

# Residential Electrical Services Permit Requirements

Planning Building & Transportation 2263 Santa Clara Ave., Room 190 Alameda, CA 94501 510.747.6800 Hours: 8:30-3:00 Mon-Thur AMP Email: <u>bascara@alamedamp.com</u> To schedule Disconnect and Reconnect: ampinspect@alamedamp.com

## **CODE SECTIONS**

Alameda Municipal Power (AMP) Regulations CEC Articles 110, 230, 250, 300, 344, 404 CPC 1211

## **PERMITS & INSPECTIONS**

- A permit is required for installation, modification, removal, or replacement of an electrical service.
- Do not cover any portion of the installation until inspected and instructed: "Okay to cover".
- Modification of any portion of the existing service requires a complete service upgrade to the current code. (AMP)

## PERMIT APPLICATION REQUIRED DETAILS

- Service size. ≤ 200 amps for R3 single fam dwellings may use Express permitting. All others must apply for a standard permit and provide load calcs.
- Service entrance conductor size and type.
- Conduit size and type.
- Number of meters with each corresponding disconnect size.
- Panel make and model number.
- **IMPORTANT**: the service panel must be selected from the EUSERC-compliant list attached.

## **PROTECTION OF SERVICE ENTRANCE (SE) CONDUCTORS**

- Main service disconnect shall have a rating not less than the calculated load.
- SE conductors shall be sized based on the busbar rating of the service meter main panel.
- All services supplying dwelling units shall be provided with surge-protection devices. CEC 230.67

## **GENERAL REQUIREMENTS**

- Meter locations shall be accessible and outdoors. All electrical meter installations shall be located to be accessible to authorized representatives of AMP for installation, removal, reading, testing, and inspection. AMP
- LBs or gutters shall not be installed between the service panel and the weatherhead or vault. AMP
- Conduit Type and Size: Rigid conduit sized per CEC. Min of ≥ 1.25" and threaded. (NO COMPRESSION FITTINGS) CEC 230.50
- The service panel shall be installed ≥ 10" from the corner of the house to the center of the meter. AMP
- Drip loops are required. CEC 230.54.F.
- The weatherhead shall be installed  $\geq 8$ " beyond the edge of the roof. AMP
- Double conduit straps are required at the corner adjacent to the weatherhead. AMP
- A conduit riser clamp must be installed within 3' of all conduit terminations. CEC 344.30
- Conductors shall be ≥ 18" proud of the weatherhead. AMP
- The service panel must be ≥ 3' from the gas riser & meter. AMP
- Max breaker height is ≤ 6'7". CEC 404.8
- Panel circuits must be labeled. CEC 110.22.A
- There shall be no gate between the street and the meter. AMP
- All conduits below grade require duct seal. CEC 300.5.G
- Meter height: 48"-66" or 72"-75" (driveway) from the centerline of the meter to the standing surface. Where the meter location does not meet the minimum height clearances, protective bollards shall be installed. AMP
- Working Space:
  - Meter shall be  $\geq$  3' from the property line. AMP
  - A level standing surface with a clear and unobstructed working space must be provided and maintained in front of each metering installation. The working space must have a width of ≥ 30" and a height of ≥ 75" for individual field-installed meter panels (78" minimum from the standing surface for all other installations).
  - The working space must extend ≥ 36" in front of the service panel and be free from all obstructions and vegetation.

## **RESIDENTIAL SERVICE SIZE REQUIREMENTS AND LIMITATIONS**

#### • Minimum Service:

- Single family: 100 amps.
- Multi-family: 60 amps.
- Attached & detached ADUs: 100 amps each.

#### • Size Limitations:

- ≤ 200 amps: No restrictions. Express permitting is allowed.
- > 200 amps and R2 multifamily: Apply for a standard permit and requires load calcs.

### **GROUNDING AND BONDING**

- #4 rebar or bare copper UFER (20') or 8' x 5/8" rod with #4 copper. CEC 250.52.3.2
- GEC shall be protected. CEC 250.64.B.
- Ground rod shall be placed as close as practicable to the service. CEC 250.30.A.4
- All metallic piping systems shall be bonded. CPC 1211
- #6 copper cold water bond shall be installed outside & accessible. AMP

### SERVICE OVERHEAD CLEARANCES CEC 230.24

- $\geq$  8' above roofs < 4:12 pitch.
- $\geq$  3' above roofs  $\geq$  4:12 pitch.
- ≥ 18" at eaves.
- $\geq$  18' above nonresidential driveway.
- $\geq$  10' above walkways.
- $\geq$  12' above driveways.
- $\geq$  18' above roadway.

## **EUSERC APPROVED PANELS**

**EATON Catalog No:** 1MBE1428B100BS CMBE1212L200BS CMBE24L125BTS CMBE24L200BTS CMBE3242B150BS CMBE3242B200BS CMBE3242B225BS CMBE4242B200BTS CMBE88B150BTS CMBE88B200BTS CMBEB150BTS CMBEB200BTS CMBER88B150BTS MBE1212L200BTS MBE1224B100BTS MBE1224B100TS MBE1224B125BTS MBE1224B125TS MBE1224PV100BTS MBE1428B100BS MBE2040B150BTS MBE2040B200BS MBE2040B200BTS MBE2040B200TS MBE2040B225BTS MBE2040BH200BTS MBE2040PV200BTS MBE24L125BTS MBE24L200BTS MBE4040B200BSH MBE4040B200BTS MBE4040PV200BTS MBE48B150BTS MBE48B200BTS MBE816P200TS MBE816P200TSCU MBE88B200BTS MBEB200BTS MBER48B150BTS MBER48B200BTS

#### TSM1612CSCU TSM2020CSCU TSM2022USCU TSM2420US42 TSM3220USCU TSM3220UWCU TSM3222USCU TSM4020UWCU

#### **SIEMENS Catalog No:**

MC0816B1200ESN MC0816B1200EST MC0816S1200SCT MC1212L1200SED MC1224B1100ESC MC1224B1125ESC MC2040B1200ESC MC2040B1200SED MC2442B1200ESC MC2442B1200ESV MC2442B1225ESC MC2442S1200SC MC3040B1200SECW MC3040S1200SC MC3042B1200SED MC3042B1225SED MC3042B1400SC MC4040B1200SECW MC4040S1200SC MM2020B100ESC MM2020L1125ESC MM2020L1200ESC MM2020B1200ESC

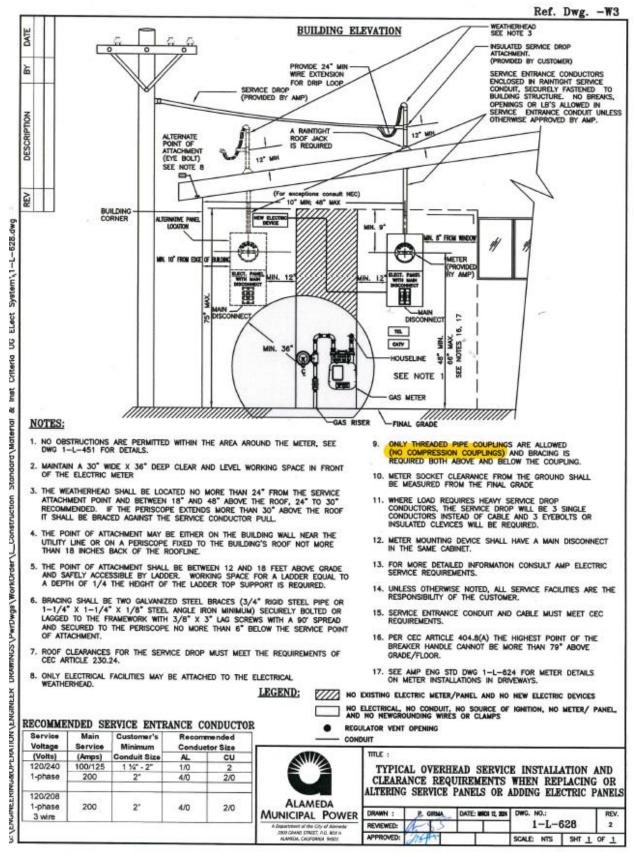
#### SQUARE D Catalog No:

SC1624M100S SC1624M125S SC2040M200C SC2040M200PS SC2040M200S SC3042M200PS SC40M200S SC42M200PS SC816F150PS SC816F200PS SU2040M200C

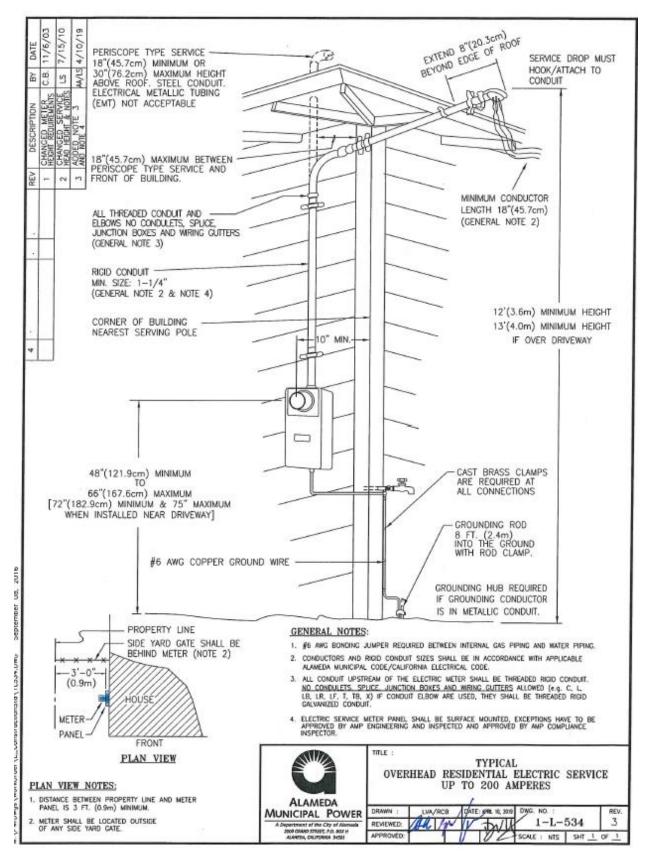
#### GENERAL ELECTRIC Catalog No:

TSF420CSCU TSM1212CSCU TSM1610CSCU

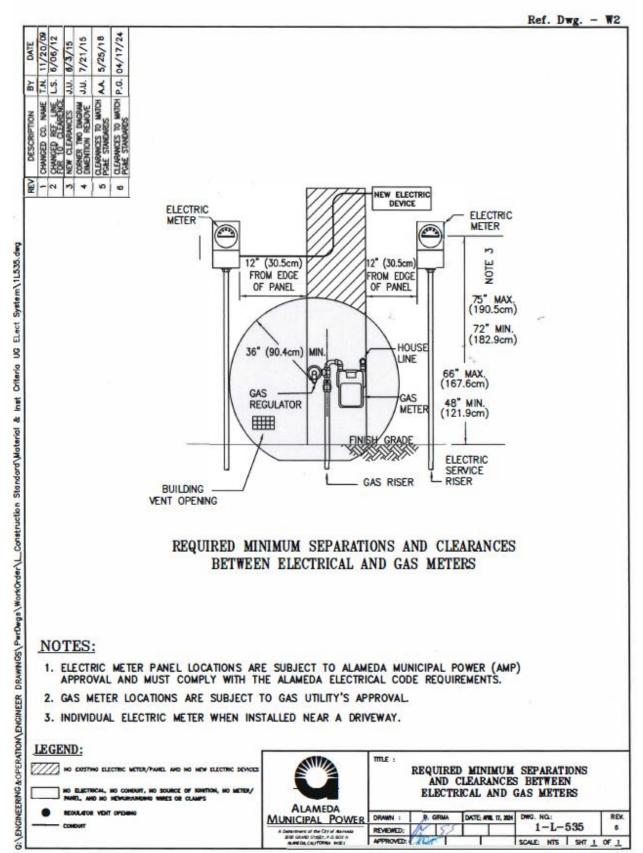
If your EUSERC panel is not listed above then contact Reynaldo Bascara at AMP for approval. bascara@alamedamp.com



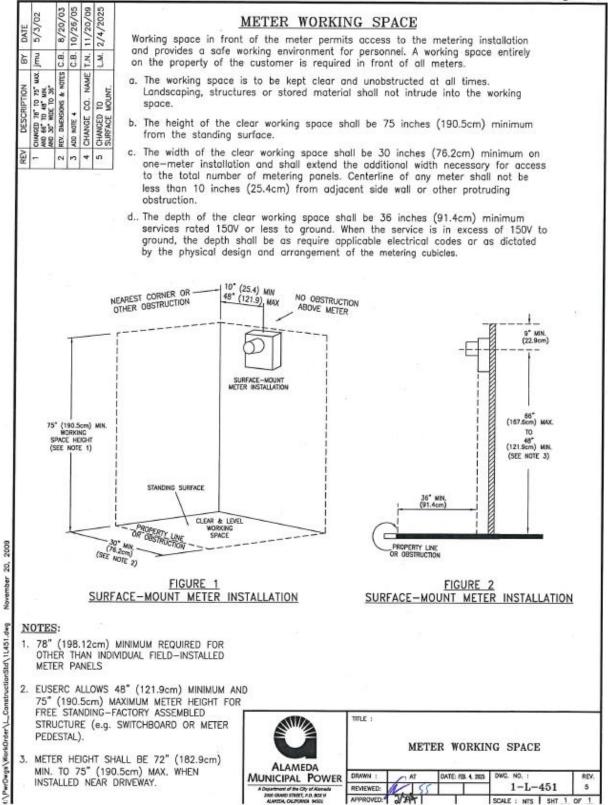
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