

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
CF1R-PRF-01
Project Name: AA Example 4

Calculation Date/Time: 09:09, Thu, Jul 20, 2017

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Calculation Description: Addition Alone Slab ex HVAC and DHW

Input File Name: AAexample4.ribd16

GENERAL INFORMATION					
01	Project Name	AA Example 4			
02	Calculation Description	Addition 500 ft2			
03	Project Location	1401 N 5th St			
04	City	Burbank, CA	05	Standards Version	Compliance 2017
06	Zip Code	91504	07	Software Version	CBECC-Res 2016.3.0 RC (952)
08	Climate Zone	CZ9	09	Front Orientation (deg/Cardinal)	90
10	Building Type	Single Family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed (Addition Alone)	13	Number of Bedrooms	3
14	New Construction/Addition Cond. Floor Area (ft ²)	500	15	Number of Stories	1
16	Existing Cond. Floor Area (ft ²)		17	Natural Gas Available	Yes
18	Total Cond. Floor Area(ft ²)	500	19	Glazing Percentage (%)	17.6%

ADDITION ALONE PROJECT ANALYSIS PARAMETERS

01	02	03	04	05	06
Existing Area (excl. new addition) (ft ²)	Addition Area (excl. existing) (ft ²)	Total Area	Existing Bedrooms	Addition Bedrooms	Total Bedrooms
1515	500	2015	3	0	3

COMPLIANCE RESULTS

01	Building Complies with Computer Performance
02	This building DOES NOT require HERS Verification
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY

04	05	06	07	08
Energy Use (kTDV/ft ² -yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	2.63	3.25	-0.62	-23.6%
Space Cooling	35.46	29.69	5.77	16.3%
IAQ Ventilation	0.00	0.00	0.00	0.0%
Water Heating	50.36	50.36	0.00	0.0%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	88.45	83.30	5.15	5.8%

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REQUIRED SPECIAL FEATURES
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
<ul style="list-style-type: none"> • Insulation below roof deck • Window overhangs and/or fins • New ductwork added is less than 40 ft. in length

HERS FEATURE SUMMARY
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building components tables below.
Building-level Verifications: <ul style="list-style-type: none"> • -- None -- Cooling System Verifications: <ul style="list-style-type: none"> • -- None -- HVAC Distribution System Verifications: <ul style="list-style-type: none"> • -- None -- Domestic Hot Water System Verifications: <ul style="list-style-type: none"> • -- None --

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft ²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
AA Example 4	500	1	3	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Addition	Conditioned	Ex HVAC System	500	9	DHW System	n/a

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window & Door Area (ft ²)	Tilt (deg)
Addition Wall Left	Addition	2x6 R-19 w/R5	180	Left	190	36	90
Add Back Wall	Addition	2x6 R-19 w/R5	270	Back	190	40.02	90
Add Wall Right	Addition	2x6 R-19 w/R5	0	Right	190	12	90
Interior Wall to Addtn	Addition	Interior R0	n/a	n/a	20	0	n/a
Addition Ceiling	Addition	R-38 Ceiling	n/a	n/a	500	n/a	n/a

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ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic	Asphalt High performance	Ventilated	5	0.1	0.85	No	No

FENESTRATION / GLAZING									
01	02	03	04	05	06	07	08	09	10
Name	Type	Surface (Orientation-Azimuth)	Width (ft)	Height (ft)	Multiplier	Area (ft ²)	U-factor	SHGC	Exterior Shading
L-4040	Window	Addition Wall Left (Left-180)	4.0	4.0	1	16.0	0.32	0.22	Insect Screen (default)
L-4050	Window	Addition Wall Left (Left-180)	4.0	5.0	1	20.0	0.32	0.22	Insect Screen (default)
B-6068	Window	Add Back Wall (Back-270)	6.0	6.7	1	40.0	0.30	0.18	Insect Screen (default)
R-3020 x2	Window	Add Wall Right (Right-0)	3.0	2.0	2	12.0	0.30	0.20	Insect Screen (default)

OVERHANGS AND FINS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Overhang						Left Fin				Right Fin			
Window	Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	Dist L	Bot Up	Depth	Top Up	Dist R	Bot Up
B-6068	6	1	10	10	0	0	0	0	0	0	0	0	0

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OPAQUE SURFACE CONSTRUCTIONS						
01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-factor	Assembly Layers
Interior R0	Interior Walls	0	2x4 @ 16 in. O.C.	none	0.277	<ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
R-38 Ceiling	Ceilings (below attic)	0	2x4 @ 24 in. O.C.	R 38	0.025	<ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-9.1 / 2x4 Over Ceiling Joists: R-28.9 insul.
Asphalt High performance	Attic Roofs	0	2x4 @ 16 in. O.C.	R 13	0.082	<ul style="list-style-type: none"> Around Roof Joists: R-0.0 insul. Cavity / Frame: R-13.0 / 2x4 Roof Deck: Wood Siding/sheathing/decking Roofing: Light Roof (Asphalt Shingle)
2x6 R-19 w/R5	Exterior Walls	0	2x6 @ 16 in. O.C.	R 19 in 5-1/2 in. cavity (R-18)	0.051	<ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Sheathing / Insulation: R5 Sheathing Exterior Finish: Synthetic Stucco

SLAB FLOORS						
01	02	03	04	05	06	07
Name	Zone	Area (ft ²)	Perimeter (ft)	Edge Insul. R-value & Depth	Carpeted Fraction	Heated
Slab On Grade	Addition	500	65	None	0.8	No

BUILDING ENVELOPE - HERS VERIFICATION			
01	02	03	04
Quality Insulation Installation (QII)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Not Required	Not Required	Not Required	n/a

WATER HEATING SYSTEMS					
01	02	03	04	05	06
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
DHW System	DHW	Standard	40 Gal (1)	1	n/a

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WATER HEATERS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	Heater Element Type	Tank Type	Number of Units	Tank Volume (gal)	Uniform Energy Factor / Energy Factor / Efficiency	Input Rating / Pilot / Thermal Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss / Recovery Eff	First Hour Rating / Flow Rate	NEEA Heat Pump Brand / Model	Tank Location or Ambient Condition
40 Gal	Gas	Small Storage	1	40	0.53 EF	40,000 Btu/hr	0	n/a	n/a	n/a	n/a

SPACE CONDITIONING SYSTEMS					
01	02	03	04	05	06
SC Sys Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name
Ex HVAC System	Other Heating and Cooling System	Ex Furnace	Ex Cooling	HVAC Fan	Attic Default

HVAC - HEATING UNIT TYPES			
01	02	03	04
Name	System Type	Number of Units	Efficiency
Ex Furnace	CntrlFurnace	1	78 AFUE

HVAC - COOLING UNIT TYPES							
01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER SEER		Zonally Controlled	Compressor Type	HERS Verification
Ex Cooling	SplitAirCond	1	10.42	12	Not Zonal	Single Speed	Ex Cooling-hers-cool

HVAC COOLING - HERS VERIFICATION					
01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
Ex Cooling-hers-cool	Not Required	n/a	Not Required	Not Required	Not Required

HVAC - DISTRIBUTION SYSTEMS						
01	02	03	04	05	06	07
Name	Type	Duct Leakage	Insulation R-value	Duct Location	Bypass Duct	HERS Verification
Attic Default	DuctsAttic	Existing (not specified)	8	Attic	None	Attic Default-hers-dist

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01	02	03	04	05	06	07	08
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler
Attic Default-hers-dist	Not Required	n/a	Not Required	Not Required	Not Required	Not Required	n/a

HVAC - FAN SYSTEMS			
01	02	03	04
Name	Type	Fan Power (Watts/CFM)	HERS Verification
HVAC Fan	Single Speed PSC Furnace Fan	0.58	HVAC Fan-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION		
01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficiency (Watts/CFM)
HVAC Fan-hers-fan	Not Required	n/a

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date:
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: <ol style="list-style-type: none">1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.	
Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed:
Address:	License:
City/State/Zip:	Phone:

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