

TESLA SUPERCHARGER ENCINITAS, CA - 1302 ENCINITAS BLVD - SUITE EV

8 SUPERCHARGERS

APN: 259-121-29-00

TRT: 35408

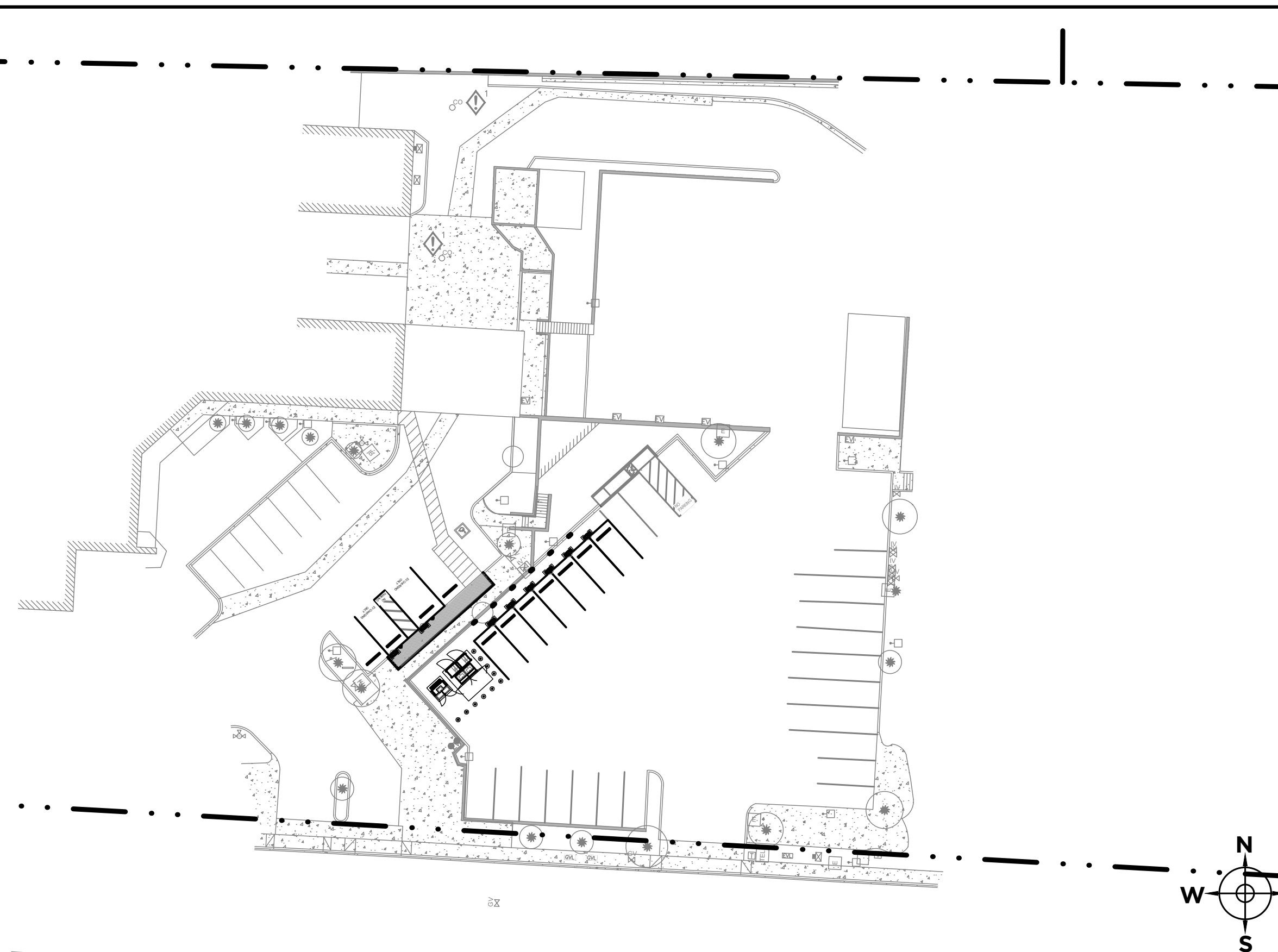
TESLA

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

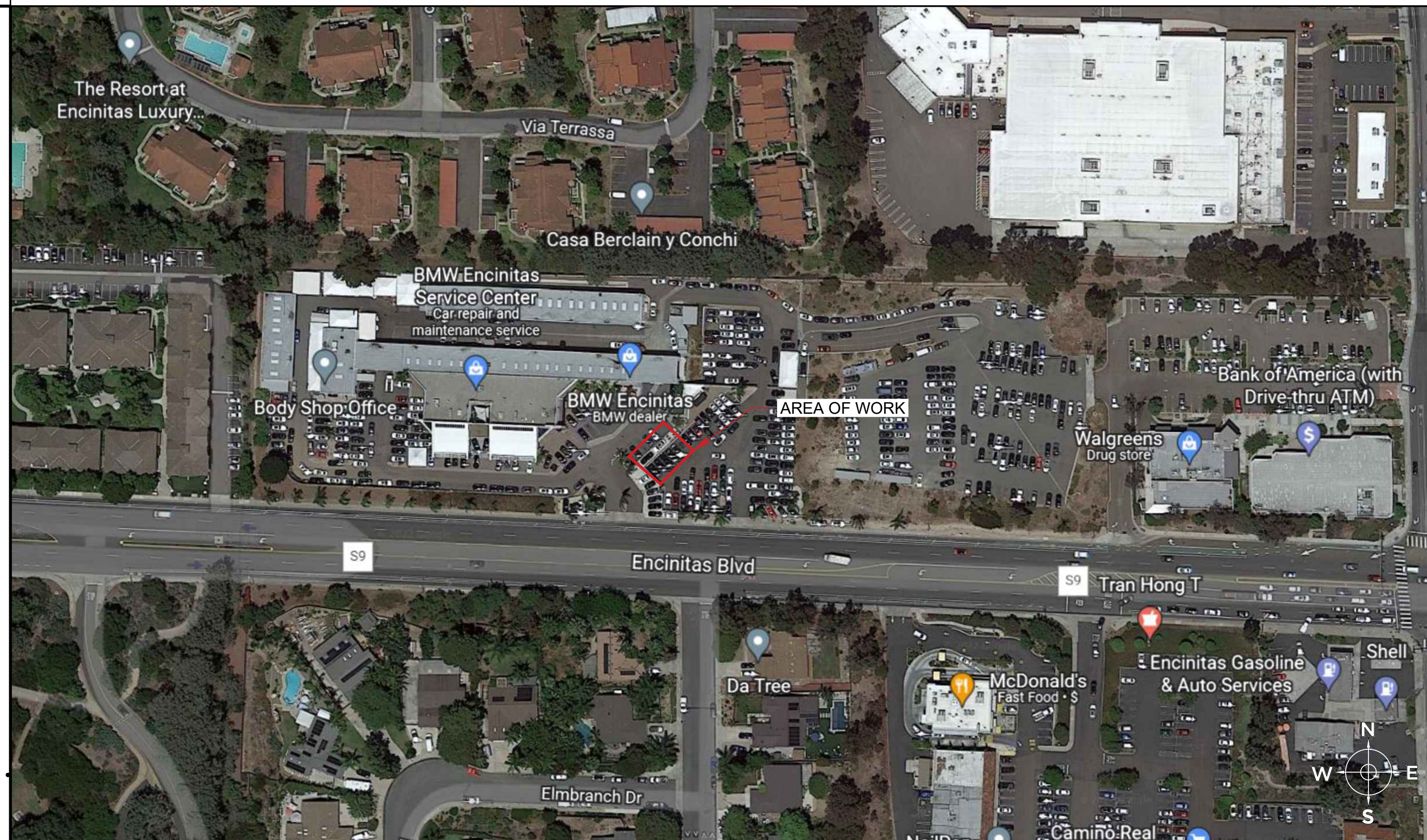
ORIGINAL SIZE 24"x36"
SHEET SIZE ARCH "D"



SITE LAYOUT



AERIAL MAP



TESLA SUPERCHARGER_ENCINITAS, CA
 8 SUPERCHARGERS
 1302 ENCINITAS BLVD - SUITE EV,
 ENCINITAS, CA 92024, US

NO.	REVISION	DATE	AHJ COMMENTS
A		02/05/2023	
B		02/27/2023	

COVER PAGE

G-001

JB-92025611-00

REV: B IFF

ABBREVIATIONS

PROJECT TEAM

DESIGN CRITERIA

PROJECT SCOPE

SYSTEM SUMMARY

SHEET INDEX

AC	ALTERNATING CURRENT	LV	LOW-VOLTAGE
ADA	AMERICANS WITH DISABILITIES ACT	LVDC	LOW VOLTAGE DIRECT CURRENT
BLDG	BUILDING	MAX	MAXIMUM
CLR	CLEAR	MIN	MINIMUM
COMM	COMMUNICATION	MV	MEDIUM-VOLTAGE
CONC	CONCRETE	(N)	NEW
DC	DIRECT CURRENT	NEC	NATIONAL ELECTRIC CODE
DIA	DIAMETER	NIC	NOT IN CONTRACT
DIST	DISTANCE	NRTL	NATIONALLY-RECOGNIZED TESTING LABORATORY
(E)	EXISTING	NTS	NOT TO SCALE
EA	EACH	OC	ON CENTER
EGC	EQUIPMENT GROUNDING CONDUCTOR	PCC	POINT OF COMMON COUPLING
EMT	ELECTRICAL METALLIC TUBING	PL	PROPERTY LINES
EQ	EQUAL	PLC	POWER LINE COMMUNICATION
ERMS	ENERGY REDUCTION MAINTENANCE SETTINGS	PP	POWERPACK
ESS	ENERGY STORAGE SYSTEM	PSU	PRE-ASSEMBLED SUPERCHARGER UNIT
EV	ELECTRIC VEHICLE	PV	PHOTOVOLTAIC
GAB	GRADED AGGREGATE BASE	PVC	POLYVINYL CHLORIDE
GALV	GALVANIZED	RSD	RAPID SHUTDOWN
GEC	GROUNDING ELECTRODE CONDUCTOR	SCCR	SHORT CIRCUIT CURRENT RATING
GFP	GROUND FAULT PROTECTOR	SCH	SCHEDULE
GND	GROUND	SQ. IN.	SQUARE INCHES
HVAC	HEATING, VENTILATION, & AIR CONDITIONING	SS	STAINLESS STEEL
I	CURRENT	SSBJ	SUPPLY SIDE BONDING JUMPER
IMP	CURRENT AT MAX POWER	SSD	SEE STRUCTURAL DRAWINGS
INV	INVERTER	STC	STANDARD TESTING CONDITIONS
ISC	SHORT CIRCUIT CURRENT	TYP	TYPICAL
KVA	KILOVOLT AMPERE	UON	UNLESS OTHERWISE NOTED
KW	KILOWATT	VIF	VERIFY IN FIELD
KWH	KILOWATT-HOUR	W	WATT
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS GROUND		

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- WIND DESIGN
 - DESIGN WIND SPEED = 96 MPH (ULTIMATE)
 - RISK CATEGORY = II
 - WIND EXPOSURE = C
- SEISMIC DESIGN
 - RISK CATEGORY = II
 - SEISMIC IMPORTANCE FACTOR = 1.0
 - SITE CLASS = D
 - S_s = 1.091 / S₁ = 0.391
 - S_{ds} = 0.872 / S_{d1} = 0.508
 - SEISMIC DESIGN CATEGORY = D
 - BASIC SEISMIC-FORCE-RESISTING SYSTEM = NON-STRUCTURAL COMPONENT
 - R = 2.5 / a_p = 1.0
- GROUND SNOW LOAD = 0 PSF

INSTALLATION OF SUPERCHARGERS AND ASSOCIATED AC AND DC EQUIPMENT.

INSTALLATION OF CONCRETE EQUIPMENT PADS AND WALKWAYS.

INSTALLATION OF NEW PARKING STRIPING, SIGNAGE AND ADA ACCESS FEATURES.

ASPHALT OVERLAY FOR PROPOSED EV ADA STALLS UNDER SEPARATE PERMIT (BLDR-018256-202)

APPLICABLE CODES

- 2022 CALIFORNIA BUILDING CODE
- 2022 CALIFORNIA ELECTRICAL CODE
- 2022 CALIFORNIA FIRE CODE
- 2022 CALIFORNIA ENERGY CODE

REFERENCED DOCUMENTS

- SUPERCHARGER INSTALLATION MANUAL
- SUPERCHARGER POST INSTALLATION MANUAL
- TOPOGRAPHIC SURVEY
- UTILITY DESIGN

SUPERCHARGER SYSTEM SUMMARY		SHEET #	SHEET TITLE
EQUIPMENT	QTY		
V3 SUPERCHARGER CABINETS	2	G-001	COVER PAGE
		G-002	NOTES
V3 SUPERCHARGER POSTS	8	G-101	DEMO PLAN
UTILITY TRANSFORMER	1	E-201	SINGLE LINE DIAGRAM
SWITCHBOARD	1	E-501	ELECTRICAL DETAILS
		E-502	ELECTRICAL DETAILS
		A-301	ACCESSIBLE PARKING PLAN
		A-501	DETAILS
		S-301	ENLARGED SITE PLAN
		S-501	STRUCTURAL DETAILS
			SURVEY

GENERAL NOTES

ALL WORK SHALL COMPLY WITH ALL STATE AND LOCAL CODES AND ANY OTHER REGULATING AUTHORITIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK.

PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND NOTIFY THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FROM TESLA OF ANY DISCREPANCIES. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS SHALL BE CORRECTED AT THE SUBCONTRACTORS SOLE EXPENSE.

SUBCONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO TESLA FOR APPROVAL BEFORE MAKING ANY CHANGES. DEVIATION FROM PLANS BEFORE WRITTEN APPROVAL FROM TESLA PLACES LIABILITY ON THE SUBCONTRACTOR.

ALL EQUIPMENT SHALL BE MOUNTED AS SHOWN, WHERE DETAILS ARE NOT PROVIDED, CONTRACTOR SHALL USE STANDARD CONSTRUCTION PRACTICES.

ALL SURFACES SHALL BE PATCHED AND PAINTED AROUND NEW DEVICES AND EQUIPMENT TO MATCH EXISTING FINISHES.

ANY METAL SHAVINGS FROM SITE WORK SHALL BE CLEANED FROM ALL SURFACES WHERE OXIDIZED OR CONDUCTIVE METAL SHAVINGS MY CAUSE RUST, ELECTRICAL SHORT CIRCUITS, OR OTHER DAMAGE.

APPROVALS FROM BUILDING INSPECTORS SHALL NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE DRAWINGS.

NEW PAVEMENT INSTALLED AS PART OF THIS PROJECT SHALL MATCH EXISTING PAVEMENT SECTION. ASPHALT AND GAB DEPTHS SHALL BE MAINTAINED.

ELECTRICAL NOTES

GENERAL NOTES

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AS AMENDED BY APPLICABLE STATE AND LOCAL CODES.
- ALL WIRING SHALL BE MANAGED IN A PROFESSIONAL, WORKMAN-LIKE MANNER AND MUST BE SUPPORTED, SECURED, AND PROTECTED TO PREVENT DAMAGE.
- AC CIRCUIT CONDUCTORS SHALL BE IDENTIFIED BY PHASE AND SYSTEM PER ART 210.5 OR 215.12. UNLESS OTHERWISE REQUIRED BY ART 210.5(1) OR AHJ, COLOR-CODING OF POWER CONDUCTORS SHALL BE AS FOLLOWS:

CONDUCTOR	277/480V	120/208V
PHASE A	BROWN	BLACK
PHASE B	ORANGE	RED
PHASE C	YELLOW	BLUE
NEUTRAL	GRAY	WHITE

- DC CIRCUIT CONDUCTORS SHALL BE IDENTIFIED PER ART 210.5 OR 215.12:

CONDUCTOR	STD COLOR	ALT COLOR
DC+	RED	RED-STRIPED
DC-	BLACK	BLACK-STRIPED
- TERMINATIONS OF AC, DC, AND COMMUNICATIONS CONDUCTORS SHALL BE PROFESSIONALLY AND LEGIBLY LABELED WITH CIRCUIT SCHEDULE IDENTIFIER, CONDUCTOR SIZE (AS APPLICABLE) AND TERMINATION TORQUE.
- ALL EQUIPMENT SHALL BE LISTED BY A NRTL IN COMPLIANCE WITH ART 110.3. WHERE EXISTING NRTL LISTING CANNOT BE MAINTAINED, ENGINEERING APPROVAL SHALL BE OBTAINED PRIOR TO EQUIPMENT MODIFICATION, AND THE EQUIPMENT SHALL BE RELISTED BY A SUITABLE NRTL.
- UNDERGROUND CONDUCTORS & CABLES TO BE INSTALLED IN CONDUIT UON.
- ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY NRTL LISTING.
- REFER TO MANUFACTURER'S CURRENT PLANNING AND INSTALLATION MANUAL FOR TORQUE SPECS FOR ALL BOLTS AND TERMINAL CONNECTIONS.
- ALL CONDUCTOR TERMINATIONS ON BUSSING OR TRANSFORMER SPADES SHALL BE MADE WITH HIGH-PRESS CRIMP LUGS UON.
- ALL TERMINATIONS OF ALUMINUM CONDUCTORS SHALL BE PROPERLY INSTALLED WITH BEST PRACTICES INCLUDING BUT NOT LIMITED TO:
 - USE OF TERMINATION EQUIPMENT RATED FOR ALUMINUM AT THE CONDUCTOR TEMPERATURE, CURRENT, AND VOLTAGE
 - ALLOWANCE FOR MOVEMENT DUE TO THERMAL EXPANSION/CONTRACTION
 - PROPER COATING OF EXPOSED ALUMINUM WITH ANTI-OXIDIZATION COMPOUND
 - USE OF CALIBRATED DEVICES TO TORQUE AND MARK TERMINALS TO REQUIRED SETTINGS
- DUCT SEAL COMPOUND SHALL BE APPLIED WHEREVER CONDUITS TRANSITION INDOOR/OUTDOOR OR UNDERGROUND/ABOVEGROUND. REFER TO EQUIPMENT NOTES FOR ADDITIONAL DUCT SEAL REQUIREMENTS.
- BELL ENDS SHALL BE INSTALLED WHEREVER CONDUIT ENTERS EQUIPMENT FROM UNDERGROUND AND WHEREVER POTENTIAL FOR DAMAGE TO CONDUCTORS IS PRESENT AT ANY POINT. BELL ENDS SHALL NOT PREVENT THE USE OF GROUNDING FITTINGS OR COUPLERS WHEN REQUIRED.
- ALL STUB-UPS WITHIN FLOOR-MOUNTED EQUIPMENT SHALL BE 3-5" ABOVE FINISHED GRADE.
- ALL CONDUITS EXPOSED TO VEHICULAR OR EQUIVALENT PHYSICAL DAMAGE SHALL BE RIGID GALVANIZED STEEL.
- GROUND LUGS SHALL BE RATED FOR THEIR ENVIRONMENT AND CONDITION OF USE.

SUPERCHARGER NOTES

- NEUTRAL MUST BE INCLUDED FOR PROPER OPERATION OF TESLA SUPERCHARGERS.
- ALL CONDUIT FURNISHED AND INSTALLED BY CONTRACTOR. ALL WIRING FURNISHED BY TESLA AND INSTALLED BY CONTRACTOR.
- ALL BUSHINGS AND WIRING INTERNAL OF PROPOSED SERVICE EQUIPMENT PROVIDED BY MANUFACTURER. ANY MODIFICATIONS SHALL REQUIRE ENGINEERING APPROVAL PRIOR TO ANY CHANGES BEING MADE.
- ALL ALUMINUM(AI) CONDUCTORS TO RECEIVE ANTI-OXIDATION COATING DURING INSTALLATION. ALL OTHER CONDUCTORS ARE COPPER UNLESS OTHERWISE NOTED.
- THE FOLLOWING CHARGING CABINETS AND THE CHARGING POSTS USED ON THIS PROJECT COMPLY WITH THE FOLLOWING STANDARDS:
 - IEC 61851-23: 2014 / EN 61851-23: 2014
 - UL 2202: 2009(R2012)
 - CAN CSA C22.2 NO. 107.1-01(R2011)
- THE AFOREMENTIONED STANDARDS IDENTIFY THE REQUIREMENTS MET BY THE EQUIPMENT, INCLUDING BUT NOT LIMITED TO:
 - PROTECTION AGAINST ELECTRIC SHOCK
 - OVERLOAD AND SHORT CIRCUIT PROTECTION
 - FAULT PROTECTION
 - DEGREES OF PROTECTION AGAINST ACCESS TO HAZARDOUS LIVE PARTS
 - THE INTERNAL COMPONENTS OF THE SYSTEM ARE PROPRIETARY. ANY QUESTIONS CONCERNING ACTUAL INTERNAL PROTECTIVE DEVICES MUST BE COORDINATED DIRECTLY WITH TESLA.
- TESLA SUPERCHARGER SIGNAL WIRING RATED 1000V AND USED FOR POWER LIMITED CLASS 1 CIRCUITS SHALL BE PERMITTED TO RUN IN CONDUITS, CABLE TRAYS, WIRE WAYS, OR RACEWAYS ALONG WITH ASSOCIATED DC CONDUCTORS AS ALLOWED PER NEC 725.48(B)(1) AND 620.36.
- SUPERCHARGER CABINET AC CONDUCTORS SIZED UNDER ENGINEERING SUPERVISION USING THERMAL MODELING SOFTWARE. SPECIFICATIONS ABOUT THE TRENCHING REQUIREMENTS ARE SHOWN IN E-501
- FOR DC RUNS IN EXCESS OF 330 FEET, CONTACT TESLA.
- UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC OR UL LISTED HDPE. THE ABOVEGROUND PORTION OF AN UNDERGROUND/ABOVEGROUND TRANSITION SHALL BE SCHEDULE 80 PVC OR UL LISTED HDPE.
- ABOVEGROUND CONDUITS EXPOSED TO VEHICULAR OR EQUIVALENT PHYSICAL DAMAGE SHALL BE RMC. ABOVEGROUND CONDUITS NOT EXPOSED TO VEHICULAR OR EQUIVALENT DAMAGE SHALL BE PERMITTED TO BE EMT.
- IF APPROVED BY TESLA CONSTRUCTION MANAGER, ALTERNATIVE CONDUIT MATERIALS SUCH AS FLEXIBLE OR FIBERGLASS ARE PERMISSIBLE IF INSTALLED PER MANUFACTURER INSTALLATION GUIDELINES AND LOCAL CODES.
- WIRE SPLICES ARE NOT PERMITTED TO EXTEND WIRE RUN LENGTH. CONTRACTOR IS RESPONSIBLE FOR RERUNNING FULL LENGTH OF WIRE IF RUN LENGTH IS MISCALCULATED.
- SPECIAL INSPECTION IS REQUIRED FOR ALL POST-INSTALLED CONCRETE ANCHORS.
- PLANT GUARANTEE: CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF PROJECT ACCEPTANCE BY THE OWNER. CONTRACTOR IS RESPONSIBLE FOR PLANT MAINTENANCE FOR THE FIRST GROWING SEASON.
- IF EXISTING GRASS IS DAMAGED/REMOVED DURING CONSTRUCTION, CONTRACTOR SHALL APPLY SEED PER HYDROSEED METHOD. RATING OF SEED SHALL BE PER DISTRIBUTOR BASED ON SPECIES TYPE.
- CONTRACTOR SHALL MATCH EXISTING LANDSCAPE; USE GRASS, RIVER ROCK, MULCH ETC. TO MATCH EXISTING LANDSCAPE AROUND EQUIPMENT, UNLESS OTHERWISE NOTED.
- CONTRACTOR TO INSTALL WEED BARRIER IN FRONT OF SUPERCHARGER CABINETS AND SWITCHBOARD. BARRIER TO EXTEND FULL WIDTH AND DEPTH OF NEC REQUIRED WORKING CLEARANCES.

SCOPE OF WORK

UTILITY	SDG&E	TESLA	UTILITY
PRIMARY	PRIMARY TRENCHING	X	
	INSTALL PRIMARY CONDUIT	X	
	INSTALL PULL ROPE	X	
	INSTALL PRIMARY FEEDERS		X
	PROVIDE PRIMARY FEEDERS		X
	PROVIDE ROAD CUTS / ROAD BORES	X	
TRANSFORMER	PAVEMENT REPLACEMENT	X	
	INSTALL TRANSFORMER PAD	X	
	PROVIDE TRANSFORMER		X
	INSTALL TRANSFORMER		X
SWITCHBOARD	INSTALL CONNECTIONS - PRIMARY		X
	INSTALL CONNECTIONS - SECD		X
	PROVIDE METER		X
	INSTALL METER		X
SECONDARY	LAND SECONDARY FEEDERS		X
	SECONDARY TRENCHING	X	
	INSTALL SECONDARY CONDUIT	X	
	INSTALL PULL ROPE	X	
	INSTALL SECONDARY FEEDERS		X
	PROVIDE SECONDARY FEEDERS		X
	PROVIDE ROAD CUTS / ROAD BORES	X	
	PAVEMENT REPLACEMENT	X	

SITE LEGEND (EXISTING OBJECTS)

- PROPERTY LINE
- SANITARY CLEANOUT
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- LIGHT POLE
- ELECTRIC TRANSFORMER
- ELECTRIC PULLBOX
- ELECTRIC CABINET
- ELECTRIC VAULT
- ELECTRIC VEHICLE CHARGING STATION
- TELEPHONE VAULT
- TELEPHONE PEDESTAL
- GAS VAULT
- HANDICAP PARKING
- PALM TREE WITH DRIPLINES
- BOLLARD
- SIGN
- CONCRETE AREA
- WATER LINE (UNDERGROUND)
- GAS LINE (UNDERGROUND)
- ELECTRIC LINE (UNDERGROUND)
- TELEPHONE LINE (UNDERGROUND)
- CHAIN LINK FENCE
- IRON FENCE
- HAND RAIL

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ORIGINAL SIZE 24"x36"
SHEET SIZE ARCH "D"

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 8 SUPERCHARGERS
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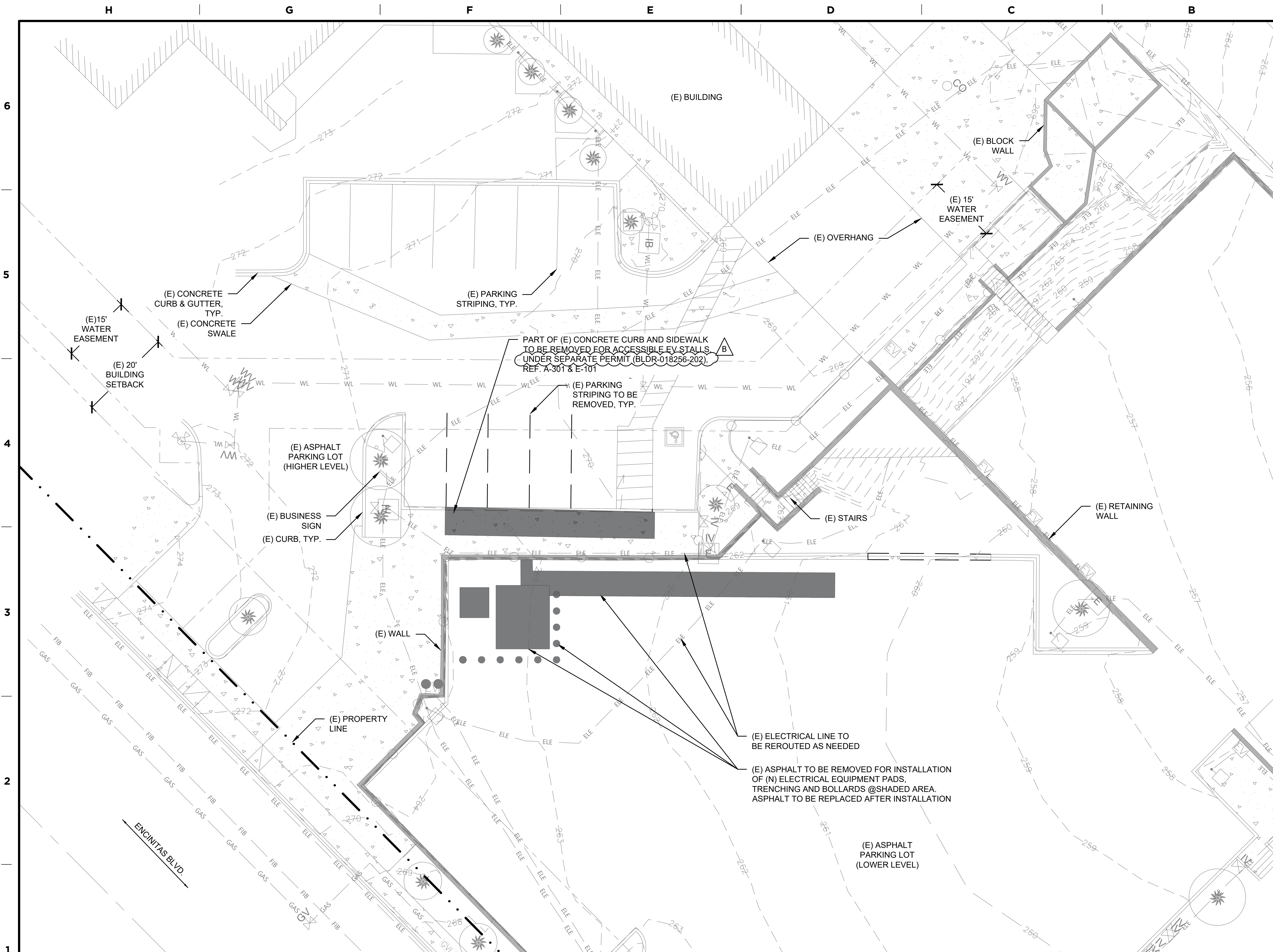
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NOTES

G-002

JB-92025611-00

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NOTES

THE CONTRACTOR SHALL REFER TO THE TRENCHING DETAILS ON THE ELECTRICAL DETAILS SHEET.

THE LIMITS OF HARDSCAPE REMOVAL ARE SHOWN AS FOR INFORMATION ONLY AND IT SHALL BE UP TO THE CONTRACTOR TO DETERMINE THE EXACT LIMITS.

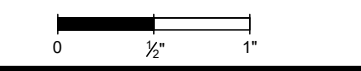
SITE LEGEND

- ANY (E) ELEMENT TO BE REMOVED
- HARDSCAPED AREA TO BE MODIFIED



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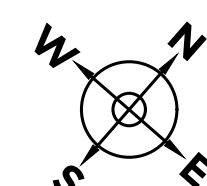
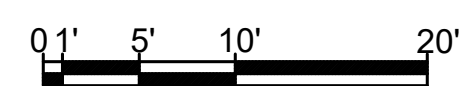
DEMO PLAN

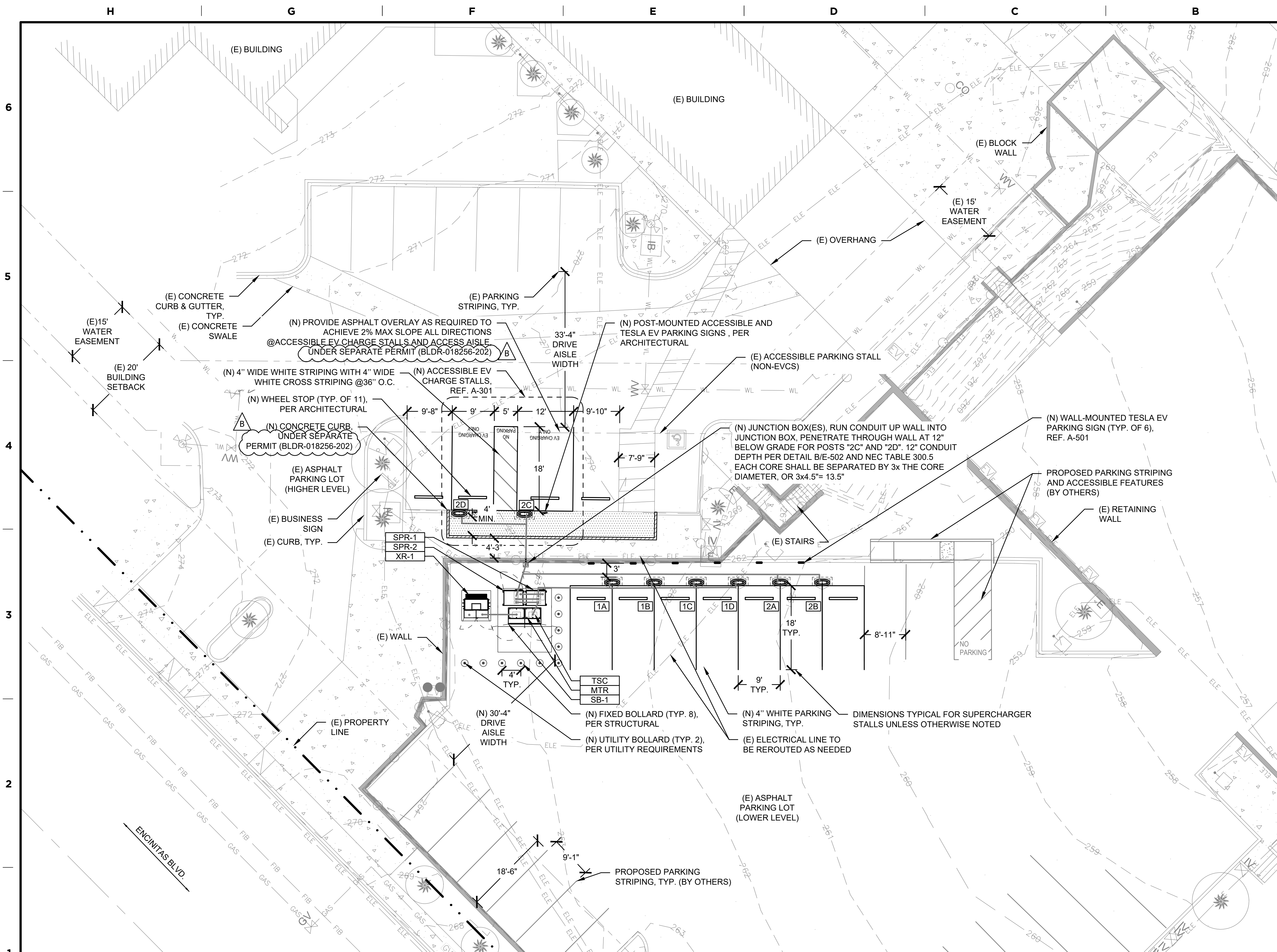
G-101

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REV: B IFF

DEMOLITION PLAN
1" = 10'-0"





SITE LEGEND

- (N) UNDERGROUND CONDUIT ROUTE, SHOWN FOR DIAGRAMMATIC PURPOSES ONLY.
- (N) ABOVEGROUND CONDUIT ROUTE, SHOWN FOR DIAGRAMMATIC PURPOSES ONLY.
- (N) FIXED BOLLARD
- (N) UTILITY BOLLARD
- (N) SIGN
- (N) CONCRETE CURB
- (N) FULL DEPTH ASPHALT

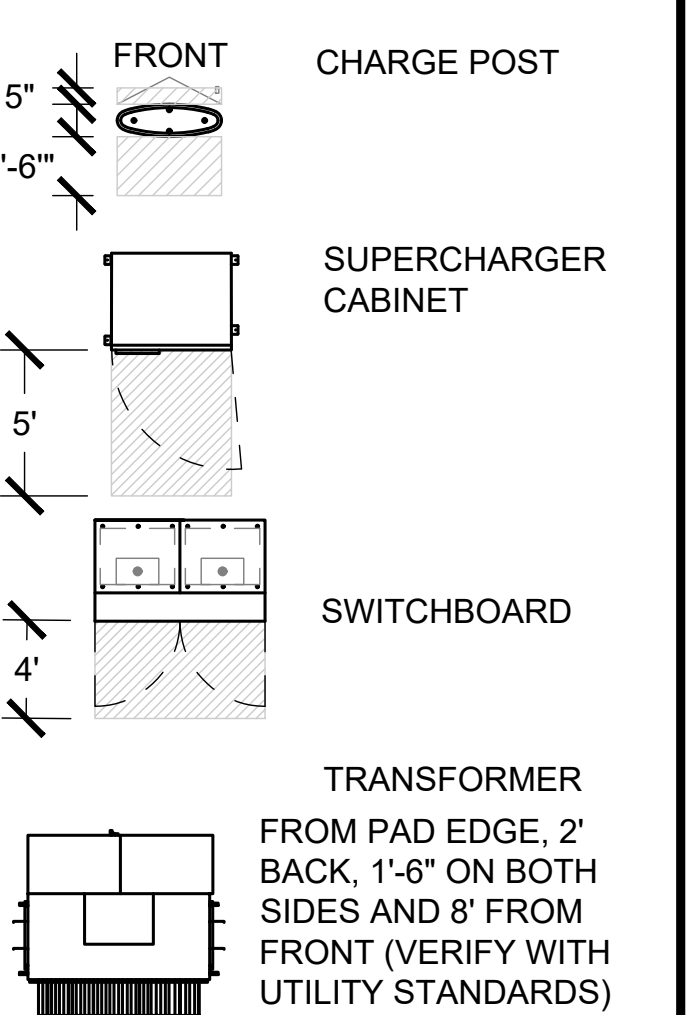
PARKING STALL SCHEDULE

EXISTING STANDARD STALLS UTILIZED AS A RESULT OF THIS PROJECT	3
PROPOSED TESLA STALLS	8
PROPOSED STANDARD STALLS	0
AB1100 EV VAN CREDIT	1
NET STALL COUNT	+6

CHARGING STALLS SCHEDULE

SUPERCHARGER CABINET	POST TAG	SIGN TYPE
1	1A	DEDICATED
	1B	DEDICATED
	1C	DEDICATED
	1D	DEDICATED
2	2A	DEDICATED
	2B	DEDICATED
	2C	DEDICATED & ACCESSIBLE
	2D	DEDICATED

MINIMUM SERVICE CLEARANCES



NOTES:

- UTILITY EQUIPMENT/FOUNDATION DIMENSIONS AND LOCATIONS PER UTILITY. CONTRACTOR TO VERIFY AGAINST EXECUTED UTILITY DESIGN.
- UTILITY BOLLARDS PER UTILITY REQUIREMENTS. CONTRACTOR TO VERIFY AND COORDINATE WITH UTILITY ON LOCATION, QUANTITY, AND SPECS.
- CONTRACTOR TO REFER TO EXECUTED UTILITY DESIGN FOR PRIMARY AND POINT OF CONNECTION DETAILS.
- FOR (N) ACCESSIBLE EV CHARGING AREA(S), CONTRACTOR TO FIELD VERIFY SLOPES ARE COMPLIANT PER ACCESSIBLE STALL DETAIL (REF. ARCHITECTURAL OR STRUCTURAL SHEETS). REGRADE AND ADD ASPHALT OVERLAY, NEW FULL DEPTH ASPHALT, AND/OR ASPHALT MILLING IF REQUIRED.

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SITE PLAN

E-101

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ELECTRICAL SITE PLAN 1" = 10'-0"

EQUIPMENT TAGS

- XR-# TRANSFORMER (PROVIDED BY UTILITY PER UTILITY DESIGN)
- SB-# SWITCHBOARD
- SPR-# SUPERCHARGER CABINET
- TSC TESLA SITE CONTROLLER
- MTR UTILITY METER (PROVIDED BY UTILITY PER UTILITY DESIGN)
- #X SUPERCHARGER POST

PARKING SIGNS, REF A-501

- DEDICATED
- ACCESSIBLE

1" = 10'-0" 0' 5' 10' 20'

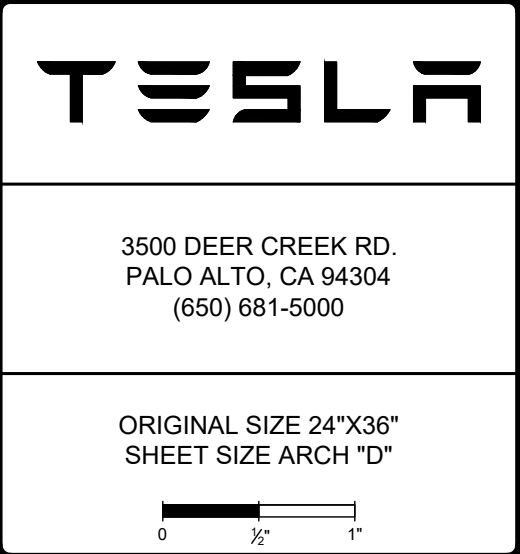
PROPRIETARY AND CONFIDENTIAL

LOAD SCHEDULE

SWITCHBOARD "SB-1" LOAD SCHEDULE						
CKT NO	TRIP AMPS	DESCRIPTION	VOLT-AMPS			CKT NO
			A	B	C	
1	600	SUPERCHARGER #1	129,000	-	-	2
3	"	"	-	129,000	-	4
5	"	"	-	-	129,000	6
7	15	MONITORING	50	-	-	8
9	"	"	-	50	-	10
11	15	SPARE	-	-	-	12
TOTALS						
PHASE			A	B	C	
APPARENT POWER			258 kVA	258 kVA	258 kVA	
CURRENT			931 A	931 A	931 A	

EQUIPMENT NOTES

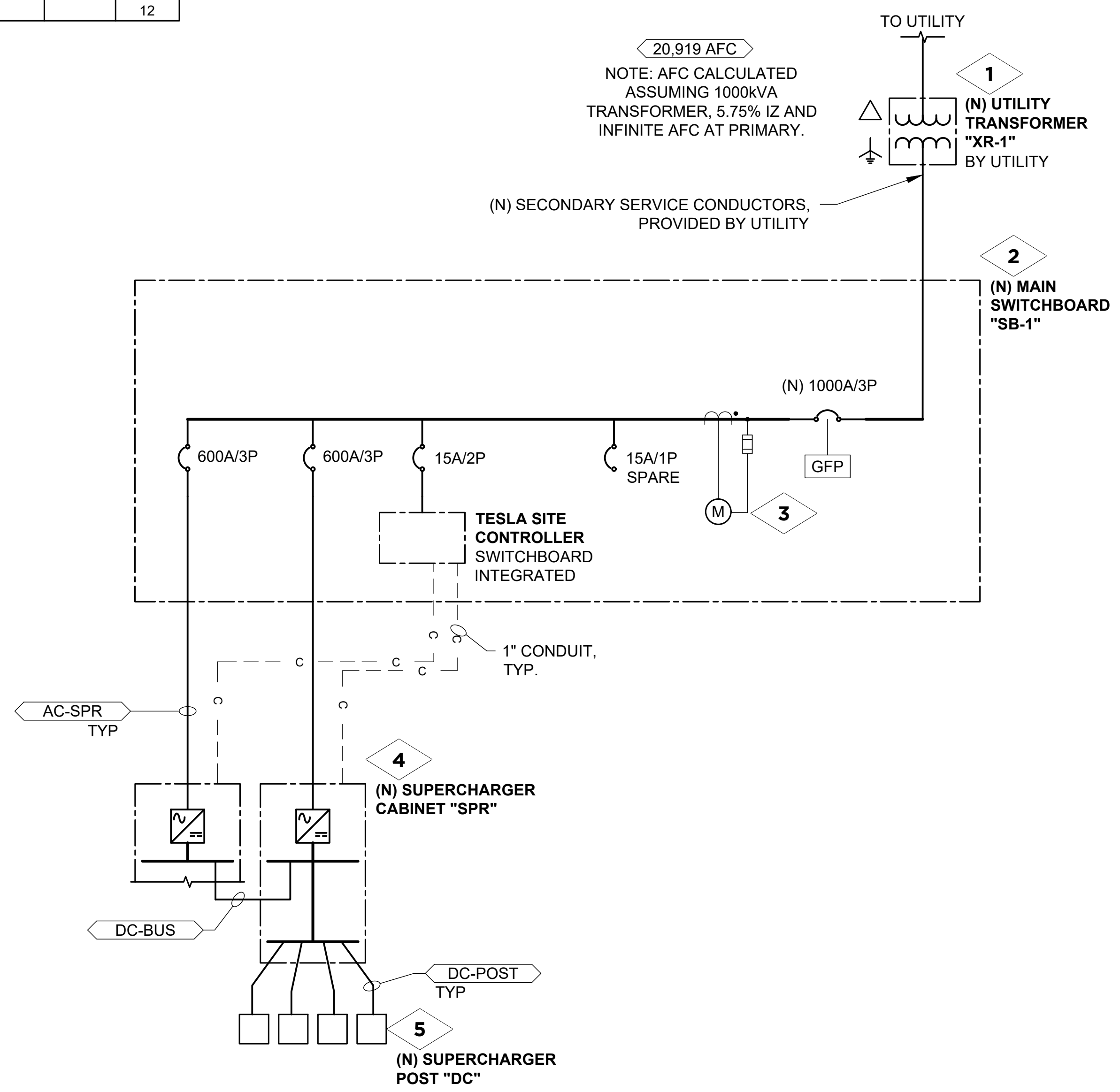
- (N) UTILITY TRANSFORMER "XR-1"
• SIZE & PRIMARY VOLTAGE PER UTILITY
• SECONDARY 480Y/277V
- (N) MAIN SWITCHBOARD "SB-1",
• 480/277 VAC, 1000A
• 1000A MAIN BREAKER,
100%-RATED, LSIG AND ERMS
• 65 kAIC
• NEMA 3R
- (N) UTILITY METER
• METER # TBD
• COLD SEQUENCED
- (N) SUPERCHARGER CABINET "SPR"
• (2) SUPERCHARGER CABINETS
• 480VAC, 3PH, 4W
• 465A MAX AC INPUT
• DC OUTPUT TO 4 CHARGE POSTS MAX EACH
• 85 kA SCCR
- (N) SUPERCHARGER POST "DC"
• 250KW
• (8) SUPERCHARGER POSTS
• 0 VDC - 500 VDC



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LEGEND

- BUSSING
- CONDUCTORS
- SHIELDED CAT6 CABLE
- CIRCUIT BREAKER
- SWITCH
- FUSE
- CURRENT TRANSFORMER
- POWER TRANSFORMER
- DELTA TRANSFORMER WINDING
- WYE TRANSFORMER WINDING
- GROUND WYE TRANSFORMER WINDING
- EQPT. ENCLOSURES
- METER
- AC-DC OR DC-AC CONVERTER
- LIGHT WITH MOTION AND PHOTO SENSOR



20,919 AFC
NOTE: AFC CALCULATED ASSUMING 1000KVA TRANSFORMER, 5.75% IZ AND INFINITE AFC AT PRIMARY.

(N) SECONDARY SERVICE CONDUCTORS, PROVIDED BY UTILITY

(N) MAIN SWITCHBOARD "SB-1"

(N) SUPERCHARGER CABINET "SPR"

(N) SUPERCHARGER POST "DC"

SYSTEM PLACARDS

TESLA SUPERCHARGER
1306 ENCINITAS BLVD - SUITE EV
1-877-798-3752

ATTACH ON FRONT OF SWITCHBOARD

TESLA EV SYSTEM DISCONNECT

ATTACH ON SWITCHBOARD MAIN DISCONNECT

PLACARD NOTES:
PLACARDS TO BE MADE OF RED PHENOLIC PLASTIC W/ 1" WHITE LETTERING. ATTACH PLACARDS WITH RIVETS OR SELF-TAPPING SCREWS
ADDITIONAL PLACARDS REQUIRED FOR ARC FLASH LABELS

AC CIRCUIT SCHEDULE

CIRCUIT #	CONDUCTOR METAL UON	# OF CONDUITS	# PHASE CONDUCTORS PER CONDUIT	PHASE CONDUCTOR SIZE	NEUTRAL CONDUCTOR SIZE	EGC	GEC SIZE (CU)	MAX CIRCUIT LENGTH	WIRE TYPE	CONDUIT TYPES	MIN CONDUIT SIZE (IN)
AC-SPR	AL	2	3	500 KCMIL	500 KCMIL	AWG 2/0 (AL) OR AWG #1 (CU)	-	600'	XHHW-2	PVC, RMC, EMT	4

DC CIRCUIT SCHEDULE

CIRCUIT #	CONDUCTOR METAL UON	# OF CONDUITS	# POWER CONDUCTORS PER CONDUIT	POWER CONDUCTOR SIZE	EGC	SIGNAL WIRE	DC MID	MAX CIRCUIT LENGTH	WIRE TYPE	CONDUIT TYPES	MIN CONDUIT SIZE (IN)
DC-POST	AL	1	4	350 KCMIL	AWG 2/0 (AL) OR AWG #1 (CU)	TESLA PROVIDED	-	330'	XHHW-2 (1000V)	PVC, RMC, EMT, HDPE	4
DC-BUS	AL	2	2	600 KCMIL	AWG 1/0 (CU)	-	AWG 3/0	900'	XHHW-2 (1000V)	PVC, RMC, EMT	3

NO.	REVISION	DATE	
		A	B
	AHJ COMMENTS	02/05/2023	
	AHJ COMMENTS	02/27/2023	

SINGLE LINE DIAGRAM
E-201
JB-92025611-00
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BREAKER SETTINGS

MAIN SWITCHBOARD SB-1, MCB 1000A ZPOWER			
DESIGNATION	FRAME AMPS	PHASE	GROUND
FRAME	AIC KA	65	65
	MFR	GE	GE
	TYPE MODEL	SS	SS
TRIP UNIT	SENSOR AMPS	1,600	1,600
	PLUG AMPS	1,000	1,000
	DESCRIPTION	LSI(CB), 800-2000AF, UL489	GF, 200-2000AF
TRIP UNIT SETTINGS (1000A TRIP)	TYPE/MODEL	SS, SH POWERBREAK II, EGTU	SS, SH POWERBREAK I & II, EGTU
	LONG DELAY PICKUP (I _{ld})	1.00X (1000A)	
	LONG DELAY TIME (t _{ld})	C-10	
	SHORT DELAY PICKUP (I _{sd})		4X (4000A)
	SHORT DELAY TIME (t _{sd})		ST02-MIN (I ² S T OFF)
	INSTANTANEOUS PICKUP (I _i)		7.5X (7500A)
	GROUND FAULT PICKUP (I _g)		0.63 (1000A)
	GROUND FAULT DELAY TIME (t _g)		GFD09 (I ² S T OFF)

BREAKER SETTINGS - SEQUENCE

SWITCHBOARD MAIN BREAKER	SUPERCHARGER CABINET BREAKERS
ENTEILIGUARD L SIG HMI TRIP UNIT (1000A TRIP)	SPECTRA RMS ELECTRONIC TRIP (600A TRIP)
SETUP <ENTER (TYP.)> →LONG TIME →CURVE: PT →PICKUP: 1.0 →BAND: C10 →SHORT TIME →PICKUP: 4 →BAND: 2.0 →SLOPE: OFF →INST →PICKUP: 7.5 →GF SUM →PICKUP: 0.63 →BAND: 9.0 →SLOPE: OFF	INSTANTANEOUS: LOW

BREAKER SETTINGS

MAIN SWITCHBOARD SB-1, MCB 1000A ZPOWER			
DESIGNATION	FRAME AMPS	PHASE	GROUND
FRAME	AIC KA	65	65
	MFR	EATON	EATON
	TYPE MODEL	SBN-612	SBN-612
TRIP UNIT	SENSOR AMPS	1,000	1,000
	PLUG AMPS	1,000	1,000
	DESCRIPTION	LSI, 1200AF, 200-1200AF	GF, 800-6000AF
TRIP UNIT SETTINGS (1000A TRIP)	TYPE/MODEL	MAGNUM SB, DT 520	MAGNUM SB, DT 520
	LONG DELAY PICKUP (I _{ld})	1 (1000A)	
	LONG DELAY TIME (t _{ld})		24s
	SHORT DELAY PICKUP (I _{sd})	4 (4000A)	
	SHORT DELAY TIME (t _{sd})		0.1s
	INSTANTANEOUS PICKUP (I _i)	8 (8000A)	
GROUND FAULT PICKUP (I _g)			1 (1000A)
GROUND FAULT DELAY TIME (t _g)			0.5s

SUPERCHARGER CABINET BREAKERS	
PD-3 THERMAL-MAG TRIP UNIT (600A TRIP)	
INSTANTANEOUS (I _i): 5 (3000A)	

TRENCHING NOTES

- THE TRENCH DESIGNS FOR AC-SPR, DC-POST, AND DC-BUS CIRCUITS ARE THE RESULT OF A THERMAL ANALYSIS OF THE CONDUCTORS UNDER LOAD. FOR PROPER PROTECTION THEY MUST BE FOLLOWED.
- APPROVED BACKFILL IS REQUIRED TO MEET THE DESIGNED RHO VALUES. USE THE SPECIFIED BACKFILL LISTED BELOW OR TEST NATIVE SOIL CONDITIONS TO CONFIRM MAX DEFINED RHO VALUES. MINIMUM 2" OF APPROVED BACKFILL COVERAGE AROUND CONDUITS REQUIRED.
- RHO 60 BACKFILL** -CONCRETE BACKFILL WITH MIN 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI MUST BE USED TO ACHIEVE MAX RHO 60.
- RHO 90 BACKFILL** - LOW STRENGTH FLUIDIZED THERMAL (SLURRY) BACKFILL WITH MIN 28 DAY COMPRESSIVE STRENGTH OF 150 PSI MUST BE USED TO ACHIEVE MAX RHO 90.
- FOR TRENCHES WITH MIXED CIRCUIT TYPES, APPLY THE CONDUIT SPACING FOR THE CIRCUIT TYPE WITH THE LARGER SPACING REQUIREMENT.
- CONDUIT TO BE INSTALLED TO A MAX COVER OF 24". COVER MAY BE REDUCED PER THE NEC TABLE 300.5.
- CONDUIT ARE PERMITTED TO HAVE GREATER THAN 24" COVER FOR SHORT DISTANCES WHERE REQUIRED TO CROSS UNDER (E) UTILITY LINES, TO ALLOW FOR NEC REQUIRED MIN RADIUS FOR CONDUIT TURN-UPS INTO PAD-MOUNTED EQUIPMENT, TO AVOID (E) OBSTRUCTIONS, ETC.

BREAKER SETTINGS - OPTION 2 "GE MODEL MCB"

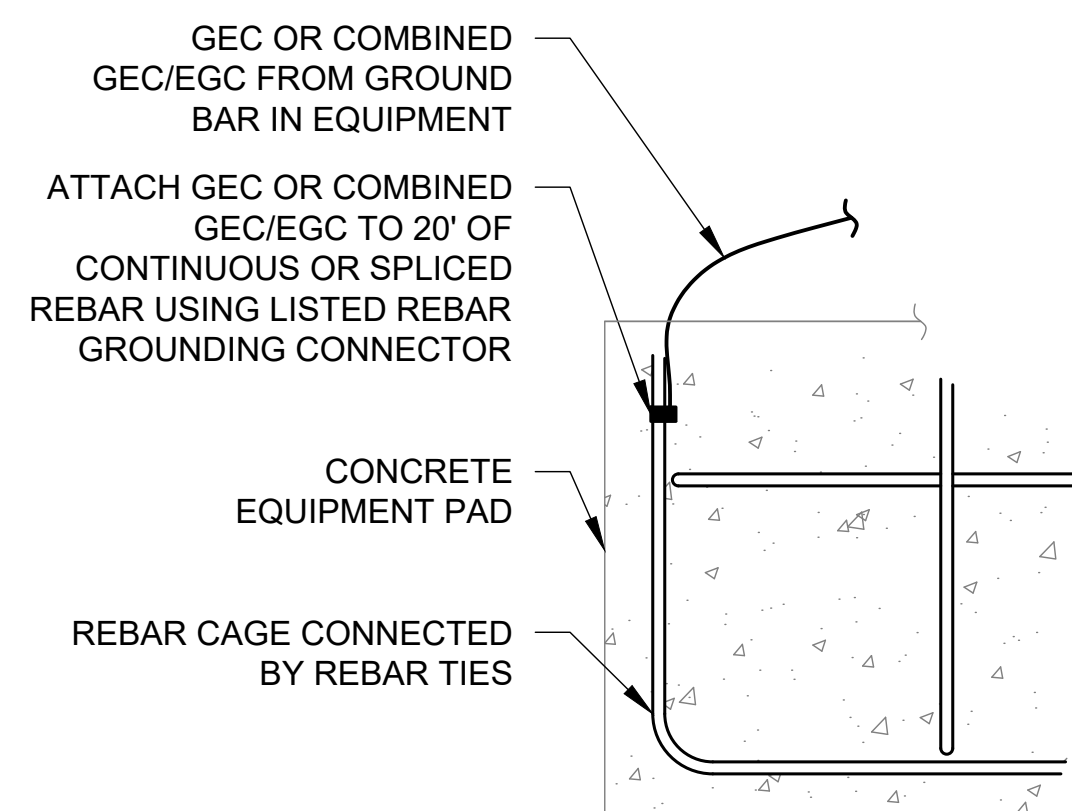
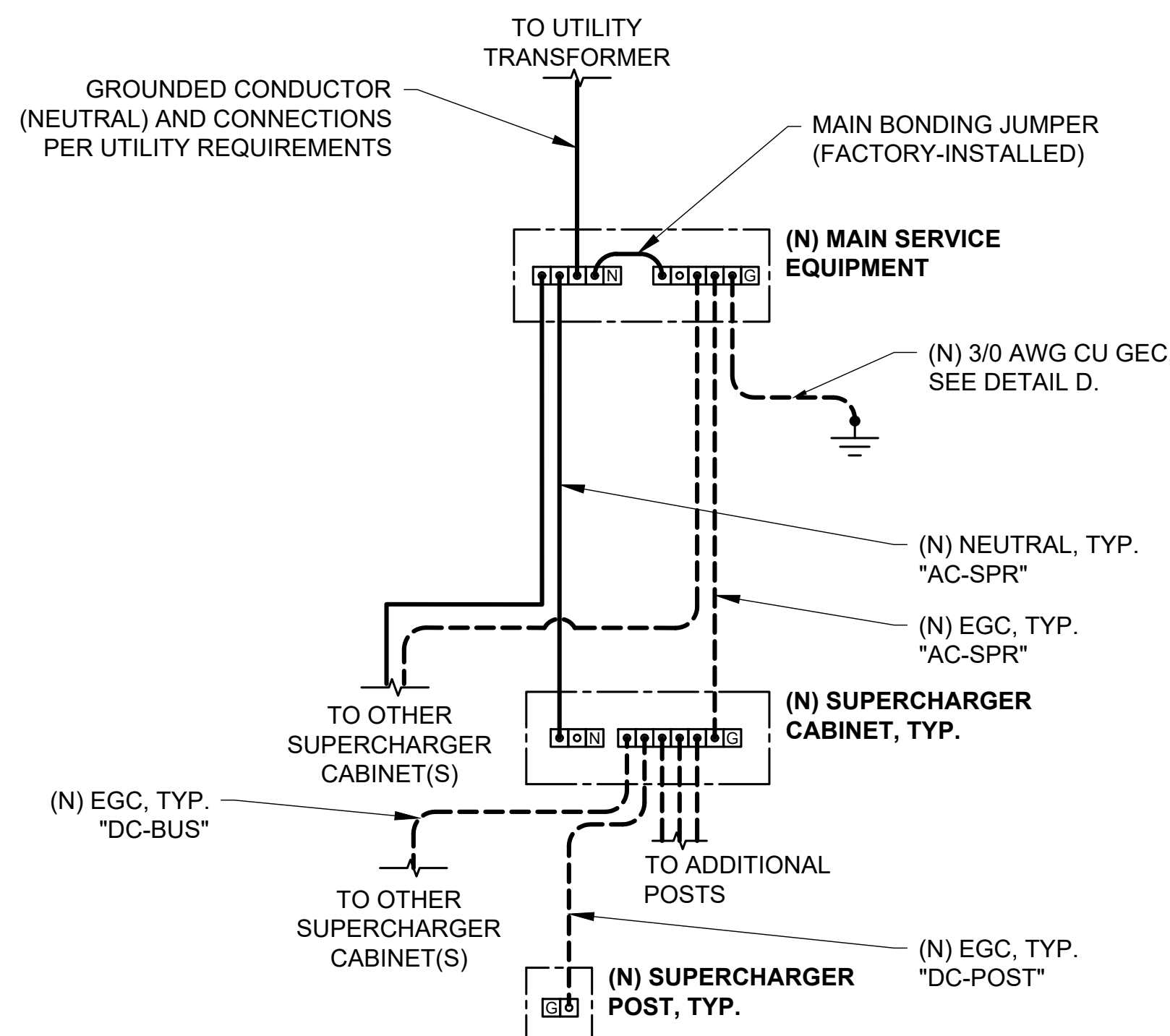
BREAKER SETTINGS - OPTION 1 "EATON MODEL MCB"

NOTES

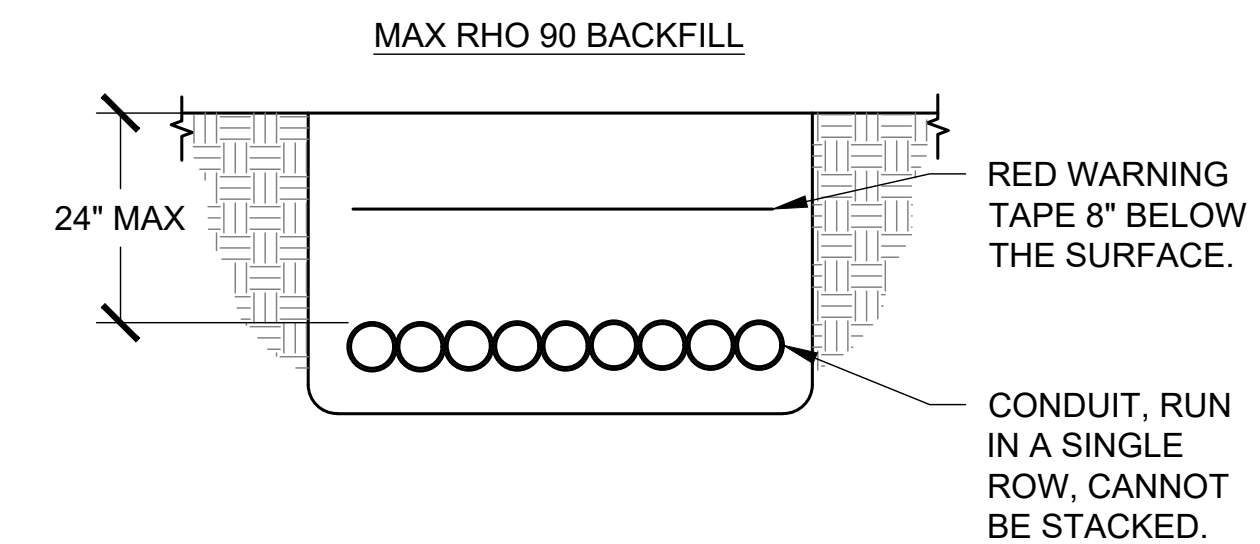
- REFER TO ONE-LINE DIAGRAM FOR SPECIFIC CIRCUIT IDENTIFIERS BETWEEN EQUIPMENT.
- REFER TO AC & DC CIRCUIT SCHEDULES FOR NEUTRAL/GROUND SIZING PER CIRCUIT.

LEGEND

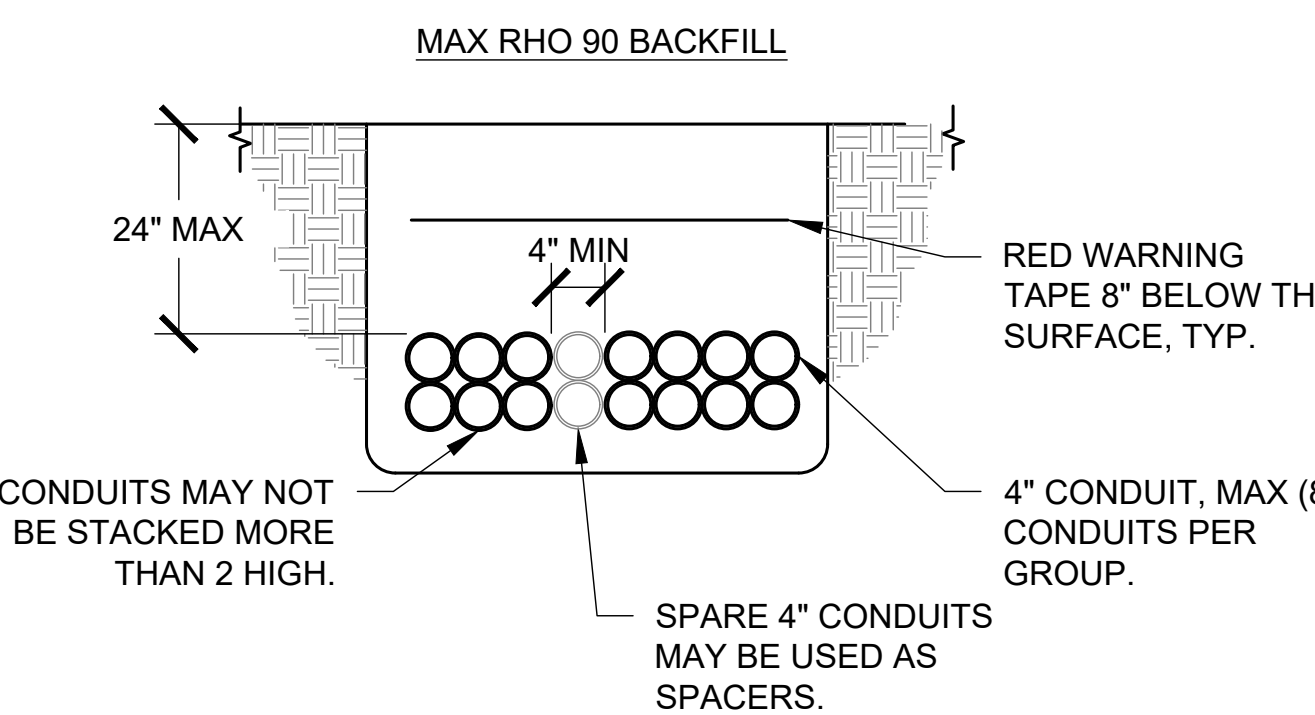
- ☐ NEUTRAL BUSBAR
- ☐ GROUND BUSBAR
- ☐ PRIMARY OR SECONDARY COMMON TERMINAL, AS APPLICABLE
- ☐ TERMINAL ON NEUTRAL OR GROUND BUSBAR
- IRREVERSIBLE SPLICE OR CRIMP PER NEC 250.64(C)
- ⚡ NEC 250.52(A)-COMPLIANT GROUNDING ELECTRODE



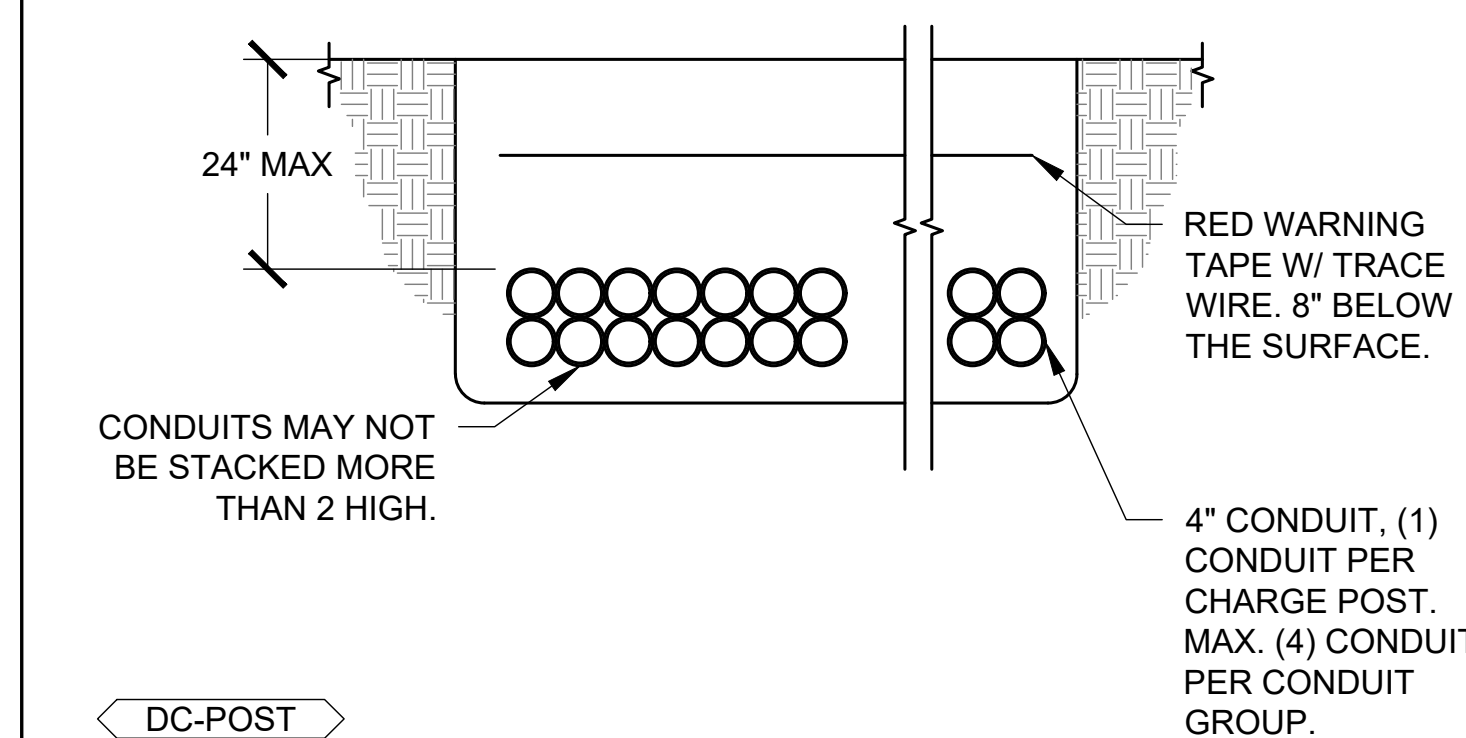
CONCRETE-ENCASED ELECTRODE FOR CAST-IN-PLACE PADS ONLY
ES01-100 REBAR UPPER GROUNDING DETAIL RA
 NTS



"DC-BUS" CIRCUITS TRENCH - MAX RHO 90
ES01-102 DC-BUS CIRCUITS TRENCH - MAX RHO 90 RA
 NTS

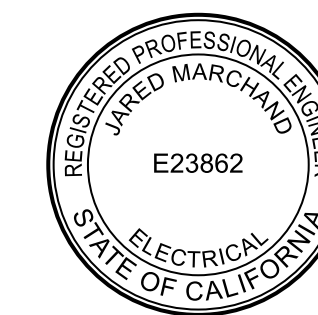


"AC-SPR" CIRCUIT TRENCH
ES01-103 SPR & CIRCUIT TRENCH - MAX RHO 90 RA
 NTS



"DC-POST" CIRCUIT TRENCH - MAX RHO 100
ES01-104 DC TRENCH - PAVEMENT TRAFFIC DETAIL RA
 NTS

GROUNDING DIAGRAM
ES01-1208 GROUNDING DIAGRAM RA



TESLA SUPERCHARGER_ENCINITAS, CA
 8 SUPERCHARGERS
 1302 ENCINITAS BLVD - SUITE EV,
 ENCINITAS, CA 92024, US

NO.	REVISION	DATE	AHJ COMMENTS
A		02/05/2023	
B		02/27/2023	

ELECTRICAL DETAILS
 E-501
 JB-92025611-00
 REV: B IFF

6

5

4

3

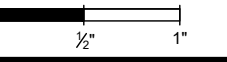
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1



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(650) 681-5000

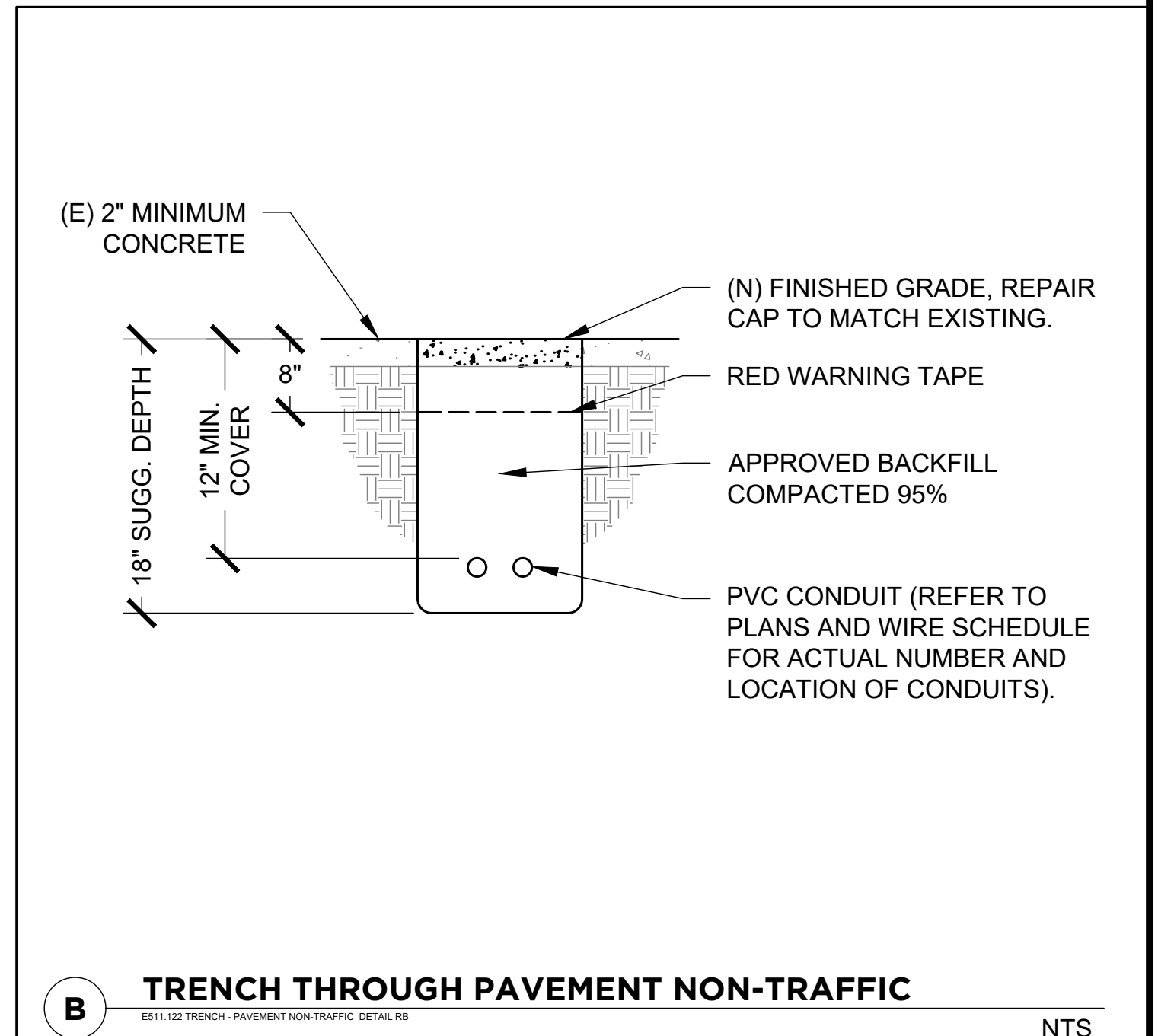
ORIGINAL SIZE 24"x36"
SHEET SIZE ARCH "D"



2/27/2023

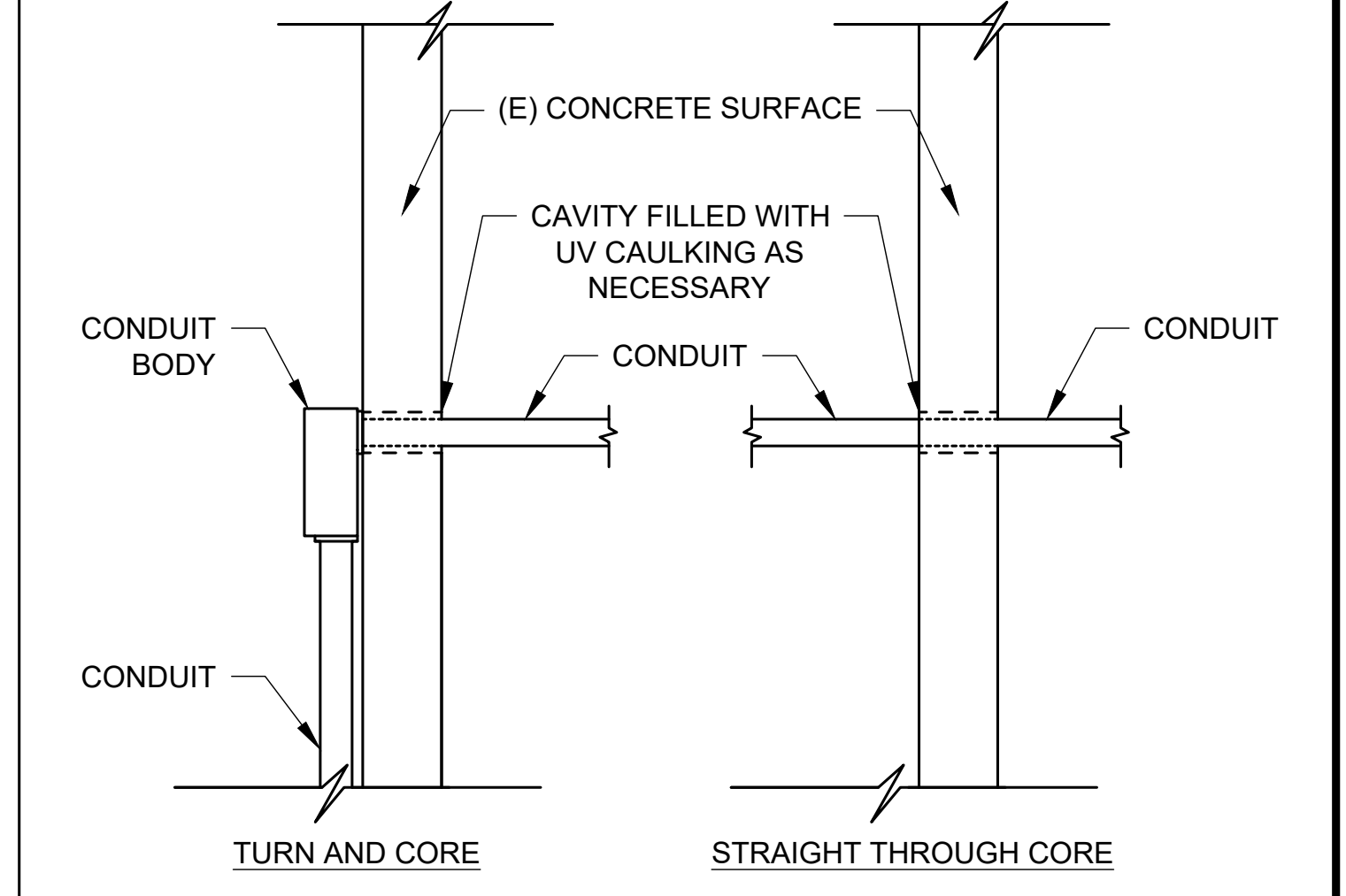
TESLA SUPERCHARGER_ENCINITAS, CA
8 SUPERCHARGERS

1302 ENCINITAS BLVD - SUITE EV,
ENCINITAS, CA 92024, US



B TRENCH THROUGH PAVEMENT NON-TRAFFIC
ES11 102 TRENCH - PAVEMENT NON-TRAFFIC DETAIL (R) NTS

NOTE: CONTRACTOR SHALL VERIFY POST TENSIONING LOCATION AND REINFORCEMENT LOCATION IN EXISTING CONCRETE SLAB/WALL PRIOR TO INSTALLATION OF CONDUIT CORES AND ENSURE PROPER CLEARANCE (REINFORCEMENT DIAMETER MINIMUM) BETWEEN ANCHORAGE SYSTEM AND EXISTING REINFORCEMENT IS ACHIEVED.



A CONDUIT THROUGH CONCRETE WALL / FLOOR DETAIL
ES11 102 CONDUIT THROUGH WALL WITH PULLBOX DETAIL (R) NTS

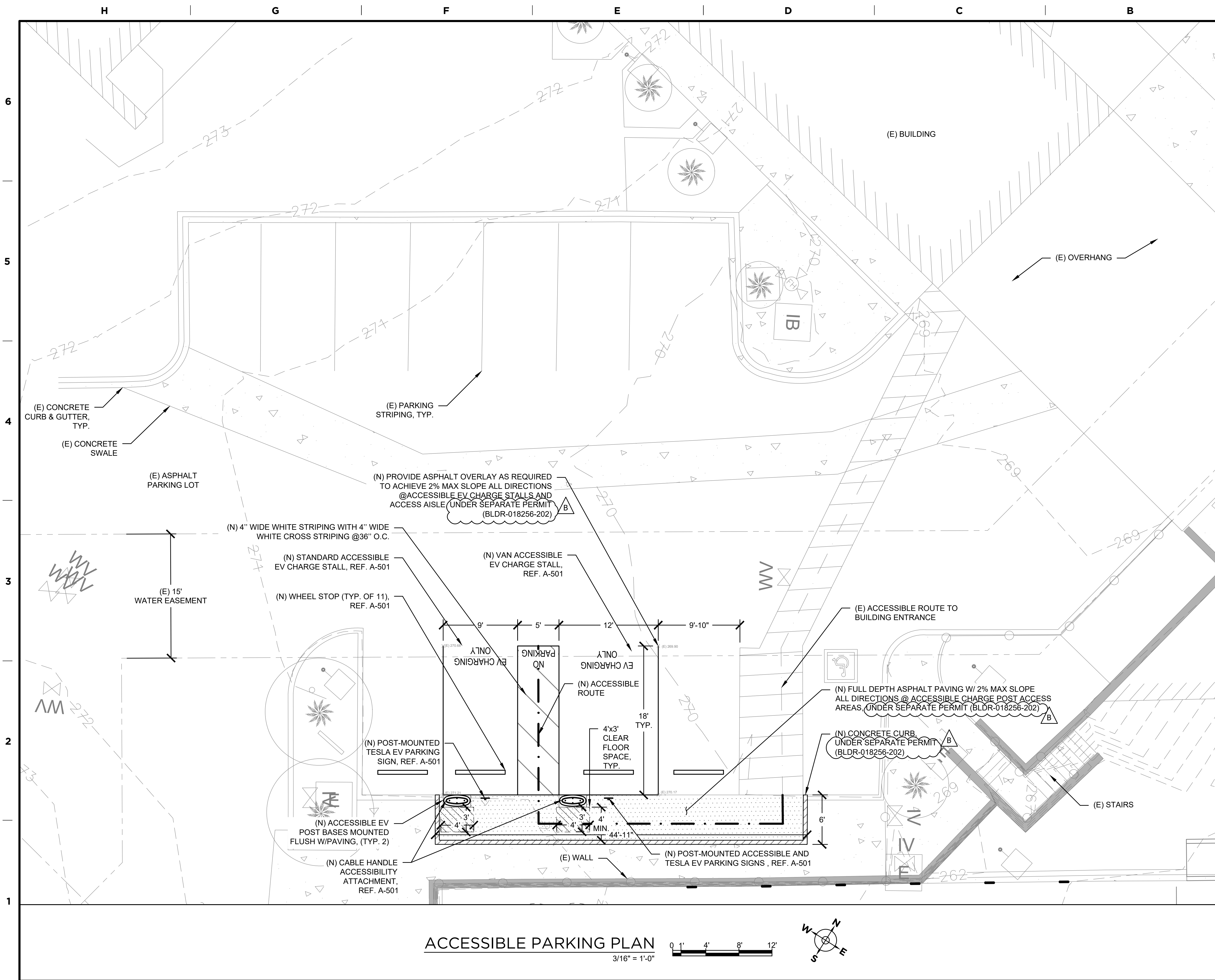
NO.	REVISION	DATE
A	AHJ COMMENTS	02/05/2023
B	AHJ COMMENTS	02/27/2023

ELECTRICAL
DETAILS

E-502

JB-92025611-00

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SITE LEGEND

- (N) SUPERCHARGER POST
- (N) SIGN
- (N) CONCRETE CURB
- (N) FULL DEPTH ASPHALT
- SPOT ELEVATION
- (E) XX.XX EXISTING ELEVATION

EV CHARGE STALL SCHEDULE

EV CHARGE STALLS PROPOSED	8		
ADA EV STALL TYPE	CAR	VAN	AMBULATORY
STALLS REQUIRED	1	1	0
STALLS PROPOSED	1	1	0

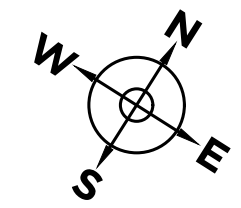
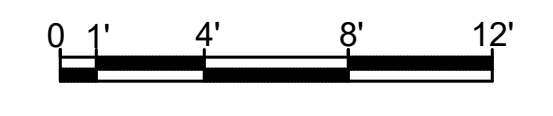
BASED ON CBC TABLE 11B-228.3.2.1

NOTES

CODE COMPLIANCE:
ALL WORK SHALL BE INSTALLED IN COMPLIANCE WITH CALIFORNIA BUILDING CODE. APPLICABLE CODE ARE AS STATED.

ACCESSIBLE STALLS
STANDARD: 11B-812.6.2
VAN: 11B-812.6.1
AMBULATORY: 11B-812.6.3
ACCESS AISLE: 11B-812.7
ACCESSIBLE ROUTE: 11B-812.5
ISA SIGNAGE: 11B-812.8
ADA SURFACE MARKINGS: 11B-812.9

ACCESSIBLE PARKING PLAN
3/16" = 1'-0"



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

ORIGINAL SIZE 24"x36"
SHEET SIZE ARCH "D"

TESLA SUPERCHARGER_ENCINITAS, CA
8 SUPERCHARGERS

1302 ENCINITAS BLVD - SUITE EV,
ENCINITAS, CA 92024, US

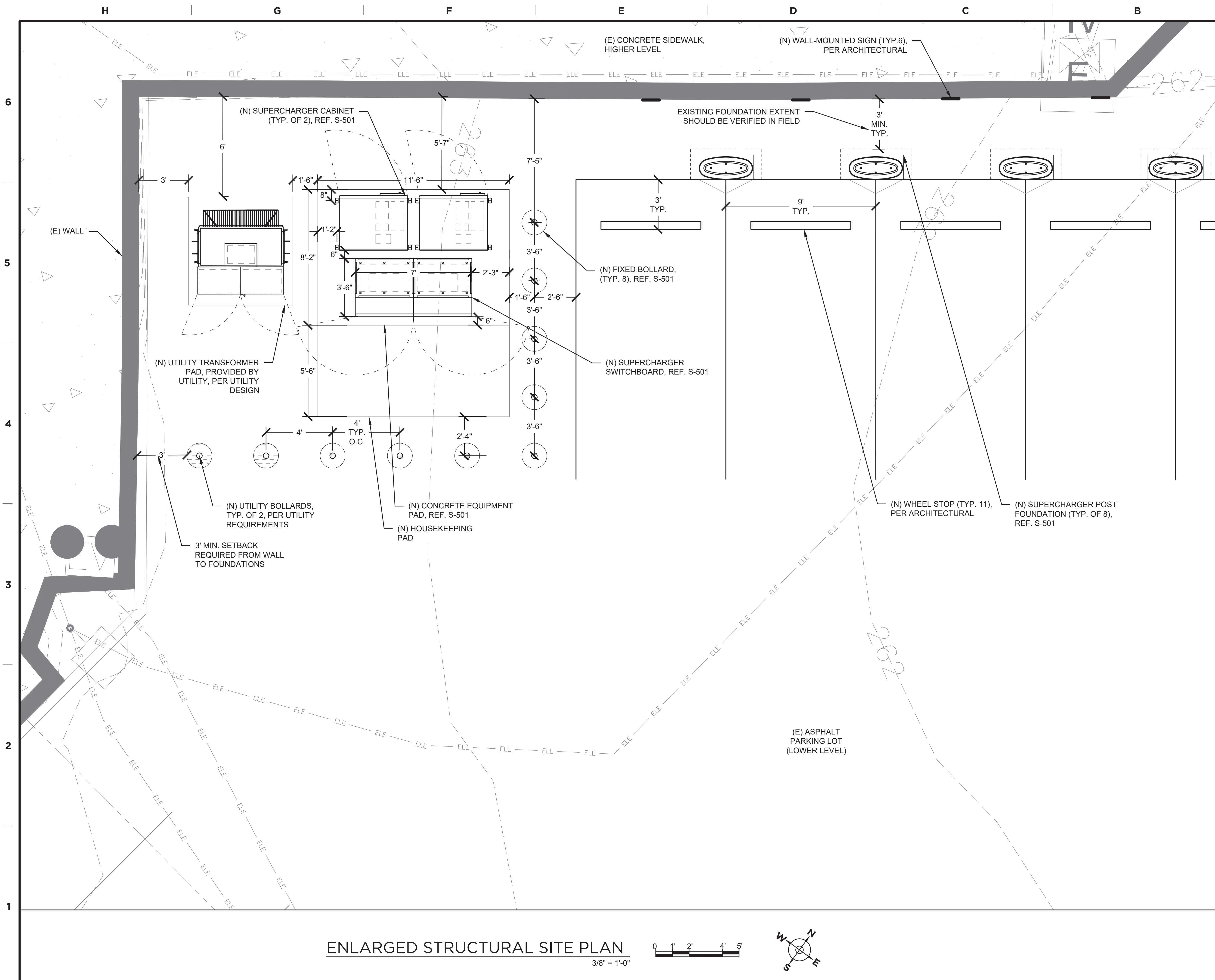
NO.	REVISION	DATE	AHJ COMMENTS
A		02/05/2023	
B		02/27/2023	

ACCESSIBLE PARKING PLAN

A-301

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SITE LEGEND

- (N) SUPERCHARGER POST
- (N) SIGN
- (N) FIXED BOLLARD
- (N) UTILITY BOLLARD

STRUCTURAL DESIGN CRITERIA:

- DESIGN CODE: 2022 CBC
- DESIGN CRITERIA:
- WIND DESIGN
 - DESIGN WIND SPEED = 96 MPH (ULTIMATE)
 - RISK CATEGORY = II
 - WIND EXPOSURE = C
 - SEISMIC DESIGN
 - RISK CATEGORY = II
 - SEISMIC IMPORTANCE FACTOR = 1.0
 - SITE CLASS = D
 - Ss = 1.091 / S1 = 0.391
 - Sds = 0.872 / Sd1 = 0.508
 - SEISMIC DESIGN CATEGORY = D
 - BASIC SEISMIC-FORCE-RESISTING SYSTEM = NON-STRUCTURAL COMPONENT
 - R = 2.5 / a_p = 1.0
 - GEOTECHNICAL INFORMATION
 - ALLOWABLE BEARING PRESSURE = 1,500 PSF USED FOR EQUIPMENT FOUNDATION
 - SNOW LOAD
 - GROUND SNOW LOAD = 0 PSF

NOTES:

- PAD EXTENTS AND FOOTING TO BE CONFIRMED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- SWITCHBOARD DIMENSIONS AND ANCHOR LOCATIONS ARE LIABLE TO CHANGE. CONTRACTOR TO VERIFY AGAINST VENDOR FINAL SHOP DRAWINGS.
- UTILITY EQUIPMENT/FOUNDATION DIMENSIONS AND LOCATIONS PER UTILITY. CONTRACTOR TO VERIFY AGAINST EXECUTED UTILITY DESIGN.
- UTILITY BOLLARDS PER UTILITY REQUIREMENTS. CONTRACTOR TO VERIFY AND COORDINATE WITH UTILITY ON LOCATION, QUANTITY, AND SPECS.

TESLA

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PALO ALTO, CA 94304
(650) 681-5000

ORIGINAL SIZE 24"x36"
SHEET SIZE ARCH "D"

Yoo Jin Kim
Digitally signed by Yoo Jin Kim
Date: 2023.02.02 15:52:01 -08'00'

TESLA SUPERCHARGER_ENCINITAS, CA
8 SUPERCHARGERS

1302 ENCINITAS BLVD - SUITE EV,
ENCINITAS, CA 92024, US

NO.	REVISION	DATE

ENLARGED SITE PLAN

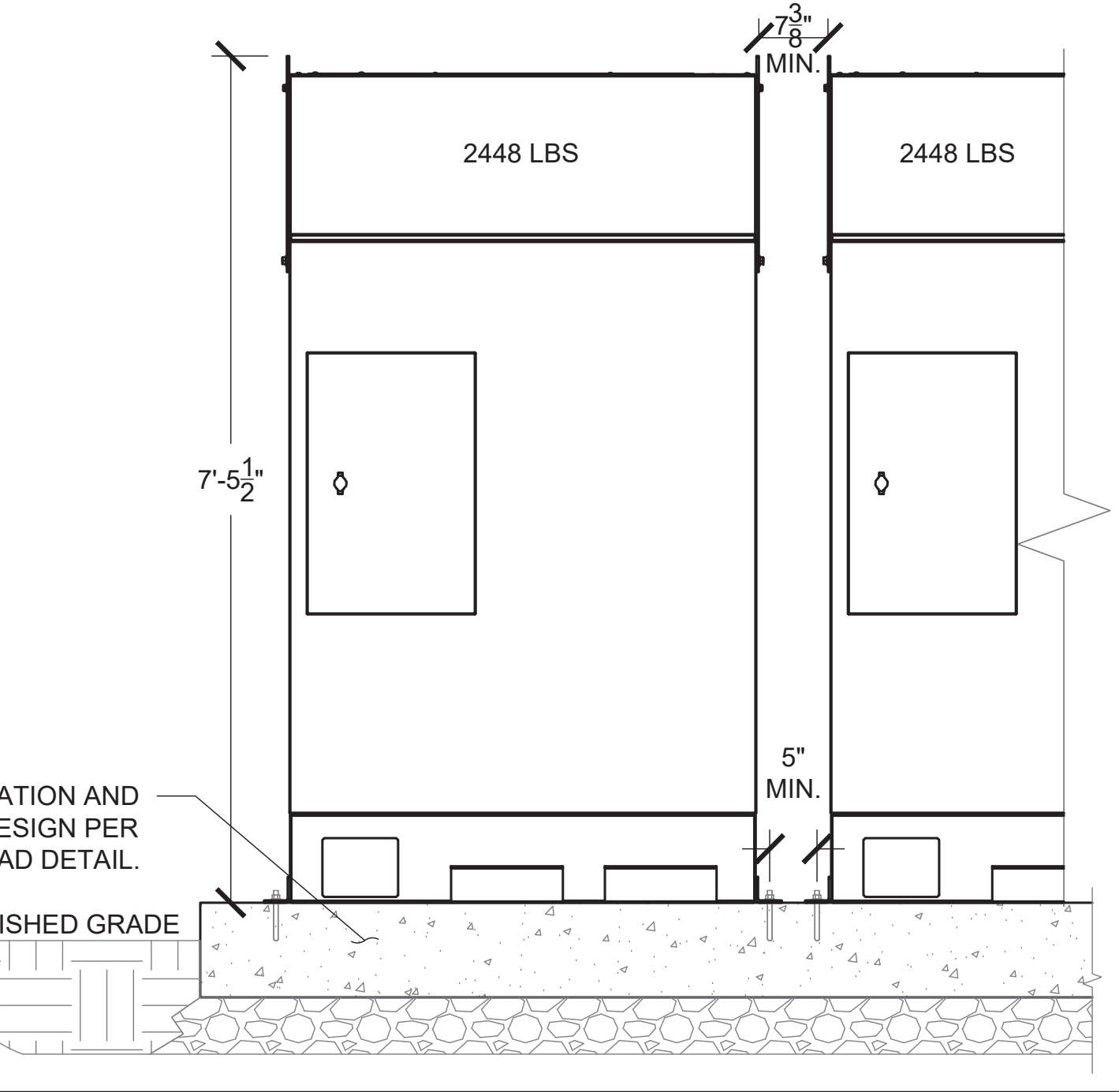
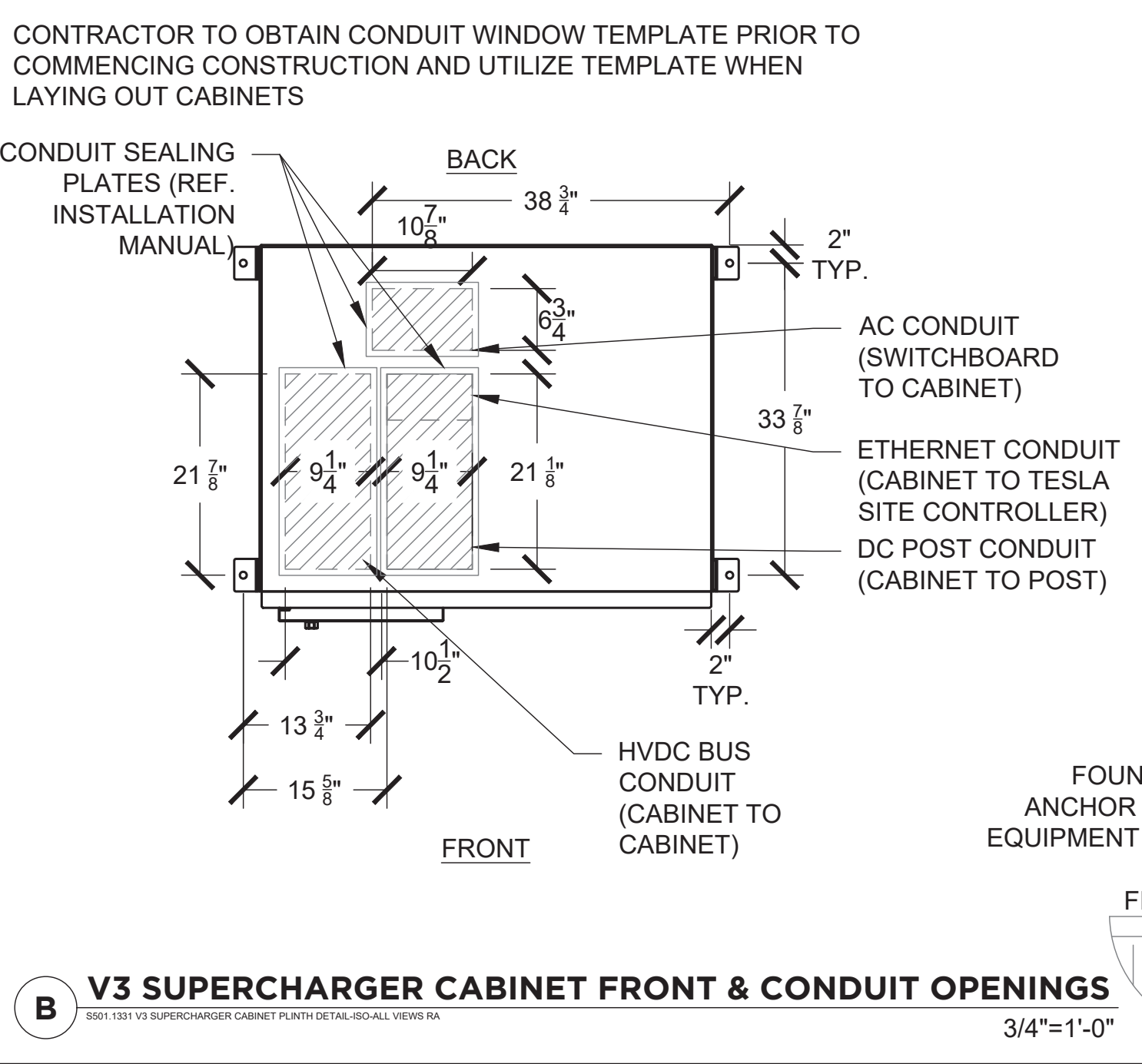
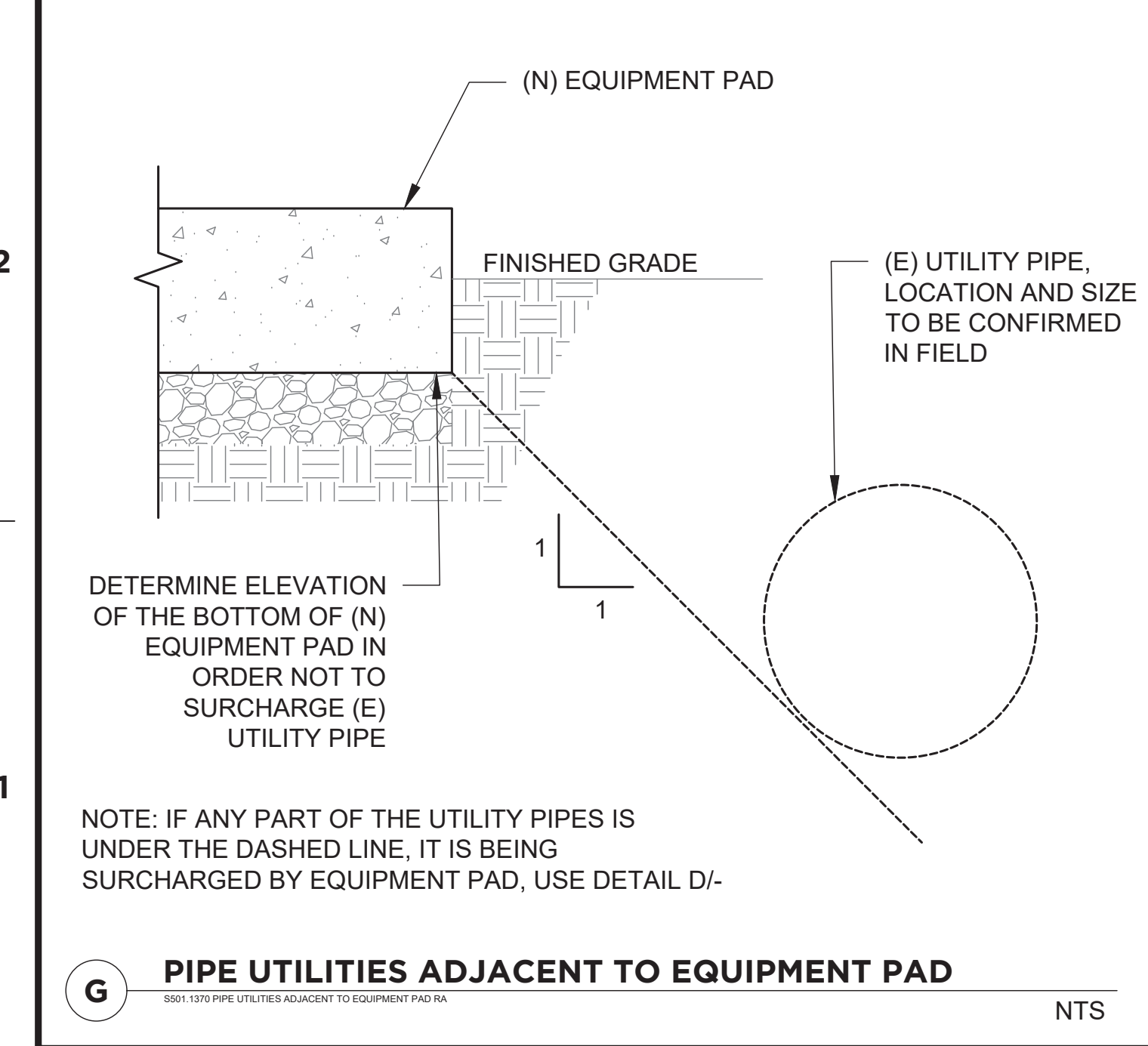
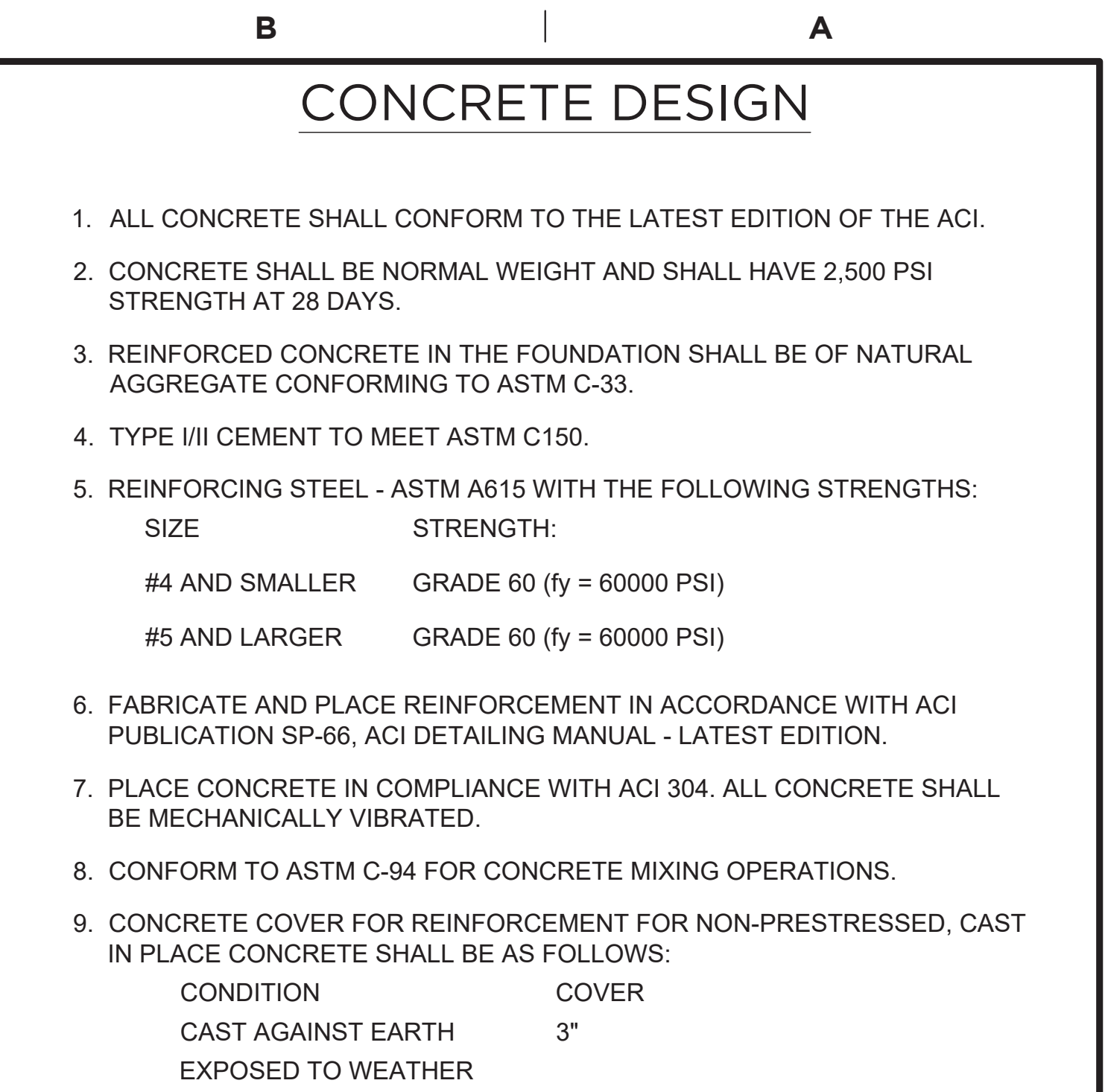
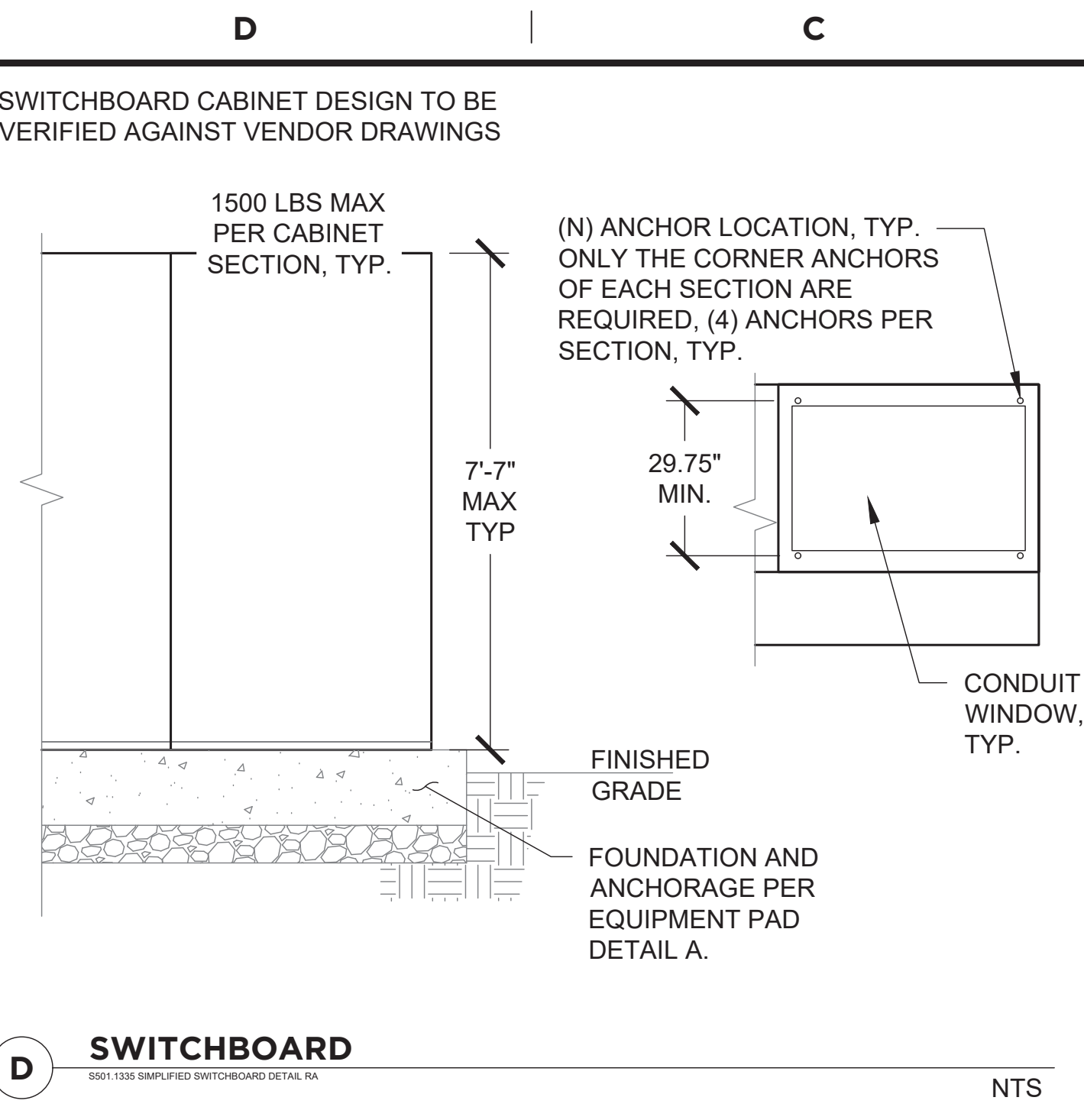
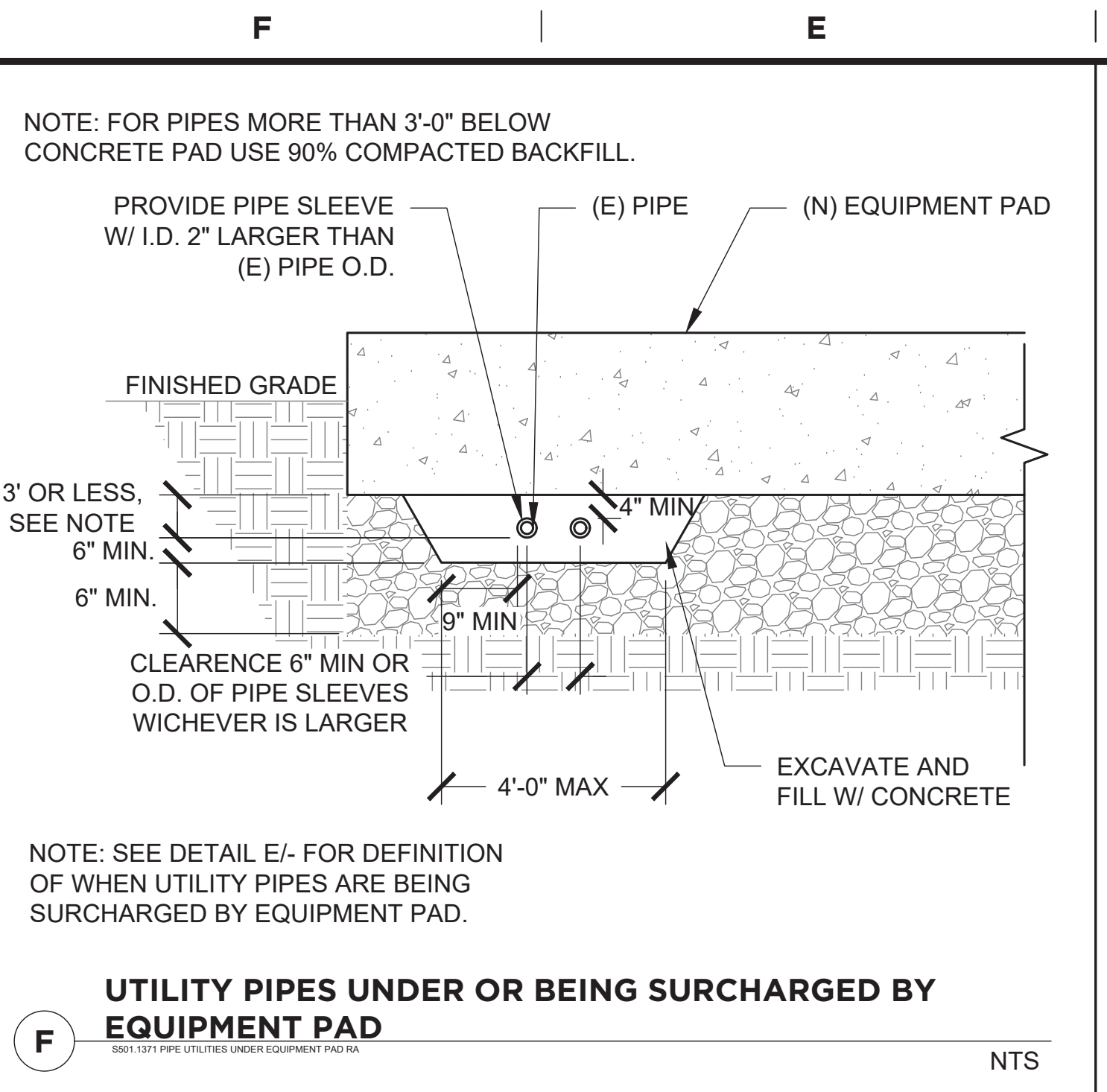
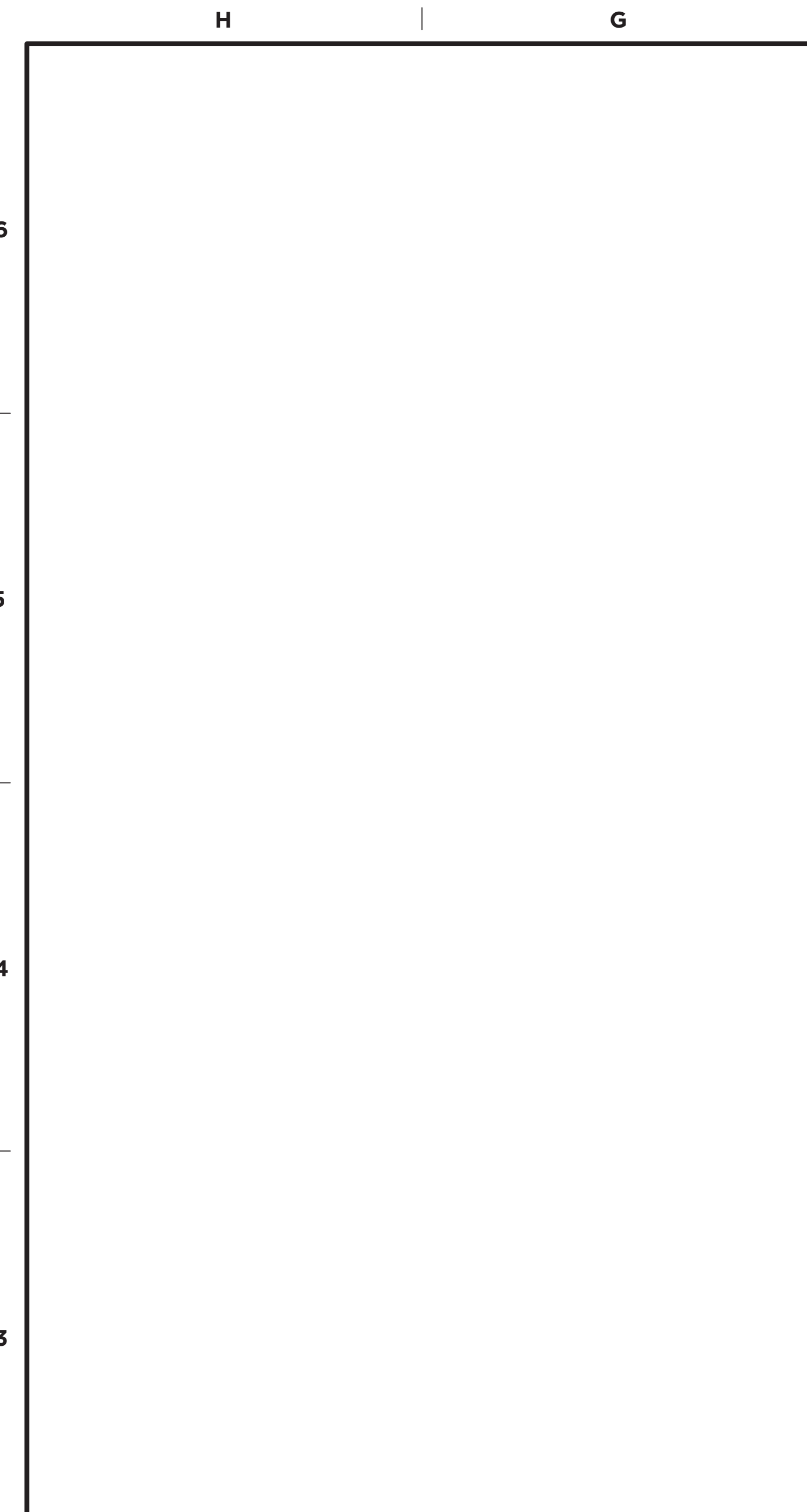
S-301

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ENLARGED STRUCTURAL SITE PLAN
3/8" = 1'-0"



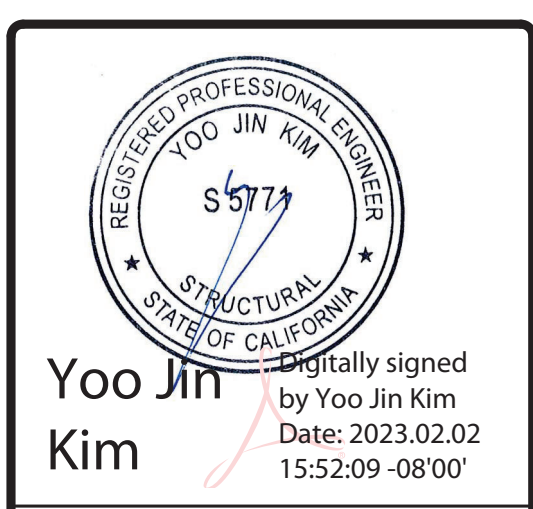


CONCRETE DESIGN

- ALL CONCRETE SHALL CONFORM TO THE LATEST EDITION OF THE ACI.
- CONCRETE SHALL BE NORMAL WEIGHT AND SHALL HAVE 2,500 PSI STRENGTH AT 28 DAYS.
- REINFORCED CONCRETE IN THE FOUNDATION SHALL BE OF NATURAL AGGREGATE CONFORMING TO ASTM C-33.
- TYPE I/II CEMENT TO MEET ASTM C150.
- REINFORCING STEEL - ASTM A615 WITH THE FOLLOWING STRENGTHS:

SIZE	STRENGTH:
#4 AND SMALLER	GRADE 60 (fy = 60000 PSI)
#5 AND LARGER	GRADE 60 (fy = 60000 PSI)
- FABRICATE AND PLACE REINFORCEMENT IN ACCORDANCE WITH ACI PUBLICATION SP-66, ACI DETAILING MANUAL - LATEST EDITION.
- PLACE CONCRETE IN COMPLIANCE WITH ACI 304. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
- CONFORM TO ASTM C-94 FOR CONCRETE MIXING OPERATIONS.
- CONCRETE COVER FOR REINFORCEMENT FOR NON-PRESTRESSED, CAST IN PLACE CONCRETE SHALL BE AS FOLLOWS:

CONDITION	COVER
CAST AGAINST EARTH	3"
EXPOSED TO WEATHER	
#5 AND SMALLER	1-1/2"
#6 AND LARGER	2"
SLAB-ON-GRADE	2"
- EMBEDS - ALL ITEMS TO BE CAST INTO CONCRETE SUCH AS REINFORCING DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC., SHALL BE SECURELY AND ACCURATELY POSITIONED INTO THE FORMS PRIOR TO PLACING THE CONCRETE.
- ALL CONCRETE EXPOSED TO THE WEATHER TO BE AIR ENTRAINED AND SHALL CONFORM TO ASTM C-260.
- PROVIDE CONTINUOUS REINFORCING BARS UNLESS WHERE SPLICES ARE SPECIFICALLY SHOWN ON THE DRAWINGS.
- CALCIUM CHLORIDE ADMIXTURES OR ADMIXTURES CONTAINING CHLORIDE SALTS SHALL NOT BE ADDED TO THE CONCRETE.



TESLA SUPERCHARGER_ENCINITAS, CA
8 SUPERCHARGERS
1302 ENCINITAS BLVD - SUITE EV,
ENCINITAS, CA 92024, US

NO.	REVISION	DATE

STRUCTURAL DETAILS
S-501
JB-92025611-00
REV: A IFF

