San Luis Obispo County Electric Vehicle Charging Station Installation Webinar

Presented by SLOCAPCD and ABM
Agenda

1. Introductions
2. Installation Process Timeline
3. EVSE Site Assessment Documents & Quote Review
4. Next Steps
5. How to Fund your Project
6. Open Discussion & Process Feedback
7. Additional Questions
Installation Process Timeline

**Onsite Consultation**
1. Prequalification Site Walk, Assessment
2. Access to electrical rooms, panels, etc.
3. On-site summary of station placement, configuration options
4. Assess EV Charging locations for available electrical infrastructure

**Order equipment; construction and permitting scheduled:**

**Site Host Proposal / Approval to Proceed**

**Cost, Scope & Proposal delivered to Site Host**

**Provisioning & Activation**
Administrator and New User Training post installation (multiple sessions with administrators)

**Update Users that site is live and fully ready (Plugshare, Blogging, Twitter, Media)**

**Apply for APCD Funding and Sign Contract (6 weeks)**
EV Charging Station Design & Budget Review

Price Drivers

• Trenching, concrete, pavement, specialty concrete services
• Distance from panel to charger (over 150’ increases conduit/wire size)
• Service upgrades, (new transformers, panelboards, breaker kits)
• Existing infrastructure, (spare conduits, existing breakers)
• 100% Fleet usage only (changes in network fees and equipment type for the AC Chargers)
• 100% public access or mixed usage (Commercial network fees)
Two Examples to review

1) Health Campus – San Luis Obispo (proposal and drawing package)
2) Paso Robles USD – (proposal and drawing package)
**EV Charging Station Infrastructure Proposal**

**Proposal #**: TCB021819-6  
**Date**: February 18, 2019  
**Customer**: CHHC (County Hospital Health Campus)  
2180 Johnson Ave  
San Luis Obispo, CA 93401  

**Site ID**: CHHC (County Hospital Health Campus)  
2180 Johnson Ave  
San Luis Obispo, CA 93401  

**Customer**: CHHC (County Hospital Health Campus)  
San Luis Obispo, CA 93401  
2180 Johnson Ave  
Jon Griesser  
(805) 781-5611  
griesser@co.slo.ca.us  
rbuoy@co.slo.ca.us

<table>
<thead>
<tr>
<th>QTY</th>
<th>DESCRIPTION OF WORK</th>
<th>PRICE EA.</th>
<th>EXTENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CT4011 GW1 Single Port Bollard Gateway</td>
<td>$4,075.00</td>
<td>$16,300.00</td>
</tr>
<tr>
<td>4</td>
<td>CPCILD-COMMERCIAL-3 CT4000 3 Year Commercial Cloud Plan (per port)</td>
<td>$705.00</td>
<td>$2,820.00</td>
</tr>
<tr>
<td>4</td>
<td>CT4000 ASSURE-3-PM-2 CT4000 3 Years Assure (per station)</td>
<td>$2,314.00</td>
<td>$9,256.00</td>
</tr>
<tr>
<td>4</td>
<td>SHIIPPING AC Charger Shipping Bosch and Innogy 9.6kW Wall mtd shop/pdi unit</td>
<td>$341.25</td>
<td>$1,365.00</td>
</tr>
</tbody>
</table>

| Subtotal All options | $71,653.82 |

**EQUIPMENT**  
All equipment to be purchased directly through Porsche and equipment cost is not included in this proposal

| TAXES | 7.75% | $5,553.17 |

**Grand Total CAD$**  
$77,206.99

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Subtotal All options: $71,653.82  

**TAXES**  
Sales, use or other indirect pass-through taxes will be imposed as required by municipal statutes in accordance with laws covering separated charges for materials, installation labor, optional warranty coverage and software updates.

Grand Total CAD$: $77,206.99

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**Exclusions/Clarifications:** (PRICING VALID FOR 120-DAYS)

1. **EV CHARGING EQUIPMENT NOT INCLUDED, CUSTOMER TO PURCHASE EQUIPMENT DIRECTLY FROM PORSCHE.** We will compile the parts list for the Porsche supplied parts list and submit the order to Porsche, the parts will be billed to the Dealer under its parts consignment.  
2. **Job will be done in three phases,** A) initial underground and concrete installation for ChargeBox and Kiosks, B) L2 Installation, C) ChargeBox/systems & 19.2kW L2 Chargers final Installation/startup, (either late 2018 or Early 2019).  
3. Charges or Fees from the Utility Company for Service Connect/Disconnect/Upgrade or Demand increase fees  
4. Construction permitting does not include additional requirements from zoning issues or previous site problems with the municipalities

Page 1
Unforeseen underground issues: The estimate does not include any costs or contingencies for rock or other abnormal ground conditions, and Owner/Customer shall be responsible for the costs of correcting any such conditions. Should such abnormal conditions be encountered on the site in connection with excavation or installation of sewer lines, water lines, or other utility services, ABM shall promptly inform Owner/Customer of same and estimated costs of the additional work. Such costs may include, but are not necessarily limited to jack hammer, backhoe and/or rock drill operations. The actual costs will be reflected in an increase in the actual invoicing. If we are not able to complete any bore due to rock or abnormal conditions, an attempt/mobilization fee of $3,000.00 USD, plus the cost to return materials will apply.

Unforeseen hazardous materials: This project agreement does not include costs or responsibility for any hazardous material abatement that is discovered by ABM or others during the course of the project.
We instruct ABM Electrical Power Services, LLC (ABMEPS) or subsidiaries to proceed with scheduling and performing the work described in the attached proposal.

* ABMEPS Proposal Number: ________________

Project Site Address(es):

* Authorized Project Amount: $____________ Proposed Date to Begin Work: ______________

Project Comments/Notes: ____________________________________________ Site Contact Phone: ____________________

Site Contact Name: __________________________ Site Contact Phone: ____________________

**AUTHORIZATION TO PROCEED REQUIRED**

* Customer Authorization Signature: ____________________________________________

Printed Name & Title: __________________________ Date: ______________ Phone: ____________________ Email: __________________________

**BILLING INFORMATION REQUIRED**

ABMEPS is instructed to bill this project per the pricing outlined in the proposal accordingly:

* Purchase/Service Order or Contract Number Is (Mark One): [ ] Required on invoice [ ] Not Required

If Required, Provide Number Here: ____________________________________________

Full Billing Name: __________________________________________________________

Billing Address: ____________________________________________________________

Billing City, State, Zip Code: ________________________________________________

Accounts Payable Contact: ____________________________________________

AP Phone Number: ______________ AP Email Address: __________________________

Email Address For Invoice Processing: __________________________________________

* Please help streamline invoicing by providing an email address for invoice processing

* ABMEPS Project Authorization Signature: ______________________________________

Terms and Conditions:
The attached ABM Electrical Power Services, LLC Terms and Conditions will apply. Authorization to proceed with the work outlined in this quotation shall constitute Site Host (“Buyer’s”) acceptance of these terms and conditions in full. Oral authorizations to proceed must be confirmed to ABMEPS in writing (Fax or e-mail) before project start. If there is a conflict or discrepancy between terms and conditions in the Buyer’s purchase authorization and this quotation, this quotation shall prevail unless specifically authorized, in writing, by ABM Electrical Power Services, LLC.

Sincerely,

Van D. Wilkins, Jr.

National Accounts Manager
EVG-250.1 General

Where provided, electrical vehicle charging stations shall comply with EVG-250.

ADVISORY: EVG-250.1 General Existing conditions, terrain, electric infrastructure and other factors dictate that not every electric vehicle charging station can be fully accessible. With electric vehicle charging station being functionally similar to and usually intergraded with parking, the ratios of accessible to standard electric vehicle charging stations in these guidelines are the same as those for accessible to standard parking in the 2010 ADA standards and the 2013 California Building Code. The numbers of required accessible electric vehicle charging stations for both on-site and public rights-of-way locations are shown in Tables EVG-250.2 On-site Electric Vehicle Charging Stations and EVG-250.3 On-street Electric Vehicles Charging Stations
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<th>APP'D</th>
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<td>1</td>
<td>INITIAL RELEASE</td>
<td>11/28/18</td>
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</table>
**NOTES:**

1. 1-1/4" PVC CONDUIT W/ (10) #8 AND (1) #10 GND COPPER THHN CONDUCTORS
2. TWO 40AMP 2POLE 208 VOLT CIRCUIT BREAKERS W/ BREAKER TIE BAR AND GROUNDING BAR KIT
3. 1" PVC CONDUIT W/(2)#8 AND (1)#10 GND COPPER THHN CONDUCTORS
4. 2" EMT W/(3)3/0 AND (1)#6 GND COPPER CONDUCTORS

**NEW Sub Panel Schedule**

<table>
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<tr>
<th>No.</th>
<th>Date</th>
<th>Scale</th>
<th>Drawing</th>
<th>Remarks</th>
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<td>11/28/18</td>
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</table>

**Panel - MSB**

(2) 40AMP 2POLE 208 VOLT CIRCUIT BREAKERS

**New Sub Panel**

1600 AMP 3Ø 4WIRE 120/208 VOLT PANEL

**Electrical Pull Box**

Level II Level II Level II Level II
### Electrical Input

<table>
<thead>
<tr>
<th>Single Port (AC Voltage 208/240V AC)</th>
<th>Dual Port (AC Voltage 208/240V AC)</th>
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</thead>
<tbody>
<tr>
<td><strong>Input Current</strong></td>
<td><strong>Input Power Branch Circuit</strong></td>
</tr>
<tr>
<td>Standard</td>
<td>30A</td>
</tr>
<tr>
<td>Standard Power Share</td>
<td>n/a</td>
</tr>
<tr>
<td>Power Select 24A</td>
<td>24A</td>
</tr>
<tr>
<td>Power Select 24A Power Share</td>
<td>n/a</td>
</tr>
<tr>
<td>Power Select 16A</td>
<td>16A</td>
</tr>
<tr>
<td>Power Select 16A Power Share</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Service Panel GFCI</strong></td>
<td>No.</td>
</tr>
<tr>
<td><em>Do not provide external GFCI as it may conflict with internal GFCI (CCD)</em></td>
<td></td>
</tr>
<tr>
<td><strong>Wiring - Standard</strong></td>
<td>5-wire (L1, L2, L3, N, E)</td>
</tr>
<tr>
<td><strong>Wiring - Power Share</strong></td>
<td>3-wire (L1, L2, E)</td>
</tr>
<tr>
<td>Station Power</td>
<td>8kW typical (standby), 15kW maximum (operation)</td>
</tr>
</tbody>
</table>

### Electrical Output

| **Standard** | 7.2kW (240V AC @ 30A) | 7.2kW (240V AC@30A) x 2 |
| Standard Power Share | n/a | n/a |
| Power Select 24A | 5.8kW (240V AC@24A) | 5.8kW (240V AC@24A) x 2 |
| Power Select 24A Power Share | n/a | n/a |
| Power Select 16A | 3.8kW (240V AC@16A) | 3.8kW (240V AC@16A) x 2 |
| Power Select 16A Power Share | n/a | n/a |

### Functional Interfaces

| **Connector(s) Type** | SAE J1772* | SAE J1772* x 2 |
| **Cable Length - 1850 mm (6')** | 5.5 m (18') | 5.5 m (18') x 2 |
| **Cable Management** | n/a | n/a |
| **Cable Length - 2440 mm (8')** | 7 m (23') |
| **Overhead Cable Management System** | Yes |
| **LCD Display** | 165 mm (6.5") full color, 640x480, 60fps full motion video, active matrix, UV protected |
| **Card Reader** | ISO 14443A, ISO 14443B, NFC |
| **Locking Holder** | Yes x 2 |

### Hardware

<table>
<thead>
<tr>
<th><strong>Description</strong></th>
<th><strong>Order Code</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>CT4011, CT4021</td>
</tr>
<tr>
<td>1830 mm (6') Single Port Bollard Mount</td>
<td>1830 mm (6') Dual Port Bollard Mount</td>
</tr>
<tr>
<td>1830 mm (6') Single Port Wall Mount</td>
<td>1830 mm (6') Dual Port Wall Mount</td>
</tr>
<tr>
<td>2440 mm (8') Dual Port Bollard Mount</td>
<td>2440 mm (8') Dual Port Wall Mount</td>
</tr>
<tr>
<td><strong>Options</strong></td>
<td><strong>Misc</strong></td>
</tr>
<tr>
<td>Integral Gateway Modern - USA</td>
<td>Power Management Kit</td>
</tr>
<tr>
<td>Integral Gateway Modern - Canada</td>
<td>Bollard Concrete Mounting Kit</td>
</tr>
<tr>
<td>-GW1</td>
<td>CT4000-PGMGT</td>
</tr>
<tr>
<td>-GW2</td>
<td>CT4001-CCM</td>
</tr>
</tbody>
</table>

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**ABM ELECTRICAL POWER SERVICES**

**Building Value**

14201 Franklin Ave.

**Health Campus**

2180 Johnson Avenue

**Tustin, CA 92780**

**San Luis Obispo, CA**

**ABM ELECTRICAL POWER SERVICES**

ABM ELECTRICAL POWER SERVICES

14201 FRANKLIN AVE.

TUSTIN, CA 92780

**HEALTH CAMPUS**

HEALTH CAMPUS

2180 JOHNSON AVENUE

SAN LUIS OBISPO, CA
### Safety and Connectivity Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Fault Detection</td>
<td>20mA CCID with auto retry</td>
</tr>
<tr>
<td>Open Safety Ground Protection</td>
<td>Continuously monitors presence of safety (green wire) ground connection</td>
</tr>
<tr>
<td>Plug-Out Detection</td>
<td>Power terminated per IEEE J1772™ specifications</td>
</tr>
<tr>
<td>Power Measurement Accuracy</td>
<td>+/- 2% from 2% to full scale (30A)</td>
</tr>
<tr>
<td>Power Report/Store Interval</td>
<td>15 minute, aligned to hour</td>
</tr>
<tr>
<td>Local Area Network</td>
<td>2.4 GHz Wi-Fi (802.11 b/g/n)</td>
</tr>
<tr>
<td>Wide Area Network</td>
<td>3G GSM, 3G CDMA</td>
</tr>
</tbody>
</table>

### Safety and Operational Ratings

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure Rating</td>
<td>Type 3R per UL 50E</td>
</tr>
<tr>
<td>Safety Compliance</td>
<td>UL listed for USA and cUL certified for Canada; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625</td>
</tr>
<tr>
<td>Surge Protection</td>
<td>6kV @ 3000A, in geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.</td>
</tr>
<tr>
<td>EMC Compliance</td>
<td>FCC Part 15 Class A</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-30°C to +50°C (-22°F to 122°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-30°C to +60°C (-22°F to 140°F)</td>
</tr>
<tr>
<td>Non-Operating Temperature</td>
<td>-40°C to +60°C (-40°F to 140°F)</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>Up to 95% @ -50°C (-58°F) non-condensing</td>
</tr>
<tr>
<td>Non-Operating Humidity</td>
<td>Up to 95% @ -50°C (-58°F) non-condensing</td>
</tr>
<tr>
<td>Terminal Block Temperature Rating</td>
<td>105°C (221°F)</td>
</tr>
<tr>
<td>Charging Stations per 802.11 Radio Group</td>
<td>Maximum of 10. Each station must be located within 45m (150’) “line of sight” of a gateway station</td>
</tr>
</tbody>
</table>
STRUCTURAL NOTES:

GENERAL:
1. ALL WORK SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE – CURRENT EDITION, AND ALL OTHER APPLICABLE CODES AND REGULATIONS OF AGENCIES HAVING JURISDICTION.
2. ALL REFERENCED STANDARDS REFER TO THE EDITION IN FORCE AT THE TIME THESE PLANS AND SPECIFICATIONS ARE ISSUED FOR PERMIT.
3. JOB SAFETY AND PROCEDURES FOR SAFE CONSTRUCTION ARE OF UTMOST IMPORTANCE, AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. WORK NOT EXPRESSLY SHOWN ON SPECIFIC PARTS OF THE DRAWINGS OR SPECIFICATIONS, BUT REASONABLY IMPLIED BY SIMILAR WORK SHOWN, SHALL BE REPEATED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEMBERS AND MATERIALS TO CONFORM TO ACTUAL SITE CONDITIONS. CONTRACTOR SHALL REPORT DIFFERING SITE CONDITIONS AND DEVIATIONS IN NOTED PROCEDURE TO THE ENGINEER FOR REVIEW.
6. CONTRACTOR SHALL TAKE CARE TO PROTECT ALL EXISTING STRUCTURES AND UTILITIES FROM DAMAGE.
7. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS. DRAWINGS SHALL TAKE PRECEDENCE OVER SPECIFICATIONS.
8. IF THERE APPEARS TO BE A CONFLICT BETWEEN NOTES, DETAILS, OR SPECIFICATIONS, CONTRACTOR SHALL APPLY THE MOST RIGID REQUIREMENTS TO THE WORK. CONTRACTOR SHALL NOT DEVIATE FROM DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.
9. IT IS THE INTENTION OF THIS SET OF DESIGN DRAWINGS TO PRODUCE CONSTRUCTION SHOP DRAWINGS FOR THE FABRICATION AND ASSEMBLY OF THE BUILDING SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY REMAINING COORDINATION, DETAILING AND MISCELLANEOUS DESIGN NOT INCLUDED HEREIN AND SHALL VERIFY CONFORMANCE TO ALL LOCAL BUILDING CODES AND PROFESSIONAL FILING REQUIREMENTS.

STRUCTURAL DESIGN DATA:

ALL DEAD AND LIVE LOADS ARE PER THE INTERNATIONAL BUILDING CODE, CURRENT EDITION

1. DEAD LOADS
   a. ALL DEAD LOADS ARE REPRESENTATIVE OF ACTUAL, MATERIAL WEIGHT PER SQ. FT.

2. LIVE LOADS:
   a. ALL LIVE LOADS ARE PER IBC 36.7 3.3; CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL BUILDING CODES.

VEHICULAR IMPACT: 6,000 LBS @ 2'-3' FROM BASE

FOUNDERINGS:

1. FOOTINGS ARE TO BE BONED ON MIN. 3,000 PSI SUITABLE BEARING MATERIAL.
2. NO FOOTINGS ARE TO BE CAST ON UNCONTROLLED FILL, SOIL, ORGANIC MATERIAL, FROZEN GROUND, MUD, SOFT CLAYS OR OTHER OBSTRUCTIONABLE OR UNAPPROVED MATERIALS.

CAST IN PLACE CONCRETE:

1. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ACI BUILDING CODE, ACI 318, LATEST EDITION, THE INTERNATIONAL BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS OF AGENCIES HAVING JURISDICTION. DETAILS SHALL BE IN ACCORDANCE WITH ACI 318, LATEST EDITION.
2. ALL CONCRETE FOR CAST IN PLACE WORK SHALL BE DESIGNED CONCRETE WITH A MINIMUM 28 DAY COMpressive STRENGTH OF 4,000 PSI.
3. NO ADmixTURES SHALL BE ALLOWED WITHOUT PRIOR REVIEW AND ACCEPTANCE BY THE ENGINEER.
4. ALL REQUIREMENTS FOR Batching, MIXING, FINISHING, CURING ETC. SHALL BE AS PER ACI 318.
5. ALL REINFORCEMENT SHALL CONFIRM TO ASTM A615 GRADE 60 AND BE SECURELY TIED IN PLACE AND ADEQUATELY SUPPORTED. ALL BARS MARKED CONTINUOUS (CONT.) SHALL BE LAPPED 40 BAR DIAMETERS UNLESS OTHERWISE NOTED. IF REQUIRED, CONTRACTOR SHALL PROVIDE ADDITIONAL BARS OR STRIPS TO ADEQUATELY SUPPORT ALL BARS.
6. DRAWINGS SHALL INDICATE THE FOLLOWING: ALL NECESSARY REINFORCING, LOCATIONS OF ALL CONSTRUCTION AND SUPPORT JOINTS. DETAILED AND AMOUNT OF REINFORCEING CONCRETE NOT SHOWN SHALL BE PROVIDED AS SHOWN IN SIMILAR CONDITIONS. ALL INSERTS AND OTHER OBJECTS WHICH MAY AFFECT PLACING OF REINFORCING BARS SHALL BE INDICATED ON THE SHOP DRAWINGS.
7. MINIMUM CLEAR CONCRETE COVER SHALL BE 3". THIS DIMENSIONS ARE TYPICAL, UNLESS OTHERWISE NOTED ON PLANS AND DETAILS.
8. CONTRACTOR SHALL PROVIDE REINFORCING STEEL ERECTOR WITH A SET OF STRUCTURAL PLANS FOR FIELD USE.
9. CONTRACTOR SHALL VERIFY CORNER, CURB TURNS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVES, ETC. AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED.
10. CONTRACTOR SHALL COORDINATE LOCATION OF SLOTTED INSERTS, WELDED PLATES, AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE WITH CHARGING STATION MANUFACTURER
11. CONTRACTOR SHALL USE RIGID TEMPLATES TO INSTALL ANCHOR BOLTS.
12. PIPES OR CONDUITS PLACED IN SLABS SHALL NOT BE SPACED CLOser THAN 3 TIMES THE DIAMETER ON CENTER. PIPES AND CONDUITS PLACED IN SLABS SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 OF THE SLAB THICKNESS. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE. NO CONDUITS SHALL BE PLACED IN THE SLAB WITHIN 12 INCHES OF ANY COLUMN FACE.

DIFFERENT CONCRETE PADS:

TYPICAL CONCRETE PAD…………………………………….. SW/300PSF
CHARGER STAND ……………………………………...450 BS

MINIMUM CLEAR CONCRETE COVER SHALL BE 3", THIS DIMENSIONS ARE TYPICAL, UNLESS OTHERWISE NOTED ON PLANS AND DETAILS.

IT IS THE INTENTION OF THIS SET OF DESIGN DRAWINGS TO PRODUCE CONSTRUCTION SHOP DRAWINGS FOR THE FABRICATION AND ASSEMBLY OF THE BUILDING SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY REMAINING COORDINATION, DETAILING AND MISCELLANEOUS DESIGN NOT INCLUDED HEREIN AND SHALL VERIFY CONFORMANCE TO ALL LOCAL BUILDING CODES AND PROFESSIONAL FILING REQUIREMENTS.

DETAIL NOTES:
A.1- 2' ROUND SONOTUBE STYLE FORMED BASE TO BE POURED FLUSH WITH EXISTING PAVEMENT OR EXISTING FINISHED GRADE
A.2- STANDARD BOLTDOWN BOLLARD TO BE INSTALLED ON FRONT OF PAD, SEE BOLLARD DETAIL
A.3- CHARGING STATION PEDESTAL TO BE INSTALLED PER PEDESTAL DETAILS
Parking Site Guidelines and Layout

Two Parallel Parking Space Location
(One charger serves two parking spots)

Angled or straight Single Parking Location

Angled or straight Parking
(one charger serves two parking spots)

36" Fixed Carbon Steel Bollard rounded top, with 4-3/4" Outside Dia.

- Pavement marking, wheel stops and bollards and, if it fits into the overall site appearance, also curbs have to be painted in RAL 6026 (opal green).
- The marking of the EV-Charging parking spot has to be prioritized over existing markings.
- If there is any striping in different colors, it has to be painted over with the opal green color.
- Stencils to be used for marking to be found below.

Dimensions:
- EV-Symbol: 36 in x 36 in on a 38 in x 38 in green background frame
- ‘EV Charging only’ and ‘Electrical Vehicle Charging only’ according to California Code; Figure 3B-108 (CA) Electric Vehicle Charging Station Pavement Marking Details (Sheet 1 & 2)

Where there is no curb, wheel stops are an alternative.

72" x 6" x 3" Plastic, 20 lbs, maintenance free, no painting

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14201 FRANKLIN AVE.
TUSTIN, CA 92780

HEALTH CAMPUS

ABM ELECTRICAL POWER SERVICES
2180 JOHNSON AVENUE
SAN LUIS OBISPO, CA
13. All concrete saw cutting, removal and patching to be included.

14. All work shown on Drawings shall be supplemented by all Laws, Ordinances and Codes governing the work of these Divisions, which Laws, Ordinances or Codes shall take precedence over all other specifications in the event of any conflict between same, except where methods or materials shown are superior to the legal requirements.

15. All required permits, certificates from Government Agencies and turn over to the Owner at completion of Work. Obtain permits for work and arrange for all required permits and include such amounts in Bid Price.

16. Contractor shall provide a warranty substantiating that all materials are as herein specified, and that the same shall not be defective, faulty, or workmanlike in an acceptable manner, without cost to the Owner. Warranty period shall be one (1) year unless specified longer for specific equipment. Date of warranty start shall be from substantial completion and beneficial use.

17. Contractor will obtain a building permit for his portion of the work.

18. Contractor to provide pitch pans and penetrations required for electrical items which pierce roof with or without shown on Drawings.

19. Contractor to furnish and install reinforcing concrete pads for equipment as required.

20. In general, all similar equipment is to be supplied and manufactured by same Manufacturer, but must be submitted and approved equal to that specified.

21. Locate all openings required for work performed under this Section. Provide sleeves, guards or other approved methods to allow passage of items installed under this section.

22. Provide switch-sizes with in 36" of equipment supplied and installed by other contractors. Motor starters and controls will be provided by others (except where noted) to be installed by the Electrical Contractor.

23. Wherever the Contractor provides power consuming equipment which differs from Contract Documents, the wiring and associated circuit components for such equipment shall be changed to proper sizes to match at additional expense to Owner.

24. It is the Contractor’s responsibility to coordinate the exact required location of floor outlets, floor ducts, floor stubs, etc., with Owner and Architect and receive approval prior to rough in. Locations shown on plans are only approximate locations.

25. All openings in fire rated walls, floor and partitions for conduits shall be sealed with fire resistant foam or UL approved “Fire Stop” system to maintain the fire rating.

26. The minimum conduit size shall be 1/2".

27. Voltage drop minimum wire sizing (20A circuit) use -
   1. 120V circuit over 100 ft use #10 minimum
   2. 208V circuit over 200 ft use #10 minimum
   3. 277V circuit over 200 ft use #10 minimum

28. Minimum branch circuit wire size shall be #12.

29. All wiring will be in "MC" cable as by code. Underground conduit will be Schedule 40 PVC with fittings, conduit above grade installed is to be EMT.

30. Electrical Contractor shall have the option of grouping homeruns in one conduit, per the requirements of Section 310 of the National Electrical Code.
Example #2 to review

2) Paso Robles USD – (proposal and drawing package)
# EV Charging Station Infrastructure Proposal

**Site:** Paso Robles Joint Unified SD  
2910 Union Road  
Paso Robles, CA 93446  
Kelly Stainbrook  
805-769-1160  
kstainbrook@pasoschools.org

<table>
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<tr>
<th>QTY</th>
<th>DESCRIPTION OF WORK</th>
<th>PRICE EA.</th>
<th>EXTENDED</th>
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**Subtotal All options** $257,162.97

| EQUIPMENT | All equipment to be purchased directly through Porsche and equipment cost is not included in this proposal | N/A |
| TAXES | Sales, use or other indirect pass-through taxes will be imposed as required by municipal statutes in accordance with laws covering separated charges for materials, installation labor, optional warranty coverage and software updates. | 7.75% | $19,930.13 |

**Grand Total** CAD$ $277,093.10

**Exclusions/Clarifications:** (PRICING VALID FOR 120-DAYS)

1. EV CHARGING EQUIPMENT NOT INCLUDED; CUSTOMER TO PURCHASE EQUIPMENT DIRECTLY FROM PORSCHE. We will compile the parts list for the Porsche supplied parts list and submit the order to Porsche, the parts will be billed to the Dealer under its parts consignment.

2. Job will be done in three phases, A) initial underground and concrete installation for ChargeBox and Kiosks, B) L2 Installation, C) ChargeBox/systems & 19.2kW L2 Chargers final Installation/startup, (either late 2018 or Early 2019).

3. Charges or Fees from the Utility Company for Service Connect/Disconnect/Upgrade or Demand increase fees

4. Construction permitting does not include additional requirements from zoning issues or previous site problems with the municipalities
ABM Electrical Power Services (ABMEPS)
Terms and Conditions

Terms of Payment:  1. Terms are net thirty (30) days. Any invoice not paid within thirty (30) days from the date of invoice will be subject to a service charge equal to the lesser of One and One-half percent (1.5%) per month on account balances or the maximum percentage permitted by law.  2. At ABMEPS's option, customers may be invoiced on a monthly basis for services provided over more than one month.  3. All pricing and payment terms contained herein are contingent upon a favorable Credit Report for the customer/client to whom this quotation is provided. Upon receipt of a less than favorable credit report ABMEPS reserves the right to withdraw this proposal, modify the pricing, or require payment when services are rendered, or advance payment of the total job quotation before providing services.  4. For material purchases in excess of $50,000, ABMEPS reserves the option to invoice 50% of the total at the time of material order and the remaining 50% at the time of material delivery.  5. Customer agrees to pay ABMEPS, to the extent permitted by applicable law, all costs and expenses, including but not limited to reasonable attorney's fees, incurred by ABMEPS in connection with any collection activities or actions to collect unpaid invoices under this quotation.

Delays:  ABMEPS shall not be liable for delays or performance resulting from causes beyond its reasonable control, acts of God, acts or omissions of Buyer, fire, strike or other labor difficulty. Should there be a delay, the date of delivery or performance shall be extended.

Cancellation:  Notice of cancellation of services to be performed must be received thirty-six (36) hours prior to the agreed upon date and time. Unless such notification is provided, charges will be incurred. These charges will be ABMEPS's cost plus ten percent (10%) and will include any rental equipment for the Project.

Disclaimer:  ABMEPS assumes no responsibility for any damage or injury to any property caused directly or indirectly as a result of ABMEPS performing its duties under this agreement except such damage or injury that may be held to result solely and directly from or out of: Any grossly negligent performance by ABMEPS in its obligations under this Agreement or any willful misconduct on the part of ABMEPS, its agents or employees.

Responsibility:  All services are performed in accordance with industry standards, project specifications and/or NETA specifications. Where remediation is beyond the scope of normal reliability testing, and where corrective action is required, such services will be quoted separately.

Assignment:  ABMEPS reserves the right to assign this project in part or in total to an affiliated entity.

Termination:  An order may be terminated only by mutual written agreement between Buyer and ABMEPS and only upon payment of costs and expenses already incurred by ABMEPS.

Safety:  ABMEPS agrees to comply with all applicable federal, state, local, National Electric Codes and project safety rules and regulations. ABMEPS reserves the right not to perform work that in its opinion violates OSHA Electrical Safety-Related Work Practices; Final Rule or other safety rules and regulations.

Standby Time:  When ABMEPS service personnel are on the job site but unable to perform services requested because of circumstances beyond ABMEPS's control, the customer will be charged standby time at the applicable rate for each such ABMEPS service person (up to a maximum of eight (8) hours per day per person).

Liability:  ABM Electrical Power Services and its contractors and suppliers of any tier, shall not be liable in contract, in tort or otherwise for damage or loss of property or equipment, loss of profits or revenue, loss of use of equipment or power system, cost of capital, cost of purchased or replacement power or temporary equipment (including additional expenses incurred in using existing facilities), claims of customers of Buyer, or for any special, indirect, incidental, or consequential damages of any kind, whether arising in or based on contract, tort, statute, strict liability, warranty or otherwise.

Warranties:  All material and equipment delivered and/or installed will be the products of reputable manufacturers. ABMEPS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE HEREBY EXPRESSLY EXCLUDED, CONCERNING MATERIAL AND EQUIPMENT MANUFACTURED BY OTHERS. ABMEPS sells and delivers all materials and equipment not manufactured by it "AS IS," but ABMEPS will use its best reasonable efforts to obtain from the manufacturer, in accordance with the manufacturer's customary practices, the repair or replacement of any material or equipment which may prove defective in workmanship or material. The foregoing shall be the exclusive remedy of Buyer and the sole obligation of ABMEPS with respect to material and equipment manufactured by others. To the extent permitted by law, ABMEPS warrants its labor for one (1) year and any materials obtained from ABMEPS's inventory carry a ninety (90) day warranty.

Unforeseen underground issues: The estimate does not include any costs or contingencies for rock or other abnormal ground conditions, and Owner/Customer shall be responsible for the costs of correcting any such conditions. Should such abnormal conditions be encountered on the site in connection with excavation or installation of sewer lines, water lines, or other utility services, ABM shall promptly inform Owner/Customer of same and estimated costs of the additional work. Such costs may include, but are not necessarily limited to jack hammer, backhoe and/or rock drill operations. The actual costs will be reflected in an increase in the actual invoicing. If we are not able to complete any bore due to rock or abnormal conditions, an attempt/mobilization fee of $3,000.00 USD, plus the cost to return materials will apply.

Unforeseen hazardous materials: This project agreement does not include costs or responsibility for any hazardous material abatement that is discovered by ABM or others during the course of the project.
ANY REQUESTED CUSTOMER REQUESTED EXCLUSIONS TO THE SCOPE: (Initial Exclusions)

ABM-ESU  ABM-CIVIL  ABM-ELEC  ABM-MECH
ABM-DATA  L2-UPGRADE  ABM-ELS

FOR EACH SCOPE ITEM EXCLUSION $900.00 USD will be added to ABM-DESIGN for inspection and verification of installation per the required design.

The information contained in this proposal is considered to be of a confidential and proprietary nature, the rights of which belong to ABM and are protected under copyright and trade secret laws. This information is being provided to the purchaser to evaluate ABM’s proposal and performance should a contract be awarded to ABM. Neither this proposal nor any information contained therein nor any proprietary information furnished pursuant thereto, shall be disclosed to others or used for any purpose other than set forth above without the prior written approval of ABM. If you should have any questions, please feel free to contact us at (866) 226-2838.

Sincerely,

Van D. Wilkins, Jr.
National Accounts Manager
EVS-250.1 General

Where provided, electrical vehicle charging stations shall comply with EVS-250.

ADVISORY: EVS-250.1 General Existing conditions, terrain, electric infrastructure and other factors dictate that not every electric vehicle charging station can be fully accessible. With electric vehicle charging station being functionally similar to and usually intergraded with parking, the ratios of accessible to standard electric vehicle charging stations in these guidelines are the same as those for accessible to standard parking in the 2010 ADA standards and the 2013 California Building Code. The numbers of required accessible electric vehicle charging stations for both on-site and public rights-of-way locations are shown in Tables EVS-250.2 On-site Electric Vehicle Charging Stations and EVS-250.3 On-street Electric Vehicles Charging Stations.

SCOPE: INSTALL ONE – 175KVA SINGLE PORT CHARGER.
NOTES:
1. Chargers to be installed per manufactures recommendations
2. Contractor to install chargers in compliance with CA building code - Chapter 11B for ADA compliance
3. Minimum conduit cover of 18" in planters and 24" under paved areas
4. Compacted native backfill
5. PVC to be SCH40
### NOTES:
1. 4" PVC CONDUIT W/(3)#300MCM AND (1)#300 GND COPPER THHN CONDUCTORS
2. ONE (1) 300AMP 3POLE 480 VOLT CIRCUIT BREAKER W/ BREAKER TIE BAR AND GROUNDING BAR KIT
3. 4" EMT CONDUIT W/(3)#300MCM AND (1)#300 GND COPPER THHN CONDUCTORS

### ELECTRICAL SUB PANEL SCHEDULE

#### PANEL MSB

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### NOTES:
- Existing peak power demand for MSB is 172Kw per highest usage from Utility bills over the passsed year.
- Additionally Solar load must be accounted for in calculation.
Technical specifications

DC output power per power cabinet 175 kW peak
160 kW continuous (375 A)

DC output voltage range 150 – 920 V DC

Maximum DC output current 375 or 500 A per charge post

AC Input (UL version) 3-phase 480 V AC ±10%
265 A, 174 kVA, 60 Hz

Power factor > 0.99

Efficiency (full load) 95 %

Mechanical impact protection IK 10 (screen IK 08)

Environment IP 34, stainless steel, outdoor use

Operating temperature -35 °C to +55 °C

RFID ISO/IEC 14443 A/B, ISO/IEC 15962, Felica™, NFC, Mifare, Calypso
(option: Legic)

Network connections GSM/2G/3G/4G
10/100 base-T Ethernet

Compliance and certification CE, UL, cUL, RMC, EAC, KC, EN 61851, EN 62196,
CHAdeMO 1.2
IEC 61000-6-3 EMC Class B
DIN 70121, ISO 16189

Power cabinet

Dimensions (H x W x D) 82.8 x 46.1 x 30.3 in
2103 x 1170 x 770 mm

Weight 1340 kg / 2954 lbs

Charge post

Dimensions (H x W x D) 94 x 23.2 x 17.3 in
2390 x 590 x 440 mm

Weight 550 lbs / 250 kg

A - Foundation of Fast Charge Station
B - Foundation of Charge Post
C - Flexible conduit for DC power cables
D - Flexible conduit for AC power cables
E - AC utility power, PE wire and data cables

ABM ELECTRICAL POWER SERVICES
14201 FRANKLIN AVE.
TUSTIN, CA 92780

ABM ELECTRICAL POWER SERVICES
2910 Union Road, Paso Robles, CA

PASO UNIFIED

ABM BUILDING VALUE

ABM ELECTRICAL POWER SERVICES

PASO UNIFIED

11/28/18
Main AC Power supply:
- 2x power switch 3P
- 6x ANL 100A
- no neutral required

Input power cable:
- 2x AC power cable 3x10AWG 4x240mm² maximum
- Optional, Ethernet cables for control/communication and site power control.

Specification Power Cabinet:
- Nominal input voltage: 480V AC ± 10% Y/Δ
- Nominal input frequency: 60Hz ± 5%
- Nominal input current: 200A
- Short Circuit Rating: 25kA
- Upstream fuse: 200A to 400A rating
- Power Factor (cos φ): 0.95
- Peak output current: 500 A
- Voltage output range: 50-900 VDC
- Total Harmonic Distortion: < 9%

Cables between cabinets:
- 2x 12 AWG for communication
- 2x 1/0 AWG for DC conductors each
- 2x 2/0 AWG for DC conductors each

Cables between cabinet and Charge Post:
- 2x 10 AWG for communication
- 1x 4/0 AWG for DC conductors each
- 1x 2/0 AWG for DC conductors each

Charge Post (discharged):
- CCS Output charging protocol:
  - Voltage range: 100-800 VDC
  - Output current: 80-200 ADC
  - Maximum output current: 50 ADC
- CHAdeMO Output charging protocol:
  - Voltage range: 50-800 VDC
  - Output current: 400 ADC
  - Maximum output current: 200 ADC

Two variants available:
- (a) CC, CCS and CHAdeMO
- (b) CCS and CHAdeMO

---

**Power Cabinet**

Dimensions: 2077 x 1170 x 770 mm (HxWxD)
- Weight: 1550 kg net unit
- Footprint points: refer to page 2.

**Charge Post**

- Dimensions: 2030 x 900 x 640 mm (HxWxD)
- Weight: 130 kg
- Footprint points: refer to page 2.

---

**ABM ELECTRICAL POWER SERVICES**

14201 FRANKLIN AVE.
TUSTIN, CA 92780

**PASO UNIFIED**

2910 Union Road, Paso Robles, CA

**Design**

James Pierson

**Drawn**

James Pierson

**Checked**

James Pierson

---

**Scale**

1/50

**Units**

Inches
**STRUCTURAL NOTES:**

**GENERAL:**
1. **ALL WORK SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE – CURRENT EDITION, AND ALL OTHER APPLICABLE CODES AND REGULATIONS OF AGENCIES HAVING JURISDICTION.**
2. **ALL REFERENCED STANDARDS REFER TO THE EDITION IN FORCE AT THE TIME THESE PLANS AND SPECIFICATIONS ARE ISSUED FOR PERMIT.**
3. **JOB SAFETY AND PROCEDURES FOR SAFE CONSTRUCTION ARE OF UTMOST IMPORTANCE, AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.**
4. **WORK NOT EXPRESSLY SHOWN ON SPECIFIC PARTS OF THE DRAWINGS OR SPECIFICATIONS, BUT REASONABLY IMPLIED BY SIMILAR WORK SHOWN, SHALL BE REPEATED.**
5. **CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEMBERS AND MATERIALS TO CONFORM TO ACTUAL SITE CONDITIONS. CONTRACTOR SHALL REPORT DIFFERING SITE CONDITIONS AND DEVIATIONS IN NOTED PROCEDURE TO THE ENGINEER FOR REVIEW.**
6. **CONTRACTOR SHALL TAKE CARE TO PROTECT ALL EXISTING STRUCTURES AND UTILITIES FROM DAMAGE.**
7. **SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS. DRAWINGS SHALL TAKE PRECEDENCE OVER SPECIFICATIONS.**
8. **IF THERE APPEARS TO BE A CONFLICT BETWEEN NOTES, DETAILS, OR SPECIFICATIONS, CONTRACTOR SHALL APPLY THE MOST RIGID REQUIREMENTS TO THE WORK. CONTRACTOR SHALL NOT DEVIATE FROM DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.**
9. **IT IS THE INTENTION OF THIS SET OF DESIGN DRAWINGS TO PRODUCE CONSTRUCTION SHOP DRAWINGS FOR THE FABRICATION AND ASSEMBLY OF THE BUILDING SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY REMAINING COORDINATION, DETAILS AND MISCELLANEOUS DESIGN NOT INCLUDED HEREIN AND SHALL VERIFY CONFORMANCE TO ALL LOCAL BUILDING CODES AND PROFESSIONAL FILING REQUIREMENTS.**

**STRUCTURAL DESIGN DATA:**

<table>
<thead>
<tr>
<th>All Dead and Live Loads are per the International Building Code, Current Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>**1. **DEAD LOADS:</td>
</tr>
<tr>
<td>**2. **LIVE LOADS:</td>
</tr>
<tr>
<td>**3. **VEHICULAR IMPACT:</td>
</tr>
</tbody>
</table>

**FOUNTAIN:**
1. **FOOTINGS ARE TO BE PLACED AT 30 INCHES UNDERGROUND, AND SIZED TO WITHSTAND VEHICLE IMPACTS.**
2. **NO FOOTINGS ARE TO BE CAST ON UNCONTROLLED FILL, SOIL, OR MUD FOR ANY ADDITIONAL LOADS.**

**CAST IN PLACE CONCRETE:**
1. **ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ACI BUILDING CODE, ACI 318, LATEST EDITION, THE INTERNATIONAL BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS OF AGENCIES HAVING JURISDICTION. DETAILS SHALL BE IN ACCORDANCE WITH ACI-318, LATEST EDITION.**
2. **ALL CONCRETE FOR CAST IN PLACE WORK SHALL BE STONE CONCRETE WITH A MINIMUM 28 DAY COMPRRESSIVE STRENGTH OF 4,000 PSI.**
3. **NO ADJUSTMENT SHALL BE ALLOWED WITHOUT PRIOR REVIEW AND ACCEPTANCE BY THE ENGINEER.**
4. **ALL REQUIREMENTS FOR BATCHING, MIXING, FINISHING, CURING ETC. SHALL BE AS PER ACI 301.**
5. **ALL REINFORCEMENT SHALL CONFORM TO ASTM A302, GRADE 60, AND BE SECURED TIED IN PLACE AND STABILIZED ACCORDINGLY. ALL BARS MARKED "CONCRETE" (CONCENTRATED LOADS) SHALL BE TIDED AT 40 BAR DIAMETER UNLESS OTHERWISE NOTED. IF REQUIRED, CONTRACTOR SHALL PROVIDE ADDED BARS OR STIRRUPS TO ADEQUATELY SUPPLEMENT ALL BARS.**
6. **SHOP DRAWINGS SHALL INDICATE THE FOLLOWING: ALL NECESSARY REINFORCING, LOCATIONS OF ALL CONSTRUCTION AND CONTROL JOINTS. DETAILING AND AMOUNT OF REINFORCING FOR CONDITIONS NOT SHOWN.**
7. **ALL INSERTS AND OTHER OBJECTS WHICH MAY AFFECT PLACING OF REINFORCING BARS SHALL BE INDICATED ON THE SHOP DRAWINGS.**
8. **MINIMUM CLEAR CONCRETE COVER SHALL BE 3". THIS DIMENSIONS ARE TYPICAL, UNLESS OTHERWISE NOTED ON PLANS AND DETAILS.**
9. **CONTRACTOR SHALL PROVIDE REINFORCING STEEL ERECTOR WITH A SET OF STRUCTURAL PLANS FOR FIELD USE.**
10. **CONTRACTOR SHALL VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVE CURB, ETC. AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED.**
11. **CONTRACTOR SHALL COORDINATE LOCATION OF SLOTTED INSERTS, WELDED PLATES, AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE WITH CHARGING STATION MANUFACTURER.**
12. **CONTRACTOR SHALL USE RIGID TEMPTLES TO INSTALL ANCHOR BOLTS.**

**CAST IN PLACE CONCRETE:**

<table>
<thead>
<tr>
<th>No.</th>
<th>Revision</th>
<th>Date</th>
<th>Drawn By</th>
<th>Checked By</th>
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<td>INITIAL RELEASE</td>
<td>11/28/18</td>
<td>James Pierson</td>
<td>James Pierson</td>
<td>James Pierson</td>
</tr>
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</table>

**CONTRACTOR:**

- **COORDINATE LOCATION OF SLOTTED INSERTS, WELDED PLATES, AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE.**
- **BE RESPONSIBLE FOR ALL MEMBERS AND MATERIALS TO CONFORM TO ACTUAL SITE CONDITIONS.**
- **PROVIDE ALL NECESSARY REMAINING COORDINATION, DETAILS AND MISCELLANEOUS DESIGN NOT INCLUDED HEREIN AND SHALL VERIFY CONFORMANCE TO ALL LOCAL BUILDING CODES AND PROFESSIONAL FILING REQUIREMENTS.**

**JOB SAFETY AND PROCEDURES FOR SAFE CONSTRUCTION ARE OF UTMOST IMPORTANCE, AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.**

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Parking Site Guidelines and Layout

Two Parallel Parking Space Location
(One charger serves two parking spots)

Angled or straight Single Parking Location

Angled or straight Parking
(one charger serves two parking spots)

36" Fixed Carbon Steel Bollard rounded top, with 4-3/4" Outside Dia.

- Pavement marking, wheel stops and bollards and, if it fits into the overall site appearance, also curbs have to be painted in RAL 6026 (opal green).
- The marking of the EV-Charging parking spot has to be prioritized over existing markings.
- If there is any striping in different colors, it has to be painted over with the opal green color.
- Stencils to be used for marking to be found below.

Dimensions:
- EV-Symbol: 36 in x 36 in on a 38 in x 38 in green background frame
- ‘EV Charging only’ and ‘Electrical Vehicle Charging only’ according to California Code: Figure 3B-105 (CA) Electric Vehicle Charging Station Pavement Marking Details (Sheet 1 & 2)

EV-Symbol: to be marked in white on green background

For parallel parking bays

For angled or straight parking bays

Where there is no curb, wheel stops are an alternative.

72" x 6" x 3" Plastic, 20 lbs, maintenance free, no painting

Where there is no curb, wheel stops are an alternative.

72" x 6" x 3" Plastic, 20 lbs, maintenance free, no painting
Electrical - Basic Requirements

1. Provide all labor, materials, necessary equipment and services to complete all required Electrical Work including all additional items required for a complete and proper installation as indicated on the Drawings or as required. Work includes but is not limited to the following.
   A. Service entrance system,
   B. All wiring and components to the charging systems
2. Installation shall be in accordance with the latest edition of the National Electrical Code and all applicable regulations of governing Local, State, County and Federal Codes including Utility Companies special requirements.
3. In the event of a conflict between equipment as drawn and those Specifications, the more stringent requirements will be applicable.
4. Coordinate delivery and installation of equipment required under this section with the construction schedule.
5. Coordinate work with other trades and drawings.
6. All materials shall be new, free of defects and shall be U.L. listed, bearing U.L. label or be labeled or listed with an approved, nationally recognized Electrical Testing Agency.
7. Make final connections between all equipment furnished under this Contract.
8. The Contractor shall check all dimensions and verify all conditions pertaining to these Drawings at the building and site and shall report any discrepancies or conditions that are detrimental to proper completion of work to the Engineer at once.
9. Carefully examine all Project Drawings included for this Contract and those included under other contracts and report any discrepancies to Engineer and Architect.
10. Due to small scale of Drawings, it is not possible to indicate all offsets, fittings, access panels and similar parts which may be required. Drawings are generally indicative of work to be installed. Carefully examine structural and finish conditions affecting work and arrange all work accordingly, furnishing necessary parts and equipment as may be required to meet actual field conditions.
11. Lay out work from dimensions of Architectural and Structural Drawings and actual dimensions of equipment being installed. Layouts in congested areas shall not be scaled from Mechanical and Electrical Drawings. Do not make final layouts until Shop or Equipment Drawings are approved and job conditions verified.
12. The right is reserved to make any reasonable change in locations of equipment and similar items within the building and at building exterior prior to installation without involving additional compensation.

Electrical - General Requirements

1. Wire sizes are #12 THWN unless noted otherwise on Drawings or Schedules or a larger size is required for equipment furnished.
2. Code sized green grounding conductor is to be provided for all branch circuits.
3. Provide cable strain relief for feeders in risers. Install access panels where required.
4. Coordinate power locations with owner.
5. Coordinate with other subs if required for complete, proper operation and installation of all equipment.
6. Multi-section branch circuit panels shall be shown as individual panels on panel schedules. Circuit numbering indicated on drawings reflect consecutive numbering for single panel.

Electrical - General Construction Notes

1. Electrical Contractor shall coordinate his work with other trades in order to avoid conflicts.
2. The minimum conduit size shall be 1/2.
3. Voltage drop minimum wire sizing (20A circuit) use -
   1. 120V circuit over 100' use #10 minimum
   2. 208V circuit over 200' use #10 minimum
   3. 377V circuit over 200' use #10 minimum
   Minimum branch circuit wire size shall be #12.
4. All openings in Fire rated walls, floor and partitions for conduits shall be sealed with fire resistant foam or U.L. approved "Fire Stop" system to maintain the Fire rating.
5. All wiring will be in "MC" cable as by code. Underground conduit will be Schedule 40 PVC with fittings, conduit above grade installed to be EMT.
6. Electrical Contractor shall have the option of grouping homeruns in one conduit, per requirements of Section 310 of the National Electrical Code.
Next Steps

• Internal Site Host review of each quote and design drawing
• Apply for APCD Funding
• ABM Engineering team onsite meeting with the site host to review design documents, review operations, finalize design.
• If Design needs adjustments, ABM Engineering to make any adjustments to the quote and permit document, resubmit to Site Host
• Documents finalized
  • APCD Award Amount adjustments from changes
• Site Hosts to decide how they will proceed on construction
  • Work with ABM off existing contract mechanisms
  • Internal construction team
  • Put out for RFP
• Awarded vendors
  • Submit for construction permits
  • Order equipment
  • Networking Agreements
  • Civil construction
  • Service Upgrades
  • Electrical construction
  • Equipment Installation
  • Equipment Activation/Commissioning
  • Vehicle Testing
• Public Outreach
  • Press events
  • Social networking notifications
How to Fund your Project

SLO APCD Alternative Fuel Infrastructure Program:

• First-come, first-serve - APCD Needs to Send Award Letters by end of April
• [https://www.slocleanair.org/community/grants/altfuel.php](https://www.slocleanair.org/community/grants/altfuel.php)

• Key Details of a Complete Application:
  ✓ Price Quotes and Spec Sheets:
    ✓ equipment (chargers), installation material and labor
  ❑ Competitive bidding process for publicly accessible stations
  ❑ Signature delegation letter
  ❑ Business structure documentation
  ✓ Aerial map
  ❑ W-9 form
  ❑ Evidence of leasehold or property ownership
  ❑ Certificates of insurance
Alt Fuel and Electric Vehicle Infrastructure
2019 APPLICATION CHECKLIST

<table>
<thead>
<tr>
<th>Applicant Information</th>
<th>Dealer Information</th>
</tr>
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<tr>
<td>Company name:</td>
<td>Dealership company:</td>
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<tr>
<td>Contact name:</td>
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<tr>
<td>✓ Option: Attach business card</td>
<td>Option: Attach business card</td>
</tr>
</tbody>
</table>

**Application Requirements**

- **Completed Application**: Complete and submit this checklist and ALL application pages, sign and date in ink.

- **Price Quotes and Spec Sheet**: For the equipment and installation, material and labor quotes must be provided by the equipment manufacturer, manufacturer-approved dealer, or an approved contractor or installation professional.
  - Itemized quote of the parts, tax, shipping costs and labor to complete the project.
  - All parts and equipment must be new. Remanufactured or refurbished equipment and parts are not eligible.
  - Provide manufacturer's specification sheets for the new equipment.
  - Alt fuel dispensing equipment must have at least a 3 year warranty; EV chargers must have at least a 1 year warranty.

- **Competitive Bids Required for Certain Projects**: If your infrastructure project will be open and available for public use or if it will be funded under the AB923 guidelines (consult APCD) the vendor must be solicited and selected through a competitive bidding process.
  - Applicant will develop impartial bidding specifications and objective supplier selection criteria with a reasonable deadline to bid, and share this information with potential suppliers and APCD.
  - Applicant must submit copies of all eligible suppliers' bids to APCD, with a statement of reason for the bid selected.

- **Signature Delegation Letter**: If the owner, partner or corporate officer will not be signing the contract, then they must provide a letter naming and authorizing another individual to sign grant documents on behalf of the business. General partnerships please provide a letter of authorization for the signing partner, signed by the non-signing partner(s).
Applicant’s Business Structure: Provide one of the following, depending on the structure of your business:

- Articles of Incorporation and specific documentation identifying the officers for the corporation
- Partnership agreement
- Sole proprietors provide a signed W9 form and a copy of a photo ID.
- Other business structure documentation not listed above

Aerial Map: Please provide a description of the geographic location, including specific street address and an aerial map (satellite view from internet) indicating the exact project location.


Evidence of Leasehold or Property Ownership: Please provide evidence of ownership of the land on which the project will be located, or if owned by others, provide an executed lease agreement or letters of commitment lasting for the duration of the project life, signed by the property owners or authorized representatives.

Certificates of Insurance: Provide current certificates of insurance with your application as evidence of coverage for General Liability and Workers’ Compensation*.

* If the Applicant is exempt from the requirement of maintaining workers’ compensation insurance, provide evidence of such exemption.

Applications completed by someone other than Applicant: If compensated for completing the application on the owner’s/company’s behalf, then attach details on the source of payment and the amount paid.

Additional Application Requirements, if your project is selected for funding

Certificates of Insurance: Funded projects will be required to provide certificates of insurance endorsing the APCD as additionally insured for this project for General Liability and Property Insurance that covers the replacement cost of the new equipment. When these policies, as well as your Workers’ Compensation policy are renewed or changed, updated certificates must be submitted to the APCD until the Grant Agreement expires.

UCC-1 Financing Statement: To protect its financial interest, APCD will perfect its lien against the funded equipment through a UCC-1 financing statement filed with the Secretary of State of California, for the duration of the term of the grant agreement.

Building Permits: Before work commences on the project, the applicant must obtain all required land use permits from agencies needed to install and operate the installation. The installation must comply with all applicable rules and regulations, including the Americans with Disabilities Act. A copy of the finalized building permit must be provided to APCD before the grant project is paid.

Availability of Utilities: If requested by the APCD, the applicant must be able to provide documentation that power or fuel is being provided to the site (e.g. application, payment to the local utility company for power installation, or contract). Applicants are encouraged to contact the utility company as early as possible in the planning process.

Commented [JM4]: For schools and government agencies we don’t require a business structure document, but we do need a document explaining authorization of the signer.

Commented [JM5]: Included in ABM Quote

Commented [JM6]: Typically, don’t do UCC-1 statements for projects under $50,000
How to Fund your Project

SLO APCD Alternative Fuel Infrastructure Program:

• General Steps to Award:

1. Applicant Submits Application
2. APCD Reviews and Sends Application Completeness Letter
3. Applicant submits missing information
4. APCD deems application complete and sends Award Letter - APCD Deadline end of April
5. Applicant accepts/declines award
6. APCD sends Contract and Applicant signs
7. Applicant applies for permit, orders equipment, and begins construction
8. APCD performs post-inspection
9. Applicant sends invoice to APCD
10. APCD disburses grant funding
Open Discussion & EVSE Site Assessment
Process Feedback
Additional Questions?

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