



SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

CERTIFICATE OF INSTALLATION

Note: This table completed by HERS Registry.

Table with 2 columns and 3 rows: Project Name, Dwelling Address, City and Zip Code; Enforcement Agency, Permit Number, Permit Application Date.

A. Design Dwelling Unit Water Heating Systems Information (other than HPWH)

This table reports features of the water heating system(s) other than HPWH systems specified on the registered LMCC compliance document for this project.

Table with 10 columns (01-10) and 3 rows. Headers: Dwelling Unit Name, Water Heating System ID or Name, Water Heating System Type, Water Heater Type, # of Like (or Identical) Water Heaters in System, Fuel Type, Rated Input Type, Rated Input Value, Dwelling Unit DHW System Distribution Type, Compact Distrib.

A2. Design Dwelling Unit HPWH System Information

This table reports the HPWH water heating system(s) that were specified on the registered LMCC compliance document for this project.

Table with 10 columns (01-09) and 3 rows. Headers: Dwelling Unit Name, Water Heating System ID or Name, Modeled Equipment Make and Model, # of Like (or Identical) Water Heaters in System, Tank Location, Exterior Tank Insulation R-value, Dwelling Unit DHW System Distribution Type, Compact Distribution, Simulated Equipment Make and Model.

B. Installed Dwelling Unit Water Heating Systems Information

This table reports features of the water heating system other than HPWH systems installed in this project.

Table with 10 columns (01-10) and 3 rows. Headers: Dwelling Unit Name, Water Heating System ID or Name, Water Heating System Type, Water Heater Type, # of Like (or Identical) Water Heaters in System, Fuel Type, Rated Input Type, Rated Input Value, Dwelling Unit DHW System Distribution Type, Compact Distrib.



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B2. Installed Dwelling Unit HPWH System Information

This table reports the water heating system(s) installed in this project.

Table with 8 columns (01-08) and 3 rows. Headers: 01 Dwelling Unit Name, 02 Water Heating System ID or Name, 03 Modeled Equipment Make and Model, 04 # of Like (or Identical) Water Heaters in System, 05 Tank Location, 06 Exterior Tank Insulation R-value, 07 Dwelling Unit DHW System Distribution Type, 08 Compact Distribution.

C. Design Dwelling Unit Water Heating Efficiency Information

This table reports the water heater(s) efficiency features specified on the registered LMCC compliance document for this project.

Table with 7 columns (01-07) and 3 rows. Headers: 01 Water Heating System ID or Name, 02 Heating Efficiency Type, 03 Heating Efficiency Value, 04 Standby Loss (%), 05 Exterior Insulation R-Value, 06 Water Heater Storage Volume (gal), 07 Tank Location.

D. Installed Dwelling Unit Water Heating Efficiency Information

This table reports the water heater(s) efficiency features installed in this project.

Table with 7 columns (01-07) and 3 rows. Headers: 01 Water Heating System ID or Name, 02 Heating Efficiency Type, 03 Heating Efficiency Value, 04 Standby Loss (%), 05 Exterior Insulation R-Value, 06 Water Heater Storage Volume (gal), 07 Tank Location.

E. Installed Water Heater Manufacturer Information

Table with 3 columns (01-03) and 3 rows. Headers: 01 Water Heating System ID or Name, 02 Manufacturer, 03 Model Number.



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F. 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-3.5 or combination of R-16 internal and external Insulation. (Section 110.3(c)4).
03	<ul style="list-style-type: none"> All domestic hot water piping shall be insulated as specified in Section 609.11 of the California Plumbing Code. Insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve. 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. Piping installed in interior or exterior walls that is surrounded on all sides by at least 1 inch (2.5 cm) of insulation. Piping installed in crawlspace with a minimum of 1 inches (2.5 cm) of crawlspace insulation above and below. Piping installed in attics with a minimum of 4 inches (10 cm) of attic insulation on top. Pipe insulation shall fit tightly and all elbows and tees shall be fully insulated.
04	<p>For Gas or Propane Water Heaters: Ensure either a or bare installed (Section 150.0(n))</p> <p>a) A designated space at least 2.5 feet by 2.5 feet and 7 feet tall within 3 feet from the water heater</p> <ul style="list-style-type: none"> 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 is accessible with no obstructions. The conductor shall be labeled with the word "Spare" on both ends; and A reserved single pole circuit breaker space next to the circuit breaker next to the branch circuit labeled "Future" 240V shall be provided. A condensate drain no more than 2 inches higher than the base on water heater for natural draining. <p>b) A designated space at least 2.5 feet by 2.5 feet and 7 feet tall more than 3 feet from the water heater</p> <ul style="list-style-type: none"> <u>A dedicated 240 volt branch circuit shall be installed within 3 feet from the designated space. The branch circuit shall be rated at 30 amps minimum. The blank cover shall be identified as "240V ready"; and</u> <u>The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future HPWH installation. The reserved space shall be permanently marked as "For Future 240V use"; and</u> <u>Either a dedicated cold water supply, or the cold water supply shall pass through the designated HPWH location just before reaching the gas or propane water heater; and</u> <u>The hot water supply pipe coming out of the gas or propane water heater shall be routed first through the designated HPWH location before serving any fixtures; and</u> <u>The hot and cold water piping at the designated HPWH location shall be exposed and readily accessible for future installation of a HPWH; and</u> <u>A condensate drain no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance.</u>

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



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G. Compact Hot Water Distribution (CHWDS) (RA4.4.6)

For dwelling units with multiple systems, enter the master bath distance and kitchen distance to the closest water heater, and enter the average of the furthest fixture to each water heater

Table with 7 columns: 01 Dwelling Name, 02 Number of Stories, 03 Master Bath distance of furthest fixture to Water Heater in feet, 04 Kitchen distance from furthest fixture to Water Heater in feet, 05 Furthest Third furthest fixture to Water Heater in feet (Avg for multiple water heaters), 06 Weighted Distance, 07 Qualification Distance

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

H. Parallel Piping Requirements (PP) (RA4.4.4)

Systems that utilize this distribution type shall comply with these requirements.

Table with 2 columns: ID (01-04) and Description of requirements for parallel piping

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

I. Point of Use Requirements (POU) (RA4.4.5)

Systems that utilize this distribution type shall comply with these requirements

Table with 2 columns: ID (01) and Description of Point of Use Requirements

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



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J. Mandatory Requirements for all Recirculation Systems (RA4.4.7)

Systems that utilize a recirculation system shall comply with these requirements.

Table with 2 columns: ID (01-04) and Requirement description.

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

K. Recirculation Non-Demand Controls Requirements (R-ND) (RA4.4.8)

Systems that utilize this distribution type shall comply with these requirements.

Table with 2 columns: ID (01) and Requirement description.

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

L. Demand Recirculation Manual Control (R-DRmc) (RA4.4.9)/Sensor Control Requirements (RDRsc) (RA4.4.10)

Systems that utilize either of these distribution types shall comply with these requirements

Table with 2 columns: ID (01-07) and Requirement description.

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



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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

- I certify the following under penalty of perjury, under the laws of the State of California:
 - The information provided on this Certificate of Installation is true and correct.
 - 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.
 - 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.
 - I understand 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, and I will take the necessary steps to ensure this requirement is accomplished.
 - 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, and I will take the necessary steps to ensure this requirement is accomplished.

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:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300

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Individual Dwelling Unit Hot Water System Distribution	(Page 1 of 3)

LMCI-PLB-02-E User Instructions

A. Design Dwelling Unit Water Heating Systems Information

This table reports the water heating system features that were specified on the registered LMCC compliance document for this project. This section is for information/verification purposes only and requires no user input.

A2. Design Dwelling Unit HPWH System Information

This table reports the water heating system features that were specified on the registered LMCC compliance document for this project. This section is for information/verification purposes only and requires no user input.

B. Installed Dwelling Unit Water Heating Systems Information

This table reports the water heating system information that is being installed. Require one line for each installed water heater.

- 01 Dwelling Unit Name - Reference information from Table A.
- 02 Water Heating System ID or Name – Reference information from Table A.
- 03 Water Heating System Type – Reference information from Table A. The different kinds of water heating system type are DHW, or Combined Hydronic.
- 04 Water Heater Type – Reference information from Table A. The different kinds of water heaters are Large/Commercial Storage, Small/Consumer Storage, Residential-Duty Commercial Storage, Heat Pump, Boiler, Large/Commercial Instantaneous, Small/Consumer Instantaneous, Residential-Duty Commercial Instantaneous or Indirect.
- 05 # of Like (or Identical) Water Heaters in system – Reference information from Table A.
- 06 Fuel Type – Reference information from Table A. The different kinds of fuel types are heat pump, electric resistance, natural gas, and propane.
- 07 Rated Input Type – Reference information from Table A. For natural gas and propane, the input type is Btu/hr. For heat pump and electric resistance the input type is kW.
- 08 Rated Input Value – User input. Numerical value of the rated input. Must be equal to or less than value indicated on the LMCC.
- 09 Dwelling Unit DHW System Distribution Type - Reference information from Table A.
- 10 Compact Distribution - Reference information from Table A.

B2. Installed Dwelling Unit HPWH System Information

This table reports the water heating system information that is being installed. Require one line for each installed water heater. Not applicable for central systems.

- 01 Dwelling Unit Name – Reference information from Table A2.
- 02 Water Heating System ID or Name – Reference information from Table A2.
- 03 Modeled Equipment Make and Model – User input must be equal to the value indicated on Table A2 as default and allow user to override with an equivalent system based on the simulated equipment in

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Table A2.04 # of Like (or Identical) Water Heaters in System – Reference information from Table A2LMCC.

05 Tank Location – User input. Must be equal to value indicated in Table A2.LMCC

06 Exterior Tank Insulation R-value – User input. Must be equal to or higher than value indicated in Table A2.

07 Dwelling Unit DHW System Distribution Type – Reference information from Table A2.

08 Compact Distribution – Reference information from Table A2.

C. Design Dwelling Unit Water Heating Efficiency Information

This table reports the water heating system features that were specified on the registered LMCC compliance document for this project. This section is for information/verification purposes only and requires no user input.

D. Installed Dwelling Unit Water Heating Efficiency Information

This table reports the water heating system efficiency features installed in this project.

01 Water Heating System ID or Name – Reference information from Table C.

02 Heating Efficiency Type – Reference information from Table C. Different efficiency types are Energy Factor, AFUE, UEF and Thermal Efficiency.

03 Heating Efficiency Value – User input must be equal to or higher efficiency than value indicated on Table C.

04 Standby Loss – User input. Must be equal to or less than value indicated in Table C. Value may be N/A if LMCC value is N/A.

05 Exterior Insulation R-Value – User input. Must be equal to or higher than value indicated in Table C. Value may be N/A if LMCC value is N/A.

06 Water Heater Storage Volume (gal) – User input. Must be equal to the value indicated in Table C. Value may be N/A if water heater type is instantaneous with zero storage.

07 Tank location – User input. Must be equal to value indicated in Table C.

E. Installed Water Heater Manufacturer Information

This table reports the manufacturer information of the installed water heater(s). Require one line for each installed water heater. Not applicable for central systems.

01 Water Heating System ID or Name – Reference information from Table B or B2.

02 Manufacturer – User input. Enter the name of the water heater manufacturer.

03 Model Number – User input. Enter the model number of the water heater.

F. Mandatory Measures for all Domestic Hot Water Distribution Systems

This table lists the requirements for all DHW systems. Installer must ensure all the requirements on this table are met.

G. Compact Hot Water Distribution Basic

If performance compliance is used, this table lists the values used in the performance calculation and require no user input.

If prescriptive compliance is used, fill out this table.

01 Dwelling Name. Reference information from Table A2.

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- 02 Enter the master bath distance of furthest fixture to water heater in feet. For multiple water heaters, enter the distance to the closest water heater.
- 03 Enter the kitchen distance from furthest fixture to water heater in feet. For multiple water heaters, enter the distance to the closest water heater.
- 04 Enter furthest third fixtures from fixture to water heater in feet. For multiple water heaters, enter the average of the furthest distance of each water heater.
- 05 Weighted Distance - Calculated value – no user input required.
- 06 Qualification Distance - Calculated value – no user input required.

H. Parallel Piping Requirements

This table only applies to systems indicated as **Parallel Piping**. In addition to the mandatory requirements in Table J, the installer must ensure the requirements in this table are met.

I. Point of Use Requirements

This table only applies to systems indicated as **Point of Use**. In addition to the mandatory requirements in Table J, the installer must ensure the requirements in this table are met.

J. Mandatory Requirements for all Recirculation System

The requirements of this table apply to all recirculation systems listed below.

K. Recirculation Non-Demand Controls Requirements

This table only applies to systems indicated as **Recirculation Non-demand Controls**. In addition to the mandatory requirements in Table J and M, the installer must ensure the requirements in this table are met.

L. Demand Recirculation Manual Control/Sensor Control Requirements

This table only applies to systems indicated as **Demand Recirculation Manual Control** or **Demand Recirculation Sensor Control**. In addition to the mandatory requirements in Table H and K, the installer must ensure the requirements in this table are met.

Documentation Declaration Statements

1. The person who prepared the LMCI will sign and complete the fields for their name, company (if applicable), address, phone number, certification information (if applicable), date and signature.
2. The person who is assuming responsibility for the project being built to comply with Title 24, Part 6, will complete the fields for their name, company (if applicable), address, phone number, license number (if applicable), date and signature.