

TITLE 24 COMPLIANCE

CERTIFICATE OF COMPLIANCE: RESIDENTIAL COMPUTER METHOD CF-1R Page 1

Project Title..... Weislow E+A+A Date..01/21/13 09:58:18
 Project Address..... 630 Benicia *****
 Documentation Author... Sarah Pernula *v8.1* Building Permit #
 SOLDATA, Inc. ***** Plan Check / Date
 401-C College Avenue Santa Rosa, CA 95401 Field Check/ Date
 707-545-4440

Climate Zone..... 02
 Compliance Method..... MICROPAS8 v8.1 for 2008 CEC Standards (r03)

MICROPAS8 v8.1 File-WEISLOW Wth-CTZ02S08
 User#-MP0817 User-SOLDATA, Inc. Run-E+A+A

MICROPAS8 ENERGY USE SUMMARY				
Energy Use (kTDF/sf-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating.....	69.40	33.46	35.94	51.8%
Space Cooling.....	57.48	22.89	34.59	60.2%
Ventilation Fans.....	0.87	0.87	0.00	0.0%
Water Heating.....	21.27	16.03	5.24	24.6%
Total	149.02	73.25	75.77	50.8%

*** Building complies with Computer Performance ***

GENERAL INFORMATION	
HERS Verification.....	Not Required
Conditioned Floor Area.....	1613 sf
Building Type.....	Single Family Detached
Construction Type.....	Existing+Addition+Alteration
Vintage Assumptions.....	Before 1978
Natural Gas at Site.....	Yes
Building Front Orientation.....	Front Facing 243 deg (SW)
Number of Dwelling Units.....	1
Number of Building Stories.....	1
Weather Data Type.....	FullYear
Floor Construction Type.....	Raised Floor
Number of Building Zones.....	2
Conditioned Volume.....	13588 cf
Slab-On-Grade Area.....	0 sf
Glazing Percentage.....	13.5 % of floor area
Average Glazing U-factor.....	0.47 Btu/hr-sf-F
Average Glazing SHGC.....	0.39
Average Ceiling Height.....	8.4 ft

CERTIFICATE OF COMPLIANCE: RESIDENTIAL COMPUTER METHOD CF-1R Page 5

Project Title..... Weislow E+A+A Date..01/21/13 09:58:18
 MICROPAS8 v8.1 File-WEISLOW Wth-CTZ02S08
 User#-MP0817 User-SOLDATA, Inc. Run-E+A+A

DUCT SYSTEMS					
System Type	Duct Location	Duct R-value	Verified Duct Leakage	Verified Surface Area	Verified Buried Ducts
EXIST - Existing					
Furnace	Crawlspace	R-4.2	No	No	No
NoCooling	Crawlspace	R-4.2	No	No	No
ADD - New (Added)					
Furnace	Crawlspace	R-4.2	No	No	No
ACSplit	Crawlspace	R-4.2	No	No	No

FAN SYSTEMS			
System Type	Flow (cfm)	Power (W/cfm)	
EXIST - Existing			
Standard	36.41	.25	
ADD - New (Added)			
Standard	9.72	.25	

WATER HEATING SYSTEMS					
Tank Type	Heater Type	Distribution Type	Number in System	Tank Energy Factor	External Insulation R-value
DHW - Existing					
1 SmallStorage	Gas	Standard	1	0.58	50 R-n/a
DHW - Altered					
2 SmallTankless	Gas	Standard	1	0.78	n/a R-n/a

SPECIAL FEATURES AND MODELING ASSUMPTIONS

*** Items in this section should be documented on the plans, ***
 *** installed to manufacturer and CEC specifications, and ***
 *** verified during plan check and field inspection.

This building incorporates Ducts in a Crawlspace or Basement Location. All supply registers must be within 2 ft of floor.

This building incorporates altered features. When a feature is shown as altered, the original feature it replaces is also shown under the existing heading. For opaque and fenestration surfaces, the existing feature is shown before the altered feature with a number one less than the altered feature. For Zones, Mass, HVAC systems and Water Heating, the existing

CERTIFICATE OF COMPLIANCE: RESIDENTIAL COMPUTER METHOD CF-1R Page 2

Project Title..... Weislow E+A+A Date..01/21/13 09:58:18
 MICROPAS8 v8.1 File-WEISLOW Wth-CTZ02S08
 User#-MP0817 User-SOLDATA, Inc. Run-E+A+A

BUILDING ZONE INFORMATION											
Zone Type	Floor Area (sf)	Volume (cf)	# of Dwelling Units	# of People	Cond- it- ioned	Thermo- stat	Vent Height (ft)	Vent Area (sf)	Verified Leakage or Housewrap		
EXIST - Existing											
Residence	1271	10168	0.79	3.2	Yes	Setback	2.0	Standard	No		
ADD - New (Added)											
Residence	342	3420	0.21	0.8	Yes	Setback	2.0	Standard	No		

ATTIC AND ROOF DETAILS											
Roof Type	Roof Mass (lb/sqft)	Roof Rise	Re- flect- ance	Emiss- ivity	Frame Depth (in.)	Spac- ing (in.)	R- Value Above Deck	R- Value Below Deck	Vent Area	Vent Ratio	Vent High
EXIST - Existing											
Asphalt Light	5:12	0.08	0.85	3.5	24	oc	0.00	0.00	1/300	0.00	
ADD - New (Added)											
Asphalt Light	5:12	0.08	0.85	3.5	24	oc	0.00	0.00	1/300	0.00	

OPAQUE SURFACES											
Surface	Frame Type	U- Area (sf)	fact- or	Cavity R-val	Sheath- ing R-val	Act Azm	Solar Appendix Gains JA4	Reference	Location/ Comments		
EXIST - Existing											
1 Wall	Wood	177	0.110	11	0	243	90	Yes	4.3.1 A2	ex	wall
2 Wall	Wood	302	0.110	11	0	333	90	Yes	4.3.1 A2		
4 Wall	Wood	297	0.110	11	0	153	90	Yes	4.3.1 A2		
5 Door	Wood	20	0.500	0	0	333	90	Yes	4.5.1 A4		
8 Floor	Wood	1271	0.097	0	0	n/a	0	No	4.4.1 A1	raised	
EXIST - New (Added)											
7 Attic	Wood	1271	0.031	30	0	243	23	Yes	4.2.1 A20	truss	
EXIST - Altered											
9 Floor	Wood	1271	0.037	19	0	n/a	0	No	4.4.1 A4		
EXIST - Deleted											
3 Wall	Wood	233	0.110	11	0	63	90	Yes	4.3.1 A2		
6 Roof	Wood	1271	0.056	19	0	243	9	Yes	4.2.2 A10	T&G	
ADD - New (Added)											
10 Wall	Wood	80	0.102	13	0	333	90	Yes	4.3.1 A3		
11 Wall	Wood	227	0.102	13	0	63	90	Yes	4.3.1 A3		
12 Wall	Wood	70	0.102	13	0	153	90	Yes	4.3.1 A3		
13 Attic	Wood	342	0.032	30	0	243	23	Yes	4.2.1 A8		

CERTIFICATE OF COMPLIANCE: RESIDENTIAL COMPUTER METHOD CF-1R Page 6

Project Title..... Weislow E+A+A Date..01/21/13 09:58:18
 MICROPAS8 v8.1 File-WEISLOW Wth-CTZ02S08
 User#-MP0817 User-SOLDATA, Inc. Run-E+A+A

SPECIAL FEATURES AND MODELING ASSUMPTIONS											
feature is shown just before the altered feature.											
Mechanical Fan System is not required to be installed for additions under 1000 square feet as noted in Exception 5 to Section 152(b).											
REMARKS											

CERTIFICATE OF COMPLIANCE: RESIDENTIAL COMPUTER METHOD CF-1R Page 3

Project Title..... Weislow E+A+A Date..01/21/13 09:58:18
 MICROPAS8 v8.1 File-WEISLOW Wth-CTZ02S08
 User#-MP0817 User-SOLDATA, Inc. Run-E+A+A

OPAQUE SURFACES											
Surface	Frame Type	U- Area (sf)	fact- or	Cavity R-val	Sheath- ing R-val	Act Azm	Solar Appendix Gains JA4	Reference	Location/ Comments		
14 Floor	Wood	342	0.037	19	0	n/a	0	No	4.4.1 A4		

FENESTRATION SURFACES											
Orientation	Area (sf)	U- factor	SHGC	Act Azm	Tilt	Exterior Shade Type	Location/ Comments				
EXIST - Existing											
3 Wind Front (SW)	54.0	1.280	0.800	243	90	Standard F3/Metal	single operable				
8 Door Left (NW)	17.8	1.250	0.800	333	90	Standard L1/Metal	single door				
18 Wind Right (SE)	8.0	1.280	0.800	153	90	Standard RW4/Metal	single operabl				
EXIST - New (Added)											
5 Wind Front (SW)	18.0	0.400	0.350	243	90	Standard F4/Nonmetal	LowE operabl				
6 Wind Front (SW)	4.0	0.400	0.350	243	90	Standard F5/Nonmetal	LowE fixed				
7 Wind Front (SW)	4.0	0.400	0.350	243	90	Standard F6/Nonmetal	LowE fixed				
10 Wind Left (NW)	4.0	0.400	0.350	333	90	Standard L3/Nonmetal	LowE fixed				
11 Wind Left (NW)	13.5	0.400	0.350	333	90	Standard L4/Nonmetal	LowE operabl				
20 Wind Right (SE)	8.0	0.400	0.350	153	90	Standard RW5/Nonmetal	LowE operab				
21 Wind Right (SE)	18.0	0.400	0.350	153	90	Standard RW6/Nonmetal	LowE operab				
EXIST - Altered											
4 Wind Front (SW)	54.0	0.400	0.350	243	90	Standard F3/Nonmetal	LowE operabl				
19 Wind Right (SE)	8.0	0.400	0.350	153	90	Standard RW4/Nonmetal	LowE operab				
EXIST - Deleted											
1 Wind Front (SW)	16.0	1.280	0.800	243	90	Standard F1/Metal	single operable				
2 Wind Front (SW)	12.0	1.280	0.800	243	90	Standard F2/Metal	single operable				
9 Wind Left (NW)	8.0	1.280	0.800	333	90	Standard L2/Metal	single operable				
12 Wind Back (NE)	16.0	1.280	0.800	63	90	Standard B1/Metal	single operable				
13 Wind Back (NE)	24.0	1.280	0.800	63	90	Standard B2/Metal	single operable				
14 Wind Back (NE)	12.0	1.280	0.800	63	90	Standard B3/Metal	single operable				
15 Wind Right (SE)	12.0	1.280	0.800	153	90	Standard RW1/Metal	single operabl				
16 Wind Right (SE)	12.0	1.280	0.800	153	90	Standard RW2/Metal	single operabl				
17 Wind Right (SE)	10.0	1.280	0.800	153	90	Standard RW3/Metal	single operabl				
ADD - New (Added)											
22 Door Back (NE)	40.0	0.400	0.350	63	90	Standard NB1/Nonmetal	LowE patio				
23 Door Back (NE)	17.8	0.400	0.350	63	90	Standard NB2/Wood	LowE swing door				
24 Wind Right (SE)	10.0	0.400	0.350	153	90	Standard NR1/Nonmetal	LowE operab				

CERTIFICATE OF COMPLIANCE: RESIDENTIAL COMPUTER METHOD CF-1R Page 4

Project Title..... Weislow E+A+A Date..01/21/13 09:58:18
 MICROPAS8 v8.1 File-WEISLOW Wth-CTZ02S08
 User#-MP0817 User-SOLDATA, Inc. Run-E+A+A

HVAC SYSTEMS											
System Type	Number of Systems	Minimum Efficiency	Verified HighEff EER	Verified Refrig or CID	Verified Cooling Coil Airflow	Verified Fan Watt Draw	Verified Maximum Total Rated Cooling Capacity				
EXIST - Existing											
Furnace	0.79	0.780	AFUE	n/a	n/a	n/a	n/a	n/a	n/a		
NoCooling	0.79	13.00	SEER	No	Yes	No	No	No	No		
ADD - New (Added)											
Furnace	0.21	0.780	AFUE	n/a	n/a	n/a	n/a	n/a	n/a		
ACSplit	0.21	13.00	SEER	No	No	No	No	No	No		
HVAC SIZING											
		Total Heating Load (Btu/hr)	Sensible Cooling Load (Btu/hr)	Design Cooling Capacity (Btu/hr)	Verified Maximum Cooling Capacity (Btu/hr)						
EXIST - Existing											
Furnace	23458	n/a	n/a	26417	n/a	n/a	n/a				
NoCooling	n/a	22383	26417	n/a	n/a						
ADD - New (Added)											
Furnace	7648	n/a	n/a	5139	n/a	n/a	n/a				
ACSplit	n/a	4354	5139	n/a	n/a						
Total	31106	26737	31555	n/a							

Sizing Location..... SANTA ROSA
 Winter Outside Design..... 24 F
 Winter Inside Design..... 70 F
 Summer Outside Design..... 95 F
 Summer Inside Design..... 75 F
 Summer Range..... 35 F

Revisions

Robert Douglas Youngs Contractor
 Copyright January 2013
 California Lic. 456 192
 615 Benicia drive, santa rosa, ca
 539-3900

RESIDENTIAL ADDITION
 WEISLOW, Jeff & Becky
 630 Benicia Drive, Santa Rosa
 A.P.N. 182-190-015

The ideas, designs and arrangements shown on this page are and shall remain the property of Robert Douglas Youngs Contractor. No part thereof shall be reproduced or used in connection with any project without the written consent of the designer.

Date: 04/22/13
 Scale: as noted

Sheet 7 of 8
 File: Sheet7-Title 24 Compl