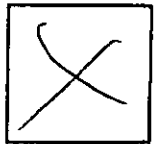




Type



Plans

BLD13-0526

Permit Number

1733

Street Number

SKILLMAN LN

Street Name

PET

Community Code

048-091-003

APN

COUNTY OF SONOMA - PERMIT AND RESOURCE MANAGEMENT DEPARTMENT  
2550 Ventura Avenue, Santa Rosa, CA 95403 (707) 565-1900 FAX (707) 565-1103

Please Print Your Name: **JOHN KC GOLTERMANN** Date Applied: **2-6-13**

INFORMATION WITHIN HEAVY LINE TO BE COMPLETED BY APPLICANT

SITE LOCATION INFORMATION - PRINT CLEARLY

Site Address: **1733 SKILLMAN LN.** City: **Petaluma** ZIP: **94952**  
Cross-Street: **FAIR AVENUE** Project Phone #: **707 753 1111** Project Fax #: **707 940 4200**  
Directions: **Petaluma Blvd. No. to Skillman** Email address: **PROHOMESSELLER@COMCAST.NET**  
Describe Project: **CONVERT EXIST. 3 CAR GARAGE TO LIVING SPACE** Living Area: **1147** Contract Price: **25,000**  
Garage: **N/A** Decks: **N/A**

OWNER NAME AND ADDRESS

APPLICANT NAME AND ADDRESS

Name: **SBC INV LLC**  
Mailing Address: **467 MILLER AVE.**  
City: **MILL VALLEY** State: **CA** ZIP: **94941**  
Day Ph: **415 888 8812** Fax: **415 388 8069**

Name: **JOHN KC GOLTERMANN**  
Mailing Address: **316 PETALUMA BLVD SO.**  
City: **Petaluma** State: **CA** ZIP: **94952**  
Day Ph: **707 753 1111** Fax: **707 940 4200**

CONTRACTOR INFORMATION

OTHER PERSONS (ARCHITECT, ENGINEER, ETC.)

Company Name: **GOLTERMANN CONST. INC.**  
Address: **316 PETALUMA BLVD. SO.**  
City: **Petaluma** State: **CA** ZIP: **94952**  
Day Ph: **707 753 1111** Fax: **707 940 4200**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Day Ph: ( ) Fax: ( )

WORKER'S COMPENSATION DECLARATION

I hereby affirm under penalty of perjury one of the following declarations:  
☐ I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.  
☐ I have and will maintain worker's compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My worker's compensation insurance carrier and policy number are:

Carrier: \_\_\_\_\_  
Policy No.: \_\_\_\_\_

(This section need not be completed if the permit is for one hundred dollars (\$100) or less).  
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 compensation laws of California, and agree that if I should become subject to the worker's compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Exp. Date: \_\_\_\_\_ Applicant: \_\_\_\_\_

**WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.**

OWNER-BUILDER DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt therefrom and 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 and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his or her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he or she did not build or improve for the purpose of sale.).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law.).

☐ I am exempt under Sec. \_\_\_\_\_, B & P.C. for this reason \_\_\_\_\_

By my signature below I acknowledge that, except for my personal residence in which I must have resided for at least one year prior to completion of the improvements covered by this permit, I cannot legally sell a structure that I have built as an owner-builder if it has not been constructed in its entirety by licensed contractors. I understand that a copy of the applicable law, Section 7044 of the Business and Professions Code, is available upon request when this application is submitted or at the following website: <http://www.leginfo.ca.gov/calaw.html>.

Date: \_\_\_\_\_ Signature of Property Owner or Authorized Agent: \_\_\_\_\_

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

Lic. Class: **B** Lic. No.: **304928**  
Exp. Date: **10/13** Contractor: \_\_\_\_\_

ASBESTOS DECLARATION

Written asbestos notification pursuant to Part 61 of Title 40 of the Code of Federal Regulations is required when asbestos exists in buildings, or portions thereof, undergoing demolition. I hereby declare that demolition authorized by this permit is from construction that ( ) does ( ) does not contain asbestos, or that ( ) no demolition is authorized by this permit.

I certify that I have read this application and affirm under penalty of perjury that the above information is correct. I agree to comply with all local Ordinances and State laws relating to building construction. I hereby authorize representatives of the County of Sonoma to enter upon the above-mentioned property for inspection purposes. If, after making the Certificate of Exemption for the Worker's Compensation provision of the Labor Code I should become subject to such provisions, I will forthwith comply. In the event I do not comply with the Workman's Compensation law, this permit shall be deemed revoked.

PERMITTEE SIGNATURE: \_\_\_\_\_  
ADDRESS: **316 PETALUMA BLVD. SO. PETALUMA** CITY: **Petaluma** ZIP: **94952**

☐ Contractor ☐ Owner ☐ Other Licensed Professional

THIS PERMIT SHALL EXPIRE IN THREE(3) YEARS FROM DATE FEES ARE PAID UNLESS OTHERWISE NOTED BY CODE ENFORCEMENT

Distribution: White - File Canary - Applicant Blue - Assessor Cardstock - Inspector

JOB ADDRESS: **1733 Skillman Ln Pet**

PERMIT NUMBER: **BLD13-0526**

INSPECTION AREA: **3**

**FOR DEPARTMENT USE**

Zoning: **AR2** File No.: \_\_\_\_\_ Acres: **6**  
Existing Use/Structures: **SFO W/ ATTACHED GARAGE, 2ND FLOOR (E) GARAGE TO LIVING SPACE**  
Proposed Use/Structures: **CONVERT (E) GARAGE TO LIVING SPACE**  
Zoning Min. Yard Requirements: Front \_\_\_\_\_ Left \_\_\_\_\_ Right \_\_\_\_\_  
NOTE: Fire Safe Standards require all parcels greater than 1 Acre to have a min. 30' setback unless mitigated. ☐ Mitigation Required ☐ Address subject to change  
Approval for Permit Issuance: \_\_\_\_\_  
By: \_\_\_\_\_ Date: **FEB 13, 2013**  
Conditions: **COVERING 6,147 SQ FT OF GARAGE SPACE TO LIVING AREA. SECOND FLOORING NOT ON PROPERTY.**  
Sewer Connection: ☐ Available ☐ Fees Paid  
Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Road Encroachment: ☐ Fees Paid  
Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Septic System Permit/Clearance #: **N/A**  
Approved by: **TW NGUYEN** Date: **2/06/13**  
Flood Zone: ☐ Yes ☒ No 100 Year Flood Elevation: \_\_\_\_\_  
Site Review: \_\_\_\_\_  
Drainage Review: \_\_\_\_\_  
Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Fire: **SM** Date: **2/6/13**  
Code Enforcement Violation ☐ Yes ☒ No Violation #: \_\_\_\_\_  
This permit is limited to \_\_\_\_\_ days.  
Work Authorized: **convert garage to living @ (E) SFO**

Plans Approved ☒ No Plans Subject to Field Inspection ☐ Post FIRM ☐ Alquist Priolo Report Available ☐  
Plancheck Cleared By: **2/13/13** Date: **2/13/13** Type of Construction: **VB R3** No. of Series: **1** No. of Units: **4**  
Permit Issued for Issuance By: **2/13/13** Date: **2/13/13** Auto. Fire Sprinklers Req'd: **YES** Certificate of Occupancy: \_\_\_\_\_  
MACHINE SPACE FOR PERMIT FEE: \_\_\_\_\_  
FEB 13 2013  
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT  
COUNTY OF SONOMA

131) SPECIAL INSPECTION REQUIRED		<input type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, SEE ADDITIONAL SHEET	
INSPECTION RECORD		DATE	NAME	REMARKS	
101)	ROUGH GRADING				
103)	FOUNDATION				
	FORMS/SETBACK				
	FOOTING				
	WALLS (IN-FILL)	3.25.13	h	@ GARAGE DOORS	
106)	U/F GROUND #				
104)	CAISSONS/PIERS				
105)	SLAB				
107)	UNDERGROUND UTILITIES				
110)	MASONRY				
109)	RETAINING WALLS				
113)	FIREPLACE				
	FOOTING				
	HEARTH/PROTECTION				
	THROAT				
114)	CHIMNEY				
120)	UNDERFLOOR/UNDERSLAB				
115)	HYDRONICS				
116)	U/F ELECTRICAL				
117)	U/F MECHANICAL				
118)	U/F PLUMBING				
119)	U/F FRAMING PER S.P.	3.27.13	h		
139)	U/F INSULATION				
126)	SHEAR WALLS				
<input type="checkbox"/> INTERIOR		<input type="checkbox"/> EXTERIOR			
127)	DIAPHRAGMS				
<input type="checkbox"/> ROOF		<input type="checkbox"/> FLOOR			
134)	SIDING/SHEATHING			> SUB-SHEATHING, IN-FILL @ GARAGE DOORS	
125)	HOLD DOWNS				
132)	CLOSE-IN	3.27.13	h		
122)	ROUGH ELECTRICAL				
123)	ROUGH MECHANICAL				
124)	<del>ROUGH PLUMBING</del>				
128)	ROUGH FRAME				
160)	SMOKE DETECTORS	4/25/13	SB		
139)	INSULATION				
142)	WALLBOARD	3.29.13	h		
143)	FIREWALLS				
135)	STUCCO/PLASTER				
<input type="checkbox"/> LATH		<input type="checkbox"/> SCRATCH			
137)	ROOFING				
130)	TUB/SHOWER PAN				
162)	FIRE DAMPERS/DOORS			(140) Call for wrong insp, wanted	
164)	SUSPENDED CEILING			sprinkler insp. 3-18-13 MW	
<input type="checkbox"/> ROUGH ELEC.		<input type="checkbox"/> ROUGH MECH.			
165)	EXITING - RAMPS/STAIRS				
163)	HANDRAILS/GUARDRAILS				
	CORRIDORS/DOORS				
166)	ACCESSIBILITY COMPLIANCE			650) SUSMP INSPECTION	
144)	WATER TANKS			651) NPDES EROSION COMPLIANCE	
<input type="checkbox"/> SLAB		<input type="checkbox"/> WALLS		652) NPDES SEDIMENT COMPLIANCE	
170)	TEMPORARY OCCUPANCY			653) NPDES DOCS/SWPPP	
171)	TEMPORARY ELECTRICAL			FIRE INSPECTION REQUIRED	
172)	TEMPORARY GAS			<input type="checkbox"/> Yes <input type="checkbox"/> No	
174)	ELECTRIC METER AUTHORIZATION			759) KNOX BOX	
152)	PANEL BOARDS/SERVICE			760) PROPANE TANK HOLD DOWNS	
189)	SEPTIC ELECTRIC FINAL			770) SPRINKLER FINAL	
175)	GAS METER AUTHORIZATION			771) ABOVEGROUND HYDROSTATIC	
153)	GAS PRESSURE TEST			772) UNDERGROUND HYDROSTATIC	
	HOUSE			773) UNDERGROUND FLUSH	
	YARD			774) THRUST BLOCKS	
190)	MANUF. HOME FOUNDATION			775) PIPE WELD	
191)	MANUF. HOME INSTALLATION			776) HYDRANTS/APPLIANCES	
	CONTINUITY			777) PUMP ACCEPTANCE	
	STAIRS/SKIRTS			778) WATER SUPPLY/TANK	
	RIDGE BOLTING			779) ALARM SYSTEM	
193)	MANUF. HOME COND. FINAL			780) HOOD & DUCT SYSTEM	
	SWIMMING POOLS			781) ABOVEGROUND TANK/DISPENSER	
194)	PRE-GUNITE			198) FIRE FINAL	
195)	PRE-DECK			CLEARANCES:	
196)	PRE-PLASTER/FENCE			FIRE <input type="checkbox"/> Local <input type="checkbox"/> County	
197)	VINYL/FIBERGLASS POOL EXCAVATION			HEALTH DEPARTMENT	
102)	GRADING FINAL			ZONING	
176)	ELECTRICAL FINAL			SANITATION	
177)	MECHANICAL FINAL				
178)	PLUMBING FINAL				
199)	FINAL				
OCCUPANCY (OK TO OCCUPY)				PLAN RETENTION REQUIRED?	
				<input type="checkbox"/> Yes <input type="checkbox"/> No	

PERMIT #

# **PERFORMANCE CERTIFICATE: Residential** (Part 1 of 5) **CF-1R**

Project Name <b>Skillman Addition</b>	Building Type <input checked="" type="checkbox"/> Single Family <input checked="" type="checkbox"/> Addition Alone <input type="checkbox"/> Multi Family <input type="checkbox"/> Existing+ Addition/Alteration	Date <b>2/8/2013</b>
Project Address <b>1733 Skillman Lane Petaluma</b>	California Energy Climate Zone <b>CA Climate Zone 02</b>	Total Cond. Floor Area <b>1,147</b>
	Addition <b>1,147</b>	# of Stories <b>1</b>

## **FIELD INSPECTION ENERGY CHECKLIST**

☐ Yes ☒ No HERS Measures -- If Yes, A CF-4R must be provided per Part 2 of 5 of this form.  
☒ Yes ☐ No Special Features -- If Yes, see Part 2 of 5 of this form for details.

INSULATION		Area	Special	
Construction	Type	Cavity	(ft <sup>2</sup> )	Features (see Part 2 of 5)
Roof	Wood Framed Rafter	R-30	1,147	New
Wall	Wood Framed	R-13	1,082	New
Floor	Wood Framed w/Crawl Space	R-19	1,147	New

FENESTRATION		U-	Exterior				
Orientation	Area(ft <sup>2</sup> )	Factor	SHGC	Overhang	Sidelines	Shades	Status
Front (N)	58.0	0.370	0.32	none	none	Bug Screen	New
Left (E)	35.0	0.370	0.32	none	none	Bug Screen	New
Rear (S)	31.0	0.370	0.32	none	none	Bug Screen	New
Right (W)	48.0	0.370	0.32	none	none	Bug Screen	New

HVAC SYSTEMS						
Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Central Furnace	78% AFUE	No Cooling	13.0 SEER	Setback	Existing

HVAC DISTRIBUTION					Duct	
Location	Heating	Cooling	Duct Location	R-Value	Status	
HVAC	Ducted	Ducted	Attic, Ceiling Ins, vented	2.1	Existing	

WATER HEATING					
Qty.	Type	Gallons	Min. Eff	Distribution	Status

**PERFORMANCE CERTIFICATE: Residential****(Part 2 of 5)****CF-1R**

Project Name

*Skillman Addition*

Building Type

☒ Single Family☒ Addition Alone☐ Multi Family☐ Existing+ Addition/Alteration

Date

*2/8/2013***SPECIAL FEATURES INSPECTION CHECKLIST**

The enforcement agency should pay special attention to the items specified in this checklist. These items require special written justification and documentation, and special verification to be used with the performance approach. The enforcement agency determines the adequacy of the justification, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

*The HVAC System Existing FAU does not include a cooling system, field verification is not necessary.*

**HERS REQUIRED VERIFICATION**

Items in this section require field testing and/or verification by a certified HERS Rater. The inspector must receive a completed CF-4R form for each of the measures listed below for final to be given.

**PERFORMANCE CERTIFICATE: Residential** (Part 3 of 5) **CF-1R**

Project Name <b>Skillman Addition</b>	Building Type <input checked="" type="checkbox"/> Single Family <input checked="" type="checkbox"/> Addition Alone <input type="checkbox"/> Multi Family <input type="checkbox"/> Existing+ Addition/Alteration	Date <b>2/8/2013</b>
--	--	-------------------------

**ANNUAL ENERGY USE SUMMARY**

	Standard	Proposed	Margin
TDV (kBtu/ft <sup>2</sup> -yr)			
Space Heating	46.88	47.53	-0.65
Space Cooling	33.25	25.77	7.48
Fans	13.37	11.65	1.72
Domestic Hot Water	0.00	0.00	0.00
Pumps	0.00	0.00	0.00
<b>Totals</b>	<b>93.50</b>	<b>84.94</b>	<b>8.56</b>
<b>Percent Better Than Standard:</b>			<b>9.2 %</b>

**BUILDING COMPLIES - NO HERS VERIFICATION REQUIRED**

Building Front Orientation:	(N) 0 deg	Ext. Walls/Roof	Wall Area	Fenestration Area
Number of Dwelling Units:	0.29	(N)	451	58
Fuel Available at Site:	Natural Gas	(E)	308	35
Raised Floor Area:	1,147	(S)	187	31
Slab on Grade Area:	0	(W)	308	48
Average Ceiling Height:	11.0	Roof	1,147	0
Fenestration Average U-Factor:	0.37		<b>TOTAL:</b>	<b>172</b>
Average SHGC:	0.32		<b>Fenestration/CFA Ratio:</b>	<b>15.0 %</b>

**REMARKS****STATEMENT OF COMPLIANCE**


This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 the Administrative Regulations and Part 6 the Efficiency Standards of the California Code of Regulations.



The documentation author hereby certifies that the documentation is accurate and complete.

**Documentation Author**

Company	Energy Calc Co.	Name	Chuck Clemons
Address	45 Mitchell Blvd. #16		
City/State/Zip	San Rafael, Ca. 94903	Phone	(415) 457-0990

 **2/8/2013**  
Signed \_\_\_\_\_ Date \_\_\_\_\_

The individual with overall design responsibility hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application, and recognizes that compliance using duct design, duct sealing, verification of refrigerant charge, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

**Designer or Owner (per Business & Professions Code)**

Company	KCS Inc.	Name	Joe M'Guire
Address	467 Miller Ave.		
City/State/Zip	Mill Valley, Ca. 94941	Phone	415-888-8812

 **2/11/13**  
Signed \_\_\_\_\_ License # \_\_\_\_\_ Date \_\_\_\_\_

**CF-1R**

2/8/2013

[illegible][illegible]

(2) SHGC Type: 116-B = Default Table from Standards, NFRC = Labeled Value

[illegible]

**CF-1R**

Date  
**2/8/2013**

System Name	Zone Name	Floor Area (ft <sup>2</sup> )				Volume	Year Built
		New	Existing	Altered	Removed		
HVAC	Addition	1,147				12,617	
	Totals	1,147	0	0	0		

System Name	Qty.	Heating Type	Min. Eff.	Cooling Type	Min. Eff.	Thermostat Type	Status
HVAC	1	Central Furnace	78% AFUE	No Cooling	13.0 SEER	Setback	Existing

System Name	Heating	Cooling	Duct Location	Duct R-Value	Ducts Tested?	Status
HVAC	Ducted	Ducted	Attic, Ceiling Ins, vented	2.1	<input type="checkbox"/>	Existing
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	

[illegible]

## HYDRONIC HEATING SYSTEM PIPING

Control			Eft. Premium	Hot Water Piping Length (ft)			Add 1/2" Insulation	System Name	Pipe Length	Pipe Diameter	Insul. Thick.
	Qty.	HP		Plenum	Outside	Buried					
			<input type="checkbox"/>				<input type="checkbox"/>				
			<input type="checkbox"/>				<input type="checkbox"/>				
			<input type="checkbox"/>				<input type="checkbox"/>				
			<input type="checkbox"/>				<input type="checkbox"/>				



<b>MANDATORY MEASURES SUMMARY: Residential</b>		(Page 1 of 3)	<b>MF-1R</b>
Project Name <b>Skillman Addition</b>		Date <b>2/8/2013</b>	
<p><b>NOTE:</b> Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. More stringent energy measures listed on the Certificate of Compliance (CF-1R, CF-1R-ADD, or CF-1R-ALT Form) shall supersede the items marked with an asterisk (*) below. This Mandatory Measures Summary shall be incorporated into the permit documents, and the applicable features shall be considered by all parties as minimum component performance specifications whether they are shown elsewhere in the documents or in this summary. Submit all applicable sections of the MF-1R Form with plans.</p>			
<b>Building Envelope Measures:</b>			
§118(a)1: Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.			
§116(a)4: Fenestration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §10-111(a).			
§117: Exterior doors and windows are weather-stripped; all joints and penetrations are caulked and sealed.			
§118(a): Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on CF-6R Form.			
§118(l): The thermal emittance and solar reflectance values of the cool roofing material meets the requirements of §118(l) when the installation of a Cool Roof is specified on the CF-1R Form.			
*§150(a): Minimum R-19 insulation in wood-frame ceiling or equivalent U-factor.			
§150(b): Loose fill insulation shall conform with manufacturer's installed design labeled R-Value.			
*§150(c): Minimum R-13 insulation in wood-frame wall or equivalent U-factor.			
*§150(d): Minimum R-13 insulation in raised wood-frame floor or equivalent U-factor.			
§150(f): Air retarding wrap is tested, labeled, and installed according to ASTM E1677-95(2000) when specified on the CF-1R Form.			
§150(g): Mandatory Vapor barrier installed in Climate Zones 14 or 16.			
§150(l): Water absorption rate for slab edge insulation material alone without facings is no greater than 0.3%; water vapor permeance rate is no greater than 2.0 perm/inch and shall be protected from physical damage and UV light deterioration.			
<b>Fireplaces, Decorative Gas Appliances and Gas Log Measures:</b>			
§150(e)1A: Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.			
§150(e)1B: Masonry or factory-built fireplaces have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper and or a combustion-air control device.			
§150(e)2: Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.			
<b>Space Conditioning, Water Heating and Plumbing System Measures:</b>			
§110-§113: HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified by the Energy Commission.			
§113(c)5: Water heating recirculation loops serving multiple dwelling units and High-Rise residential occupancies meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §113(c)5.			
§115: Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appliances with an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.			
§150(h): Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA.			
§150(i): Heating systems are equipped with thermostats that meet the setback requirements of Section 112(c).			
§150(j)1A: Storage gas water heaters rated with an Energy Factor no greater than the federal minimal standard are externally wrapped with insulation having an installed thermal resistance of R-12 or greater.			
§150(j)1B: Unfired storage tanks, such as storage tanks or backup tanks for solar water-heating system, or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.			
§150(j)2: First 5 feet of hot and cold water pipes closest to water heater tank, non-recirculating systems, and entire length of recirculating sections of hot water pipes are insulated per Standards Table 150-B.			
§150(j)2: Cooling system piping (suction, chilled water, or brine lines), and piping insulated between heating source and indirect hot water tank shall be insulated to Table 150-B and Equation 150-A.			
§150(j)2: Pipe insulation for steam hydronic heating systems or hot water systems >15 psi, meets the requirements of Standards Table 123-A.			
§150(j)3A: Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.			
§150(j)3A: Insulation for chilled water piping and refrigerant suction lines includes a vapor retardant or is enclosed entirely in conditioned space.			
§150(j)4: Solar water-heating systems and/or collectors are certified by the Solar Rating and Certification Corporation.			

**MANDATORY MEASURES SUMMARY: Residential**

(Page 2 of 3)

**MF-1R**

Project Name

**Skillman Addition**

Date

**2/8/2013**

§150(m)1: All air-distribution system ducts and plenums installed, are sealed and insulated to meet the requirements of CMC Sections 601, 602, 603, 604, 605 and Standard 6-5; supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-4.2 or enclosed entirely in conditioned space. Openings shall be sealed with mastic, tape or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape shall be used.

§150(m)1: Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts.

§150(m)2D: Joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.

§150(m)7: Exhaust fan systems have back draft or automatic dampers.

§150(m)8: Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers.

§150(m)9: Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material.

§150(m)10: Flexible ducts cannot have porous inner cores.

§150(o): All dwelling units shall meet the requirements of ANSI/ASHRAE Standard 62.2-2007 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. Window operation is not a permissible method of providing the Whole Building Ventilation required in Section 4 of that Standard.

**Pool and Spa Heating Systems and Equipment Measures:**

§114(a): Any pool or spa heating system shall be certified to have: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater; a permanent weatherproof plate or card with operating instructions; and shall not use electric resistance heating or a pilot light.

§114(b)1: Any pool or spa heating equipment shall be installed with at least 36" of pipe between filter and heater, or dedicated suction and return lines, or built-up connections for future solar heating.

§114(b)2: Outdoor pools or spas that have a heat pump or gas heater shall have a cover.

§114(b)3: Pools shall have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.

§150(p): Residential pool systems or equipment meet the pump sizing, flow rate, piping, filters, and valve requirements of §150(p).

**Residential Lighting Measures:**

§150(k)1: High efficacy luminaires or LED Light Engine with Integral Heat Sink has an efficacy that is no lower than the efficacies contained in Table 150-C and is not a low efficacy luminaire as specified by §150(k)2.

§150(k)3: The wattage of permanently installed luminaires shall be determined as specified by §130(d).

§150(k)4: Ballasts for fluorescent lamps rated 13 Watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.

§150(k)5: Permanently installed night lights and night lights integral to a permanently installed luminaire or exhaust fan shall contain only high efficacy lamps meeting the minimum efficacies contained in Table 150-C and shall not contain a line-voltage socket or line-voltage lamp holder; OR shall be rated to consume no more than five watts of power as determined by §130(d), and shall not contain a medium screw-base socket.

§150(k)6: Lighting integral to exhaust fans, in rooms other than kitchens, shall meet the applicable requirements of §150(k).

§150(k)7: All switching devices and controls shall meet the requirements of §150(k)7.

§150(k)8: A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficacy. EXCEPTION: Up to 50 watts for dwelling units less than or equal to 2,500 ft<sup>2</sup> or 100 watts for dwelling units larger than 2,500 ft<sup>2</sup> may be exempt from the 50% high efficacy requirement when: all low efficacy luminaires in the kitchen are controlled by a manual on occupant sensor, dimmer, energy management system (EMCS), or a multi-scene programmable control system; and all permanently installed luminaires in garages, laundry rooms, closets greater than 70 square feet, and utility rooms are high efficacy and controlled by a manual-on occupant sensor.

§150(k)9: Permanently installed lighting that is internal to cabinets shall use no more than 20 watts of power per linear foot of illuminated cabinet.

**MANDATORY MEASURES SUMMARY: Residential**

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§150(k)10: Permanently installed luminaires in bathrooms, attached and detached garages, laundry rooms, closets and utility rooms shall be high efficacy.

EXCEPTION 1: Permanently installed low efficacy luminaires shall be allowed provided that they are controlled by a manual-on occupant sensor certified to comply with the applicable requirements of §119.

EXCEPTION 2: Permanently installed low efficacy luminaires in closets less than 70 square feet are not required to be controlled by a manual-on occupancy sensor.

§150(k)11: Permanently installed luminaires located in rooms or areas other than in kitchens, bathrooms, garages, laundry rooms, closets, and utility rooms shall be high efficacy luminaires. EXCEPTION 1: Permanently installed low efficacy luminaires shall be allowed provided they are controlled by either a dimmer switch that complies with the applicable requirements of §119, or by a manual-on occupant sensor that complies with the applicable requirements of §119. EXCEPTION 2: Lighting in detached storage building less than 1000 square feet located on a residential site is not required to comply with §150(k)11.

§150(k)12: Luminaires recessed into insulated ceilings shall be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/rating laboratory; and have a label that certifies the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283; and be sealed with a gasket or caulk between the luminaire housing and ceiling.

§150(k)13: Luminaires providing outdoor lighting, including lighting for private patios in low-rise residential buildings with four or more dwelling units, entrances, balconies, and porches, which are permanently mounted to a residential building or to other buildings on the same lot shall be high efficacy. EXCEPTION 1: Permanently installed outdoor low efficacy luminaires shall be allowed provided that they are controlled by a manual on/off switch, a motion sensor not having an override or bypass switch that disables the motion sensor, and one of the following controls: a photocontrol not having an override or bypass switch that disables the photocontrol; OR an astronomical time clock not having an override or bypass switch that disables the astronomical time clock; OR an energy management control system (EMCS) not having an override or bypass switch that allows the luminaire to be always on. EXCEPTION 2: Outdoor luminaires used to comply with Exception 1 to §150(k)13 may be controlled by a temporary override switch which bypasses the motion sensing function provided that the motion sensor is automatically reactivated within six hours. EXCEPTION 3: Permanently installed luminaires in or around swimming pool, water features, or other location subject to Article 680 of the California Electric Code need not be high efficacy luminaires.

§150(k)14: Internally illuminated address signs shall comply with Section 148; OR not contain a screw-base socket, and consume no more than five watts of power as determined according to §130(d).

§150(k)15: Lighting for parking lots and carports with a total of for 8 or more vehicles per site shall comply with the applicable requirements in Sections 130, 132, 134, and 147. Lighting for parking garages for 8 or more vehicles shall comply with the applicable requirements of Sections 130, 131, 134, and 146.

§150(k)16: Permanently installed lighting in the enclosed, non-dwelling spaces of low-rise residential buildings with four or more dwelling units shall be high efficacy luminaires. EXCEPTION: Permanently installed low efficacy luminaires shall be allowed provided that they are controlled by an occupant sensor(s) certified to comply with the applicable requirements of §119.