

**SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION**



<b>CERTIFICATE OF INSTALLATION</b>		<b>CF2R-PLB-02-E</b>
<b>Single Dwelling Unit Hot Water System Distribution</b>		<b>(Page 1 of 4)</b>
<b>Project Name:</b>	<b>Enforcement Agency:</b>	<b>Permit Number:</b>
<b>Dwelling Address:</b>	<b>City:</b>	<b>Zip Code:</b>

**A. Design Dwelling Unit Water Heater System Information**  
 This table reports the water heating system(s) features specified on the registered CF1R compliance document for this project.

01	02	03	04	05	06	07	08
Water Heating System ID or Name	Modeled Equipment Make and Model	Number of Water Heaters	Tank Location	Exterior Tank Insulation R-value	Simulated Equipment Make and Model	Dwelling Unit DHW System Distribution Type	Compact Distrib.

**B. Installed Dwelling Unit Water Heater System Information**  
 This table reports the water heating system features installed in this project.

01	02	03	04	05	06	07
Water Heating System ID or Name	Modeled Equipment Make and Model	Number of Water Heaters	Tank Location	Exterior Tank Insulation R-value	Dwelling Unit DHW System Distribution Type	Compact Distrib.

**C. Mandatory Measures for all Domestic Hot Water Distribution Systems**

01	Equipment shall meet the applicable requirements of the Appliance Efficiency Regulations (Section 110.3(b)1).
02	Unfired Storage Tanks are insulated with an external R-12 or combination of R-16 internal and external insulation. (Section 110.3(c)4).
03	<p>The following pipes are insulated, to the thicknesses required by Table 120.3A, except for those sections of pipe that are subject to one of the exceptions below: All domestic hot water piping shall be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions shall have a minimum insulation wall thickness of 1 inch or a minimum insulation R-value of 7.7 (RA4.4.1)</p> <ul style="list-style-type: none"> <li>• The first 5 feet (1.5 meters) of cold water pipes from the storage tank.</li> <li>• All piping with a nominal diameter of 3/4 inch (19 millimeter) and less than 1 inch.</li> <li>• All hot water piping from the heating source to the kitchen fixtures.</li> <li>• All underground piping                             <ul style="list-style-type: none"> <li>▪ insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve</li> </ul> </li> <li>• Piping from the heating source to storage tank or between tanks</li> <li>• Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall butt securely against all framing members.</li> <li>• Piping installed in interior or exterior walls that is surrounded on all sides by at least 1 inch (5 cm) of insulation.</li> <li>• Piping installed in crawlspace with a minimum of 1 inches (5 cm) of crawlspace insulation above and below.</li> <li>• Piping installed in attics with a minimum of 4 inches (10 cm) of attic insulation on top</li> <li>• Pipe insulation shall fit tightly and all elbows and tees shall be fully insulated.</li> </ul>
04	<p>For Gas or Propane Water Heaters: Ensure the following are installed (Section 150.0(n))</p> <ul style="list-style-type: none"> <li>• A dedicated 125V, 20A electrical receptacle connected to the electric panel with a 120/240V 3 conductor, 10 AWG copper branch circuit, within 3 feet from the water heater and accessible with no obstructions;                             <ul style="list-style-type: none"> <li>▪ The conductor shall be labeled with the work "Spare" on both ends; and</li> <li>▪ A reserved single pole circuit breaker space next to the circuit breaker next to the branch circuit in A labeled "Future" 240V shall be provided.</li> </ul> </li> <li>• A Category III or IV vent, or a Type B vent with straight pipe between outside and water heater</li> <li>• A condensate drain no more than 2 inches higher than the base on water heater for natural draining</li> <li>• A gas supply line with capacity of at least 200,000 Btu/hr</li> </ul>

**The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.**

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CEC-CF2R-PLB-02-E (Revised 01/19)

CALIFORNIA ENERGY COMMISSION



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Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

<b>DOCUMENTATION AUTHOR'S DECLARATION STATEMENT</b>		
1. I certify that this Certificate of Installation documentation is accurate and complete.		
Documentation Author Name:	Documentation Author Signature:	
Documentation Author Company Name:	Date Signed:	
Address:	CEA/HERS Certification Identification (if applicable):	
City/State/Zip:	Phone:	
<b>RESPONSIBLE PERSON'S DECLARATION STATEMENT</b>		
I certify the following under penalty of perjury, under the laws of the State of California:		
<ol style="list-style-type: none"> <li>The information provided on this Certificate of Installation is true and correct.</li> <li>I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.</li> <li>The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.</li> <li>I will ensure that a registered copy of this Certificate of Installation shall be posted or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.</li> </ol>		
Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

Registration Number:

Registration Date/Time:

HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance

January 2019