

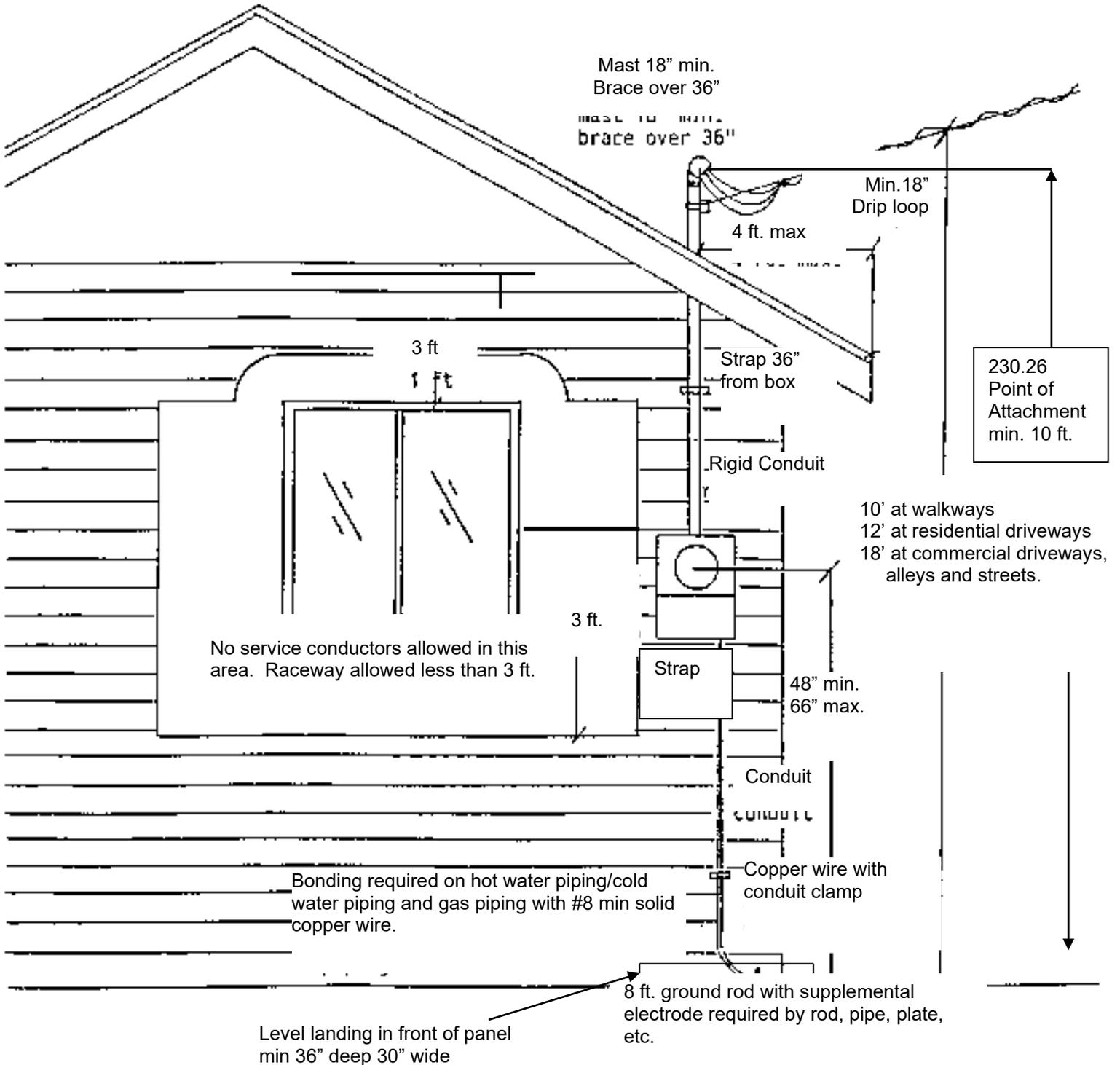


DEPARTMENT OF ECONOMIC
AND COMMUNITY DEVELOPMENT
BUILDING DIVISION

RESIDENTIAL ELECTRICAL SERVICE

Design Specifications 2025 California Electrical Code

Note: New service requires AFCI breakers for all rooms (except baths), all extended or new circuits. Provide surge protection per CEC 230.67.



**NEW SERVICE INSTALLATION GUIDELINES
RESIDENTIAL APPLICATIONS ONLY**

CONTACT PG&E BEFORE RELOCATING SERVICE CONNECTION

1. Riser/Weather head:
 - a) Use rigid conduit (EMT not allowed; 2" min. for aluminum rigid conduit)
 - b) 18" minimum above roof to conductors
 - c) 36" maximum above roof without brace
 - d) Service conductors 3 feet above or 3 feet to side of any window

2. Conductors:
 - a) Neutral must be identified (white or gray)
 - b) Install corrosion-inhibitor on all aluminum connections
 - c) Wire types: MTW, RHW, RHW-2, TW, THW, THW-2, THHW, THHW-2, THWN, THWN-2, XHHW, XHHW-2, ZW, or other listed conductors.

3. Grounding Electrode System
 - a) Grounding conductors and neutral conductors to be bonded together at main service panel only
 - b) 3/4"x8' galvanized pipe ground rod
 - c) 1/2"x8' copper jacketed listed ground rod
 - d) Grounding electrode conductor- Protection from damage:
 1. Must be securely fastened to building construction
 2. If #8 or subject to physical damage, must be in conduit

4. Bonding
 - a) All metal piping systems to be bonded
 - b) Jumper from cold water to hot water to gas pipes typical at water heater
 - c) Bond wire sized the same as the required GEC, minimum #8 gage

5. Meter/Panel
 - a) Height 66" maximum, 48" minimum
 - b) 78" maximum height to main disconnect
 - c) Label all breakers

6. Breakers
 - a) Arc-fault circuit interrupter for kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways or similar rooms. *(For new circuits only)

100 AMP SERVICE

	<u>Copper Wire</u>	<u>Aluminum Wire</u>
1. Size of riser	1 1/4"	1 1/2"
2. Size of conductor	4CU	2 AL
3. Size of ground	#8CU	#6 AL

125 AMP SERVICE

1. Size of riser	1 1/4"	1 1/2"
2. Size of conductor	2 CU	1/0 AL
3. Size of ground	#8 CU	# 6 CU

150 AMP SERVICE

1. Size of riser	1 1/2"	1 1/2"
2. Size of conductor	#1 CU	2/OAL
3. Size of ground	#6 CU	#4AL

200 AMP SERVICE

1. Size of riser	1 1/2" - 2"	1 1/2" - 2"
2. Size of conductor	2/0 CU	4/0 AL
3. Size of ground	#4 CU	#2AL