

**HMC ARCHITECTS**  
**2495 Natomas Park Drive, Studio 100**  
**Sacramento, California 95833**

January 15, 2021

SCUSD – Transportation Electric Bus Infrastructure  
Sacramento City Unified School District  
HMC # 3186062.000

**ADDENDUM NO. 2**

The following changes, additions, deletions or corrections shall become a part of the Contract Documents for the project named above and all other conditions shall remain the same. The bidders shall be responsible for transmitting this information to all affected subcontractors and suppliers prior to the closing of bids. Acknowledge receipt of this Addendum in spaces provided on the Bid Form. Failure to acknowledge will subject Bidder to disqualification.

**From the Base Bid separate the cost for the below items as Additive Alternates:**

**Additive Alternate #1:** Provide (6) six Clipper Creek CS Series charging stations including pedestals and concrete pads, connect to distribution panel.

**Additive Alternate #2:** Provide (3) three new Clipper Creek CS Series charging stations to existing pedestals and connect to existing electrical service. Provide pedestals and concrete pad if new charging stations are not compatible with existing pedestals.

**Additive Alternate #3:** Provide new pedestal and concrete pad with connection to distribution panel. Charging station to be OFOI.

**DRAWINGS**

Item No. AD-2.1:                      Reference Revised Drawings

A.     The following revised drawings are hereby issued:

A1.11, Site Plan  
E0.1, Symbols, Legends, Abbreviations, Notes  
E1.1, Electrical Site Plan  
E2.1, One Line Diagram & Load Calculations  
E3.1, Details

B.     The following documents are hereby issued FOR REFERENCE ONLY:

SMUD Commitment Sketch, dated 11/2/2020  
SMUD Commitment Letter, dated 11/2/2020  
SMUD Conveyance Letter, dated 11/2/2020

**PRODUCT DATA**

Item No. AD-2.2:

Product Data Sheets


A. The following product data sheets are hereby issued:

Clipper Creek CS-100 – Public Charging Station

Clipper Creek HCS-80 – Existing OFOI for Add. Alt #3 (FOR REFERENCE ONLY)

**HMC ARCHITECTS**

By



\_\_\_\_\_

(Signature of Architect of Record or Alternate)

DOCUMENT 00 41 13  
**BID FORM AND PROPOSAL**

Sacramento City Unified School District ("District" or "Owner")

From: \_\_\_\_\_  
(Proper Name of Bidder)

**ACKNOWLEDGEMENT OF GENERAL CONDITIONS**

The General Conditions and definitions therein are accessible on the SCUSD website at [www.scusd.edu/construction-projects](http://www.scusd.edu/construction-projects) and in the Bid Documents folder in e-Builder and are an integral part of the Contract Documents. The Contractor shall not disclaim knowledge of the meaning and effect of any term or provision of these General Conditions, and Supplemental Conditions, if any, and agrees to strictly abide by their meaning and intent. In the event the Contractor fails to initial this acknowledgement, the District shall have the right to reject the Bid.

CONTRACTOR'S INITIALS: \_\_\_\_\_

The undersigned declares that the Contract Documents including, without limitation, the Notice to Bidders and the Instructions to Bidders have been read and agrees and proposes to furnish all necessary labor, materials, tools, transportation, services and equipment to perform and furnish all work in accordance with the terms and conditions of the Contract Documents, including, without limitation, the Drawings and Specifications of Bid No. 0844-439

**PROJECT: TRANSPORTATION ELECTRIC BUS INFRASTRUCTURE**

and will accept in full payment for that Work the following total lump sum amount, all taxes included. **The basis of determining the lowest responsible, responsive bidder will be based upon the stated value of the TOTAL BID.**

A. _____	Dollars	\$ _____
<b>BASE BID</b>		
B. _____	Dollars	\$ _____
<b>10% OWNER'S CONTINGENCY</b>		
C. _____	Dollars	\$ _____
<b>TOTAL BID</b>		

**Additive Alternates:**

**Alternate #1**

_____	Dollars	\$ _____
Additive		
<b>PROVIDE (6) SIX CLIPPER CREEK CS SERIES CHARGING STATIONS INCLUDING PEDESTALS AND CONCRETE PADS, CONNECT TO DISTRIBUTION PANEL</b>		

**Alternate #2**

_____ Dollars	\$ _____
Additive	
<b>PROVIDE (3) THREE NEW CLIPPER CREEK CS SERIES CHARGING STATIONS TO EXISTING PEDESTALS AND CONNECT TO EXISTING ELECTRICAL SERVICE. PROVIDE PEDESTALS AND CONCRETE PAD IF NEW CHARGING STATIONS ARE NOT COMPATIBLE WITH EXISTING PEDESTALS</b>	

**Alternate #3**

_____ Dollars	\$ _____
Additive	
<b>PROVIDE NEW PEDESTAL AND CONCRETE PAD WITH CONNECTION TO DISTRIBUTION PANEL. CHARGING STATION TO BE OFOI.</b>	

Descriptions of alternates are primarily scope definitions and do not necessarily detail the full range of materials and processes needed to complete the construction.

**1. BID SUBMISSION**

**Bids must be submitted electronically in E-Builder.**

**2. ALLOWANCE**

The above allowance shall only be allocated for items relating to the Work. Contractor shall not bill for or be due any portion of this allowance unless the District has identified specific work, Contractor has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has prepared a change order incorporating that work. Contractor hereby authorizes the District to execute a unilateral deductive change order at or near the end of the Project for all or any portion of the allowance not allocated.

**3. REVIEW OF WORK IN CONTRACT DOCUMENTS**

The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.

**4. DISCREPANCIES AND OMISSIONS**

The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Architect before bid date to verify the issuance of any clarifying Addenda.

**5. WORK COMMENCEMENT AND COMPLETION**

The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.

6. **LIQUIDATED DAMAGES**

The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.

7. **DISTRICT BID RIGHTS**

It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.

8. **DOCUMENTS TO BE ATTACHED**

The following documents are attached hereto and hereby attests that all required provisions of said forms will be strictly adhered to:

- Bid Bond on the District's form or other security.
- Designated Subcontractors List.
- All other forms listed in the instructions to bidders

9. **ACCEPTANCE OF ADDENDA**

Acceptance of the following addenda is hereby acknowledged:

No. _____, Dated _____	No. _____, Dated _____	No. _____, Dated _____
------------------------	------------------------	------------------------

10. **REQUIRED LICENSE**

Bidder acknowledges that the license required for performance of the Work is an **A or B** license.

11. **LABOR HARMONY**

The undersigned hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

12. **BIDDER COMPETENCY**

The Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.

13. **BIDDER RISKS**

Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.

14. **FALSE CLAIMS**

Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Cal. Gov. Code, §12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.

15. **BIDDER CERTIFICATION**

The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.

Furthermore, Bidder hereby certifies to the District that all representations, certifications, and statements made by Bidder, as set forth in this bid form, are true and correct and are made under penalty of perjury.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_

Name of Bidder \_\_\_\_\_

Type of Organization \_\_\_\_\_

Signed by \_\_\_\_\_

Name and Title of Signer \_\_\_\_\_

Address of Bidder \_\_\_\_\_

Taxpayer's Identification No. of Bidder \_\_\_\_\_

Telephone Number \_\_\_\_\_

Fax Number \_\_\_\_\_

E-mail \_\_\_\_\_ Web page \_\_\_\_\_

Contractor's License No(s): No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Public Works Contractor Registration No.: \_\_\_\_\_

If Bidder is a corporation, affix corporate seal.

Name of Corporation: \_\_\_\_\_

President: \_\_\_\_\_

Secretary: \_\_\_\_\_

Treasurer: \_\_\_\_\_

Manager: \_\_\_\_\_

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN FEET AND INCHES. DIMENSIONS SHOWN ARE TO FACE UNLESS OTHERWISE NOTED.

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 02-118473 INC.  
REVIEWED FOR:  
SS  FLS  ACS   
DATE: 08/20/2020

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT  
7050 SAN JOAQUIN STREET  
SACRAMENTO, CA 95820

HMC Architects  
3186062-000  
2405 NATOMAS PARK DRIVE, STUDIO 100  
SACRAMENTO, CA 95833  
916 325 1100 / www.hmcarchitects.com



**ISSUE**

DESCRIPTION	DATE
ADDENDUM NO. 2	1/15/2021

**KEYNOTES**  
NO. NOTE - DETAIL

**LEGEND**

	APPROXIMATE AREA OF WORK. REFER TO DRAWINGS FOR WORK WHICH MAY EXTEND BEYOND THIS APPROXIMATE LINE OF WORK. PATCH, REPAIR, REPLANT ANY DISTURBED AREAS TO MATCH EXISTING CONDITION
	VEHICLE DIRECTION ARROW
	FUTURE CHARGING STATION
	PROPERTY LINE
	PATH OF TRAVEL TO PUBLIC WAY
	ACCESSIBLE ROUTE PATH OF TRAVEL
	ASPHALT CONCRETE PAVING
	LANDSCAPE - REFERENCE LANDSCAPE DRAWINGS
	CONCRETE WALKWAYS/PAVING
	FIRE LANE

- NOTES:**
- REFER TO SHEET G0.11 SERIES FOR TYPICAL SYMBOLS AND ABBREVIATIONS.
  - REFER TO ELECTRICAL DRAWINGS FOR UTILITY INFORMATION.
  - CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OF WORK LINE FOR CONNECTION OF UNDERGROUND UTILITIES.
  - NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING DEMOLITION WORK HAVE BEEN APPROVED BY DSA.

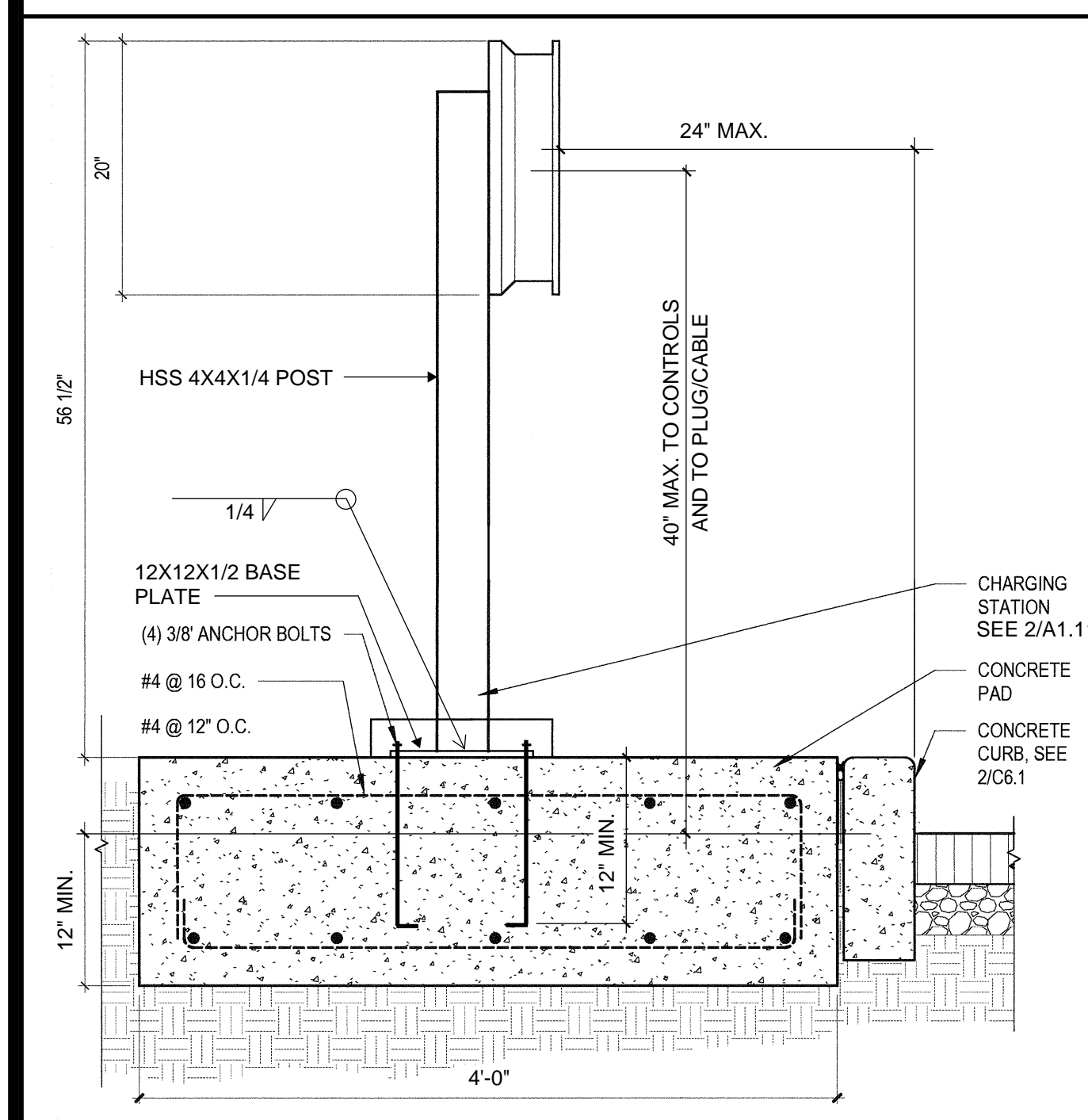
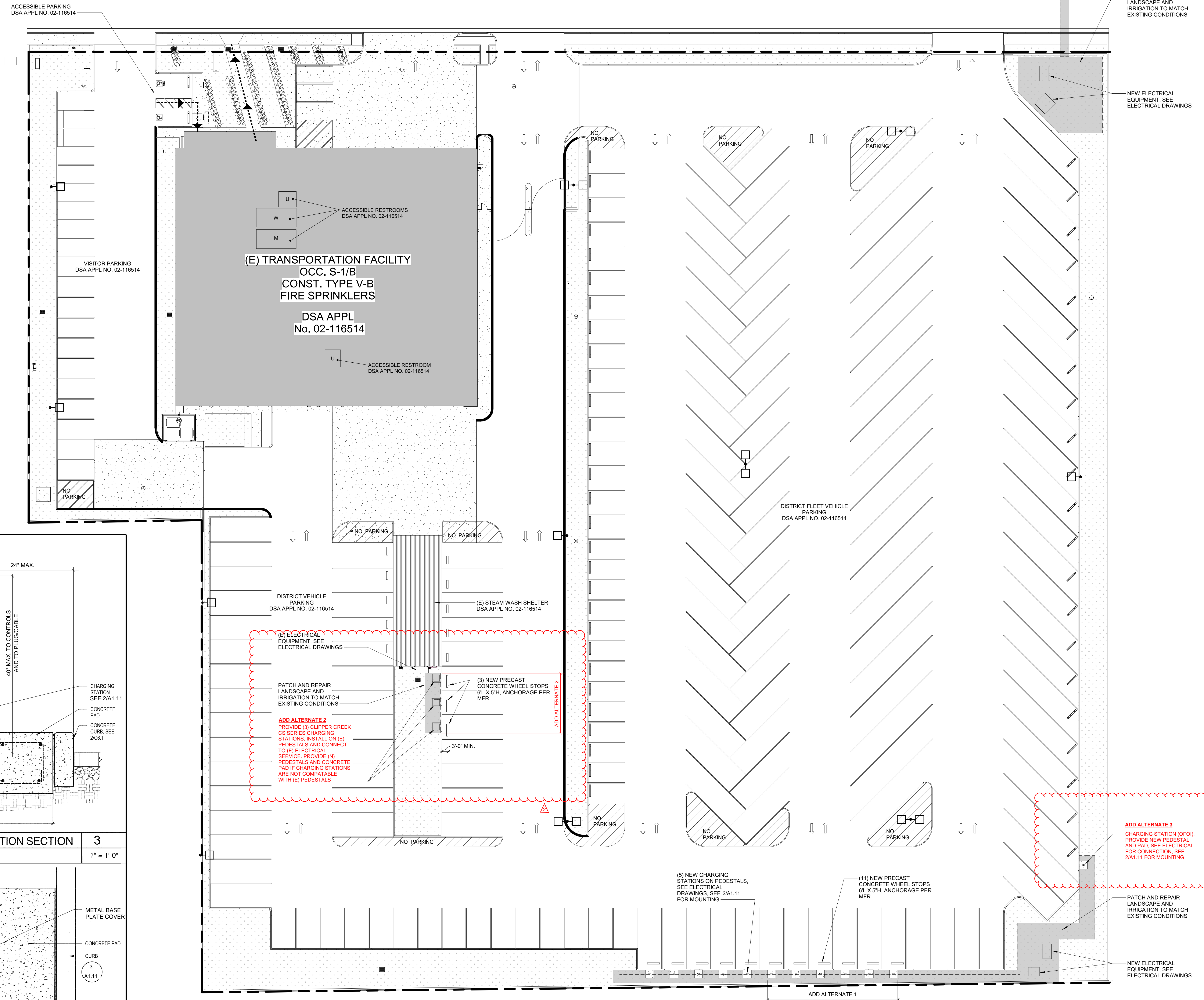
FACILITY:  
**7050 SAN JOAQUIN STREET  
SACRAMENTO, CA 95820**

PROJECT:  
**TRANSPORTATION ELECTRIC BUS INFRASTRUCTURE**

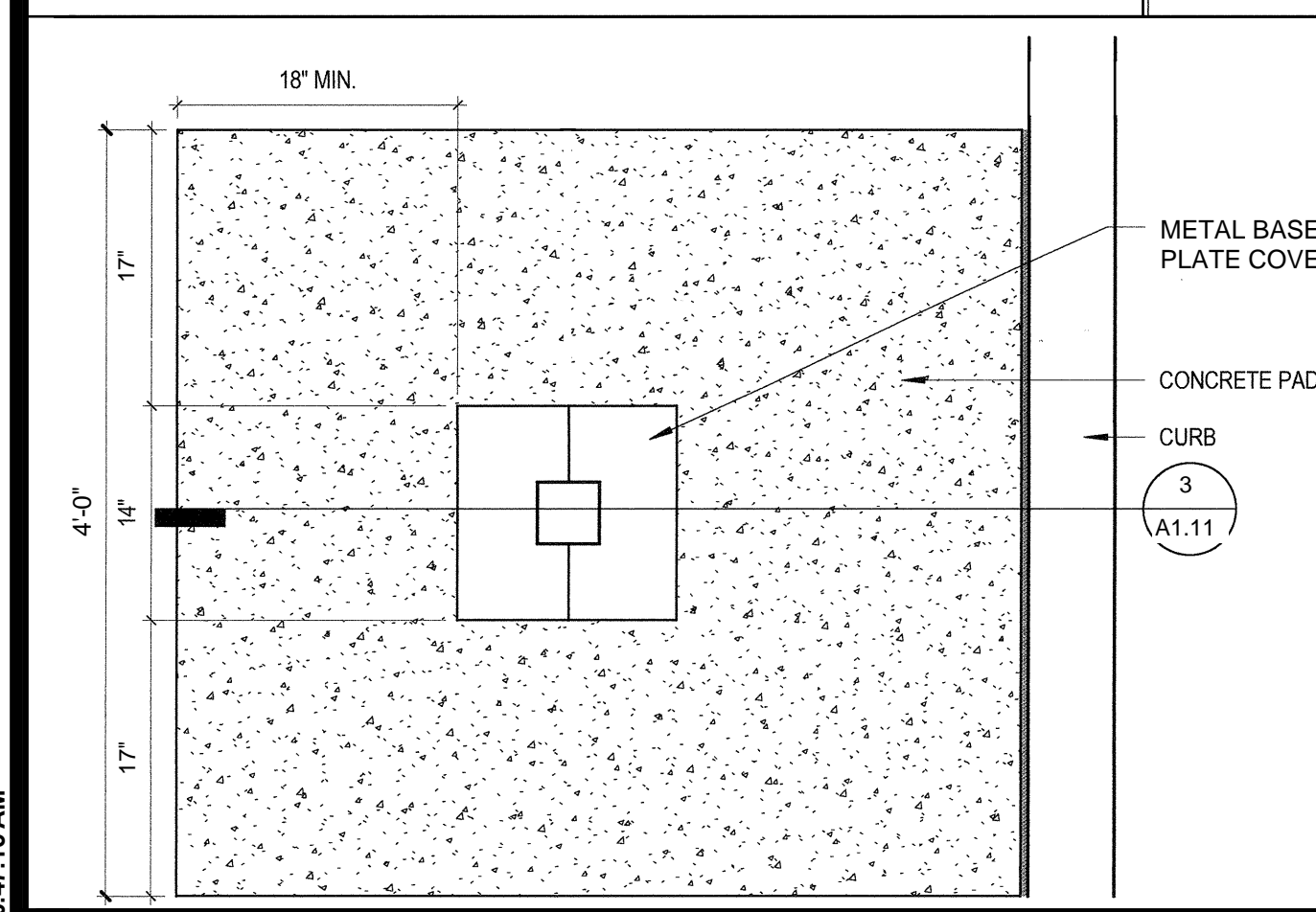
SHEET NAME:  
**SITE PLAN**

**CONSTRUCTION DOCUMENTS**  
FILE NO.: - A NO.: 02-118473  
DATE: 07/22/2020 CLIENT PROJ NO:  
SHEET:

**A1.11**  
ADDENDUM NO. 2



EV CHARGING STATION SECTION 3  
1" = 1'-0"



EV CHARGING STATION PLAN 2  
1" = 1'-0"

**PROJECT SITE PLAN 1**  
1" = 20'-0"

PLEASE RECYCLE

**EQUIPMENT ANCHORAGE NOTES**

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER, "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

**PIPING AND DUCTWORK DISTRIBUTION SYSTEM BRACING NOTES**

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHDP OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP MD PP E OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHDP PRE-APPROVAL (OPM#) #0043-13.

**GENERAL NOTES**

ALL GENERAL NOTES SHOWN BELOW ARE NOT NECESSARILY USED ON PLANS IF NOT REQUIRED.

- THESE GENERAL NOTES ARE INTENDED TO ASSIST THE CONTRACTOR IN THE EXECUTION OF THE ELECTRICAL WORK AND TO BE INCLUDED IN CONJUNCTION WITH THE CONTRACT DOCUMENT DRAWINGS AND SPECIFICATION REQUIREMENTS. SOME OF THE GENERAL NOTES ARE EXCEPTS FROM THE SPECIFICATION.
- PROCURE PERMITS AND LICENSES REQUIRED. PAY ALL NECESSARY FEES AND ARRANGE FOR INSPECTIONS REQUIRED BY LOCAL CODES, ORDINANCES, AND UTILITY COMPANIES.
- COORDINATE ALL ELECTRICAL SERVICES WITH THE RESPECTIVE UTILITY COMPANIES AND PROVIDE ALL TRENCHING, CONDUITS, WIRING, METER FACILITIES AND OUTLETS REQUIRED BY THEM.
- WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY. DEFECTIVE EQUIPMENT OR EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING WITH THE ACCEPTANCE OF THE ARCHITECT.
- INSTALL ALL EQUIPMENT, CONDUITS, PAD, PULL BOX IN STRICT ACCORDANCE WITH THE CURRENT EDITION OF ALL APPLICABLE CODES (CEC, STATE, COUNTY, AND CITY).
- DO NOT SCALE PLANS FOR EQUIPMENT LOCATIONS. USE FIGURED DIMENSIONS IF GIVEN OR CHECK DISTRICT PERSON IN CHARGE. ALSO REFER TO ACTUAL ON-SITE CONDITIONS.
- ALL MATERIAL AND EQUIPMENT IS TO BE LISTED AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND CEC 110.3.
- ALL ELECTRICAL DEVICES, EQUIPMENT, CONDUITS, AND WIRING SHOWN ON THESE PLANS ARE NEW, UNLESS OTHERWISE NOTED.
- THE FINAL LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED WITH THE ARCHITECT AND/OR DISTRICT AT TIME OF CONSTRUCTION.
- ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL BE WEATHER-PROTECTED.
- ALL CONDUIT SHALL BE ROUTED CONCEALED UNLESS NOTED ON PLAN OR ACCEPTED BY THE ARCHITECT.
- ALL WIRING SHALL BE INSTALLED IN RIGID METALLIC CONDUIT, UNLESS OTHERWISE NOTED. USE PVC INSTALLED UNDERGROUND AND/OR UNDER SLAB. ALL EXPOSED CONDUITS SHALL BE RIGID STEEL CONDUITS WITH THREADED TYPE FITTINGS. INSTALL ALL CONDUITS IN ACCORDANCE WITH CEC STANDARDS OF INSTALLATION.
- ELECTRICAL NON-METALLIC TUBING (ENT) AND MC CABLE ARE NOT PERMITTED TO BE USED FOR THIS PROJECT, UNLESS ALLOWED PRIOR TO BID.
- CONDUCTORS, #8 AND LARGER, SHALL BE STRANDED COPPER WITH THHN/THWN INSULATION, UNLESS OTHERWISE NOTED.
- PROVIDE WORKING CLEARANCE PER CEC 110.2.6 FOR SERVICE SWITCHBOARD, DISTRIBUTION PANEL, TRANSFORMERS, DISCONNECT SWITCHES, CHARGERS, ETC.
- PROVIDE A WARNING LABEL (SIGN) CLEARLY VISIBLE TO QUALIFIED PERSONS TO COMPLY WITH NEC AND CEC 110.16 OF POTENTIAL ELECTRIC ARC FLASH HAZARDS AT SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS AND MOTOR CONTROL CENTERS THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED. SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT PER CEC SECTION 110.24(A).
- MAIN SWITCHBOARDS, DISTRIBUTION SWITCHBOARDS AND CHARGERS TO COMPLY WITH CEC 110.9 AND 110.10 INTERRUPTING RATING AND BRACING, PROVIDE A.I.C. CALCULATIONS FOR SUBPANELS IF INTERRUPTING RATING TO BE USED IS LOWER THAN MAIN SERVICE RATING.
- CONTRACTOR SHALL SIZE ALL EXTERIOR PULL BOXES AND UNDERGROUND PULL BOXES PER CEC 314.16 AND COMPLY WITH CEC 314.28 FOR INSTALLATION OF RACEWAYS AND WIRING AS REQUIRED BY CODE, UNLESS OTHERWISE NOTED.
- WHERE ACCESSIBILITY IS NOT AVAILABLE TO EXISTING OUTLETS, DEVICES AND/OR EQUIPMENT, COORDINATE WITH THE ARCHITECT FOR PROVISIONS TO PROVIDE ACCESSIBILITY TO THEM.
- ALL TERMINATION PROVISIONS OF EQUIPMENT, INCLUDING CIRCUITS RATED 100 AMPERES OR LESS, SHALL BE RATED AT 60 DEGREE, CENTIGRADE PER CEC 110.14(c).
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL BRANCH CIRCUITS LENGTH WITH BRANCH CIRCUIT WIRING TABLE LOCATED ON THIS SHEET AND ADJUST WIRE SIZES PER THE TABLE BASED ON DISTANCES TO ACCOUNT FOR A VOLTAGE DROP.
- ENERGY SHALL NOT BE ALLOWED TO BE BACK FED THROUGH FROM THE CHARGING SYSTEM TO THE UTILITY SERVICE SYSTEM.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AIC LABELING ON ALL ELECTRICAL DISTRIBUTION SYSTEM.
- PERSONNEL PROTECTION SYSTEM. THE EQUIPMENT SHALL HAVE A LISTED SYSTEM OF PROTECTION AGAINST ELECTRIC SHOCK OF PERSONNEL PER CEC 625.22.

**ELECTRICAL SYMBOL LEGEND**

ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARILY USED ON PLANS IF NOT REQUIRED.

SYMBOL	DESCRIPTION
	MAIN SWITCHBOARD OR DISTRIBUTION PANEL AS NOTED
	RECESSED MOUNTED LIGHTING OR DISTRIBUTION PANEL
	SURFACE MOUNTED LIGHTING OR DISTRIBUTION PANEL
	RECESSED TERMINAL CABINET w/ 3/4" C. PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UNO.
	SURFACE MOUNTED TERMINAL CABINET w/ 3/4" C. PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UNO.
	DISTRIBUTION TRANSFORMER, MOUNTING AND SIZE AS NOTED
	NON-FUSED DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH; SIZE DISCONNECT AND FUSES PER UNIT LABEL
	POWER CONNECTION
	DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP, +44" TO TOP FOR FORWARD REACH, AND +46" TO TOP FOR SIDE REACH, PER CEC 119-308.
	ISOLATED GROUND DUPLEX RECEPTACLE, 20A, 120V @ +16" TO BOTTOM OF BOX, UNO.
	DEDICATED DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	GFI DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO.
	PANEL IDENTIFICATION
	CIRCUIT BREAKER
	GROUND
	UNDERGROUND TERMINATION SERVICE LUG
	UTILITY METER
	UTILITY METER WITH C.T. COMPARTMENT METER SOCKET
	TRANSFORMER WITH GROUND
	USER GROUND
	BOND TO COLD WATER PIPE, GAS PIPE, BUILDING STEEL
	NEUTRAL LINK
	JUNCTION BOX - SIZE AS REQUIRED BY CODE.
	MECHANICAL EQUIPMENT I.D. TAG-MFAS
	CIRCUIT CONCEALED IN CEILING OR WALL W/ (2) #12 THWN/THHN AND #12 CU EQUIPMENT GROUND, UNO.
	CIRCUIT CONCEALED IN FLOOR OR UNDERGROUND W/ (2) #12 THWN/THHN AND #12 CU EQUIPMENT GROUND, UNO.
	HOMERUN TO PANELBOARD OR TERMINAL CABINET W/ CONDUCTORS AS NOTED
	ISOLATED GROUND WIRE IN ADDITION TO EQUIPMENT GROUND WIRE.
	DENOTES # OF #12 WIRES, NO MARKS = 2 #12, 12°C. CURVED HATCH DENOTES GROUND WIRE, OTHERS AS NOTED
	FLEXIBLE CONDUIT, 6'-0" LONG MAX, W/ #12 CU GROUND, UNO.
	CONDUIT RISER - UP
	CONDUIT DROP - DOWN
	KEY NOTE SHOWN ON SAME SHEET
	DETAIL DESIGNATION TOP LETTER INDICATES DETAIL, BOTTOM LETTER/NUMBER INDICATES SHEET

**ELECTRICAL ABBREVIATIONS**

SYMBOL	DESCRIPTIONS
A/AMP	AMPERES
AC	ALTERNATING CURRENT
AF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
C	CONDUIT
CCT	CIRCUIT
CKT	CIRCUIT
DC	DIRECT CURRENT
(E)	EXISTING TO REMAIN
EC	EMPTY CONDUIT
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND/G	GROUND
HP	HORSEPOWER
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
KVA	KILOVOLT-AMPS
KW	KILOWATTS
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
N	NEUTRAL CONDUCTOR (GROUNDED CIRCUIT CONDUCTOR)
N.I.E.S.	NOT IN ELECTRICAL SCOPE OR SPECIFICATIONS
NL	NIGHT LIGHT
PH/P	PHASE OR POLE
PNL	PANELBOARD
PVC	POLYVINYL CHLORIDE CONDUIT (SCHEDULE 40)
(R)	RELOCATE/RELOCATED
RECP	RECEPTACLE
RGSC	RIGID GALVANIZED STEEL CONDUIT
U	UNSWITCHED
UNO	UNLESS NOTED OTHERWISE
V	VOLTAGE OR VOLTS
W	WATTS
WP	WEATHERPROOF
WPU	WEATHERPROOF WHILE IN USE
(X)	REMOVE
XFMR	TRANSFORMER

**UNDERGROUND TRENCHING NOTES**

- UNDERGROUND TRENCHING:
- EXTREME CAUTION WHEN DIGGING TO AVOID BURIED ELECTRICAL CABLES. CALL UNDERGROUND SERVICE ALERT (U.S.A.) 800-277-2600, 48 HOURS BEFORE DIGGING.
  - BEFORE START OF ANY UNDERGROUND TRENCHING FOR CONDUIT RUNS, THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH ALL PLANS OF OTHER TRADES (ARCHITECTURAL, CIVIL, LANDSCAPE), AND SITE CONDITIONS TO AVOID CONFLICT.
  - TRENCHING AND BACKFILLING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, COORDINATE WITH CIVIL, LANDSCAPE, AND ARCHITECTURAL SITE PLAN PRIOR TO THE TRENCHING, ETC. AND THE INSTALLATION OF THE ELECTRICAL SYSTEM.
  - ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC, UL LISTED FOR DIRECT BURIAL, AND TERMINATED WITH FACTORY END BELL FITTINGS. ALL ELBOWS, BENDS AND TURNS TRANSITIONING TO GRADE SHALL BE INSTALLED USING PER MANUFACTURED 40-MIL PVC COATED GALVANIZED STEEL ELBOWS AND OFFSETS.
  - ALL UNDERGROUND SERVICE CONDUITS SHALL BE SEALED TO COMPLY WITH CEC 230.8.
  - PROVIDE 24" MINIMUM COVERAGE FOR UNDERGROUND CONDUITS, UNLESS OTHERWISE NOTED. THE EXCEPTION IS FOR PG&E SERVICE CONDUITS WHICH SHALL HAVE A 36" MINIMUM BURIAL DEPTH AND BE INSTALLED WITH A RED OXIDE CONCRETE CAP. MAINTAIN 12" MINIMUM SEPARATION BETWEEN THE POWER AND LOW VOLTAGE SYSTEM UNDERGROUND CONDUITS. TRENCHES SHALL ALL BE INSTALLED WITH A RED POLYETHYLENE WARNING RIBBON LABELED "ELECTRICAL", LOCATED 8" BELOW GRADE IN THE TRENCH.
  - UNDERGROUND TRACER WHERE NON-METAL CONDUITS ARE INSTALLED.
  - PROVIDE PARTEX IDENTIFICATION TAGS TO IDENTIFY UNDERGROUND CIRCUITS.
  - ALL UNDERGROUND SPLICES SHALL BE MADE WATERPROOF BY PROVIDING WITH "SPlice-KOTE" SPLICE KITS OR OTHER ACCEPTED METHODS. ALL FUSEHOLDERS SHALL BE WATERIGHT.
  - ALL UNDERGROUND RACEWAYS SHALL BE PROVIDED WITH A #8 AWG MINIMUM SIZE COPPER EQUIPMENT GROUNDING CONDUCTOR, WHETHER SHOWN ON PLAN OR NOT, UNLESS OTHERWISE NOTED.
  - THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT TO REPAIR AND REPLACE ANY AND ALL DAMAGES TO EXISTING PCC WALKS, AC PAVING, UTILITIES, TREES, TURF, PLANTED AREAS, AND OTHER FACILITIES RESULTING FROM THIS PROJECT. WHEN CUTTING OR TRENCHING THROUGH EXISTING CONCRETE SIDEWALKS, DRIVEWAYS, AND WALKWAYS, THE CONTRACTOR SHALL BE REQUIRED TO COMPLETELY REPLACE ENTIRE SECTIONS OF CONCRETE PANELS FROM SCOREMARK TO SCOREMARK AFFECTED BY THE CONSTRUCTION WORK. ALL SIDEWALKS, DRIVEWAYS, AND WALKWAYS SHALL BE REPLACED TO MATCH ADJACENT CONDITION AND AS DIRECTED BY THE ARCHITECT.

**ELECTRICAL SHEET INDEX**

SHEET NO.	SHEET TITLE
E0.1	SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES
E1.1	ELECTRICAL SITE PLAN
E2.1	ONE LINE DIAGRAM & LOAD CALCULATIONS
E3.1	ELECTRICAL DETAILS
E4.1	ELECTRICAL SPECIFICATIONS
E4.2	ELECTRICAL SPECIFICATIONS
E4.3	ELECTRICAL SPECIFICATIONS

**DISTRIBUTION SWITCHBOARD "DEV"**

**Available Fault Current Calculation**

Utility Fault Current: 8,890 amperes kVA = 300 E = 208 trans. FLA = 833

$I = \frac{kVA \times 1000}{E \times 1.732} = \text{trans. FLA}$

$I_{sc} = \frac{\text{trans. FLA} \times 100 \times PF}{\text{transformer Z}}$

PF = 90% Z = 3.65%  $I_{sc} = 25,350$  amperes

Point to Point Method: Length (distance) = 10 feet L = 10  $I_{sc} = 8,896$

$f' \text{ factor} = \frac{1.732 \times L \times I}{N \times C \times E \times L-N}$

Phase conductor constant: C = 26,706 Volt Line to Line E-L-N = 208 Volt

Neutral conductor constant: C = 0,009 Volt Line to Neutral E-L-N = 120 Volt

Multiplier:  $M = \frac{1}{1+f}$

Fault Current at Service Equipment:  $I_{sc} \times M = 8,816$  amperes

Fault Current from DEV to Disconnect Switch:  $I_{sc} \times M = 8,673$  amperes

**MAIN SWITCHBOARD "MSEV"**

**Available Fault Current Calculation**

Utility Fault Current: 15,100 amperes kVA = 500 E = 480 trans. FLA = 601

$I = \frac{kVA \times 1000}{E \times 1.732} = \text{trans. FLA}$

$I_{sc} = \frac{\text{trans. FLA} \times 100 \times PF}{\text{transformer Z}}$

PF = 90% Z = 4.00%  $I_{sc} = 16,706$  amperes

Point to Point Method: Length (distance) = 18 feet L = 18  $I_{sc} = 15,100$

$f' \text{ factor} = \frac{1.732 \times L \times I}{N \times C \times E \times L-N}$

Phase conductor constant: C = 22,737 Volt Line to Line E-L-N = 480 Volt

Neutral conductor constant: C = 0,022 Volt Line to Neutral E-L-N = 277 Volt

Multiplier:  $M = \frac{1}{1+f}$

Fault Current at Service Equipment:  $I_{sc} \times M = 14,781$  amperes

Fault Current from MSEV to TEV:  $I_{sc} \times M = 14,298$  amperes

**DISTRIBUTION SWITCHBOARD "DEV"**

**Single Phase Feeder**

Length (distance) = 40 feet L = 40  $I_{sc} = 8,816$  Phase = 8,673 Neutral

$f' \text{ factor} = \frac{2 \times L \times I}{N \times C \times E \times L-N}$

Phase conductor constant: C = 7,493 Volt Line to Line E-L-N = 208 Volt

Neutral conductor constant: C = 0,453 Volt Line to Neutral E-L-N = 120 Volt

Multiplier:  $M = \frac{1}{1+f}$

$I_{sc} \times M = 6,070$  amperes

$I_{sc} \times M = 4,895$  amperes

**MAIN SWITCHBOARD "MSEV"**

**Three Phase Feeder**

Length (distance) = 461 feet L = 461  $I_{sc} = 14,781$  Phase = 14,298 Neutral

$f' \text{ factor} = \frac{1.732 \times L \times I}{N \times C \times E \times L-N}$

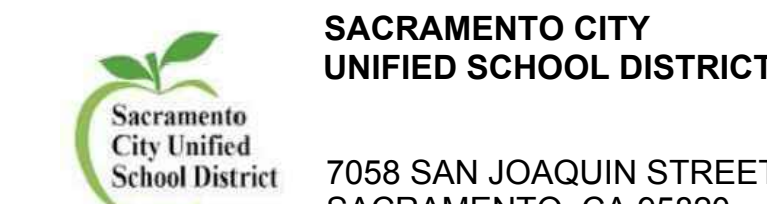
Phase conductor constant: C = 18,994 Volt Line to Line E-L-N = 480 Volt

Neutral conductor constant: C = 0,661 Volt Line to Neutral E-L-N = 277 Volt

Multiplier:  $M = \frac{1}{1+f}$

$I_{sc} \times M = 8,898$  amperes

$I_{sc} \times M = 6,782$  amperes



ISSUE	DATE
DESCRIPTION	
ADDENDUM 02	1/15/2021

2405 NATOMAS PARK DRIVE, STUDIO 100 SACRAMENTO, CA 95833 916 325 1100 / www.hmcarchitects.com

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES

FILE NO.: XX-XX A NO.: XX-XXXXX

DATE: 07/14/2020 CLIENT PROJ NO:

SHEET:

FACILITY:

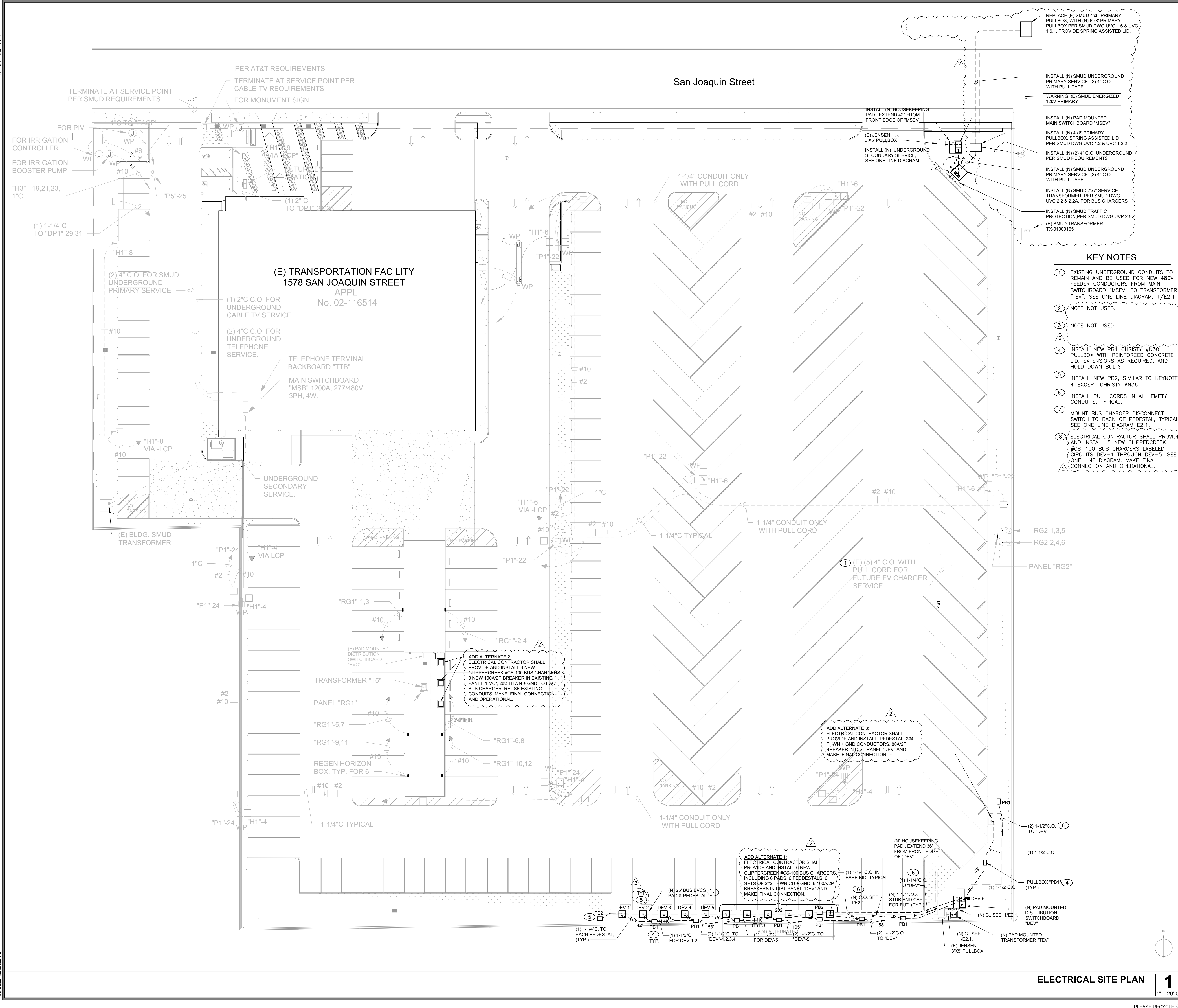
7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

PROJECT: ELECTRIC BUS CHARGING STATIONS

SHEET NAME: SYMBOLS, LEGENDS, ABBREVIATIONS, NOTES



DATE PLOTTED: 07/14/2020 12:33:22 PM



San Joaquin Street

(E) TRANSPORTATION FACILITY  
1578 SAN JOAQUIN STREET  
APPL  
No. 02-116514

KEY NOTES

- 1 EXISTING UNDERGROUND CONDUITS TO REMAIN AND BE USED FOR NEW 480V FEEDER CONDUCTORS FROM MAIN SWITCHBOARD "MSEV" TO TRANSFORMER "TEV". SEE ONE LINE DIAGRAM, 1/E2.1.
- 2 NOTE NOT USED.
- 3 NOTE NOT USED.
- 4 INSTALL NEW PB1 CHRISTY #N30 PULLBOX WITH REINFORCED CONCRETE LID, EXTENSIONS AS REQUIRED, AND HOLD DOWN BOLTS.
- 5 INSTALL NEW PB2, SIMILAR TO KEYNOTE 4 EXCEPT CHRISTY #N36.
- 6 INSTALL PULL CORDS IN ALL EMPTY CONDUITS, TYPICAL.
- 7 MOUNT BUS CHARGER DISCONNECT SWITCH TO BACK OF PEDESTAL, TYPICAL. SEE ONE LINE DIAGRAM E2.1.
- 8 ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL 5 NEW CLIPPERCREEK #CS-100 BUS CHARGERS LABELED CIRCUITS DEV-1 THROUGH DEV-5. SEE ONE LINE DIAGRAM. MAKE FINAL CONNECTION AND OPERATIONAL.

SACRAMENTO CITY  
UNIFIED SCHOOL DISTRICT

7058 SAN JOAQUIN STREET  
SACRAMENTO, CA 95820

HMC Architects

3186062-000

2405 NATOMAS PARK DRIVE, STUDIO 100  
SACRAMENTO, CA 95833  
916 325 1100 / www.hmcarchitects.com

ISSUE	DESCRIPTION	DATE
1	ADDENDUM 02	1/15/2021

MEP & FS / Sustainability / C&A

**LP CONSULTING ENGINEERS**

1209 Pleasant Grove Blvd.  
Roseville, CA 95678  
p 916-771-0978  
www.lpeengineers.com  
Job #: 19-2274

**ALEX K. SAREY**  
No. 18211  
Exp. 12/31/21  
REGISTERED PROFESSIONAL ENGINEER  
ELECTRICAL  
STATE OF CALIFORNIA

FACILITY:  
7058 SAN JOAQUIN STREET  
SACRAMENTO, CA 95820

PROJECT:  
ELECTRIC BUS CHARGING STATIONS

SHEET NAME:  
ELECTRICAL SITE PLAN

FILE NO.: XX-XX A NO.: XX-XXXXXX

DATE: 07/14/2020 CLIENT PROJ NO.:

SHEET:

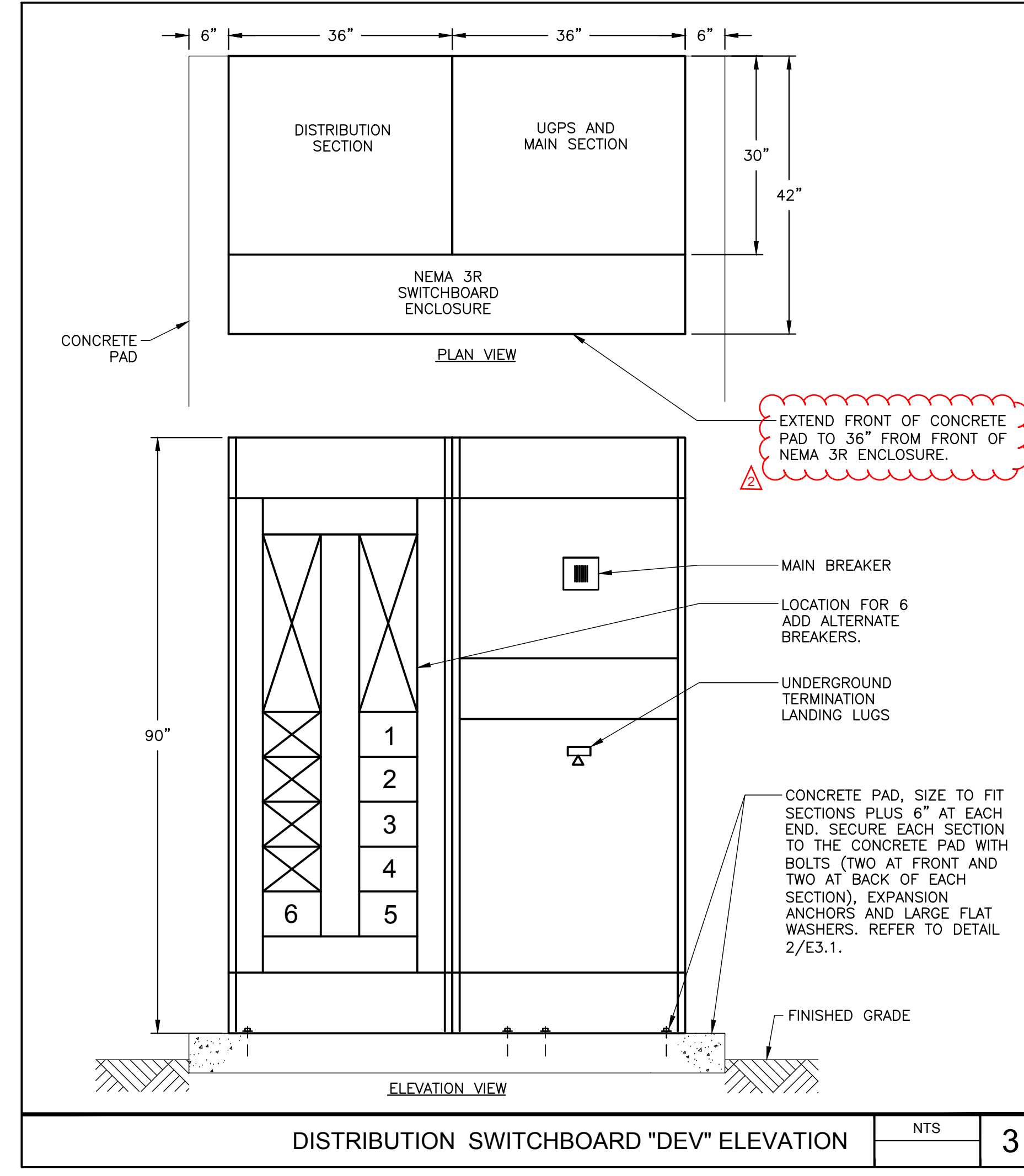
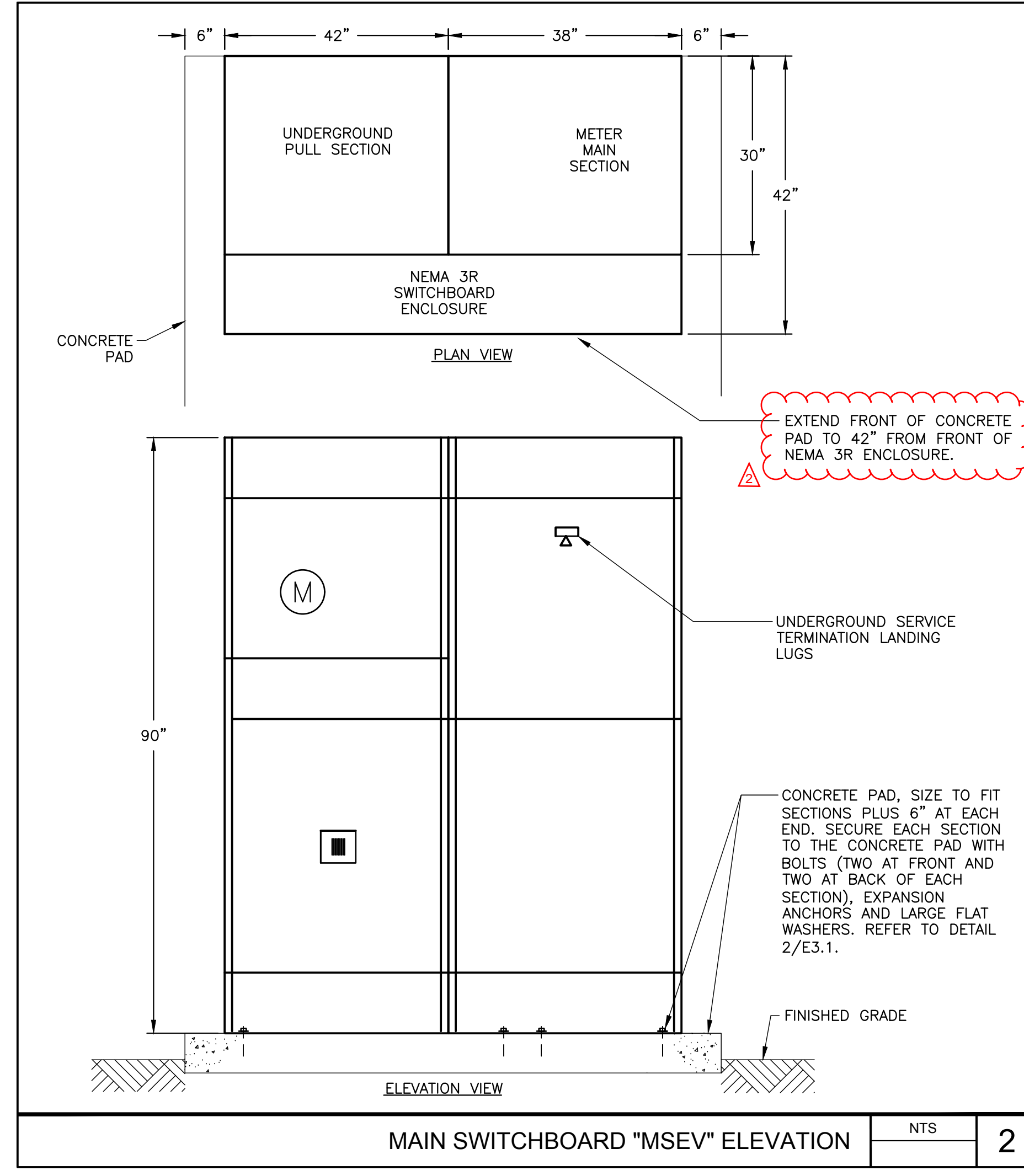
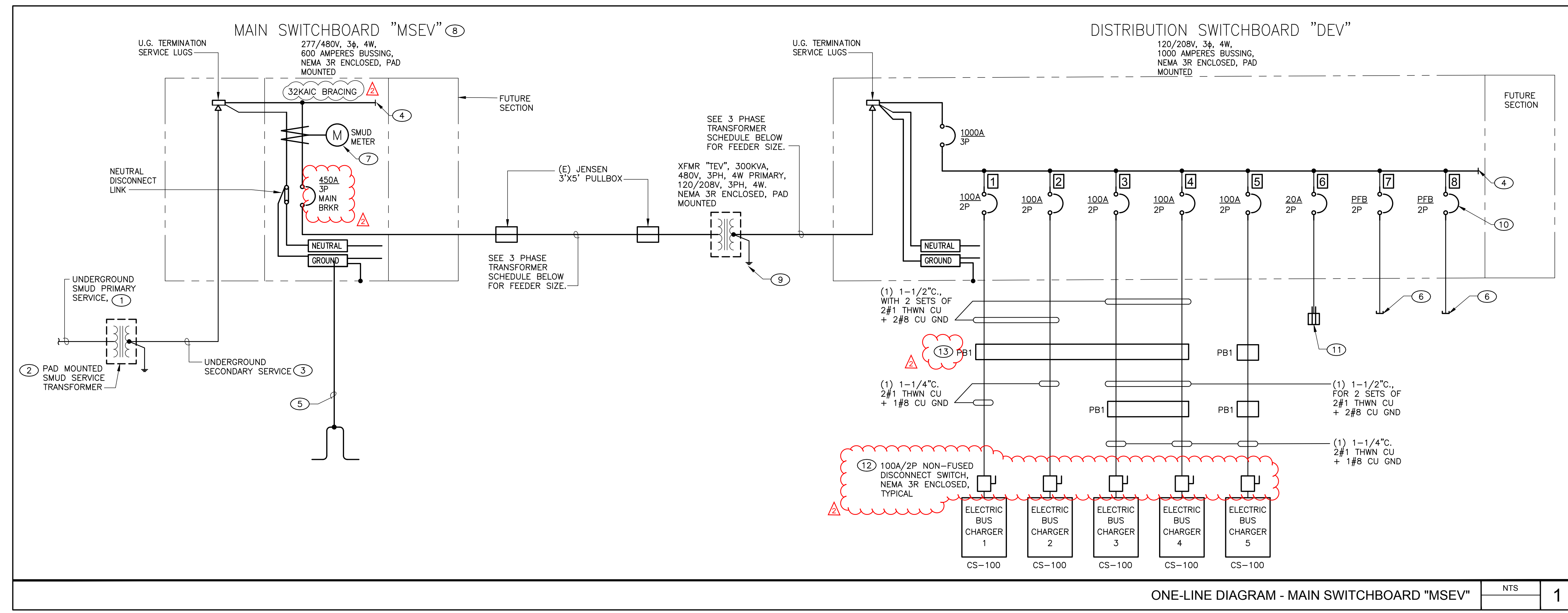
ELECTRICAL SITE PLAN 1

1" = 20'-0"

E1.1  
ADDENDUM NO. 2

PLEASE RECYCLE

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES. SEE SHEET E2.1 FOR DIMENSIONS.



- ### KEY NOTES
- INSTALL NEW UNDERGROUND SMUD PRIMARY SERVICE CONDUIT ACROSS STREET TO SMUD POINT OF SERVICE CONNECTION. COORDINATE SERVICE LOCATION AND REQUIREMENTS WITH SMUD PRIOR TO ROUGH-IN.
  - INSTALL NEW REINFORCED CONCRETE PAD FOR SMUD TRANSFORMER. INSTALL AND LOCATE PER SMUD REQUIREMENTS.
  - INSTALL NEW (2) 4" C. EACH WITH 4#350 KCMIL CU + 1#2/0 CU GND FOR NEW UNDERGROUND SECONDARY SERVICE. COORDINATE SERVICE REQUIREMENTS WITH SMUD PRIOR TO ROUGH-IN.
  - PROVIDE EXTENSION FOR FUTURE SWITCHBOARD SECTION.
  - PROVIDE #2/0 CU UFER GROUND PER CEC III, 250.50, TWO LENGTHS, 20 FEET MINIMUM, OPPOSITE DIRECTION. INSTALL IN NEW TRENCH PER CEC 250-52.
  - INSTALL (6) 2-1/2" C.O. STUB WITH PULL CORD AND EXTEND OUT OF DISTRIBUTION SWITCHBOARD "DEV" FOR FUTURE BUS CHARGERS. SEE SITE PLAN FOR STUB LOCATION.
  - PROVIDE METERING TO MEET SMUD REQUIREMENTS.
  - PROVIDE 32,000 MINIMUM AMPS INTERRUPTING CAPACITY (A.I.C.) FOR MAIN BREAKER. PROVIDE IN FIELD LEGIBLE MARKING WITH THE MAXIMUM AVAILABLE FAULT CURRENT, IN ACCORDANCE WITH CEC 110.24(A). SEE SMUD LETTER ON SHEET E0.1 FOR AVAILABLE FAULT CURRENT.
  - INSTALL 1#3/0 CU GND.
  - MAKE PROVISIONS FOR (6) 100A/2P FRAME SIZE SPACES.
  - INSTALL 20A GFCI DUPLEX RECEPTACLE TO BACKSIDE OF "DEV". PROVIDE WITH WEATHER PROTECTED WHILE-IN-COVER COVER PLATE. MOUNT AT +18" ABOVE CONCRETE PAD FOR MAINTENANCE PURPOSE. INSTALL 1/2" C. 2#12 + 1#12 GND.
  - INSTALL LOCKABLE ON DISCONNECT SWITCH TO BACKSIDE OF PEDESTAL. GROUND ALL METAL PARTS OF PEDESTAL AND CHARGER BACK TO MAIN SWITCHBOARD "DEV".
  - INSTALL CHRISTY #BX09 UTILITY BOX WITH BX09D LID REINFORCED BOX AND LID, TYPICAL ALL PB1.

- ### GENERAL NOTES
- PROVIDE A WARNING LABEL (SIGN) CLEARLY VISIBLE TO QUALIFIED PERSONS TO COMPLY WITH CEC 116.16 AND NFPA-70E-2000 OF POTENTIAL ELECTRIC ARC FLASH HAZARDS AT SWITCHBOARDS, PANELBOARDS, AND INDUSTRIAL CONTROL PANELS THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED.
  - SHORT CIRCUIT CURRENT RATINGS FOR ALL OVER CURRENT PROTECTION DEVICES SHALL BE SIZED GREATER THAN THE AVAILABLE FAULT CURRENT CALCULATIONS SHOWN ON SHEET E0.1.
  - SHORT CIRCUIT CURRENT RATING FOR DISTRIBUTION SWITCHBOARD "DEV" SHALL BE SIZED GREATER THAN THE AVAILABLE FAULT CURRENT CALCULATIONS SHOWN ON SHEET E0.1.

### VOLTAGE DROP CALCULATIONS

Circuit	Designation	Voltage	Phase	Raceway	Material	Conductor	Load	Line-to-Neutral	Line-to-Line	
					(AL) or (CU)	Parallel Runs	AMPS	Power Factor	Vol Drop %	
FROM "MSEV" TO "DEV"	480	3	NM	CU	350	2	461	85%	9.91	2.06
DEV-1.2	240	1	NM	CU	1	1	195	80.0	4.73	1.97
DEV-3.4	240	1	NM	CU	1	1	153	80.0	3.71	1.55
DEV-5	240	1	NM	CU	1	1	147	80.0	3.57	1.49
DEV-6	240	1	NM	CU	1	1	49	80.0	1.19	0.50

### ELECTRICAL SERVICE LOAD CALCULATION

BUS CHARGERS			
CHARGERS	28.80 KVA EA.	6	172.80 KVA
FUTURE CHARGERS	28.80 KVA EA.	6	230.40 KVA
LARGEST MOTOR =	0.00 KVA @ 25% =		0.00 KVA
<b>TOTAL SERVICE LOAD</b>			<b>403.20 KVA</b>

403.2 KVA @ 277/480 VOLT, 3 PHASE = 485 AMPERES

PROVIDE 600 AMP, 277/480 VOLT, 3 PHASE, 4 WIRE SERVICE.

### 3 PHASE TRANSFORMER SCHEDULE

TRANSFORMER KVA	125% PRIMARY	OVERCURRENT	CONDUCTORS THWN (CU GND)	CONDUIT	100% SECONDARY	OVERCURRENT	CONDUCTORS THWN (CU GND)	CONDUIT	GROUND CU
300	451	450A	2 sets (3) #250 CU + 2G	(2) (E) 4"	833	1000A	3 sets (4) 500 CU + 20G	(3) 4"	3/0

**SACRAMENTO CITY UNIFIED SCHOOL DISTRICT**  
 7058 SAN JOAQUIN STREET  
 SACRAMENTO, CA 95820

**HMC Architects**  
 3186062-000

2405 NATOMAS PARK DRIVE, STUDIO 100  
 SACRAMENTO, CA 95833  
 916 325 1100 / www.hmcarchitects.com

ISSUE	DESCRIPTION	DATE
ADDENDUM 02		1/15/2021

**LP CONSULTING ENGINEERS**  
 MEP & FS / Sustainability / C&A  
 1259 Roswell Green Blvd.  
 Roseville, CA 95678  
 p 916-771-0778  
 www.lpeengineers.com  
 Job #: 19-2274

**ALEX K. SAREY**  
 No. 18211  
 Exp. 12/31/21  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA

FACILITY:  
**7058 SAN JOAQUIN STREET  
 SACRAMENTO, CA 95820**

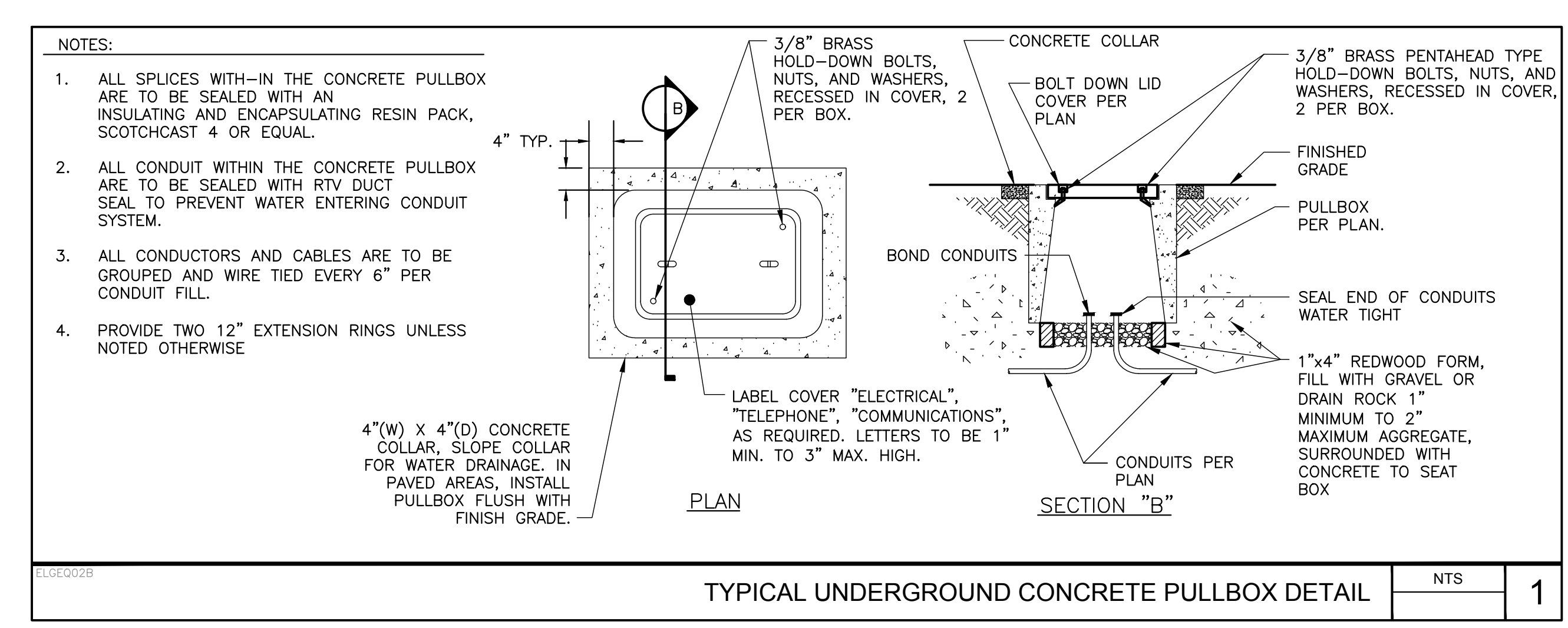
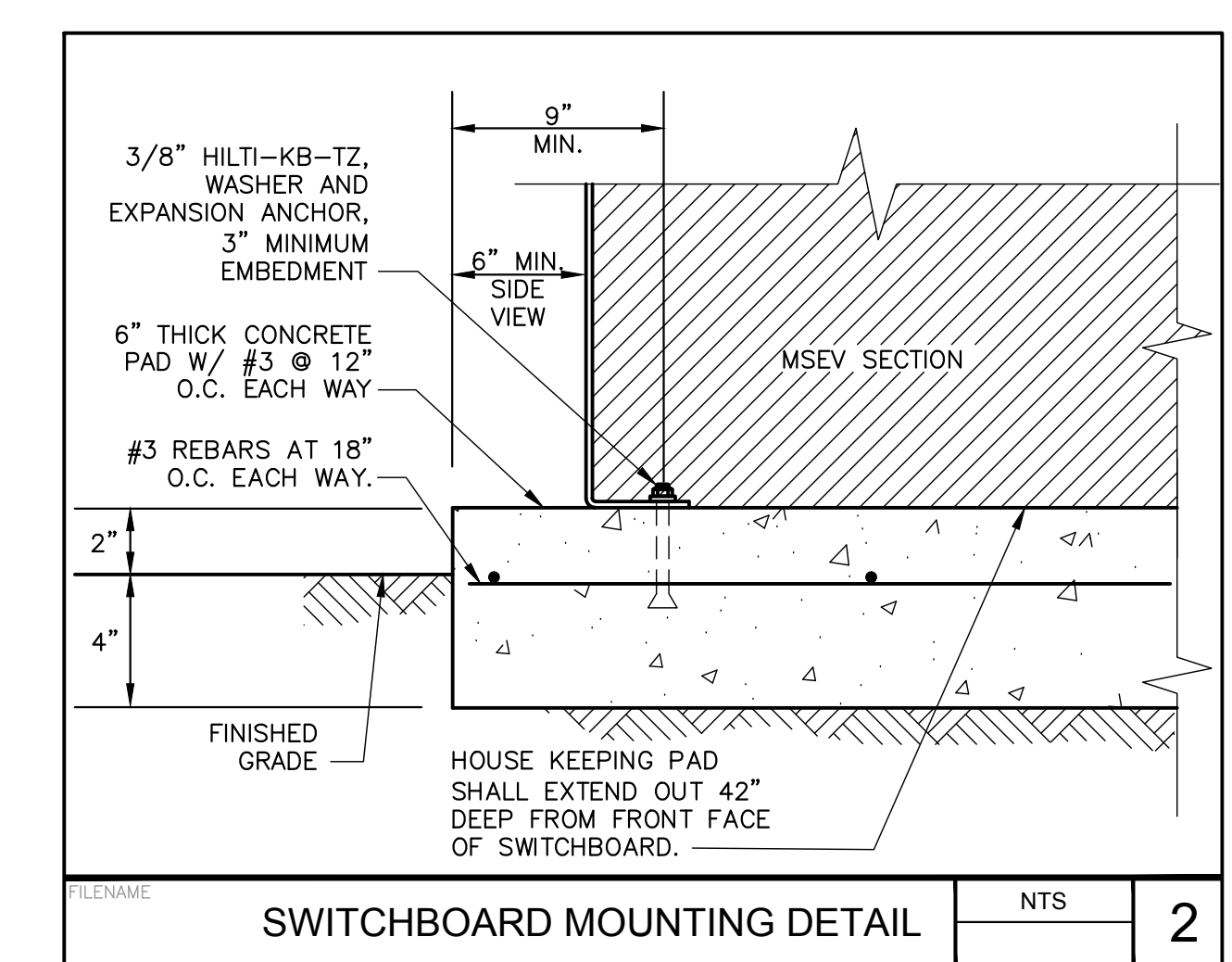
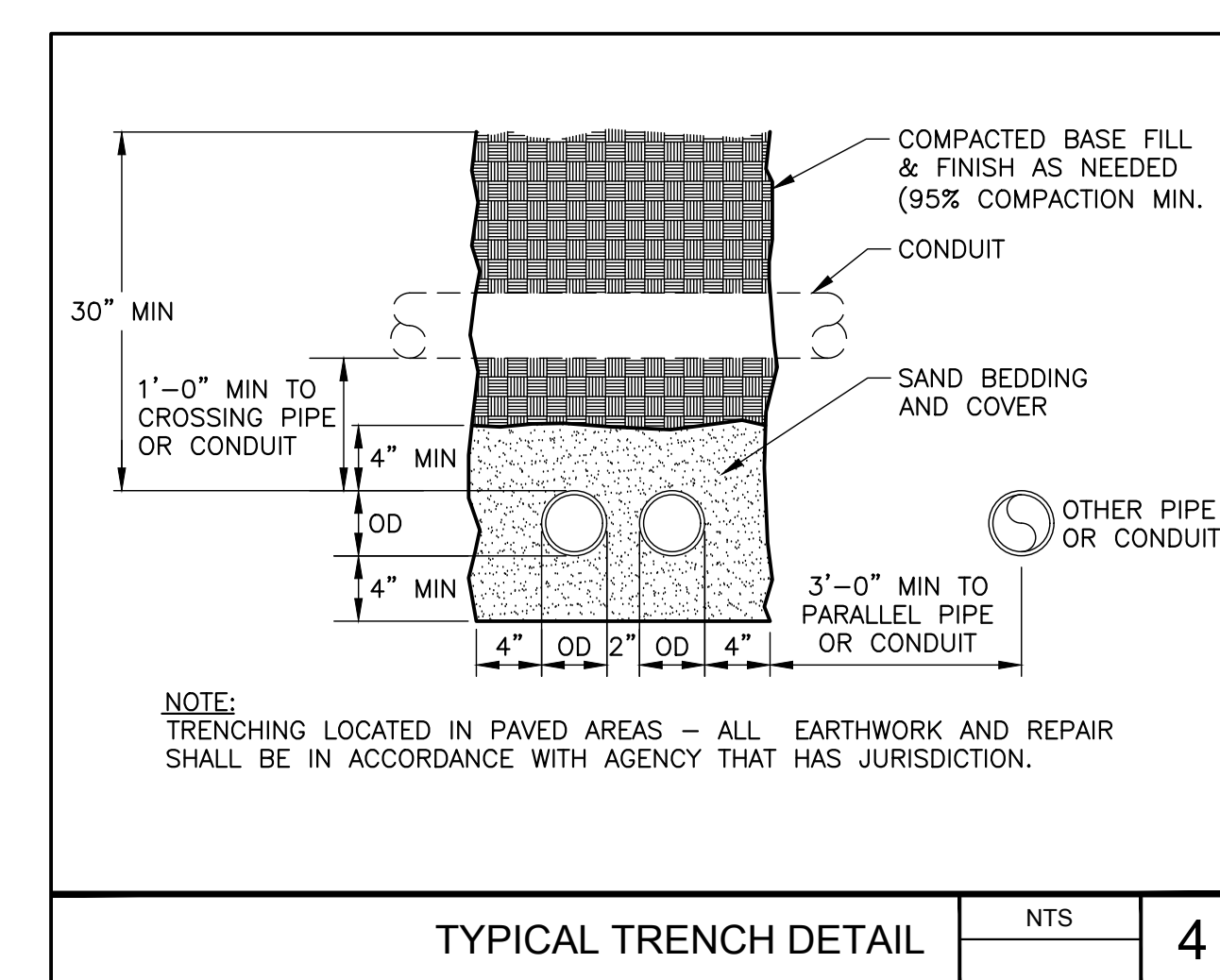
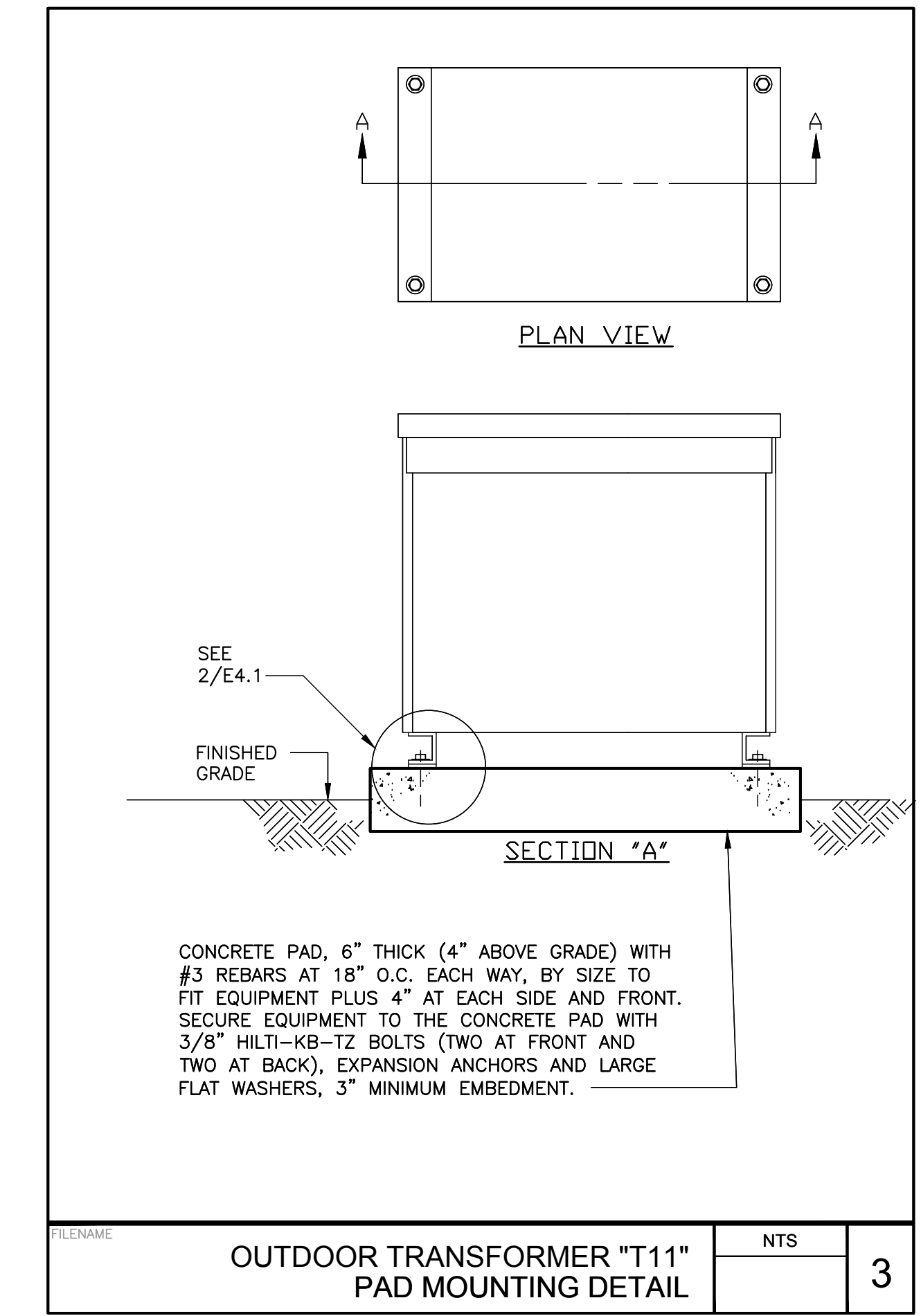
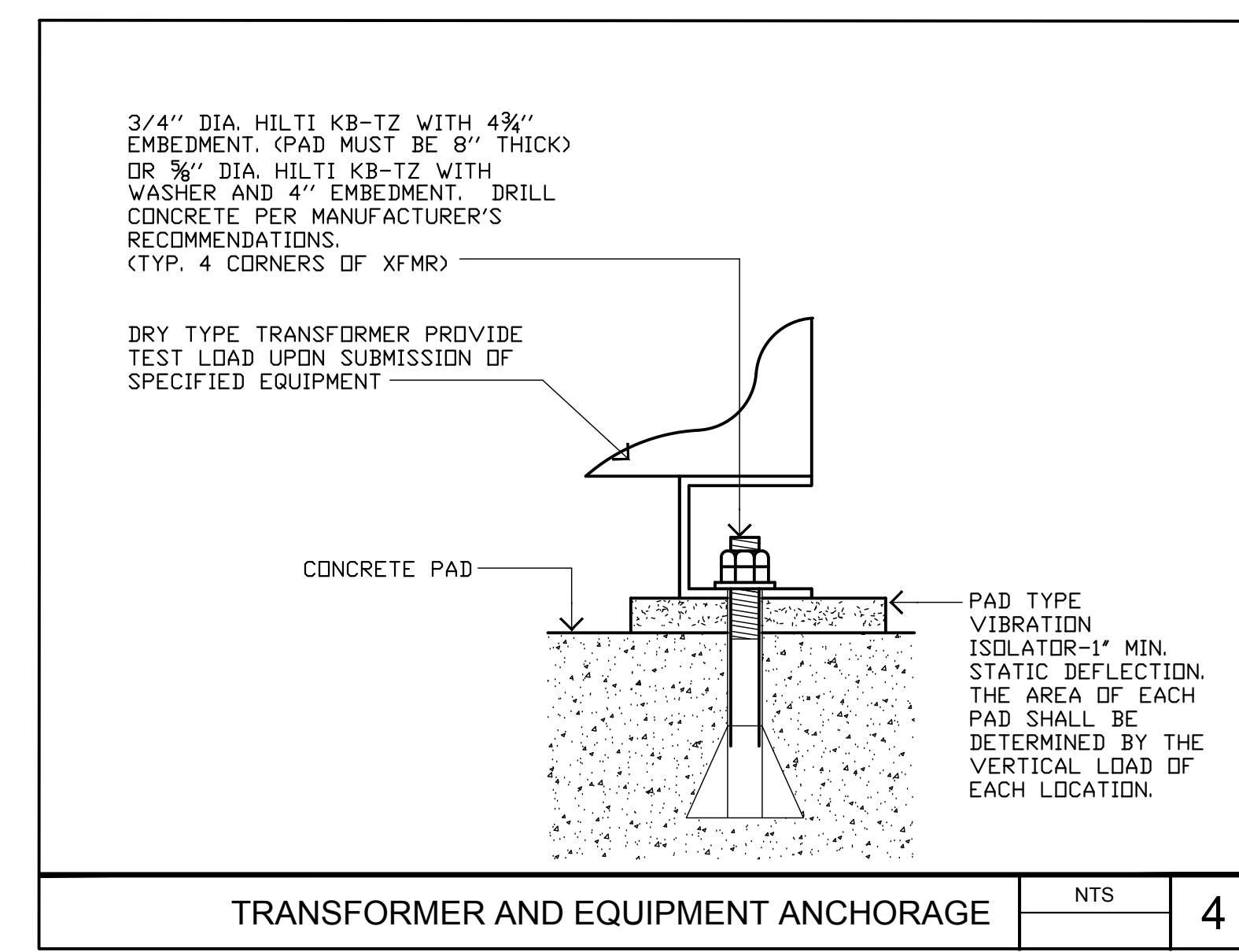
PROJECT:  
**ELECTRIC BUS CHARGING STATIONS**

SHEET NAME:  
**ONE LINE DIAGRAM & LOAD CALCULATIONS**

FILE NO.: XX-XX A NO.: XX-XXXXXX  
 DATE: 07/14/2020 CLIENT PROJ NO:  
 SHEET:

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES AND DECIMALS THEREOF.

ISSUE	
DESCRIPTION	DATE
ADDENDUM 02	1/15/2021



Powering forward. Together.

**SMUD**

October 2, 2020  
 SACRAMENTO CITY UNIFIED SCHOOL DISTRICT  
 ATTENTION: RACHEL CHARD  
 425 1ST AVE  
 SACRAMENTO CA 95820

Notification # 31982903

**SMUD COMMITMENT LETTER**

Thank you for submitting your plans for 7058 SAN JOAQUIN ST for an electric service commitment. Your cooperation enables us to give you the best service possible, as well as provide for your future requirements.

We are returning one copy of your plans indicating the service location and other requirements checked below. Our commitment is subject to changing conditions and, as a result, may not be valid after twelve months.

Please contact the Designer if additional information is desired.

Designer: NICHOLAS HENRY Telephone (916) 732-6727

Service will be: Overhead  Underground

Volts: 277/480 Phase: THREE Wire: 4 Type: WYE

(Street light service voltage will be the same as above.)

Transformer pad required:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	SMUD Dwg. UVD 2.2 & 2.2A
Conduit required:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(see sketch)
Right-of-way required:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Transformer protection required:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	see sketch and SMUD Dwg. UVD 2.5
Primary pull box required:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	SMUD Dwg. UVC 1.2, 1.2.2, 1.6, & 1.6.1
Secondary J-Box Required:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	SMUD Dwg. N/A
Service box required:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	SMUD Dwg. N/A
Switchgear pad required:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	SMUD Dwg. N/A

Other requirements: See enclosed Booklet  Prints

\*A maximum fault current of 15,100 amps, symmetrical, is based on the largest transformer that could be needed to serve the Single  Combined  main sizes of 600 amps under the following assumptions:

- The largest transformer that could be needed is 500 kVA with 4.0 % impedance
- A primary system impedance of zero ohms
- No motor contributions to the fault, and
- Zero ohms fault impedance

The meter(s) shall be located on the exterior of the building. When it is absolutely necessary to locate meters in locked rooms, cabinets, or fenced enclosures, consult SMUD's Field Metering at (916) 732-5167.

\*If future load growth necessitates increasing the main switch size, the available fault current should be recalculated.

NOTE: This commitment letter may be required by local inspection authority as part of its plan check requirements.

MEP & FS / Sustainability / C&A

**LP CONSULTING ENGINEERS**

1259 Pleasant Grove Blvd.  
 Roseville, CA 95678  
 p 916-771-0778  
 www.lpeengineers.com  
 Job #: 19-2274

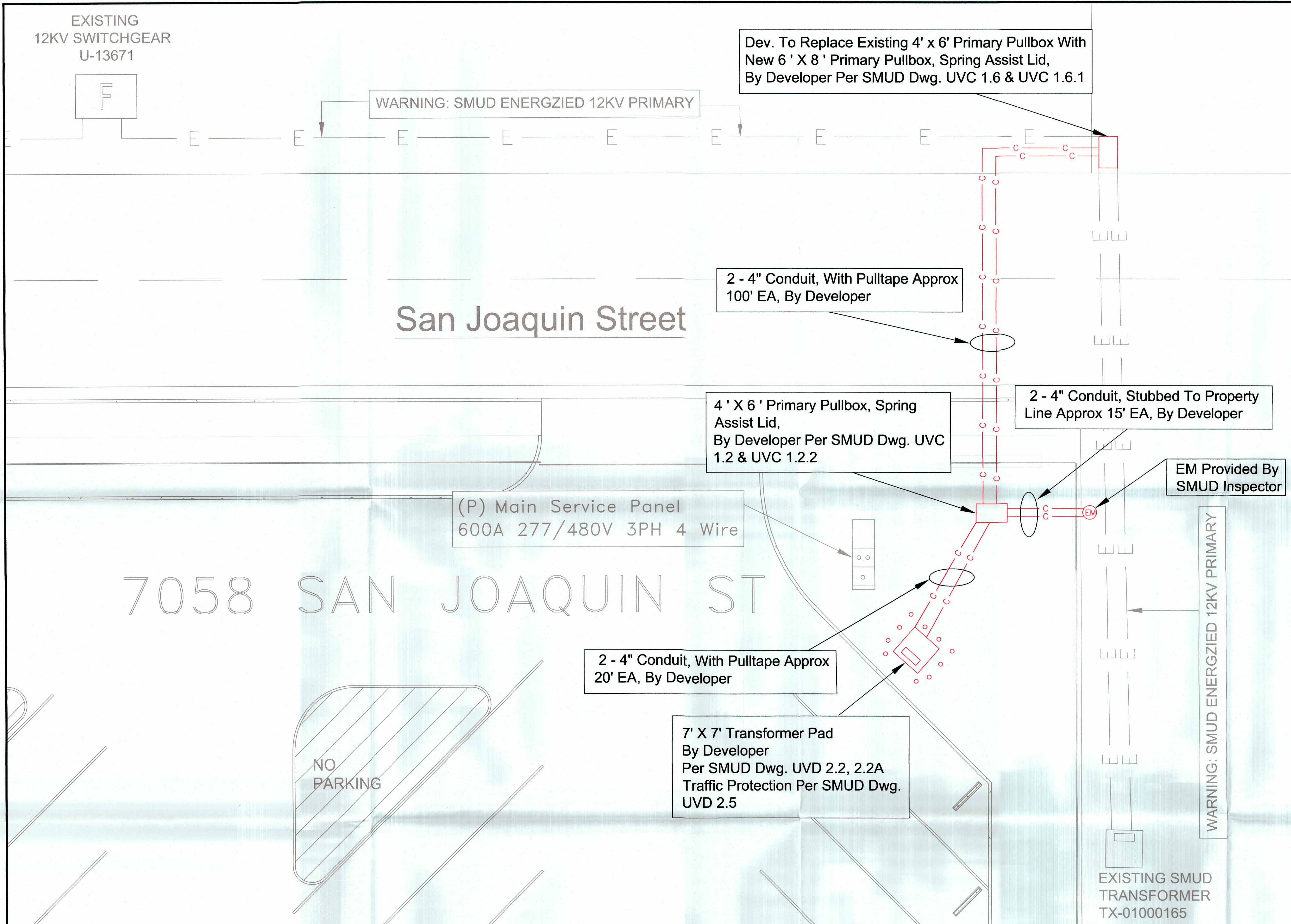
**ALEX K. SAREY**  
 No. 18211  
 Exp. 12/31/21  
 REGISTERED PROFESSIONAL ENGINEER  
 ELECTRICAL  
 STATE OF CALIFORNIA

FACILITY:  
**7058 SAN JOAQUIN STREET  
 SACRAMENTO, CA 95820**

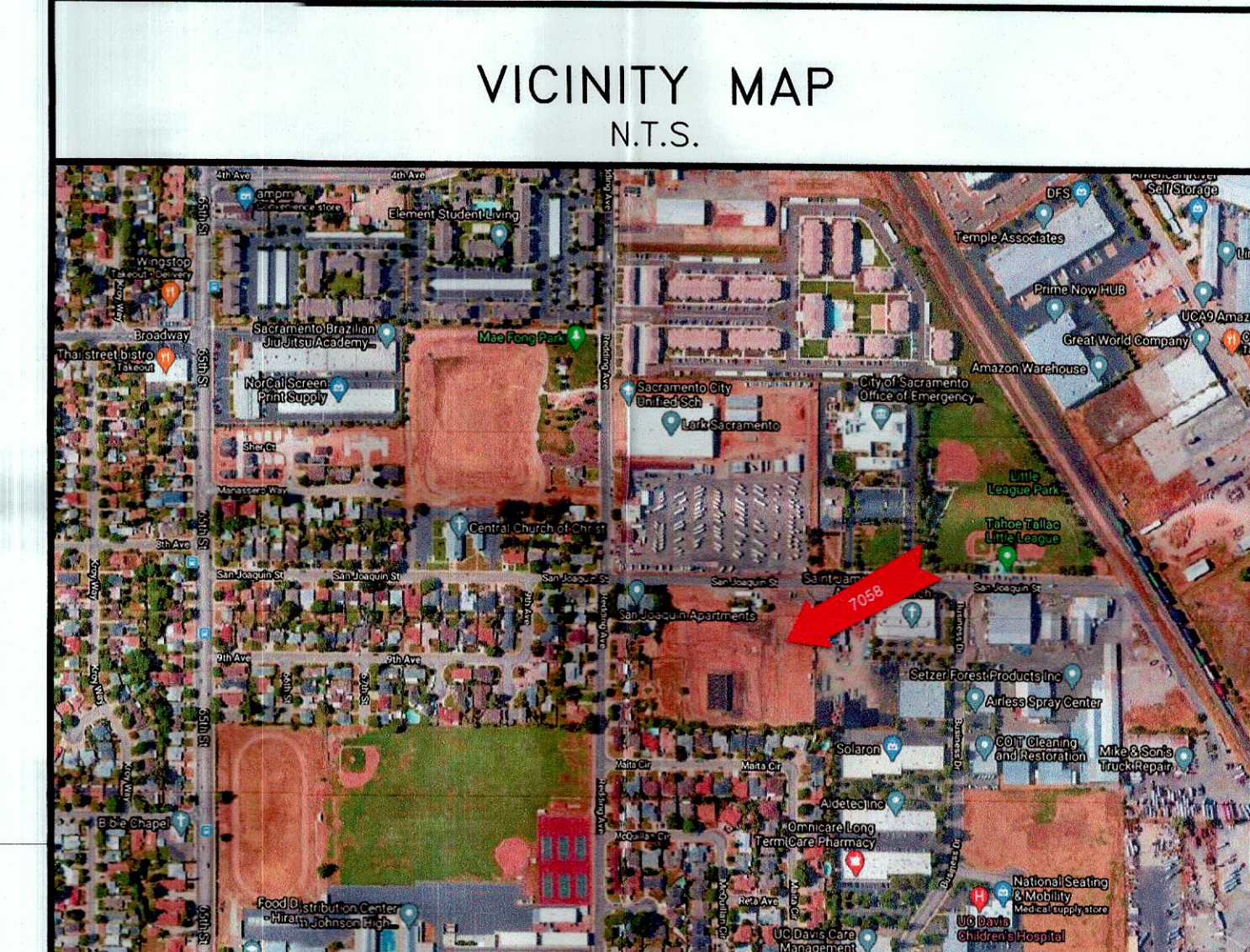
PROJECT:  
**ELECTRIC BUS CHARGING STATIONS**

SHEET NAME:  
**ELECTRICAL DETAILS**

FILE NO.: XX-XX A NO.: XX-XXXXXX  
 DATE: 07/14/2020 CLIENT PROJ NO:  
 SHEET:



- SMUD NOTES**
- DEVELOPER IS RESPONSIBLE FOR THE FOLLOWING:
1. Call U. S. A. at 811 prior to digging.
  2. All metering and switchgear design and placement must be submitted and approved by SMUD's Field Metering prior to installation. Please submit metering and switchgear designs to SMUD at [meteringsubmittals@smud.org](mailto:meteringsubmittals@smud.org), mail to: Sacramento Municipal Utility District, Attention: Field Metering, Mail Stop EB 102, 4401 Bradshaw Road, Sacramento, CA 95827-3634 or contact them at (916) 732-5167.
  3. All metering equipment shall be located on the outside of the building. The metering equipment is NOT ALLOWED to be located inside the building. Metering equipment shall include: metering sections, current and potential transformer sections, pull sections, and the main disconnect. Any questions regarding deviation of this requirement, please contact Field Metering @ (916) 732-5167. For meter room requirements and specifications, see SMUD Electric Service Requirements Booklet, Commercial Industrial Engineering Specification T004.
  4. For multi-meter installations that are fed by a transformer larger than 150KVA and secondary voltage of 277/480v, a shutdown will be required for each meter installation. Developers have an option to reduce the number of shutdowns for each subsequent meter install by installing switchgear with a lockable main breaker panel which cannot be removed with the breaker in the open position. Any questions regarding this requirement please contact Field Metering at (916) 732-5167.
  5. SMUD equipment shall be accessible to a 26,000-pound SMUD service vehicle in all weather. SMUD equipment shall be no further than 15 feet from a drivable surface. The drivable surface shall have a minimum width of 20 feet.
  6. No obstructions are permitted and level terrain is required around all operable SMUD equipment doors (Transformers, Cubicles, T-Taps, etc.). No planting of trees within eight (8) feet of all sides of any operable SMUD equipment. For equipment clearances and specifications see SMUD Electric Service Requirements Booklet, Distribution Underground Structure Engineering Specification T007. See Appendix B for material manufacturers.
  7. Buildings shall not overhang SMUD equipment/easements unless approved in writing by a SMUD Designer.
  8. Joint trench to be a maximum 59" deep and remain minimum of 5 feet from footings of any building or structure. All conduit(s) to be inspected by SMUD inspector prior to backfilling and pouring concrete. Conduit(s) to be PVC-DB 120 grade or better. SMUD approved pull tape required. All elbows to be schedule 40 or better. Concrete encasement may be required. See Electric Service Requirements booklet, Distribution Underground Structure Engineering Specification T007 and SMUD commitment sketch.
  9. Maximum number of utility conduits allowed to rise on a pole is three. Please review utility conduit risers with SMUD Inspector prior to placement of conduits on poles.
  10. An on-site pre-construction meeting with a SMUD inspector is mandatory 48 hours in advance of construction. Copies of the local agency building permit will be required prior to scheduling pre-construction meetings with SMUD inspectors for non-residential developments. To schedule your appointment, please call (916) 732-6999.
  11. Only those electrical conduits intended for electric service shall be placed under a SMUD transformer pad. The placement of other conduits or structures foreign to the electric service must be approved in writing by a SMUD Designer.
  12. Customer service runs are per local agency codes and inspected and approved by the local inspection agency. Customer is responsible for and will be required to provide SMUD approved connectors and compression tooling for any non-standard SMUD secondary conductors. Please contact SMUD's Designer when necessary.
  13. A grant of right-of-way to SMUD may be required for conduit runs, vaults, transformer pads, etc. prior to any SMUD construction.
  14. Any street light required by the City or County must be coordinated with SMUD.
  15. Service voltage will be 277/480 volts, THREE phase, 4 wire, WYE. Street light service voltage will be the same.
  16. Any deviation from this commitment must be approved by a SMUD Designer or SMUD Inspector prior to installation of underground facilities.
  17. PLEASE NOTE: It is the responsibility of the developer to install all infrastructure as shown per SMUD commitment drawing as SMUD does not review or approve developer composite drawings.
  18. PLEASE NOTE: SMUD commitments are valid for twelve (12) months. SMUD reserves the right to revise SMUD commitments after this period. A new SMUD commitment will normally be required unless a customer has requested and received written approval for a longer period of time from a SMUD Designer.
- ORDER # 30164098      SMUD DESIGNER: NICHOLAS HENRY  
 TELEPHONE: (916) 732-6727      DATE: 10/2/20



**811**  
Know what's below.  
Call before you dig.  
or (800) 227-2600

NOTE: UNDERGROUND FACILITIES WILL BE INSTALLED PER SMUD'S STANDARD ENTITLED "ELECTRIC SERVICE REQUIREMENTS DISTRIBUTION UNDERGROUND STRUCTURE" ENGINEERING SPECIFICATION T007. SMUD INSPECTOR'S APPROVAL OF THE EXACT LOCATION AND CONFIGURATION OF ELECTRIC DISTRIBUTION FACILITIES IS REQUIRED BEFORE THE START OF TRENCHING. SEE SMUD NOTE #10 FOR MORE INFORMATION.

N  
↑  
TB# 318B2

DESIGNER: NICHOLAS HENRY	JOB NAME: R16-7058 SAN JOAQUIN SCUSD BUS CHARGERS
PHONE: 916-732-6727	LOCATION: 7058 SAN JOAQUIN ST
DATE: 10/2/2020	TYPE OF DRAWING: COMMITMENT SKETCH
MAP NUMBER: 320/164	JOB NUMBER: SO# 30164098
REV. SHEET 0 1 OF 1	

**SMUD**  
SACRAMENTO MUNICIPAL UTILITY DISTRICT

FOR REFERENCE ONLY



October 2, 2020

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
ATTENTION: RACHEL CHARD
425 1ST AVE
SACRAMENTO CA 95820

Notification # 31982903

SMUD COMMITMENT LETTER

Thank you for submitting your plans for 7058 SAN JOAQUIN ST for an electric service commitment. Your cooperation enables us to give you the best service possible, as well as provide for your future requirements.

We are returning one copy of your plans indicating the service location and other requirements checked below. Our commitment is subject to changing conditions and, as a result, may not be valid after twelve months.

Please contact the Designer if additional information is desired.

Designer: NICHOLAS HENRY Telephone (916) 732-6727

Service will be: Overhead [ ] Underground [X]
Volts: 277/480 Phase: THREE Wire: 4 Type: WYE

(Street light service voltage will be the same as above.)

- Transformer pad required: Yes [X] No [ ] SMUD Dwg. UVD 2.2 & 2.2A
Conduit required: Yes [X] No [ ] (see sketch)
Right-of-way required: Yes [ ] No [X]
Transformer protection required: Yes [X] No [ ] see sketch and SMUD Dwg. UVD 2.5
Primary pull box required: Yes [X] No [ ] SMUD Dwg. UVC 1.2, 1.2.2, 1.6, & 1.6.1
Secondary J – Box Required: Yes [ ] No [X] SMUD Dwg. N/A
Service box required: Yes [ ] No [X] SMUD Dwg. N/A
Switchgear pad required: Yes [ ] No [X] SMUD Dwg. N/A
Other requirements: See enclosed Booklet [X] Prints [X]

\*A maximum fault current of 15,100 amps, symmetrical, is based on the largest transformer that could be needed to serve the Single [X] Combined [ ] main sizes of 600 amps under the following assumptions:

- 1. The largest transformer that could be needed is 500 kVA with 4.0 % impedance
2. A primary system impedance of zero ohms
3. No motor contributions to the fault, and
4. Zero ohms fault impedance

The meter(s) shall be located on the exterior of the building. When it is absolutely necessary to locate meters in locked rooms, cabinets, or fenced enclosures, consult SMUD's Field Metering at (916) 732-5167.

\*If future load growth necessitates increasing the main switch size, the available fault current should be recalculated.

NOTE: This commitment letter may be required by local inspection authority as part of its plan check requirements.



October 2, 2020

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT  
ATTENTION: RACHEL CHARD  
425 1ST AVE  
SACRAMENTO CA 95820

**SUBJECT: ELECTRIC SERVICE REQUIREMENTS**

**Project Location: 7058 SAN JOAQUIN ST**

**Notification # 31982903**

In order to schedule construction activity to provide timely permanent electric service to your development, the Sacramento Municipal Utility District (SMUD) requires the following:

- A. Property owner will sign and return the enclosed Conveyance of Electric Distribution Facilities. Please Note: SMUD construction cannot be scheduled until signed documents are returned.
- B. Developer's compliance with SMUD Rules and Electric Service Requirements. Copies are available upon request.
- C. Due to the time needed for construction scheduling, SMUD fees need to be paid as soon as possible after receipt of the billing contract.
- D. Costs for relocating or modifying SMUD facilities, whether in a street or private right-of-way, as a result of a commercial, industrial, or apartment development, shall be reimbursed by the developer prior to any work being done by SMUD.
- E. The project coordinator should notify SMUD's Designer of any changes in the project's estimated start date to avoid unnecessary delays of SMUD construction.
- F. SMUD may need to secure an easement from you and possibly other private parties and/or permits from various public agencies to provide electric service to your development. If an easement is required, SMUD's Real Estate Services will contact you, typically within 2-3 weeks to properly execute a Grant of Easement, please see attached example. If you have questions or concerns regarding these items, please contact your assigned SMUD Designer as SMUD construction cannot start until these requirements are satisfied.
- G. Party responsible for electric bills should make application for service with SMUD Customer Services Department at 1-888-742-7683 as soon as possible. Connection of electric service can be scheduled upon receipt of the electrical inspection by the city/county.
- H. All metering and switchgear design and placement must be submitted and approved by SMUD's Field Metering prior to installation. Please submit metering and switchgear designs to SMUD at [metershopsubmittals@smud.org](mailto:metershopsubmittals@smud.org) or mail to: SMUD, Attention: Field Metering, Mail Stop EB 102, 4401 Bradshaw Road, Sacramento, CA 95827-3834 or contact them at (916) 732-5167.
- I. Multi-unit buildings must be addressed in compliance with the enclosed addressing guidelines prior to connection of electric service. A copy of the site plan showing building addresses, unit numbers, and electric service locations should be received by SMUD's Designer at least ten (10) working days prior to obtaining City/County inspection approval in order to avoid service delays. Meters cannot be set until specific building addresses and unit numbers are known and clearly identified on buildings and electric service equipment.

- J. The project coordinator will conduct an on-site pre-construction meeting with a SMUD inspector a minimum of 48 hours in advance of construction. At the time of your pre-construction meeting you will need to supply SMUD's inspector with a copy of your building permit and a valid electrical service need date. Inspection of SMUD's required civil improvements cannot begin without these items nor until the meeting has been held. To schedule your appointment, please call (916) 732-5990.

Please retain these requirements for your information.

Sincerely,



NICHOLAS HENRY  
Engineering Designer  
Design and Construction Services  
Grid Assets  
(916) 732-6727



October 2, 2020

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
ATTENTION: RACHEL CHARD
425 1ST AVE
SACRAMENTO CA 95820

Notification # 31982903

SUBJECT: CONVEYANCE OF ELECTRIC DISTRIBUTION FACILITIES

In response to your request for service at 7058 SAN JOAQUIN ST, the Sacramento Municipal Utility District (SMUD) proposes to install electrical facilities (cable, transformers, switchgear) within or upon certain underground electric distribution facilities (conduits, boxes, pads) to be installed by the property owner as shown on the attached drawing.

SMUD required facilities are to be installed in accordance with its rules and regulations. Conveyance of the owner provided electric distribution facilities will be made to SMUD upon inspection approval.

Standard District Procedure is to obtain this conveyance after SMUD inspectors have approved the owner's installation of the facilities which can sometimes result in delays in providing service. In order to avoid delays SMUD will accept conveyance of these facilities prior to the owner's installation and SMUD inspection approval, provided the legal property owner(s) agree:

- A. To install SMUD required electric distribution facilities, with above ground appurtenances as described below and in the attached drawing. Such installation will be in accordance with SMUD Rules, Regulations, and Electric Service Requirements.
B. To grant title to the installed facilities to SMUD.
C. To ensure integrity and accuracy of facilities (conduits, boxes, pads, etc.) for one year upon system being completed and energized.

Those electric distribution facilities conveyed to SMUD consist of:\*

Table with 2 columns: Quantity and Description. Rows include: Ft. - 2" Conduit, Ft. - 3" Conduit, 270 Ft. - 4" Conduit, Ft. - 5" Conduit, Ft. - 6" Conduit, 1 Each Transformer Pad(s), 2 Each Primary Pull Box(es), Each Secondary J - Box(es), Each Service Box(es), Each Switchgear Pad(s).

\*Conduit footages are approximate.



# FOR REFERENCE ONLY

Please indicate your acceptance by signing in the space provided and returning this letter to SMUD Distribution Line Design, Grid Assets, 4401 Bradshaw Rd., MS EA105, Sacramento, CA 95827-3834.

I, \_\_\_\_\_, owner and grantor agree to the terms and conditions stated above and hereby grant, bargain, and convey to SACRAMENTO MUNICIPAL UTILITY DISTRICT, a municipal utility district, Grantee, its successors and assigns, free and clear of all liens and encumbrances, those certain underground electric distribution facilities, with any above ground appurtenances described above and in the attached drawing, now installed or to be installed on or adjacent to grantor's premises in the County of Sacramento, State of California.

\_\_\_\_\_  
Owner Name Signature

\_\_\_\_\_  
Owner Name Print

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_

Designer Name: NICHOLAS HENRY

Notification #: 31982903

# CS SERIES



## PUBLIC CHARGING STATION

**A REAL PRODUCT, FOR THE REAL WORLD.** The CS Series from ClipperCreek is designed to take the wear-and-tear of everyday use in all environments. Its tough NEMA 4 outdoor rated enclosure and rubber over-molded connector for the CS-60 and above ensures you can install this unit anywhere with confidence.

- **MANY POWER LEVELS** - 16A to 80A charging
- **QUALITY** - Technology that works for the life of your current plug-in vehicle and then some
- **CONVENIENCE** - 25 feet of charging cable for installation and operation flexibility
- **DURABILITY** - Rugged, fully sealed NEMA 4 enclosure for installation anywhere
- **RELIABILITY**- Backed by ClipperCreek's 1-year warranty, and outstanding customer service



# CS SERIES

To learn more call 877-694-4194  
or visit ClipperCreek.com

## PRODUCT OVERVIEW

### ELECTRICAL SPECIFICATIONS

- **Service** - 208V to 240V, 20A to 100A, single phase, 2 wire w/ground
- **Charge Current or Output Power** - 208V to 240V, 16A to 80A continuous (3.8kW to 19.2kW)
- **Service Ground Monitor** - Constantly checks for presence of proper safety ground
- **Automatic Circuit Reclosure after minor power faults**
- **Charge Circuit Interruption Device** - Ground Fault Protection with fully automated self-test, eliminates manual user testing
- **Cold Load Pickup** - Time-delayed and randomized to allow seamless re-energizing of unit following power outages
- **External Control Input** - Allows external control from smart meter (AMI), billing or load management device

### MATERIAL SPECIFICATIONS

- Indoor/outdoor rated fully sealed (NEMA 4) enclosure
- Operating Temperatures: -22°F to 122°F (-30°C to +50°C)
- 22" H x 17" W x 8" D (559mm H x 432mm W x 203mm D)
- Weight 33 lbs. (15kg) to 45lbs. (20.4kg)
- UL, cUL, ETL, cETL Listed

## MULTIPLE CONFIGURATIONS

MODEL:	<b>CS-100</b>	CS-90	CS-80	CS-70	CS-60	CS-50	CS-40	CS-30	CS-20
CIRCUIT BREAKER RATING:	<b>100A</b>	90A	80A	70A	60A	50A	40A	30A	20A
CONTINUOUS CURRENT:	<b>80A</b>	72A	64A	56A	48A	40A	32A	24A	16A

### CODES AND STANDARDS

- **UL 2594** Electric Vehicle Supply Equipment
- **UL 2231** Personal Protection Device (i.e., CCID Hardware)
- **UL 1998** Standard for Safety-Related Software
- **UL 991** Standard for tests for Safety-Related Controls Employing Solid-State Devices
- **NEC 625** Electric Vehicle Charge System
- **SAE-J1772™** Electric Vehicle Conductive Charge Coupler



# FOR REFERENCE ONLY HCS SERIES



**A REAL PRODUCT, FOR THE REAL WORLD.** ClipperCreek's HCS charging stations come in a variety of power levels, as hardwired and plug-in units, and with multiple pedestal mount options. Recent additions to the HCS product line include the HCS-60R and HCS-80R, 'ruggedized' versions of our most powerful HCS models, offering up to 64 Amp charging; and the ChargeGuard®, a simple key-based access control option.

- **FAST CHARGING** - Up to 15.4kW of power to charge your vehicle quickly
- **QUALITY** - Technology that works for the life of your current plug-in vehicle and then some
- **CONVENIENT** - 25 feet of charging cable for installation flexibility and superior vehicle reach
- **DURABLE** - Rugged, fully sealed NEMA 4 enclosure for installation anywhere
- **RELIABLE** - Backed by ClipperCreek's exceptional warranty and outstanding customer service



# HCS SERIES

## PRODUCT OVERVIEW

CALL US TO ORDER TODAY!  
**585.533.4051**  
7464 W. HENRIETTA ROAD | RUSH, NY 14543

### ELECTRICAL SPECIFICATIONS

### FOR REFERENCE ONLY

- **Certifications** - ETL, cETL Listed
- **Service** - 208V to 240V - 20A to 80A, single phase, 2 wire w/ground
- **Charge Current Output Power** - 208V to 240V-16A to 64A continuous (3.3kW to 15.4kW)
- **Service Ground Monitor** - Constantly checks for presence of proper safety ground
- **Automatic Circuit Reclosure** - After minor power faults
- **Charge Circuit Interruption Device** - Ground fault protection with fully automated self-test, eliminates manual user testing

### MATERIAL SPECIFICATIONS

- 25 foot charging cable
- Three year warranty
- Install hardwired or plug-in
- Indoor/outdoor rated fully sealed (NEMA 4) enclosure
- Operating temperatures: -22°F to 122°F (-30°C to 50°C)
- Wall mount holster included



### ACCESS CONTROL OPTION AVAILABLE \$78 additional

**ChargeGuard®** Reliable key-based access control designed for fleet, workplace, multi-tenant, hospitality and residential charging.

## MULTIPLE CONFIGURATIONS

MODEL:	HCS-20	HCS-30	HCS-40*	HCS-50*	HCS-60	HCS-80
CIRCUIT BREAKER RATING:	20A	30A	40A	50A	60A	80A
MAXIMUM CURRENT:	16A	24A	32A	40A	48A	64A



### RUGGEDIZED OPTION AVAILABLE

#### HCS-40R, HCS-40PR, HCS-60R and HCS-80R

- 5-year warranty
- Impact and crush-resistant SAE-J1772™ connector
- Type 4X watertight and corrosion resistant rubber overmolded EV connector
- Available for plug-in installations with NEMA 14-50 or NEMA 6-50 plugs (HCS-40 only)



### Share2® OPTION Maximize your Infrastructure Investment

- Turn one charging spot into two with HCS Share2®
- Full power charging for one vehicle, split power charging for two vehicles
- Compatible with ChargeGuard® enabled and Ruggedized HCS stations
- Power Sharing from a single circuit between two charging stations

