



**April 8, 2021 Board Meeting**

**GREEN SHEET ITEM – ATTACHMENT TO GENERAL  
MANAGER’S REPORT**

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# NEW GENERATOR

## SAN SIMEON CSD - WATER TREATMENT FACILITY

SAN SIMEON, CA

ELECTRICAL ENGINEER  
**RNM Engineering, Inc.**  
 PO BOX 3343  
 SAN LUIS OBISPO, CA 93403  
 (805) 550-6175  
 chris.stephens@RNM-eng.com



**NEW GENERATOR**  
**SAN SIMEON CSD - WATER TREATMENT FACILITY**  
 SAN SIMEON, CA

Date	09/15/2021
Drawn By	CS
Checked By	RNM
Project No.	
Date	Issue
06/08/2020	CUSTOMER REVIEW
01/08/2021	CUSTOMER REVIEW
03/15/2021	100% SUBMITTAL

TITLE SHEET AND GENERAL PLAN

SCALE: AS NOTED

**E1**

### PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REPLACING AN EXISTING DIESEL GENERATOR WITH A NEW 80KW DIESEL TYPE. A NEW FEEDER, DISTRIBUTION, AND KIRK KEY INTERLOCK SYSTEM WILL ALSO BE INSTALLED FOR PROVIDING MANUALLY OPERATED GENERATOR BACKUP TO THE CIP SKID.

### GENERAL NOTES

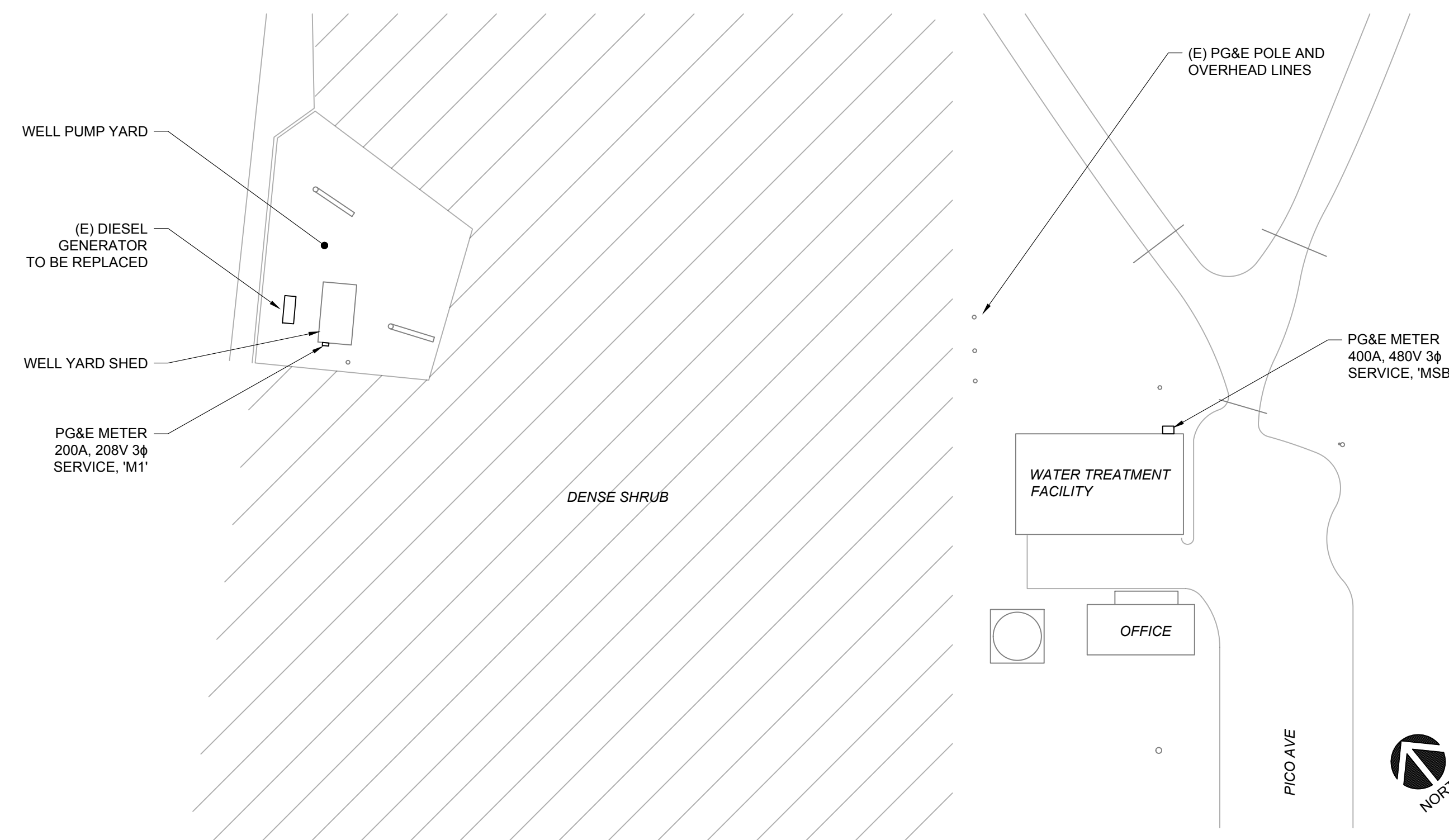
1. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES WITH CONTRACT DOCUMENTS BEFORE COMMENCING ANY WORK.
2. ALL WORK, LABOR AND MATERIALS SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE 2019 CALIFORNIA ELECTRIC CODE.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMITY TO ALL LOCAL CODES AND ORDINANCES, THE STATE OF CALIFORNIA ELECTRICAL SAFETY CODES, THE NATIONAL ELECTRIC CODE AND ANY ADDITIONAL JURISDICTIONS RELATING TO THEIR WORK.
4. ALL CONDUCTORS SHALL BE COPPER UL LISTED THWN-2 UNLESS NOTED OTHERWISE.
5. ALL ELECTRICAL EQUIPMENT AND ALL MATERIAL SHALL BE NRTL (NATIONAL RECOGNIZED TESTING LABORATORY), NEMA AND UL RATED.
6. ALL CIRCUIT BREAKERS SHALL BE RATED FOR 75°C TEMPERATURE CONDUCTORS.
7. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR SPECIFICATIONS OR WITH CODE REQUIREMENTS, THE NOTE, SPECIFICATION OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR THE HIGHER STANDARD SHALL PREVAIL.
8. THE CONTRACTOR IS RESPONSIBLE FOR DETAILS, PART NUMBER VERIFICATIONS AND ACCURACY FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY AND FOR PERFORMING WORK IN A SAFE MANNER.
9. PROVIDE MINIMUM 42" WORK CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. PROVIDE A MINIMUM 30" WIDE WORK SPACE IN FRONT OF ELECTRICAL EQUIPMENT.
10. EXCEPT WHERE NOTED OTHERWISE, ALL ABOVE GRADE CONDUIT SHALL BE RIGID METALLIC, ALL BELOW GRADE CONDUIT SHALL BE PVC SCH40



### REGIONAL MAP

SCALE: NTS

1  
E1



### GENERAL PLAN

SCALE: 1/32" = 1'

2  
E1

### SYMBOLS

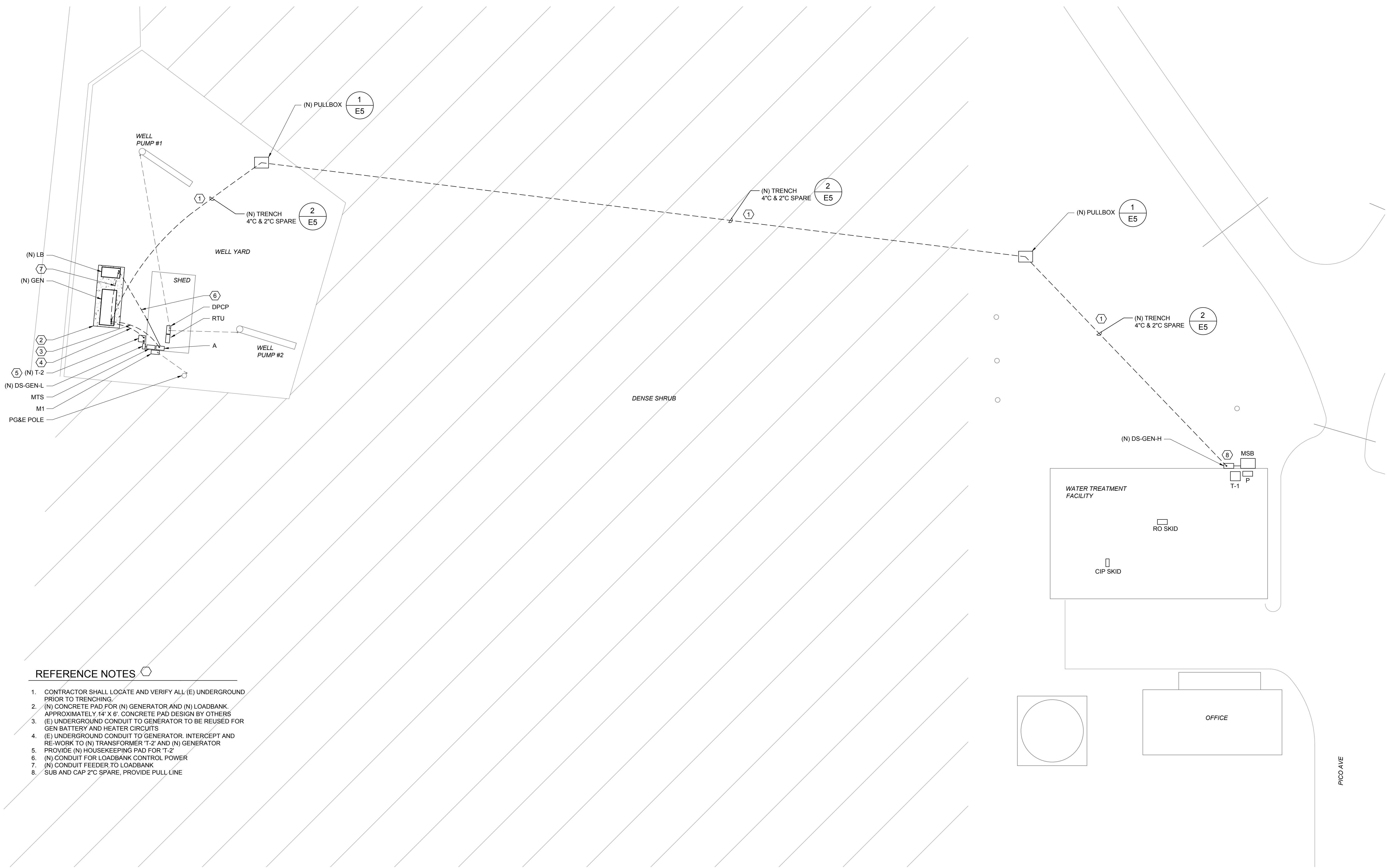
	DETAIL REFERENCE; DETAIL NUMBER / SHEET DRAWN
	REFERENCE TO SHEET NOTE
	FUSE
	SWITCH
	METER
	CIRCUIT BREAKER
	CIRCUIT OR CONDUIT ABOVE GRADE
	CIRCUIT OR CONDUIT BELOW GRADE

### ABBREVIATIONS

A	AMPERES	HPS	HIGH PRESSURE SODIUM
AC, A/C	ALTERNATING CURRENT,	KVA	KILOVOLT-AMPERES
A.F.F.	AIR CONDITIONING	MCB	MAIN CIRCUIT BREAKER
A.H.J.	ABOVE FINISH FLOOR	MIN/MAX	MINIMUM/MAXIMUM
ATS	AUTHORITY HAVING JURISDICTION	MISC	MISCELLANEOUS
BKR	AUTOMATIC TRANSFER SWITCH	(N)	NEW
BLDG.	BREAKER	NEMA	NATIONAL ELECTRICAL
CEC	BUILDING		MANUFACTURES ASSOC.
C	CALIFORNIA ELECTRICAL CODE	O/H	OVERHEAD
C.B.	CONDUIT	P	POLE
C.O.	CIRCUIT BREAKER	PH	PHASE
COMM	CONDUIT ONLY	P.V.	PHOTOVOLTAIC
CU	COMMUNICATION	RM	ROOM
(E)	COPPER	RMC	RIGID METTALIC CONDUIT
EL OR EM	EXISTING	S.S.	SPECIFICATIONS
EOL	UL LISTED 90-MINUTE EMERGENCY	SWBD	STAINLESS STEEL
E.V.	BALLAST PACK	TYP OR (TYP)	SWITCHBOARD
ES	END-OF-LINE		TYPICAL
(F)	ELECTRIC VEHICLE/EQUIPMENT VENDOR	U/G	UNDERGROUND
GEC	ENERGY SAVING	U.O.N.	UNLESS OTHERWISE NOTED
GES	FUTURE	V	VOLT
GFI	GROUNDING ELECTRODE CONDUCTOR	VAC	VOLTS-AC
GRD	GROUNDING ELECTRODE SYSTEM	VS	VERTICAL SECTION
HP	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
HPF	GROUND	W	WITH
	HORSEPOWER		
	HIGH POWER FACTOR		

### SHEET INDEX

E1	TITLE SHEET AND GENERAL PLAN
E2	ELECTRICAL SITE PLAN
E3	EXISTING SINGLE LINE DIAGRAM
E4	PROPOSED SINGLE LINE DIAGRAM
E5	DETAILS



**REFERENCE NOTES**

1. CONTRACTOR SHALL LOCATE AND VERIFY ALL (E) UNDERGROUND PRIOR TO TRENCHING.
2. (N) CONCRETE PAD FOR (N) GENERATOR AND (N) LOADBANK. APPROXIMATELY 14' X 6'. CONCRETE PAD DESIGN BY OTHERS
3. (E) UNDERGROUND CONDUIT TO GENERATOR TO BE REUSED FOR GEN BATTERY AND HEATER CIRCUITS
4. (E) UNDERGROUND CONDUIT TO GENERATOR. INTERCEPT AND RE-WORK TO (N) TRANSFORMER T-2 AND (N) GENERATOR
5. PROVIDE (N) HOUSEKEEPING PAD FOR T-2
6. (N) CONDUIT FOR LOADBANK CONTROL POWER
7. (N) CONDUIT FEEDER TO LOADBANK
8. SUB AND CAP 2" C SPARE, PROVIDE PULL LINE

**SITE PLAN**  
SCALE: 3/32" = 1'



2  
E1

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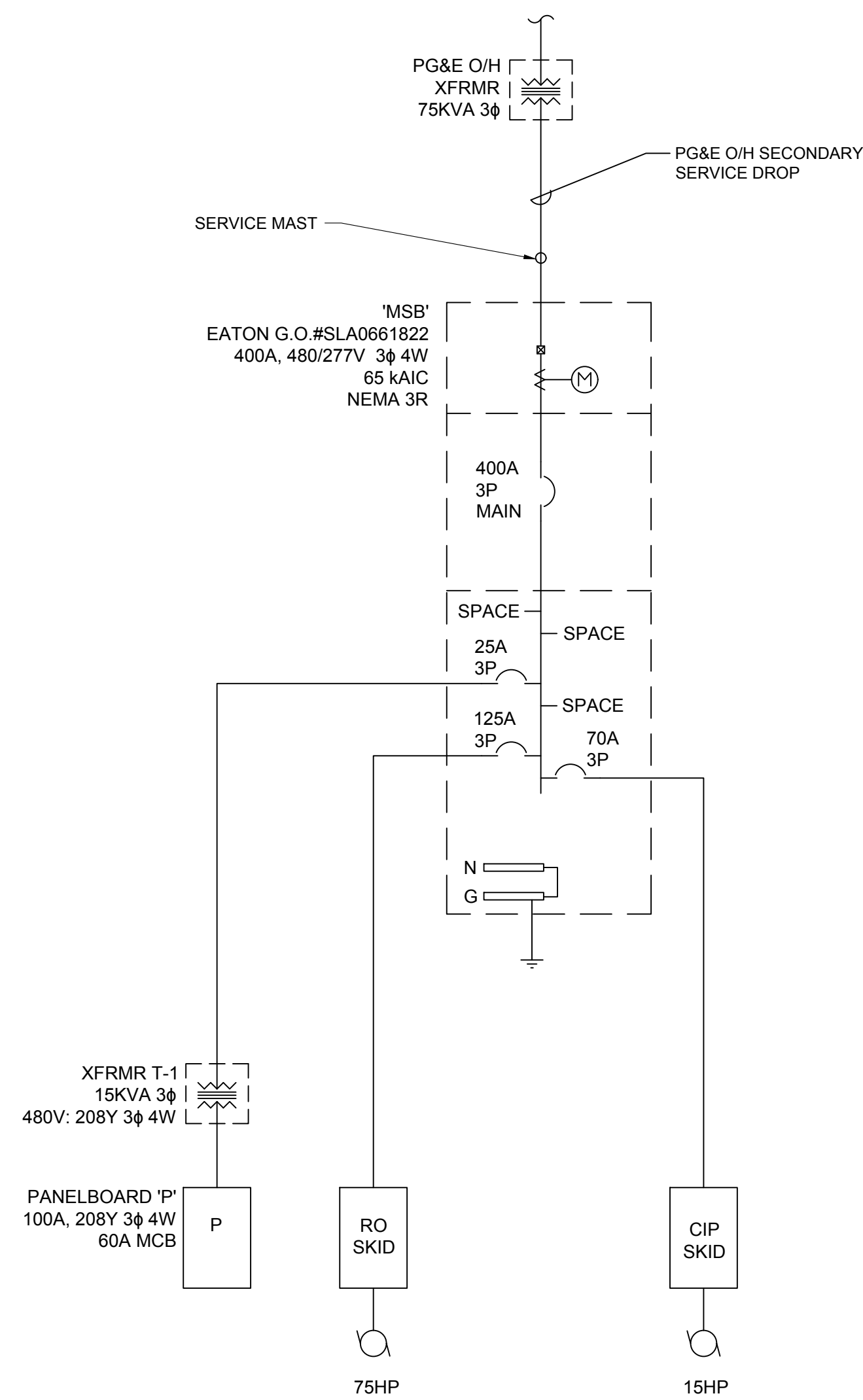
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ELECTRICAL  
SITE PLAN

SCALE: AS NOTED

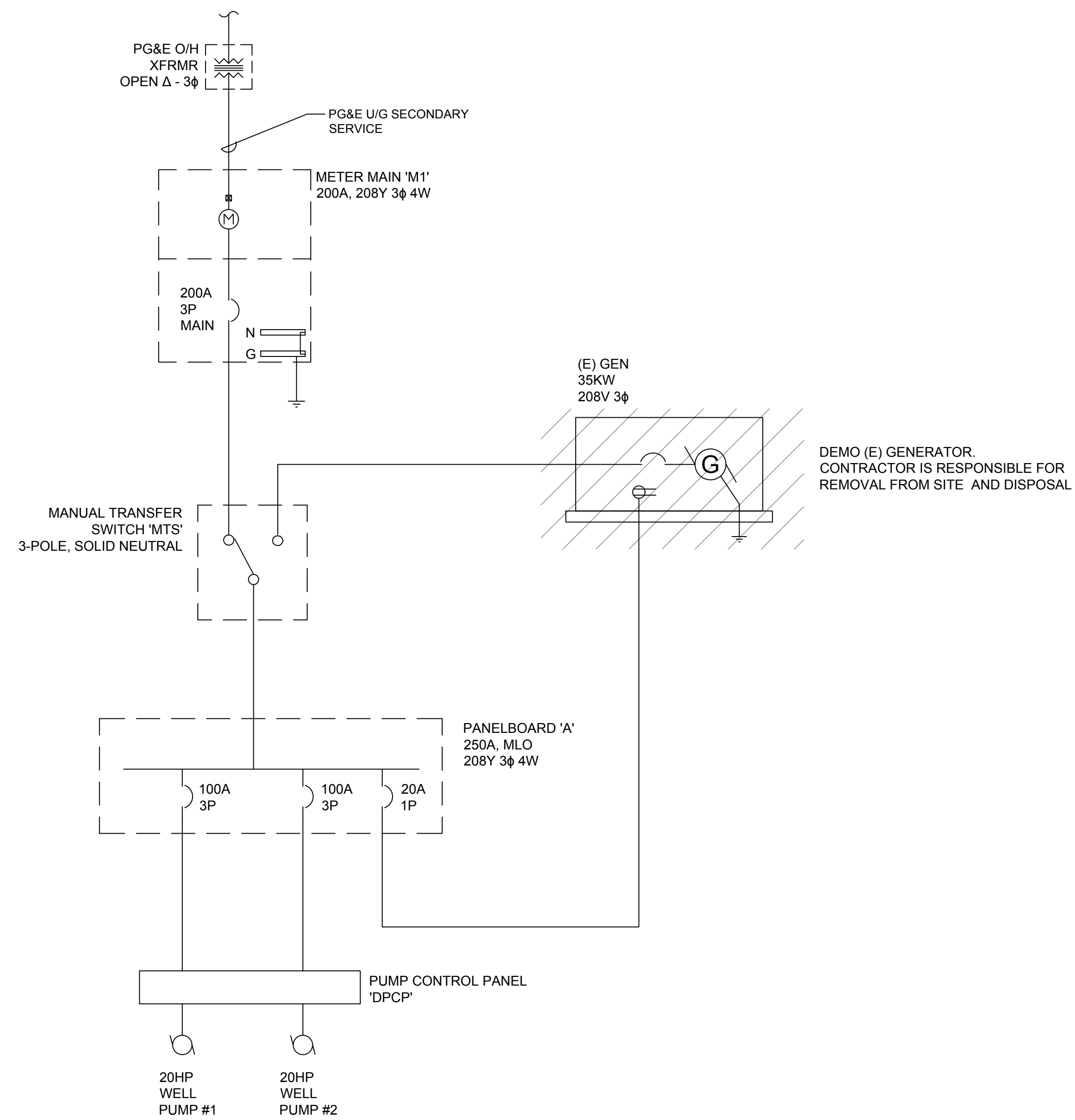
**E2**



RO AREA

**EXISTING SINGLE LINE DIAGRAM**

SCALE: NONE



WELL YARD

DEMO (E) GENERATOR.  
CONTRACTOR IS RESPONSIBLE FOR  
REMOVAL FROM SITE AND DISPOSAL

ALL ITEMS (E) U.O.N. 1  
E3

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*C. Stephens*

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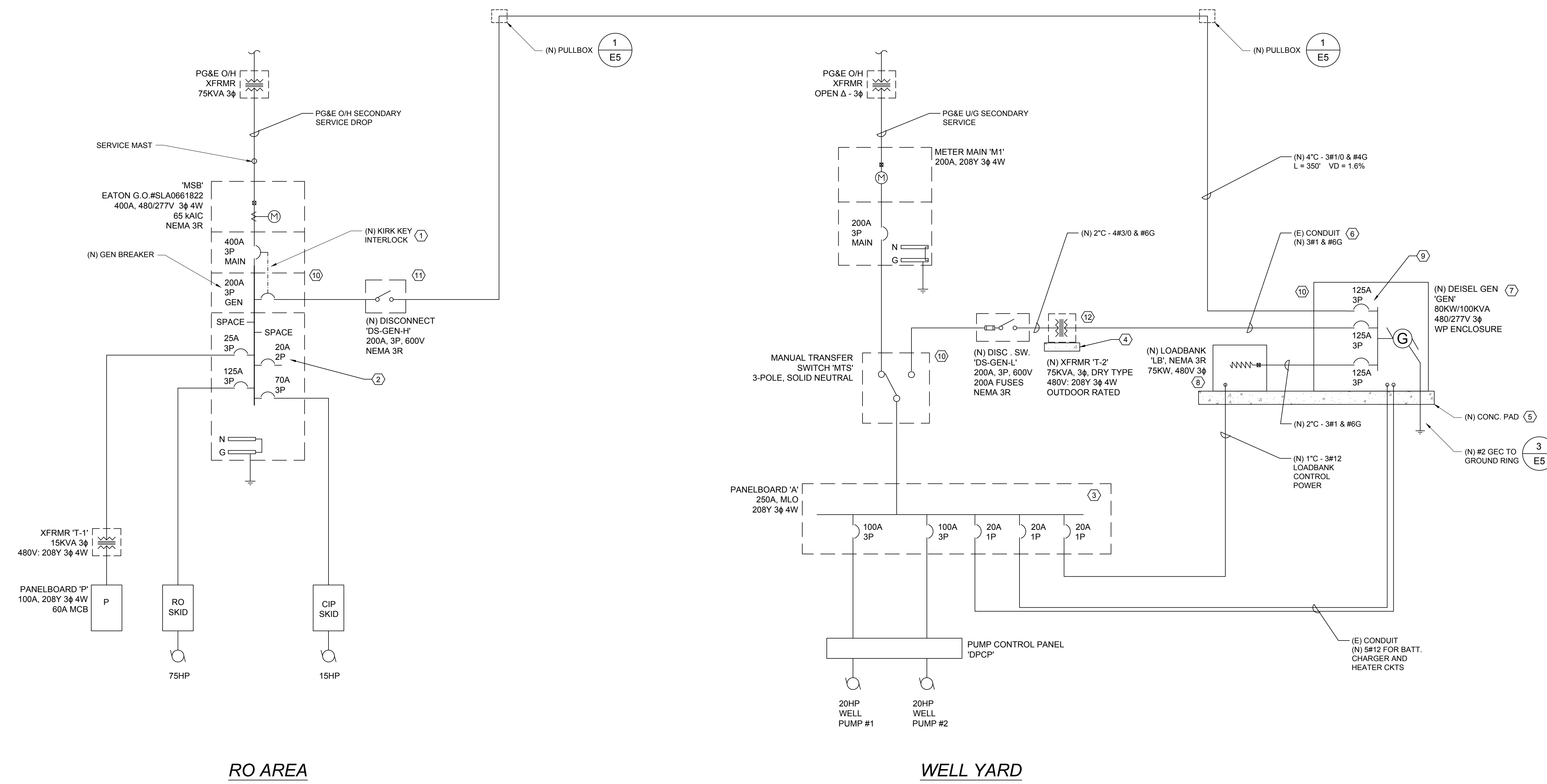
EXISTING  
SINGLE LINE DIAGRAM

SCALE: AS NOTED

**E3**



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**PROPOSED SINGLE LINE DIAGRAM**  
 SCALE: NONE

ALL ITEMS (E) U.O.N. 1  
E4

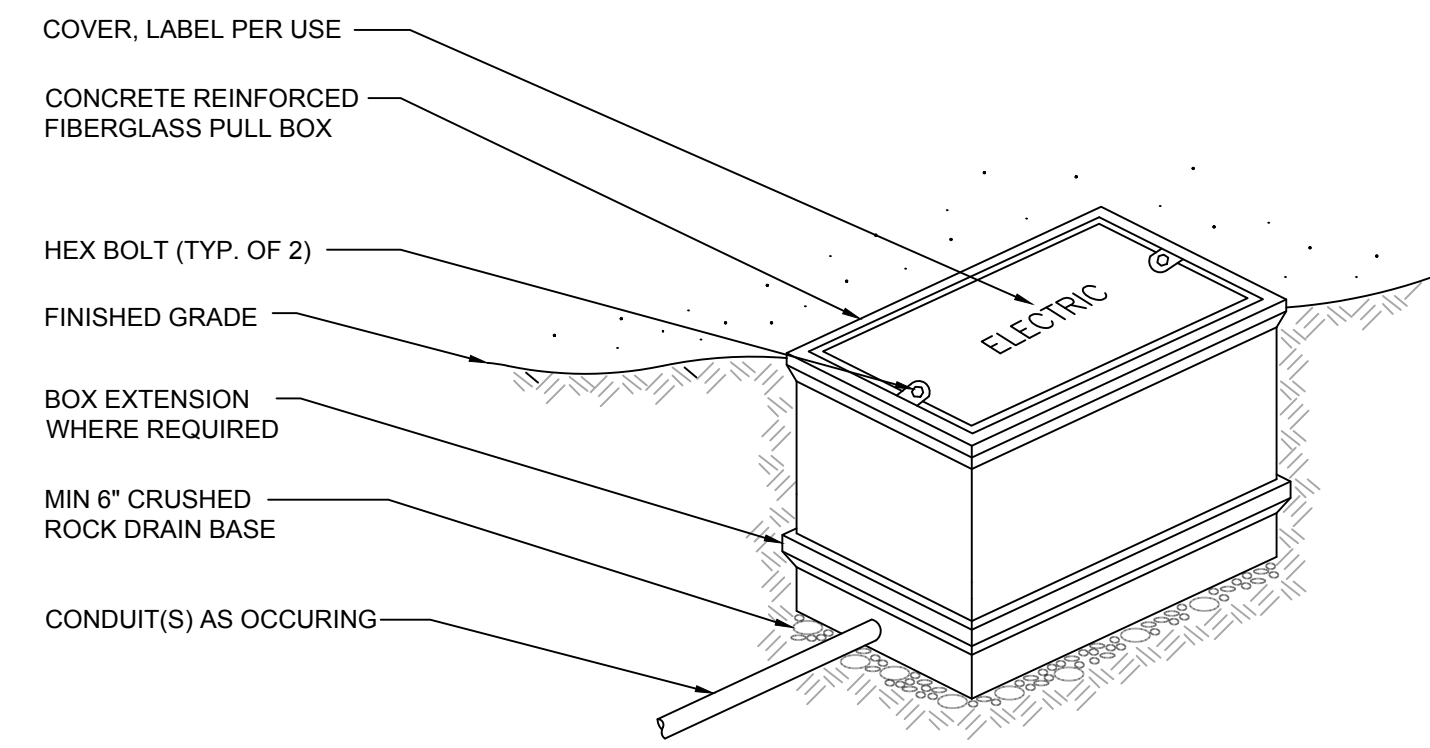
- REFERENCE NOTES**
1. (N) EATON BREAKER INTERLOCK KIT, COORDINATE/VERIFY PART # WITH MANUFACTURER
  2. (N) BREAKER FOR RESERVOIR TANK PROJECT UNDER SEPERATE PERMIT.
  3. SEE PANEL SCHEDULE ON SHEET E5
  4. (N) HOUSEKEEPING PAD
  5. (N) CONC. PAD, DESIGN BY OTHERS
  6. REWORK (E) 2' CONDUIT
  7. (N) DIESEL GENERATOR SET IN WEATHERPROOF ENCLOSURE WITH 24HR BELLY TANK
  8. (N) RESISTIVE LOADBANK, ASCO TYPE 4100 OR APPROVED EQUAL. PROVIDE NEMA 4 CONTROL PANEL AND LOCAL CONTROLS
  9. GENERATOR BREAKERS SHALL BE CAPABLE OF BEING LOCKED IN THE OFF POSITION
  10. PROVIDE SITE PLAN PLACARD INDICATING POWER SOURCES AND DISCONNECTS. PROVIDE PLACARD OF SEQUENCE OF OPERATION FOR MANUAL TRANSFER TO GENERATOR POWER. PROVIDE LAMINATED SINGLE LINE DIAGRAM
  11. PROVIDE WARNING LABEL "WARNING THIS EQUIPMENT FED FROM GENERATOR LOCATED AT WELL PUMP YARD. TERMINALS MAY BE ENERGIZED IN OFF POSITION"
  12. PROVIDE PLACARD AT T2 "208Y/120V WINDINGS GROUNDED THROUGH SOLID NEUTRAL AT MTS"

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**PROPOSED SINGLE LINE DIAGRAM**

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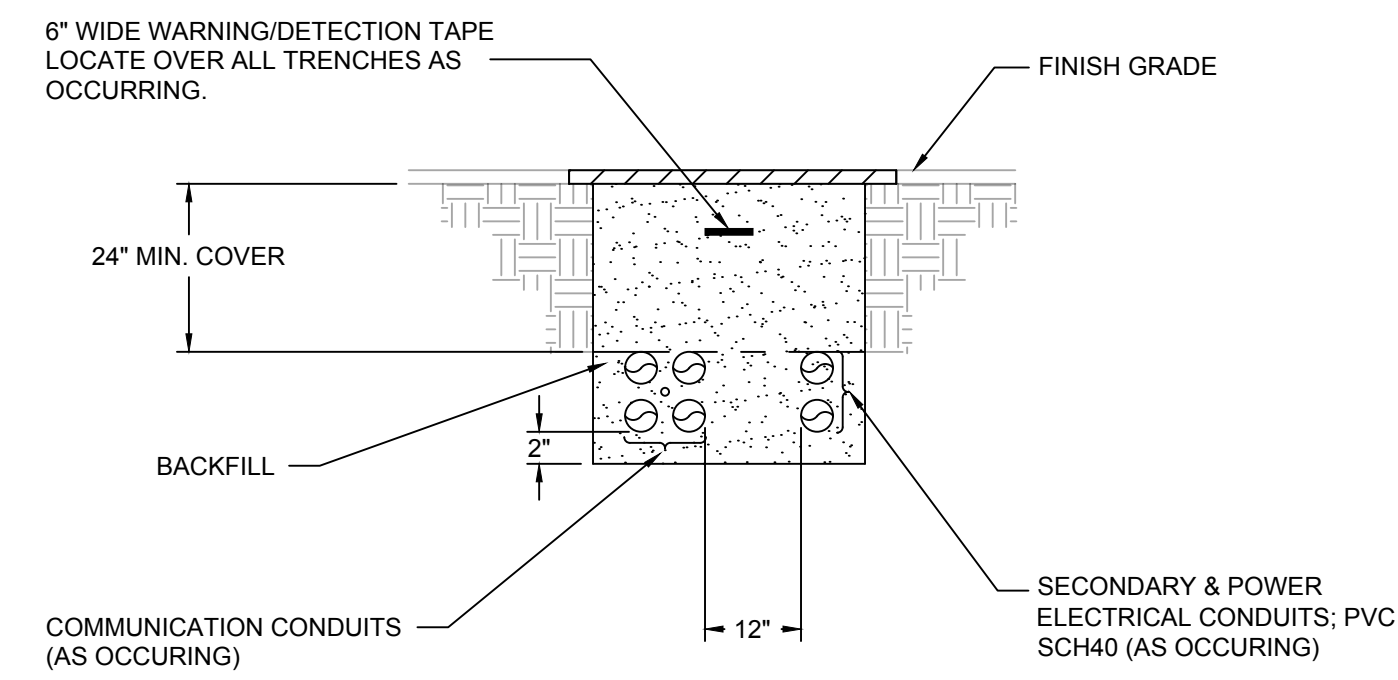
**E4**



**PULLBOX DETAIL**

SCALE: NONE

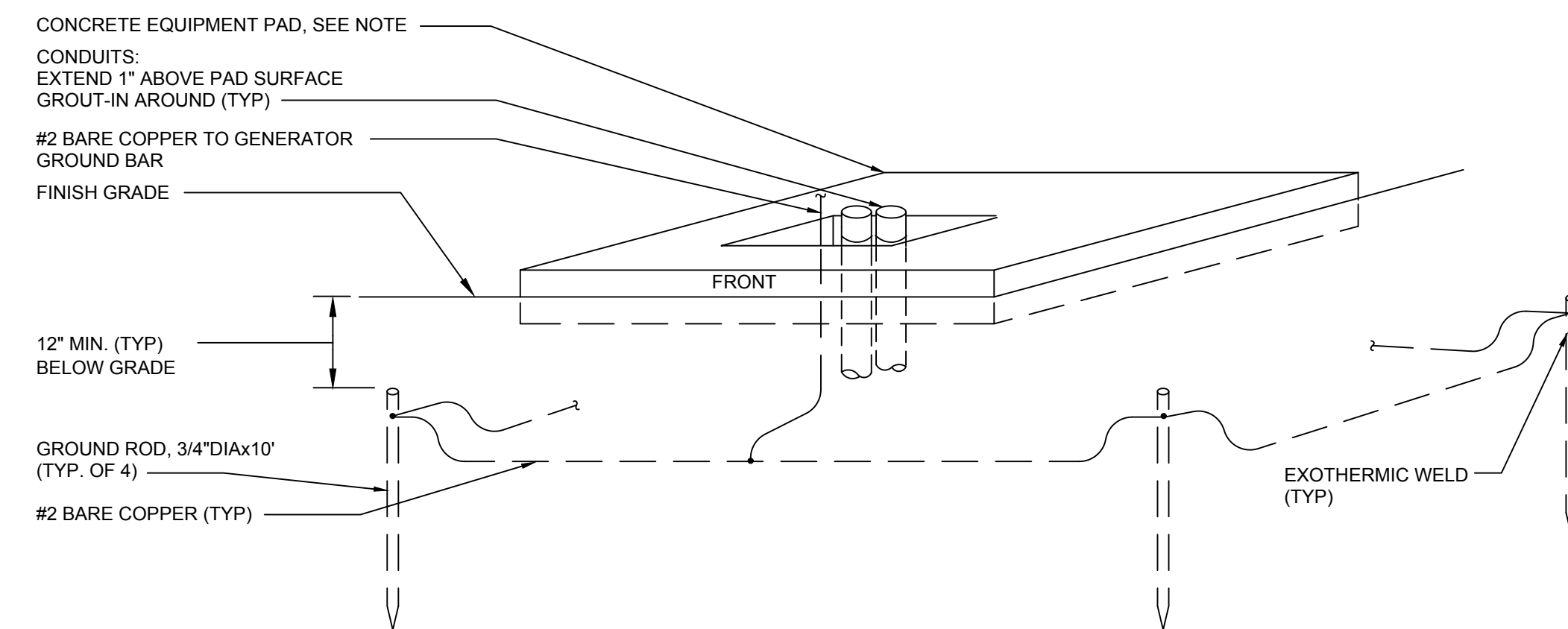
1  
E5



**TRENCH DETAIL**

SCALE: NONE

2  
E5



**GENERATOR GROUNDING DETAIL**

SCALE: NONE

3  
E5

PANEL: A		PANEL VOLTAGE: 208 120 3φ - 4W			CODE: N: NON-CONTINUOUS																	
DATE:		BUS: 250A			L: LONG-CONTINUOUS																	
JOB: San Simeon CSD		MAINS: MLO			R: DEMANDABLE RECEPTACLES																	
		AIC RATING: 14,000			M: MECHANICAL																	
					NO OF EQUIP: 9																	
CKT NO	CODE	TRIP	POLE	LOAD DESIGNATION			CONNECTED VA			LOAD DESIGNATION			TRIP	POLE	CODE	CKT NO						
				DESCRIPTION	N	R	L	A	B	C	A	B					C	L	R	N	(NOTE)	DESCRIPTION
1	M	100	3	Well Pump #1	B		1	6500				1000			1	C	Gen Battery Charger	20	1	L	2	
3	M								6500				1800			A	Gen Heater	20	1	L	4	
5	M									6500				500	1	B	DPCP	20	1	L	6	
7	M	100	3	Well Pump #2	B		1	6500				0					Space				N	8
9	M								6500				500			A	Load Bank Control Power	20	1	L	10	
11	M									6500							Space				N	12
13	R	20	1	Receptacles	B		1	500				500			1	B	TELM Panel	20	1	L	14	
15	N			Space					0				0				Space				N	16
17	L	20	1	CEM PMP	B		1			1800							Space				N	18
19	L	20	1	CEM PMP	B		1	1800									Space				N	20
21	N			Space					0								Space				N	22
23	L	20	1	Lights	B		1			1000							Space				N	24
25	N			Space					0								Space				N	26
27	N			Space					0								Space				N	28
29	N			Space					0								Space				N	30
PANEL NOTES:				Phase Totals: Phase A: 16,800			Phase B: 15300			Phase C: 16,300			TOTAL CONNECTED VA			48,400						
A New													DEMAND N			0						
B Existing													DEMAND L			8900						
C Rework													DEMAND R			500						
D													DEMAND K			0						
A													DEMAND M			39000						
B													PANEL DEMAND VA			48400						
C													PANEL DEMAND AMPS			134.35						
NEMA 1, SURFACE MOUNTED, EXISTING													HIGH PHASE AMPS			139.89						

**PANEL SCHEDULE**

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**DETAILS**

SCALE: AS NOTED

**E5**