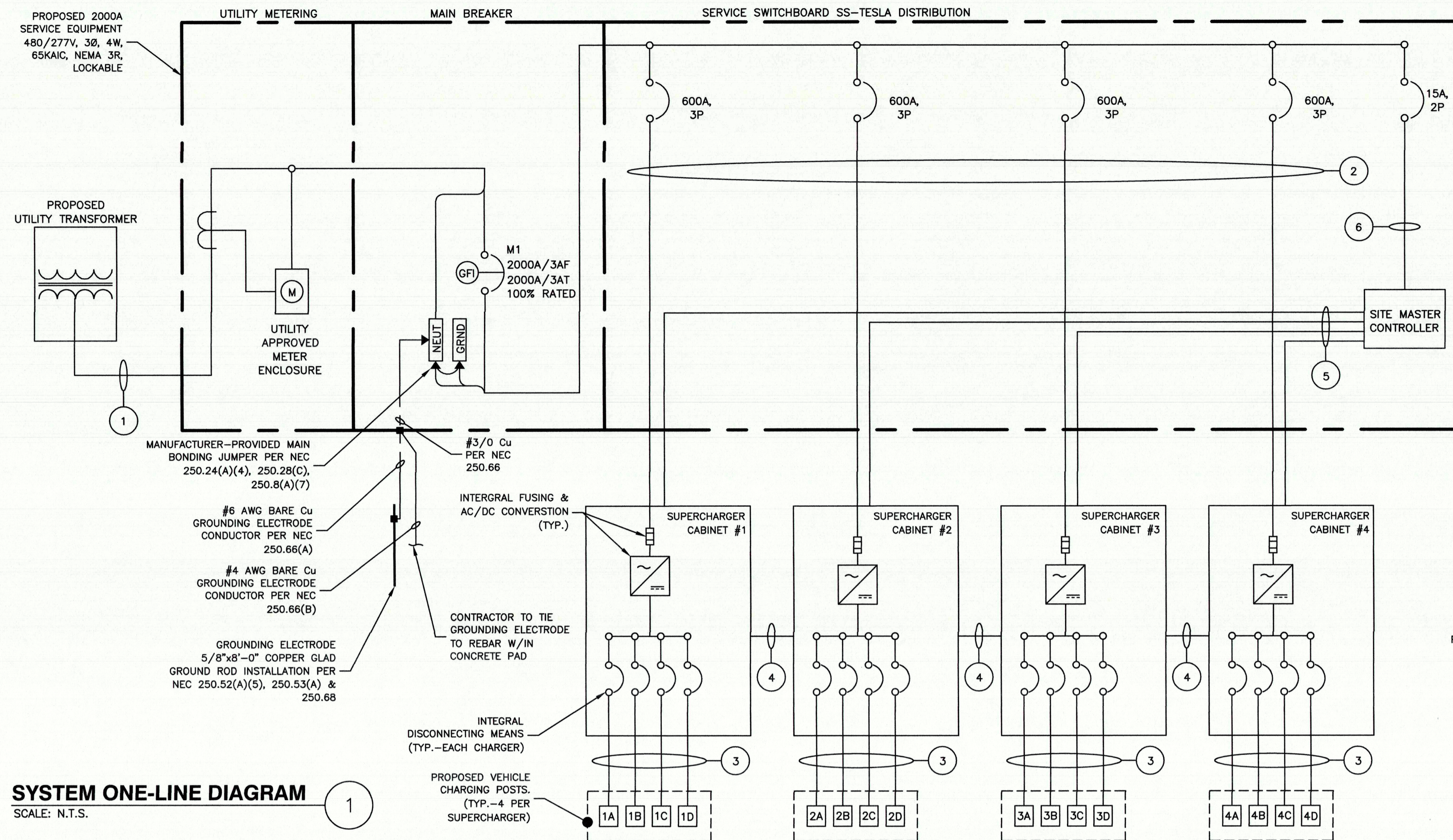




3500 DEER CREEK ROAD  
PALO ALTO, CA 94304  
(650) 681-5000



Dewberry Engineers Inc.  
100 OCEANGATE  
SUITE 400  
LONG BEACH, CA 90802  
PHONE: 562.350.0570



**BREAKER SETTINGS**

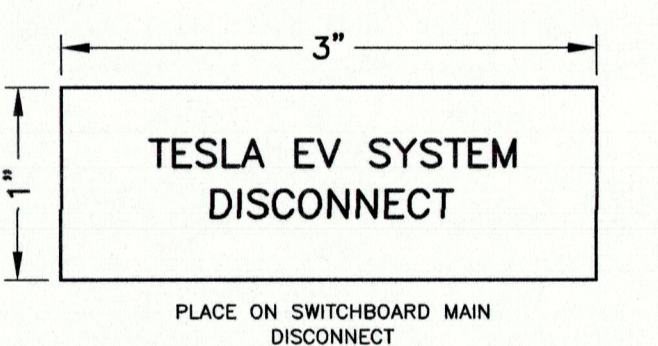
EATON SBN2000 MAIN BREAKER  
LR = 1  
TR = 24  
LSD = 6  
TSD = 0.1 (OUT)  
LI = 10  
LG = 0.4  
TG = 0.3

EATON PDG600  
INST = 3

**SYSTEM PLACARD:**

TESLA SUPERCHARGER  
27220 TWENTYNINE PALMS HWY  
SUITE EV  
YUCCA VALLEY, CA 92832  
2000A, 480/277, 3P, 4W  
(877) 798-3752

PLACE ON SWITCHBOARD



**SYSTEM ONE-LINE DIAGRAM**  
SCALE: N.T.S.

- NOTES:**
- CONDUCTOR LENGTHS ARE ESTIMATES ONLY. FINAL CONDUCTOR ROUTING PATH AND LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FILED BASED ON PHYSICAL MEASUREMENTS. CONTRACTOR TO ORDER CONDUCTORS BASED ON FIELD MEASUREMENTS (MUST BE APPROVED BY TESLA INSTALLATION MANAGER).
  - ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ON-SITE SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (NEC) AND UTILITY COMPANY STANDARDS.
  - ALL CONDUCTORS TO RECEIVE ANTI-OXIDATIVE COATING DURING INSTALLATION.
  - DC RUN LENGTH MAXIMUM IS 340' INCLUDING BURIED DEPTH. ANY DC RUN LENGTHS OVER THE MAXIMUM SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF TESLA.
  - UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER AT TIME OF PRE CONSTRUCTION MEETING TO ENSURE ACCURACY OF INSTALLATION.
  - UTILITY CONDUITS, CONNECTORS, TRANSFORMER PAD & TRANSFORMER FOUNDATION TO BE INSTALLED PER UTILITY SPECIFICATION. CONFIRM LATEST SPECIFICATIONS PRIOR TO CONSTRUCTION.
  - EXISTING UNDERGROUND UTILITIES LOCATED WITHIN AREA OF PROPOSED TRENCH & EQUIPMENT SITE AREA. HAND DIG AND RELOCATE AS REQUIRED.
  - CONTRACTOR RESPONSIBLE FOR ALL TRAFFIC SAFETY MEASURES THROUGHOUT DURATION OF CONSTRUCTION. COORDINATE ANY ACCESS ROAD CLOSURES W/OWNER.

**SERVICE SWITCHBOARD 'SS- TESLA' LOAD SCHEDULE**

CKT NO.	TRIP AMPS	DESCRIPTION	KVA			KVA			DESCRIPTION	TRIP AMPS	CKT NO.
			A	B	C	A	B	C			
1			129.00	-	-	129.00	-	-			2
3	600A	SUPERCHARGER #1	-	129.00	-	-	129.00	-	SUPERCHARGER #2	600A	4
5	-		-	129.00	-	-	129.00	-			6
7	600A		129.00	-	-	129.00	-	-			8
9	600A	SUPERCHARGER #3	-	129.00	-	-	129.00	-	SUPERCHARGER #4	600A	10
11	-		-	129.00	-	-	129.00	-			12
13	15A	SITE CONTROLLER	0.05	-	-	-	-	-	-	-	14
15	-	-	-	-	-	-	-	-	-	-	16
17	-	-	-	-	-	-	-	-	-	-	18
19	-	-	-	-	-	-	-	-	-	-	20
21	-	-	-	-	-	-	-	-	-	-	22
TOTALS			PHASE			PHASE					
			A	B	C	A	B	C			
			APPARENT POWER	516.05 KVA	516 KVA	516 KVA					
			CURRENT	1862 A	1861 A	1861 A					

**SERVICE ELECTRICAL CIRCUIT SCHEDULE**

NO:	FROM	TO	CONFIGURATION
1	UTILITY TRANSFORMER	PROPOSED SERVICE EQUIPMENT PANEL	PROPOSED CONDUCTORS BY UTILITY. PROPOSED (2) BANKS OF (4) 4" CONDUITS BY CONTRACTOR.
2	PROPOSED SERVICE EQUIPMENT: PANEL (600A, 80% RATED)	PROPOSED TESLA SUPERCHARGER (TYP.-4)	[2 SETS] (3) 500MCM AL (THWN-2) (1) 500MCM AL (THWN-2) NEUT (1) #1 CU OR #2/0 GROUND IN 4" PVC/HDPE CONDUIT**
3	PROPOSED TESLA SUPERCHARGER	PROPOSED TESLA POST (TYP.-16)	[1 SET PER POST] (4) 350MCM AL (XHHW-2) (1000V RATED) (1) #1 AWG CU EGC OR (1) #2/0 AL EGC & SHIELDED 600V COMM CABLE (PER TESLA) IN 4" PVC/HDPE CONDUIT**
4	DC BUS BETWEEN PROPOSED SUPERCHARGERS	DC BUS BETWEEN PROPOSED SUPERCHARGERS	[2 SETS] (2) 600MCM AL (XHHW-2) (1) 1/0 AWG CU EGC & (1) 3/0 AWG AL DC MID 1000V RATED IN 3" PVC/HDPE CONDUIT**
5	INTEGRATED SITE CONTROLLER	SUPERCHARGER (TYP.)	SHIELDED 600V RATED CAT5E COMM CABLE IN 1" PVC/HDPE CONDUIT**
6	PROPOSED SERVICE EQUIPMENT: PANEL (15A)	INTEGRATED SITE CONTROLLER	FACTORY INSTALLED CONDUIT (BY MANUFACTURER)

\* MODIFIED PER NEC 250.54(A)(2)  
\*\* PER UL LISTED HDPE CONDUIT PERMITTED. CONTRACTOR TO CONFIRM USE W/ TESLA CM

DRAWN BY: ZAP

CHECKED BY: SES

APPROVED BY: TB

PROJECT #: 50123704

JOB #: 50138552

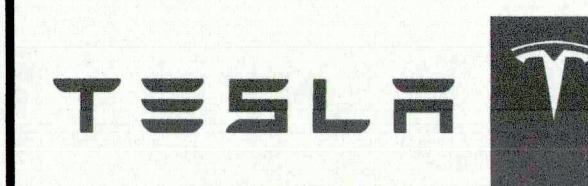
**SUBMITTALS**

REV.	DATE	DESCRIPTION
B	09/02/21	REVISED PER COMMENTS
A	08/12/21	ISSUED FOR 90% DESIGN

SITE NAME:  
YUCCA VALLEY, CA  
(TRT: 18883)  
SITE ADDRESS:  
57220 TWENTYNINE PALMS HWY SUITE EV  
YUCCA VALLEY, CA 92832

SHEET TITLE  
ELECTRICAL RISER  
DIAGRAM & CIRCUIT  
SCHEDULE

SHEET NUMBER  
E-1



3500 DEER CREEK ROAD  
PALO ALTO, CA 94304  
(650) 681-5000



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LONG BEACH, CA 90802  
PHONE: 562.350.0570

**NOTES:**

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8. CONTRACTOR RESPONSIBLE FOR ALL TRAFFIC SAFETY MEASURES THROUGHOUT DURATION OF CONSTRUCTION. COORDINATE ANY ACCESS ROAD CLOSURES W/OWNER.

**AC SUPERCHARGER LENGTHS**

SUPERCHARGER	LINEAR LENGTH BREAKER PANEL TO SUPERCHARGER	ESTIMATED LENGTH*
1	20'	45'
LENGTH OF AC AL WIRE PER CONDUIT**:		180'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE ***:		360'
2	15'	40'
LENGTH OF AC AL WIRE PER CONDUIT**:		160'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE***:		320'
3	10'	35'
LENGTH OF AC AL WIRE PER CONDUIT**:		140'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE***:		280'
4	10'	35'
LENGTH OF AC AL WIRE PER CONDUIT**:		140'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE***:		280'
TOTAL LENGTH OF AC AL WIRE****:		1240'
TOTAL LENGTH OF EGC*****:		310'

**NOTES:**  
 1. SEE SHEET E-1 FOR WIRE CONFIGURATION.  
 \* AC CONDUCTORS: 25 FT IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH & TRANSITIONS.  
 \*\* ESTIMATED LENGTH OF AL WIRE = SUM OF ESTIMATED LENGTH X 4 WIRES PER SUPERCHARGER  
 \*\*\* LENGTH = LENGTH OF AC AL WIRE PER CONDUIT X # OF CONDUITS  
 \*\*\*\* TOTAL LENGTH = SUM OF AC LENGTHS  
 \*\*\*\*\* TOTAL LENGTH OF EGC = LENGTH X # SETS

**DC CHARGING POST LENGTHS**

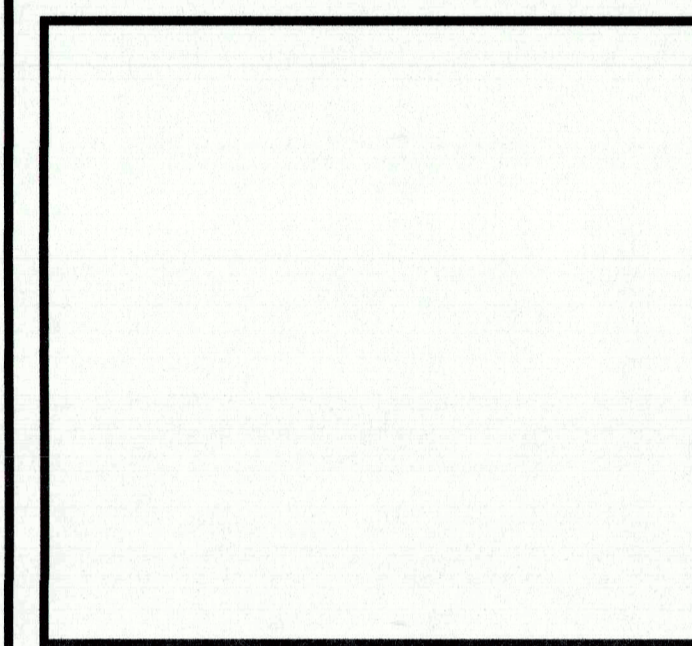
SUPERCHARGER	CHARGE POST	LINEAR LENGTH	ESTIMATED DC WIRE LENGTH*
1	1A	13'	35'
	1B	19'	41'
	1C	27'	49'
	1D	31'	53'
2	2A	31'	53'
	2B	36'	58'
	2C	40'	62'
	2D	45'	67'
3	3A	45'	67'
	3B	50'	72'
	3C	54'	76'
	3D	59'	81'
4	4A	59'	81'
	4B	64'	86'
	4C	68'	90'
	4D	73'	95'
CONDUIT LENGTH:		1066'	
TOTAL CONDUCTOR LENGTH**:		4264'	
TOTAL LENGTH OF EGC & COMM CABLE:		1066'	

**NOTES:**  
 1. SEE SHEET E-1 FOR WIRE CONFIGURATION.  
 2. ANY DC RUN OVER 340' SHALL BE BROUGHT TO THE ATTENTION OF TESLA CM.  
 \* 22 FT IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH & TRANSITIONS.  
 \*\* ESTIMATED LENGTH OF DC AL WIRE = SUM OF ESTIMATED LENGTH X 4 WIRES PER SUPERCHARGER

**CONDUCTOR LENGTH TABLES**

SCALE: N.T.S.

1



DRAWN BY: ZAP

CHECKED BY: SES

APPROVED BY: TB

PROJECT #: 50123704

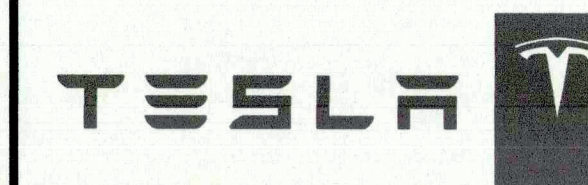
JOB #: 50138552

SUBMITTALS		
REV.	DATE	DESCRIPTION
B	09/02/21	REVISED PER COMMENTS
A	08/12/21	ISSUED FOR 90% DESIGN

SITE NAME:  
YUCCA VALLEY, CA  
(TRT: 18883)  
SITE ADDRESS:  
57220 TWENTYNINE PALMS HWY SUITE EV  
YUCCA VALLEY, CA 92832

SHEET TITLE  
CONDUCTOR LENGTH TABLES

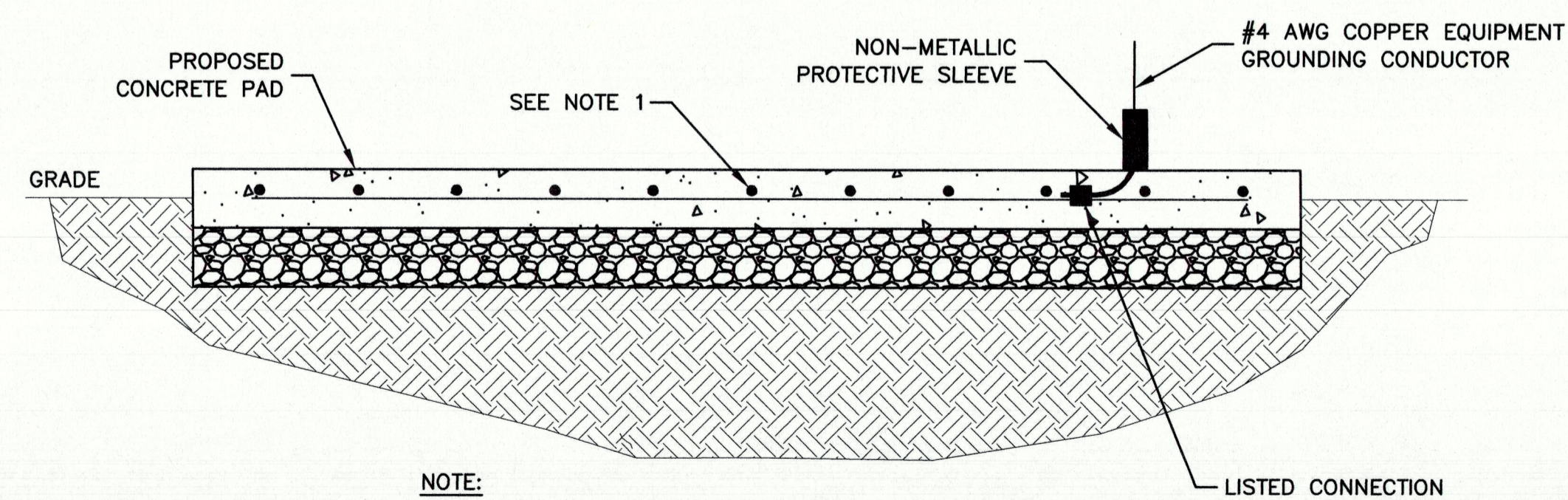
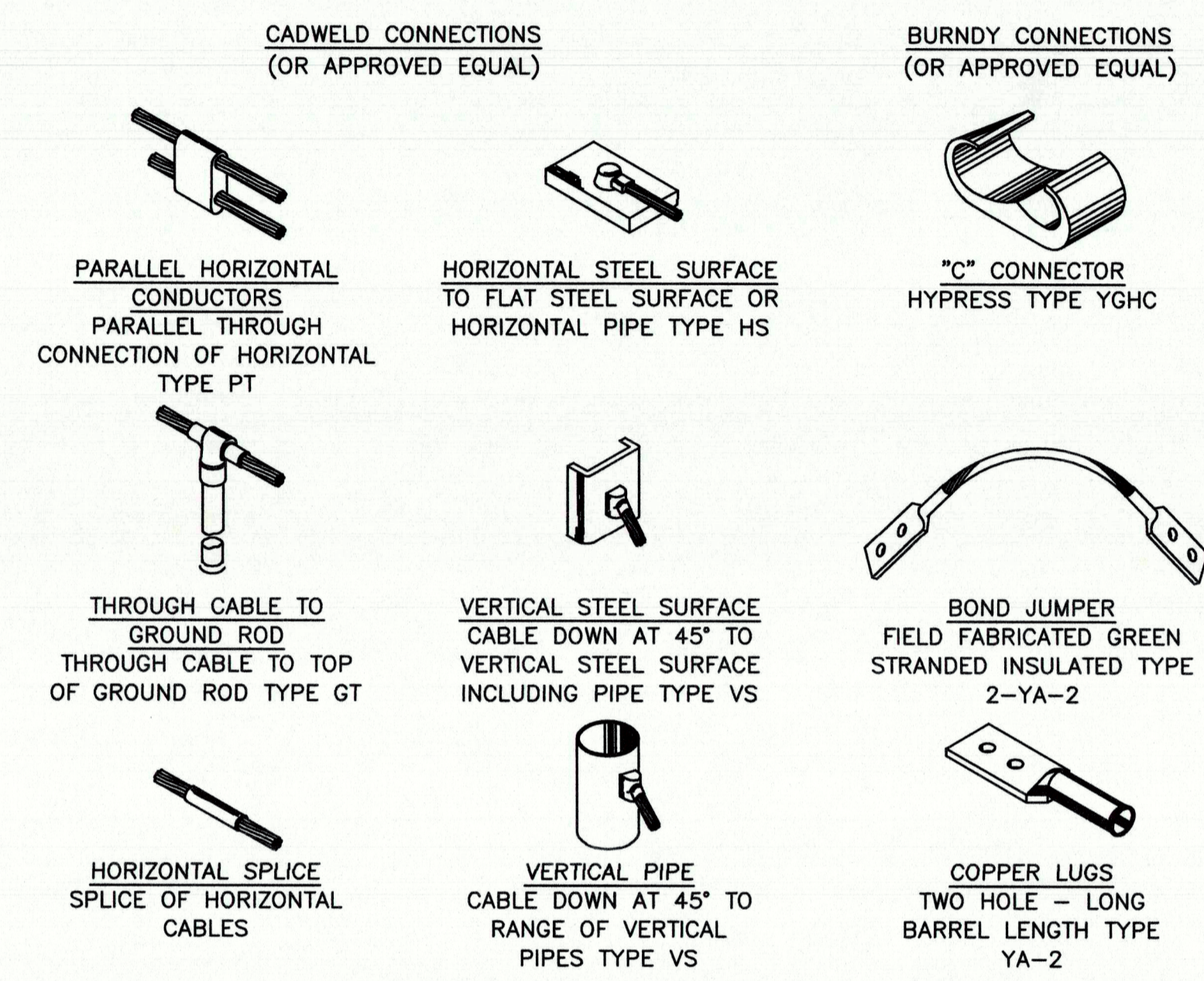
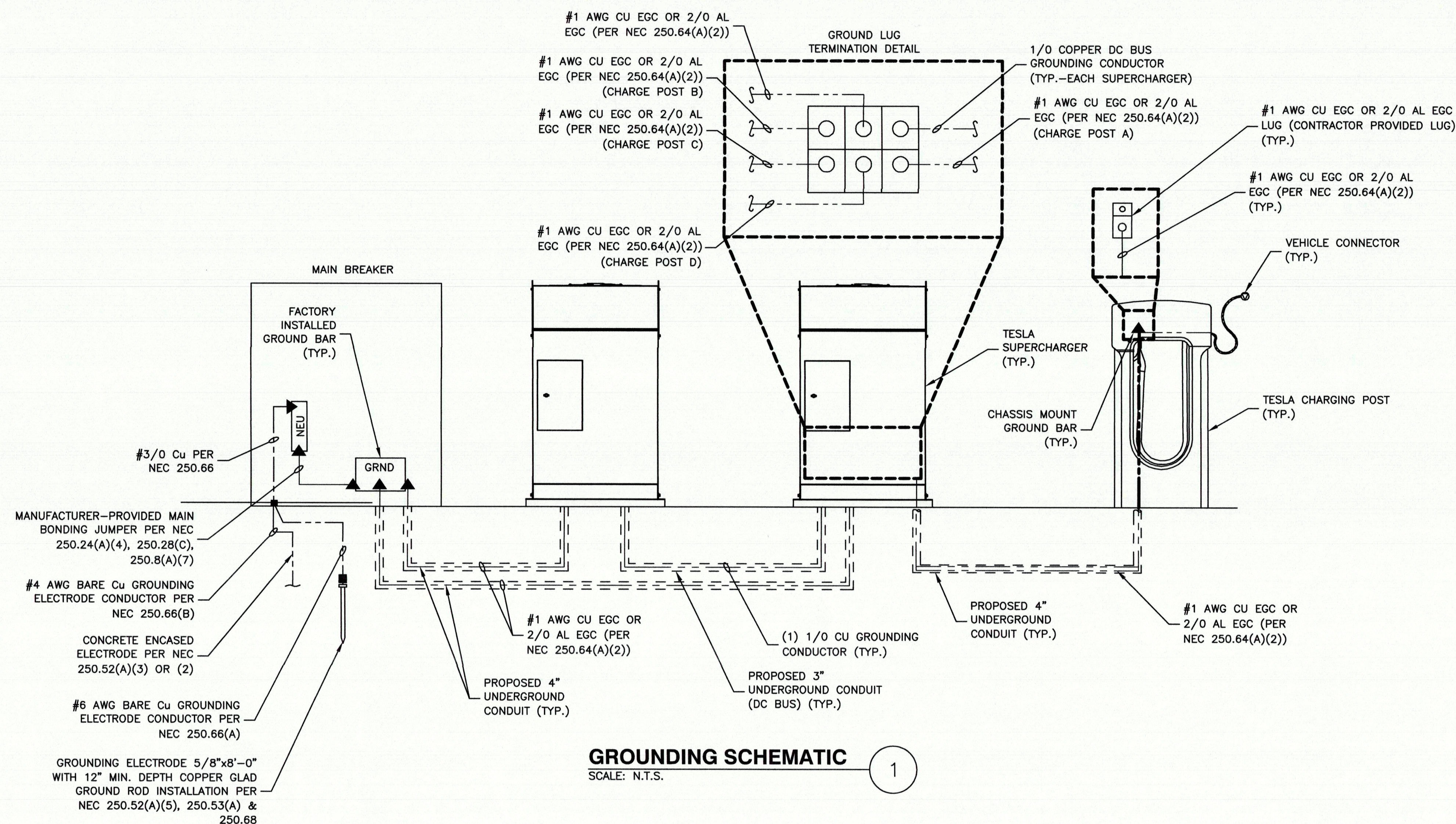
SHEET NUMBER  
E-2



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PHONE: 562.350.0570



NOTE:  
1. REBAR BONDED TOGETHER WITH STEEL TIE WIRES.

DRAWN BY: ZAP  
CHECKED BY: SES  
APPROVED BY: TB  
PROJECT #: 50123704  
JOB #: 50138552

SUBMITTALS		
REV.	DATE	DESCRIPTION
B	09/02/21	REVISED PER COMMENTS
A	08/12/21	ISSUED FOR 90% DESIGN

SITE NAME:  
YUCCA VALLEY, CA  
(TRT: 18883)  
SITE ADDRESS:  
57220 TWENTYNINE PALMS HWY SUITE EV  
YUCCA VALLEY, CA 92832

SHEET TITLE  
GROUNDING PLAN,  
SCHEMATIC & DETAILS

SHEET NUMBER  
G-1