



ELEC. VEHICLE SUPPLY EQUIPMENT (EVSE) RESIDENTIAL PERMITTING CHECKLIST

Planning, Building & Transportation
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Hours: 7:30 a.m.–3:30 p.m., M–Th

| RESIDENTIAL Permitting Checklist | |
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| <p>Phase 1 Pre-Work Customer</p> | <p>Pre-Work Customer</p> <ul style="list-style-type: none"> ✓ Visit Alameda Municipal Power website for EV Charger Rebate information and other available state or federal incentive programs; or contact AMP to speak with an EV Advisor: www.alamedamp.com/charger-rebates or EV@ALAMEDAMP.COM ✓ Contact City of Alameda permit office to identify specific requirements, including local fire, environmental, construction, building, concealment and engineering requirements ✓ Contact insurance company to acquire additional insurance or separate coverage as needed ✓ Hire the contractor and verify credentials with all subcontractors; ensure electrical contractor's license for electrical work is current |
| <p>Phase 2 Pre-Work Contractor On-Site Evaluation</p> | <p>Pre-Work Contractor</p> <ul style="list-style-type: none"> ✓ Understand intended use of the EVSE (e.g., personal, shared) ✓ Determine type of vehicle(s) to be charged at EVSE ✓ Evaluate mounting type options (e.g., bollard, pole-mount, wall-mount, ceiling-mount) ✓ Clarify communication requirements (e.g., Ethernet, cellular, Wi-Fi, none or other) ✓ Determine the NEMA enclosure type ✓ Determine the physical dimensions of the space(s) ✓ Inspect the type of circuit breaker panel board intended for the installation <p>On-Site Evaluation</p> <ul style="list-style-type: none"> ✓ If installing a Level 2 charger, fill out the Alameda Municipal Power <u>Electric Vehicle Supply Equipment (EVSE) Information Form</u> at www.alamedamp.com/charger-rebates and submit to AMP ✓ Verify EVSE meets UL requirements and is listed by UL or another nationally recognized testing laboratory ✓ Verify EVSE has an appropriate NEMA rated enclosure (NEC 110.28) based on environment and customer needs, such as weatherization or greater levels of resistance to water and corrosive agents ✓ Determine the level of charger meets customer's EV requirements (most vehicles require the maximum of a 240V/32A (40A) breaker)) ✓ Based on proposed EVSE location, determine if cord length will reach a vehicle's charging inlet without excessive slack and does not need to be more than 25' in length (NEC 625.17) ✓ Ensure cord management methodologies have been considered to reduce the risk of tripping hazards and accidental damage to the connector ✓ Ensure mounting type selection is based on requirements to meet site guidelines |

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| <p>Phase 3 On-Site Survey</p> | <p>On-Site Survey</p> <ul style="list-style-type: none"> ✓ 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 ✓ 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 measures ✓ EVSE must be located such that ADA routes maintain a pathway of 36" at all times |
| <p>Phase 4 Contractor Installation Preparation</p> | <p>Contractor Installation Preparation</p> <ul style="list-style-type: none"> ✓ Submit 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 (e.g., utility marking, service upgrade, new service and/or meter pull) ✓ If underground work is required, call 811 before you dig to have identification and labeling of underground infrastructure |
| <p>Phase 5 Installation</p> | <p>Installation</p> <ul style="list-style-type: none"> ✓ Residential garages may permit the use of nonmetallic-sheathed cable in lieu of conduit ✓ 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 ✓ Conductors should be sized to support 125% of the rated equipment load (NEC 625.21) ✓ Preparing mounting surface and install per equipment manufacturer instructions ✓ Floor-mount: typically requires a concrete foundation with J-bolts on station base; place with space to allow conductors to enter through the base ✓ Wall/pole/ceiling-mount: install brackets for mounting of the equipment ✓ Install bollard(s) and/or wheel stop(s) as needed ✓ Install informative signage to identify the EVSE and potential trip hazards ✓ Install additional electrical panels or subpanels as needed ✓ 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 |

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| <p>Phase 6 Inspection</p> | <p>Inspection</p> <ul style="list-style-type: none"> ✓ An initial electrical inspection by applicable building, fire 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 ✓ 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 ✓ Contractor should verify EVSE functionality |
| <p>Phase 7 Alameda Municipal Power Rebate</p> | <p>Alameda Municipal Power Rebate</p> <ul style="list-style-type: none"> ✓ Complete final application for Alameda Municipal Power (AMP) EV charger rebate ✓ Consult AMP website for application guidelines: www.alamedamp.com/charger-rebates |
| <p>Additional Resources</p> | <p>Additional Resources</p> <ul style="list-style-type: none"> ✓ National Codes and Standards ✓ American National Standards Institute (ANSI) ✓ National Fire Protection Association (NFPA) ✓ Underwriters Laboratories, Inc. (UL) ✓ International Association of Electrical Inspectors (IAEI) ✓ International Code Council (ICC) ✓ NECA-NEIS Standards ✓ NECA and NFPA Webinars ✓ Electrical Vehicle Infrastructure Training Program (EVITP) Installer Training Course/Certification |