	RESIDENTIAL MEASURES pg 2	RESIDENTIAL MEASURES pg 1	
	RESIDENTIAL MEASURES SUMMARY RMS-1	RESIDENTIAL MEASURES SUMMARY RMS-1	
ential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the sed. Exceptions may apply. Review the respective code section for more information.	Project Name Building Type ☑ Single Family ☑ Addition Alone Date Schey Residence ☑ Multi Family ☑ Existing+ Addition/Alteration 2/19/2015 Project Address California Energy Climate Zone Total Cond. Floor Area Addition # of Units	Project Name Building Type ☑ Single Family ☐ Addition Alone Date Schey Residence ☐ Multi Family ☑ Existing+ Addition/Alteration 2/19/2015 Project Address California Friergy Climate Zone Total Cond. Floor Area Addition # of Units	
s and windows between conditioned and unconditioned spaces are manufactured to limit air leakage. stration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain	INSULATION Area	INSULATION Area	
ation doors and windows are weatherstripped; all joints and penetrations are caulked and sealed. ation specified or installed meets Standards for Insulating Material. Indicate type and include on the CF2R.	Roof Wood Framed Rafter R 30 1,625 New	Wall Solid Unit Masonry - no insulation 443 Rigid=R-15.0 New	
lation of a cool roof is specified on the CF1R. liant barrier shall have an emittance of 0.05 or less when the installation of a radiant barrier is specified on the CF1R.		Slab Unineated Slab-on-Grade - no insulation 2,282 Perim = 350' New Demising Wood Framed Rafter - no insulation 1,282 New	
roof alteration. Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The access shall be gasketed to prevent air leakage.		Roof Wood Framed Rafter R 30 2,395 Altered Slab Unheated Slab-on-Grade - no insulation 2,419 Perim = 143' Existing	
num R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or 0.074 maximum U-r). mum R-19 insulation in raised wood-frame floor or 0.037 maximum U-factor.		Door Opaque Door	
wented atties and unvented atties with air-permeable insulation. imate Zones 1-16 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II	Offentation Area(n) 0-Fac Shoc Overhaing Sidenits Exterior Shades Status	Left (E) 198.0 0.320 0.25 7.0 none Bug Screen New Front (N) 234.1 0.320 0.25 none none Bug Screen New	
ouilding having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of rawl space to reduce moisture entry and protect insulation from condensation, as specified in the exception to Section 1(d).		Left (E) 51.0 0.320 0.25 1.0 none Bug Screen New Left (E) 117.0 0.320 0.25 none none Bug Screen New	02 424
water vapor permeance rate is no greater than 2.0 perm/inch, be protected from physical damage and UV light deterioration; when installed as part of a heated slab floor meets the requirements of \$110.8(g).		Rear (S) 206.6 0.320 0.25 4.0 none Bug Screen New Rear (S) 116.0 0.320 0.25 14.0 none Bug Screen New	33
r of 0.58; or the weighted average U-factor of all fenestration shall not exceed 0.58. Gas Appliances and Gas Log Measures: onry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.		Right (W) 90.0 0.320 0.25 none none Bug Screen New Right (W) 162.3 0.320 0.25 1.0 none Bug Screen New Skylight 24.0 0.500 0.30 none none None New	SUL
onry or factory-built fireplaces have a combustion outside air intake, which is at least six square inches in area and is oped with a readily accessible, operable, and tight-fitting damper or a combustion-air control device. onry or factory-built fireplaces have a flue damper with a readily accessible control.		Left (E) 204.6 0.320 0.25 2.0 none Bug Screen New Left (E) 102.0 0.320 0.25 3.0 none Bug Screen New	ET, A, C
inuous burning pilet lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside building, are prohibited. Vater Heating and Plumbing System Measures:	HVAC SYSTEMS	Rear (S) 72.0 0.320 0.25 2.0 none Bug Screen New Skylight 16.0 0.500 0.30 none none None New HVAC SYSTEMS	NIC 694
C equipment, water heaters, showerheads, faucets and all other regulated appliances are certified to the Energy Commission. The heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump isolation and recirculation loop connection requirements of §110.3(c)5.	Qty. Heating Min. Eff Cooling Min. Eff Thermostat Status	Qty. Heating Min. Eff Cooling Min. Eff Thermostat Status 1 Central Furnace 80% AFUE Split Air Conditioner 14.0 SEER Selback Altered	H ST MO 13.1
imiously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appli- s without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool pa heaters.	HVAC DISTRIBUTION Duet	HVAC DISTRIBUTION Duct	26T TA 10.2
ing and/or cooling leads are calculated in accordance with ASHRAE, SMACNA or ACCA using design conditions specified 50.0(h)2. Iled air conditioner and heat pump outdoor condensing units shall have a clearance of at least five feet from the outlet of any vent.	Location Heating Cooling Duct Location R-Value Status	Location Heating Cooling Duct Location R-Value Status New HVAC Ducted Ducted Conditioned 6.0 Altered	212 2 SAN tel: 3
ing systems are equipped with thermostats that meet the setback requirements of §110.2(c). ge gas water heaters with an energy factor equal to or less than the federal minimum standards shall be externally wrapped insulation having an installed thermal resistance of R-12 or greater.	WATER HEATING	WATER HEATING	OWNER:
red hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, have R-12 external ation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank. lomestic hot water system piping, whether buried or unburied: the first 5 feet of hot and cold water pipes from the storage		Qty. Type Gallons Min. Eff Distribution Status 1 Small Storage Gas 75 0.60 Standard Altered	TIMOTHY & SHERYL SCH 1030 N. Anoka Place Pacific Palisades, Ca. 902
dless of the pipe diameter, piping from the heating source to storage tank or between tanks, piping buried below grade, and of water pipes from the heating source to kitchen fixtures must be insulated according to the requirements of TABLE 120.3-			CONSULTANTS:
omestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve allows for installation, removal, and replacement of the enclosed pipe and insulation.	EnergyPro 6.4 by EnergySoft User Number: 2266 RunCode: 2015-02-19T18:20:52 ID: 150626 Page 15 of 20	EnergyPro 6.4 by EnergySoft User Number: 2266 RunCode: 2015-02-19T18:20:52 ID: 150626 Page 14 of 20	BEROZ & ASSOC., INC.
ATORY MEASURES pg 6	RESIDENTIAL MEASURES pg 5	RESIDENTIAL MEASURES pg 4	5530 Corbin Ave, Suite 3 Tarzana , Ca. 91356 PH: 818 668 - 8589
otocontrol not having an override or bypass switch that disables the photocontrol; or	Any pool or spa heating equipment shall be installed with at least 36 inches of pipe between filter and heater or dedicated suction	2013 Low-Rise Residential Mandatory Measures Summary Pipe for cooling system lines shall be insulated as specified in §150.0(j)2A. Piping insulation for steam and hydronic heating	CIVIL ENGINEER : ADVANCED ENGINEER
stronomical time clock not having an override or bypass switch that disables the astronomical time clock, and which is rammed to automatically turn the outdoor lighting OFF during daylight hours; or ergy management control system which meets all of the following requirements: At a minimum provides the functionality of	§110.4(b)2: Outdoor pools or spas that have a heat pump or gas heater shall have a cover. S110.4(b)2: Pools shall have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or pro-	§150.0(j)3: Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For	22837 Ventura Bl., Suite Woodland Hills , Ca. 9 PH: 818 222 - 7982
rements for an EMCS in §130.5; does not have an override or bypass switch that allows the luminaire to be always ON; and, ogrammed to automatically turn the outdoor lighting OPF during daylight hours.	§110.5: Natural gas pool and spa heaters shall not have a continuous burning pilot light. §150.0(p): Residential pool systems or equipment shall meet specified pump sizing, flow rate, piping, filters, and valve requirements.	painted with coating that is water retardant and provides shielding from solar radiation that degrades the material. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarding facing, or the insulation shall be installed at the thickness that qualifies as a Class II vapor	BYER GEOTECHNICAL 1461 E. Chevy Chase I
ing for residential parking lots and residential carports with less than eight vehicles per site shall comply with one of the wing requirements: all comply with \$150.0(k)9A; or	Lighting Measures: §110.9: All lighting control devices and systems, ballasts, and luminaires shall meet the applicable requirements of §110.9. S150 0dol a: Installed luminaires shall be classified as high-efficacy or low-efficacy for compliance with §150.0(k) in accordance with TABLE	Systems using gas or propane water heaters to serve individual dwelling units shall include: a 120V electrical receptacle within 3 feet of the water heater; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the \$150.0(n)1: space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the installed	1461 E. Chevy Chase I Glendale , Ca. 91206 PH: 818 549 - 9959
ow-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by §150.0(k)9B or 150.0(k)9D comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.	\$150.0(k)1B: When a high efficacy and low efficacy lighting system are combined in a single luminaire, each system shall separately comply with the applicable provisions of \$150.0(k).	Btu/hr. §150.0(n)2: Recirculating loops serving multiple dwelling units shall meet the requirements of §110.3(c)5.	ENERGY CALCULATION
4 11 11 1 4 1 0 1 0 0 0 0 0 0 0 0 0 0 0	§150.0(k)1C: §130.0(c). In residential kitchens, the wattage of electrical boxes finished with a blank cover or where no electrical equipment has been installed, and where the electrical box can be used for a luminaire or a surface mounted eailing fan, shall be calculated as 180 watts of low efficacy lighting per electrical box.	or by a testing agency approved by the Executive Director. Ducts and Fans Measures:	SYSTEMS 915 E. Tujunga Avenue Burbank, Ca. 91501
ting for residential parking garages for eight or more vehicles shall comply with the applicable requirements for esidential garages in §110.9, §130.0, §130.1, §130.4, §140.6, and §141.0. ow-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of	§150.0(k)1D: Ballasts for fluorescent farmps rated 13 walts or greater shall be electrome and shall have an output frequency no less than 20 kHz. Permanently installed night lights and night lights integral to installed luminaires or exhaust fans shall be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with §130.0(c). Night lights do not need to be controlled by vacancy sensors.	\$603.0, \$604.0, \$605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Elexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC \$605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing	PH: 818 569 - 0243
olled by an occupant sensor. ow-rise multifamily residential building where the total interior common area in a single building equals more than 20	\$150.0(k)1F: Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) shall meet the applicable requirements of \$150.0(k). \$150.0(k)2A: High efficacy luminaires must be switched separately from low efficacy luminaires.	\$150.0(m)1: with mastic, lape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or acrosol scalant that meets the requirements of UL 723. If mastic or tape is used to scal openings greater than ¼ inch, the combination of mastic and either mesh or tape shall be used. Building cavities, support platforms for air handlers, and plenums	
mply with the applicable requirements in §110.9, §130.0, §130.1, §140.6 and §141.0; and ghting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each	§150.0(k)2B: Exhaust fans shall be switched separately from lighting systems. §150.0(k)2C: Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF. §150.0(k)2D: Controls and equipment are installed in accordance with manufacturer's instructions.	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.	272
ss and egress.	§150.0(k)2E: No control shall bypass a dimmer or vacancy sensor function if the control is installed to comply with §150.0(k). §150.0(k)2F: Lighting controls comply with applicable requirements of §110.9.	\$150.0(m)2: 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. S150.0(m)2: Tield-Pabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other	A 90
tive subdivision map for the residences has been deemed complete, by the enforcement agency, on or after January 1, 2014, comply with the requirements of \$110.10(b) through \$110.10(e). rise multi-family buildings shall comply with the requirements of \$110.10(b) through \$110.10(d).	§150.0(k)2G: according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2. An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements of §150.0(k) if: it	\$150.0(m)?: All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers. S150.0(m)?: Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers	CA
olar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke lation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than 5 feet and are no less than	\$150.0(k)2H: functions as a vacancy sensor according to \$110.9; meets Installation Certificate requirements of \$130.4; the EMCS requirements of \$130.5; and all other requirements in \$150.0(k)2. A multiscene programmable controller may be used to comply with dimmer requirements of this section if it provides the functionality of a dimmer according to \$110.9, and complies with all other applicable requirements in \$150.0(k)2.	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is	1
ings with roof areas greater than 10,000 square feet. ingle family residences the solar zone shall be located on the roof or overhang of the building and have a total area no less 250 square feet. For low-rise multi-family buildings the solar zone shall be located on the roof or overhang of the building or	§150.0(k)3A: A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficacy. Kitchen lighting includes all permanently installed lighting in the kitchen except internal lighting in cabinets that illuminate only the inside of the cabinets. Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are	water retardant and provides shielding from solar radiation. §150.0(m)10: Flexible duets cannot have porous inner cores. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be	X
e roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the ing project and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. Sections of the solar zone located on steep-sloped roofs shall be oriented between 110 degrees and 270 degrees of true north.	considered kitchen lighting if they are not separately switched from kitchen lighting. Permanently installed lighting that is internal to cabinets shall use no more than 20 watts of power per linear foot of illuminated cabinet.	\$150.0(m)11: scaled and duet leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of	C E S
estructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be ad in the solar zone. Sebstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice	\$150.0(k)6: shall be high efficacy or controlled by vacancy sensors. Lighting installed in attached and detached garages, laundry rooms, and utility rooms shall be high efficacy luminaires and controlled by vacancy sensors.	\$150.0(m)12. Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The \$150.0(m)13: space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return	Z S
Istance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the contal projection of the nearest point of the solar zone, measured in the vertical plane. The reas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly ated on the construction documents.	efficacy, or shall be controlled by either dimmers or vacancy sensors. Luminaires recessed into ceilings shall: be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/rating laboratory; have a label that certifies that the luminaire is airtight with air leakage less than 2.0	grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CPM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. Zonally controlled central forced air cooling systems shall be capable of simultaneously delivering, in every zonal control mode, an airflow from the dwelling, through the air handler fan and delivered to the dwelling, of ≥ 350 CPM per ton of nominal cooling	
construction documents shall indicate: a location for inverters and matering agricument and a nativeax for routing of conduit	§150.0(k)8: and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and allow ballast maintenance and replacement without requiring cutting holes in the ceiling. For recessed compact fluorescent luminaries with ballasts to qualify as high efficacy for compliance with §150.0(k), the ballasts	capacity, and operating at an air-handling unit fan efficacy of ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3. All dwelling units shall meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of	
nt. by of the construction documents or a comparable document indicating the information from \$110.10(b) through \$110.10(c) be provided to the occupant. pain electrical service panel shall have a minimum busher rating of 200 amps	shall be certified to the Energy Commission to comply with the applicable requirements in §110.9. For single-family residential buildings, outdoor lighting permanently mounted to a residential building or other buildings on the same lot shall be high efficacy, or may be low efficacy if it meets all of the following requirements: i. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items ii or iii below; and	Whole Building Ventilation. Whole Building Ventilation airflow shall be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.	OJECT
nain electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a e solar electric installation. The reserved space shall be: positioned at the opposite (load) end from the input feeder location or	§150.0(k)9A: ii. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor, or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and	Pool and Spa Heating Systems and Equipment Measures: Any pool or spa heating system shall be certified to have: a thermal efficiency that complies with the Appliance Efficiency §110.4(a): Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting: a permanent weather proof plate or card with operating justingtions; and shall not use electric resistance heating.	PRC
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