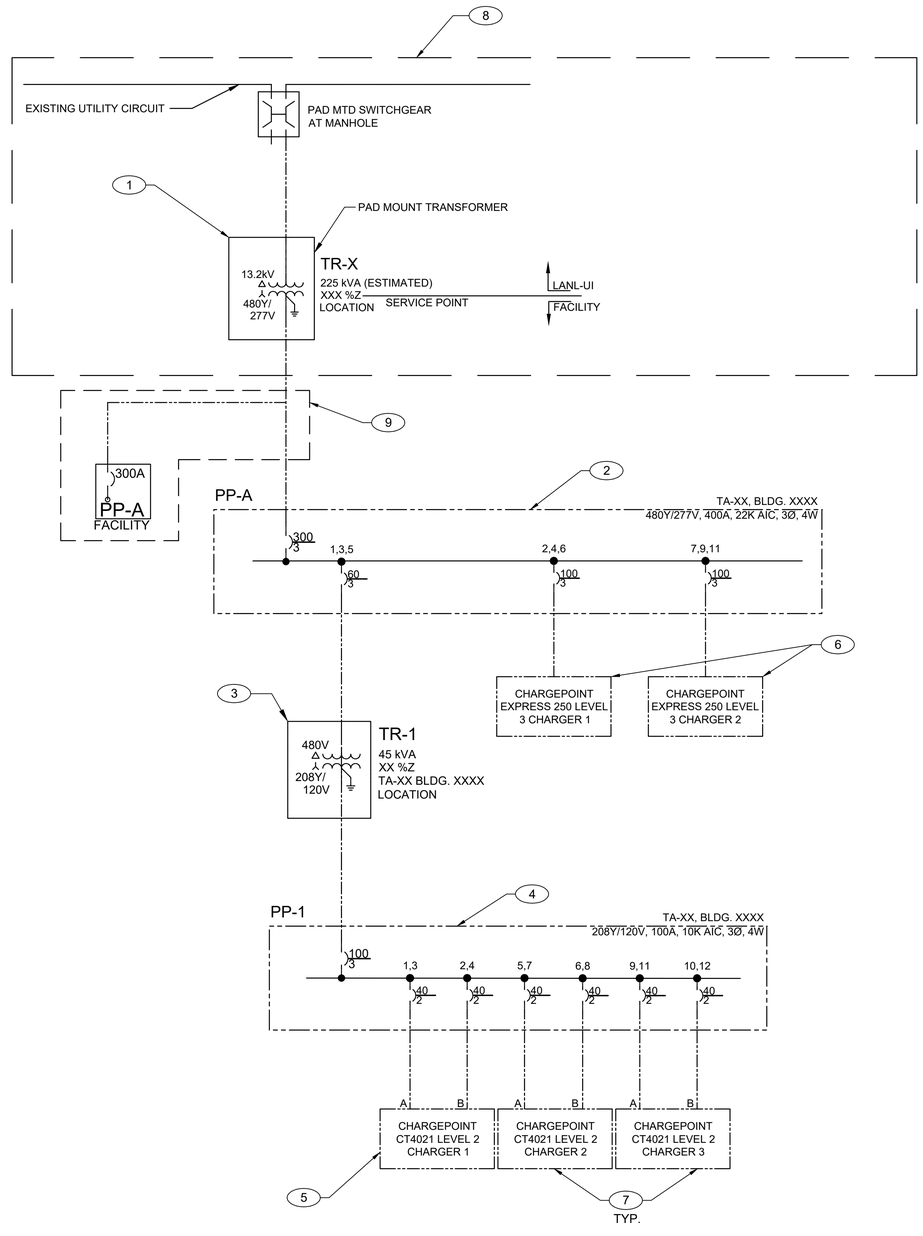

(2) LEVEL 3 CHARGERS & (3) DUAL LEVEL 2 CHARGERS

SCALE: NONE

POWER PANEL # PP-A — **THREE PHASE PANEL SCHEDULE** — DATE: — REV.: 0

SECTION: 1 of 1

LOCATED AT: TA- / BLDG.- / ROOM- OS
FRAME SIZE: 400 A
VOLTAGE: 480 L-L / 277 L-N
PHASE: 3 ϕ
WIRE: 4 W
TYPE OF MAIN: 250 A
MLO SIZE: A
MAIN BRKR SIZE: 250A
BUS BRACING: 22 kA
MAIN BRKR AIC RATING: kA
BRANCH BRKR AIC RATING: 14 kA
SHORT CIRCUIT AVAILABLE: kA
MANUFACTURER:
ENCLOSURE TYPE: NEMA 3R
MOUNTING: Surface
FED: UTILITY XFMR
SUB OR THRU FEEDS:
SUB/THRU LUG SIZE:
SERVED BY: UTILITY
CKT: 480/277
LOCATED AT: TA- / BLDG.- / ROOM- OS

CKT	C/B	SERVES	CONT	RCPT	PWR	NON-C	PHASE	NON-C	PWR	RCPT	CONT	SERVES	C/B	CKT
1					16000		A			16000				2
3	100/3	SERVICE TO TR-1			16000		B			16000		LEVEL 3 CHARGER 2	100/3	4
5					16000		C			16000				6
7				16000			A							8
9	100/3	LEVEL 3 CHARGER 1		16000			B							10
11				16000			C							12
13							A							14
15							B							16
17							C							18
19							A							20
21							B							22
23							C							24
25							A							26
27							B							28
29							C							30

CONNECTED LOAD per PHASE: A: 48,000 B: 48,000 C: 48,000

CONECTED LOAD:		FEEDER SELECTION LOAD:			ESTIMATED DEMAND LOAD:		
CONTINUOUS LOAD (CONT):	0 VA	CONTINUOUS LOAD @ 125%	0 VA		CONTINUOUS LOAD @ 100%	0 VA	
RECEPTACLE LOAD (RCPT):	96000 VA	RECPT LOAD per NEC 220-44: 100%	53000 VA		RECPT LOAD per NEC 220-44: 100%	53000 VA	
NON-CONTINUOUS LOAD (PWR):	48000 VA	NON-CONTINUOUS LOAD @: 100%	48000 VA		NON-CONTINUOUS LOAD @: 0%	0 VA	
NON-COINCIDENTAL LOAD (NON-C):	0 VA	FUTURE GROWTH CAPACITY: 20%	28800 VA				
TOTAL CONNECTED LOAD:	144000 VA / 173 AMPS	LOAD FOR FEEDER DESIGN:	129800 VA / 156 AMPS		ESTIMATED DEMAND LOAD:	53000 VA / 64 AMPS	

POWER PANEL # PP-1 — **THREE PHASE PANEL SCHEDULE** — DATE: — REV.: 0

SECTION: 1 of 1

LOCATED AT: TA- / BLDG.- / ROOM- OS
FRAME SIZE: 100 A
VOLTAGE: 208 L-L / 120 L-N
PHASE: 3 ϕ
WIRE: 4 W
TYPE OF MAIN: 100 A
MLO SIZE: A
MAIN BRKR SIZE: 100A
BUS BRACING: 14 kA
MAIN BRKR AIC RATING: kA
BRANCH BRKR AIC RATING: 10 kA
SHORT CIRCUIT AVAILABLE: kA
MANUFACTURER:
ENCLOSURE TYPE: NEMA 3R
MOUNTING: Surface
FED: TR-1
SUB OR THRU FEEDS:
SUB/THRU LUG SIZE:
SERVED BY: TR-1
CKT: 208/120V
LOCATED AT: TA- / BLDG.- / ROOM- OS

CKT	C/B	SERVES	CONT	RCPT	PWR	NON-C	PHASE	NON-C	PWR	RCPT	CONT	SERVES	C/B	CKT
1	40/2	LEVEL 2 EV CHARGER 1A		3120			A			3120		LEVEL 2 EV CHARGER 1B	40/2	2
3				3120			B			3120				4
5	40/2	LEVEL 2 EV CHARGER 2A		3120			C			3120		LEVEL 2 EV CHARGER 2B	40/2	6
7				3120			A			3120				8
9	40/2	LEVEL 2 EV CHARGER 3A		3120			B			3120		LEVEL 2 EV CHARGER 3B	40/2	10
11				3120			C			3120				12
13							A							14
15							B							16
17							C							18
19							A							20
21							B							22
23							C							24
25							A							26
27							B							28
29							C							30

CONNECTED LOAD per PHASE: A: 12,480 B: 12,480 C: 12,480

CONECTED LOAD:		FEEDER SELECTION LOAD:			ESTIMATED DEMAND LOAD:		
CONTINUOUS LOAD (CONT):	0 VA	CONTINUOUS LOAD @ 125%	0 VA		CONTINUOUS LOAD @ 100%	0 VA	
RECEPTACLE LOAD (RCPT):	37440 VA	RECPT LOAD per NEC 220-44: 100%	23720 VA		RECPT LOAD per NEC 220-44: 100%	23720 VA	
NON-CONTINUOUS LOAD (PWR):	0 VA	NON-CONTINUOUS LOAD @: 100%	0 VA		NON-CONTINUOUS LOAD @: 0%	0 VA	
NON-COINCIDENTAL LOAD (NON-C):	0 VA	FUTURE GROWTH CAPACITY: 20%	7488 VA				
TOTAL CONNECTED LOAD:	37440 VA / 104 AMPS	LOAD FOR FEEDER DESIGN:	31208 VA / 87 AMPS		ESTIMATED DEMAND LOAD:	23720 VA / 66 AMPS	

PANEL SCHEDULES

GENERAL NOTES:

1. A SIGN SHALL BE ADDED TO THE FRONT OF OUR PP-A. IT SHALL BE 4" X 4", RED WITH WHITE LETTERING, AND SHALL READ "EMERGENCY SHUTOFF - ALL EV CHARGERS IN THIS LOCATION CAN BE SHUT DOWN BY SWITCHING OFF THE MAIN CIRCUIT BREAKER IN THIS PANEL."
2. ALL TRANSFORMER %Z TYP., FINALIZED AFTER PROCUREMENT.
3. SYSTEM ENGINEER TO PROVIDE INCIDENT ENERGIES FOR ALL NEW PANELS AND 480V EQUIPMENT.

KEYED NOTES:

1. UI DESIGN RESPONSIBLE FOR REPLACEMENT TRANSFORMER AND EVERYTHING ON ITS PRIMARY SIDE. THIS DESIGN RESPONSIBLE FOR DESIGN FROM REPLACEMENT TRANSFORMER SECONDARY LUGS TO CHARGING STATIONS. UTILITY TRANSFORMER SUBJECT TO CHANGE BASED ON UI CONSTRAINTS. **DISREGARD IF ADEQUATE PP-A EXISTS IN FACILITY.**
2. PROVIDE AND INSTALL 480V 400A PANEL. FEED FROM NEW 225 kVA TRANSFORMER AS SHOWN. CONDUCTORS TO PANEL ARE 4-350 KCMIL IN 3" CONDUIT.
3. PROVIDE AND INSTALL SQD OR EQUIVALENT 480V DELTA PRIMARY, 120/208Y SECONDARY, 45 KVA, 3-PHASE, NEMA 3R, PAD-MOUNT TRANSFORMER. CONDUCTORS TO TRANSFORMER FROM 480V PANEL ARE 3- #6 AWG AND 1- #8 AWG EGC IN 3/4" RACEWAY. INSTALL SUPPLY SIDE BONDING JUMPER #4 CU.
4. PROVIDE AND INSTALL 100A POWER PANEL PROVIDING 208V FEEDER. CONDUCTORS FROM TRANSFORMER TO PANEL ARE 4- #2 AWG AND 1-8 AWG EGC IN 1 1/4" RACEWAY.
5. PROVIDE AND INSTALL THREE (3 DUAL) LEVEL 2 CHARGERS, SIX (6) PORTS TOTAL AT 40A PER PORT. CONDUCTORS TO BE 4-8 AWG AND 1-10 AWG EGC IN 1" RACEWAY EACH. INSTALL PER MANUFACTURER'S DIRECTIONS, INCLUDING COMPLETING INSTALLATION CHECKLIST.
6. PROVIDE AND INSTALL TWO (2) LEVEL 3 CHARGEPOINT EXPRESS 250 CHARGERS. CONDUCTORS ARE 4- #2 AWG AND #8 AWG EGC IN 1 1/4" RACEWAY. INSTALL PER MANUFACTURER'S DIRECTIONS. FINAL CONFIGURATION DETERMINED PER MANUFACTURER'S SPECIFICATIONS.
7. EACH CHARGER HAS TWO (2) PORTS.
8. SELECT THIS OPTION IF NO ADEQUATE PP-A EXISTS IN FACILITY.
9. SELECT THIS OPTION IF PP-A EXISTS IN FACILITY AND ADD 1-#2CU BOND CONDUCTOR TO FEEDER IN 2.5" RACEWAY.

DESIGNER NOTES:

1. DEPENDING ON THE NUMBER OF LEVEL 2 AND/OR LEVEL 3 CHARGERS NEEDED, PANEL, TRANSFORMER, CONDUCTOR SIZES, & MAIN BREAKER SIZES WILL CHANGE. FOR INSTANCE, THE CONFIGURATION TO THE LEFT WILL SUPPORT UP TO TWO (2) LEVEL 3 CHARGERS & THREE (3) DUAL LEVEL 2 CHARGERS.

REMOVE DESIGNER NOTES FROM DRAWING PACKAGE.

LBO-DESIGN PACKAGE REVIEWER			
APPROVED FOR RELEASE A. YAEGER	ALAN YAEGER (Affiliate)	Digitally signed by ALAN YAEGER (Affiliate)	
SUBMITTED T. KOSTRUBALA	THADDEUS KOSTRUBALA (Affiliate)	Digitally signed by THADDEUS KOSTRUBALA (Affiliate) Date: 2023.10.05 07:08:43 -06'00'	
VERIFIED R. DE LA TORRE	RAFAEL DE LA TORRE (Affiliate)	Digitally signed by RAFAEL DE LA TORRE (Affiliate) Date: 2023.10.04 17:20:44 -06'00'	
DESIGNED M. NELSON	MARK NELSON (Affiliate)	Digitally signed by MARK NELSON (Affiliate) Date: 2023.10.04 16:12:05 -06'00'	
DRAWN K. KETCHUM	Digitally signed by KRISTI KETCHUM (Affiliate)		
CLASSIFICATION [UNCLASSIFIED]	D		

NO	REVISION DESCRIPTION	DATE
0	INITIAL ISSUE FOR	10/02/23

ENGINEERING STANDARDS

ELECTRICAL VEHICLE CHARGING STATIONS

ELECTRICAL ONE-LINE DIAGRAMS

TA- XX — BLDG XXXX

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

SHEET E-6000
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PROJECT ID	DRAWING NO	REV
CHAPTER 7	STD-G4090-4	0