DEVELOPMENT SERVICES – BUILDING INSPECTION

INSPECTION GUIDELINES:
COMMON ERRORS

INSPECTION CODE: N/A

SCOPE: RESIDENTIAL

CODES ENFORCED: 2016 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, and PAMC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

2016 CALIFORNIA CODE AND 2017 PALO ALTO MUNICIPAL ADOPTION ORDINANCES

ON-LINE ACCESS

Contractors who work in the City of Palo Alto should review the Adopted City Ordinances prior to work. The adopted ordinances are available on-line (http://www.amlegal.com/).

CONSTRUCTION AND SITE SAFETY

CONSTRUCTION HOURS

Many customers’ complaints are filed due to working prior to and proceeding after construction hour requirements. Non-compliance of required construction hours will result in CPA Police Departmental action and potential fines. See the “Construction Hours” requirements to avoid complaints.

MONDAY – FRIDAY 8AM TO 6PM
SATURDAY 9AM TO 6PM
SUNDAYS/HOLIDAYS CONSTRUCTION PROHIBITED

SITE SAFETY

It is the responsibility of the contractor to keep the project safe and secure at all times during construction. Unsafe utilities, when discovered, will be removed. See the “Safety, Security and Sanitation” checklist for specific requirements.

ALTERNATE MATERIALS, DRAWINGS, REVISIONS, AND FEES

ALTERNATE MATERIALS

The use of alternate materials shall be submitted for approval prior to installation. Alternative methods and material application forms are available at the building division. There is a fee for processing these applications.
REVIEWING PLANS

☐ Contractor must review plans for deferred submittals, project conditions, and special inspection requirements.

☐ Contractor should review CPA’s inspection checklists prior to inspection to verify all standard compliance issues have been addressed. Inspection guidelines books are provided at time of permit issuance. Additional handbooks are available for purchase.

REVISIONS

☐ When revisions are required by building inspector, the Contractor shall schedule a review at the Development Center with the inspector and a plan checker to facilitate corrections with the City of Palo Alto. The review should be scheduled via the inspector three days in advance; it will take place between 8:00AM and 9:00AM.

RE-INSPECTION FEES

☐ Contractor is responsible to verify work is complete and ready for inspection prior to calling for inspection. Every Inspection after the second call out will be charged as a re-inspection fee. Inspector of record shall have the responsibility to apply fees as required per department policy.

DEMOLITION

PRE-DEMOLITION UTILITIES REMOVAL

☐ Contractor shall fill out the proper forms to have the CPA disconnect gas and electric utilities prior to demolition. Contractor shall have a “Pre-Demolition Utilities Removal” inspection prior to demolition. (See the “Demolition/Pre-Construction Meeting” inspection checklist and form in book.)

GAS APPLIANCES

☐ During construction of occupied and unoccupied buildings, all gas appliances shall be maintained in a safe condition (i.e. flue, strapping, and barriers) or shall be properly decommissioned and removed.

UTILITIES

METER REMOVAL

☐ Meter removal and service disconnect/reconnect are to be performed by City of Palo Alto Utilities (CPAU) personnel only. Contractors who tamper with CPAU equipment will be issued a citation. (Citations will be assessed at $500.00 per incident. (PAMC 12.20.01.0))

UNSAFE CONDITIONS

☐ Utilities that are deemed unsafe due to construction activity will be removed. Please read section on “Living in House During Construction“ for more information.

TEMPORARY UTILITIES

☐ Liquefied petroleum gas (LPG) tanks larger than 2.5 gallon are not allowed unless permitted by CPA Fire Department for specifically allowed circumstances as defined under Municipal Code 15.04.510 and California Fire Code Section 6101.4. Violators will be subject to fines of $1000 per day.
If the Contractor is using the Electric Vehicle Supply Equipment (EVSE) as a connection point for feeding the main service for a temporary power source during construction, verify the following:
- A 30A, 40A, or 50A receptacle is located at the main electrical panel (see Figure CPA 003)
- A “while-in-use” type receptacle is installed for any exterior locations
- The panel is identified with a label that reads “CAUTION: CURRENTLY BEING BACKFED BY ANOTHER SOURCE.”
- The main breaker must be turned off, locked out, and tagged out by a qualified person when the service is fed from temporary power.

![Figure CPA 003 – Feeding Structure from Temporary Power](image)

**BUILDING**

**ARCHITECTURAL AND DECORATIVE SHROUDS**

- Architectural and decorative shrouds shall not be installed at the termination of factory-built chimneys or at the termination of gas vents except where such shrouds are listed and labeled for use with the specific factory-built system or gas venting system and are installed in accordance with the manufacturer’s installation instructions. (CRC R1005.2, CMC 802.5.4.3, CMC 802.6.2.4)

**SURVEY**

- Surveys are required for all new structures within 2’ of required setback, including accessory structures, and structures that are not typically parallel to property lines. Preserve property line markers as markers are needed at time of sheet and shear inspection to determine daylight plane compliance. (CBC 107.1)

**DAYLIGHT PLANE**

- Daylight plane compliance is, unfortunately, a common problem that can cause delays and can be very expensive. Consult the inspection checklist regarding daylight plane compliance. (CBC 107.1)
FLOOD ZONE

- Flood zone and FEMA TB-2 regulations must be observed. Framing members below the base flood elevation (BFE) must be of natural resistance to decay or pressure treated materials, and hardware must be of corrosion resistant type. (CRC 322.1.8)

FOUNDATION

- Wooden stakes are not allowed at any foundation inspection when embedded in concrete. (PAMC 16.04.340)

- Palo Alto Municipal code requires a minimum depth of footings of 20”, minimum width of 15”, and 8” minimum thickness for stem walls unless a soils report and specific engineered foundation design has been approved. (PAMC 16.06.240)

- Gas piping is not allowed under a slab under a building. Gas piping systems shall be installed as outlined in the California Plumbing Code. (CPC 1210.1.6)
  - See the “Under Slab/Structure Gas Piping” inspection checklist for requirements and figures.

- At the foundation inspection, the builder should be sure to reference the entry/exit details in the CPA’s guidelines book. (CRC 311.3.2)
  - Pouring concrete landings and porches against wood framing is a common point of entry for wood destroying insects.

- At foundation inspection, provide adequate clearances where plumbing and mechanical duct work is installed in a crawl space. Additional accesses may be required. A separate access is required and must be unobstructed from pipes and ducts. A minimum of 18” is required under all ducts and plumbing that would obstruct access to any part of the crawl space. (CMC 603.2)

- If open screened vents are installed, foundation vents should be baffle blocked and structure shall be protected from exposure to water. When louvered vents are installed to protect the structure, additional vents may be required.

BASEMENTS

- Excavations for basements must be shored per soils report requirements and Cal/OSHA standards. Cal/OSHA requires permits for all excavations exceeding 4’ in depth.

- When buildings have basements, it is critical to have the waterproofing manufacturer’s representative inspect and verify, in writing, compliance with manufacturer’s installation requirements.

- Excavations extending below the water table must provide for pumping, desalinization, and transference of ground water to an approved location, as specified by Public Works in an approved dewatering plan. Call for Public Works inspection as required when working in the public way.
Prior to installation of subfloor; joists must be inspected for their structural attachment to foundation walls.

Where mechanical equipment is installed in a basement, it is highly recommended to install high efficiency equipment to avoid unnecessary damage to the building structural frame.

WEATHER-TIGHT STRUCTURE

CPA requires that the building be completely weather-tight at the time of the All Trades Inspection. Roofing felt is not allowed for this purpose as it is limited by its listing. Similarly, type “D” paper is not acceptable for extended exposure on exterior walls. Products such as “Wintergard” should be used to protect the roof or house; wrap materials such as Tyvek should be used to protect exterior weathered surfaces. The installation of exterior lath and type “D” paper should be immediately followed within 7-30 days (confirm with manufacturer) with stucco or other approved building finish wall materials. Please see the specific requirements in the All Trades inspection requirements in the CPA’s Inspection Guidelines.

INSULATION

Paper faced insulation is not permitted in exposed above ceiling areas, the open side of furred spaces, and ventilated interstitial spaces due to the potential of embers igniting the paper. Quilted foil-backed or un-faced fiberglass batts and blankets are better suited to conditions of potential fire hazards. Use approved quilted foil-backed insulation such as “Reflectix Insulation” in areas where a vapor barrier is required and use as a fix when paper back insulation is exposed. (CBC 720.2, CBC 720.2.1)

Spray foam insulation, closed or open cell, within the building requires alternative methods approval prior to installation.

ATTIC FURNACES AND WORKING CLEARANCES

Furnaces that are placed in an attic shall be located such that a minimum 30” head clearance is provided at the entry point and is undiminished to the service access platform. (CMC 304.1)

All equipment requires a 30”x30”x30” work space. This must be verified at the roof and exterior structural frame inspection. (CMC 304.1)

TRUSSES AND ATTIC FURNACES

When trusses are used for roof framing and the furnace is to be installed in the attic, verify that the trusses have been engineered for the equipment to be installed in the attic. (CBC 2303.4)

ENGINEERED BRACED WALLS

Engineered braced walls shall be installed as specified per approved details on plans. Alternate details are not approved unless specified by the engineer of record and approved by CPA’s plan checker.
MECHANICAL

BOOSTER FANS
☐ In-line booster fans are considered an Alternate Method and shall be pre-approved by City of Palo Alto prior to installation. This method is discouraged because of accessibility and maintenance issues.

☐ Booster fans are not allowed in underfloor and crawlspace areas, especially below the flood zone elevation. (CMC 305.2)

☐ When approved, the fan shall have a minimum of 15 feet of duct clearance to the dryer outlet.
   ○ Exception: Provide a secondary lint filter installed between the dryer and the booster fan.

DRYER DUCTS
☐ Unless otherwise permitted or required by the dryer manufacturer’s instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 feet including two 90 degree elbows. A length of 2 feet shall be deducted for each 90 degree elbow in excess of two. (CMC 504.4.2.1)

CATHEDRAL CEILING VENTILATION
☐ The City of Palo Alto requires upper and lower ventilation for cathedral ceiling spaces. Cathedral ceilings that are completely filled with an approved insulation must be submitted as an alternative method and pre authorized before installation. (CRC 806.2, CBC 1203.2)

ELECTRICAL
☐ Two prong receptacles cannot be converted to U grounded receptacles unless a ground or GFCI is installed.

☐ CEC Section 240.24 (D),(E) prohibits electrical sub panels in Bathrooms, clothes, closets, and stair cases. Installations must comply with CEC 110.26 working clearance (i.e. panel shall not be placed behind or over laundry equipment.)

☐ See the Electrical Inspection Guidelines Book for common errors concerning electrical installations.

PLUMBING

DISHWASHER AIR-GAP
☐ Listed air-gaps shall be provided for dishwasher on discharge side and be mounted on counter top. (No exceptions including Bosch under counter system). (CPC 807.3)

CONDENSATE WASTE PIPES
☐ Condensate waste pipes shall connect indirectly to the drainage system through an air gap to properly trapped and vented receptors, dry wells, leach pits, or the tailpiece of plumbing fixtures. (CPC 814.4, CPC 814.5, CPC 814.6)

☐ Condensate lines shall not be connected or allowed to drain to the storm drain. (PAMC 16.09.180 (5))
SHOWE R PAN
☐ Shower pan test requires inflatable test plug and fill pan with water to top of curb. (CPC 408.7)

DRYWALL IN SHOWER/TUB LOCATIONS
☐ Green board and purple board is no longer allowed in shower and bathtub compartments. (CRC 702.4.2, CBC 2509.2)

☐ Cement, fiber-cement or glass mat gypsum backers shall be secured with its listed fasteners and shall be corrosion resistant in shower/tub compartments. (CBC 2507.1)