# RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF SANTA BARBARA, STATE OF CALIFORNIA

IN THE MATTER OF ADOPTING THE	)	
ELECTRIC VHEHICLE CHARGING	)	RESOLUTION NO
STATION SYSTEMS CHECKLIST	)	

**WHEREAS,** Subsection (a) of Section 65850.7 of the California Government Code provides that it is the policy of the state to promote and encourage the use of electric vehicle charging stations and to limit obstacles to their use; and

**WHEREAS,** Subsection (a) of Section 65850.7 of the California Government Code provides that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is not a municipal affair, as that term is used in Section 5 of Article XI of the California Constitution, but is instead a matter of statewide concern; and

WHEREAS, Subdivision (g)(1) of Section 65850.7 of the California Government Code states that on or before September 30, 2016, every city, county, or city and county with a population of 200,000 or more residents, and, on or before September 30, 2017, every city, county, or city and county with a population of less than 200,000 residents, shall adopt an ordinance and processing checklist, consistent with the goals and intent of this section, that creates an expedited, streamlined permitting process for electric vehicle charging stations; and

**WHEREAS,** Subsection (a) of Section 65850.7 of the California Government Code provides that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is not a municipal affair, as that term is used in Section 5 of Article XI of the California Constitution, but is instead a matter of statewide concern; and

WHEREAS, the Building and Safety Division, in an effort to increase the efficiency of the application submittal, plan review and permit issuance, has deployed checklists for residential, multiunit residential and non-residential electric vehicle charging system installation that provide technical details to supplement and ensure safe implementation of the State Office of Planning and Research's more general checklist. These checklists in combination with State Office of Planning and Research provide property owners and contractors a complete and efficient method for the evaluation and permitting of an electric vehicle charging system; and

**WHEREAS,** on December 13, 2016 the Santa Barbara County Board of Supervisors amended Chapter 10, Building Regulations to include procedures for the expedited review and permitting of electric vehicle charging systems.

# NOW, THEREFORE, IT IS RESOLVED AS FOLLOWS:

The Board of Supervisors adopt Exhibit A, titled <u>Eligibility Checklists for Single Family Residential</u>, <u>Multi-unit Residential and Non Residential Electric Vehicle Charging Station Systems</u> to be used for determining the eligibility for expedited plan review and permitting for electric vehicle charging station systems in Santa Barbara County.

State of California, this day of	, 2016, by the following vote:
AYES:	
NOES:	
ABSTAINED:	
ABSENT:	
PETER ADAM, CHAIR	
BOARD OF SUPERVISORS	
COUNTY OF SANTA BARBARA	
ATTEST:	APPROVED AS TO FORM:
MONA MIYASATO,	MICHAEL C. GHIZZONI
COUNTY EXECUTIVE OFFICER	COUNTY COUNSEL
CLERK OF THE BOARD	
Ву	D.
Deputy Clerk	Ву
Dopaty Clork	Deputy County Counsel

Exhibit A: Eligibility Checklists for Single Family Residential, Multi-unit Residential and Non

Residential Electric Vehicle Charging Station Systems

# Office of Planning and Resarch Permitting Checklist

	Residential	Non-Residential	
Phase 1 Pre-Work Contractor	✓ Understands intended use of the EVSE (i.e. personal)	<ul> <li>✓ Obtain an address for the location</li> <li>✓ Determine the ownership of the site and/or authorization to install equipment at site</li> <li>✓ Understands intended use of the EVSE (i.e., fleet, employee, customer, visitor, etc.)</li> <li>✓ Determine number of vehicles charging and connectors per charging station</li> <li>✓ Determine source of power and authorization to use source</li> </ul>	
	<ul> <li>Determine type of vehicle(s) to be charged at E</li> <li>Evaluate mounting type options (i.e., bollard, po</li> <li>Clarify communication requirements (i.e., Ether</li> <li>Determine the NEMA Enclosure type</li> <li>Determine the physical dimensions of the space</li> <li>Inspect the type of circuit breaker panel board</li> </ul>	le-mount, wall-mount, ceiling-mount) rnet, cellular, Wi-Fi, none or other) e(s)	
Phase 2 Pre-Work Customer	Pe-Work  ✓ Determine size of electrical service at the site ✓ Identify and contact applicable local permit office(s) to identify specific requirements including local permit office(s) to identify specific requirements.		
Phase 3 On-Site Evaluation	✓ Verify EVSE has an appropriate NEMA rated enclosure (NEC 110.28) based on environment and		

## Phase 4 **On-Site** Survey

- Ensure overhead doors and vehicle parking spot do not conflict with EVSE location
- Place EVSE in a location convenient to charging port on vehicle and typical orientation of the vehicle in garage (i.e., backed in or head-first)
- Ensure functionality of lighting in the garage to meet NEC code 210-70
- Space(s) should be visible to drivers and pedestrians
- Determine proximity to building entrance (could be considered an incentive for PEV use)
- ✓ Select spaces proximate to existing transformer or panel with sufficient electrical capacity
- ✓ EVSE installation should maintain a minimum parking space length to comply with local zoning requirements
- If available, use wider spaces to reduce the risk of cord damage and minimize the intersection of cords with walking paths
- ✓ Ensure sufficient lighting at proposed space(s) to reduce the risk of tripping and damage to charging station from vehicle impact or vandalism; light levels above two foot candles are recommended
- ✓ Address accessibility requirements (refer to) the Plug-In Electric Vehicle Infrastructure and Equipment Accessibility section of the Guidebook for more information)
- ✓ Determine availability of space for informative signing
- EVSE with multiple cords should be placed to avoid crossing other parking spaces
- All available charging station mounting options should be considered and optimized for the space
- ✓ Determine if hazardous materials were located at the site

#### **PARKING DECKS**

Place EVSE towards the interior of a parking deck to avoid weather-related impacts on equipment

#### **PARKING LOTS**

✓ Avoid existing infrastructure and landscaping to mitigate costs, potential hazards and other negative impacts

#### **ON-STREET**

- ✓ Install on streets with high foot and vehicle traffic to mitigate vandalism
- ✓ Avoid existing infrastructure to mitigate costs, potential hazards and other negative impacts
- Address accessibility requirements (refer to the Plug-In Electric Vehicle Infrastructure and Equipment Accessibility section of the Guidebook for more information)

- For pull-in spaces, EVSE should be placed in front of the space and either centered on the space if placed between two spaces (if two connectors are available); EVSE with more than two connectors should not be used in on-street applications
- For parallel parking locations, the charging station should be installed at the front third of the parked vehicle and based on the direction of traffic flow; EVSE with a single connector is recommended to reduce potential trip hazards
- ✓ Mount the connector at a height between 36" and 48" from the ground (NEC 625.29) unless otherwise indicated by the manufacturer
- Install wall or pole-mount stations and enclosures at a height between 36" and 48"
- Ensure sufficient space exists around electrical equipment for safe operation and maintenance (NEC 110.26); recommended space is 30" wide, 3' deep and 6'6" high
- Minimize tripping hazards and utilize cord management technologies when possible
- Equipment operating above 50 volts must be protected against physical damage (NEC 110.27); ensure the vehicle is out of the line of vehicle travel and use wheel stops or other protective
- EVSE must be located such that ADA routes maintain a pathway of 36" at all times

## Phase 4

#### Contractor Installation Preparation

- Price quote submitted to customer and approved including utility upgrades
- ✓ Order equipment
- Provide stamped engineering calculations as needed
- Provide site plan modification with diagrams as necessary
- Complete all necessary service upgrades and/or new service assessments
- Complete permit applications as required by local permitting department
- Ensure permit is approved and collected
- Schedule all necessary contract work (i.e., boring, concrete and/or paving restoration) and utility work (i.e., utility marking, service upgrade, new service and/or meter pull)
- Ensure utility marking of existing power lines, gas lines or other infrastructure is completed and utilize "call before you dig" services

# Phase 5

## Installation

- Residential garages may permit the use of nonmetallic-sheathed cable in lieu of conduit
- Run conduit from power source to station location
- ✓ For EVSE greater than 60 amperes, a separate disconnect is required (NEC 625.23) and should be installed concurrently with conduit and visible from the EVSE
- Post permit at site in visible location
- Remove material to run conduit and/or wiring (i.e., drywall, insulation, pavers, concrete, pavement, earth, etc.
- Contractors are encouraged to examine requirement for installation sites and types of wiring in Chapter 3 of the NEC
- Pull wiring; charging stations require a neutral line and a ground line and equipment is considered to be a continuous load

Phase 6 Inspection	<ul> <li>✓ Conductors should be sized to support 125% of the rated equipment load (NEC 625.21)</li> <li>✓ Preparing mounting surface and install per equipment manufacturer instructions</li> <li>✓ Floor-mount: typically requires a concrete foundation with J-bolts on station base; place with space to allow conductors to enter through the base</li> <li>✓ Wall/pole/ceiling-mount: install brackets for mounting of the equipment</li> <li>✓ Install bollard(s) and/or wheel stop(s) as needed</li> <li>✓ Install informative signage to identify the EVSE and potential trip hazards</li> <li>✓ Install additional electrical panels or subpanels as needed</li> <li>✓ Install service upgrades, new service and/or new meter as needed; utility may also pull a meter to allow for charging station wires to be connected to a panel</li> <li>✓ Make electrical connection</li> <li>✓ Perform finish work to repair existing infrastructure, surfaces and landscaping</li> <li>✓ An initial electrical inspection by applicable building, fire, environmental and electrical authorities should occur after conduit has been run and prior to connecting equipment and running wires; if necessary, contractor should correct any issues and schedule a second rough inspection</li> <li>✓ If required, the inspector will perform a final inspection to ensure compliance with NEC and other codes adopted within the jurisdiction by inspecting wiring, connections, mounting and finish work</li> <li>✓ Contractor should verify EVSE functionality</li> </ul>
Additional Resources	<ul> <li>✓ National Codes and Standards</li> <li>✓ American National Standards Institute (ANSI)</li> <li>✓ National Fire Protection Association (NFPA)</li> <li>✓ Underwriters Laboratories, Inc. (UL)</li> <li>✓ International Association of Electrical Inspectors (IAEI)</li> <li>✓ International Code Council (ICC)</li> <li>✓ NECA-NEIS Standards</li> <li>✓ NECA and NFPA Webinars</li> <li>✓ Electrical Vehicle Infrastructure Training Program (EVITP) Installer Training Course/Certification</li> </ul>



# Santa Barbara County Planning & Development Building & Safety Division

123 East Anapamu St., Santa Barbara, CA 93101 Office: (805) 568-3030 Fax: (805) 568-3103 624 W. Foster Rd, Suite C, Santa Maria, CA 93455 Office: (805) 934-6250 Fax: (805) 934-6258 Eligibility Checklist for Expedited Electric Vehicle Charging Station Residential Permitting

This checklist is provided to determine if your application is eligible for expedited EVCS processing. If any item is checked NO, revise design, otherwise application must go through standard review process.

Type of Charging Station(s) Proposed	Power Levels (proposed circuit rating)	Check	cone
Level 1	110/120 volt alternating current (VAC) at 15 or 20 Amps		
Level 2 – 3.3 kilowatt (kW) (low)	208/240 VAC at 20 or 30 Amps		
Level 2 – 6.6kW (medium)	208/240 VAC at 40 Amps		
Level 2 – 9.6kW (high)	208/240 VAC at 50 Amps		]
Level 2 – 19.2kW (highest)	208/240 VAC at 100 Amps		]
Other (provide detail):	Provide rating:		
PERMIT APPLICATION			
A. Is the application complete with the following	ng information: Project address, parcel #, builder/owner	Y	N
name, contractor name, valid contractor's lie	cense #, phone numbers, etc.		
B. Does the application include EVCS manufactu	urer's specs and installation guidelines	Y	N
ELECTRIC LOAD CALCULATION WORKSHEET			
A. Is an electrical load calculation worksheet in	cluded? (CEC 220)	Пγ	N
B. Based on the load calculation worksheet, is	a new electrical service panel upgrade required	П	N
1) If yes, do plans include the electrical ser	vice panel upgrade	Пу	<del> </del>
C. Is the charging circuit appropriately sized for		Пу	
D. If charging equipment proposed is a Level 2 – 9.6 kW station with a circuit rating of 50 Amps or higher,		Πy	□N
	culations included with the single line diagram	ш.	
			- 11
SITE PLAN & SINGLE LINE DRAWING			
	line diagram included with the permit application	Y	N
	are triggered for indoor venting requirements	Y	∐N
	an included with the permit application		<del> </del>
B. Is the site plan fully dimensioned and drawn		Y	∐N
1) Showing location, size, and use of all stru		<u> </u>	∐N
2) Showing location of electrical panel to c		Y	<u></u> ∐N
3) Showing type of charging system and mo	ounting	Y	∐N
COMPLIANCE WITH 2013 CALIFORNIA ELECTROIA	AL CODE (TITLE 24, PART 3)		
A. Does the plan include EVCS manufacture	er's specs and installation guidelines	Y	N
B. Does the electrical plan identify the amp	perage and location of existing electrical service panel	Y	N
1) If yes, does the existing panel schedule	show room for additional breakers	Y	N
C. Is the charging unit rated more than 60	amps or more than 150V to ground	Y	N
If yes, are disconnecting means provide	ed in a readily accessible location in line of site and	ΠY	N
within 50' of EVCS (CEC 625.23)	·		
D. Does the charging equipment have a Na listing mark? (UL 2202/UL 2200)	tionally Recognized Testing Laboratory (NRTL) approved	ПΥ	□N
E. If trenching is required, is the trenching	detail called out	Пү	Пи
	ectrical feeder requirements from structure to		□N
structure(CEC 225)			
<ol> <li>Is the trenching in compliance of minir circuits(18" for direct burial per CEC 30</li> </ol>	num cover requirements for wiring methods or 00)	Y	□N



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This checklist is provided to determine if your application is eligible for expedited EVCS processing. If any item is checked NO, revise design, otherwise application must go through standard review process.

Ту	pe of	f Charging Station(s) Proposed	Power Levels (proposed circuit rating)	circuit rating) Check one	
L	evel	1	110/120 volt alternating current (VAC) at 15 or 20 Amps		
L	evel	2 - 3.3 kilowatt (kW) (low)	208/240 VAC at 20 or 30 Amps		
L	.evel	2 – 6.6kW (medium)	208/240 VAC at 40 Amps		
L	evel	2 – 9.6kW (high)	208/240 VAC at 50 Amps		
L	evel	2 – 19.2kW (highest)	208/240 VAC at 100 Amps		
(	Othe	r (provide detail):	Provide rating:		
PE	<u>RMI</u>	<u> FAPPLICATION</u>			
A.	ls t	he application complete with the following	information: Project address, parcel #, builder/owner	Y	N
	nar	me, contractor name, valid contractor's lice	ense #, phone numbers, etc.		
В.	Do	es the application include EVCS manufactur	er's specs and installation guidelines	Y	N
		IC LOAD CALCULATION WORKSHEET	10.45-5-5-5-5		
Α.		n electrical load calculation worksheet incl	,	<u>    Y</u>	∐N
В.			new electrical service panel upgrade required	<u> </u>	∐N
_	1)	If yes, do plans include the electrical serv		<u>    Y</u>	∐N
C.		he charging circuit appropriately sized for a		<u>    Y</u>	∐N □
D. If charging equipment proposed is a Level 2 – 9.6 kW station with a circuit rating of 50 Amps or higher,			Y	□N	
	is a	completed circuit card with electrical calc	ulations included with the single line diagram		
SIT	TE PL	AN & SINGLE LINE DRAWING			
A.	Is a		ne diagram included with the permit application	Y	N
	1)		e triggered for indoor venting requirements	∐Y	□N
			n included with the permit application		
В.		he site plan fully dimensioned and drawn to		Y	∐N
	1)	Showing location, size, and use of all struc		Y	∐N
Showing location of electrical panel to charging system     Showing type of charging system and mounting.		ЦΥ	∐N		
	3)	Showing type of charging system and mou	unting	Y	∐N
		IANCE WITH 2013 CALIFORNIA ELECTRCIA			
Α.		es the plan include EVCS manufacturer's sp	-	Y	<u> </u>
В.	Do		and location of existing electrical service panel	Y	∐N
	1)	If yes, does the existing panel schedule sh		Y	∐N
C.	ls t	he charging unit rated more than 60 amps	-	Y	□ N
	1)		in a readily accessible location in line of site and within	∐Y	∐N
		50' of EVCS. (CEC 625.23)			
D.			y Recognized Testing Laboratory (NRTL) approved listing	∐Y	□N
<u> </u>		rk. (UL 2202/UL 2200)			<u> </u>
E.		renching is required, is the trenching detail		<u>   </u> Y	∐N
	1)		ical feeder requirements from structure to structure		□N
	21	(CEC 225)	me account and the second for column and the second		
	2)	for direct burial per CEC 300)	m cover requirements for wiring methods or circuits (18"	<u> </u> Y	□N

### COMPLIANCE WITH 2013 MANDATORY CALGREEN CODE FOR NEW CONSTRUCTION

A.	Do	CAL Green EV Readiness installation requirements apply to this project	Υ	N
	1)	Should be identified during plan review. (5.106.5.3)	Υ	N
	2)	Do the plans demonstrate conformance with mandatory measures for 3% of total parking spaces in	Y	□N
		lots with 51+ must be EV capable		
* 2016 CAL Green proposed mandatory requirements – For new construction include measures for 6% of		Y	□N	
total parking spaces in lots with 10+ spaces being EV capable (Effective January 1, 2017)				



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This checklist is provided to determine if your application is eligible for expedited EVCS processing. If any item is checked NO, revise design, otherwise application must go through standard review process.

Level 1		
Level 2 – 3.3 kilowatt (kW) (Low)208/240 VAC at 20 or 30 AmpsMulti-Unit dwellingLevel 2 – 6.6 kW (medium)208/240 VAC at 40 AmpsCommercial Office BuildingLevel 2 – 9.6 kW (high)208/240 VAC at 50 AmpsPublic AccessLevel 2 – 19.2 kW (highest)208/240 VAC at 100 AmpsPublic Access/Large Com. Office		
Level 2 – 6.6 kW (medium)208/240 VAC at 40 AmpsCommercial Office BuildingLevel 2 – 9.6 kW (high)208/240 VAC at 50 AmpsPublic AccessLevel 2 – 19.2 kW (highest)208/240 VAC at 100 AmpsDC Fast ChargingDC Fast Charging440 or 480 VACPublic Access/Large Com. Office		
Level 2 – 9.6 kW (high)208/240 VAC at 50 AmpsPublic AccessLevel 2 – 19.2 kW (highest)208/240 VAC at 100 AmpsDC Fast Charging440 or 480 VACPublic Access/Large Com. Office		
Level 2 – 19.2 kW (highest)208/240 VAC at 100 AmpsDC Fast ChargingPublic Access/Large Com. Office		
DC Fast Charging 440 or 480 VAC Public Access/Large Com. Office		
Building or parks Hospitality &		
Recreation		
Other (Provide Detail): Provide Ratings:		
DEPART ADDITION		
PERMIT APPLICATION  A. Is the application complete with the following information: Project address, parcel #, builder/owner		
name, contractor name, valid contractor license #, phone numbers etc.		
B. Does the application include EVCS manufacturer's specs and installation guidelines		
B. Does the application include EVCS mandracturer 3 specs and installation guidelines		
ELECTRIC LOAD CALCULATION WORKSHEET		
A. Is an electrical load calculation worksheet included? (CEC 220)		
B. Based on the load calculation worksheet, is a new electrical service panel upgrade required		
1) If yes, do plans include the electrical service panel upgrade		
C. Is the charging circuit appropriately sized for a continuous load (125%)		
D. If charging equipment proposed is a Level 2 – 9.6 kW station with a circuit rating of 50 Amps or		
higher, is a completed circuit card with electrical calculations included with the single line diagram		
SITE PLAN & SINGLE LINE DRAWING		
A. Is a site plan and electrical plan with a single-line diagram included with the permit application  1) If mechanical ventilation requirements are triggered for indoor venting requirements  Y  N		
1) If mechanical ventilation requirements are triggered for indoor venting requirements		
(CEC 625.29 (D)), is a mechanical plan included with the permit application		
B. Is the site plan fully dimensioned and drawn to scale		
1) Showing location, size, and use of all structures		
2) Showing location of electrical panel to charging system		
3) Showing type of charging system and mounting		
COMPLIANCE WITH 2013 CALIFORNIA ELECTRCIAL CODE (TITLE 24, PART 3)		
A. Does the plan include EVCS manufacturer's specs and installation guidelines		
B. Does the electrical plan identify the amperage and location of existing electrical service panel		
1) If yes, does the existing panel schedule show room for additional breakers		
C. Is the charging unit rated more than 60 amps or more than 150V to ground		
1) If yes, are disconnecting means provided in a readily accessible location in line of site and		
within 50' of EVCS. (CEC 625.23)		
D. Does the charging equipment have a Nationally Recognized Testing Laboratory (NRTL) approved		
listing mark. (UL 2202/UL 2200)		
E. If trenching is required, is the trenching detail called out		
1) Is the trenching in compliance with electrical feeder requirements from structure to structure?		
(CEC 225)		
2) Is the trenching in compliance of minimum cover requirements for wiring methods or circuits Y N		

(18" for direct burial per CEC 300)

# COMPLIANCE WITH 2013 MANDATORY CALGREEN CODE FOR NEW CONSTRUCTION

A. Do CAL Green EV Readiness installation requirements apply to this project	ΠY	□N
1) Should be identified during plan review. (5.106.5.3)	□Y	N
2) Do the plans demonstrate conformance with mandatory measures for 3% of total parking	□Y	□N
spaces in lots with 51+ must be EV capable		
* 2016 CAL Green proposed mandatory requirements – For new construction include measures for 6%		□N
of total parking spaces in lots with 10+ spaces being EV capable (Effective January 1, 2017)		