DEPARTMENT OF NATURAL RESOURCES

ELECTRICAL DISTRIBUTION RENOVATION @ CHAIN O'LAKES CAMPGROUND
CHAIN O'LAKES STATE PARK

ALBION, INDIANA

NOBLE COUNTY, INDIANA

PROJECT NO. E030281

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E-1	CAMPSITE INSTALLATION PLAN
E-2	INSTALLATION DETAILS
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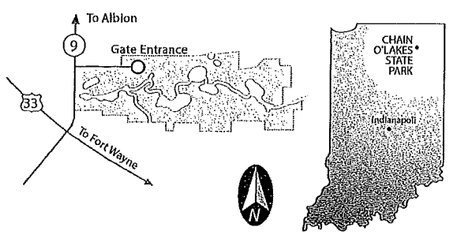
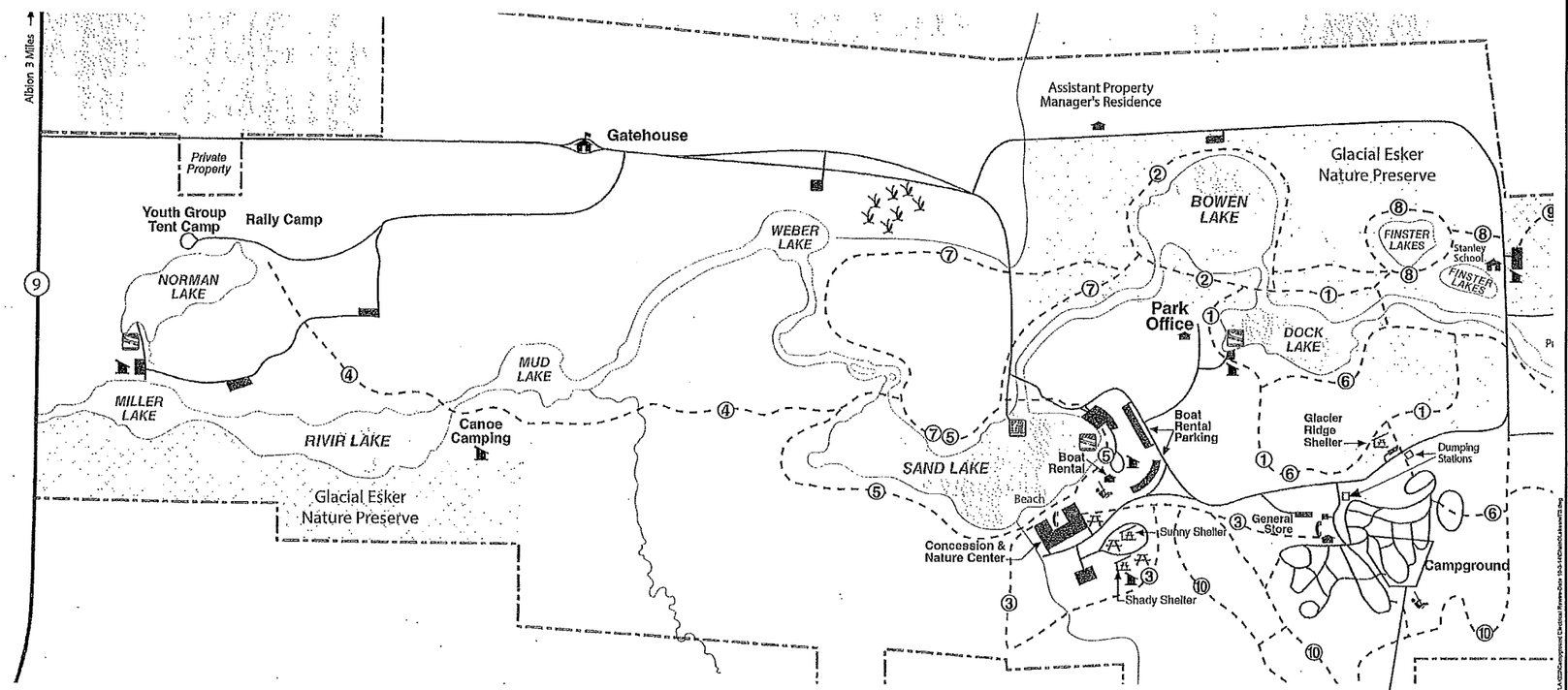
STATE MAP

LOCATION MAP





CHAIN O'LAKES STATE PARK
LOCATION MAP

CONSTRUCTION AREA 'E'

RONALD G. PETERSON REGISTERED No. PE60012045 STATE OF INDIANA PROFESSIONAL ENGINEER

Certified by:

CAMPGROUND ELECTRICAL RENOVATION
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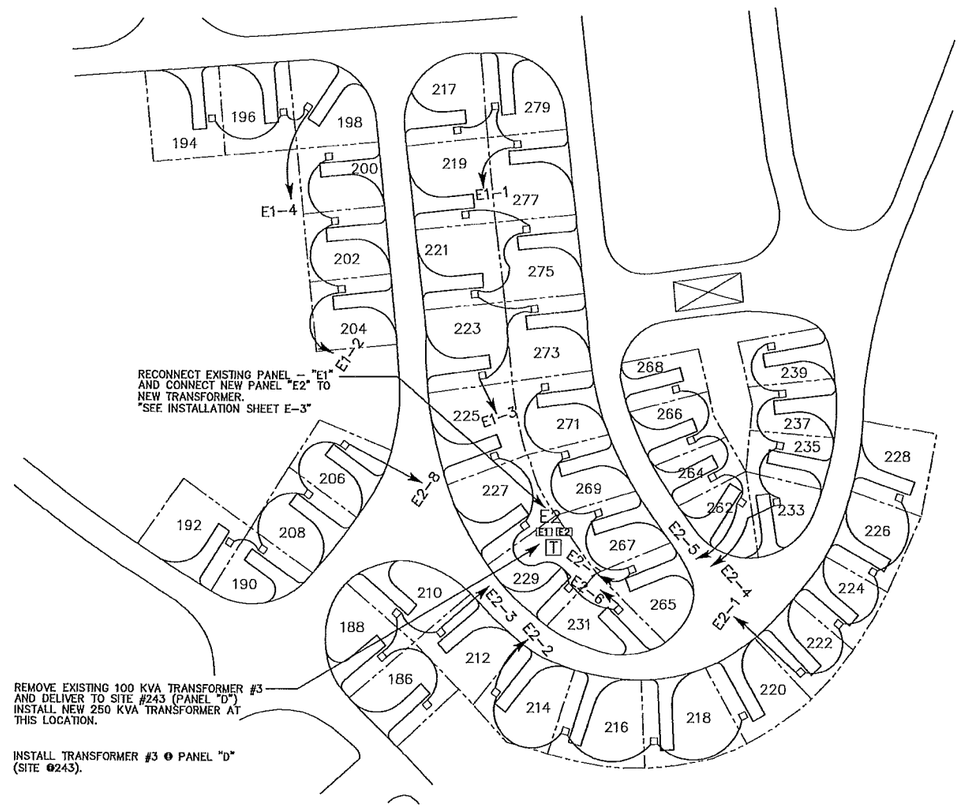
Sheet: 1 of 4	

NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND INDUSTRY STANDARDS.
2. THE NATIONAL ELECTRIC CODE (NEC) AND NATIONAL ELECTRICAL CONTRACTOR ASSOCIATION (NECA) STANDARDS SHALL BE CONSIDERED MINIMUM INSTALLATION STANDARDS.
3. THIS SITE PLAN DOES NOT SHOW CHANGES IN ELEVATION. NO CHANGE IN BID PRICE WILL BE ALLOWED FOR CHANGES IN ELEVATION OR INACCURACY OF THE SCALE OF THIS SITE PLAN. CONTRACTOR SHALL VISIT THE SITE AND MAKE NECESSARY MEASUREMENTS TO DETERMINE THE QUANTITY OF TRENCHING AND WIRE REQUIRED.
4. THIS SITE PLAN SHALL BE USED TO DETERMINE THE QUANTITY AND ORDER IN WHICH EACH ELECTRICAL PEDESTAL IS TO BE CONNECTED INTO EACH CIRCUIT, THE SIZE AND NUMBER OF WIRES BETWEEN PEDESTALS, THE SIZE, LOCATION, AND NUMBER OF DISTRIBUTION PANELS, AND A GENERAL ROUTE FOR TRENCHING AND WIRE TO FOLLOW.
5. THE MINIMUM CLEARANCE BETWEEN THE BASE OF ANY TREE AND A TRENCH SHALL BE TEN (10) FEET. IF TWO TREES ARE LESS THAN TWENTY (20) FEET APART, THE CLEARANCE MAY BE REDUCED TO ONE-HALF THE DISTANCE BETWEEN THE TWO TREES. CONTACT THE OWNER REPRESENTATIVE FOR APPROVAL OF TRENCH LOCATION WHERE CLEARANCE IS LESS THAN FIVE (5) FEET FROM THE BASE OF THE TREE.
6. CONTRACTOR SHALL STAKE THE LOCATION OF EACH PEDESTAL USING DETAILS ON SHEET E-2. SOME CAMPSITES/RECREATION VEHICLE SITES HAVE IRREGULAR SHAPES. THE LOCATION OF POWER OUTLET PEDESTALS SHALL BE APPROVED BY THE OWNER REPRESENTATIVE PRIOR TO INSTALLATION.
7. ALL TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE AFTER THE INSTALLATION OF THE CONDUCTORS. IF ANY TRENCH IS LEFT OPEN AND UNATTENDED, IT SHALL BE COVERED BY MIN. 3/4" THICK BY MIN. TWO FEET WIDE PLYWOOD SECURED TO PREVENT ANY PERSON(S) OR ANIMAL FROM FALLING INTO THE EXCAVATION.
8. AT ALL PAVED AND/OR CHIP & SEAL CAMPSITE, ROADWAY, AND WALKWAY CROSSINGS CONTRACTOR SHALL PUSH FROM ONE SIDE TO THE OTHER SIDE A CONTINUOUS 2-1/2"DIA. GALVANIZED RIGID STEEL OR HW PVC SCHEDULE 80 CONDUIT LOCATED MIN. 24" BELOW EXISTING GRADE. CONDUIT SHALL EXTEND MIN. FIVE (5) FEET BEYOND EACH SIDE OF THE PAVED FEATURE.
9. ALL DISTURBED GROUND BY EITHER DEMOLITION OR INSTALLATION SHALL BE COMPACTED, LEVELED AND SEEDED. ANY SETTLEMENT OF GROUND SHALL BE RELEVELED AND RE-SEEDED. CONTRACTOR SHALL PROVIDE FROM OFF THE PROPERTY ADDITIONAL TOP SOIL IF REQUIRED TO LEVEL ANY SETTLEMENT.
10. ALL ROCK LARGER THAN 4" IN DIAMETER OR NOT SUITABLE FOR BACKFILL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY BY THE CONTRACTOR.
11. CONTRACTOR SHALL FURNISH TWO (2) SPARE PEDESTALS FOR THE PROPERTY:
12. CONTRACTOR SHALL RUN NEW CONDUCTORS TO THE COMFORT STATIONS PER THE PANEL SCHEDULES SHOWN ON SHEET E-3 IF EXISTING CONDUIT TO MAIN DISCONNECT SWITCH IS ADEQUATE SIZE PER NEC., CONDUIT MAY BE REUSED. IF INADEQUATE INSTALL NEW CONDUIT AND PULL NEW CONDUCTORS PER SCHEDULE.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO WATER LINES, SEWERS, DRAINS PIPE, COMMUNICATION LINES, ELECTRICAL LINES, STRUCTURES, OTHER UTILITIES, OR OTHER PROPERTY AS A RESULT OF CONTRACTOR'S ACTIVITY. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT AT CONTRACTOR EXPENSE. REPAIR AND/OR REPLACEMENT SHALL MEET THE APPROVAL OF THE OWNER.
14. WHERE PLOWING OR TRENCHING IS USED BY THE CONTRACTOR, PATH SHALL GO OUT AROUND THE PAD AREA, NOT CUT ACROSS THE PAD, AS DEFINED BY THE OWNER REPRESENTATIVE.



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

"HOLEY MOLEY"SAYS CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU DIG. IT'S THE LAW

1-800-382-5544
CALL TOLL FREE

CAMPGROUND INSTALLATION PLAN

SCALE: 1"=50'

GENERAL NOTES:

1. ALL CAMPSITE PADS AND ROADS ARE EXISTING PAVED UNLESS OTHERWISE NOTED.
2. LOT LINES ARE FOR REFERENCE ONLY AND DO NOT DEPICT ACTUAL LOT CORNERS.
3. ACCESSIBLE SITES ARE EXISTING ASPHALT BASE.
4. EXISTING ROUTES OF UNDERGROUND ELECTRIC RUNS ARE SHOWN AS APPROXIMATE ONLY AND MAY VARY IN DETAIL IN ORDER TO CLEAR TREES, PHYSICAL OBSTRUCTIONS ETC. . .
5. ALL EXISTING LOCATIONS, SIZES AND INVERTS OF EXISTING UTILITIES ARE SHOWN BASED ON BEST INFORMATION POSSIBLE. HOWEVER, THE ENGINEER DOES NOT GUARANTEE OR ASSURE THAT SUCH INFORMATION IS TRUE OR EVEN APPROXIMATE. THIS CONTRACTOR SHALL DETERMINE WHICH UTILITIES MAY CONFLICT WITH HIS WORK AND VERIFY THEIR LOCATIONS, SIZES AND INVERTS, ETC.., ADJUST HIS WORK ACCORDINGLY, AND BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE. CONTRACTOR SHALL REFER TO APPLICABLE SECTIONS OF THE SPECIFICATIONS RELATIVE TO THE ABOVE.
6. CONTRACTOR SHALL BE RESPONIBLE FOR CONTACTING ALL PERMIT ISSUING AGENCIES WITHIN THE TIME FRAME SPECIFIED BY THAT AGENCY PRIOR TO CONSTRUCTION.
7. NOTIFY UTILITY OF INCREASED CAPACITY SERVICE BEING INSTALLED. PROVIDE AND INSTALL ALL NEW ELECTRICAL GEAR AS PRESCRIBED BY THE UTILITY: NOBEL COUNTY REMC.

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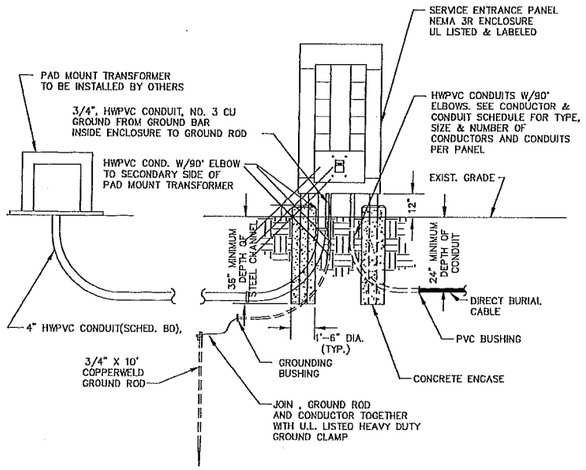
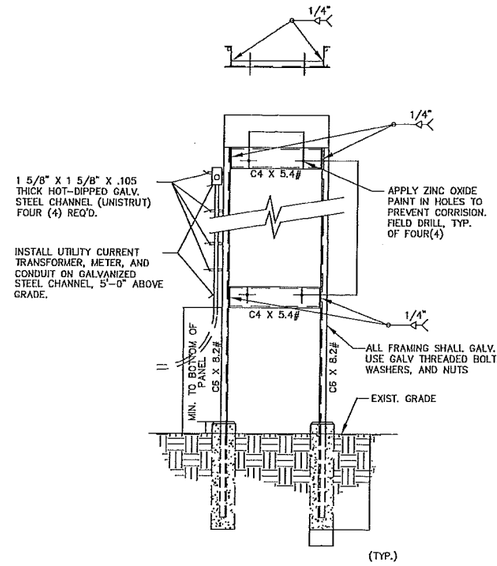


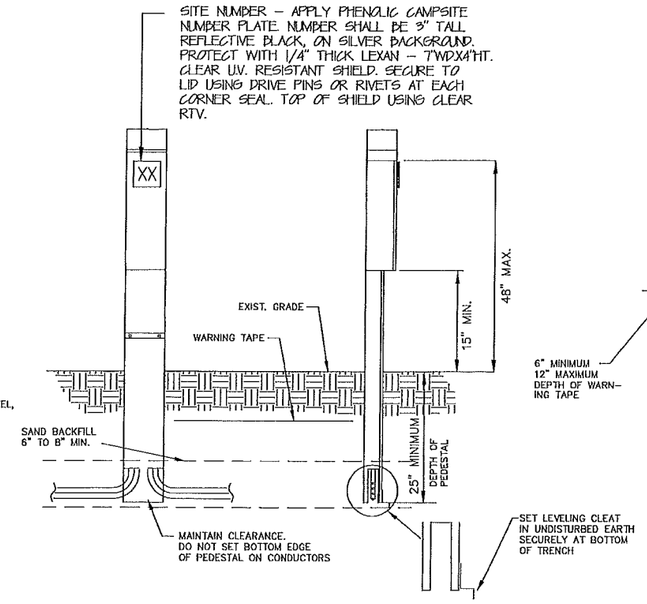
TRANSFORMER & DISTRIBUTION PANEL DETAILS

SCALE: NONE



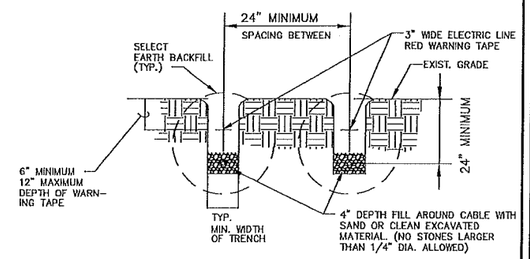
PANEL MOUNTING DETAIL

SCALE: NONE



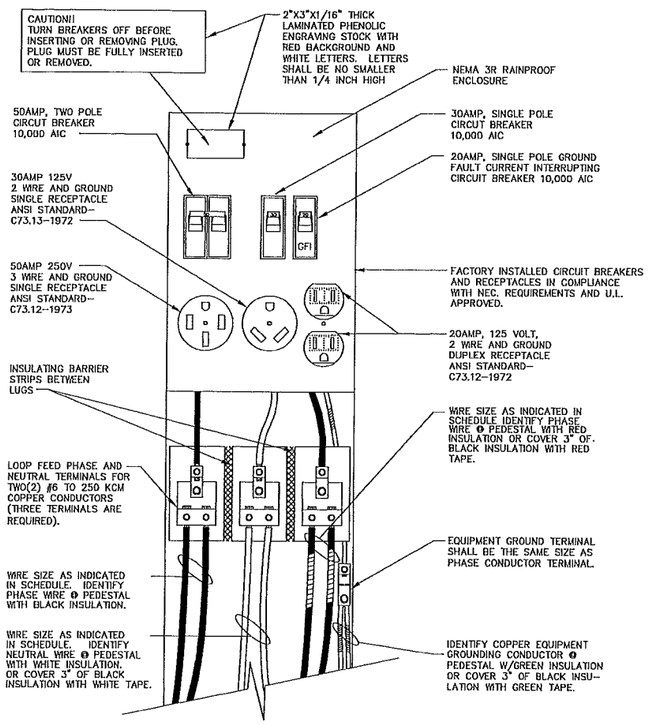
PEDESTAL RISER DETAIL

SCALE: NONE



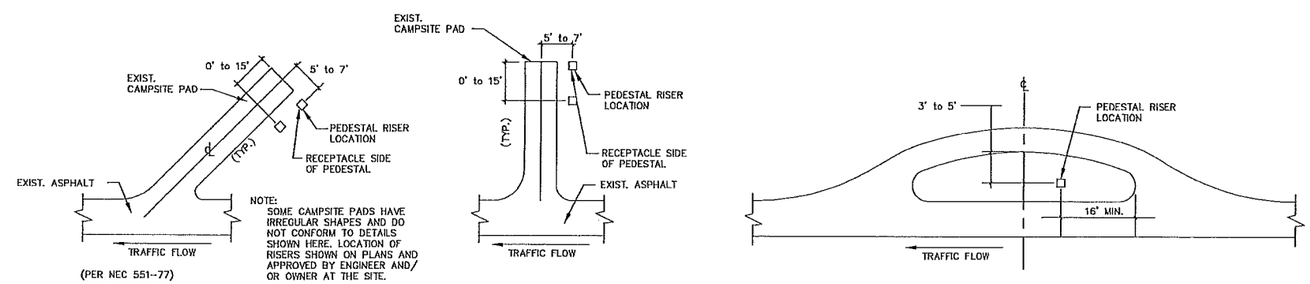
CONDUCTOR TRENCH DETAIL

SCALE: NONE



TYPE 2 PEDESTAL RISER WIRING DETAILS

SCALE: NONE



ELECTRIC PEDESTAL RISER LOCATION DETAILS

SCALE: NONE

NOTE:
SITE #'S SHALL BE INSTALLED ON OUTSIDE COVER OF PEDESTALS – BLACK REFLECTIVE VINYL LETTERING (2") SILVER BACKGROUND.

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PANELBOARD–"E2" SCHEDULE

PANEL # NEW DISTRIBUTION PANEL –"E2"

LOCATION: TRANSFORMER "3" NEMA 3R RAINPROOF

PANEL RATING 120/240V 1200AMP @ 240V, 42KA SCA

MAIN C/B FRAME: 1200A; MAIN C/B TRIP: 1200A; SUB-FEED C/B FRAME: N/A; SUB-FEED C/B TRIP: N/A

☒ MLO ☒ FULLY RATED ☒ BOLT-IN BUSES ☒ BOTTOM FEED

☒ MCB ☐ TOP FED ☒ SERIAL RATED ☐ PLUG-IN BREAKERS

☒ SINGLE LUGS ☒ COPPER BUS ☐ FLUSH MTG. ☒ SOLID NEUTRAL

☐ DOUBLE LUGS ☐ ALUMINUM BUS ☒ SURFACE MTG. ☒ GROUND BUS

DESCRIPTION	CIR.	POLE/AMPS	LOAD (KW)	ϕ	LOAD (KW)	POLE/AMPS	CIR.	DESCRIPTION
E2–1	1. 3. 5.	2P–125A	28.8	BLACK RED	38.4	2P–175A	2. 4. 6.	E2–2
E2–3	7. 9. 11.	2P–175A	38.4	BLACK RED	38.4	2P–175A	8. 10. 12.	E2–4
E2–5	13. 15. 17.	2P–175A	38.4	BLACK RED	38.4	2P–175A	14. 16. 18.	E2–6
E2–7		2P–175A	38.4	BLACK RED	38.4	2P–175A		E2–8
TOTAL LOAD:			144.0	+	153.6	= 297.6		

LOAD BALANCE CHECK: BLACK = 144.0 KW
RED = 153.6 KW

NOTE: REMOVE EXISTING PANEL "E" ASSEMBLY AND SEVER BRANCH CIRCUITS MIN. 2 FOOT UNDERGROUND

PANELBOARD–"E1" SCHEDULE

PANEL # EXISTING DISTRIBUTION PANEL –"E1"

LOCATION: TRANSFORMER "3" NEMA 3R RAINPROOF

PANEL RATING 120/240V 700AMP @ 240V, 42KA SCA

MAIN C/B FRAME: 700A; MAIN C/B TRIP: 700A; SUB-FEED C/B FRAME: N/A; SUB-FEED C/B TRIP: N/A

☐ MLO ☒ FULLY RATED ☒ BOLT-IN BUSES ☒ BOTTOM FEED

☒ MCB ☐ TOP FED ☒ SERIAL RATED ☐ PLUG-IN BREAKERS

☐ SINGLE LUGS ☒ COPPER BUS ☐ FLUSH MTG. ☒ SOLID NEUTRAL

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DESCRIPTION	CIR.	POLE/AMPS	LOAD (KW)	ϕ	LOAD (KW)	POLE/AMPS	CIR.	DESCRIPTION
E1–1	1. 3. 5.	2P–125A	28.8	BLACK RED	28.8	2P–125A	2. 4. 6.	E1–2
E1–3	7. 9. 11.	2P–200A	48	BLACK RED	28.8	2P–125A	8. 10. 12.	E1–4
	13. 15. 17.			BLACK RED	12.0	1P–125A	14. 16. 18.	E1–6
TOTAL LOAD:			76.8	+	69.6	= 146.4 KW		

LOAD BALANCE CHECK: BLACK = 76.8 KW
RED = 69.6 KW

GENERAL NOTES

1. CONTRACTOR SHALL INSTALL TYPE 2 50AMP 240VOLT PEDESTAL (COPPER INTERIOR) WITH GFCI CIRCUIT BREAKER @ 40 SITES AND PROVIDE TWO (2) COMPLETE SPARES.

2. THE LOAD ON ALL BRANCH CIRCUITS TO THE 120 VOLT RECEPTACLES SHALL BE BALANCED EQUALLY BETWEEN THE TWO PHASE CONDUCTORS BY THE METHOD OF ALTERNATING THE PHASE WIRE LOADING AT EACH PEDESTAL.

ALLOWABLE CONDUCTOR TYPES:

1. (3)– 1/C, TYPE USE WIRE, (BLK): UL LISTED, ANNEALED CU, WITH VULCANIZED INTERLOCKED POLYETHYLENE INSULATION (600V): DIRECT BURIAL.
(1)– 1/C, GROUND WIRE: BARE OR INSULATED (GREEN) CU, SOFT DRAWN, STANDARD PER ASTM CLASS "B" OR "C", DIRECT BURIAL.

CONDUCTOR SCHEDULE

CIR.	NO. & TYPE OF CONDUCTOR	RISER	CONDUIT	FROM	TO	SERVICE	VOLTS / COND. AMP RATING
E1–1	2/0 CU./PH. & N #6 CU. GROUNDING	2"MIN. DIA.	DIRECT BURIAL	DISTRIBUTION PANEL–"E1"	SITES 217,277,279	REC. VEHICLE SITE POWER	120/240V 125AMP
E1–2	#4 CU./PH. & N #6 CU. GROUNDING	2"MIN. DIA.	↓	↓	SITES 200,202,204	↓	120/240V 125AMP
E1–3	2/0 CU./PH. & N #6 CU. GROUNDING	2"MIN. DIA.	↓	↓	SITES 223,273,221,275,219	↓	120/240V 200AMP
E1–4	2/0 CU./PH. & N #6 CU. GROUNDING	2"MIN. DIA.	↓	↓	SITES 194,196,198	↓	120/240V 125AMP
E1–6	EXISTING		↓	↓	COMFORT STATION LIGHTS	↓	120/240V 125AMP
E2–1	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	DIRECT BURIAL	DISTRIBUTION PANEL–"E2"	SITES 222,224,226,228	REC. VEHICLE SITE POWER	120/240V 175AMP
E2–2	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	↓	↓	SITES 214,216,218,220	↓	120/240V 175AMP
E2–3	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	↓	↓	SITES 186,188,210,212	↓	120/240V 175AMP
E2–4	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	↓	↓	SITES 233,235,237,239	↓	120/240V 175AMP
E2–5	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	↓	↓	SITES 262,269,266,268	↓	120/240V 175AMP
E2–6	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	↓	↓	SITES 275,227,229,231	↓	120/240V 175AMP
E2–7	2/0 CU./PH. & N #6 CU. GROUNDING	2" MIN. DIA.	↓	↓	SITES 271,269,267,265	↓	120/240V 175AMP
E2–8	2/0 CU./PH. & N #6 CU. GROUNDING	2"MIN. DIA.	↓	↓	SITES 192,190,208,206	↓	120/240V 175AMP
NEW	(4) 350 KCMIL CU./ PH & N	(2)4"MIN. DIA.	(2)4"MIN. DIA. PVC	TRANSFORMER "E" 250 KVA	DISRIBUTION PANEL "E2" 1200 AMP	CAMPGROUND	120/240V (4) 300 AMP
EXIST.	(2) 350 KCMIL CU./ PH & N	4"MIN. DIA.	4" PVC		DISRIBUTION PANEL "E1" 700 AMP	CAMPGROUND	120/240V (2) 300 AMP

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