

**POOL AND SPA HEATING SYSTEMS**

CEC-CF2R-PLB-03-E (Revised 01/20)

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF INSTALLATION		CF2R-PLB-03-E
Pool And Spa Heating Systems - For Non-HERS Registered Projects		(Page 1 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

**A. Pool and Spa System Type**

01	Pool and Spa System Type
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**B. Pool and Spa Systems and Equipment Requirements (Section 110.4(a) and 110.5)**

01	Heater has a thermal efficiency that complies with the Appliance Efficiency Regulations.
02	A readily accessible on-off switch is mounted on the outside of the heater, which allows the heater to be shut off without the user adjusting the thermostat setting.
03	A weatherproof plate or card containing instructions for the energy-efficient operation of the pool or spa heater is permanently mounted.
04	No electric resistance heating except for listed package units that have fully insulated enclosures and tight fitting covers that are insulated to at least R-6. Or if documentation is provided that at least 60% of the annual heating energy is from site solar energy or recovered energy.
05	Heating system has no pilot light.

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

**C. Pool and Spa System Installation Requirements (Section 110.4(b))**

01	To allow for the future addition of solar heating equipment, at least 36" of pipe is installed between the filter and heater, or dedicated suction and return lines are installed, or built-in, or built-up, connections for future solar heating are provided.
02	A cover is provided for outdoor pools or spas that have a heat pump or gas heater.
03	Pool system has directional inlets to adequately mix the pool water.
04	Pool system has a time switch that allows the pump to be set or programmed to run during off-peak periods only.

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

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**D. Pool Pump Sizing and Flow Rate Specification (Section 150.0(p))**

01	The pool pump specified is listed in the CEC database of certified pool pumps.		
02	<p>The pool pump flow rate shall not exceed the maximum pump flow rate calculated based on pool sizing in the table below. The return pipe diameter, suction pipe diameter, and filter area shall be at least as large as the required minimums shown in the table.</p> <p>Alternatively, a flow calculation or flow test result shall be provided to demonstrate that the pump flow rate is less than 6 hour filtration turnover, and the return pipe flow rate does not exceed 8 fps and that the suction pipe flow rate does not exceed 6 fps.</p>		
03	An alternative compliance calculation or a flow test result is provided for this pool or spa use (must attach flow calculation or flow test result to this form)	Yes <input type="radio"/>	No <input type="radio"/>
04	The pump is capable of operating at 2 or more speeds (not applicable if pump is less than 1 horsepower).		
05	Each auxiliary pool load is served by either a separate pump, or the system is served by a multi-speed pump.		
06	Volume of Pool (gallons)		
07	Filter Type (Cartridge, Sand, DE)		
	08a	08b	08c
	Required Min Return Pipe Diameter (inches)	Required Min Suction Pipe Diameter (inches)	Required Min Filter Area (ft <sup>2</sup> )
			08d Required Max Pump Flow (gpm)
09	Return Pipe Diameter (inches)		
10	Suction Pipe Diameter (inches)		
11	Filter Surface Area (ft <sup>2</sup> )		
12	Max Pump Flow Rate (gpm)		
13	Measured Flow Rate Return Line (fps)		
14	Measured Flow Rate Suction Line (fps)		
15	Compliance Statement:		
<b>The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.</b>			

**E. Pool System Piping (Section 150.0(p)2)**

01	The suction side pipe is straight for at least 4 pipe diameters before entering the pump (See table below for the required straight run lengths for various pipe sizes).		
02	All elbows are sweep elbows, or an elbow type that has a pressure drop that is less than the pressure drop of a straight pipe with a length of 30 pipe diameters.		
<b>The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.</b>			

**F. Pool Filters and Valves (Section 150.0(p)3 and 4)**

01	If a filter is used in a pool intended for public use: The size of the filter is at least the size specified in NSF/ANSI 50.		
02	If a backwash valve is used: The diameter of the backwash valve is at least 2 inches, or the diameter of the return pipe, whichever is greater.		
<b>The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.</b>			

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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 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.

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:

**Table C**  
**Pool sizing (Values are based on a maximum allowable turnover rate of 6- hours)**  
 Note: For pumps greater than 1 hp. The maximum Pump Flow is the lowest speed default filtration

Max Pool Volume (gallons)	Min Pipe D or Greater (inches)		Min Filter Area or more (square feet)			Max Pump Flow (gpm)
	Return	Suction	Cartridge	Sand	DE	
13,000	1.5	1.5	100	2.4	20	36
17,000	1.5	2	130	3.1	25	47
21,000	2	2	160	3.9	30	58
28,000	2	2.5	210	5.2	40	78
42,000	2.5	3	320	7.8	60	117
48,000	3	3	360	8.9	70	133

**Table D**  
**Pipe Diameter/Pipe Length**

Pipe Diameter (inch)	Required Pipe Length leading into pump (inch)
1.5	6
2	8
2.5	10
3	12



## CITY OF OAKLEY BUILDING PERMIT APPLICATION

JOB ADDRESS: \_\_\_\_\_ SUBDIV # \_\_\_\_\_ LOT # \_\_\_\_\_

PROJECT DESCRIPTION \_\_\_\_\_

PROJECT VALUATION: \$ \_\_\_\_\_ SEPTIC SYSTEM: YES  NO

PERMIT TYPE: BUILDING  MECHANICAL  ELECTRICAL  PLUMBING  SIGN   
SOLAR  PANEL UPGRADE Y/N DEMO  REROOF  POOL/SPA  -- Re-locate A/C Y/N

LIVING AREA SQ FT: \_\_\_\_\_ DECK/PORCHES SQ FT: \_\_\_\_\_ GARAGE SQ FT: \_\_\_\_\_

PROPERTY OWNER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY, STATE, ZIP: \_\_\_\_\_ PHONE #: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_ STATE LIC #: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY, STATE, ZIP: \_\_\_\_\_ PHONE # \_\_\_\_\_

ARCH/ENGR: \_\_\_\_\_ LIC # \_\_\_\_\_ PHONE # \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY, STATE, ZIP: \_\_\_\_\_

PROJECT MANAGER: \_\_\_\_\_ PHONE #: \_\_\_\_\_

### Permitted work hours:

Operate or perform construction or repair (which creates noise) within or adjacent to a residential land use district except during the following hours:

- Monday through Friday: 7:30 am to 7:00 pm
- Saturdays, Sundays & holidays: 9:00 am to 7:00 pm

Initial: \_\_\_\_\_

**ALL PERMITS REQUIRE A FINAL INSPECTION**

**ALL PERMITS HAVE AN EXPIRATION DATE, 365 DAYS FROM LAST VALID INSPECTION**



## CITY OF OAKLEY BUILDING PERMIT APPLICATION

### LICENSED CONTRACTORS DECLARATION

I hereby affirm that I am licensed under the provisions of Chapter 9 (commencing with section 7000) of the Business & Professions Code, & my license is in full force & effective. Initial: \_\_\_\_\_

### WORKMAN'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (sec. 3800 lab C) Initial: \_\_\_\_\_

### EXEMPTION FROM WORKER'S COMPENSATION INC

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Comp Laws of California Initial: \_\_\_\_\_

**NOTICE TO THE APPLICANT: *If after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.***

### OWNER-BUILDER DECLARATION

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec7031.5), Business & Professions Code: Any City or County which requires a permit to construct, altar, improve, demolish or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9(commencing with Section 7000) of Division 3 of the Business & Professions Code) or that he is exempt there from & the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars(\$500).

- I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business & Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, &who does such work himself or through his own employees. Provided that such improvements are not intended or offered for sale. If, however, the building improvement is sold within one year of completion, the owner/builder will have the burden of proving that he did not build or improve for the purpose of sale)
- I, as the owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec 7044 Business & Professions Code: The Contractor's License Law does not apply to an owner of property who builds/improves thereon, & who contracts for such project with a contactor(s) licensed pursuant to the Contractor's License Law)
- I am exempt under Sec. \_\_\_\_\_ Business & Professions Code for this reason.  
Applicant:\_\_\_\_\_

**NOTICE TO APPLICANT** I certify that I have read this application & state that the information on the permit is correct. I agree to comply with all City and County ordinances and state laws relating to building construction and hereby authorize representatives of this city to enter upon the above mentioned property for inspection purposes.

### **SECTION 106.4.4 UNIFORM BUILDING CODE**

Expiration: Every permit issued by the Building Official under the provisions of this code shall expire by limitation and become null & void, if the building or work authorized by such permit is not commenced with 180 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days.

APPLICANT/AGENT \_\_\_\_\_

DATE: \_\_\_\_\_