general notes:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR PERMITTEE TO CONTACT "UNDERGROUND SERVICE ALERT OF NORTHERN CALIFORNIA" BY PHONE AT 8-1-1 FORTY-EIGHT (48) HOURS PRIOR TO START OF CONSTRUCTION FOR LOCATION OF POWER, TELEPHONE, OIL AND NATURAL GAS UNDERGROUND FACILITIES. CONTRACTOR OR PERMITTEE SHALL ALSO CONTACT THE APPROPRIATE AGENCY FOR THE LOCATION OF CABLE T.V., WATER, SEWER, DRAINAGE OR UNDERGROUND FACILITIES.
2. THE CONTRACTOR SHALL POSSESS A CLASS A LICENSE AT THE TIME OF BID OPENING.

datum:

HORIZONTAL CONTROL FOR POINTS 8201 & 8102 AS PUBLISHED IN THE CITY OF SAN LUIS OBISPO 2007 HORIZONTAL CONTROL NETWORK. CITY NETWORK IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83) EPOCH DATE 1991.35, ZONE 5 CALIFORNIA.

VERTICAL CONTROL BENCHMARK NO. 53 WITH AN ELEVATION OF 134.44 FEET AS PUBLISHED IN THE CITY OF SAN LUIS OBISPO 2007 BENCHMARK SYSTEM. CITY'S BENCHMARK SYSTEM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

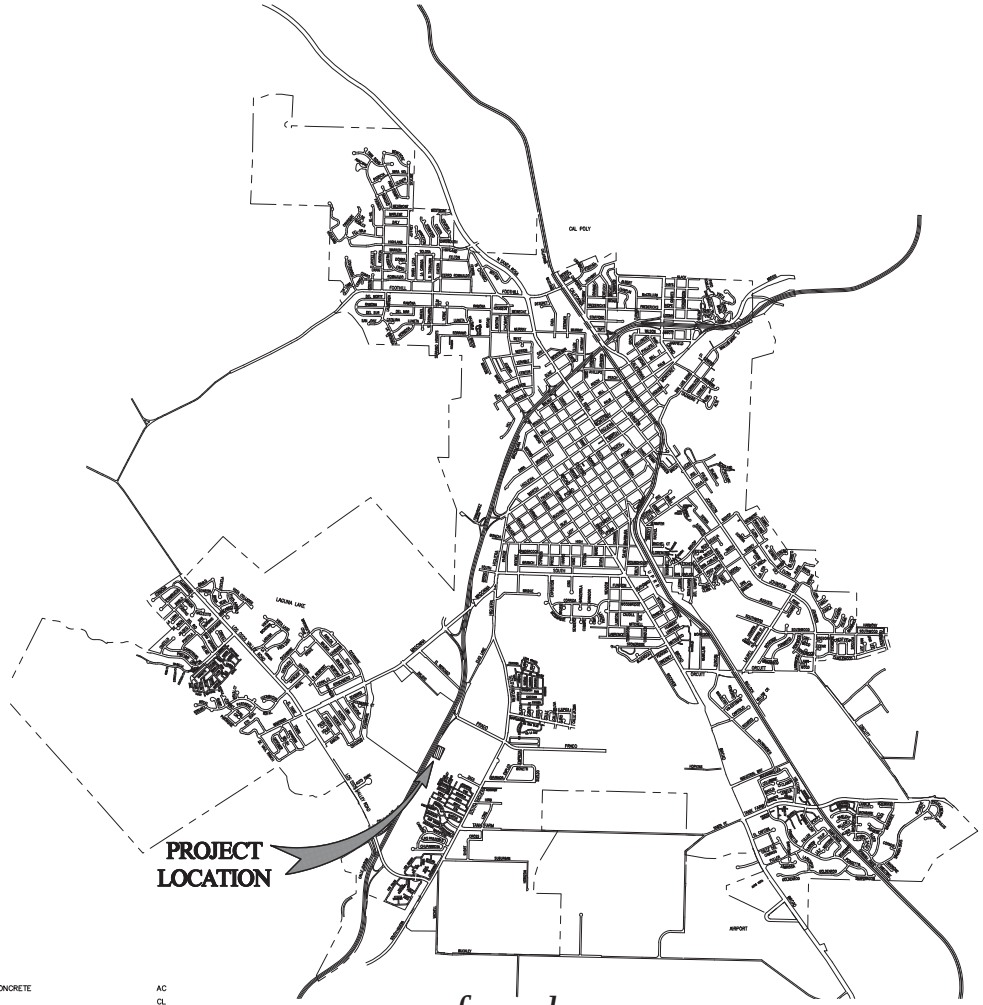
project location:

ADDRESS: 29 PRADO ROAD, SAN LUIS OBISPO, CA
APN: 053-052-005
OWNER: CITY OF SAN LUIS OBISPO

legend:

	EXISTING	PROPOSED
PROPERTY LINE		
RIGHT-OF-WAY		
CURB		
CURB & GUTTER		
FENCE	X	X
EASEMENT		
FLOWLINE		
CONTOURS		
WATER MAIN	W	
SANITARY SEWER LINE	SS	
STORM DRAIN LINE	SD	SD
GAS LINE	G	
ELECTRIC LINE	E	E
TELEPHONE	T	
ELECTRIC BOX	EB	EB
PULL BOX	PB	PB
ELECTRIC VAULT		
EXISTING MANHOLE		
SANITARY SEWER MANHOLE	S	
STORM DRAIN MANHOLE	D	D
TELEPHONE MANHOLE	T	
SANITARY SEWER CLEANOUT	CO	
FIRE HYDRANT		
WATER VALVE		
STREET LAMP		
TRANSFORMER		
POWER POLE		
BENCHMARK		
STORM DRAIN INLET		

ASPHALT CONCRETE	AC
CENTERLINE	CL
CLEANOUT	CO
ELECTRIC BOX	EB
FINISHED GRADE	FG
FINISHED SURFACE	FS
FINISH FLOOR	FF
FLOW LINE	FL
GRADE BREAK	GB
HIGH POINT	HP
INVERT	INV
POINT OF CONNECTION	POC
PROPERTY LINE	PL
PUBLIC UTILITY EASEMENT	PUE
PULL BOX	PB
RIGHT-OF-WAY	ROW
TOP OF CURB	TC
TOP OF FOOTING	TF
TOP OF GRATE	TG
AC PAVING	
CONCRETE	



scope of work:

INFRASTRUCTURE UPGRADE TO CITY OF SAN LUIS OBISPO TRANSIT FACILITY TO INSTALL

THESE PLANS INCLUDE THE FOLLOWING WORK:

- DEMOLITION OF EXISTING ASPHALT BERM AND CONCRETE PARKING SURFACE PAVEMENT
- DEMOLITION OF CONTAINMENT AREA CATCH BASINS
- REMOVAL OF AN EXISTING LIGHT POLE AND FOUNDATION
- INSTALLATION OF NEW ASPHALT CONTAINMENT BERMS
- INSTALLATION OF NEW CONCRETE PARKING SURFACE PAVEMENT
- INSTALLATION OF NEW STRIPPING
- INSTALLATION OF NEW CHAINLINK FENCING AND BOLLARDS
- INSTALLATION OF NEW 1600A SWITCHBOARD AND CONCRETE FOUNDATION
- INSTALLATION OF TWO NEW ELECTRICAL VEHICLE CHARGERS AND CONCRETE FOUNDATIONS
- INSTALLATION OF CONCRETE FOUNDATIONS FOR FUTURE ELECTRICAL VEHICLE CHARGERS
- INSTALLATION OF NEW CONDUCTORS, CONDUIT, PULLBOXES AND VAULT
- INSTALLATION OF TWO NEW 100A CIRCUIT BREAKERS TO THE EXISTING BOARD, CONDUCTORS AND CONDUITS FOR TEMPORARY FEED TO THE 2 NEW CHARGERS
- CONNECTION TO PG&E SERVICES

index to plans

Reference Documents:
City Standard Specifications - August 2020 Edition
City Engineering Standards - August 2020 Edition

CITY OF SAN LUIS OBISPO

san luis obispo county, california

TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

REGISTERED PROFESSIONAL ENGINEER
BRIAN NELSON
NO. 79870
EXP. 09/30/2024
CIVIL
STATE OF CALIFORNIA

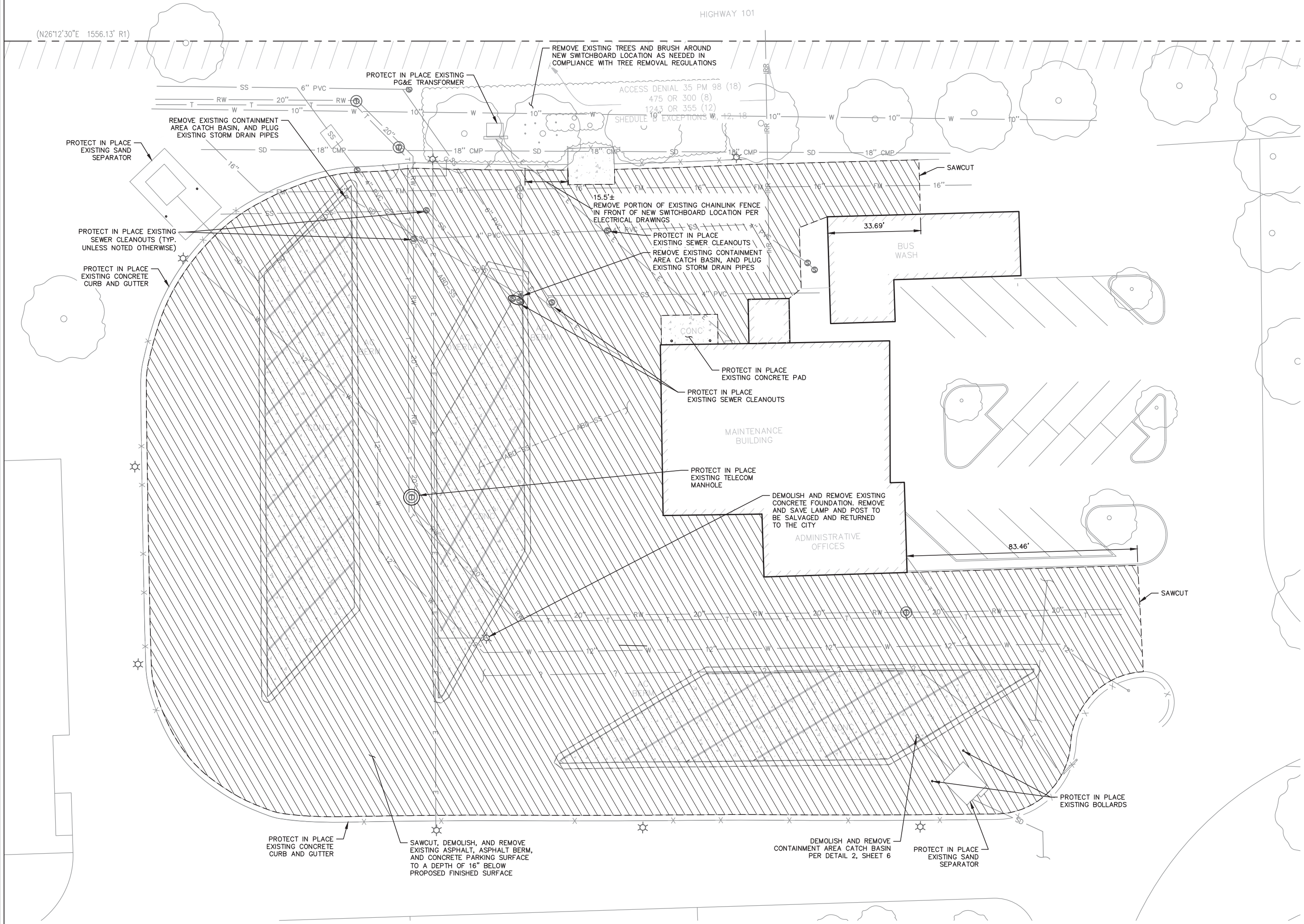
APPROVED BY

99% SUBMITTAL
NOT FOR CONSTRUCTION

Brian Nelson, City Engineer *R.C.E. C79870* *Approved Date*

SPECIFICATION NO.	DATE	SHEET
1000535	10/24/2022	1 of 15

F:\proj\2021\210737\A Production and Drafting\Const Dwgs\Civil\CE210737AA0001.dwg 10-24-22 03:30:42 PM anthonyk



HIGHWAY 101
(N26°12'30"E 1556.13' R1)
REMOVE EXISTING TREES AND BRUSH AROUND NEW SWITCHBOARD LOCATION AS NEEDED IN COMPLIANCE WITH TREE REMOVAL REGULATIONS
PROTECT IN PLACE EXISTING PG&E TRANSFORMER
ACCESS DENIAL 35 PM 98 (18)
475 OR 300 (8)
1243 OR 355 (12)
SHEDULE B EXCEPTIONS 11, 12, 18
REMOVE EXISTING CONTAINMENT AREA CATCH BASIN, AND PLUG EXISTING STORM DRAIN PIPES
PROTECT IN PLACE EXISTING SAND SEPARATOR
SAWCUT
15.5'±
REMOVE PORTION OF EXISTING CHAINLINK FENCE IN FRONT OF NEW SWITCHBOARD LOCATION PER ELECTRICAL DRAWINGS
PROTECT IN PLACE EXISTING SEWER CLEANOUTS (TYP. UNLESS NOTED OTHERWISE)
PROTECT IN PLACE EXISTING SEWER CLEANOUTS
REMOVE EXISTING CONTAINMENT AREA CATCH BASIN, AND PLUG EXISTING STORM DRAIN PIPES
33.69'
BUS WASH
PROTECT IN PLACE EXISTING CONCRETE CURB AND GUTTER
CONC
PROTECT IN PLACE EXISTING CONCRETE PAD
PROTECT IN PLACE EXISTING SEWER CLEANOUTS
MAINTENANCE BUILDING
PROTECT IN PLACE EXISTING TELECOM MANHOLE
DEMOLISH AND REMOVE EXISTING CONCRETE FOUNDATION. REMOVE AND SAVE LAMP AND POST TO BE SALVAGED AND RETURNED TO THE CITY
ADMINISTRATIVE OFFICES
83.46'
SAWCUT
PROTECT IN PLACE EXISTING BOLLARDS
PROTECT IN PLACE EXISTING CONCRETE CURB AND GUTTER
SAWCUT, DEMOLISH, AND REMOVE EXISTING ASPHALT, ASPHALT BERM, AND CONCRETE PARKING SURFACE TO A DEPTH OF 16" BELOW PROPOSED FINISHED SURFACE
DEMOLISH AND REMOVE CONTAINMENT AREA CATCH BASIN PER DETAIL 2, SHEET 6
PROTECT IN PLACE EXISTING SAND SEPARATOR

DEMOLITION PLAN

SCALE: 1"=20'

GENERAL DEMOLITION NOTES

1. ANYTHING NOT LABELED FOR DEMOLITION SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED ON PLANS.

0 20 40

1 INCH = 20 FEET

F:\pro\2021\210737\4 Production and Drafting\Const Dwgs\Civil\CE210737DM0001.dwg 10-24-22 03:30:58 PM anthonys

CITY OF SAN LUIS OBISPO

Cannon

PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

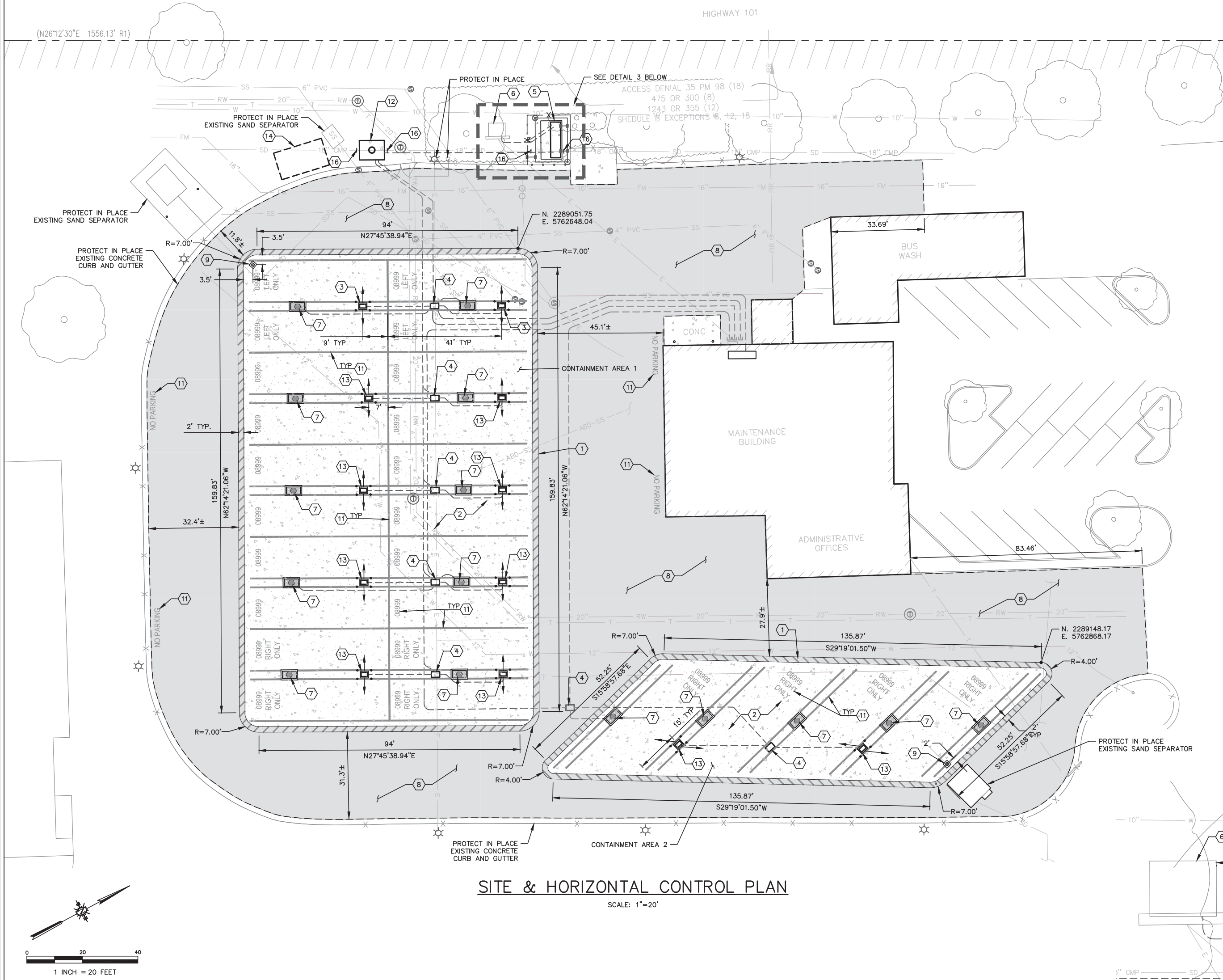
SHEET TITLE: DEMOLITION PLAN

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY:	AJS
DRAWN BY:	AJS
CHECKED BY:	JJS
APPROVED BY:	JJS
SCALE:	1" = 20'
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	

SHEET NO.

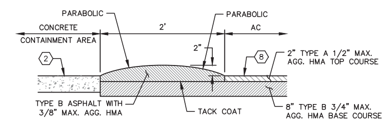


SITE & HORIZONTAL CONTROL PLAN

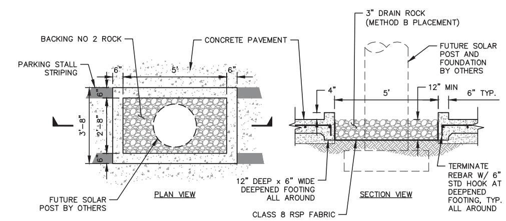
SCALE: 1"=20'

CONSTRUCTION NOTES

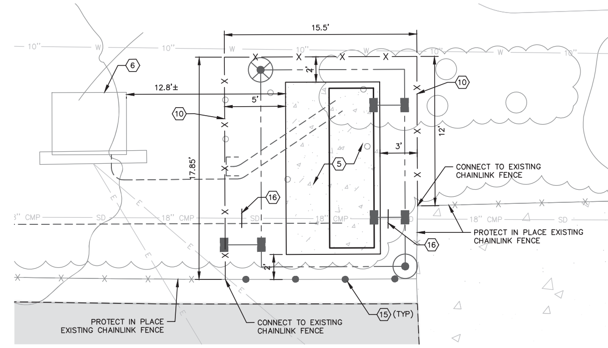
1. INSTALL ASPHALT CONTAINMENT BERM PER DETAIL 1, THIS SHEET
2. INSTALL 8" CLASS 2 CONCRETE PAVEMENT WITH #4 @ 24" O.C. BOTH WAYS REINFORCING TO BE PLACED 3" ABOVE BOTTOM OF POUR OVER 6" CLASS II AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION, OR MATCH EXISTING WHICH EVER IS GREATER, WITHIN CONTAINMENT AREA AS SHOWN ON PLANS. SOFT CUT PAD 1" DEPTH AT 10'x10' INCREMENTS WITHIN 24 HOURS OF POUR. CONTRACTOR MUST SUBMIT SAWCUT PLAN FOR APPROVAL BY ENGINEER PRIOR TO POUR.
3. ELECTRIC VEHICLE CHARGING STATION, CONCRETE PAD, AND BOLLARDS PER ELECTRICAL DRAWINGS AND STRUCTURAL DETAILS. 2 TOTAL.
4. PULL BOX PER ELECTRICAL DRAWINGS
5. SWITCHBOARD AND CONCRETE PAD PER ELECTRICAL AND STRUCTURAL DRAWINGS
6. PG&E TRANSFORMER PER ELECTRICAL DRAWINGS
7. FUTURE OVERHEAD SOLAR COLUMNS PER DETAIL 2, THIS SHEET. CONTRACTOR TO CONFIRM EXACT LOCATION WITH CITY PRIOR TO PLACEMENT.
8. PLACE 8" OF TYPE B 3/4" MAX. AGGREGATE PG 64-10 HMA OVER 6" OF CLASS II AGGREGATE BASE, AND CAP WITH 2" OF TYPE A 1/2" MAX. AGGREGATE PG 64-10 HMA.
9. CONTAINMENT AREA CATCH BASIN PER CONTAINMENT AREA GRADING & DRAINAGE PLAN, SHEET 6
10. INSTALL 6-FT CHAINLINK FENCE PER CALTRANS STANDARD DETAIL A85, SHEET 15, AND CONNECT TO EXISTING
11. PAVEMENT MARKINGS AND STRIPING PER STRIPING PLAN, SHEET 4
12. FLAT WALL MANHOLE PER ELECTRICAL DRAWINGS
13. CONCRETE PAD AND BOLLARDS FOR FUTURE ELECTRIC VEHICLE CHARGING STATION PER ELECTRICAL DRAWINGS AND STRUCTURAL DETAILS
14. PROPOSED FUTURE POWER BLOCK LOCATION PER ELECTRICAL DRAWINGS
15. REMOVABLE BOLLARD PER CITY OF SAN LUIS OBISPO STANDARD DETAIL 7335, SHEET 15
16. CUT, PLUG, AND REMOVE PORTION OF INTERFERING EXISTING ABANDONED 18"ø CMP STORM DRAIN



AC CONTAINMENT BERM DETAIL (1)
SHEET 3 N.T.S.



FUTURE SOLAR POST DETAIL (2)
SHEET 3 N.T.S.



ELECTRICAL EQUIPMENT PLACEMENT DETAIL (3)
SCALE: 1"=5'

CITY OF SAN LUIS OBISPO

Cannon

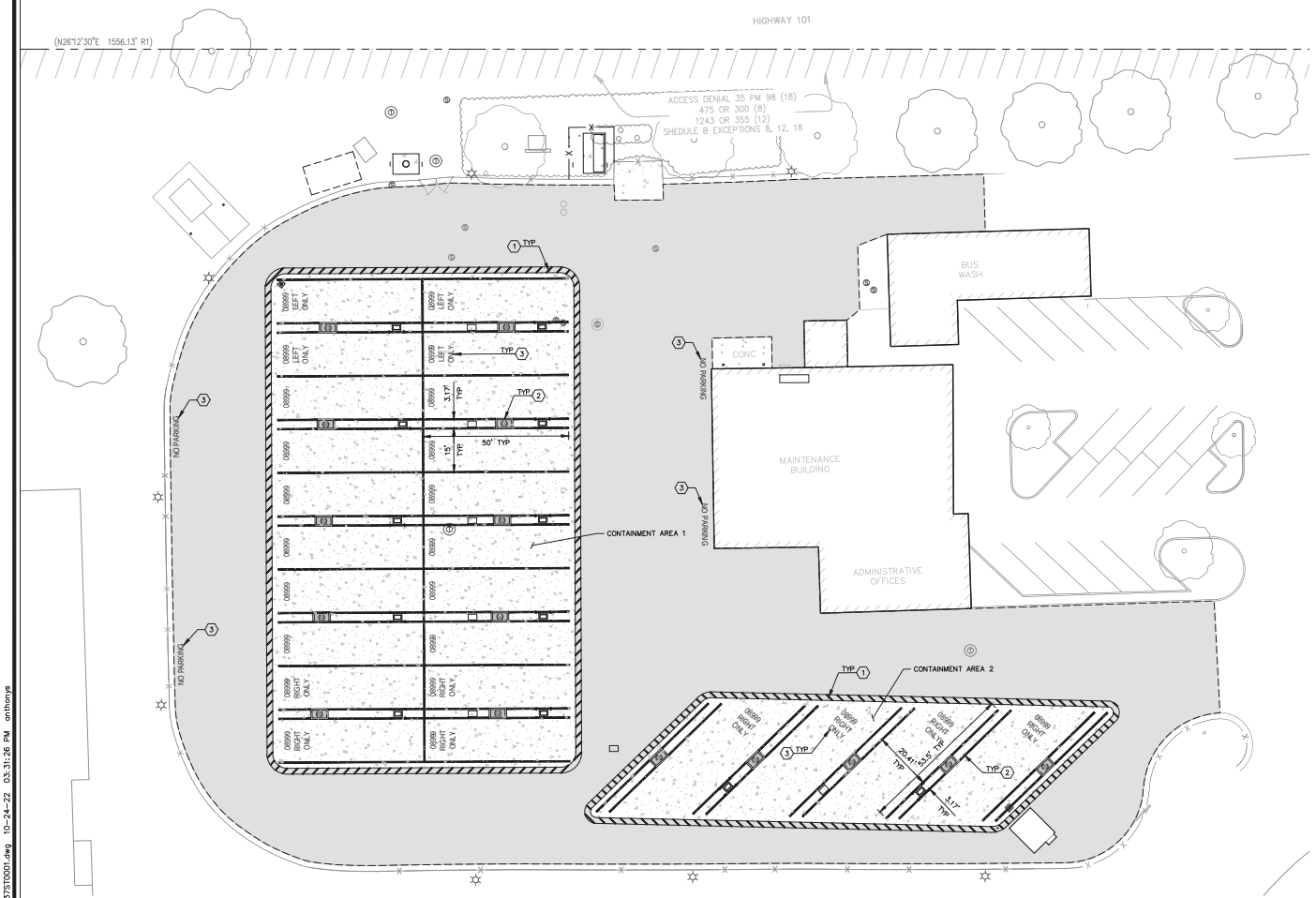
PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: SITE & HORIZONTAL CONTROL PLAN

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY:	AJS
DRAWN BY:	AJS
CHECKED BY:	JJS
APPROVED BY:	JJS
SCALE:	1" = 20'
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	



STRIPING PLAN

SCALE: 1"=20'

GENERAL STRIPING NOTES

1. STRIPING DIMENSIONS SHOWN ON THE PLANS ARE DIMENSIONED FROM EDGE OF PAVEMENT TO CENTER OF STRIPE, OR BETWEEN CENTERS OF STRIPES.

CONSTRUCTION NOTES

1. 4" WHITE THERMOPLASTIC CHEVRON STRIPING AT 5' SPACING ALONG TOP OF AC BERM AS SHOWN ON PLANS
2. 6" WHITE THERMOPLASTIC PARKING STALL STRIPING AS SHOWN ON PLANS
3. WHITE THERMOPLASTIC PAVEMENT MARKING AS SHOWN ON PLANS. ALL LETTERS SHALL BE NO LESS THAN 1'-0" HIGH ON A CONTRASTING BACKGROUND.

0 20 40

1 INCH = 20 FEET

CITY OF SAN LUIS OBISPO

Cannon

1050 Southwood Drive, Suite 110
San Luis Obispo, CA 93401
P 805.544.3011 F 805.544.3294

PROJECT TITLE:
TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

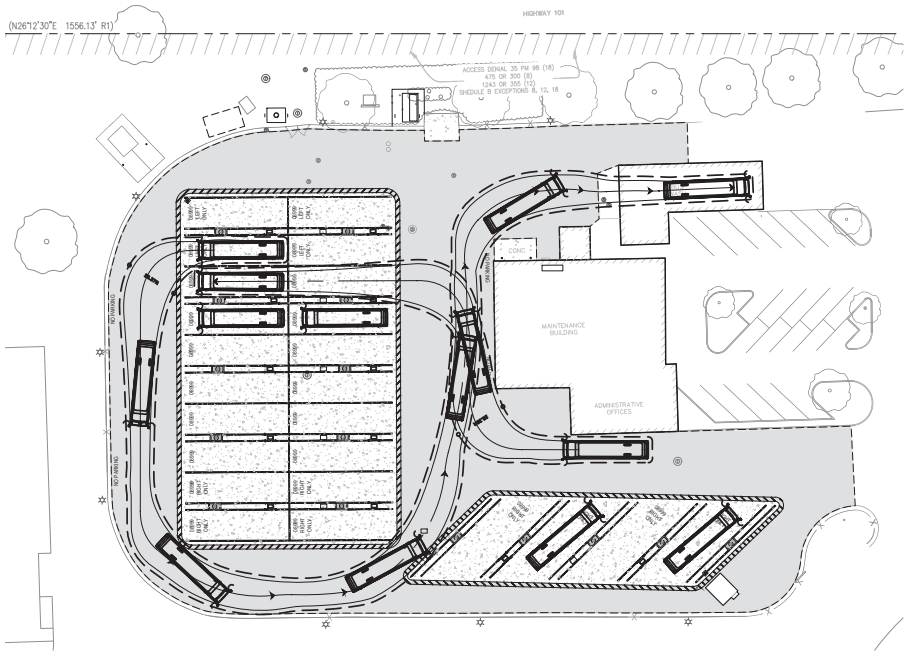
SHEET TITLE:
STRIPING PLAN

REGISTERED PROFESSIONAL ENGINEER ANTHONY J. SEPE CIVIL STATE OF CALIFORNIA

99% SUBMITTAL
NOT FOR CONSTRUCTION

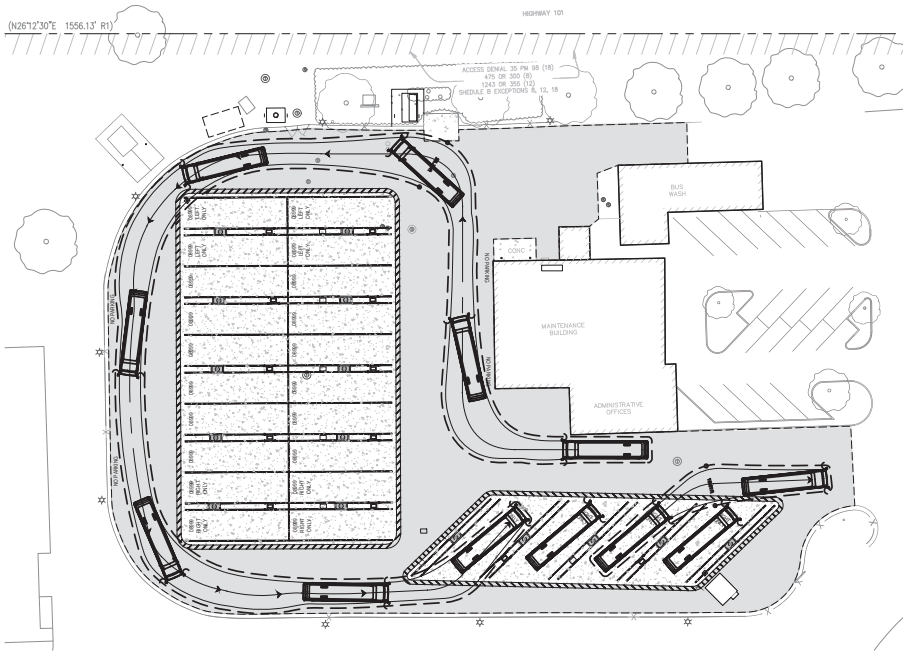
APPROVED: __/__/____

DESIGNED BY:	AJS
DRAWN BY:	AJS
CHECKED BY:	JJS
APPROVED BY:	JJS
SCALE:	1" = 20'
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	4 of 15



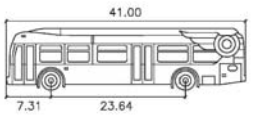
CONTAINMENT AREA 1 TURNING TEMPLATE

SCALE: 1"=30'



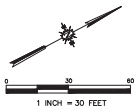
CONTAINMENT AREA 2 TURNING TEMPLATE

SCALE: 1"=30'



2017 New Flyer Xcelsior CHARGE 40ft

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 41.9



CITY OF SAN LUIS OBISPO

Cannon

1050 California Avenue, Suite 550
San Luis Obispo, CA 93401
P 805.543.2300 F 805.543.2304

THESE PLANS AND DOCUMENTS, AS WELL AS ALL ELEMENTS OF DESIGN CONTAINED THEREIN, ARE AND SHALL REMAIN THE PROPERTY OF CANNON AND SHALL NOT BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CANNON.

PROJECT TITLE:
TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE:
TURNING TEMPLATE

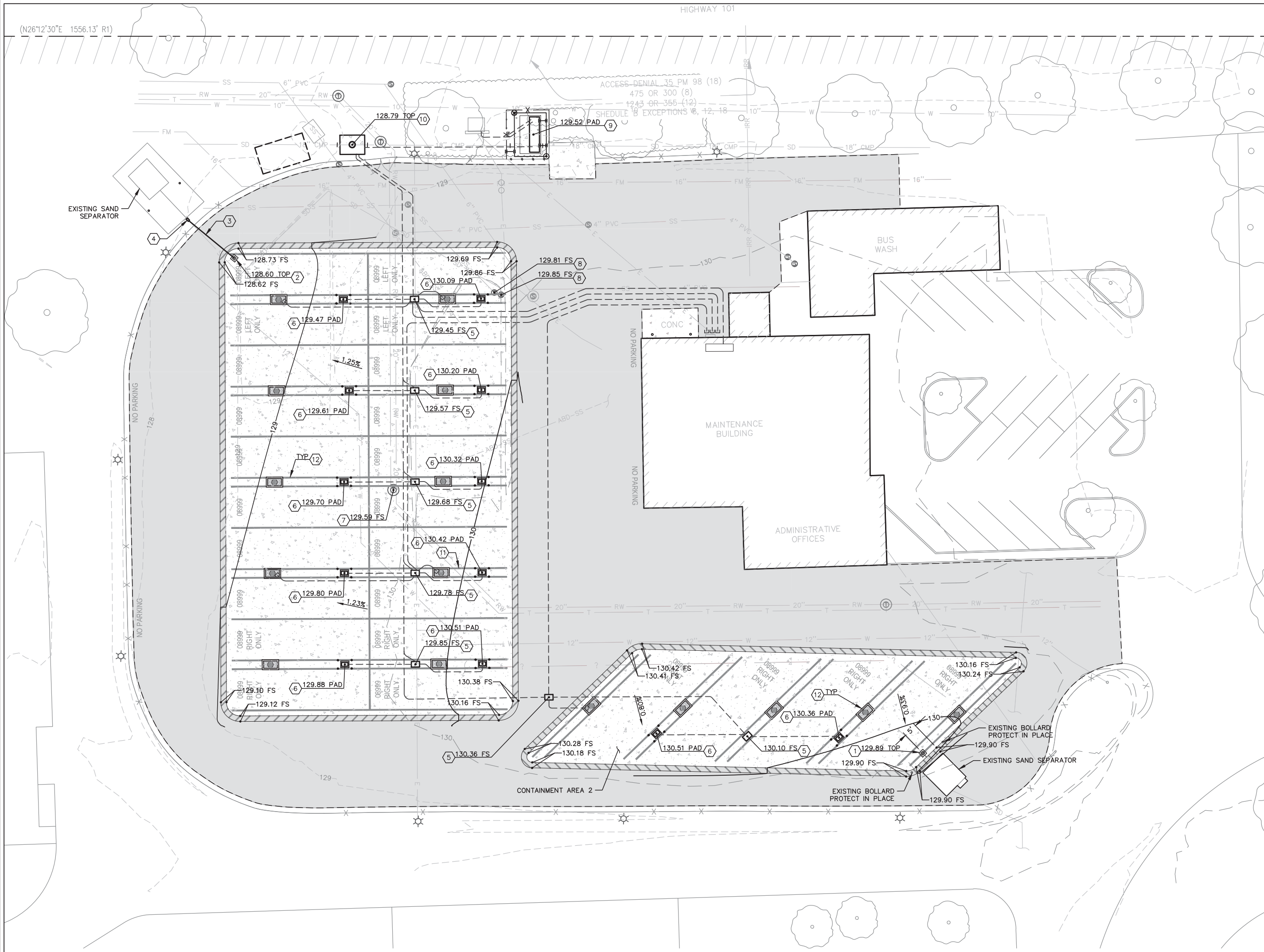
REGISTERED PROFESSIONAL ENGINEER ANTHONY J. SEPE CIVIL STATE OF CALIFORNIA

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

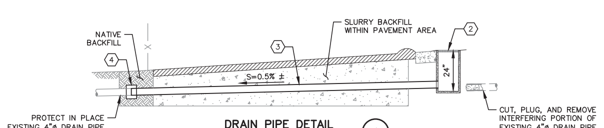
DESIGNED BY:	AJS
DRAWN BY:	AJS
CHECKED BY:	JJS
APPROVED BY:	JJS
SCALE:	1" = 30'
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	5 of 15

F:\pro\2021\210737\4 Production and Drafting\Const Dwgs\Civil\CE210737A00001.dwg 10-24-22 03:31:43 PM anthonys

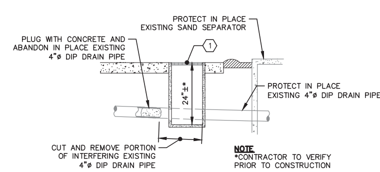


CONTAINMENT AREA GRADING & DRAINAGE PLAN

SCALE 1"=10'



DRAIN PIPE DETAIL (1)
SHEET 6 N.T.S.



DRAIN PIPE DETAIL (2)
SHEET 6 N.T.S.

1 INCH = 10 FEET

GENERAL UTILITY NOTES

1. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND BASED ON AVAILABLE INFORMATION PROVIDED BY UTILITY COMPANIES. IN INSTANCES WHERE NO VERTICAL UTILITY INFORMATION COULD BE FOUND, THE DEPTH OF THESE UTILITIES ARE SHOWN THREE FEET BELOW GROUND SURFACE.
2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL USE POSITIVE LOCATION METHODS PER CALTRANS PUBLICATION – "POLICY ON HIGH AND LOW RISK UNDERGROUND FACILITIES WITHIN HIGHWAY RIGHTS OF WAY". PRIVATE ON–SITE UTILITIES WILL NOT BE MARKED BY USA.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF THE DISCOVERY OF ANY UTILITY THAT WAS OMITTED FROM THE PLANS, INCORRECTLY SHOWN OR NOT PROPERLY MARKED. IF THE UTILITY DOES NOT PROVIDE LOCATION INFORMATION OR MARKING SERVICES IN THE FIELD, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
4. OVERHEAD UTILITIES ARE NOT SHOWN IN ALL INSTANCES. CONTRACTOR SHALL USE DUE CARE WHEN WORKING NEAR OR UNDER SAID UTILITIES AND SHALL PROTECT THEM IN PLACE.
5. THE CONTRACTOR SHALL NOT INTERRUPT THE UTILITY SERVICE FUNCTION, DISTURB THE SUPPORT BASE, OR MODIFY ANY FACILITY WITHOUT AUTHORITY FROM THE UTILITY OWNER.
6. EXISTING PIPELINES/UTILITIES THAT CROSS NEW SYSTEM PIPING OR SIMILAR EXCAVATIONS REQUIRED TO CONSTRUCT THE PIPING, SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED. ALL EXISTING PIPELINES/UTILITIES SHALL BE SUPPORTED ACROSS THE EXCAVATION DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER IF ANY UTILITY IS DISTURBED OR DAMAGED DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BEAR THE COSTS OF REPAIR OR REPLACEMENT OF ANY MARKED UTILITY WHERE DAMAGE WAS CAUSED BY THE CONTRACTOR'S ACTIVITIES.

CONSTRUCTION NOTES

(1) INSTALL 12"x12" CONCRETE TRAFFIC RATED CATCH BASIN OVER TOP EXISTING DRAIN LINE. MATCH BOTTOM OF CATCH BASIN WITH INVERT OF EXISTING DRAIN PIPE AND REMOVE SECTION OF PIPE WITHIN CATCH BASIN. SEE DETAIL 2, THIS SHEET.

(2) INSTALL 12"x12" CONCRETE TRAFFIC RATED CATCH BASIN AND CONNECT TO EXISTING DRAIN PIPE PER DETAIL 1, THIS SHEET.

(3) INSTALL 4"ø DUCTILE IRON DRAIN PIPE IN OPEN TRENCH WITH 2 SACK SLURRY BACKFILL PER CITY OF SAN LUIS OBISPO STANDARD DETAIL 6020 AND PER DETAIL 1, THIS SHEET

(4) INSTALL DUCTILE IRON TRANSITION COUPLING

(5) SET PULL BOX LEVEL WITH THE SURROUNDING SURFACE PER ELECTRICAL DRAWINGS

(6) SET ELECTRIC VEHICLE CHARGING STATION CONCRETE PAD 4" ABOVE THE SURROUNDING SURFACE PER ELECTRICAL AND STRUCTURAL DETAILS

(7) RESET EXISTING TELECOM MANHOLE TO FINISHED SURFACE

(8) RESET EXISTING SEWER CLEANOUT LIDS TO FINISHED SURFACE

(9) SET SWITCHBOARD CONCRETE PAD FINISHED SURFACE 6" ABOVE SURROUNDING SURFACE

(10) SET TOP OF FLAT WALL MANHOLE 6" ABOVE SURROUNDING SURFACE PER ELECTRICAL DRAWINGS

(11) CONTRACTOR SHALL POTHOLE PRIOR TO CONSTRUCTION AND COORDINATE WITH THE CITY TO MOVE THE LOCATION FOR SOLAR POLE STRUCTURE IF CONFLICTS WITH EXISTING UTILITIES

(12) FUTURE OVERHEAD SOLAR COLUMNS PER DETAIL 2, SHEET 3. CONTRACTOR TO CONFIRM EXACT LOCATION WITH CITY PRIOR TO PLACEMENT.

EARTHWORK QUANTITIES

DISTURBED AREA: 59,300 SF

CUT: 125 CY

FILL: 20 CY

NET: 105 CY (CUT)

THE QUANTITIES GIVEN REFLECT THE DIFFERENCE BETWEEN EXISTING GRADE AND FINISHED GRADE. VALUES ARE UNADJUSTED, DO NOT FACTOR IN SHRINKAGE, AND DO NOT REFLECT CONTRACTOR MEANS AND METHODS, PHASING OR SCHEDULING, FINISHED SURFACE HOLD DOWNS, OVER–EXCAVATION FOR CONCRETE PADS AND FOUNDATIONS, OR CLEARING AND GRUBBING.

THE ABOVE LISTED QUANTITIES ARE ESTIMATES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPUTING HIS OWN QUANTITIES FOR CONTRACT PURPOSES. FIELD CONDITIONS DURING CONSTRUCTION MAY VARY RESULTING IN ACTUAL EARTHWORK QUANTITIES DIFFERENT FROM THOSE ESTIMATES ABOVE.

DESIGN CONTOURS ARE SHOWN FOR REFERENCE ONLY. DESIGN ELEVATIONS SHALL BE CALCULATED PURSUANT TO THE PRECISE GRADES SHOWN.

FLOOD ZONE NOTES

THE PROPERTY IS LOCATED WITHIN A MAPPED FLOOD ZONE XB (X SHADED) AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP. LOCAL ORDINANCE REQUIRES THE ELECTRICAL SERVICE EQUIPMENT SHALL BE ELEVATED A MINIMUM OF 1' ABOVE THE HIGHEST ADJACENT GRADE.

CITY STAFF HAVE EVALUATED THE SITE AMD DETERMINED THAT THE SWITCHBOARD FOUNDATION PAD ELEVATION OF 129.52' IS SUFFICIENTLY ELEVATED.

CITY OF SAN LUIS OBISPO

Cannon

PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: CONTAINMENT AREA GRADING & DRAINAGE PLAN

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY:	AJS
DRAWN BY:	AJS
CHECKED BY:	JJS
APPROVED BY:	JJS
SCALE:	AS SHOWN
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	

SHEET NO. 6 of 15

F:\pro\2021\210737\4 Production and Drafting\Const Dwgs\Civil\CE210737DR0001.dwg 10-24-22 03:31:59 PM anthonys

GENERAL NOTES

1. Construction shall comply with the latest edition of the California Building Code (CBC), IBC Standards, IBC adopted Standards, and IBC recognized Standards and of any regulating agencies which have authority over any portion of the work, including local, state and federal safety and health standards, laws and regulations.
2. General notes and typical details apply to all structural features, unless otherwise indicated.
3. If certain features are not fully shown or called out on the drawings or in the specifications, their construction shall be of the same character as for similar conditions.
4. The construction documents represent the finished structure and do not indicate methods, procedures or sequence of construction. It is the responsibility of the Contractor to take necessary precautions to maintain and ensure the integrity of the structure during construction. The Contractor shall provide all measures necessary to protect life and property during construction.
5. The Contractor shall be responsible for coordinating the work of all trades and shall check all dimensions and holes and openings required in structural members. All discrepancies shall be called to the attention of the Structural Engineer and shall be resolved before proceeding with the work.
6. Prior to submitting shop drawings and product data, the Contractor shall verify that the submittals meet the requirements of the drawings and specifications. The contractor shall specifically note any exceptions to these requirements with the submittal.
7. Openings, pockets, etc. shall not be placed in structural members unless specifically detailed on the structural drawings. Notify the Structural Engineer when work requires openings, pockets, etc. in structural members not shown on the structural drawings.
8. Where the general notes and the typical details are in conflict with the specifications, the general notes and typical details shall govern. Notes and details within these drawings take precedence over General Notes.
9. Construction materials shall be spread out if placed on slabs, floors or roofs. Load shall not exceed the design live load per square foot. Provide adequate shoring where overload is anticipated.
10. Unless specifically shown or noted on the structural drawings, anchor bolts or insets for equipment anchorage or installation shall be designed by a Civil or Structural Engineer registered in the state of California, and shall be shown on the architectural, mechanical and/or electrical drawings. Connections of items supported by the structure are the responsibility of the disciplines who are making these attachments. These attachments shall be designed to resist gravity, wind, seismic, thermal loads, etc.
11. All correspondence shall go through the Prime Consultant.

EXISTING UNDERGROUND UTILITIES

1. It is the responsibility of the Contractor to locate existing utilities whether shown hereon or not, and to protect them from damage. The location of any existing underground utilities shown on the drawings, if any, is approximate.
2. The Contractor shall be responsible for any damage which may result from his failure to locate and preserve all existing underground utilities.

DIMENSIONS

1. Do not scale drawings. Drawing scales given are approximate. Discrepancies shall be conveyed to the Structural Engineer and be resolved prior to proceeding.
2. The Contractor shall review and verify all dimensions prior to starting construction. The Engineer shall be notified immediately of any discrepancies or inconsistencies.

PROJECT DESIGN CRITERIA

1. Code: 2019 California Building Code
2. Risk Category: II
3. Wind Design Data

Design Method:	Envelope Method
Exposure Category:	C
Basic Wind Speed (3–sec. gust), V_{ult}:	98 mph
Internal Pressure Coefficient, GC_{pi}:	±0.18

4. Earthquake Design Data:

Seismic Importance Factor, I_e:	1.0
Mapped Spectral Response	
S_S:	1.044 g
S_1:	0.385 g
Site Class:	D
Spectral Response Coefficients	
S_{DS}:	0.835 g
S_{D1}:	0.492 g

EXISTING CONDITIONS

1. Work shown is new unless noted as existing: (E).
2. Existing construction shown on these drawings was obtained from site investigation and can be used for bidding purposes. The contractor shall verify all existing job conditions, review all drawings and verify dimensions prior to construction. The contractor shall notify the Engineer of all discrepancies and exceptions before proceeding with the work.
3. The removal, cutting, drilling, etc. of existing work shall be performed with care in order not to jeopardize the structural integrity of the structure. If structural members or mechanical, electrical or architectural features not indicated for removal interfere with the new work, notify the Engineer immediately and obtain approval before removal of members.
4. The Contractor shall safely shore existing construction wherever existing supports are removed for the new work.
5. The Contractor shall perform the work with minimal inconvenience to the owner and without interruption of day–to–day work operations. The Contractor shall ensure safe travel of persons around areas of construction and shall coordinate all operations with the Owner or the Owner's agent.
6. The Contractor shall promptly repair any damage caused during operations, using materials and workmanship similar to that which was damaged.
7. All removed items, materials and debris, unless otherwise noted, shall be removed promptly from the site and disposed of in a legal manner.
8. Do not core or cut new openings in existing concrete or masonry without specific approval of the Structural Engineer. Submit dimensioned layout of all proposed new openings to the Structural Engineer for review and approval prior to coring or cutting openings. The Contractor, at their own expense, shall use non–destructive methods to locate existing reinforcing. Existing reinforcing shall not be cut without specific approval of the Structural Engineer.

GEOTECHNICAL DATA

1. No geotechnical report is provided for the project. Design of foundation is based on minimum requirements per Section 1806 of the CBC.
2. Foundation Type: Conventional spread foundation, CIDH PILES

Design Values:

ISOLATED FOOTINGS	ALLOWABLE BEARING PRESSURES
DL + LL	1500 psf
DL + LL + Wind or Seismic	2000 psf

LATERAL RESISTANCE	
Passive Pressure	150 pcf
Coefficient of Friction	0.25

3. All footings shall bear on compacted undisturbed soil. Depth of footings shown on the drawings are minimum, and the bottom of footing shall be lowered as required to remove soft or loose materials.

REINFORCING STEEL

1. All portions of work pertaining to concrete reinforcing construction shall conform to the California Building Code, Chapter 19, ACI Standard 318, and other referenced documents.
2. Reinforcing Steel: ASTM A615 grade 60. ASTM A706 where welded or otherwise indicated.
3. All reinforcement shall be continuous. Stagger splices where possible. Laps shall be per typical details, unless noted otherwise.
4. All reinforcing bar bends shall be made cold. Reinforcing bars shall not be re–bent without approval of Structural Engineer.
5. Reinforcing steel shall be clean, free of excessive rust, grease, oil or other material likely to impair bond.
6. Minimum clear concrete cover for reinforcement, unless noted otherwise:

A. Mild Reinforced Concrete:

Cast against earth:	3 inches
Cast in forms and exposed to earth or weather:	
#6 bar and larger:	2 inches
#5 bar and smaller:	1½ inches
Not exposed to earth or weather:	
Slabs and walls (#11 and smaller):	¾ inch
Beams, girders, and columns (to ties):	1½ inches

Clearances are to closest reinforcement.

POST–INSTALLED ANCHORS

1. Post–Installed anchors include all adhesive anchors (reinforcing bar dowels and threaded rods) expansion anchors, screw anchors and undercut anchors set in holes drilled in existing concrete or masonry.
2. Installation of post–installed anchors shall conform to all requirements of the applicable code evaluation or IAPMO reports and manufacturers' recommendations.
3. Mark the location of all existing reinforcing in the substrate material within 12" of the proposed locations of all post–installed anchors. Notify the Engineer of any conflicts discovered between the proposed anchor locations and the existing reinforcing prior to fabrication of any steel and prior to any hole drilling, so as to avoid disturbing, cutting, or otherwise harming the existing reinforcing.
4. Holes for adhesive anchors in concrete shall be drilled. Cored holes are not permitted.
5. Expansion Anchors in Concrete or Approved Equal, UNO:
   A. HILTI "Kwik–Bolt TZ" ICC ESR–1917.

CONCRETE

1. All portions of work pertaining to concrete construction shall conform to the California Building Code, Chapter 19, ACI Standard 318, and other referenced documents.
2. All concrete shall be ready–mix in accordance with ASTM C94.
3. Cement: ASTM C150 Type II. Where concrete is placed against soils that contain high levels of sulfides, use Type V cement.
4. Aggregate: ASTM C33. Aggregate for normal weight concrete shall conform to ASTM C–33.
5. Non–shrink Grout: ASTM C1107, premixed, non–staining, non–shrink grout.
6. Admixtures shall be approved by Structural Engineer prior to use. Calcium chloride or admixtures containing chloride(s) shall not be used.
7. Provide aggregates that do not contain any substance which may be deleteriously reactive with the alkalies in the cement. Fine and coarse aggregates shall be tested in accordance with ASTM C1260. Should the test data indicate potentially reactive aggregate, reject the aggregate(s) or perform additional testing using ASTM C1567.
8. Concrete mixes shall be designed by a qualified testing laboratory. Mix designs shall conform to ACI 318, Chapter 5, Sec. 1903, & 1904. Mixes are to be reviewed by owner's testing lab and submitted to the Architect/Engineer for approval. Do not cast concrete without approval by Architect/Engineer.

Concrete	Strength	Max Agg. Size	Max W/C Ratio
Foundations	4000 psi	1½"	0.45

All concrete shall be hard rock aggregate, regular–weight concrete, 145 pcf, unless noted otherwise.

9. Maximum slump shall not exceed 3" +/– 1" for footings, slabs on grade, and 4" +/– 1" for other concrete. Slump limitations noted shall apply to concrete mix prior to the addition of any water–reducing admixtures or super–plasticizers.
10. Placement of concrete shall conform to ACI 304. Clean and roughen (by sandblasting, bushammer, or other approved method) to ¼" amplitude for all concrete surfaces against which concrete is to be placed.
11. Concrete shall be placed in accordance with ASTM C94 and ACI Standard 304.
12. When cold weather conditions exist, place concrete in compliance with ACI 305. When hot weather conditions exist, place concrete in compliance with ACI 306. In hot conditions, reinforcing shall be kept cool during concrete placement.
13. Location of construction joints not specified in these drawings must be reviewed by the Structural Engineer. Concrete slab on grade shall have control joints as shown on the foundation plan. Where construction/crack control joints are not specified, provide at a roughly square pattern with segments not exceeding 150 square feet in area.
14. Dry pack or place non–shrink grout under base plates, sill plates, etc., as required for full bearing.
15. All reinforcing bars, anchor bolts and other concrete inserts shall be secured in position prior to placing concrete. Stabbing of anchor bolts or reinforcing into wet concrete is not allowed.
16. Provide sleeves for plumbing, mechanical, and electrical openings in concrete before placing. Do not cut any reinforcing which may conflict. Coring in concrete is not permitted except as shown. Notify the Structural Engineer, in advance, of conditions not shown on the structural drawings.
17. Conduits or pipes shall not be embedded within a slab, wall, beam, concrete fill over metal deck, or column, unless noted otherwise.
18. Concrete elements shall reach specified 14–day compressive strength before being loaded, UNO.

FOUNDATIONS

1. When shown, the elevations of foundations indicate the estimated minimum foundation depths. Elevations shown are for bidding purposes only and are assumed to be in suitable bearing material.
2. The Contractor shall be solely responsible for all excavation procedures, including lagging, shoring and protection of adjacent property, structures, streets and utilities in accordance with the local jurisdiction.
3. Dewater excavations as required to maintain dry working conditions.
4. Excavations shall be properly backfilled. Do not place backfill behind retaining walls before concrete and/or masonry has attained specified 28–day compressive strength. Contractor shall brace or protect building and pit walls below grades from lateral loads until supporting floors and or roofs are in place and have attained full strength.
5. All abandoned footings, utilities, etc., that interfere with new construction, shall be removed.
6. The bottom of footings shall be level. Changes in footing elevations shall be made utilizing the TYPICAL STEP IN FOOTING detail, when included within these drawings.
7. Center footings under walls or columns unless otherwise indicated on these drawings.
8. Avoid footing penetrations and trenching near footings. Where unavoidable, see TYPICAL PIPE AND TRENCH detail, when included within these drawings.
9. Embedded items must be tied in place prior to foundation inspection.

ABBREVIATIONS

#	Number or Pound
&	And
∠ or L	Angle
@	At
ABV.	Above
AB	Anchor Bolt
ADDL.	Additional
AISC	American Institute of Steel Construction
ALT.	Alternate
APA	American Plywood Association
APPROX.	Approximate
ARCH.	Architectural, Architect
ASTM	American Standards of Testing and Materials
BLDG.	Building
BLK.	Block, Blocking
BLW.	Below
BM.	Beam
BN	Boundary Nailing
BO	Bottom of
BOT.	Bottom
BRG.	Bearing
BS	Both Sides
BTWN.	Between
CANT.	Cantilever
CBC	California Building Code
CHD.	Chord
CIP	Cast–in–place
CJ	Construction or Control Joint
CJP	Complete Joint Penetration
℄ or CL	Center Line
CLG.	Ceiling
CLR.	Clear
CMU	Concrete Masonry Unit
COL.	Column
CONC.	Concrete
CONN.	Connection
CONT.	Continuous
COORD.	Coordinate
CSK.	Countersink
CTR.	Center
D or d	Nail Penny Size
ø or DIA.	Diameter
DBA	Deformed Bar Anchor
DBL.	Double
DET.	Detail
DF	Douglas Fir
DIAG.	Diagonal
DIM.	Dimension
DKG.	Decking
DL	Dead Load
DO.	Ditto
DWG.	Drawing
(E)	Existing
EA.	Each
EF	Each Face
EJ	Expansion Joint
ELEV., EL.	Elevation
EMBED.	Embedment
EN	Edge Nail, End Nail
EO	Edge of
EOC	Edge of Concrete
EQ.	Equal
EQUIP.	Equipment
ES	Each Side
EW	Each Way
EXP.	Expansion
EXT.	Exterior
FDN.	Foundation
FF	Finish Floor
FG	Finish Grade
FIN.	Finish
FJ	Floor Joist
FLR.	Floor
FN	Field Nail
FOC	Face of Concrete
FOM	Face of Masonry
FOS	Face of Stud
FRMG.	Framing
FS	Far Side
FT.	Foot, Feet
FTG.	Footing
GA.	Gauge
GALV.	Galvanized
GL.	Grid Line
GLB	Glued–laminated Beam
GWB	Gypsum Wall Board
HD	Holdown
HDG	Hot Dipped Galvanized
GYP.	Header
HGR.	Hanger
HORIZ.	Horizontal
HSB	High Strength Bolt
HSS	Hollow Structural Section
HT.	Height

IBC	International Building Code
ICC	International Code Council
ID	Inside Diameter
INFO.	Information
INT.	Interior
JST.	Joist
JT.	Joint
KSI	Kips per Square Inch
LL	Live load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LONG.	Longitudinal
LOC.	Location
LS	Lag Screw
LTWT	Light Weight
MAX.	Maximum
MB	Machine Bolt
MECH.	Mechanical
MFR.	Manufacturer
MIN.	Minimum
MISC.	Miscellaneous
(N)	New
NS	Near Side
NTS	Not to Scale
NWT	Normal Weight
OC	On Center
OD	Outside Diameter
OH	Opposite Hand
OPNG.	Opening
PAF	Powder–Actuated Fastener
PERP.	Perpendicular
PEMB	Pre–Engineered Mtl. Bldg.
℘ OR PL.	Plate
PLF	Pounds per Linear Foot
PLY	Plywood
PJP	Partial Joint Penetration
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
PT	Pressure Treated
PW	Puddle Weld
QTY.	Quantity
RAD.	Radius
REINF.	Reinforcing
REQ.	Required
RET.	Retaining
SAD	See Architectural Drawings
SCHD.	Schedule
SHT.	Sheet
SHTG.	Sheathing
SIM.	Similar
SMD	See Mechanical Drawings
SMS	Sheet Metal Screw
SOG	Slab on Grade
SPEC.	Specification
SQ.	Square
SS	Stainless Steel
STD.	Standard
STGD.	Staggered
STIFF.	Stiffener
STL.	Steel
STRUCT.	Structural
STRGR.	Stringer
SW	Shear Wall
SYM.	Symmetrical
T&B	Top and Bottom
T&G	Tongue and Groove
TEMP.	Temporary
THRU.	Through
TN	Toe Nail
TO	Top of
TOB	Top of Beam
TOC	Top of Concrete
TOG	Top of Grating
TOS	Top of Steel
TOW	Top of Wall
TRANSV.	Transverse
TYP.	Typical
UNO	Unless Noted Otherwise
URM	Unreinforced Masonry
VERT.	Vertical
VIF	Verify in Field
WWF	Welded Wire Fabric
w/	With
w/o	Without
WP	Work Point
WSHR.	Washer

CITY OF SAN LUIS OBISPO

Cannon

PROJECT TITLE:
TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE:
GENERAL STRUCTURAL NOTES

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY:	KA
DRAWN BY:	KA
CHECKED BY:	MRP
APPROVED BY:	MRP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	

SUBMITTALS

1. Submittals shall be submitted to the Prime Consultant and Structural Engineer for review prior to fabrication of the items.
2. A schedule for submittal of shop drawings shall be prepared by the Contractor and reviewed by the Prime Consultant and Structural Engineer prior to the start of fabrication. The schedule shall proportion the quantity of shop drawings to be reviewed in each submittal to allow sufficient time, as deemed reasonable in the professional judgement of the Prime Consultant and Structural Engineer, to permit adequate review. Allow a minimum of (10) working days for review by the Structural Engineer.
3. Shop drawings shall indicate the date or revision of drawing(s) from which the drawings were prepared. Submittals that do not identify the latest date or revision of drawing(s) will be returned without review. Only shop drawings that are complete will be accepted for review.
4. If, after review, the shop drawings must be revised and resubmitted, the shop drawings shall identify each revision and/or addition by clouding or other means to assure proper review.
5. Submittals will not be accepted directly from subcontractors. Submittals will be accepted from the General Contractor only after being reviewed and signed by the General Contractor, indicating compliance with the requirements of the construction documents. Submittals not complying with the requirements noted above or in the specifications will be returned without review.
6. Submittals shall include those indicated on the following list as well as any other items indicated in the specifications. This list is provided for convenience only and may not incorporate all requirements indicated in the project specifications.

EARTHWORK

1. Laboratory analysis for each soil material proposed for fill and backfill from on—site and borrow sources.
2. Optimum moisture—maximum density curve for each soil material used as fill, subgrade, subbase, or base course.

CONCRETE FORMS AND ACCESSORIES

1. Shop drawings indicating pertinent dimensions, materials, bracing, and arrangement of joints and ties.

CONCRETE REINFORCEMENT

1. Shop drawings complying with the requirements of ACI SP—66. include bar schedules, shapes of bent bars, spacing of bars, and location of splices.
2. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.
3. Welding procedure specifications (WPSS) for each unique type of weld of reinforcing steel, characterized by (position, process, size, material).
4. Product data and Code Evaluation Reports for the following products: Mechanical couplers, deformed bar anchors, and headed reinforcement.
5. Reports: Certified copies of mill test reports for each heat of reinforcing provided to the project, documenting compliance with the applicable ASTM specification, including chemical analysis, tensile tests and bend tests.

CAST—IN—PLACE CONCRETE

1. Mix designs and test data for concrete mixes, at least 15 days prior to intended placement. Mix design submittals shall include, as a minimum, the following:
   A. List of materials proposed weights and volumes of each material per cubic yard.
   B. Specification of source for each material.
   C. Gradation listing of aggregates and certification that coarse and fine aggregates meet the requirements listed in the concrete materials article of the cast—place concrete section of the specifications.
   D. List of admixtures, with manufacturer's data sheets.
   E. Certification that all aggregates are compatible with the proposed cement.
   F. Laboratory test reports from trial batches of field experience, as applicable for the specific mix proposed for use.
   G. The mix design shall be signed by a Professional Engineer licensed in the state of California.
2. Product data, material safety data sheets (MSDS) and Code Evaluation Reports, as applicable, for proprietary materials and items, including curing compounds, epoxy resins, surface treatments and proprietary anchoring systems.
3. Drawings indicating proposed locations of construction joints and control joints.
4. Description of curing methods proposed and products to be employed.

POST—INSTALLED ANCHORS

1. Product data and Code Evaluation Reports for anchors proposed as alternatives to those specified.
2. Preparation instructions and recommendations.
3. Installation methods.
4. Storage and handling requirements and recommendations.

STATEMENT OF STRUCTURAL OBSERVATION

1. Structural Observation is not required by Chapter 17 of the California Building Code.

STATEMENT OF SPECIAL INSPECTIONS

Tests and inspections indicated on the drawings are required for this project. The tests and inspections indicated here are the responsibilities of the Owner's Special Inspector, as required by Chapter 17 of the California Building Code.

1. The Special Inspector shall observe the work assigned for conformance with the approved design drawings and specifications.
2. The Special Inspector shall furnish inspection reports to the building official, the Architect/Engineer and other designated persons. All discrepancies shall be brought to the immediate attention of the Contractor for correction, then, if uncorrected, to the proper design authority and to the building official.
3. The Special Inspector shall submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and applicable standards of quality and workmanship of the CBC.
4. The contractor shall hold a pre—construction meeting involving the Architect, Structural Engineer and the Special Inspector in order to discuss the specific requirements of this project.
5. See project specifications for additional requirements.

CONCRETE

CONCRETE REINFORCEMENT AND CAST—IN—PLACE ANCHORS

1. Reinforcing Steel Placement. Verify the following:
   A. The reinforcing grade, size, number, location, and bend detailing are as shown on the drawings and are in acceptable condition.
   B. All required devices have been properly installed to secure the reinforcement in place during the placement of concrete.
5. Installation of Cast—in—Place Anchors and other embedments. Verify the following:
   B. The anchor diameter, length, type, grade, and depth of embedment into the concrete.
   C. All required items have been properly installed to secure the embedded item during placement of concrete.

CAST—IN—PLACE CONCRETE

1. Placement of concrete. Verify the following:
   A. The concrete delivered to the job has been prepared with the approved mix design appropriate for the application and is transported and placed within the time and under the conditions permitted by ASTM C94 and the project specifications.
   B. The concrete is placed, consolidated, and finished as indicated on the drawings.
   C. Test specimens are taken and cured as indicated in the project specifications.
2. Sampling of Fresh Concrete: ASTM C 172, except as modified for slump to comply with ASTM C 94.
   A. Slump: ASTM C 143; one test at point of placement for each set of compression test specimens; additional tests when concrete consistency seems to have changed.
   B. Concrete Temperature: ASTM C 1064; One test hourly when air temperature is 40 degrees Fahrenheit and below or 80 degrees Fahrenheit and above, and one test for each set of compressive—strength specimens.
   C. Compression Test Specimens: ASTM C 31; One set of four standard cylinders for each compressive—strength test, unless otherwise directed. Mold and store cylinders for laboratory—cured test specimens except when field—cured test specimens are required.
   D. Compressive—Strength Tests: ASTM C 39; One specimen shall be tested at 7 days, one specimen tested at 14 days, and two specimens at 28 days. and one specimen retained for later testing if required.
   E. Frequency of tests: A minimum of one set of cylinders shall be tested for any individual structure or each day's placement of a class of concrete exceeding 25 cu. yd. An additional set of cylinders shall be tested for each 100 cu. yd. of each class of concrete. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.
3. Provide continuous inspection during concrete placement.
4. Verify maintenance of specified curing temperature and techniques.

Test Panels.

POST—INSTALLED ANCHORS

1. Verify the following:
   A. The specific manufacturer and model of anchors have been approved for the application by the Architect/Engineer.
   B. The holes are drilled at the angle required and of the diameter and depth required.
   C. The holes are clean prior to installation of the anchors.
   D. The adhesive packaging indicates an expiration date and that the expiration date has not passed.
   E. The adhesive is mixed properly and that the initial portion of adhesive coming out of the nozzle is wasted, as required by the manufacturer.
   F. The anchors are installed according to the manufacturer's recommendations.
2. Perform tests of anchors according to ASTM E 488 and as follows:
   A. Test ten percent of each application of anchors to the tensile or torque proof load as indicated on the drawings.
   B. One application of anchors or dowels shall be defined as those anchors or dowels installed by a single crew in a single day.
   C. Test locations are random at the discretion of the testing lab, unless otherwise directed by the Architect/Engineer.
   D. Tension test loads shall be maintained for a minimum of two minutes.
3. Tension Test criteria: Anchor displacement at the end of the loading period shall be limited to one—fifth of the nominal anchor diameter. Displacement following release of load shall return to zero.
4. Torque Test criteria: Test torque must be reached within a half turn of the nut, except for 3⁄8" diameter anchors, for which test torque must be reached within a quarter turn of the nut.
5. If any anchor fails the test, test all anchors in the same application not previously tested until 10 consecutive anchors pass.
6. Adhesive dowels in horizontal or upwardly inclined orientations require continuous special inspection and shall be performed by personnel certified by an applicable certification program in accordance with ACI 318—14 17.8

Cannon
4540 California Avenue, Suite 550
Bakersfield, CA 93309
P 661.328.6280 F 661.328.6284

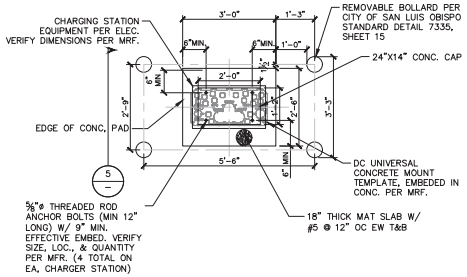
PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: GENERAL STRUCTURAL NOTES

99% SUBMITTAL
NOT FOR CONSTRUCTION

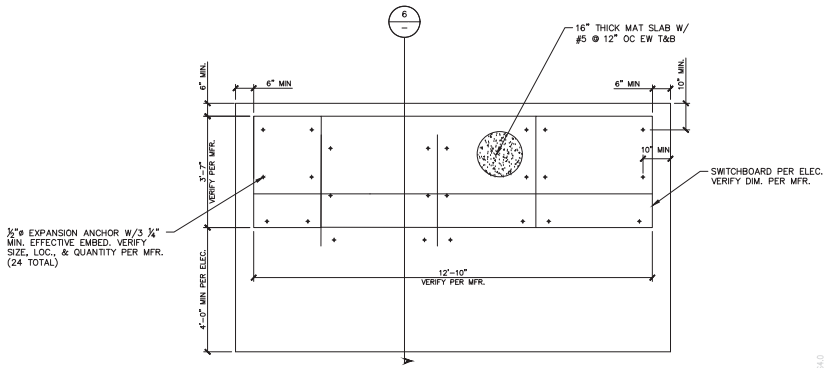
APPROVED: __/__/____

DESIGNED BY:	KA
DRAWN BY:	KA
CHECKED BY:	MRP
APPROVED BY:	MRP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	



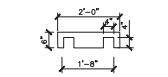
CHARGING STATION FOUNDATION PLAN 2

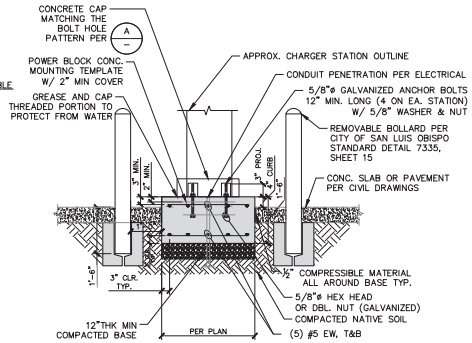
SCALE: 1/2"=1'-0"



SWITCHBOARD FOUNDATION PLAN 3

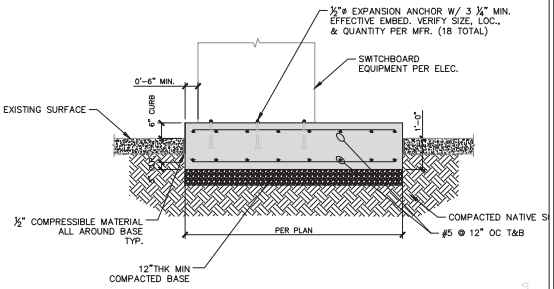
SCALE: 1/2"=1'-0"





CHARGING STATION FOUNDATION SECTION 5

SCALE: 1/2"=1'-0"



SWITCH BOARD FOUNDATION SECTION 6

SCALE: 1/2"=1'-0"

CITY OF SAN LUIS OBISPO

Cannon

1050 Southwood Drive, San Luis Obispo, CA 93401
P 805.544.3011 F 805.544.3863

PROJECT TITLE:

TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE:

STRUCTURAL DETAILS

APPROVED: __/__/____

DESIGNED BY:	KA
DRAWN BY:	KA
CHECKED BY:	MRP
APPROVED BY:	MRP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	9 of 15

ELECTRICAL ABBREVIATIONS

A, AMP	AMPERE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
AF	AMPS–FRAME
AIC	AVAILABLE INTERRUPTING CAPACITY
AM	AMMETER
AT	AMPS–TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
AWT	AUTOMATIC WELL TESTER
BC	BARE COPPER
BLDG	BUILDING
BPS	BOOSTER PUMP STATION
BSC	BARE STRANDED COPPER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CTL	CONTROL
CU	COPPER
DCPP	DIABLO CANYON POWER PLANT
DEMO	DEMOLITION
DET	DETAIL
DIA	DIAMETER
DISC	DISCONNECT
DISTR	DISTRIBUTION
DIV	DIVISION
DN	DOWN
DPS	PUMP DISCHARGE PRESSURE SWITCH
DS	DOOR SWITCH
DWG	DRAWING
E.F.	EXHAUST FAN
EL	ELECTRICAL
EL, ELEV	ELEVATION
EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
ETM	ELAPSED TIME METER
EXIST, (E)	EXISTING
(F)	FUTURE
FA	FIRE ALARM
FIN	FINISH
FLA	FULL LOAD AMPERES
FT	FEET
FVNR	FULL VOLTAGE NON–REVERSING
FVR	FULL VOLTAGE STARTER
GA	GAUGE
GALV	GALVANIZED
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTER
GFT	GROUND FAULT TRIP
GIW	GROUND FAULT INTERRUPTER, WEATHERPROOF
HF	HIGH FLOW
HID	HIGH INTENSITY DISCHARGE (LAMP)
HP	HORSEPOWER
HOA	HAND–OFF–AUTOMATIC
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM (LAMP)
HV	HIGH VOLTAGE
HZ	HERTZ
IC	ISOLATION CONTACTOR
IOR	I/O RACK
IR	INFRARED
ISC	AVAILABLE SHORT CIRCUIT CURRENT
ISR	INTRINSICALLY SAFE RELAY
JB	JUNCTION BOX
KCM	THOUSAND CIRCULAR MILS (OR MCM)
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
LCL	LONG CONTINUOUS LOAD
LCR	LINE CURRENT RELAY
LOR	LOCAL–OFF–REMOTE SWITCH
LOS	LOCK–OUT–STOP PUSHBUTTON
LP	LIGHTING PANEL
LR	LEVEL RELAY
LRA	LOCKED ROTOR AMPS
LRP	LINEAR ROD PUMP
LS	LIMIT SWITCH
LTG	LIGHTING
LTS	LIGHT SWITCH (PRESSURE SWITCH TYPE)
LV	LOW VOLTAGE
LVR	LINE VOLTAGE RELAY
MA	MILLIAMPERE
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MF	MEDIUM FLOW
MH	MANHOLE
MIC	MANUFACTURER'S INTERCONNECTING CABLE
MMI	MAN MACHINE INTERFACE
MOV	MOTOR OPERATED VALVE

MS	MAGNETIC STARTER
MTD	MOUNTED
(N)	NEW
NC	NORMALLY CLOSED
NF	NON FUSED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
N/P	NAMEPLATE
NTS	NOT TO SCALE
OC	OPEN/CLOSE (STATUS)
P	POLE
PB	PULLBOX
PF	POWER FACTOR
PFR	POWER FAIL RELAY
PH, O	PHASE PIPING AND INSTRUMENTATION DIAGRAM
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PR	PAIR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE (DUCT)
PWR	POWER
R	RELAY
RECEPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RMS	ROOT MEAN SQUARE
RTC	REMOTE TERMINAL CABINET
RTU	REMOTE TERMINAL UNIT
RVAT	REDUCED VOLTAGE AUTO–TRANSFORMER
RVSS	REDUCED VOLTAGE SOLID STATE
SC	SHORTING CONTACTOR
SCADA	SUPERVISED CONTROL AND DATA ACQUISITION
SCE	SOUTHERN CALIFORNIA EDISON
SHT	SHEET
SPC	SPACE
SPS	SUCTION PRESSURE SWITCH
SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
SST	STAINLESS STEEL
STP	SHIELDED TWISTED PAIR
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SYMM	SYMMETRICAL
TD	TIME DELAY
TEL	TELEPHONE
TERM	TERMINAL
TEMP	TEMPERATURE
THWN	THERMAL PLASTIC, HEAT RESISTANT, WATERPROOF, NYLON COATED
TP	TWISTED PAIR
TRANS	TRANSFORMER
TRANSF	TRANSFORMER
TS	TEMPERATURE SWITCH
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
U.G.	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VA	VOLT AMPERE
VAC	VOLTS AC
VCLS	VALVE CLOSED LIMIT SWITCH
VD	VOLTAGE DROP
VDC	VOLTS DC
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
VSH	VIBRATION SWITCH, HIGH (WARNING)
VSHH	VIBRATION SWITCH, HIGH (SHUTDOWN)
W	WIRE, WATTS
WP	WEATHERPROOF
WT	WATERTIGHT
WTH	WEATHER STATION
XFMR	TRANSFORMER

ELECTRICAL LEGEND

EXISTING	PROPOSED	
		UTILITY POLE
		CONDUIT RUN EXPOSED
		CONDUIT RUN UNDERGROUND OR UNDERFLOOR
12KV	12KV	12KV OVERHEAD WIRES
480V	480V	480V OVERHEAD WIRES
G	G	BARE COPPER GROUND WIRE UNDERGROUND OR UNDERFLOOR
		CONDUIT TURNED UP
		CONDUIT TURNED DOWN
		CONDUIT STUB OUT
		SEALTIGHT FLEXIBLE CONDUIT
LP–7		HOMERUN TO PANEL "LP", CIRCUIT "7"
3/4"C–3#10		INDICATES CONDUIT SIZE, NUMBER AND SIZE OF CONDUCTORS
		1/2"C–3#12, 1#12 GND.
		COMMERCIAL FLUORESCENT LIGHTING FIXTURE
A NL		POLE MOUNTED PARKING LOT LIGHTING FIXTURE. SEE FIXTURE TYPE 'A' ON LIGHTING SCHEDULE, SHEET E–003. 'NL' NEXT TO SYMBOL INDICATES NIGHT LIGHT.
B NL		POLE MOUNTED STREETSCAPE LIGHTING FIXTURE. SEE FIXTURE TYPE 'B' ON LIGHTING SCHEDULE, SHEET E–003. 'NL' NEXT TO SYMBOL INDICATES NIGHT LIGHT.
		WALL MOUNTED LIGHTING FIXTURE
S_a		SINGLE POLE TUMBLER SWITCH, 20A–277V, WALL MOUNTED AT +48" OR AS NOTED SUBSCRIPT "a" IDENTIFIES CIRCUIT CONTROLLED – HUBBELL NO. 1221
		JUNCTION BOX
		20A–125V, 2 POLE, 3 WIRE, NEMA 5–20R, DUPLEX RECEPTACLE, MOUNTED AT 15" ABOVE FLOOR (UNO) – HUBBELL NO. 5362
GFI		20A–125V, 2 POLE 3 WIRE, NEMA 5–20R GROUND FAULT INTERRUPTER. DUPLEX RECEPTACLE MOUNTED AT 15" ABOVE FLOOR (UNO) – HUBBEL GF5352
3		MOTOR WITH ADJACENT J–BOX, NUMBER INDICATES HORSEPOWER RATING
100AF 100AT 3P		CIRCUIT BREAKER, 100 AMP FRAME, 100 AMP TRIP, 3 POLE
1200A MAIN 3P		CIRCUIT BREAKER, 1200 AMPERE FRAME, 3 POLE
100AF		FUSE, 100A
		FUSIBLE DISCONNECT SWITCH
OR T		TRANSFORMER, DESCRIPTION AND RATING AS SHOWN ON DRAWING
300/5		CURRENT TRANSFORMER, 300A TO 5A RATIO
		POTENTIAL TRANSFORMER (PT) OR CONTROL POWER TRANSFORMER (CPT)
1		MAGNETIC MOTOR STARTER, 3 POLE, NUMBER DENOTES SIZE
		VARIABLE FREQUENCY DRIVE
		DISCONNECT SWITCH – UNFUSED, NEMA 1, HORSEPOWER RATED
		MANUAL DISCONNECT SWITCH, MOTOR RATED
F 20AF 2P OR 300A 3P		DISCONNECT SWITCH – FUSED, NEMA 3R, HORSEPOWER RATED, FUSE SIZE INDICATED BY ADJACENT NUMBERS
		LOCAL CONTROL STATION
PM		POWER MONITOR
		CONDUIT FITTING
		GROUND CONNECTION
		GROUND ROD, 3/4" DIA X 10'–0" LONG COPPER CLAD
		GROUND ROD W/ TEST WELL, 3/4" DIA X 10'–0" LONG COPPER CLAD
		GROUNDING CONNECTION. MECHANICAL ABOVE GROUND, COMPRESSION UNDERGROUND.

SECTION AND DETAIL IDENTIFICATION SYSTEM

SECTION LETTER OR DETAIL NUMBER

SHEET ON WHICH SECTION OR DETAIL APPEARS OR IS TAKEN

EXISTING CONDITIONS NOTES

1. ANY INFORMATION SHOWN ON THE PLANS FOR EXISTING CONDITIONS WAS PRIMARILY GAINED FROM "AS BUILT" DRAWINGS AND/OR LIMITED FIELD INVESTIGATION. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND MAKE ALLOWANCE FOR VARIATIONS FROM THAT SHOWN. CONTRACTOR SHALL ALSO FIELD VERIFY AND TAKE ALL DUE PRECAUTIONARY MEANS TO PROTECT ALL UNDERGROUND LINES, WIRING AND STRUCTURES REGARDLESS IF SHOWN OR NOT ON THE DRAWINGS.
2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF THE DISCOVERY OF ANY UTILITY OR ANY UNDERGROUND LINES, WIRING AND STRUCTURES THAT WAS OMITTED FROM THE PLANS, INCORRECTLY SHOWN OR NOT PROPERLY MARKED. IF THE UTILITY DOES NOT PROVIDE LOCATION INFORMATION OR MARKING SERVICES IN THE FIELD, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
4. THE CONTRACTOR SHALL NOT INTERRUPT THE SERVICE FUNCTION OF ANY UTILITY OR FIELD PRODUCTION EQUIPMENT, DISTURB THE SUPPORT BASE, OR MODIFY ANY FACILITY WITHOUT AUTHORITY FROM THE UTILITY OWNER AND/OR CITY OF SAN LUIS OBISPO.
5. EXISTING PIPELINES/UTILITIES THAT CROSS NEW SYSTEM PIPING OR SIMILAR EXCAVATIONS REQUIRED TO CONSTRUCT THE PIPING, SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED. ALL EXISTING PIPELINES/UTILITIES SHALL BE SUPPORTED ACROSS THE EXCAVATION DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER, CITY OF SAN LUIS OBISPO IF ANY UTILITY OR UNDERGROUND LINES, WIRING AND STRUCTURES ARE DISTURBED OR DAMAGED DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BEAR THE COSTS OF REPAIR OR REPLACEMENT OF ANY MARKED UTILITY WHERE DAMAGE WAS CAUSED BY THE CONTRACTOR'S ACTIVITIES.

NOTICE TO CONTRACTOR

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT UNDERGROUND SERVICE ALERT (PHONE NO. 811) 48 HOURS IN ADVANCE OF ANY EXCAVATION FOR THE MARK–OUT OF THE LOCATION OF UTILITIES AND OBTAIN A DIG ALERT IDENTIFICATION NUMBER PRIOR TO COMMENCEMENT OF WORK.
3. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

GROUNDING NOTES

1. ALL GROUNDING CONDUCTORS SHALL BE INSTALLED A MINIMUM 30 INCHES BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
2. MAIN GROUND CONDUCTOR SHALL BE #4/0 STRANDED COPPER AND TAP TO EQUIPMENT SHALL BE #2 STRANDED COPPER, UNLESS OTHERWISE NOTED.
3. UNDERGROUND CONNECTION SHALL BE BURNDY HYPRESS OR APRROVED EQUAL.
4. ABOVE–GRADE GROUND WIRE SHALL BE INSULATED COPPER CONDUCTOR.

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:
   A. CALIFORNIA CODE OF REGULATIONS TITLE 24: INCLUDES NATIONAL ELECTRICAL CODE AND INTERNATIONAL FIRE CODE, INTERNATIONAL BUILDING CODE, ETC. WITH CALIFORNIA AND OTHER LOCAL AMENDMENTS AS APPLICABLE.
   B. AMERICANS WITH DISABILITIES ACT (ADA).
   C. ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH THE 2019 CALIFORNIA FIRE CODE (CFC), CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9.
2. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.
3. FIRE RATED ASSEMBLIES SHALL MAINTAIN RATINGS AS SPECIFIED IN THE CALIFORNIA BUILDING CODE CHAPTER 7. CONTRACTOR SHALL PROVIDE AND INSTALL PHYSICAL ENCLOSURE AROUND FIXTURES, PANELS, ETC. AS REQUIRED. ALL ASSEMBLIES TO BE PENETRATED SHALL BE INSTALLED WITH APPLICABLE THROUGH–PENETRATION FIRESTOP SYSTEM AS DETERMINED BY UL CLASSIFICATION. BEFORE CONSTRUCTION, VERIFY AND COMPLY WITH REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.
4. BEFORE ROUGH–IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT, ELECTRICAL CONNECTIONS, STUB–UPS, RECEPTACLES, ETC. WITH OWNER.
5. LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).
6. ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE LATEST EDITION OF THE CBC AND ASCE.
7. ANY DEMOLITION WORK SHOWN WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT REPRESENT THAT ALL ITEMS WHICH REQUIRE DEMOLITION HAVE BEEN SHOWN.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
9. CLOSELY COORDINATE OUTAGE AND FACILITY DISRUPTION TIME WITH THE OWNER. MINIMUM 72–HOUR NOTICE IS REQUIRED BEFORE ANY CIRCUIT SHUTDOWN OR DISRUPTION OF FACILITY PERSONNEL FUNCTIONING.
10. ALL SINGLE CONDUCTORS SHALL BE COPPER WITH TYPE XHHW/XHHW–2 INSULATION UNLESS OTHERWISE NOTED.
11. ALL UNDERGROUND CONDUITS SHALL HAVE A MINIMUM COVER OF 24". WHERE NEW CONDUITS CROSSES (E) UTILITIES THAT ARE SHALLOW, ELECTRICAL CONDUITS SHALL BE INSTALLED DEEPER AND MAINTAIN A MINIMUM CLEARANCE BY 12".
12. ALL SWITCHES, CIRCUIT BREAKERS AND OTHER EQUIPMENT, AS SPECIFIED, SHALL HAVE TERMINATION PROVISIONS LISTED AND IDENTIFIED FOR USE WITH 75°C CONDUCTORS, AND ALL FEEDER CONDUCTORS, AND CONDUITS, ARE SIZED BASED ON USE OF 75°C COPPER WIRES TYPE XHHW/XHHW–2.
13. ALL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED [UL, CSA, ETC.] (CEC 2019 110–2).
14. PROVIDE GROUND WIRE IN ALL CONDUITS CONTAINING POWER OR LIGHTING CIRCUITS.
15. ALL ABOVE GROUND CONDUIT SHALL BE THREADED RIGID METAL CONDUIT.
16. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, WITH PVC COATED RGS BENDS, ELBOWS AND TURN–UPS.
17. ALL CONDUIT SHALL BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
18. WHERE POWER AND INSTRUMENTATION CONDUITS OCCUPY THE SAME TRENCH, PROVIDE A MINIMUM OF 12" OF SEPARATION.
19. THE ACCESS ROUTE TO THE SIRE CHANGES BASED ON CONSTRUCTION ACTIVITY AT THE BOTTOM OF HILL. CONTRACTOR TO COORDINATE WITH THE OFFSITE CONTRACTOR TO FIGURE OUT THE BEST ACCESS TO THE SITE.
20. IN CASE SURVEYORS DO NOT INSTALL THE STAKES FOR BOUNDARY OF EASEMENT, IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL THEM.
21. CONTRACTOR TO PROVIDE LABELS ON THE DIESEL FUEL TANK AND THE EMERGENCY BACKUP GENERATOR AS PER NFPA 704. LABELS TO BE INSTALLED ON THE EXTERIOR OF STRUCTURE. FIRE PROTECTION TO BE PROVIDED AS REQUIRED IN THE CALIFORNIA FIRE CODE (CFC 2019) AND THE FIRE DEPARTMENT, CITY OF SAN LUIS OBISPO.
22. CONTRACTOR SHALL INSTALL THE SAFETY/WARNING SIGNAGE FOR RADIO FREQUENCY FIELDS AND MAXIMUM PERMISSIBLE EXPOSURE LIMITS AS PER CBC 107.2
23. CONTRACTOR SHALL INSTALL A PERMANENT PLAQUE OR DIRECTORY DENOTING ALL ELECTRICAL POWER SOURCES ON THE PREMISE WHICH SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AS PER ARTICLE 705.10 CEC 2019.
24. CONTRACTOR SHALL INSTALL THE ARC FLASH WARNING SIGNS AS REQUIRED PER ARTICLE 110.16 CEC 2019.

CITY OF SAN LUIS OBISPO

Cannon

PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: SYMBOLS AND GENERAL NOTES

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY: BA

DRAWN BY: BA

CHECKED BY: DP

APPROVED BY: DP

SCALE: AS NOTED

DATE: 10/24/2022

CITY SPECIFICATION NO. 1000535

PLAN FILE NO. / LOCATION

SHEET NO. E0.1

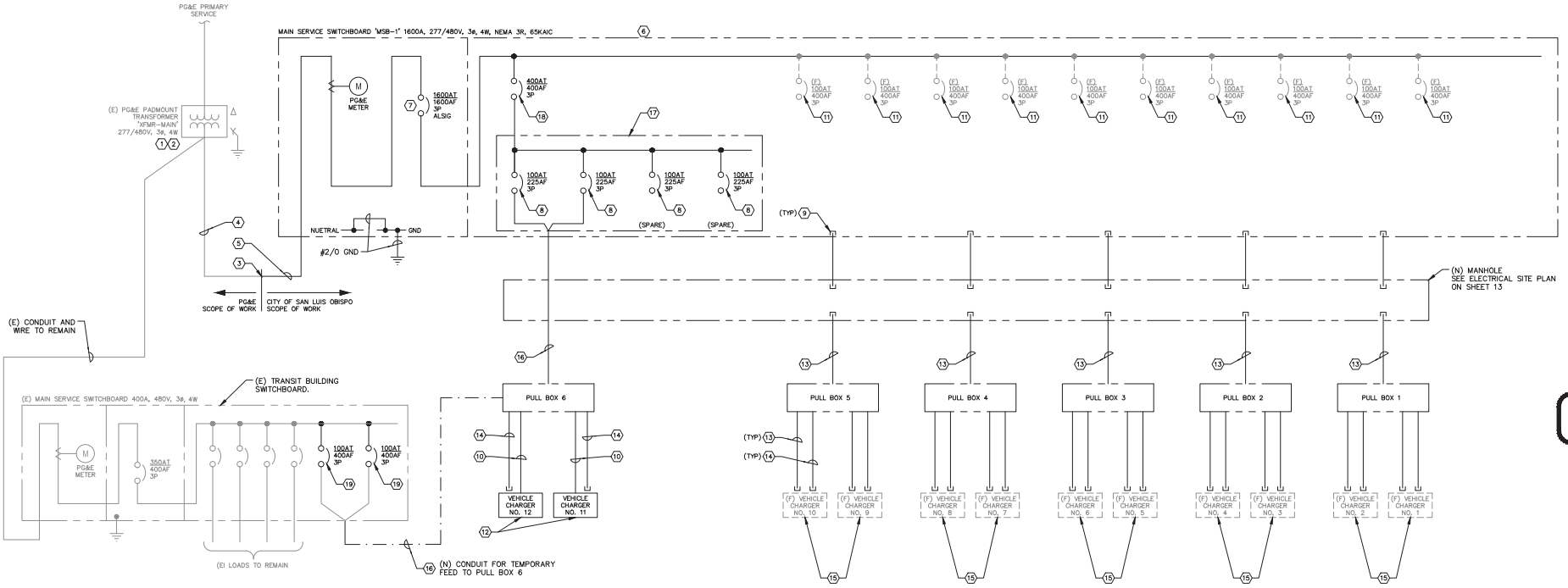
(N) MAIN SWITCHBOARD LOAD SCHEDULE							
SLO CITY TRANSIT OPERATIONS & MAINTENANCE FACILITY							
PROJECT NAME	BUS EV CHARGER PROJECT						
PROJECT AND EQUIPMENT LOCATION	25 PRADO RD, SAN LUIS OBISPO CA 93401						
EQUIPMENT DETAILS	MAIN SWITCHBOARD, 3PH, 4W, 1600A, 65kA SCCR, 65kA KAIC, 480Y/277V, NEMA 3R						
S. NO.	VOLTAGE	LOAD TAG	STARTER TYPE	LOAD NAME	LOAD (kW)	FLA	LOAD IN KVA
1	480	CHRG-11	N/A	(N) CHARGER 11 CPE 250	62.5	80	69.4
2	480	CHRG-12	N/A	(N) CHARGER 12 CPE 250	62.5	80	69.4
3	480	CHRG-1	N/A	(F) CHARGER 1 CPE 250 OR CP EXP PLUS VIA POWER BLK 1	100	130	111.1
4	480	CHRG-2	N/A	(F) CHARGER 2 CPE 250 OR CP EXP PLUS VIA POWER BLK 1	100	130	111.1
5	480	CHRG-3	N/A	(F) CHARGER 3 CPE 250 OR CP EXP PLUS VIA POWER BLK 2	100	130	111.1
6	480	CHRG-4	N/A	(F) CHARGER 4 CPE 250 OR CP EXP PLUS VIA POWER BLK 2	100	130	111.1
7	480	CHRG-5	N/A	(F) CHARGER 5 CPE 250 OR CP EXP PLUS VIA POWER BLK 3	100	130	111.1
8	480	CHRG-6	N/A	(F) CHARGER 6 CPE 250 OR CP EXP PLUS VIA POWER BLK 3	100	130	111.1
9	480	CHRG-7	N/A	(F) CHARGER 7 CPE 250 OR CP EXP PLUS VIA POWER BLK 4	100	130	111.1
10	480	CHRG-8	N/A	(F) CHARGER 8 CPE 250 OR CP EXP PLUS VIA POWER BLK 4	100	130	111.1
11	480	CHRG-9	N/A	(F) CHARGER 9 CPE 250 OR CP EXP PLUS VIA POWER BLK 5	100	130	111.1
12	480	CHRG-10	N/A	(F) CHARGER 10 CPE 250 OR CP EXP PLUS VIA POWER BLK 5	100	130	111.1
TOTAL CONNECTED LOAD					1125.0	1460.0	1250.0

CONSTRUCTION NOTES:

1. REFER TO SYMBOLS, ABBREVIATIONS AND GENERAL NOTES ON SHEET 10.

CONSTRUCTION NOTES:

1. (E) PG&E PADMOUNT TRANSFORMER. THIS SERVICE TRANSFORMER WILL PROVIDE POWER TO (N) 1600A SERVICE FOR THIS PROJECT AND PRESENTLY FEEDS POWER TO THE (E) 400A SWITCHBOARD, PG&E METER 1009516410.
2. CONTRACTOR SHALL COORDINATE WITH CITY AND PG&E FOR REPLACING THE EXISTING 75KVA TRANSFORMER WITH A 300KVA TRANSFORMER. FOR DETAILS REFER TO PG&E DRAWING SHEET PM: 31531153. CONTRACTOR SHALL SCHEDULE THE OUTAGE WITH PG&E AND CITY IN SUCH A WAY THE DOWNTIME IS MINIMIZED.
3. SCOPE OF WORK SEPARATION FOR THE INSTALLATION OF SERVICE CONDUITS FOR PG&E AND CITY OF SLO, REFER TO SHEET E2.0 FOR THE EXACT LOCATION
4. CONTRACTOR SHALL SCHEDULE AND COORDINATE THE WORK WITH PG&E FOR TRENCHING AND INSTALLATION OF CONDUITS. REFER TO DETAILS ON PG&E DRAWING SHEET PM:31531153.
5. (N) 7–5"C. CONDUITS SHALL BE INSTALLED PER PG&E STANDARDS, CONDUIT SWEEPS AND MATERIAL SHALL BE INSTALLED PER PG&E 062288.
   (6) 5"C ARE FOR FUTURE USE, THESE CONDUITS SHALL BE STUBBED OUTSIDE OF (N) 1600A MAIN SWITCHBOARD CONCRETE PAD AS SHOWN IN PLANS AND CAPPED OFF. CONTRACTOR SHALL COORDINATE AND SCHEDULE THE INSPECTIONS WITH PG&E PRIOR TO BACK FILLING OF THE TRENCH. CONTRACTOR SHALL COORDINATE WITH PG&E TO INSTALL THE NEW CONDUCTORS AND ENERGIZE THE EQUIPMENT FOR COMMISSIONING.
6. (N) MAIN SWITCHBOARD MSB–1, 1600A, 3PH, 4W, NEMA 3R, EUSERC COMPLIANCE, COPPER BUSING, 65KAIC RATING, WITH PG&E METER PULL SECTION, METER SECTION, MAIN CIRCUIT BREAKER AND FEEDER CIRCUIT BREAKERS AS PER THE SINGLE LINE DIAGRAM. TERMINATION LUGS SHALL BE COMPATIBLE TO INSTALL 7 – 750MCM CABLES AL/CU PER PHASE FOR SERVICE CONDUCTORS. MAIN CIRCUIT BREAKER SHALL BE EQUIPPED WITH ARC FLASH MAINTENANCE MODE FEATURE WITH INDICATION LIGHT, SELECTION SWITCH. SWITCHBOARD SHALL CONTAIN SPACE HEATERS, EATON POWER MONITOR, SURGE PROTECTION DEVICE AND CONTROL POWER TRANSFORMER TO PROVIDE POWER AUXILIARY LOADS OF THE SWITCHBOARD.
7. (N) 1600AT/1600AF, 3P, 480V, ALSIG TYPE, 65KAIC, PADLOCKABLE, SWITCHBOARD SHALL HAVE ARMS INDICATING LIGHT AND SELECTOR SWITCH.
8. 100AT/225AF, 3P 480V, THERMAL MAGNETIC, 65KAIC CIRCUIT BREAKER
9. (N) 4"C CONDUIT TO STUB UP AND CAPPED OFF FOR FUTURE USE.
10. (N) 2"C 3#1, 1#4 GND.
11. SPACE FOR FUTURE 400AF, 3P, 480V, THERMAL MAGNETIC, 65KAIC CIRCUIT BREAKER.
12. (N) CHARGE POINT CPE 250 EV CHARGER, INPUT 480V, 3PH, 3W, 62.5KW, SUPPLIED BY CITY, CONTRACTOR IS RESPONSIBLE FOR INSTALLATION.
13. (N) 4" CONDUIT ONLY FOR FOR FUTURE USE, CONTRACTOR SHALL PROVIDE 3/4" PULL ROPE.
14. (N) 2" CONDUIT ONLY FOR FOR FUTURE USE, CONTRACTOR SHALL PROVIDE 3/4" PULL ROPE.
15. (F) CHARGER POINT CHARGER, MODEL CPE 250 OR CP EXP PLUS. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF MOUNTING PLATES AND ANCHORS, AND STUB UP THE CONDUITS AND CAP OFF FOR FUTURE USE. MOUNTING PLATES AND ANCHOR BOLTS ARE PROVIDED BY CITY. REFER TO MOUNTING PLATE DETAIL 4 ON SHEET E2.0 AND STRUCTURAL DRAWINGS FOR DETAILS.
16. (N) 4" C (2) SET OF CONDUCTORS, 3 #1, 1 #4 GND, EACH SET OF CONDUCTORS TO FEED CHARGER 11 AND CHARGER 12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THESE CONDUCTORS AFTER (N) 1600A SWITCHBOARD INSTALLATION IS COMPLETE AND PROVIDE POWER TO CHARGERS. CONTRACTOR SHALL COORDINATE THE SEQUENCE WITH CITY IN SUCH A WAY DOWNTIME IS MINIMIZED.
17. 480Y/277V, 250A 12CKTS DISTRIBUTION PANEL BOARD, SECTION 4 OF SWITCHBOARD.
18. 400AT/400AF, 3P, 480V, THERMAL MAGNETIC, 65KAIC CIRCUIT BREAKER, PADLOCKABLE.
19. CONTRACTOR SHALL ADD (N) 100A, 3P, 480V, SQUARE D, BDA36100 CIRCUIT BREAKER, TO THE (E) 400A, 480V, SQUARE D SWITCHBOARD, CIRCUIT BREAKER SHALL BE COMPATIBLE TO BE INSTALLED IN THE (E) SWITCHBOARD. REFER TO DETAIL 1 OF SHEET E2.0.



SINGLE LINE DIAGRAM

CITY OF SAN LUIS OBISPO

Cannon

PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: SINGLE LINE DIAGRAM

99% SUBMITTAL NOT FOR CONSTRUCTION

APPROVED: __/__/____	
DESIGNED BY:	BA
DRAWN BY:	BA
CHECKED BY:	DP
APPROVED BY:	DP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	E1.0

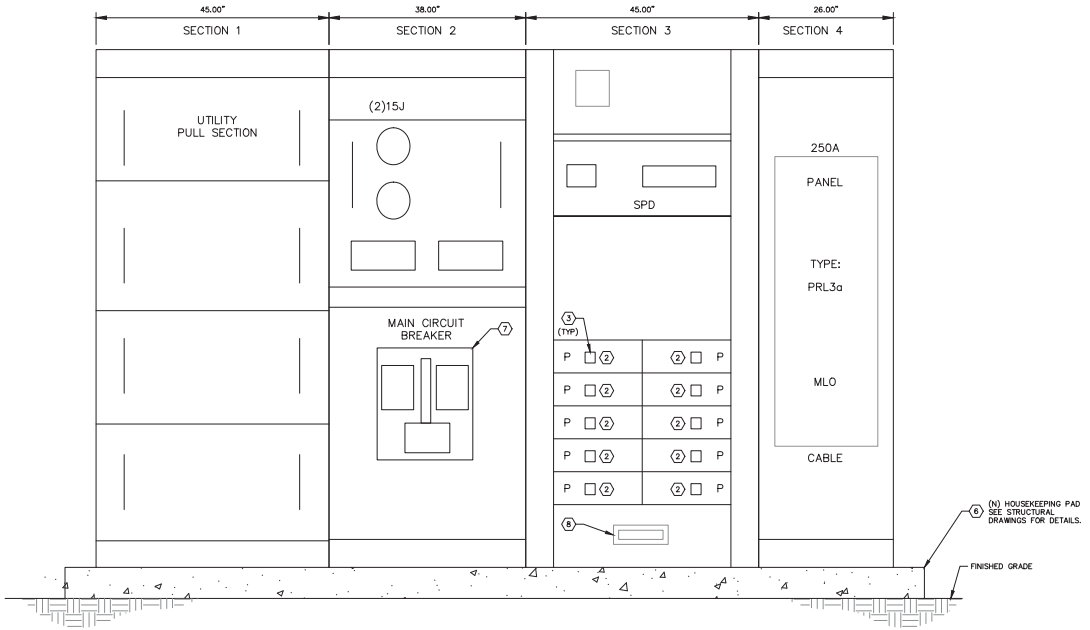
CONSTRUCTION NOTES:

1. REFER TO SYMBOLS, ABBREVIATIONS AND GENERAL NOTES ON SHEET T0.

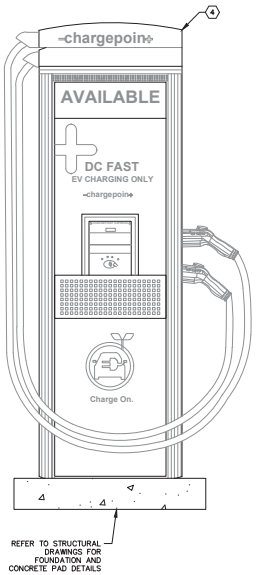
CONSTRUCTION NOTES:

1. (N) 100AT/400AF CIRCUIT BREAKER.
2. SPACE FOR (F) 400AF CIRCUIT BREAKER.
3. EACH FEEDER CIRCUIT BREAKER FEEDING THE CHARGER SHALL BE CAPABLE TO BE LOCKED IN OPEN POSITION AS PER NEC ARTICLES 625.43 AND 110.25.
4. CHARGER IS SUPPLIED BY CITY AND CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE EQUIPMENT PER MANUFACTURER REQUIREMENTS.
5. CONTRACTOR SHALL INSTALL TWO NEW 100A, 3P, 480V, CIRCUIT BREAKERS IN THE EXISTING SPACE TO PROVIDE TEMPORARY POWER TO THE (N) CHARGER 11 AND (N) CHARGER 12.
6. CONTRACTOR SHALL ENSURE CONCRETE PAD IS BUILD TO PG&E STANDARDS.
7. 1600AT/1600AF CIRCUIT BREAKER, PADLOCKABLE, REFER TO SINGLE LINE DRAWING FOR DETAILS.
8. 400AT/400AF CIRCUIT BREAKER, PADLOCKABLE, REFER TO SINGLE LINE DRAWING FOR DETAILS.

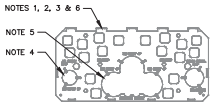
(E) 400A SWITCHBOARD (INSIDE TRANSIT BUILDING) — 1 / E2.0



SWITCHBOARD MSB–1 EQUIPMENT ELEVATION: — 2 / E2.0



CHARGEPOINT CPE 250 EV BUS CHARGER ELEVATION: — 3 / E2.0



NOTES:
1. COMPATIBLE FOR CHARGER POINT CPE 250 AND EXPRESS PLUS CHARGERS.
2. (N) CHARGE POINT, UNIVERSAL MOUNTING PLATE SHALL BE EMBEDDED IN CONCRETE FOUNDATION OF THE CHARGER. SUPPLIED BY CITY AND CONTRACTOR IS RESPONSIBLE FOR INSTALLATION.
3. REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION DETAILS.
4. 2"C STUB UP LOCATION ROUTED FROM THE PULL BOX FOR CPE 250 CHARGER FOR INCOMING AC CONDUCTORS FROM THE MAIN SWITCHBOARD.
5. 4"C STUB UP LOCATION ROUTED FROM THE PULL BOX FOR CP EXPRESS PLUS CHARGER FOR INCOMING DC CONDUCTORS FROM THE POWER BLOCK.
6. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT DETAILS ON SHEET E1.0 FOR ASSOCIATED TO EACH CHARGER.

   A. CHARGER 11 & 12 – 2" & 4" CONDUIT SHALL STUB THROUGH THE UNIVERSAL MOUNTING PLATE FROM THE RESPECTIVE PULL BOX.

   B. CHARGER 1 & 10 – 2" & 4" CONDUIT SHALL STUB THROUGH THE UNIVERSAL MOUNTING PLATE FROM THE RESPECTIVE PULL BOX.

UNIVERSAL CHARGER MOUNTING PLATE — 4 / E2.0

CITY OF SAN LUIS OBISPO

Cannon

4040 Civic Center, Suite 500
San Luis Obispo, CA 93401
P 805.543.1794 F 805.543.0147

PROJECT TITLE:
TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE:
EQUIPMENT ELEVATIONS

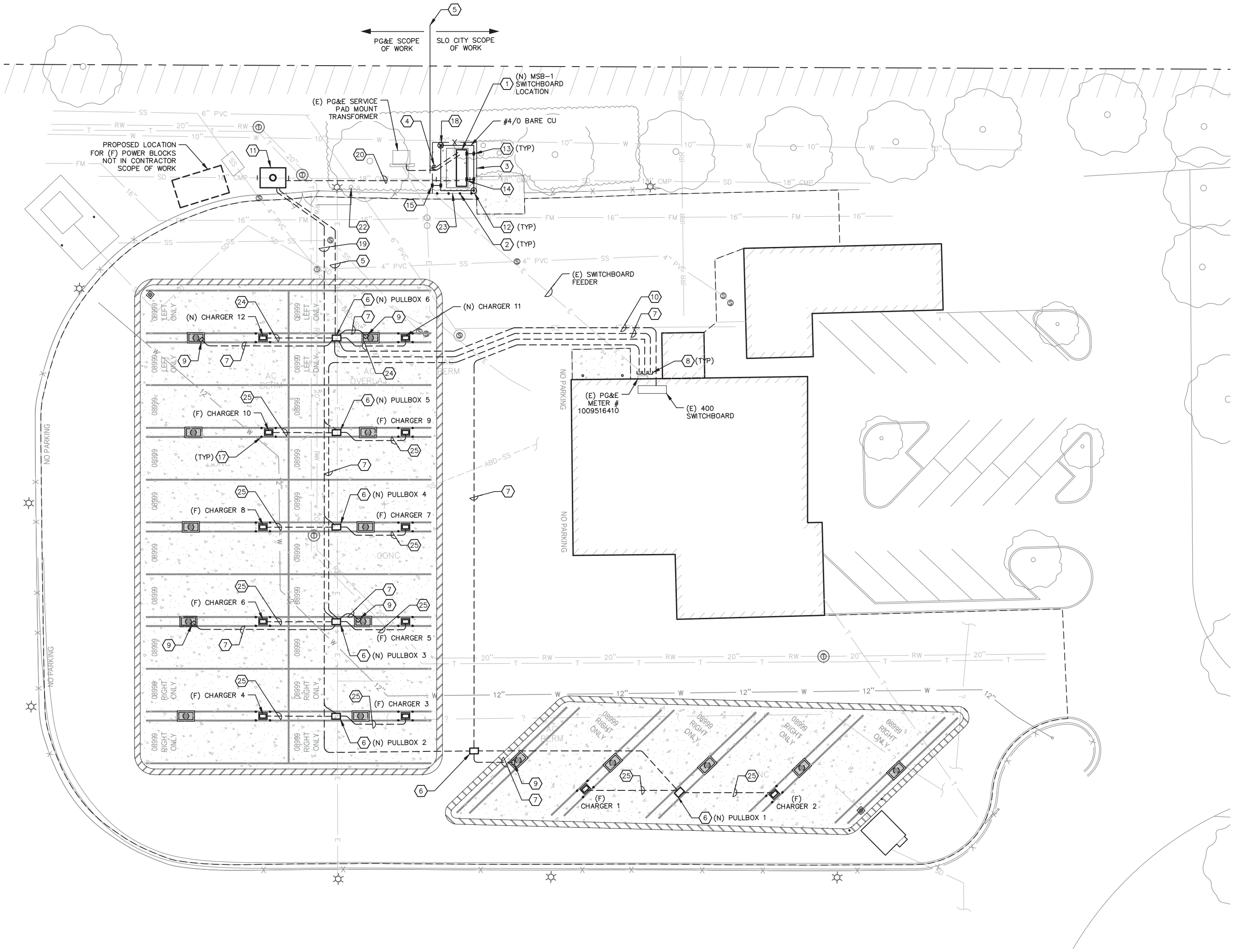
99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY:	BA
DRAWN BY:	BA
CHECKED BY:	DP
APPROVED BY:	DP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	E2.0

12 of 15

F:\proj\2021\210737\4 Production and Drafting\Const Dwgs\E\Electrical Drawings\E210737EL0001.dwg 10-24-22 03:32:44 PM anthonys



GENERAL NOTES:

1. SEE SYMBOLS AND GENERAL NOTES ON SHEET E1.

CONSTRUCTION NOTES:

1. (N) MAIN SWITCHBOARD LOCATION, REFER TO SINGLE ONE DRAWINGS FOR DETAILS
2. (N) BOLLARDS. CONTRACTOR SHALL INSTALL THE NEW BOLLARDS NO MORE THAN 4' APART. REFER TO CITY STANDARD 7335.
3. (N) FENCE SHALL BE INSTALLED BY THE CONTRACTOR, REFER TO CIVIL DRAWINGS FOR THE FENCE IMPROVEMENTS AND DETAILS ON SHEET 15.
4. SCOPE OF WORK SEPARATION FOR THE INSTALLATION OF SERVICE CONDUITS FOR PG&E AND CITY OF SLO. CITY OF SLO CONTRACTOR SHALL INSTALL INSTALL 1-5"C TO MATE WITH INCOMING CONDUIT FROM PG&E. 6-5"C SHALL BE STUBBED UP AND CAPPED OFF NO MORE THAN 3' FROM THE EDGE OF THE CONCRETE PAD OF THE MAIN SWITCHBOARD. CONTRACTOR SHALL INSTALL THE PULL ROPE PER PG&E STANDARDS.
5. (N) 4"C CONDUIT TO CHARGERS 11 AND 12 THROUGH PULL BOX 6. SEE SINGLE LINE DIAGRAM ON SHEET E1.0.
6. (N) JENSEN FLAT WALL PULLBOX, AASHTO H-20-44 TRAFFIC BRIDGE LOADING, PART NUMBER K2436-FP36-05TG WITH SC2436-TGV, ONE PIECE DIAMOND PLATE TRAFFIC COVER WITH (2) PROPER HOLES. CONTRACTOR SHALL INSTALL THE MANHOLE PER MANUFACTURER RECOMMENDATIONS. REFER TO DETAIL ON SHEET 15 FOR DIMENSIONS AND DETAILS.
7. (N) 2"C FOR FUTURE SOLAR PROJECT USE
8. (N) 2"C FOR FUTURE SOLAR PROJECT SHALL BE STUBBED UP AND CAPPED OFF NEAR THE (E) PG&E METER AGAINST THE BUILDING WALL. CONTRACTOR SHALL COORDINATE WITH CITY FOR EXACT LOCATION.
9. STUB UP THE (N) 2"C AND CAP THE CONDUIT 3" ABOVE THE FINISHED GRADE NEXT TO FUTURE SOLAR PANEL POLE STRUCTURE. CONTRACTOR SHALL COORDINATE WITH CITY TO DETERMINE THE EXACT STUB UP LOCATION.
10. (N) 4"C, CONTRACTOR SHALL FIELD ROUTE THE CONDUIT FROM THE PULL BOX 6 TO (E) SWITCHBOARD INSIDE THE TRANSIT BUILDING. CONDUCT SHALL BE ROUTED UNDERGROUND TO THE BUILDING AND STUB UP AT THE EDGE OF BUILDING WALL, ROUTE ALONG THE WALL, MAXIMUM 5" CORE DRILL INTO WALL AND PENETRATE INTO THE EXISTING SWITCHBOARD FROM THE TOP. PATCH WALL TO MAKE WATERTIGHT.
11. JENSEN FLAT WALL MANHOLE, AASHTO H-20-44 TRAFFIC BRIDGE LOADING, PART NUMBER K68-FM84-05 WITH 30" CLEAR OPENING MANHOLE TRAFFIC COVER AND NECK 14" DEEP PART NUMBER K36-MN14-05. CONTRACTOR SHALL INSTALL THE MANHOLE PER MANUFACTURER RECOMMENDATIONS. REFER TO DETAIL ON SHEET E4.0 FOR DIMENSIONS AND DETAILS.
12. (N) GROUND ROD, SEE DETAIL 3 ON SHEET E4.0.
13. (N) GROUND TAP, SEE DETAIL 4 ON SHEET E4.0.
14. (N) EQUIPMENT GROUND DETAIL, SEE DETAIL 5 ON SHEET E4.0.
15. (N) FENCE GROUND, SEE DETAIL 6 ON SHEET E4.0.
16. NOT USED.
17. (N) BOLLARDS TO PROTECT VEHICLE CHARGER. REFER TO CITY STANDARD 7335.
18. (N) GROUND BOX DETAIL, SEE DETAIL 2 ON SHEET E4.0.
19. (N) 4"C CONDUIT ONLY FROM MANHOLE TO PULL BOX, CONTRACTOR SHALL PROVIDE PULL ROPE. TYPICAL OF (5) CONDUITS TOTAL TO PULL BOXES 1-5.
20. (N) (6) 4" CONDUIT FROM SWITCHBOARD TO MANHOLE. SEE SINGLE LINE DIAGRAM ON SHEET E1.0.
21. NOT USED.
22. CITY RECYCLED WATER VENT TO REMAIN. PROTECT IN PLACE.
23. CONTRACTOR SHALL REMOVE AND SALVAGE THE (E) FENCE INFRONT OF THE (N) SWITCHBOARD.
24. (N) 2"C & 4"C, REFER TO SINGLE LINE DRAWING FOR DETAILS
25. (N) 2"C & 4"C, REFER TO SINGLE LINE DIAGRAM FOR DETAILS.

0 20 40
1 INCH = 20 FEET

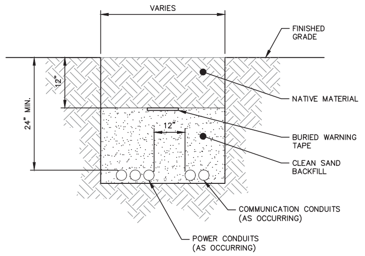
PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: ELECTRICAL SITE PLAN

99% SUBMITTAL
NOT FOR CONSTRUCTION

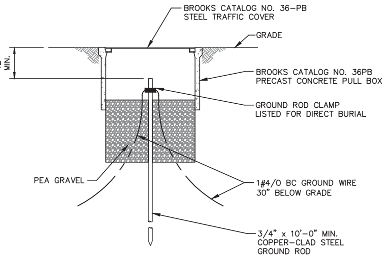
APPROVED: __/__/____

DESIGNED BY:	BA
DRAWN BY:	BA
CHECKED BY:	DP
APPROVED BY:	DP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	E3.0

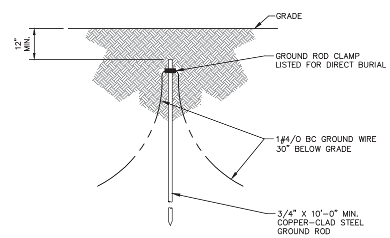


NOTES:
BACKFILL WITHIN THE CONDUIT TRENCH SHALL BE COMPACTED TO 95% OF RELATIVE COMPACTION. CONTRACTOR SHALL INSTALL THE TRENCHING AS PER CITY OF SAN LUIS OBISPO SPECIFICATIONS AND STANDARDS.

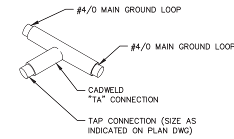
ELECTRICAL TRENCH DETAIL (1 / E4.0)
SCALE: NO SCALE



GROUND BOX DETAIL (2 / E4.0)
SCALE: NO SCALE



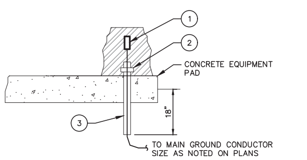
GROUND ROD DETAIL (3 / E4.0)
SCALE: NO SCALE



ITEM	DESCRIPTION	QTY
1A	#4/0 MAIN TO #4/0 TAP EXOTHERMIC WELD, WELD METAL & MOLD	AR
1B	#4/0 MAIN TO #2 TAP EXOTHERMIC WELD, WELD METAL & MOLD	AR

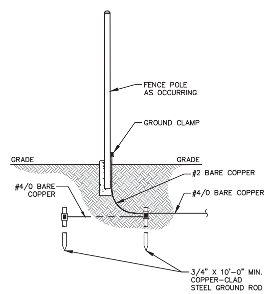
NOTE:
1. AFTER CADWELD CONNECTION IS MADE, TAP IS TO BE TAPED WITH MIN. ONE LAYER OF SCOTCH VINYL MASTIC AND THEN MIN. TWO LAYERS OF SCOTCH 33 BLACK ELECTRIC TAPE. TAPE IS TO OVERLAP WELD BY 1" MINIMUM @ EACH END.

#4/0 MAIN TAP UNDERGROUND DETAIL (4 / E4.0)
SCALE: NO SCALE

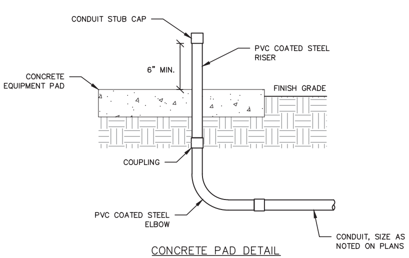


ITEM	DESCRIPTION	QTY
1	HEAVY DUTY COMPRESSION TERMINAL	1
2	1-1/2" MINERALLAC CLAMP TO SKID	1
3	1" CONDUIT PVC	1

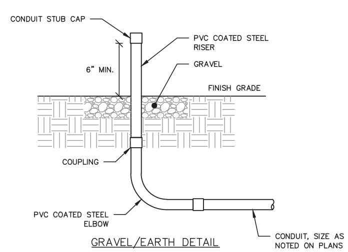
EQUIPMENT GROUND DETAIL (5 / E4.0)
SCALE: NO SCALE



TYPICAL FENCE SECTION (6 / E4.0)
SCALE: NO SCALE



CONCRETE PAD DETAIL



GRAVEL/EARTH DETAIL

STUB AND CAP CONDUIT DETAIL (8 / E4.0)
SCALE: NO SCALE

NOTES:

- CONCRETE IS DESIGNED FOR H-20-44 BRIDGE LOADING USING 5,500 PSI COMPRESSIVE [37.92 MPa] STRENGTH CONCRETE AND 60,000 PSI [413.2 MPa] REINFORCING STEEL PER CALC. #33252.
- COVER DESIGNED FOR H-20-44 BRIDGE LOADING FOR USE IN OFF-STREET LOCATIONS PER CALC. #30283.
- VAULT TO BE PLACED ON A 6" BASE OF CRUSHER RUN FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.

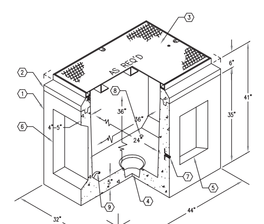
ORDERING INFORMATION:

K2436-FP36-05TG FOR ASSEMBLY AS SHOWN.
TOTAL WEIGHT FOR ASSEMBLY AS SHOWN 1,521 lbs.

1. PB2436F-B30-05, 30" BOTTOM SECTION, (CG-LOOP3-2436 & CG-MAT-2436). WT. 1,850 lbs.
2. PB2436-T6E, 6" TOP SECTION W/CAST IN (F2436-PB-ANG) GALV. ANGLE FRAME. WT. 259 lbs.
3. SC2436-TGV, ONE PIECE DIAMOND PLATE TRAFFIC COVER W/(2) PICK HOLES; (4) 1/2" x 13NC x 1 1/4" S.H.H.S.S. BOLTS, GALV. FINISH, MARKED "AS REQ'D" WT. 149 Lbs.
4. 6" x 7" DIA. SUMP x 4" DEEP W/ RECESS FOR 8" GRTAE, BOTTOM SECTION (1) CORE MTD.
5. 8" x 16" KNOCKOUT x 3" DEEP. DRAFT AS FOLLOWS: T=2", S1=S2=2", B=0". BOTTOM SECTION (4) SHELL MTD.
6. 20" x 20" KNOCKOUT x 3" DEEP. DRAFT AS FOLLOWS: 2" ALL SIDES TYP. BOTTOM SECTION (2) SHELL MTD.
7. 1" COIL THREAD INSERT. BOTTOM SECTION (2) SHELL MTD.
8. 1" DIA. BLIND THRU GROUND ROD HOLE. BOTTOM SECTION (2) CORE MTD.
9. 7/8" DIA. PULL IRON, (08-732). BOTTOM SECTION (2) CORE MTD.
10. 1/2" P-35-T INSERT W/CLEAN-OUT HOLE. TOP SECTION (2) FRAME MTD.
11. 1/2" PLASTIC INSERT. BOTTOM SECTION (16) CORE MTD.
12. 2 TON x 3 3/8" RISS FOR HANDLING. BOTTOM SECTION (4) CORE MTD.; TOP SECTION (4) CORE MTD.

NOTE" USE 6" GRADE RINGS FOR ADDITIONAL DEPTH

MINIMUM EXCAVATION SIZE: 3'-2" x 4'-8" x DEPTH REQ'D.



2'-0" X 3'-0" TRAFFIC FLAT WALL PULL BOX (8 / E4.0)
SCALE: NO SCALE

NOTES:

- MANHOLE DESIGNED IN ACCORDANCE WITH AASHTO H-20-44 TRAFFIC BRIDGE LOADING USING 5,500 PSI [37.92MPa] COMPRESSIVE STRENGTH CONCRETE AND 60,000 PSI [413.2MPa] YIELD STRENGTH ASTM A-706 STEEL REINFORCEMENT PER CALCS. #32764.
- MANHOLE TO BE PLACED ON A MIN. 6" BASE OF CRUSHER RUN FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.
- LIMITS OF COVER OVER ROOF SECTION IS 1'-0" TO 4'-0"
- LIMITS OF EMBEDMENT OF BOTTOM SECTION IS 9'-3" x 12'-3".

THE FOLLOWING TO BE SHIPPED WITH MANHOLE:

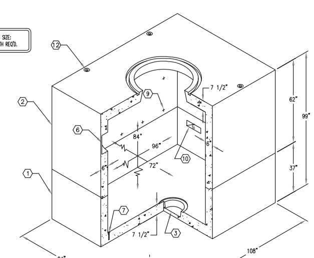
(a) 7/8" x 1 3/4" CONSEAL GASKET (45' REQ'D.)

ORDERING INFORMATION:

K68-FM84-05 FOR ASSEMBLY AS SHOWN.
TOTAL WEIGHT OF ASSEMBLY AS SHOWN IS 25,108 Lbs.

1. UV68-B28-F05, 28" BOTTOM SECTION (CG-68-B28-05), WT. 11,299 lbs.
2. UV68-T56-05M, 56" TOP SECTION (CG-68-T56-05M), WT. 13,809 lbs.
3. 13" x 14" DIA. SUMP x 5" DEEP (5000-247), W/RECESS TO ACCOMMODATE SUMP COVER (08-2102). LOCATE AS FOLLOWS: BOTTOM SECTION (1) CORE MTD.
4. 20" x 30" KNOCKOUT x 5" DEEP W/ 1" DRAFT TYP. LOCATE AS FOLLOWS: TOP SECTION (2) CORE MTD.
5. 9" x 18" KNOCKOUT x 5" DEEP (5000-355) DRAFT T=1", S1=0, S2=1", B=1". LOCATE AS FOLLOWS: TOP SECTION (2) CORE MTD.
6. 14" DIA. VENT KNOCKOUT x 5" DEEP. LOCATE AS FOLLOWS: TOP SECTION (2) CORE MTD.
7. 1" DIA. GROUND ROD KNOCKOUT. LOCATE AS FOLLOWS: BOTTOM SECTION (2) CORE MTD.
8. 1" COIL INSERT. LOCATE AS FOLLOWS: TOP SECTION (4) CORE MTD.
9. 1/2" PLASTIC INSERT. LOCATE AS FOLLOWS: TOP SECTION (30) CORE MTD.
10. 7/8" x 3 3/8" GALV. PULL IRON. LOCATE AS FOLLOWS: BOTTOM SECTION (2) CORE MTD.
11. 4 TON x 4 3/4" GALV. RISS FOR HANDLING. LOCATE AS FOLLOWS: BOTTOM SECTION (4) CORE MTD.
12. 4 TON x 9 1/2" GALV. RISS FOR HANDLING. LOCATE AS FOLLOWS: BOTTOM SECTION (4) SURFACE MTD.; TOP SECTION (4) SURFACE MTD.

MINIMUM EXCAVATION SIZE: 8'-0" x 10'-0" DEPTH REQ'D.



6'-0" X 8'-0" FLAT WALL MANHOLE (9 / E4.0)
SCALE: NO SCALE

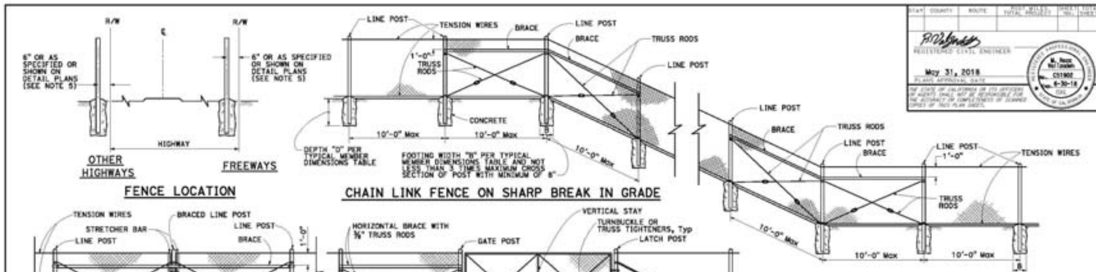
99% SUBMITTAL
NOT FOR CONSTRUCTION

PROJECT TITLE:
TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

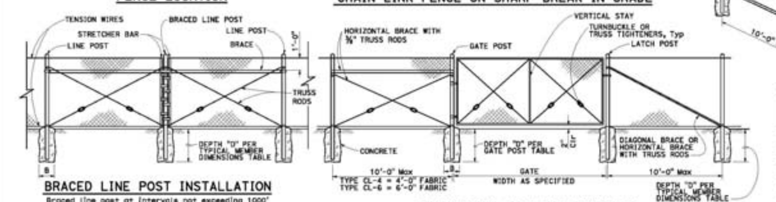
SHEET TITLE:
ELECTRICAL DETAILS

APPROVED: __/__/____

DESIGNED BY:	BA
DRAWN BY:	BA
CHECKED BY:	DP
APPROVED BY:	DP
SCALE:	AS NOTED
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	E4.0



R/W
R/W
6" OR AS SPECIFIED OR SHOWN ON DETAIL PLANS (SEE NOTE 5)
HIGHWAY
OTHER HIGHWAYS
FREEWAYS
FENCE LOCATION
LINE POST
TENSION WIRES
BRACE
TRUSS RODS
CONCRETE
10'-0" Max
DEPTH "D" PER TYPICAL MEMBER DIMENSIONS TABLE
FOOTING WIDTH "B" PER TYPICAL MEMBER DIMENSIONS TABLE AND NOT LESS THAN 3 TIMES MAXIMUM CROSS SECTION OF POST WITH MINIMUM OF 8"
CHAIN LINK FENCE ON SHARP BREAK IN GRADE
REGISTERED CIVIL ENGINEER
May 31, 2018



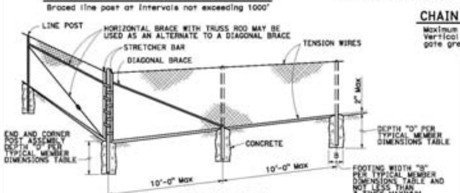
TENSION WIRES
STRETCHER BAR
LINE POST
BRACED LINE POST
BRACE
TRUSS RODS
DEPTH "D" PER TYPICAL MEMBER DIMENSIONS TABLE
BRACED LINE POST INSTALLATION
Braced line post at intervals not exceeding 1000'
HORIZONTAL BRACE WITH ⅜" TRUSS RODS
GATE POST
VERTICAL STAY
TURNBUCKLE OR TRUSS TIGHTENERS, Typ
LATCH POST
CONCRETE
DEPTH "D" PER GATE POST TABLE
10'-0" Max
TYPE CL-4 = 4'-0" FABRIC
TYPE CL-6 = 6'-0" FABRIC
GATE WIDTH AS SPECIFIED
DIAGONAL BRACE OR HORIZONTAL BRACE WITH TRUSS RODS
DEPTH "D" PER TYPICAL MEMBER DIMENSIONS TABLE

CHAIN LINK GATE INSTALLATION

Maximum Gate Width is 12'-0"
Vertical Stay is required in middle of gate greater than 8'-0" in width.

GATE POST						
FENCE HEIGHT (Max)	SLATTED	B (in)	D (ft)	ROUND PIPE		
				SECTION	ROUND OD PIPE	WEIGHT (lb/ft)
5'-0"	NO	12"	2'-6"	3 Std	3.50"	7.58
6'-0"	NO	12"	2'-6"	3 Std	3.50"	7.58
8'-0"	NO	12"	3'-0"	3 Std	3.50"	7.58
10'-0"	NO	14"	3'-6"	3 Std	3.50"	7.58
5'-0"	YES	12"	3'-0"	3½ Std	4.00"	9.12
6'-0"	YES	14"	3'-6"	4 Std	4.50"	10.80
8'-0"	YES	18"	3'-6"	5 Std	5.56"	14.60
10'-0"	YES	20"	4'-0"	6 Std	6.63"	19.00

Above post dimensions and weights are minimums. Larger sizes may be used upon approval.



LINE POST
HORIZONTAL BRACE WITH TRUSS ROD MAY BE USED AS AN ALTERNATE TO A DIAGONAL BRACE
STRETCHER BAR
DIAGONAL BRACE
TENSION WIRES
END AND CORNER POST ASSEMBLY DEPTH "D" PER TYPICAL MEMBER DIMENSIONS TABLE
CONCRETE
DEPTH "D" PER TYPICAL MEMBER DIMENSIONS TABLE
10'-0" Max
FOOTING WIDTH "B" PER TYPICAL MEMBER DIMENSIONS TABLE AND NOT LESS THAN 3 TIMES MAXIMUM CROSS SECTION OF POST WITH MINIMUM OF 8"

CORNER POST

TYPICAL MEMBER DIMENSIONS (See Notes)													
FENCE HEIGHT (Max)	SLATTED	B (in)	D (ft)	LINE POSTS					BRACES				
				ROUND PIPE			ROLL FORMED		ROUND PIPE			ROLL FORMED	
				SECTION	ROUND OD PIPE	WEIGHT (lb/ft)	SECTION	WEIGHT (lb/ft)	SECTION	ROUND OD PIPE	WEIGHT (lb/ft)	SECTION	WEIGHT (lb/ft)
5'-0"	NO	8"	2'-6"	1½ Std	1.90"	2.72	1.875" x 1.625"	1.85	1½" Std	1.90"	2.72	1.625" x 1.250"	1.35
6'-0"	NO	10"	2'-6"	2 Std	2.38"	3.66	1.875" x 1.625"	2.40	2 Std	2.38"	3.66	1.625" x 1.250"	1.35
8'-0"	NO	12"	3'-0"	2½ Std	2.88"	5.80	3.250" x 2.500"	4.50	2 Std	2.38"	3.66	1.625" x 1.250"	1.35
10'-0"	NO	14"	3'-6"	3 Std	3.50"	7.58	3.250" x 2.500"	4.50	2½ Std	2.88"	5.80	1.625" x 1.250"	1.35
5'-0"	YES	12"	3'-0"	3½ Std	4.00"	9.12	N/A	-	2 Std	2.38"	3.66	N/A	-
6'-0"	YES	14"	3'-0"	4 Std	4.50"	10.80	N/A	-	2 Std	2.38"	3.66	N/A	-
8'-0"	YES	18"	3'-6"	5 Std	5.56"	14.60	N/A	-	2 Std	2.38"	3.66	N/A	-
10'-0"	YES	20"	4'-0"	6 Std	6.63"	19.00	N/A	-	2½ Std	2.88"	5.80	N/A	-

NOTES:

1. The table to the right shows minimum sized posts and braces complying with the specifications. Larger or heavier post and brace sizes may be used upon approval.
2. Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
3. Other sections which comply with the strength requirements and other provisions of the Specifications may be used upon approval.
4. Options exercised shall be uniform on any one project.
5. Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
6. See Standard Plan A85B for Brace, Stretcher Bar, and Truss Tightener Details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE

NO SCALE

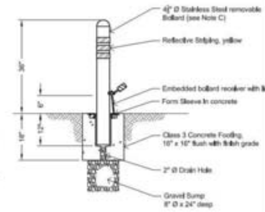
A85

2018 STANDARD PLAN A85

Return to Table of Contents

GENERAL NOTES:

A. Provide Knox-box padlocks per City Fire Department.
B. Provide 5' clear spacing between bollards (5'-3" O.C.) for bicycling facilities. For all other installations, provide 4' clear spacing between bollards (4'-3" O.C.)
C. Reliance Foundry R-8902 or approved equal.
D. Engineers and architects are encouraged to submit alternate designs that are consistent with these design features, and the projects where the bollards are to be used.
E. Yellow reflective tape shall be placed on each face of bollard as directed by Engineer.
F. For bicycling facilities, provide pathway striping that conforms to CA MUTCD.



REVISIONS	BY	APP	DATE
Drafting edits	JDL	MH	5-13
Revised Note 3 Alternate 1	MH	BL	12-09
remove alt 2 & NOTE	KH	MH	3-20
STANDARD CURRENT AS OF:	AUGUST 2020		

REMOVABLE BOLLARD

7335

CITY OF SAN LUIS OBISPO

Cannon

PROJECT TITLE: TRANSIT FACILITY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

SHEET TITLE: AGENCY STANDARD DETAILS

99% SUBMITTAL
NOT FOR CONSTRUCTION

APPROVED: __/__/____

DESIGNED BY:	AJS
DRAWN BY:	AJS
CHECKED BY:	JJS
APPROVED BY:	JJS
SCALE:	AS SHOWN
DATE:	10/24/2022
CITY SPECIFICATION NO.	1000535
PLAN FILE NO. / LOCATION	
SHEET NO.	15 of 15