

**CONSTRUCTION DOCUMENT SUBMITTAL  
REQUIREMENTS for  
ELECTRIC VEHICLE CHARGING STATIONS (EVCS)**



<b>GENERAL INFORMATION</b>	
	1. This document outlines the <u>minimum submittal requirements</u> for construction documents intended for building permit application. <b>Non-residential projects require a licensed design professional</b> to be responsible for the construction documents unless waived by the Chief Building Official (CBO).
	2. Free access to the California Codes is available through <a href="https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo">https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo</a> .
	3. The Building Division will conduct the plan review and inspections for EVCS installations.
	4. Planning Division approval is not required for EVCS installations unless the Building Official determines the proposed EVCS will have a specific adverse impact on public health or safety.
	5. Fire Department plan review and inspection is not required for EVCS installations unless the system includes an "energy storage system" as defined in the California Fire Code.
	6. Accepted methods of payment for required fees: <b>Mastercard®</b> , <b>VISA®</b> , <b>Discover®</b> , check, or cash.
	7. Plan check review comments will be made available to the designer in a timely manner. Once comments have been addressed and satisfactorily resolved, the building permit may be issued.
	8. If you have any questions regarding submittal requirements, please call the City of Santa Rosa Planning and Economic Development line at 707-543-3200 or visit us at "srcity.org"

<b>BASIC SUBMITTAL REQUIREMENTS CHECKLIST</b>	
<i>All forms and checklists described herein are available on the City's website <a href="https://srcity.org/DocumentCenter/Index/172">https://srcity.org/DocumentCenter/Index/172</a> - Please provide all the following items at time of application</i>	
<input type="checkbox"/>	A completed City of Santa Rosa Building Permit Application (available at 100 Santa Rosa Ave, Room 3, Santa Rosa, CA, or on the <a href="#">City's web site</a> )
<input type="checkbox"/>	One copy of both the basic and in-depth requirements checklists must be completed and submitted to the Building Division at the time of Building Permit Application. Please provide an explanation for any checklist item not completed or met.
<input type="checkbox"/>	Provide three (3) sets of plans for the proposed EVCS (24" x 36" preferred plan size, 11"x 17" minimum plan size; 1/8" = 1'-0" minimum scale, 9 pt. Arial or equal font size or 1/8" minimum neatly hand-printed lettering). Plan submittals shall include, but not be limited to: <ol style="list-style-type: none"> <li>1) A Title Page</li> <li>2) A Site Plan</li> <li>3) An Electrical Floor Plan</li> </ol>
<input type="checkbox"/>	(2) copies of EVCS Manufacturer Installation Details, Listing, and Specifications
<input type="checkbox"/>	(2) copies of Electrical Service Load Calculations
<input type="checkbox"/>	(2) copies of an electrical single-line diagram showing how the EVCS will be integrated into the electrical system (panel busbar capacity, circuit breaker sizes, location of EVCS breaker, wire type, number, sizing, and length, etc.)
<input type="checkbox"/>	<b>ALTERNATE:</b> A single copy of each type of construction document specified above may be submitted, via e-mail, to <a href="mailto:PermitSubmittal@srcity.org">PermitSubmittal@srcity.org</a>

<b>IN-DEPTH SUBMITTAL REQUIREMENTS CHECKLIST</b>	
<i>Use the in-depth submittal requirements checklist, and the supplemental information below, for preparation and submittal of your plans. Specific requirements and level of detail will depend on the extent, nature, and complexity of the proposed work. All applicable checklist items must be specified on the plans.</i>	
<input type="checkbox"/>	1. Plans specify (and locate) all applicable levels of charging station proposed (please identify below as well) <ul style="list-style-type: none"> <li>• Level 1: 110/120 volt alternating current (VAC) at 15 or 20 Amps</li> <li>• Level 2 – 3.3 kilowatt (kW) (low): 208/240 VAC at 20 or 30 Amps</li> <li>• Level 2 – 6.6kW (medium): 208/240 VAC at 40 Amps</li> <li>• Level 2 – 9.6kW (high): 208/240 VAC at 50 Amps</li> <li>• Level 2 – 19.2kW (highest): 208/240 VAC at 100 Amps</li> <li>• DC Fast Charging: 440 or 480 VAC</li> <li>• Other (Specify and provide details):</li> </ul>

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><b>2. General Requirements:</b></p> <ul style="list-style-type: none"> <li>• Plans and details are drawn to scale, and the scale is identified on the plan sheets.</li> <li>• Plans are on a paper size not less than 11"x17" (24"x36" preferred)</li> <li>• Plans are oriented in landscape orientation</li> <li>• Plans are printed with text not less than 9 point Arial font size (or equal), or 1/8" minimum neatly hand printed lettering</li> </ul>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><b>3. The <u>Title Page</u> includes the following information:</b></p> <ul style="list-style-type: none"> <li>• The address of the property</li> <li>• The name, address, email address, and phone number of the property owner</li> <li>• The name, address, email address, phone number, and license number of the person responsible for the EVCS system design</li> <li>• All codes (with appropriate version/year) applicable to the project</li> <li>• A specification stating the installation shall meet all requirements of the California Electrical Code - Article 625 for Electric Vehicle Charging Systems.</li> <li>• Occupancy and use of all buildings on site</li> <li>• Construction type of all buildings on site</li> <li>• Narrative description/scope of the proposed work</li> </ul>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><b>4. The <u>Site Plan</u> includes the following information:</b></p> <ul style="list-style-type: none"> <li>• Use (occupancy) and location (with regards to site boundaries and other structures) of on-site structures</li> <li>• Use (occupancy) and location (with regards to site boundaries and other structures) of off-site structures within 20 feet of the proposed work</li> <li>• North arrow</li> <li>• Dimensioned parking improvements, driveways, accessibility upgrades, etc.</li> <li>• Location of EVCS equipment, main electric service panel, disconnects, and overcurrent protection locations</li> <li>• Underground conduit materials, locations, lengths, sizes, and routing</li> <li>• Location of additional meters, if applicable</li> <li>• The mounting height for the charging coupling (the connector nozzle) and the operable controls. <i>NOTE: If installed indoors, the electric vehicle charging coupling shall be located between 18" and 48" above the finished floor. If installed outdoors, the electric vehicle charging coupling shall be located between 24" and 48" above finished grade. (California Electrical Code (CEC) 625.50 and CBC 11B-309)</i></li> <li>• All site-related accessibility requirements prescribed by CA Building Code (CBC) Sections 11B-228 and 11B-812 (shown and fully specified). <i>NOTE: Applicable only to commercial facilities, public and common use areas, public accommodations, and public housing as defined in the CA Building Code.</i></li> <li>• Details/specifications for all other proposed site-related work.</li> </ul>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><b>5. The <u>Electrical Floor Plan</u> includes the following information:</b></p> <ul style="list-style-type: none"> <li>• The location of the proposed EVCS equipment, wiring, supply equipment, and any other electrical equipment connected to the proposed system</li> <li>• The use/occupancy of the room(s) where electrical equipment will be installed, and the use/occupancy of adjacent rooms</li> <li>• A specification ensuring the main service conductors [and equipment for the protection of the electrical service (disconnecting means, overcurrent protection, etc.)], are installed in accordance with CEC Article 230</li> <li>• A specification ensuring annular spaces around pipes, electric cables, conduits, or other openings at exterior walls shall be protected against the passage of rodents</li> <li>• All applicable electrical-plan-related requirements of CEC Article 625</li> <li>• All applicable electrical-plan-related accessibility requirements prescribed by California Building Code (CBC) Sections 11B-228 and 11B-812 (detailed/ fully specified – general references to code sections are insufficient) <i>NOTE: Applicable only to commercial facilities, public and common use areas, public accommodations, and public housing as defined in the CA Building Code.</i></li> </ul>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><b>6. The <u>Manufacturer's Listing, Installation Details, and Specifications</u> include the following information:</b></p> <ul style="list-style-type: none"> <li>• The certified listings of the proposed electrical equipment (EVCS, panels, inverters, etc.) (EVCS should be per UL 2202/UL 2200)</li> <li>• The listing shows the EVCS is suitable for the proposed location (indoor/outdoor)</li> <li>• Structural and electrical installation details</li> </ul>

<input type="checkbox"/>	<p>7. The <b>Electrical Service Load Calculations</b> include the following information:</p> <ul style="list-style-type: none"> <li>• Demand and sizing of the electrical service panel pursuant to CA Electrical Code (CEC) Article 220. <i>NOTE: Make sure to include 125% of the EV charging station load in the calculation.</i></li> </ul>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>8. The <b>Single-Line Electrical Diagram</b> includes the following information:</p> <ul style="list-style-type: none"> <li>• EVCS supply equipment</li> <li>• Size of the overcurrent device (circuit breaker) supplying the EVCS</li> <li>• Conductor and conduit sizes, types, and locations/routing (within framing, mounted to structures, underground, etc.)</li> <li>• Size (ampacity and voltage) of the main electric panel, distribution panels (sub-panels), overcurrent protection, disconnects, additional meters, and EVCS equipment (CEC 220)</li> <li>• Sizes of the service entrance conductors</li> <li>• All equipment labeling requirements per CEC 625.15</li> <li>• The EVCS equipment disconnecting means shall be identified with a durable label stating, “Emergency Power Off – Electric Vehicle Charging Station” (CEC 110.22)</li> </ul>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>9. <b>Potential Additional Required Information:</b></p> <ul style="list-style-type: none"> <li>• If the Electrical Load Calculations indicate a panel upgrade is needed, clearly indicate (on the plans and the application) that the panel is new (rather than existing)</li> <li>• If the EVCS equipment is listed for charging electrical vehicles that require ventilation for indoor charging, a Mechanical Plan specifying all the ventilation requirements prescribed by CEC 625.52 is to be included with the permit application</li> <li>• If the project site is located within a 100-year flood hazard zone, the EVCS equipment shall be elevated above the base flood elevation. The base flood elevation must be determined, and an elevation certificate submitted, by a licensed land surveyor (or civil engineer as applicable).</li> <li>• If the EV charging equipment is rated more than 60 amps, or more than 150V to ground, specify the disconnecting means to be lockable in an open position, and to be installed in a readily accessible location (CEC 625.43)</li> <li>• If trenching is proposed, provide a trenching detail showing compliance with the minimum cover requirements pursuant to CEC 300.5. <i>NOTE: Trenching for electrical feeders from structure to structure must comply with CEC 225.</i></li> <li>• If vehicle impact protection for EVCS equipment is required, locate and detail the physical protection (such as a bollard) (CEC 110.27 (B)) <i>NOTE: Physical protection from damage is often a 4” diameter steel pipe filled with concrete, a minimum of 40” above the finished floor/grade, installed in a footing measuring 12” in diameter and 3’ deep.</i></li> <li>• If the EVCS is installed in a building containing an R (residential) occupancy, specify the location for all required smoke and carbon monoxide alarms within the dwelling(s). (CBC 907.2.11, CBC 915, CRC R314 and CRC R315) <i>NOTE: In lieu of showing and specifying the location for all required smoke and carbon monoxide alarms within the dwelling(s), a Smoke &amp; CO Alarm Declaration and Installation Certification Form, available on the <a href="#">City’s website</a>, may be completed, signed and submitted with the application.</i></li> <li>• For <u>newly constructed</u> hotels, motels, lodging houses, dwellings, condominiums, shelters, congregate residences, employee housing, factory-built housing, and other types of dwellings containing sleeping accommodations, CALGreen requirements (including Tier 1) apply (see the City’s <a href="#">Residential CALGreen and Tier 1 Checklist</a>)</li> <li>• For <u>newly constructed</u> nonresidential buildings, CALGreen requirements (including Tier 1) apply (see the City’s <a href="#">Nonresidential CALGreen and Tier 1 Checklist</a>)</li> <li>• For public and common use areas, public accommodations, commercial facilities, and public housing (as defined in the CA Building Code), review the California Building Code (CBC) for additional accessibility requirements. Some sections that may apply: 11B-202.4 (Path of Travel), 11B-228.3 (Electric Vehicle Charging Stations), 11B-302 (Floor or Ground Surfaces), 11B-303 (Changes in Level), 11B-305 (Clear Floor or Ground Space), 11B-308 (Reach Ranges), 11B-309 (Operable Parts), 11B-402 (Accessible Route), 11B-703.3 (Braille), 11B-703.7 (Symbols of Accessibility), 11B-703.7.2.1 (International Symbol of Accessibility), 11B-707.2 (Clear Floor or Ground Space), 11B-707.3 (Operable Parts), 11B-707.7.2 (Characters), 11B-707.9 (Point-of-Sale Devices), 11B-812 (Electric Vehicle Charging Stations).</li> </ul>

**PLAN PREPARER**

Electrical plans shall be completed, stamped, and signed by a California Licensed Electrical or Civil Engineer, or if design-build, by a C-10 electrical contractor

Project Address:

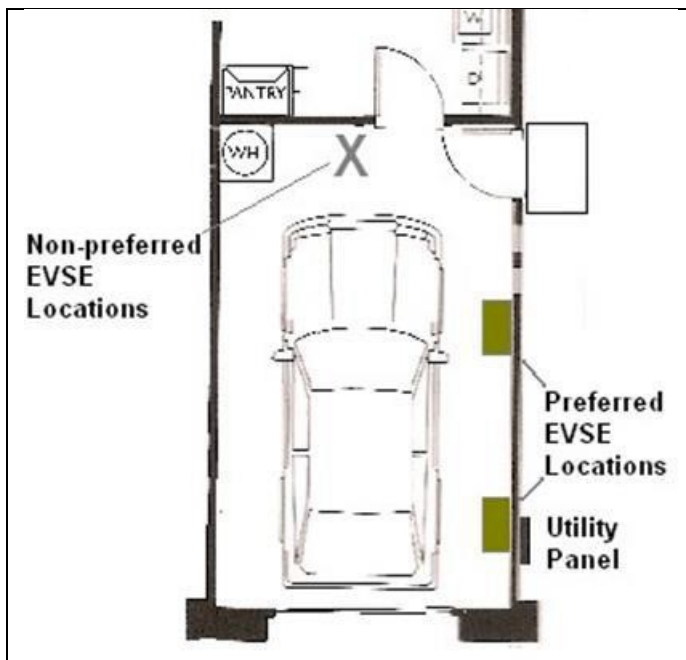
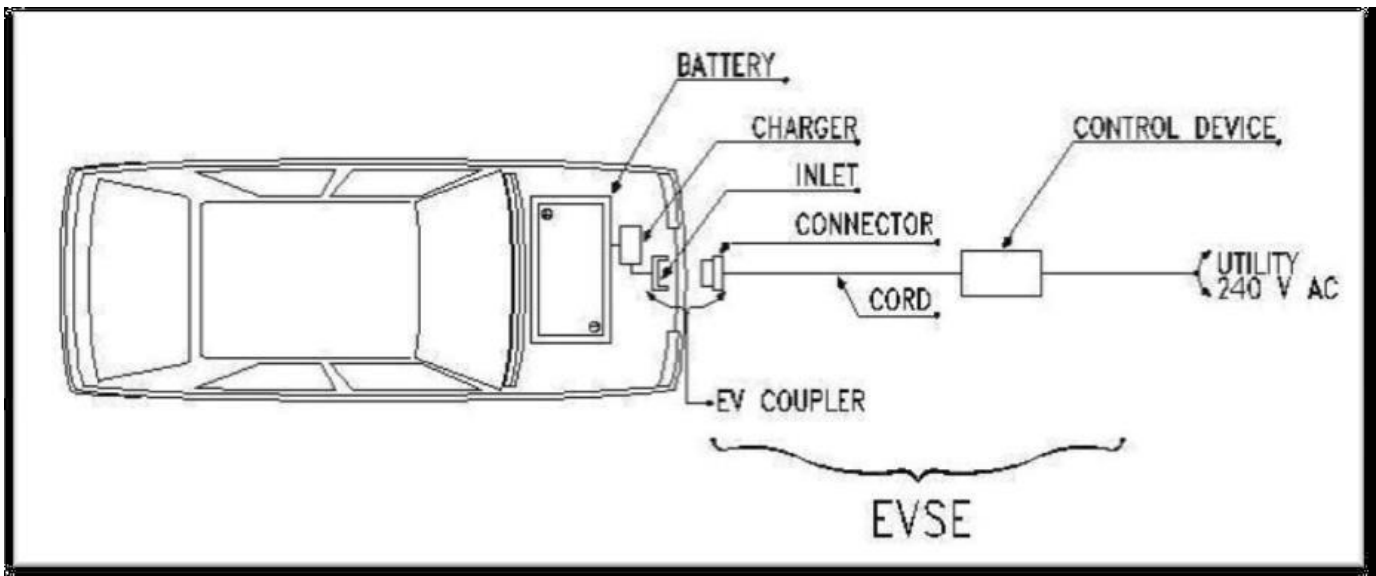
Name of Person Completing the Checklist (Print):

Signature:

Engineer or Contractor's License Number and Type:

**ADDITIONAL INFORMATION**

**BASIC CONCEPT FOR A RESIDENTIAL, LEVEL 2, CHARGING EQUIPMENT INSTALLATION**



### EVCS INSTALLATION EXAMPLE (1 TO 4 EVCS)

No ISA (International Symbol of Accessibility – blue placard) required, accessible EVCS available to all. Detectable warnings are also required between the accessible way and the access aisle/hazardous vehicular way

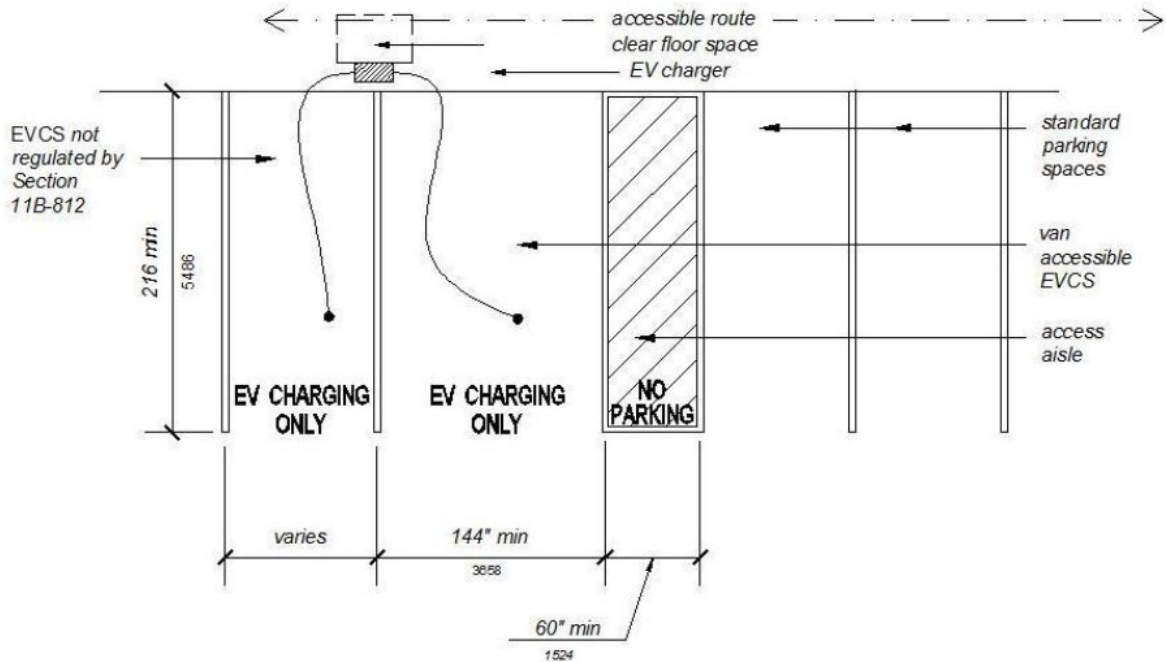
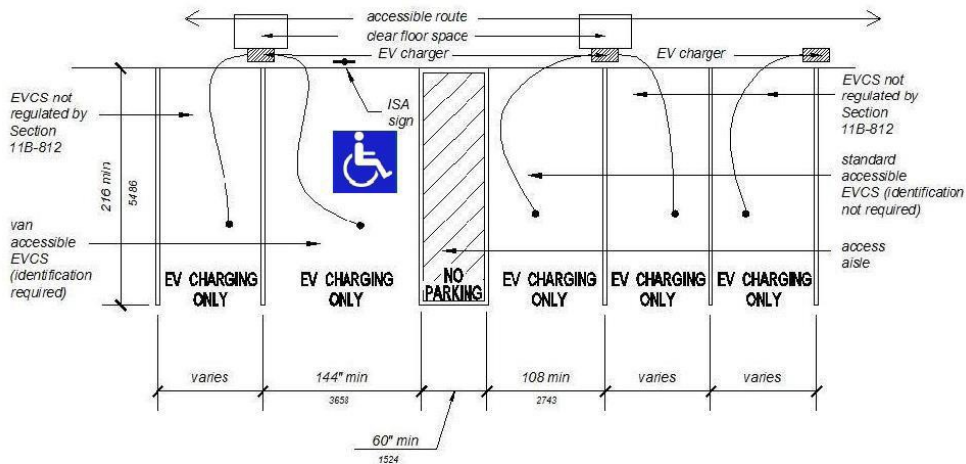


Image Example from DGS Presentation

### EVCS INSTALLATION EXAMPLE (5 TO 25 EVCS)

ELECTRIC VEHICLE CHARGING STATIONS CONFIGURATIONS FOR SMALL INSTALLATIONS



ISA required for installations of 5 or more EVCS