Tankless Water Heaters

CNI-036

Purpose: This handout is to inform building permit applicants of the specific items that may be required when replacing an existing storage tank water heater with an on demand tankless water heater.

Background: On demand tankless water heaters require substantially more natural gas than standard storage tank water heaters. The existing gas line(s) may not be properly sized to provide the required volume of fuel and may require larger gas line(s) to handle the additional demand (See Figure 1).

On demand tankless water heaters require special venting to comply with specific manufacturers' requirements. The entire existing water heater venting system may need to be replaced based on specific manufacturers' requirements. For example, a stainless steel vent may be required, and the existing combination venting system may not be allowed (See Figure 1).

Costs associated with the installation of a tankless water heater can be much more than those of a storage tank water heater. Installing new vents that comply with manufacturers' specifications, and up sizing of existing gas supply line(s) are the main reasons for the increase in costs. Some costs may be reduced by prior planning of the proposed location of the replacement unit. Careful consideration may help decrease some of the costs associated with replacing a standard heater with an on demand tankless type.

Procedure: When replacing an existing storage tank water heater with an on demand tankless water heater, there are some important items to consider in the preliminary design phase:

- **Sufficient gas supply**
- **Special venting requirements**
- **Location of proposed replacement**

These items should be considered as part of the scope of work when applying for a building permit. The costs associated with performing any required building upgrades to install an on demand water heater should be included in the contract price.

Plans are not required for building permit issuance. However, at the first inspection, the applicant must provide the Building Inspector with the manufacturer's specifications and an isometric drawing showing gas pipe sizes and load calculations from the meter to the most remote gas fueled appliance, in accordance with the current edition of the California Plumbing Code (See Figure 2).

Reference: California Plumbing Code
Figures 1 & 2 (See Reverse)

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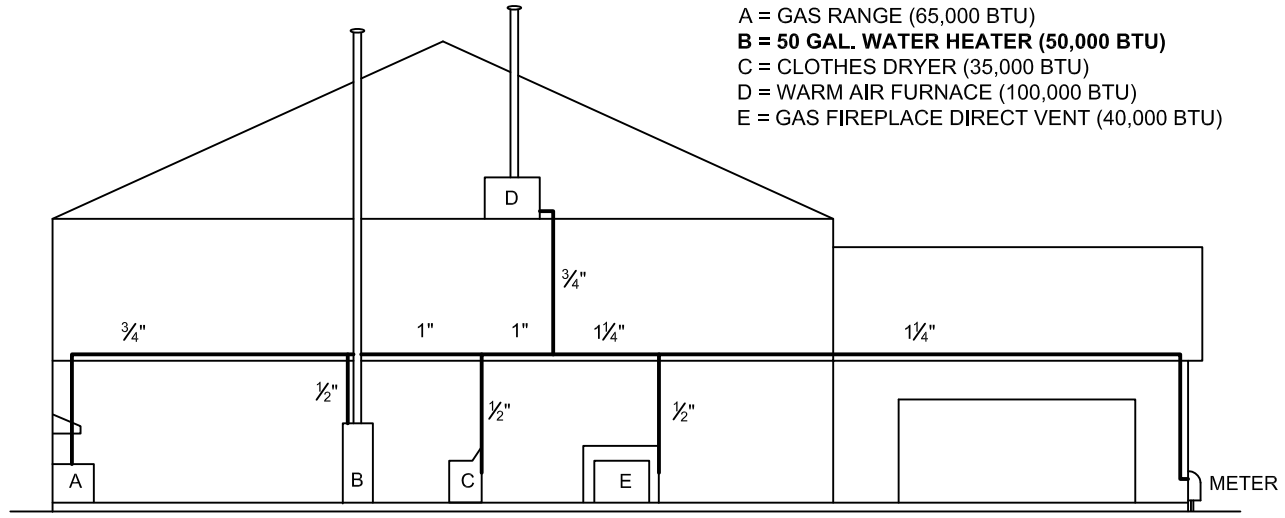
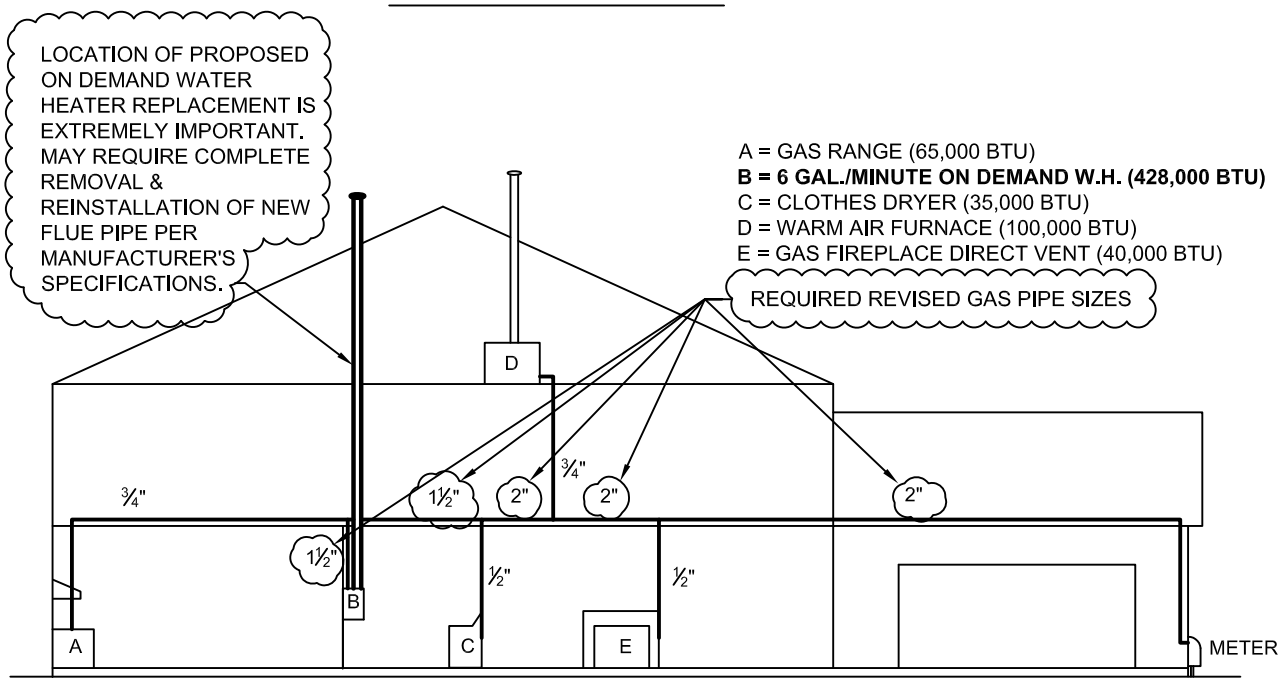
FIGURE 1

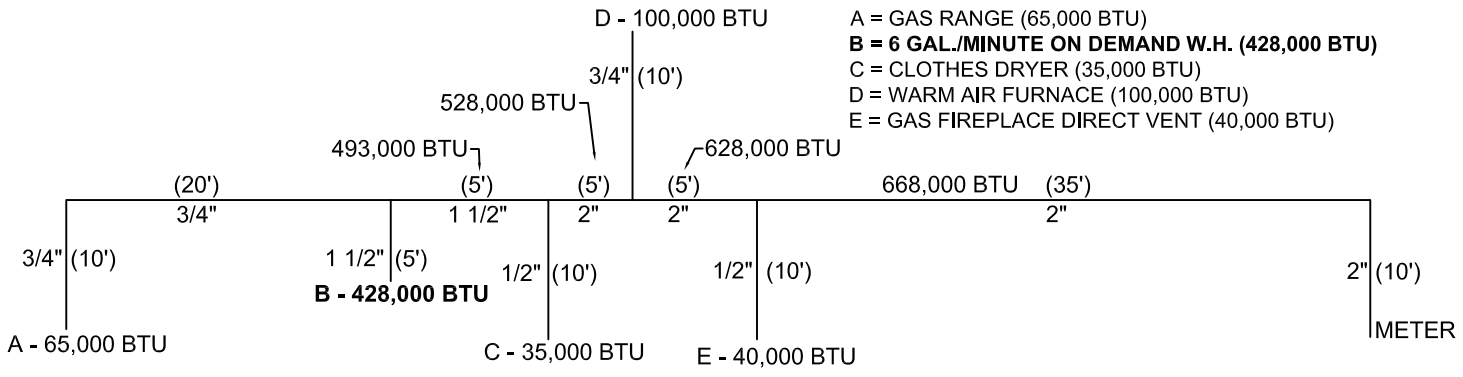


EXISTING CONDITION



PROPOSED CONDITION WITH ON DEMAND WATER HEATER

FIGURE 2



REQUIRED ISOMETRIC DIAGRAM OF PROPOSED CONDITION