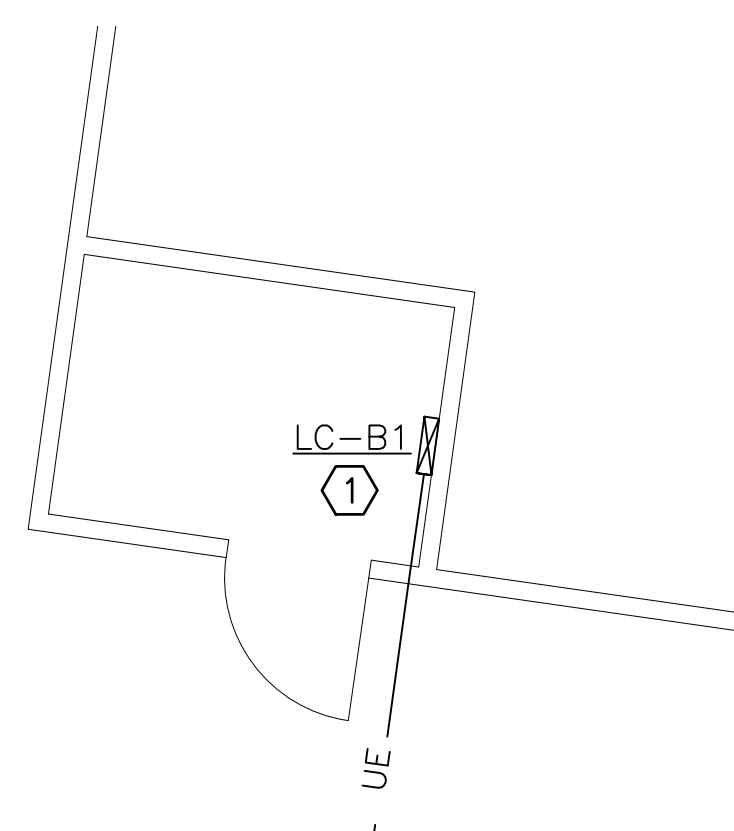


GENERAL NOTES:

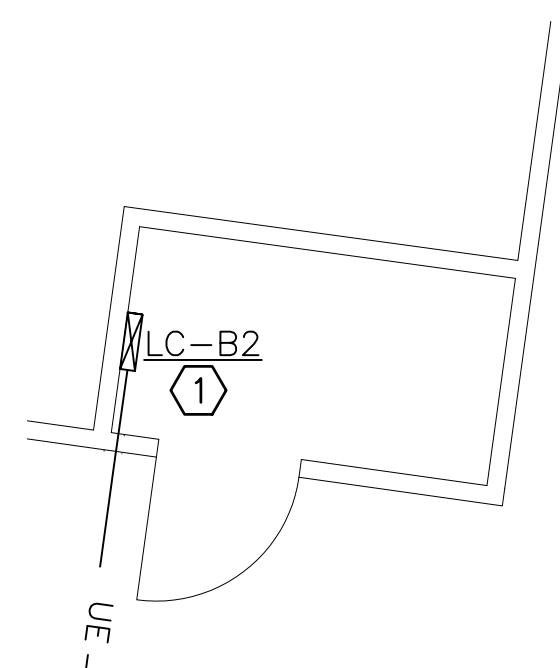
- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

KEY NOTE:

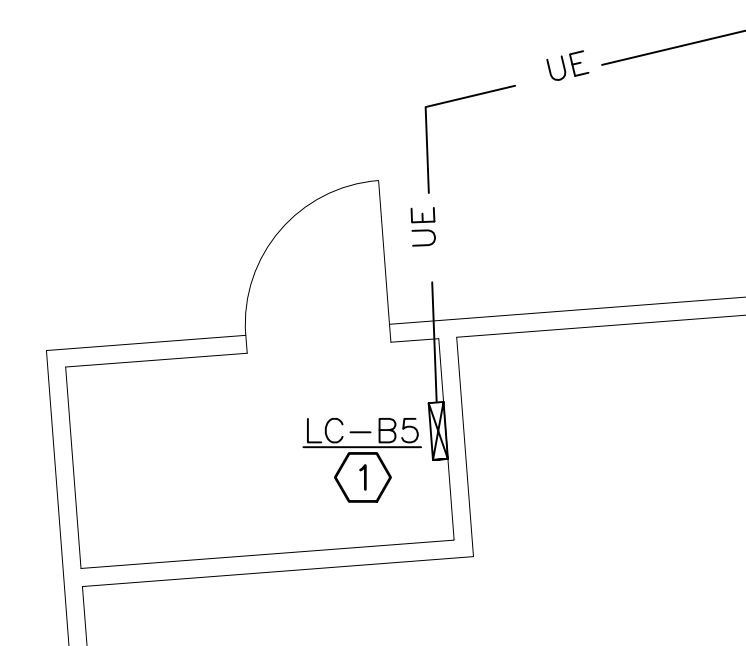
1. REMOVE EXIST LOAD CENTER AND RETURN TO CONSTRUCTION REPRESENTATIVE. EXIST BRANCH CKT WIRING TO REMAIN.



201
ED-402 ELECTRICAL DEMOLITION PLAN-B1
(B3 SIMILAR)



202
ED-402 ELECTRICAL DEMOLITION PLAN-B2
(B4 SIMILAR)



203
ED-402 ELECTRICAL DEMOLITION PLAN-B5
(B6, B7 & B8 SIMILAR)



BARRY D. FREINER
Registered Professional Engineer
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CAD DWG FILE: X2202-01-5306-
7815306134- ED-601.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ONE-LINE
DIAGRAM -
DEMOLITION**

SHEET NUMBER:

ED-601

12 OF 20 SHEETS
MARCH 28, 2023

DEMOLITION FEEDER SCHEDULE

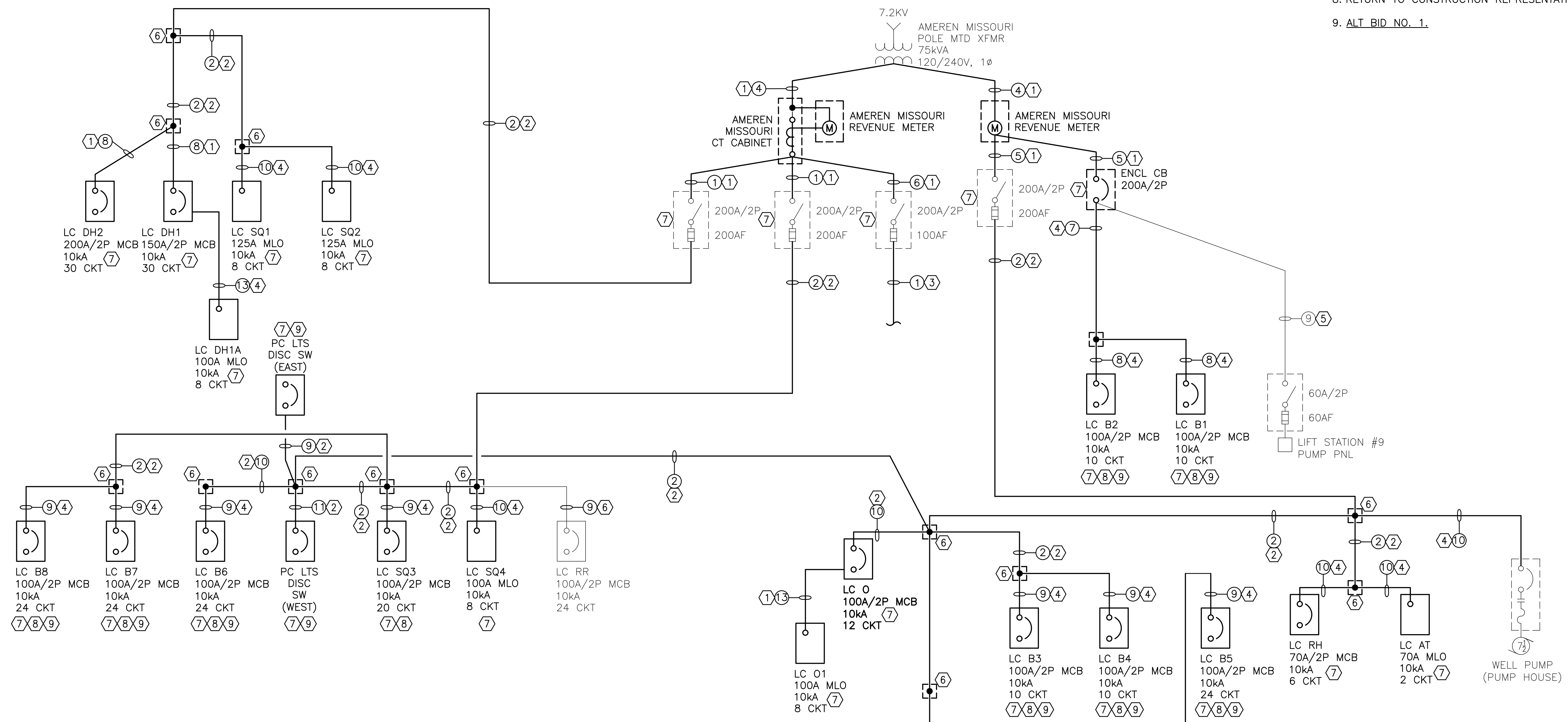
FEEDER NUMBER	CIRCUIT VOLTAGE	PHASE CONDUCTORS			NEUTRAL CONDUCTOR		GROUNDING CONDUCTOR		RACEWAY
		PHASE	QTY PER PHASE	SIZE	QTY	SIZE	QTY	SIZE	
①	120/240	2	1	300 KCM	1	300 KCM	-	-	2 1/2"
②	120/240	2	1	4/0	1	3/0	-	-	2"
③	120/240	2	1	4/0	1	2/0	-	-	3"
④	120/240	2	1	4/0 AL	1	3/0 AL	-	-	3"
⑤	120/240	2	1	3/0 AL	1	3/0 AL	-	-	3"
⑥	120/240	2	1	3/0 AL	1	2/0 AL	-	-	2"
⑦	120/240	2	1	3/0	1	2/0	1	6	2"
⑧	120/240	2	1	2/0	1	2/0	-	-	2"
⑨	120/240	2	1	2	1	2	-	-	2"
⑩	120/240	2	1	2	1	2	-	-	1 1/4"
⑪	120	1	1	3	1	3	1	8	1 1/4"
⑫	120/240	2	1	6	1	6	1	8	2"
⑬	120/240	2	1	6	1	6	1	10	1"
⑭	120	1	1	12	1	12	1	12	3/4"

GENERAL NOTES:

- A. ALL CONDUCTORS ARE COPPER UNLESS NOTED OTHERWISE.
- B. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

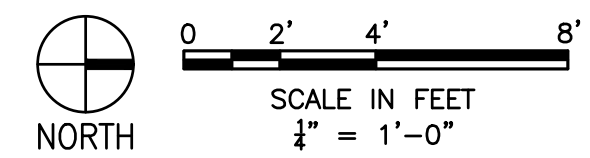
KEY NOTES:

1. REMOVE CONDUIT AND CONDUCTORS.
2. REMOVE CONDUCTORS AND ABAND BELOW GRADE CONDUIT IN PLACE.
3. ABAND BELOW GRADE PORTION OF EXIST FDR IN PLACE.
4. REMOVE CONDUCTORS AND LEAVE CONDUIT IN PLACE FOR REUSE FOR NEW FDR.
5. EXIST FDR TO BE EXTENDED INTO NEW PNLBD MP-CRS. SEE DWG E-601.
6. EXIST FDR TO REMAIN.
7. EXIST ITEM(S) TO BE REMOVED.
8. RETURN TO CONSTRUCTION REPRESENTATIVE.
9. ALT BID NO. 1.



ONE-LINE DIAGRAM - DEMOLITION

NO SCALE



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024

**ROGERS-SCHMIDT
ENGINEERING CO., P.C.**
CONSULTING ENGINEERS
1736 WEST PARK CENTER DR.
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MISSOURI STATE CERTIFICATE
OF AUTHORITY #000408

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF STATE PARKS

UPGRADE ELECTRIC
NETWORK
CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- E-401.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL
PLANS**

SHEET NUMBER:

E-401

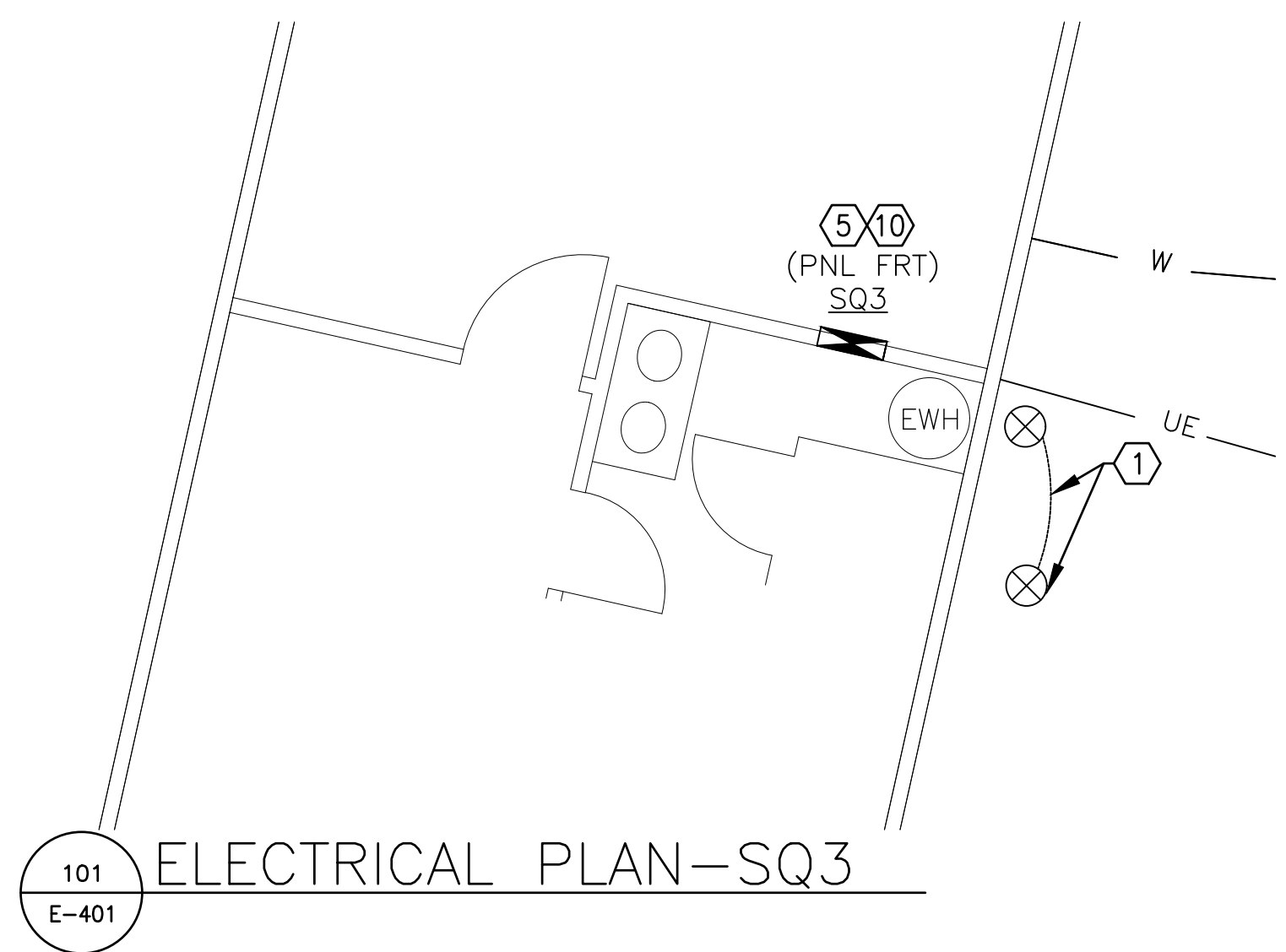
13 OF 20 SHEETS
MARCH 28, 2023

GENERAL NOTES:

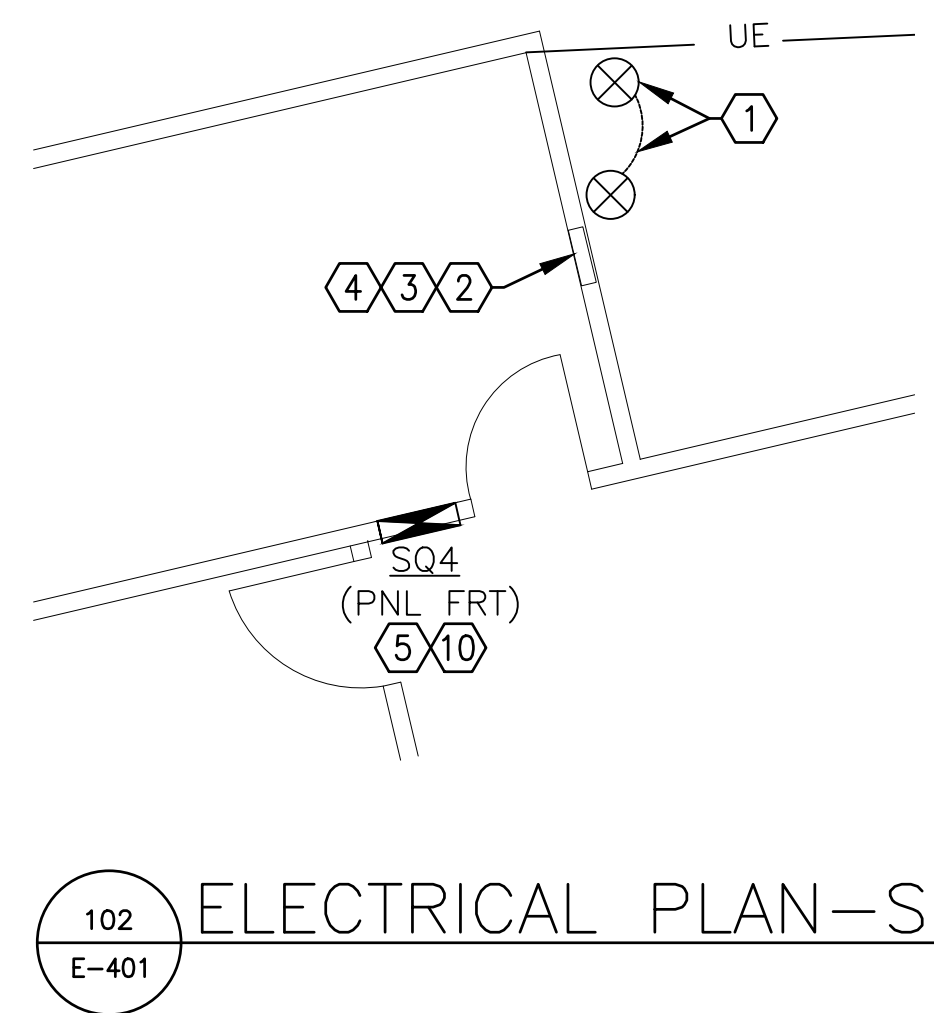
- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. PROVIDE SCH 80 PVC CONDUIT OVER EXIST #6 GRD ELECTRODE CONDUCTOR ON EXTERIOR OF BLDG TO 12" BFG.

KEY NOTES:

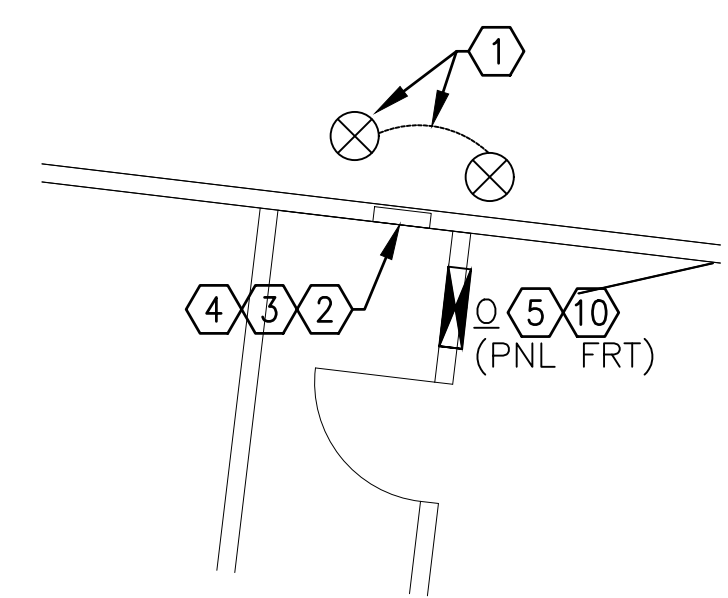
1. PROVIDE 5/8"ØX8'L COPPERCLAD STL GRD ROD 3'-0" FROM EXIST GRD ROD. BOND THE NEW GRD ROD TO EXIST W/ BFG #6 SOLID COPPER CONDUCTOR.
2. PROVIDE 12 GAUGE STL COVER WITH EDGES GROUND SMOOTH FOR EXPOSED PORTION OF EXIST FLUSH MTD LOAD CENTER ENCLOSURE THAT IS BEING USED AS A JUNCTION BOX. PAINT TO MATCH WALL.
3. PROVIDE 1½"C THROUGH ATTIC BETWEEN EXIST FLUSH MTD LOAD CENTER ENCL AND NEW SEMI-FLUSH MTD PNLBD FOR 3#2 & 1#6 GRD MAIN FDR CONDUCTORS.
4. PROVIDE ¾"C-2#10, 4#12 & 1#10 GRD & 1"C-10#10 & 1#10 GRD FROM EXIST FLUSH MTD LOAD CENTER ENCL THROUGH ATTIC TO NEW SURFACE MTD PNLB.
5. PROVIDE NEW PNLBD PER SPECIFICATION SECTION 262416. RECONNECT EXISTING BRANCH CKT WIRING. DO NOT BOND EQUIP GRD BUS TO NEUT BUS.
6. PROVIDE #2 GRD ELECTRODE CONDUCTOR TO NEW 5/8"DIAx8'L COPPERCLAD STL GRD ROD AND METAL COLD WATER PIPE THAT IS IN CONTACT WITH THE EARTH FOR 6' OR MORE (IF AVAILABLE).
7. PROVIDE (3) 2" CHASE NIPPLES BETWEEN BACK OF NEW PNLBD AND EACH OF THE TWO EXIST FLUSH MTD LOAD CENTER ENCLOSURE AND EXTEND EXIST BRANCH CKT WIRING INTO NEW PNLBD.
8. BOLT NEW PNLBD TO FLR ON 1½" U-CHANNEL SUPPORTS INSTALLED BETWEEN FLR & BOTTOM OF ENCLOSURE.
9. PROVIDE RECPT IN TYPE FD CAST BOX UNDER SS COUNTERTOP WITH 2#12 & 1#12 GRD IN EXIST DH FOR EXIST WATER SOFTENER.
10. TRIM WOOD WALL PANELING AND HEADER OFF 2X4 WALL STUDS ABOVE AND BELOW NEW RECESSED PNLBD ENCLOSURE AS REQD.



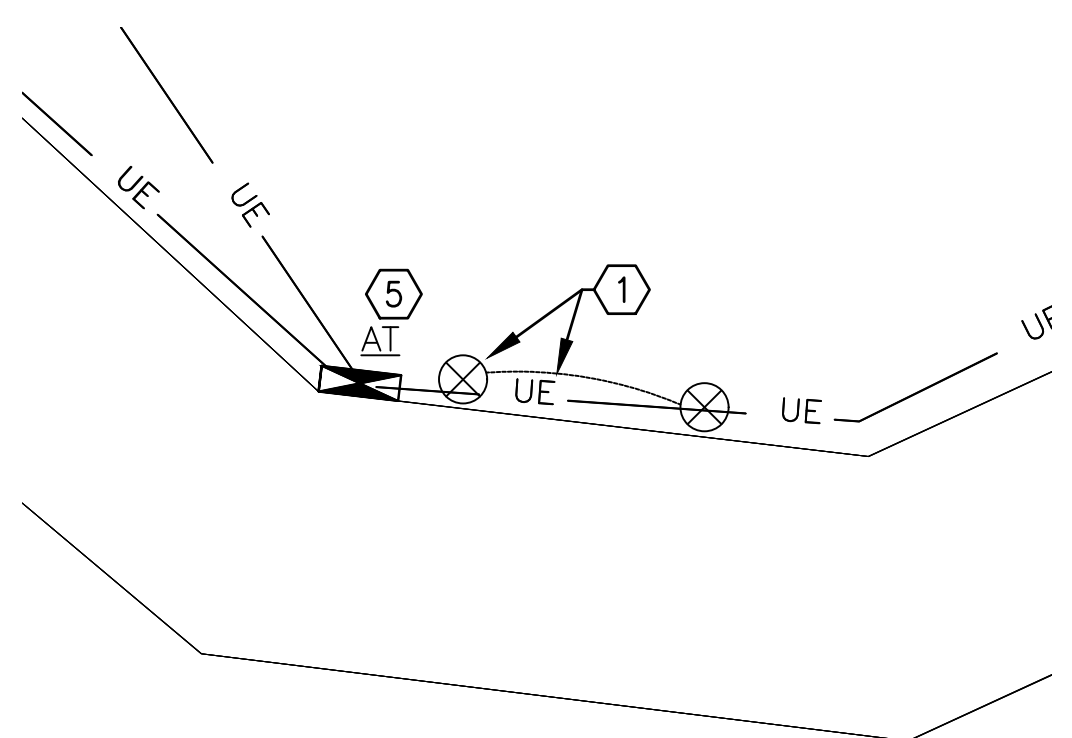
101 ELECTRICAL PLAN-SQ3
E-401



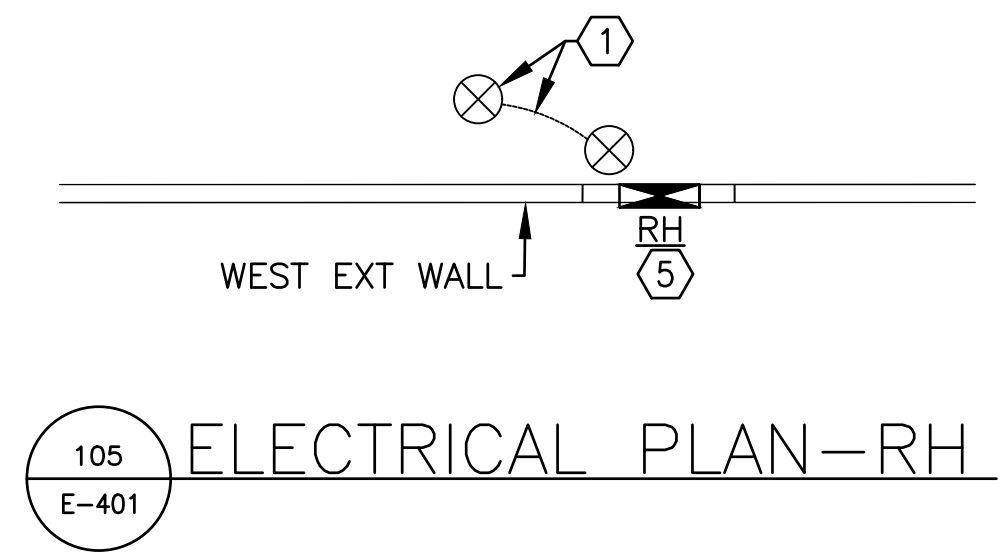
102 ELECTRICAL PLAN-SQ4
E-401



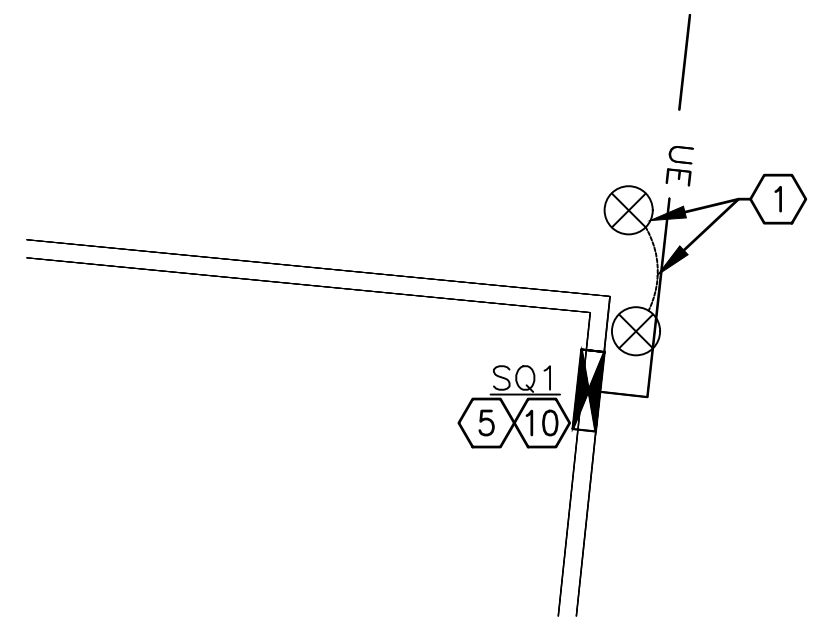
103 ELECTRICAL PLAN-O
E-401



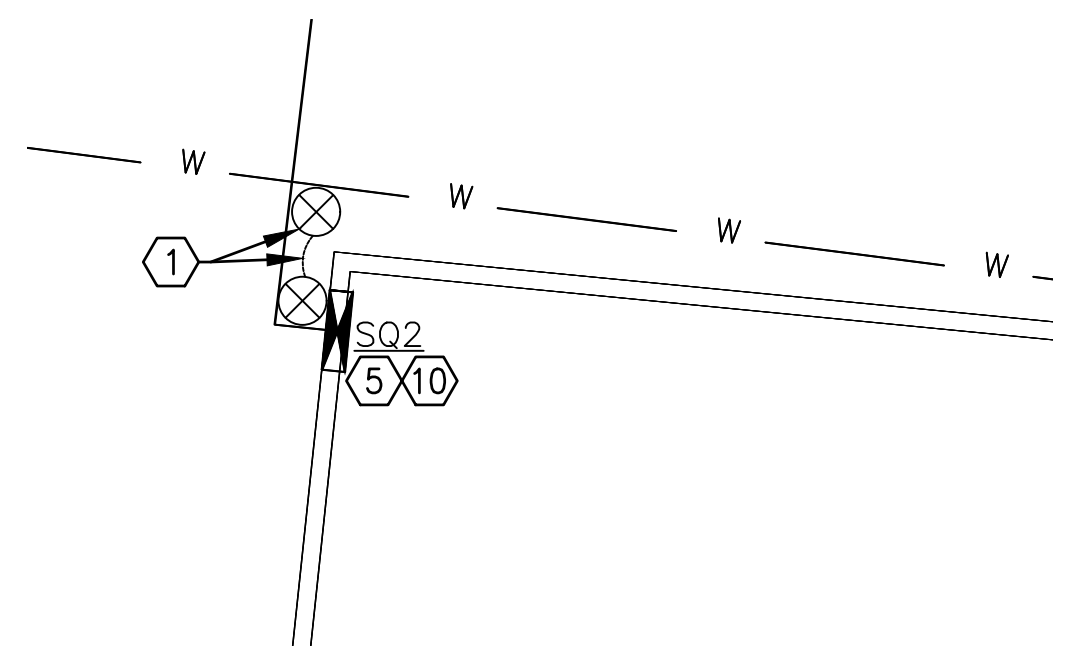
104 ELECTRICAL PLAN-AT
E-401



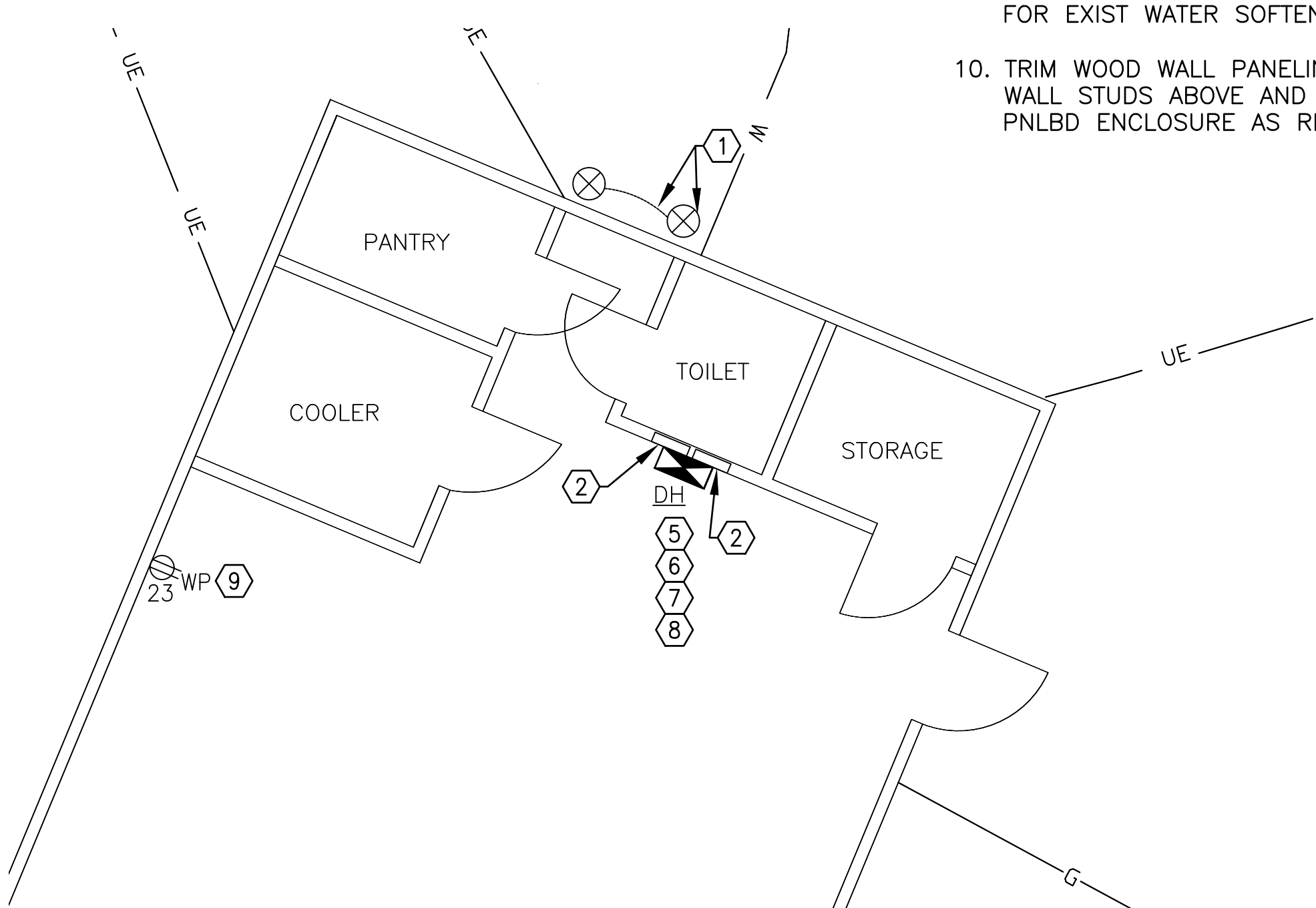
105 ELECTRICAL PLAN-RH
E-401



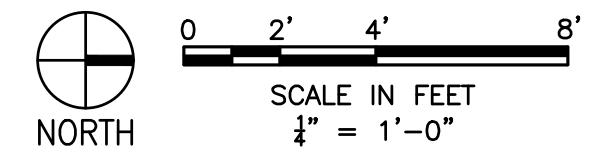
106 ELECTRICAL PLAN-SQ1
E-401



107 ELECTRICAL PLAN-SQ2
E-401



108 ELECTRICAL PLAN-DH
E-401

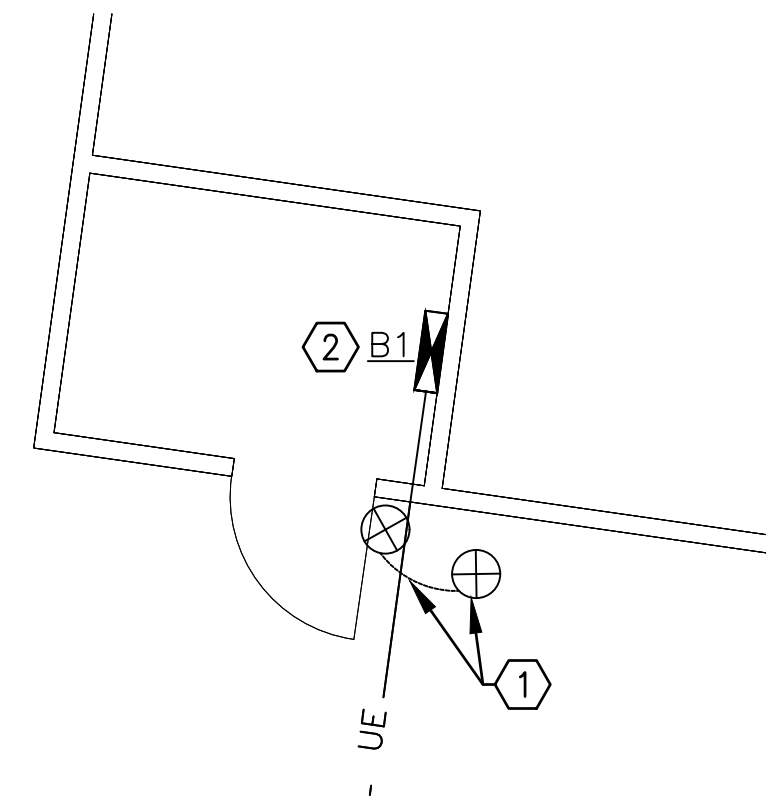


GENERAL NOTES:

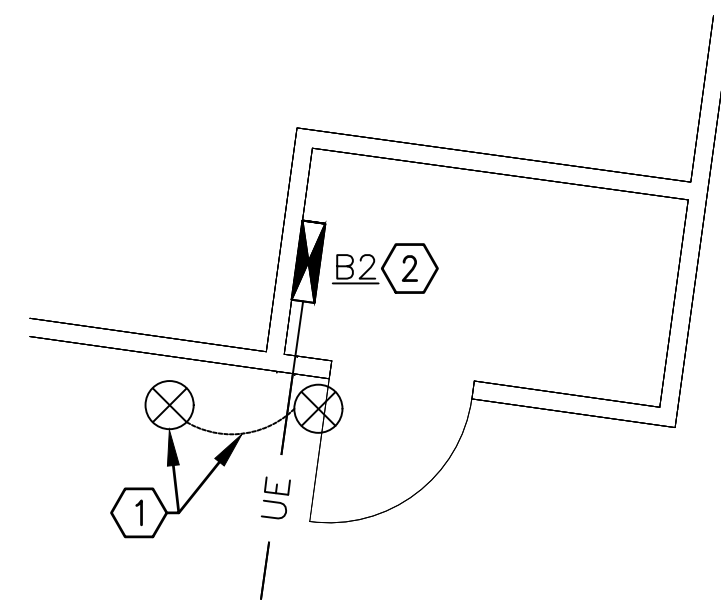
- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING.
- B. FIELD VERIFY ALL DIMENSIONS.
- C. PROVIDE SCH 80 PVC CONDUIT OVER EXIST #6 GRD ELECTRODE CONDUCTOR ON EXTERIOR OF BLDG TO 12" BFG.
- D. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

KEY NOTES:

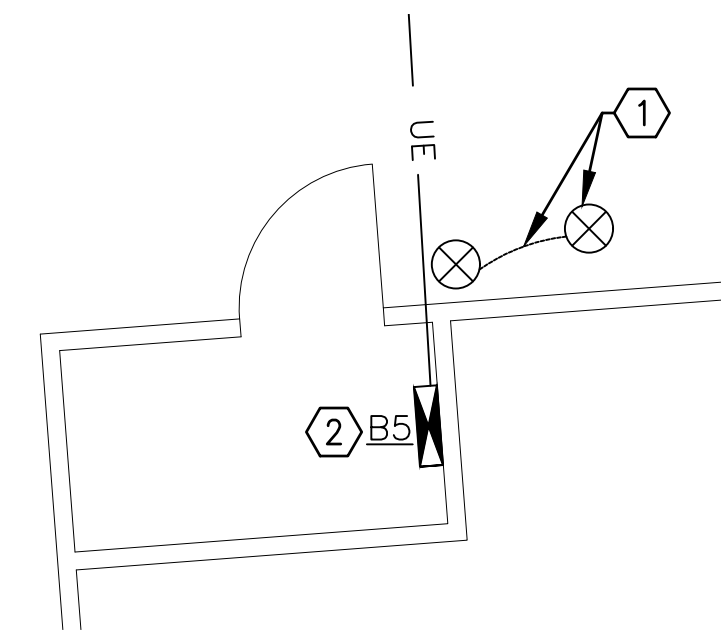
- 1. PROVIDE 5/8"ØX8'L COPPERCLAD STL GRD ROD 3'-0" FROM EXIST GRD ROD. BOND THE NEW GRD ROD TO EXIST W/ BG #6 SOLID COPPER CONDUCTOR.
- 2. PROVIDE NEW PNLBD PER SPECIFICATION SECTION 262416. RECONNECT EXISTING BRANCH CKT WIRING. DO NOT BOND EQUIP GRD BUS TO NEUT BUS.



201
E-402 ELECTRICAL PLAN-B1
(B3 SIMILAR)



202
E-402 ELECTRICAL PLAN-B2
(B4 SIMILAR)



203
E-402 ELECTRICAL PLAN-B5
(B6, B7 & B8 SIMILAR)



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PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

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DATE: _____
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REVISION: _____
DATE: _____

ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- E-402.DWG
DRAWN BY: K E T/M N S
CHECKED BY: B D F
DESIGNED BY: B D F

SHEET TITLE:
ELECTRICAL
PLANS - ALT BID
NO. 1

SHEET NUMBER:

E-402

14 OF 20 SHEETS
MARCH 28, 2023



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MO # E-24220
Expires 12-31-2024

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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- E-501.DWG
DRAWN BY: MNS/KET
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ELECTRICAL
DETAILS**

SHEET NUMBER:

E-501

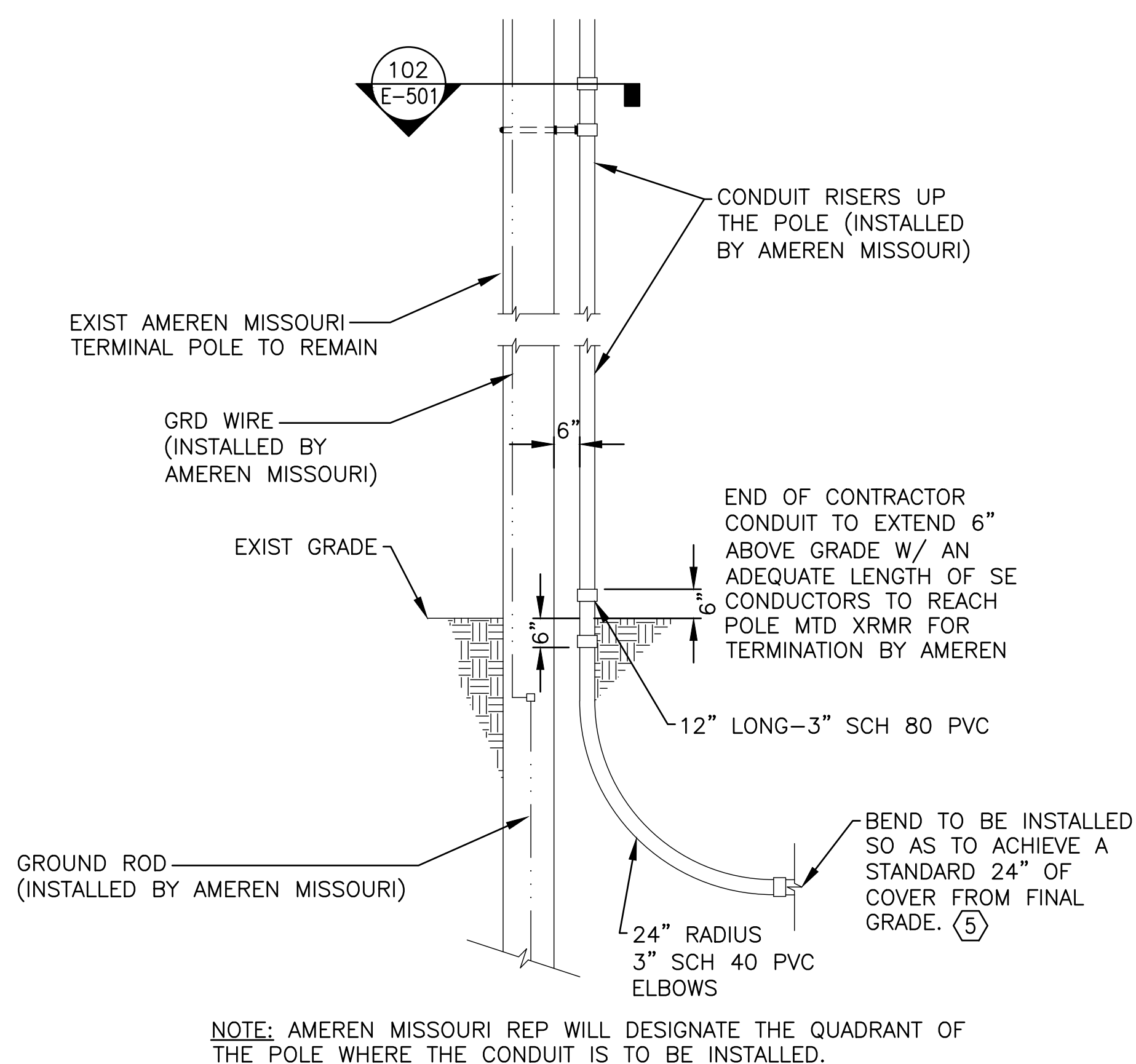
15 OF 20 SHEETS
MARCH 28, 2023

GENERAL NOTES:

- A. UG FDRS SHALL EITHER BE DIRECT BURIED OR INSTALLED IN CONDUIT PER THE DETAILS SHOWN ON THIS DWG.
- B. DIRECT BURIED FDRS SHALL BE IN SCH 40 PVC CONDUIT AT ALL ROAD/DRIVE CROSSINGS AND AT ALL ENTRIES INTO UG J-BOXES.
- C. CT & METER ENCL INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF AMEREN MISSOURI'S ELECTRIC SERVICE MANUAL.
- D. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

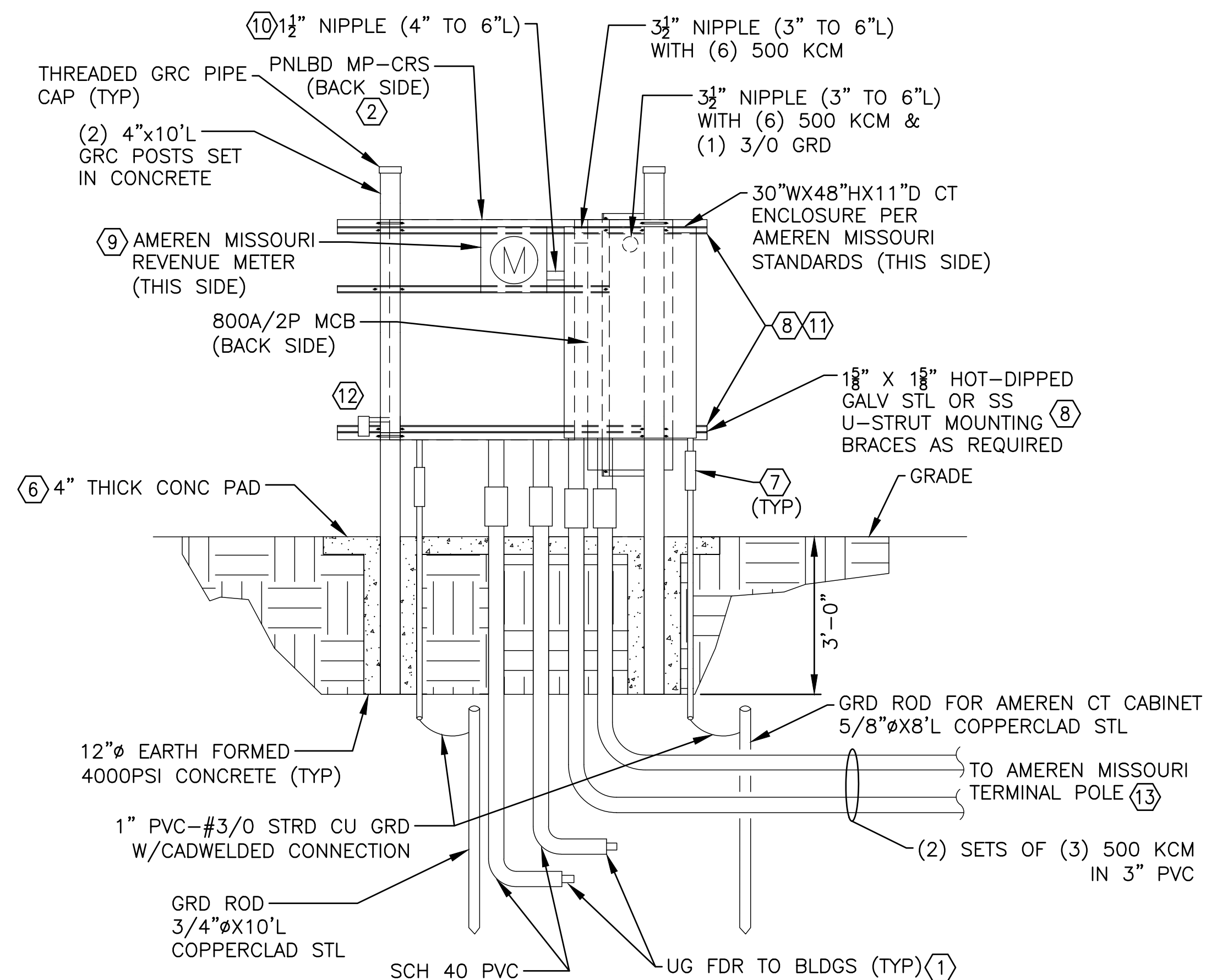
KEY NOTES:

1. SEE ONE-LINE DIAGRAM & FDR SCHEDULE ON DWG E-601 FOR FDR QTY & SIZES.
2. SEE PNLBD SCHEDULE ON DWG E-602.
3. ROAD CROSSINGS MAY BE DIRECTIONAL BORED WITH SCH 40 HDPE CONDUIT IF CONTRACTOR PREFERENCES.
4. UG FDRS MAY BE DIRECTIONAL BORED WITH SCH 40 HDPE CONDUIT IF CONTRACTOR PREFERENCES.
5. CONTACT AMEREN MISSOURI PRIOR TO INSTALLATION FOR DETERMINATION OF POLE QUADRANT LOCATION FOR CONDUITS.
6. CONC PAD SHALL EXTEND 18" BEYOND SUPPORT POST ON BOTH SIDES, 3'-6" FROM FACE OF CT ENCLOSURE ON WEST SIDE AND SHALL ABUT TO ASPHALT PAVEMENT ON EAST SIDE. SEE CIVIL DWGS.
7. CONDUIT EXPANSION COUPLING PER SPECIFICATION SECTION 260533.13.
8. ATTACH U-STRUT TO PIPE W/ MIN 3/8"-16 GALV STL OR SS U-BOLTS.
9. METER ENCLOSURE FURNISHED BY AMEREN MISSOURI FOR INSTALLATION BY CONTRACTOR. MOUNT AT 5'-0" TO 5'-6" AFG TO CENTER.
10. INSTALL AMEREN MISSOURI PROVIDED 11/C METER/CT BUNDLE. ALL TERMINATIONS TO BE BY AMEREN.
11. INSTALL U-STRUT ON BOTH SIDES OF POSTS TO PROVIDE SUPPORT FOR EQUIP ON BOTH SIDES.
12. PROVIDE GFCI/WP DUPLEX RECPT IN SINGLE GANG TYPE FDR CAST BOX NEXT TO PNLBD.
13. CONTACT AMEREN MISSOURI FOR INSPECTION OF UG CONDUIT INSTALLATION PRIOR TO BACKFILLING TRENCH.
14. PROTECTIVE PIPE BOLLARDS PER DETAIL ON DWG C-501.
15. SEAL AROUND CONDUCTORS AT END OF CONDUIT WITH WATER TIGHT SEALANT PER SPECIFICATION SECTION 260533.13.
16. **ALT BID NO. 2.**

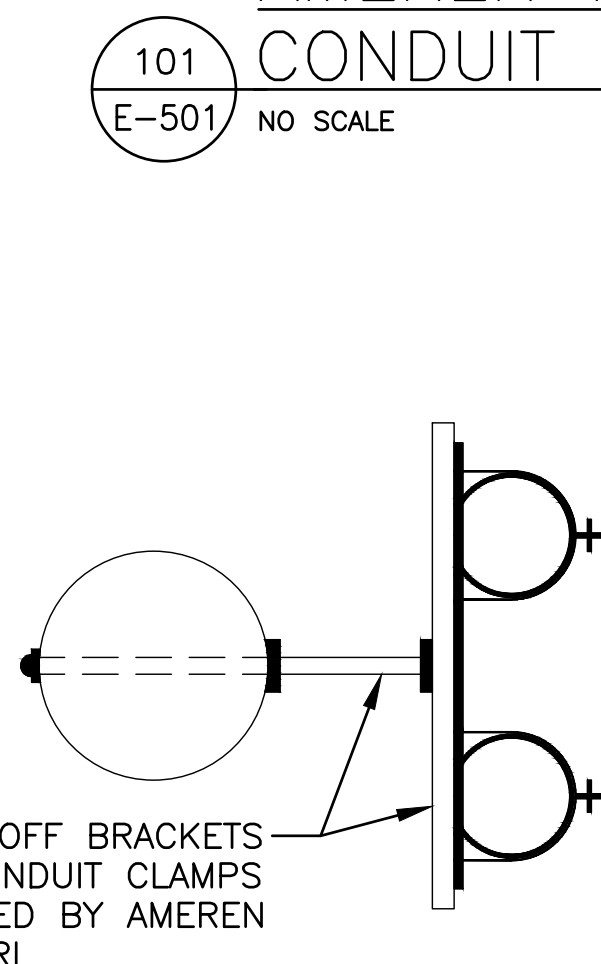


NOTE: AMEREN MISSOURI REP WILL DESIGNATE THE QUADRANT OF THE POLE WHERE THE CONDUIT IS TO BE INSTALLED.

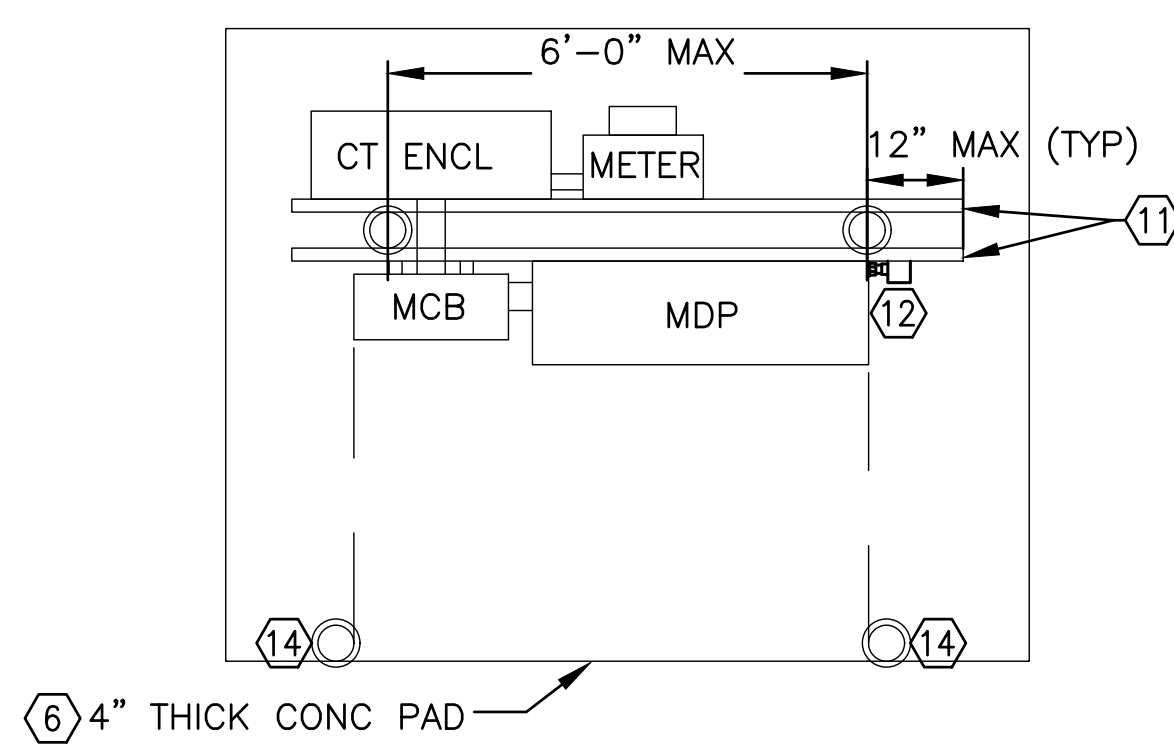
102 E-501 AMEREN MISSOURI TERMINAL POLE CONDUIT RISER DETAIL



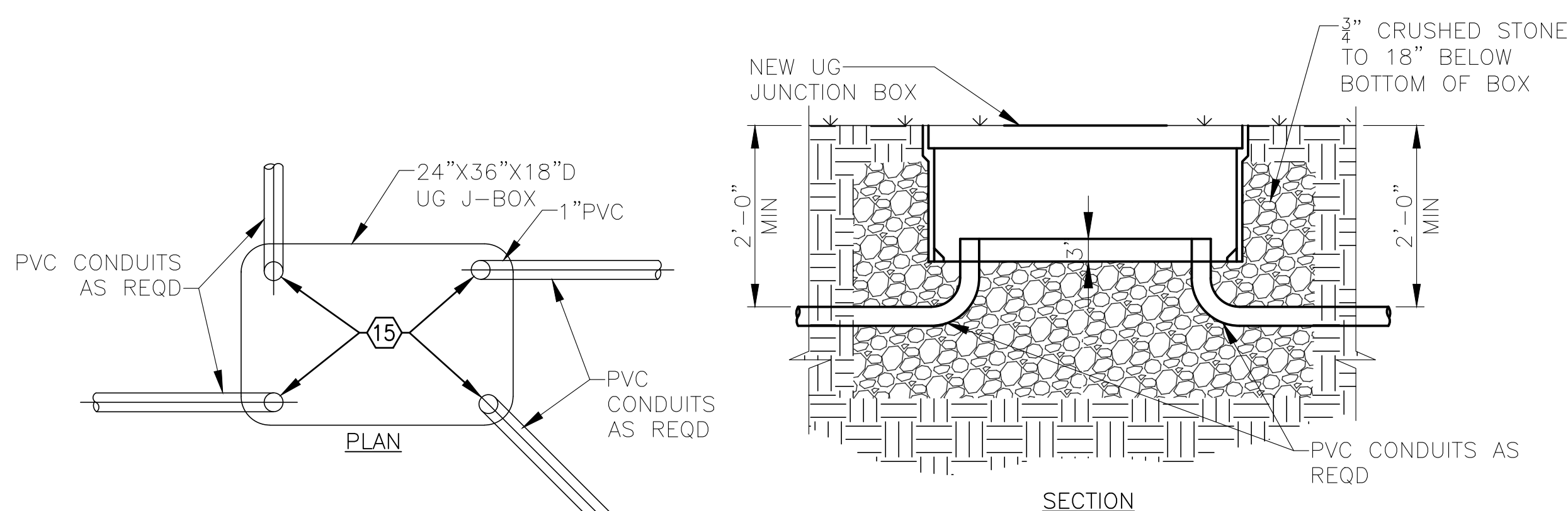
103 E-501 ELECTRICAL SERVICE EQUIP WEST ELEVATION



101 E-501 NO SCALE

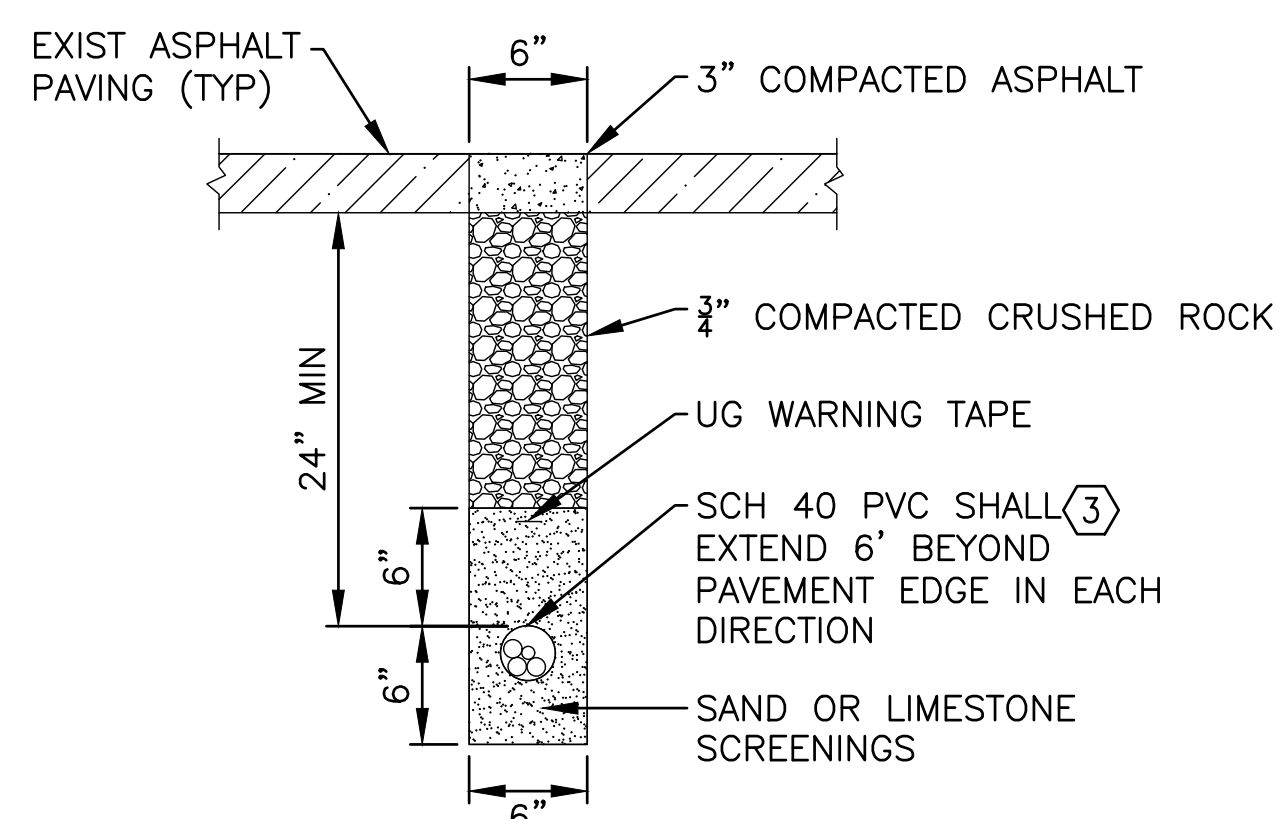


104 E-501 ELECTRICAL SERVICE EQUIP PLAN VIEW

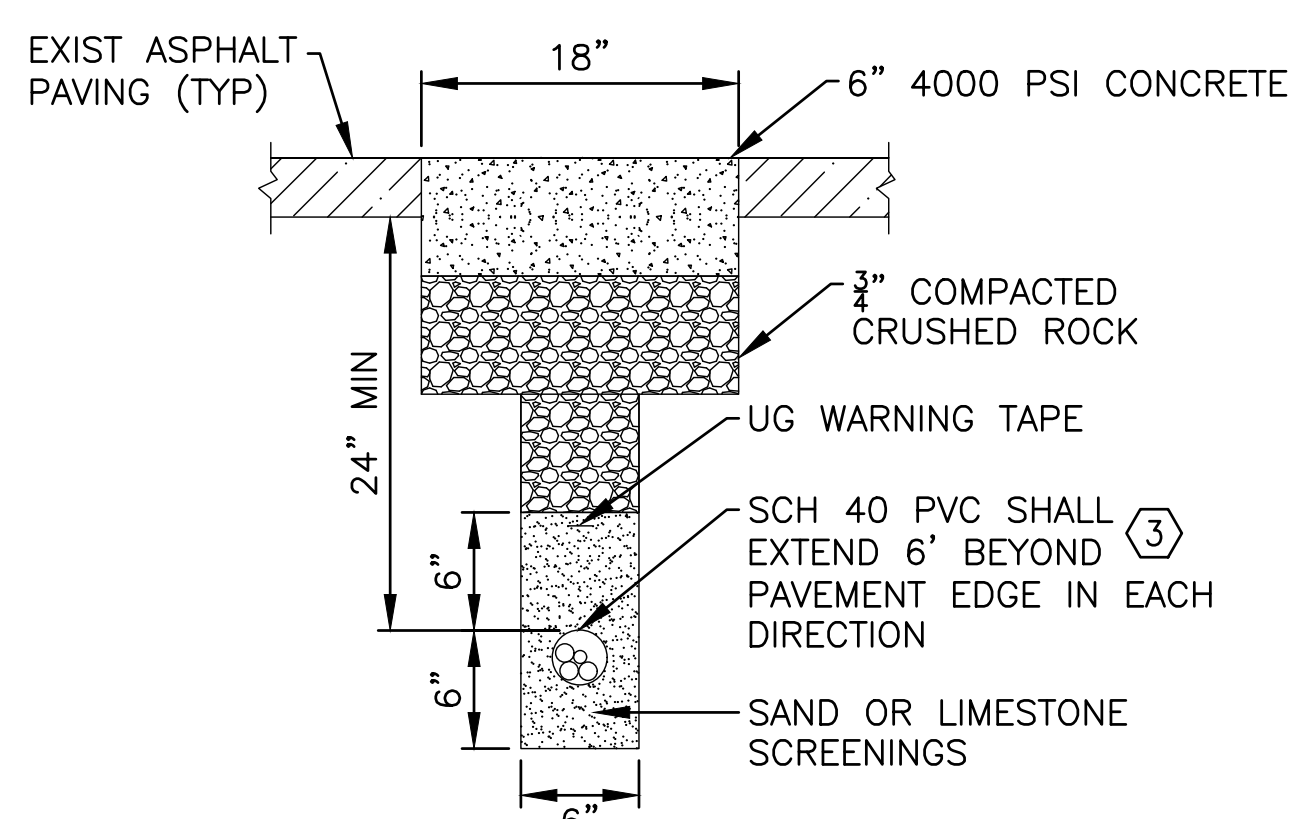


105 E-501 NEW UNDERGROUND ELECTRIC JUNCTION BOX DETAIL

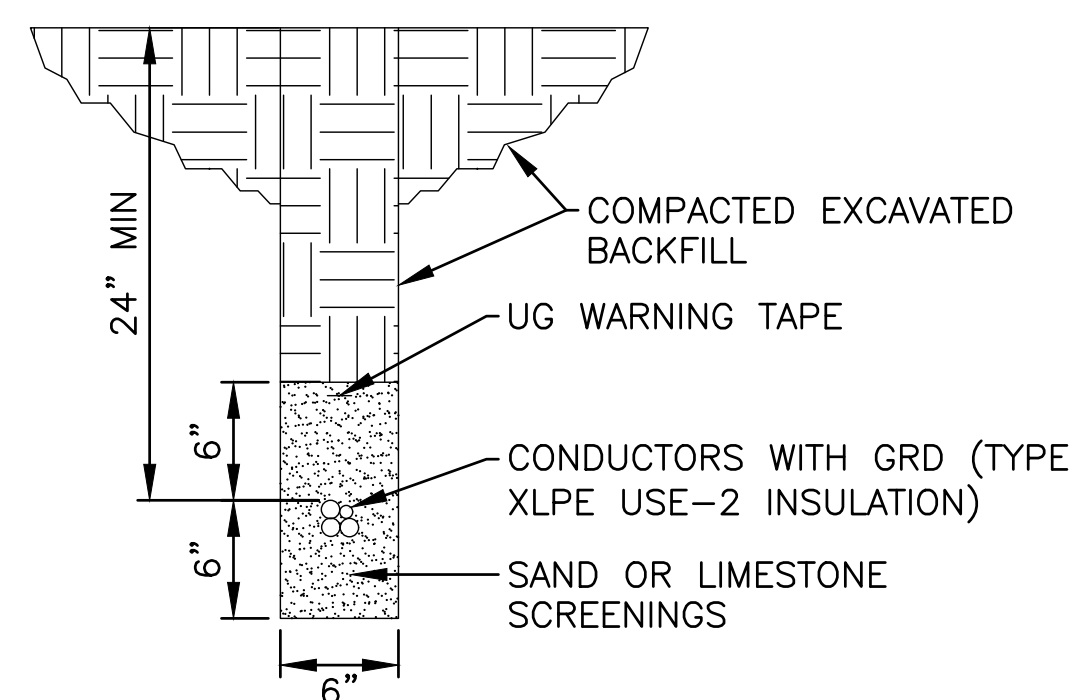
102 E-501 SECTION



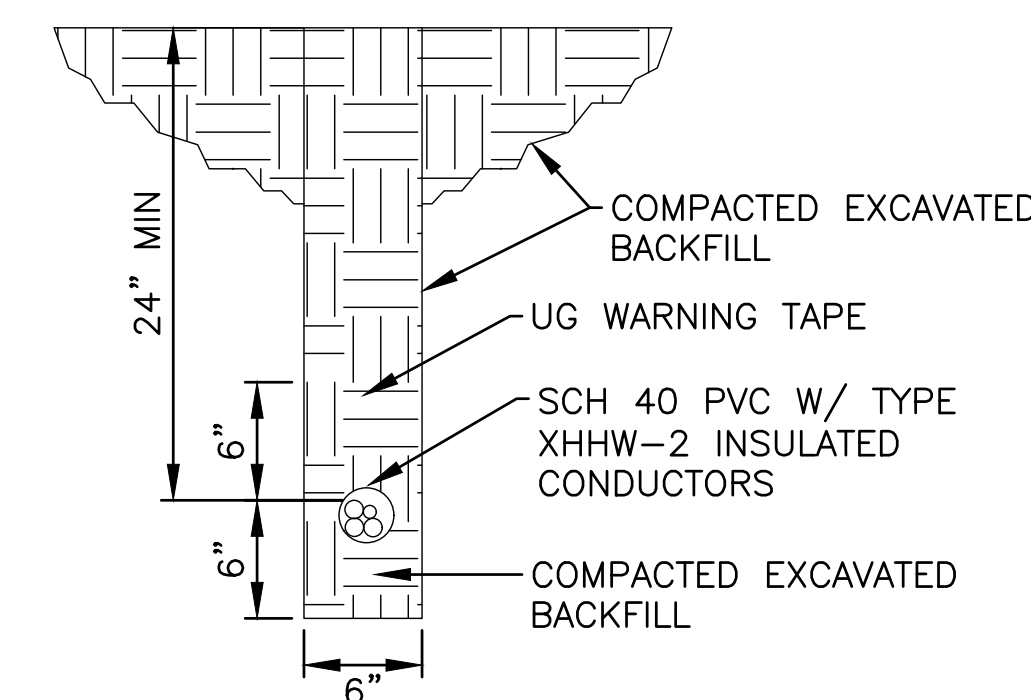
106 E-501 ROAD CROSSING DETAIL



107 E-501 ALTERNATE ROAD CROSSING DETAIL



108 E-501 CABLE BURIAL DETAIL



109 E-501 UG CONDUIT DETAIL



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ISSUE DATE: 03/28/2023
CAD DWG FILE: X2202-01-5306-7815306134- E-502.DWG
DRAWN BY: K E T/M N S
CHECKED BY: B D F
DESIGNED BY: B D F

SHEET TITLE:
LIGHTING FIXTURE
INSTALLATION
DETAILS -
ALT BID NO. 1

SHEET NUMBER:

E-502

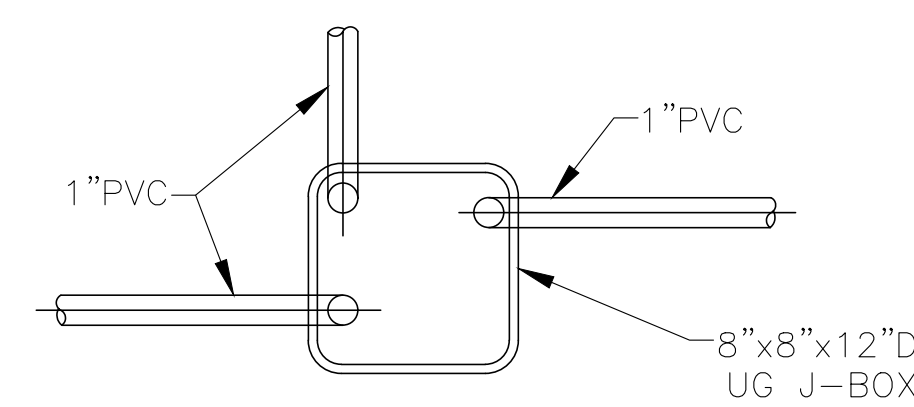
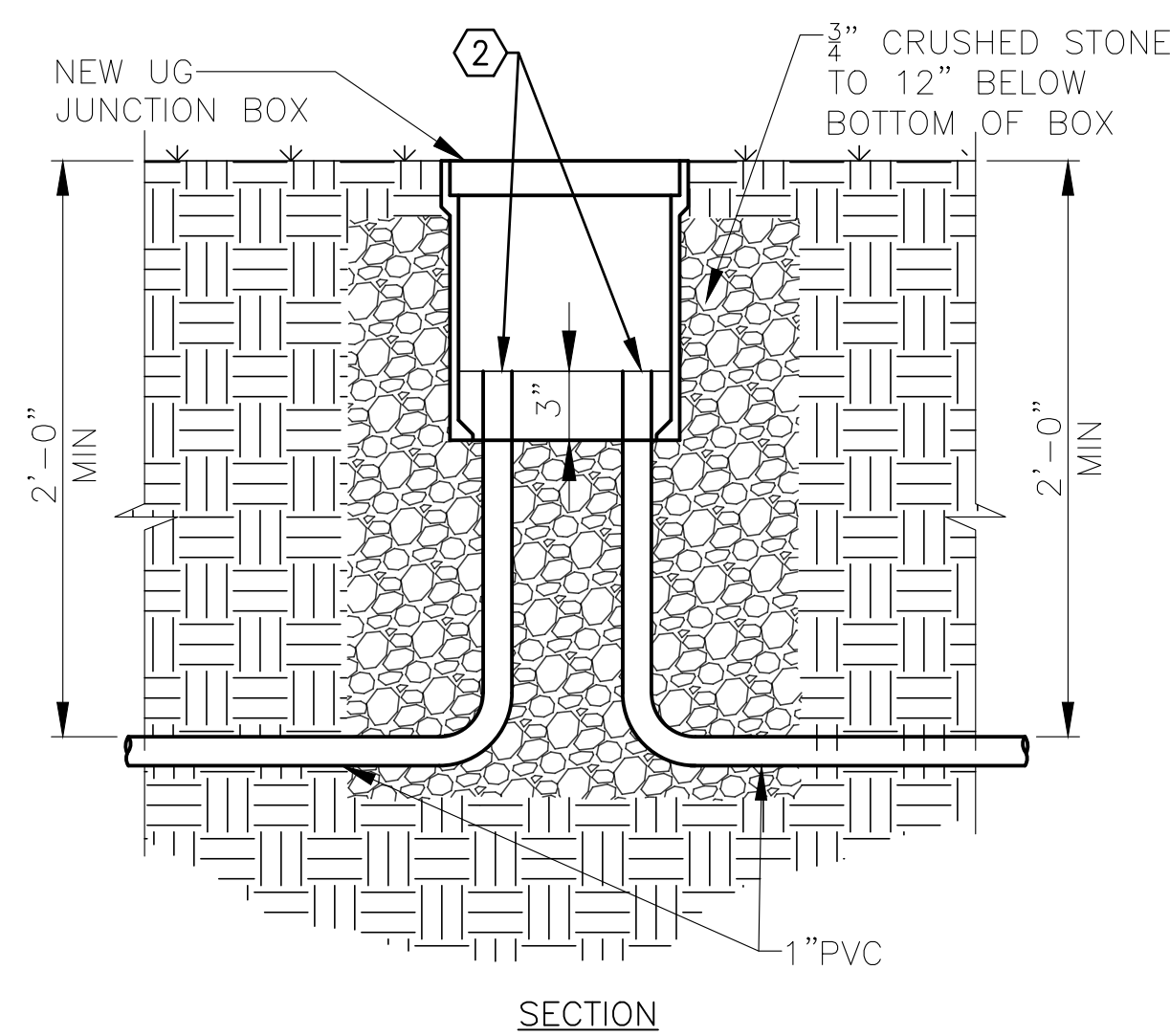
16 OF 20 SHEETS
MARCH 28, 2023

GENERAL NOTES:

- A. ALL WORK ON THIS DRAWING IS P/O ALT BID NO. 1.
- B. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

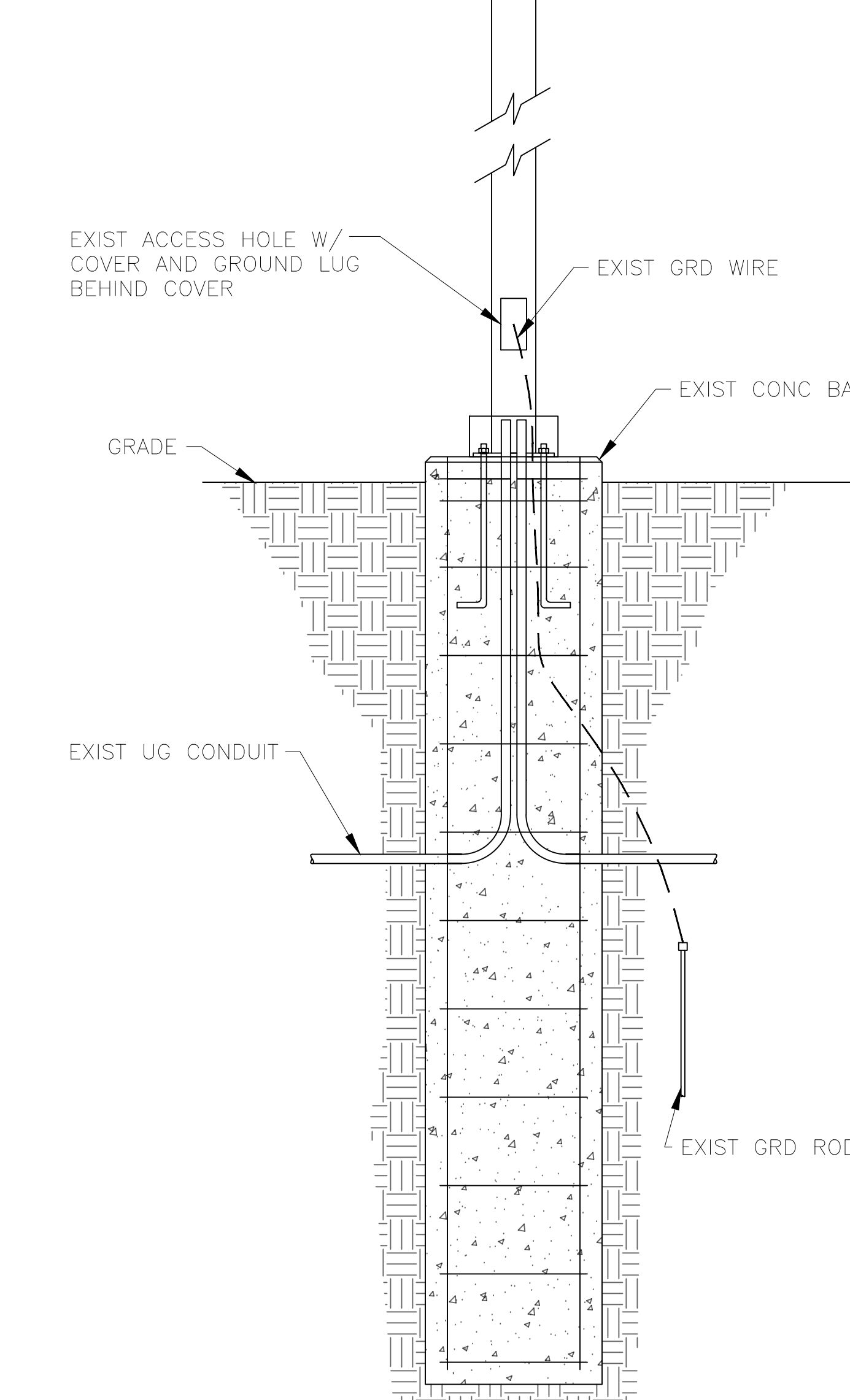
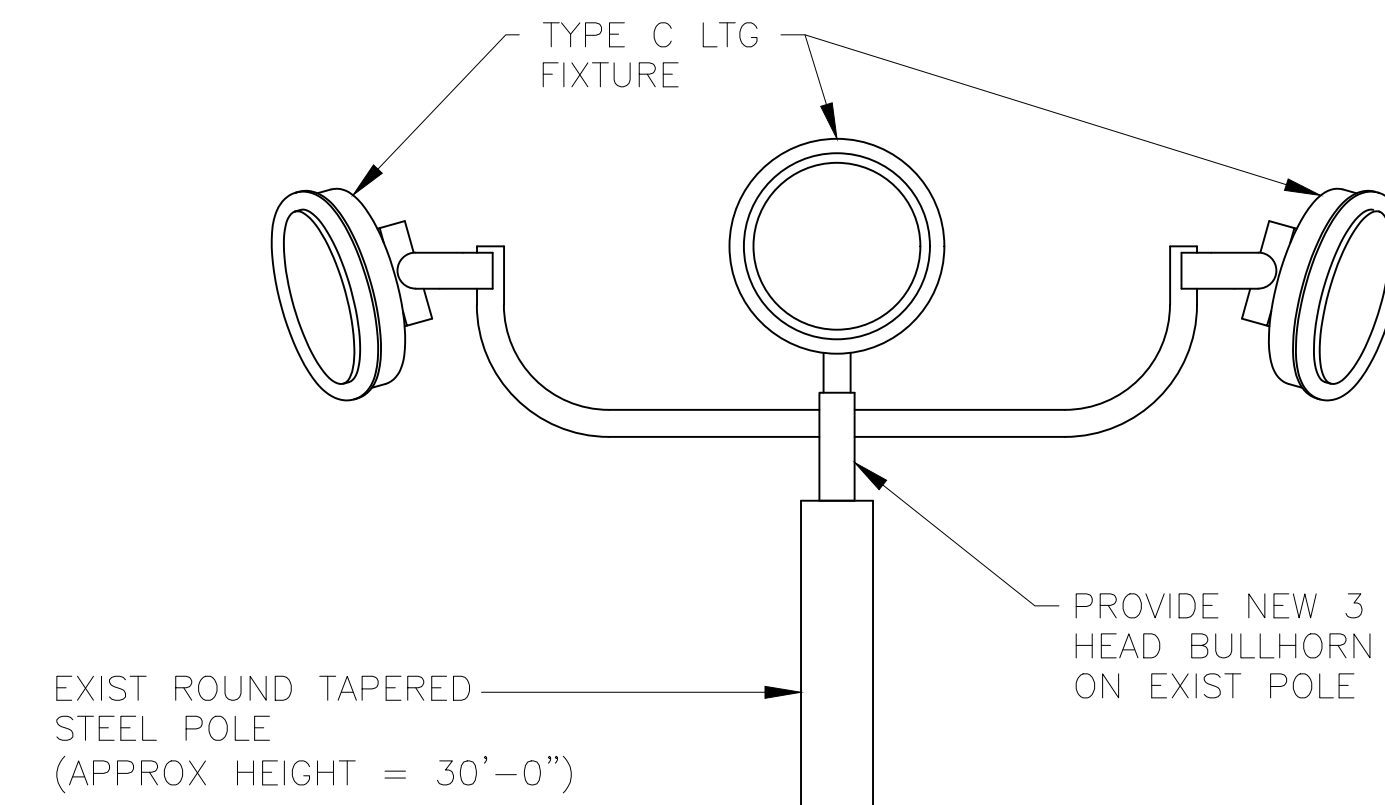
KEY NOTES:

1. CAP UNUSED CONDUIT STUB WITH PVC END CAP SIMILAR TO CARLON CAT. NO. E958FEND CAP OR APPROVED EQUAL AS REQUIRED AND BACKFILL WITH 1" CLEAN ROCK OR SAND.
2. SEAL AROUND CONDUCTORS AT END OF CONDUIT WITH WATER TIGHT SEALANT PER SPECIFICATION SECTION 260533.13.
3. PROVIDE UG J-BOX IF REQUIRED.

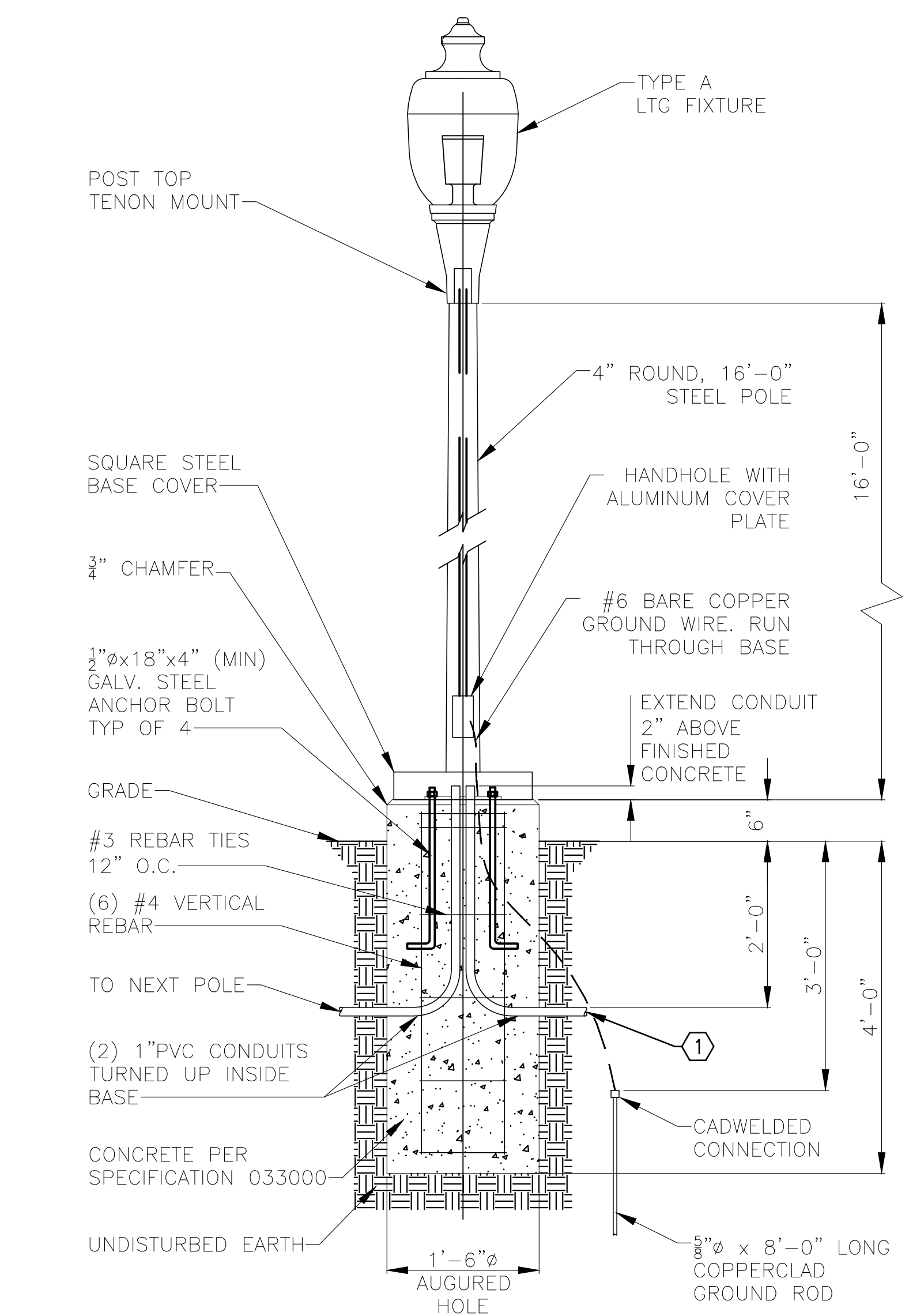


NEW UNDERGROUND ELECTRIC
JUNCTION BOX DETAIL FOR SITE LTG 3

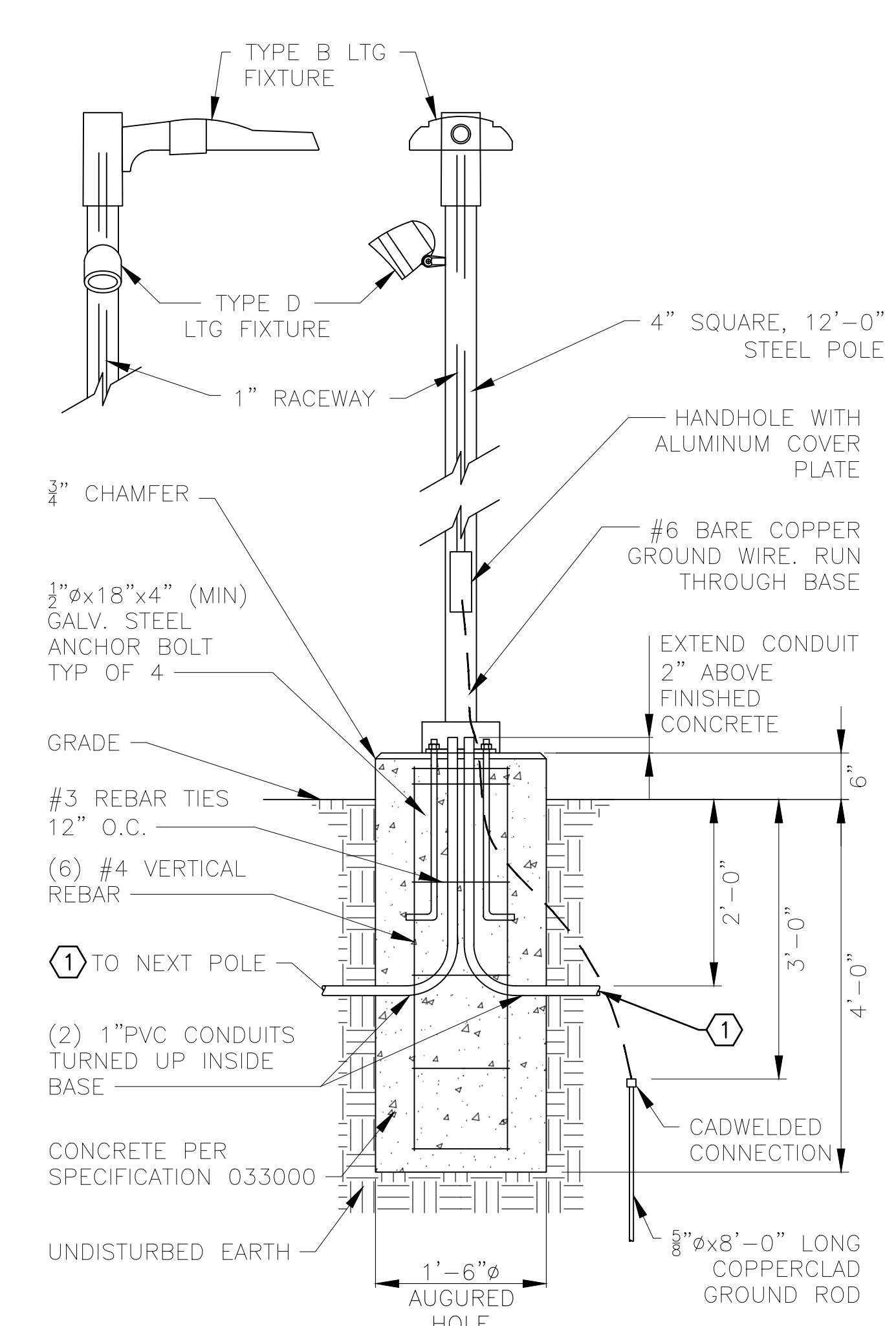
201
E-502 NO SCALE



204 POLE MOUNTED LTG FIXTURE TYPE C
SCALE: 3/4"=1'-0"



202 POLE MOUNTED LIGHTING FIXTURE TYPE A
SCALE: 3/4"=1'-0"



203 POLE MOUNTED LTG FIXTURES TYPE B & D
SCALE: 3/4"=1'-0"



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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- E-601.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**ONE-LINE
DIAGRAM**

SHEET NUMBER:

E-601

17 OF 20 SHEETS
MARCH 28, 2023

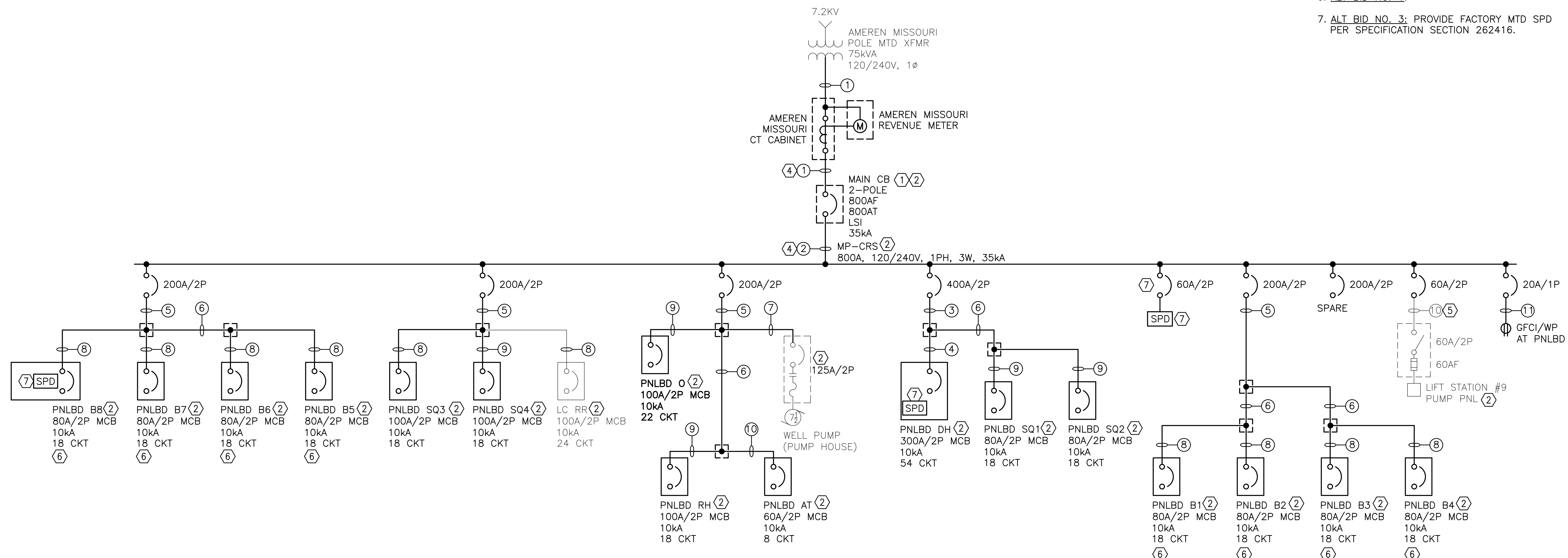
GENERAL NOTES:

- A. PROVIDE ARC FLASH HAZARD WARNING LABEL PER SPECIFICATION SECTIONS 260553 AND 260573 ON ENCLOSED MCB, EACH PNLBD, WELL PUMP MS & EACH DISC SW.
- B. ALL CONDUCTORS SHALL BE COPPER.
- C. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

KEY NOTES:

1. MCB TO BE IN SEPARATE NEMA 3R ENCL W/ AN ISOLATED NEUT BUS & AN EQUIP GRD BUS BONDED TOGETHER W/ #3/0 MAIN BONDING JUMPER.
2. PROVIDE LABEL INDICATING MAXIMUM AVAILABLE FAULT CURRENT AND DATE THE FAULT CURRENT CALCULATION WAS PERFORMED PER NEC 110.24(A). LABEL MUST BE WEATHER AND UV RESISTANT FOR OUTDOOR EQUIP.
3. FDR SIZES SHOWN ARE MIN REQD SIZES.
4. CONDUCTORS FROM CT CAB TO MCB AND FROM MCB TO PNLB TO BE RUN IN ONE 3/4" GRC NIPPLE WITH THREADED CONDUIT HUBS.
5. REWORK EXIST UG FDR INTO NEW PNLBD.
6. ALT BID NO. 1.
7. ALT BID NO. 3: PROVIDE FACTORY MTD SPD PER SPECIFICATION SECTION 262416.

FEEDER NUMBER	CIRCUIT VOLTAGE	PHASE CONDUCTORS			NEUTRAL CONDUCTOR		GROUNDING CONDUCTOR		RACEWAY
		PHASE	QTY PER PHASE	SIZE	QTY	SIZE	QTY	SIZE	
①	120/240	2	2	500 KCM	2	500 KCM	-	-	(2) 3"
②	120/240	2	2	500 KCM	2	500 KCM	1	3/0	3 1/2" NIPPLE
③	120/240	2	1	600 KCM	1	600 KCM	1	1/0	3 1/2"
④	120/240	2	1	500 KCM	1	500 KCM	1	1/0	3"
⑤	120/240	2	1	250 KCM	1	250 KCM	1	3	2 1/2"
⑥	120/240	2	1	4/0	1	4/0	1	4	2"
⑦	120/240	2	1	1	1	1	1	6	1 1/4"
⑧	120/240	2	1	2	1	2	1	6	2"
⑨	120/240	2	1	2	1	2	1	6	1 1/4"
⑩	120/240	2	1	6	1	6	1	10	2" OR 1 1/4"
⑪	120	1	1	12	1	12	1	12	3/4"



ONE-LINE DIAGRAM
NO SCALE

EXISTING PANELBOARD DH1 SCHEDULE

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	RR & UTILITY RM LTS & GFCI RECPT IN RM	-	-	-	-	WALKIN COOLER COMPRESSOR	2	30	2
3	20	1	DINING HALL LIGHTS - SOUTH	-	-	-	-	WALKIN COOLER FAN	1	20	6
5	20	1	OUTSIDE DUSK TO DAWN LIGHTS	-	-	-	-	DINING HALL	1	20	8
7	20	1	KITHCHEN LIGHTS - SOUTH & PANTRY	-	-	-	-	WALKIN COOLER LIGHT	1	20	10
9	20	1	DINING HALL CEILING FANS	-	-	-	-	KITCHEN LIGHTS - NORTH	1	20	12
11	30	2	BSMT CLOTHES DRYER	-	-	-	-	MIXER	1	20	14
13	20	1	SPARE	-	-	-	-	BSMT LIGHTS - SOUTH & DINING HALL CENTER	1	20	16
15	20	1	DINING HALL LIGHTS - NORTH	-	-	-	-	BSMT LIGHTS - NORTH	1	20	18
17	30	1	SPARE	-	-	-	-	SPARE	1	20	20
19	20	1	WATER HEATER CONTROL	-	-	-	-	SPARE	1	20	22
21	20	1	WATER SOFTENER LOAD CENTER	-	-	-	-	DINING HALL NORTH VENT FAN	1	20	24
23	70	2	SPARE	-	-	-	-	SPARE	2	50	26
25	20	1	WINDOW A/C UNIT	-	-	-	-	SPARE	2	50	28
27	20	1	SPARE	-	-	-	-	DINING HALL SOUTH VENT FAN	1	20	30
29	20	1	SPARE	-	-	-	-				

150 AMP MCB, 120/240V-1Ø-3W, 30 CKT, 10kA
NEMA TYPE 1 FLUSH MTD ENCLOSURE
CUTLER-HAMMER LOAD CENTER

TOTAL LOAD: KA

EXISTING PANELBOARD DH2 SCHEDULE

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	-	1	120V SHUNT TRIP	-	-	-	-	KITCHEN CHEST COOLER	1	20	2
3	100	2	CONVECTION OVEN	-	-	-	-	ICE MAKER, OUTDOOR LIGHT	1	20	4
5	30	1	KITCHEN REACH-IN COOLER	-	-	-	-	DINING HALL COOLER	1	20	6
7	20	1	KITCHEN RECPT - NORTH	-	-	-	-	UNKNOWN LOAD	1	20	8
9	20	1	KITCHEN RECPT - NORTH	-	-	-	-	UNKNOWN LOAD	1	20	10
11	100	2	DISHWASHER	-	-	-	-	UNKNOWN LOAD	1	20	12
13	-	1	SPACE	-	-	-	-	UNKNOWN LOAD	2	20	14
15	-	1	SPACE	-	-	-	-	UNKNOWN LOAD	2	20	16
17	-	1	SPACE	-	-	-	-	UNKNOWN LOAD	2	20	18
19	-	1	SPACE	-	-	-	-	UNKNOWN LOAD	2	20	20
21	-	1	SPACE	-	-	-	-	SPACE	1	-	22
23	-	1	SPACE	-	-	-	-	SPACE	1	-	24
25	-	1	SPACE	-	-	-	-	SPACE	1	-	26
27	-	1	SPACE	-	-	-	-	SPACE	1	-	28
29	-	1	SPACE	-	-	-	-	SPACE	1	-	30

200 AMP MCB, 120/240V-1Ø-3W, 30 CKT, 10kA
NEMA TYPE 1 FLUSH MTD ENCLOSURE
SQUARE D QO LOAD CENTER

TOTAL LOAD: KA

NEW PANELBOARD DH SCHEDULE

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	RR & UTILITY RM LTS & GFCI RECPT IN RM	-	-	-	-	WALKIN COOLER COMPRESSOR	2	30	2
3	20	1	DINING HALL LIGHTS - SOUTH	-	-	-	-	WALKIN COOLER FAN	1	20	6
5	20	1	OUTSIDE DUSK TO DAWN LIGHTS	-	-	-	-	DINING HALL	1	20	8
7	20	1	KITHCHEN LIGHTS - SOUTH & PANTRY	-	-	-	-	WALKIN COOLER LIGHT	1	20	10
9	20	1	DINING HALL CEILING FANS	-	-	-	-	KITCHEN LIGHTS - NORTH	1	20	12
11	30	2	BSMT CLOTHES DRYER	-	-	-	-	MIXER	1	20	14
13	20	1	SPARE	-	-	-	-	BSMT LIGHTS - SOUTH & DINING HALL CENTER	1	20	16
15	20	1	DINING HALL LIGHTS - NORTH	-	-	-	-	BSMT LIGHTS - NORTH	1	20	18
17	30	1	SPARE	-	-	-	-	SPARE	2	30	20
21	15	1	WATER HEATER CONTROL	-	-	-	-	SPARE	1	20	22
23	20	1	WATER SOFTENER RECEIPT	-	-	-	-	DINING HALL NORTH VENT FAN	1	20	24
25	20	1	SPARE	-	-	-	-	SPARE	1	20	26
27	20	1	WINDOW A/C UNIT	-	-	-	-	SPARE	1	20	28
29	20	1	SPARE	-	-	-	-	DINING HALL SOUTH VENT FAN	1	20	30
31	-	1	120V SHUNT TRIP	-	-	-	-	KITCHEN CHEST COOLER	1	20	32
33	30	1	CONVECTION OVEN	-	-	-	-	ICE MAKER, OUTDOOR LIGHT	1	20	34
35	100	2	KITCHEN REACH-IN COOLER	-	-	-	-	DINING HALL COOLER	1	20	36
37	30	1	KITCHEN RECPT - NORTH	-	-	-	-	UNKNOWN LOAD	1	20	38
39	20	1	KITCHEN RECPT - NORTH	-	-	-	-	UNKNOWN LOAD	1	20	40
41	20	1	UNKNOWN LOAD	-	-	-	-	UNKNOWN LOAD	1	20	42
43	100	2	DISHWASHER	-	-	-	-	UNKNOWN LOAD	1	20	44
45	20	1	UNKNOWN LOAD	-	-	-	-	UNKNOWN LOAD	2	20	46
47	20	1	UNKNOWN LOAD	-	-	-	-	UNKNOWN LOAD	2	20	48
49	20	1	UNKNOWN LOAD	-	-	-	-	UNKNOWN LOAD	2	20	50
51	20	1	SPARE	-	-	-	-	SPARE	1	15	52
53	20	1	SPARE	-	-	-	-	SPARE	1	15	54

300 AMP MCB, 120/240V-1Ø-3W, 54 CKT, 10kA
NEMA TYPE 1 SURFACE MTD ENCLOSURE

TOTAL LOAD: KA

GENERAL NOTES:

- PROVIDE ARC FLASH HAZARD WARNING LABEL PER SPECIFICATION SECTIONS 260553 AND 260573 ON EACH PNLBD.
- REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS

KEY NOTES:

- PROVIDE NEW PNLBD PER SPECIFICATION SECTION 262416.
- TRACE EXIST CIRCUITS & IDENTIFY LOADS SERVED FOR COMPLIANCE WITH NEC 408.4. UPDATE PNLBD CKT DIRECTORIES ON AS-BUILT DWGS.
- ALT BID NO. 3: PROVIDE FACTORY MTD SPD PER SPECIFICATION SECTION 262416.

NEW PANELBOARD MP-CRS SCHEDULE

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	-	-	-	-	-	-	-	-	-	-	-
3	200	2	BARRACKS B1, B2, B3, B4	-	-	-	-	DINNING HALL & STAFF QUARTERS SQ1 & SQ2	2	400	4
5	-	-	-	-	-	-	-	-	-	-	6
7	-	-	-	-	-	-	-	-	-	-	8
9	200	2	BARRACKS B5, B6, B7, B8	-	-	-	-	RESTROOM & STAFF QUARTERS SQ3 & SQ4	2	200	10
11	-	-	-	-	-	-	-	-	-	-	12
13	-	-	-	-	-	-	-	-	-	-	14
15	200	2	OFFICE, PUMP HOUSE, RECREATION HALL, AMPITHEATER	-	-	-	-	SEWAGE LIFT STATION NO. 9	2	60	16
17	-	-	-	-	-	-	-	SPACE	-	-	18
19	-	-	-	-	-	-	-	GFCI RECPT AT PANEL	1	20	20
21	200	2	SPARE	-	-	-	-	SPD	2	60	22
23	-	-	-	-	-	-	-	-	-	-	24

800 AMP MLO, 120/240V-1Ø-3W, 35kA
NEMA TYPE 3R ENCLOSURE
SEE MTG DETAIL ON DWG E-501

TOTAL LOAD: KA

NEW PANELBOARD SQ1 SCHEDULE

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	INTERIOR LIGHTS & RECPTS & PORCH LIGHTS	864	-	2250	-	WATER HEATER	2	30	2
3	20	1	BATHROOM GFCI RECPTS	-	360	-	2250	NORTH BUNK RECPT	1	20	6
5	20	1	SPARE	-	-	180	-	SMOKE DETECTORS	1	15	8
7	20	1	SPARE	-	-	-	75	SPARE	1	20	10
9	20	1	SPARE	-	-	-	-	SPARE	1	20	12
11	20	1	SPARE	-	-	-	-	SPARE	1	20	14
13	20	1	SPARE	-	-	-	-	SPARE	1	20	16
15	80	2	MAIN	-	-	-	-	SPARE	1	20	18
17	-	-	-	-	-	-	-	SPARE	1	15	18

80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 1 SURFACE MTD ENCLOSURE

TOTAL LOAD: 5979 VA

NEW PANELBOARD SQ2 SCHEDULE

CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	-	-	-	-	-	-	-	-	-	-	-
3	30	2	WATER HEATER	2250	-	360	-	NORTH BUNK ROOM & HALL RECPTS	1	20	2
5	20	1	RECPT BELOW PANEL	180	-	360	-	INTERIOR & PORCH LIGHTS	1	20	4
7	20	1	UNKNOWN LOAD	-	-	-	75	BATHROOM GFCI RECPTS	1	20	6
9	20	1	SPARE	-	-	-	-	SMOKE DETECTORS	1	15	8
11	20	1	SPARE	-	-	-	-	SPARE	1	20	10
13	20	1	SPARE	-	-	-	-	SPARE	1	20	12
15	20	1	SPARE	-	-	-	-	SPARE	1	20	14
17	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17	-	-	-	-	-	-	-	SPARE	1	15	18

80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 1 SURFACE MTD ENCLOSURE

TOTAL LOAD: 5979 VA



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF STATE PARKS

UPGRADE ELECTRIC
NETWORK
CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
DATE: _____
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DATE: _____

ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-7815306134- E-602.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**PANELBOARD
SCHEDULES &
ALT BID NO. 3**

SHEET NUMBER:

E-602

18 OF 20 SHEETS
MARCH 28, 2023



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024

**ROGERS-SCHMIDT
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GENERAL NOTES:

- A. PROVIDE ARC FLASH HAZARD WARNING LABEL PER SPECIFICATION SECTIONS 260553 AND 260573 ON EACH PNLBD.
- B. REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

KEY NOTES:

- 1. PROVIDE NEW PNLBD PER SPECIFICATION SECTION 262416.
- 2. TRACE EXIST CIRCUITS & IDENTIFY LOADS SERVED FOR COMPLIANCE WITH NEC 408.4. UPDATE PNLBD CKT DIRECTORIES ON AS-BUILT DWGS.
- 3. ALT BID NO. 1

NEW PANELBOARD SQ3 SCHEDULE (1)(2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	BATHROOM GFCI RECPT	180		2250					2
3	20	1	EAST & CENTER ROOM & EAST EXTERIOR LIGHTS		-		2250	WATER HEATER	2	30	4
5	20	1	WEST & CENTER ROOM RECPTS	-		-		WEST ROOM & WEST EXTERIOR LIGHTS	1	20	6
7	20	1	EAST ROOM RECPTS		-		-	BATHROOM LTS & EXH FAN & SHOWER LIGHTS	1	20	8
9	20	1	SPARE	-		75		SMOKE DETECTORS	1	15	10
11	20	1	SPARE		-		-	SPARE	1	20	12
13	20	1	SPARE	-		-		SPARE	1	20	14
15	20	1	SPARE		-		-	SPARE	1	20	16
17	100	2	MAIN	-		-		SPARE	1	15	18

100 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 1 SEMI-FLUSH MTD ENCLOSURE W/ SURFACE COVER

180 0 2325 2250 TOTAL LOAD: VA

NEW PANELBOARD SQ4 SCHEDULE (1)(2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	30	2	WATER HEATER	-		-	75	SOUTH BUNK & SOUTH PORCH LIGHTS	1	20	2
3					-			SMOKE DETECTORS	1	20	4
5	20	1	BATHROOM LIGHTS & DUSK TO DAWN LIGHT	-		-		NORTH BUNK & NORTH PORCH LIGHTS	1	20	6
7	20	1	MIDDLE ROOM RECPTS & BATHROOM GFCI RECPTS		-		-	SOUTH BUNK RECPTS	1	15	8
9	20	1	SPARE	-		-		NORTH BUNK RECPTS	1	20	10
11	20	1	SPARE		-		-	SPARE	1	20	12
13	20	1	SPARE	-		-		SPARE	1	20	14
15	20	1	SPARE		-		-	SPARE	1	20	16
17	100	2	MAIN	-		-		SPARE	1	15	18

100 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 1 SEMI-FLUSH MTD ENCLOSURE W/ SURFACE COVER

0 0 0 75 TOTAL LOAD: VA

NEW PANELBOARD RH SCHEDULE (1)(2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	?? OUTSIDE LIGHTS / BACK LIGHTS	-		-		?? 4 BACK WALL LIGHTS / MAIL ROOM	1	20	2
3	20	1	CEILING FANS		-		-	?? 2 RIGHT SIDE LIGHTS	1	20	4
5	20	1	?? BSMT LIGHTS & RECPTS	-		-		?? RECEPTACLES	1	20	6
7	20	1	SPARE		-		-	?? 2 MIDDLE LIGHTS & RIGHT SIDE RECPT	1	20	8
9	20	1	SPARE	-		-		SPARE	1	20	10
11	20	1	SPARE		-		-	SPARE	1	20	12
13	20	1	SPARE	-		-		SPARE	1	20	14
15	20	1	SPARE		-		-	SPARE	1	20	16
17	100	2	MAIN	-		-		SPARE	1	15	18

100 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 1 SEMI-FLUSH MTD ENCLOSURE W/ SURFACE COVER

0 0 0 0 TOTAL LOAD: VA

NEW PANELBOARD O SCHEDULE (1)(2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	30	2	WATER HEATER	-		-		?? LIGHTS	1	20	2
3					-		-	?? RECPTS	1	20	4
5	20	1	?? RECPTS	-		-		BATHROOM & ?? LIGHTS	1	20	6
7	20	1	?? RECPTS		-		-	?? OUTLETS	1	15	8
9	20	1	?? RECPTS	-		180		BATHROOM GFCI RECPT	1	20	10
11	20	1	NORTH ROOM & HALL RECPTS		-		-	?? OUTSIDE LEFT RECPT	1	20	12
13	20	1	INTERIOR & PORCH LIGHTS	-		-		SPARE	1	20	14
15	20	1	NORTH ROOM & HALL RECPTS		-		-	?? OUTSIDE LEFT RECPT	1	20	16
17	20	1	INTERIOR & PORCH LIGHTS	-		-		SPARE	1	20	18
19	20	1	SPARE		-		-	?? RECPTS UNDER PANELS	1	20	20
21	15	1	SPARE	-		75		SMOKE DETECTORS	1	15	22
23	20	1	SPARE		-		950				24
25	100	2	MAIN	-		950		PLAY COURT LIGHTS	2	20	26

100 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 1 SEMI-FLUSH MTD ENCLOSURE W/ SURFACE COVER

0 0 1205 950 TOTAL LOAD: VA

NEW PANELBOARD AT SCHEDULE (1)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1				-		180		GFCI RECPT AT PANEL	1	20	2
3	20	2	SPARE		-		140	AMPHITHEATER LIGHTING	1	20	4
5	20	1	SPARE	-		-		SPARE	1	20	6
7	15	1	SPARE		-		-	SPARE	1	15	8
9	-	1	SPACE	-		-		SPACE	1	-	10
11	-	1	SPACE		-		-	SPACE	1	-	12
13	-	1	SPACE	-		-		SPACE	1	-	14
15	-	1	SPACE		-		-	SPACE	1	-	16
17	60	2	MAIN	-		-		SPACE	1	-	18

60 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA
NEMA TYPE 3R SURFACE MTD OUTDOOR ENCLOSURE

0 0 180 140 TOTAL LOAD: VA

LIGHTING FIXTURE SCHEDULE (3)										
TYPE	DESCRIPTION	MANUFACTURER CATALOG NUMBER	LAMP DATA			VOLTAGE	FIXTURE WATTAGE	MOUNTING	FINISH	REMARKS
			TYPE	WATTS	SPECIFICATIONS					
A	ACORN POST LIGHT	GLP BH1/AB40AC-CL/G3LED40-T5-40K/PCLL/SP1/BT W/ LUMECON H-RSS16B4-4-T304-BA ROUND STEEL POLE OR APPROVED EQUAL BY ACCUITY OR COOPER	LED	41	4000K, ≥ 70 CRI, ≥ 141 LPW, 5,793 LUMENS TYPE V OPTICS	120	41	POLE ON CONCRETE BASE ON GRADE	TEXTURED BLACK	4" ROUND, 16' TALL STEEL POLE FURNISHED W/ GALV STL ANCHORAGE KIT, SQ STL BASE COVER PAINTED TO MATCH POLE, AND WITH PHOTOCONTROL AND 10kA/10kV SURGE PROTECTION ON FIXTURE
B	ARM MTD AREA LIGHT	LUMECON LDS-SAL-45-DB-T3-1-40-MAS W/ LUMECON H-SSS12B4-4-D190-FF-C12-BM SQUARE STEEL POLE OR APPROVED EQUAL BY ACCUITY OR COOPER	LED	45	4000K, ≥ 80 CRI, ≥ 146 LPW, 6,567 LUMENS TYPE III OPTICS	120	45	POLE ON CONCRETE BASE ON GRADE	DARK BRONZE	4" SQUARE, 12' TALL STEEL POLE FURNISHED W/ GALV STL ANCHORAGE KIT, SQ STL BASE COVER PAINTED TO MATCH POLE, 2-GANG SW BOX AT 36" FROM BOTTOM & 1/2" THREADED COUPLING AT 18" FROM TOP AND W/ 20kA/40kV SURGE PROTECTION ON FIXTURE
C	SPORTS LIGHT	EIKO SIG/600W/740/UD W/ SIG/SF W/ MORRIS 79954 3 HEAD BULLHORN OR APPROVED EQUAL BY ACCUITY OR COOPER	LED	600	4000K, ≥ 70 CRI, ≥ 165 LPW 98,750 LUMENS	240	600	3 HEAD BULLHORN ON EXIST 3Ø STEEL POLE	BLACK	20kA/20kV SURGE PROTECTION ON FIXTURE PROVIDE WITH SLIPFITTER FOR 2-3/8" PIPE AND 4 HEAD VERTICAL BLACK STEEL OR ALUMINUM BULLHORN FOR EXISTING ROUND STEEL POLE
D	BULLET SPOT LIGHT	CREE C-FL-B-RDN-2L-40K-DB OR APPROVED EQUAL BY ACCUITY OR COOPER	LED	22	4000K, ≥ 70 CRI, ≥ 127 LPW, 2,800 LUMENS 2Ø NARROW DISTRIBUTION SPOT	120	22	POLE FOR TYPE B LTG FIXTURE	DARK BRONZE	MOUNT TO 1/2" THREADED COUPLING PROVIDED ON TYPE B FIXTURE POLE AT 18" DOWN FROM TOP OF POLE

LAMP TYPE: LED = LIGHT EMITTING DIODE

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DEPARTMENT OF
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UPGRADE ELECTRIC
NETWORK
CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
SITE # 5306
ASSET # 7815306134

REVISION: _____
DATE: _____
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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-7815306134- E-603.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
**PANELBOARD &
LIGHTING FIXTURE
SCHEDULES &
ALT BID NO. 1**

SHEET NUMBER:

E-603



BARRY D. FREINER
Registered Professional Engineer
MO # E-24220
Expires 12-31-2024

ROGERS-SCHMIDT
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OFFICE OF ADMINISTRATION
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DEPARTMENT OF
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UPGRADE ELECTRIC
NETWORK
CAMP RISING SUN

LAKE OF THE OZARKS
STATE PARK
403 HIGHWAY 134
KAISER, MISSOURI 65047

PROJECT # X2202-01
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ISSUE DATE: 03/28/2023

CAD DWG FILE: X2202-01-5306-
7815306134- E-604.DWG
DRAWN BY: MNS
CHECKED BY: BDF
DESIGNED BY: BDF

SHEET TITLE:
PANELBOARD
SCHEDULES -
ALT BID NO. 1 &
ALT BID NO. 3

SHEET NUMBER:

E-604

20 OF 20 SHEETS
MARCH 28, 2023

GENERAL NOTES:

- PROVIDE ARC FLASH HAZARD WARNING LABEL PER SPECIFICATION SECTIONS 260553 AND 260573 ON EACH PNLBD.
- REFERENCE SPECIFICATION SECTION 012300 FOR DESCRIPTION OF ALTERNATE BID ITEMS.

KEY NOTES:

- PROVIDE NEW PNLBD PER SPECIFICATION SECTION 262416.
- TRACE EXIST CIRCUITS & IDENTIFY LOADS SERVED FOR COMPLIANCE WITH NEC 408.4. UPDATE PNLBD CKT DIRECTORIES ON AS-BUILT DWGS.
- ALT BID NO. 3: PROVIDE FACTORY MTD SPD PER SPECIFICATION SECTION 262416.

NEW PANELBOARD B1 SCHEDULE (1X2)												
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO	
				ØA	ØB	ØA	ØB					
1	30	2	WATER HEATER	2250		360		BATHROOM GFCI RECPTS	1	20	2	
3					2250		445		UTILITY ROOM RECPT & BATHROOM EXH FAN	1	20	4
5				20	1	BUNK ROOM RECPTS - EAST	360		431		BATHROOM LIGHTS	1
7	20	1	BUNK ROOM RECPTS - WEST		360		384	BUNK ROOM & PORCH LIGHTS	1	20	8	
9	15	1	SMOKE DETECTORS	75		100		UTILITY ROOM LIGHT	1	20	10	
11	20	1	SPARE	-	-	-	-	SPARE	1	20	12	
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14	
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16	
17				-	-	-	-	SPARE	1	15	18	
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				2685	2610	891	829	TOTAL LOAD:	7015 VA			

NEW PANELBOARD B2 SCHEDULE (1X2)												
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO	
				ØA	ØB	ØA	ØB					
1	30	2	WATER HEATER	2250		360		BATHROOM GFCI RECPTS	1	20	2	
3					2250		445		UTILITY ROOM RECPT & BATHROOM EXH FAN	1	20	4
5				20	1	BUNK ROOM RECPTS - EAST	360		431		BATHROOM LIGHTS	1
7	20	1	BUNK ROOM RECPTS - WEST		360		384	BUNK ROOM & PORCH LIGHTS	1	20	8	
9	15	1	SMOKE DETECTORS	75		100		UTILITY ROOM LIGHT	1	20	10	
11	20	1	SPARE	-	-	-	-	SPARE	1	20	12	
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14	
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16	
17				-	-	-	-	SPARE	1	15	18	
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				2685	2610	891	829	TOTAL LOAD:	7015 VA			

NEW PANELBOARD B3 SCHEDULE (1X2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	BUNK ROOM RECPTS - WEST	360		2250		WATER HEATER	2	30	2
3	20	1	BUNK ROOM RECPTS - EAST		360		2250				4
5	20	1	UTILITY ROOM LIGHT	100		445		UTILITY ROOM RECPT & BATHROOM EXH FAN	1	20	6
7	20	1	BATHROOM GFCI RECPTS		360		384	BUNK ROOM & PORCH LIGHTS	1	20	8
9	15	1	BATHROOM LIGHTS	431		75		SMOKE DETECTORS	1	20	10
11	20	1	SPARE	-	-	-	-	SPARE	1	20	12
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17				-	-	-	-	SPARE	1	15	18
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				891	720	2770	2634	TOTAL LOAD:	7015 VA		

NEW PANELBOARD B4 SCHEDULE (1X2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	BUNK ROOM RECPTS - EAST	360		2250		WATER HEATER	2	30	2
3	20	1	BUNK ROOM & PORCH LIGHTS		384		2250				4
5	20	1	UTILITY ROOM LIGHT	100		431		BATHROOM LIGHTS	1	20	6
7	20	1	UTILITY ROOM RECPT & BATHROOM EXH FAN		445		360	BUNK ROOM RECPTS - WEST	1	20	8
9	20	1	BATHROOM GFCI RECPTS	360		75		SMOKE DETECTORS	1	15	10
11	20	1	SPARE	-	-	-	-	SPARE	1	20	12
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17				-	-	-	-	SPARE	1	15	18
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				820	829	2756	2610	TOTAL LOAD:	7015 VA		

NEW PANELBOARD B5 SCHEDULE (1X2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	UTILITY ROOM RECPT & LIGHT	280		2250		WATER HEATER	2	30	2
3	20	1	BUNK ROOM RECPTS - WEST		360		2250				4
5	20	1	BUNK ROOM & PORCH LIGHTS	384		345		BATHROOM EXH FAN	1	20	6
7	20	1	BUNK ROOM VENT FAN		265		431	BATHROOM LIGHTS	1	20	8
9	20	1	BUNK ROOM RECPTS - EAST	360		360		BATHROOM GFCI RECPTACLES	1	20	10
11	15	1	SMOKE DETECTORS		75		-	DUSK TO DAWN LIGHTS	1	15	12
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17				-	-	-	-	SPARE	1	15	18
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				1024	700	2955	2681	TOTAL LOAD:	7360 VA		

NEW PANELBOARD B6 SCHEDULE (1X2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	UTILITY ROOM RECPT & LIGHT	280		2250		WATER HEATER	2	30	2
3	20	1	BUNK ROOM RECPTS - WEST		360		2250				4
5	20	1	BUNK ROOM & PORCH LIGHTS	384		345		BATHROOM EXH FAN	1	20	6
7	20	1	BUNK ROOM VENT FAN		265		431	BATHROOM LIGHTS	1	20	8
9	20	1	BUNK ROOM RECPTS - EAST	360		360		BATHROOM GFCI RECPTS	1	20	10
11	20	1	SPARE	-	-	-	75	SMOKE DETECTORS	1	15	12
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17				-	-	-	-	SPARE	1	15	18
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				1024	625	2955	2756	TOTAL LOAD:	7360 VA		

NEW PANELBOARD B7 SCHEDULE (1X2)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	20	1	UTILITY ROOM RECPT & LIGHT	280		2250		WATER HEATER	2	30	2
3	20	1	BUNK ROOM RECPTS - WEST		360		2250				4
5	20	1	BUNK ROOM & PORCH LIGHTS	384		345		BATHROOM EXH FAN	1	20	6
7	20	1	BUNK ROOM VENT FAN		265		431	BATHROOM LIGHTS	1	20	8
9	20	1	BUNK ROOM RECPTS - EAST	360		360		BATHROOM GFCI RECPTS	1	20	10
11	20	1	SPARE	-	-	-	75	SMOKE DETECTORS	1	15	12
13	20	1	SPARE	-	-	-	-	SPARE	1	20	14
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17				-	-	-	-	SPARE	1	15	18
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				1024	625	2955	2756	TOTAL LOAD:	7360 VA		

NEW PANELBOARD B8 SCHEDULE (1X2X3)											
CKT NO	AMPS	POLES	LOAD	VOLT-AMPERES		VOLT-AMPERES		LOAD	POLES	AMPS	CKT NO
				ØA	ØB	ØA	ØB				
1	30	2	SEWAGE LIFT STATION - SOUTHEAST	2000		2250		WATER HEATER	2	30	2
3					2000		2250				4
5				20	1	BUNK ROOM RECPTS - EAST	360		345		BATHROOM EXH FAN
7	20	1	BUNK ROOM VENT FAN		265		431	BATHROOM LIGHTS	1	20	8
9	20	1	BUNK ROOM & PORCH LIGHTS	310		360		BATHROOM GFCI RECPTS	1	20	10
11	20	1	BUNK ROOM RECPTS - WEST		360		75	SMOKE DETECTORS	1	15	12
13	20	1	UTILITY ROOM LIGHT & RECPT	280		-	-	SPARE	1	20	14
15	80	2	MAIN	-	-	-	-	SPARE	1	20	16
17				-	-	-	-	SPARE	1	15	18
80 AMP MCB, 120/240V-1Ø-3W, 18 CKT, 10kA NEMA TYPE 1 SURFACE MTD ENCLOSURE				2950	2625	2955	2756	TOTAL LOAD:	11286 VA		