



# City of Citrus Heights

Building and Safety Division  
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## Water Heater Installations

### Permit Requirements

#### When do I need a permit?

A water heater (plumbing) permit is always required for new and replacement water heater installations. This allows the Building Safety & Inspection field inspector to ensure safe operation and appropriate strapping.

During emergency situations when a water heater appliance has been installed without first obtaining a permit, it shall be obtained on the next work day following installation. A 9X fee permit penalty may otherwise be added for doing the work without a permit.

### Bracing and Installation

#### Enforcement

As adopted by the City of Citrus Heights, Chapter 5 of the California Plumbing Code (CPC) & 2016 Mechanical Code (CMC) enforces the construction, location and installation of fuel burning water heaters.

#### Location

Domestic water heaters generating a glow, spark or flame capable of igniting flammable vapors may be installed in a residential garage, provided the pilots, burners or heating elements and switches are at least 18-in above the floor level.

A water heater installed in a garage but enclosed in a separate, approved compartment having access only from outside the garage, may be installed at floor level provided the combustion air is taken from the exterior of the garage. Fuel-burning water heaters having sealed combustion chambers need not be elevated.

Water heater installations in bedrooms and bathrooms shall comply with one of the following.

(1) Fuel-burning water heaters may be installed in a closet located in the bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing, device. The door assembly shall be installed with a threshold. All combustion

air shall be obtained from the outside. The closet shall be for the exclusive use of the water heater.

(2) Water heaters shall be the direct vent type

#### Protection

##### Bollards

When water heaters are located in the path subject to mechanical damage by vehicles, a suitable barrier shall be installed in front of it.

##### Strapping

In seismic design categories C, D, F and F, water heaters shall be anchored or strapped to resist movement during an earthquake. Straps are to be installed at the upper and lower third (1/3) of the water heater (lower strap 4-in above controls). The straps shall be connected so that the fasteners and straps cannot dislodge or loosen. Refer to page 2 for sample illustrations.

When supported on the ground, water heaters can rest on level concrete or other approved base extending not less than 3-in above adjacent ground level.

#### Capacity

The minimum capacity for water heaters shall be in accordance with the first hour rating as listed in the table below.

**Table 5-1: Water Heater Minimum Capacity (2016 CPC)<sup>1</sup>**

Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
	1	2	3	2	3	4	5	3	4	5	6
Number of Bedrooms											
First Hour Rating <sup>2</sup> (Gallons)	42	54	54	54	67	67	80	67	80	80	80

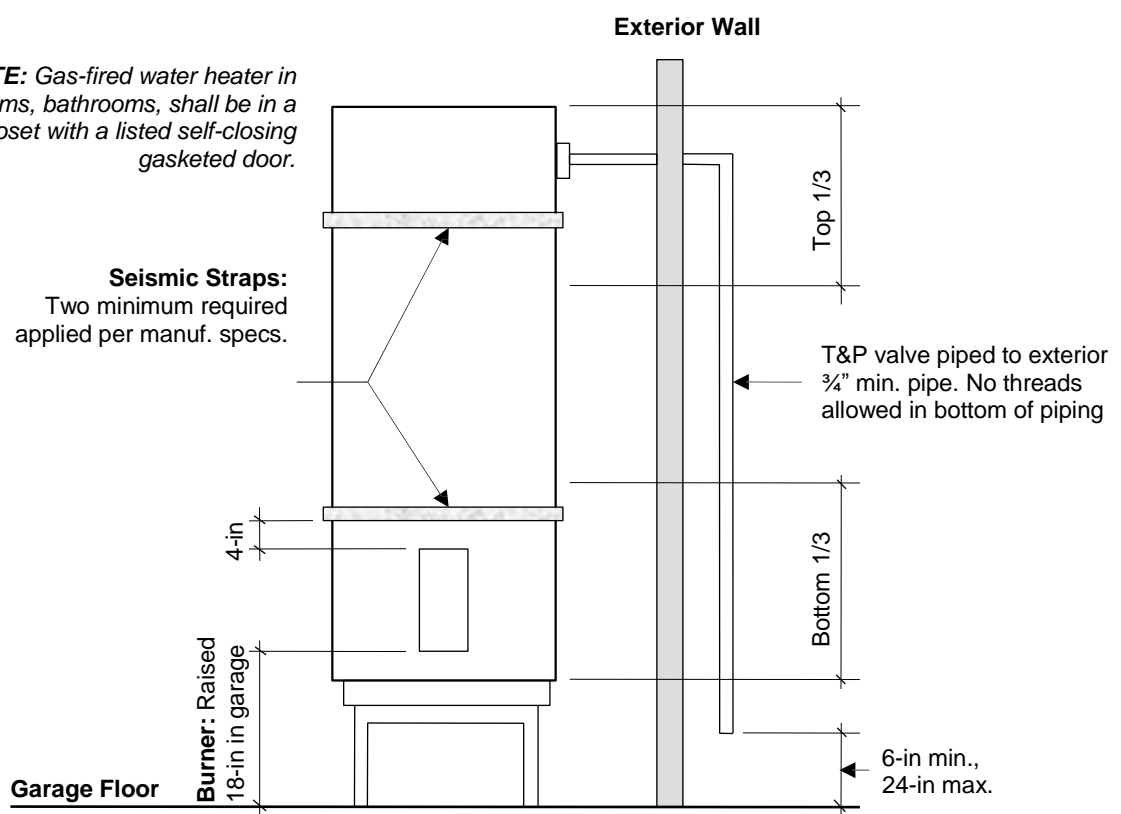
#### Notes:

<sup>1</sup>The first hour rating is found on the "Energy Guide" label.

<sup>2</sup>Non-storage and solar water heaters shall be sized to meet the appropriate first hour rating as shown in the table.

**NOTE:** Gas-fired water heater in bedrooms, bathrooms, shall be in a closet with a listed self-closing gasketed door.

**Seismic Straps:**  
Two minimum required applied per manuf. specs.



**WATER HEATER – ELEVATION**

**COMBUSTION AIR (2013 CMC, Chapter 7)**

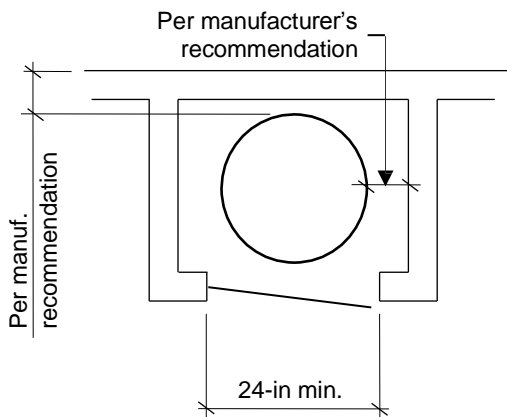
**Indoor Combustion Air Source**

*Ordinary Construction:* Appliance in unconfined space may rely on infiltration alone. Unconfined space is >50 cu. ft./1000 Btu/hr. Appliance may draw air through minimum 100 sq. in. openings into unconfined space, one opening in upper 12-in, one in lower 12-in.

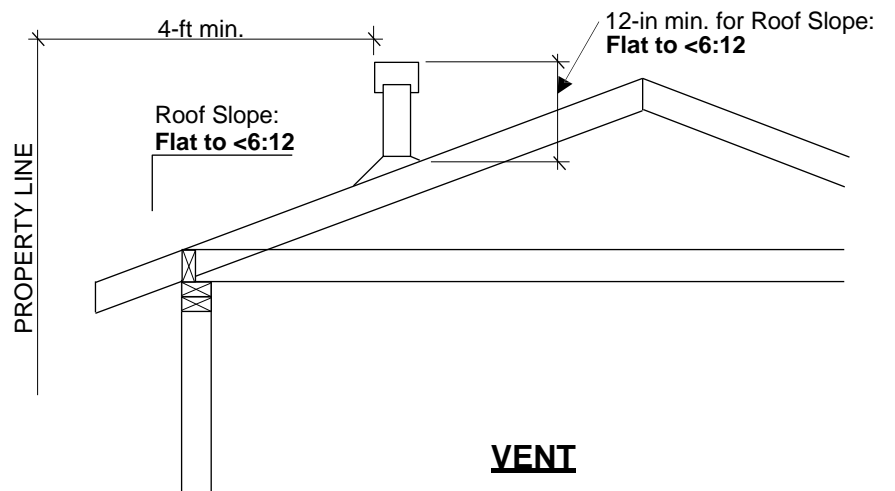
**Outdoor Combustion Air Source**

*Unusually Tight Construction or Confined Space:* Confined space is <50 cu. ft./1000 Btu/hr.

**Refer to 2016 CMC Section 701.1 through 701.12**



**TOP VIEW**



**VENT**