

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Garage Conversion

Calculation Date/Time: 23:41, Wed, May 03, 2017

Calculation Description: Title 24 Analysis

Input File Name: ;_garage_conversion.ribd16x

GENERAL INFORMATION					
01	Project Name	Garage Conversion			
02	Calculation Description	Title 24 Analysis			
03	Project Location	Palo Alto Ct			
04	City	Rancho Cucamonga	05	Standards Version	Compliance 2017
06	Zip Code	91730	07	Compliance Manager Version	BEMCmpMgr 2016.2.1 (695)
08	Climate Zone	CZ10	09	Software Version	EnergyPro 7.1
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	0
12	Project Scope	Addition and/or Alteration	13	Number of Dwelling Units	1
14	Total Cond. Floor Area (ft²)	1640	15	Number of Zones	2
16	Slab Area (ft²)	400	17	Number of Stories	1
18	Addition Cond. Floor Area	0	19	Natural Gas Available	Yes
20	Addition Slab Area (ft²)	0	21	Glazing Percentage (%)	11.6%

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	34.81	34.11	0.70	2.0%
Space Cooling	182.75	178.59	4.16	2.3%
IAQ Ventilation	0.00	0.00	0.00	0.0%
Water Heating	12.80	12.80	0.00	0.0%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	230.36	225.50	4.86	2.1%

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 New ductwork added is less than 40 ft. in length

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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:						
• --None--						
Cooling System Verifications:						
• -- None --						
HVAC Distribution System Verifications:						
• -- None --						
Domestic Hot Water System Verifications:						
• -- None --						

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Villalobos Garage Conversion	1640	1	5	2	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
Existing Home	Conditioned	Existing Heating and Air1	1240	8	DHW Sys 1	
Addition to Home	Conditioned	Existing Heating and Air1	400	8	DHW Sys 1	

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OPAQUE SURFACES									
01	02	03	04	05	06	07	08	09	10
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window & Door Area (ft ²)	Tilt (deg)	Status	Verified Existing Condition
Front Wall: To Remain	Existing Home	Default Wall Prior to 197	0	Front	300.66	64.5	90	Existing	No
Left Wall: To Remain	Existing Home	Default Wall Prior to 197	90	Left	200	29.3	90	Existing	No
Right Wall: To Remain	Existing Home	Default Wall Prior to 197	270	Right	237.36	20.5	90	Existing	No
Rear Wall: To Remain	Existing Home	Default Wall Prior to 197	180	Back	308	76	90	Existing	No
Roof	Existing Home	R-0 Roof Attic			1240			Existing	No
Raised Floor	Existing Home	Default Floor Crawlspace			1240			Existing	No
Alt Front Wall	Addition to Home	R-15 Wall	0	Front	152	40	90	Altered	N/A
Alt Left Wall	Addition to Home	R-15 Wall	90	Left	154	0	90	Altered	N/A
New Rear Wall	Addition to Home	R-15 Wall	0	Front	152	40	90	Altered	N/A
Roof 2	Addition to Home	R-38 Roof Attic w/ R-13			400			Altered	N/A

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic Existing Home	Attic RoofExisting Home	Ventilated	4	0.1	0.85	No	No	Existing	No
Attic Addition to Home	Attic RoofAddition to Home	Ventilated	4	0.1	0.85	No	No	Existing	No

FENESTRATION / GLAZING										
01	02	03	04	05	06	07	08	09	10	11
Name	Surface (Orientation-Azimuth)	Width(ft)	Height (ft)	Multiplier	Area (ft ²)	U-factor	SHGC	Exterior Shading	Status	Verified Existing Condition
Window	Front Wall: To Remain (Front-0)	----	----	1	64.5	0.55	0.67	Insect Screen (default)	Existing	No
Window 2	Left Wall: To Remain (Left-90)	----	----	1	9.3	0.55	0.67	Insect Screen (default)	Existing	No
Window 3	Right Wall: To Remain (Right-270)	----	----	1	20.5	0.55	0.67	Insect Screen (default)	Existing	No
Window 4	Rear Wall: To Remain (Back-180)	----	----	1	56.0	0.55	0.67	Insect Screen (default)	Existing	No
Window 5	Alt Front Wall (Front-0)	----	----	1	40.0	0.32	0.25	Insect Screen (default)	New	N/A

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OPAQUE DOORS					
01	02	03	04	05	06
Name	Side of Building	Area (ft ²)	U-factor	Status	Verified Existing Condition
Door	Left Wall: To Remain	20.0	0.60	Existing	No
Door 2	Rear Wall: To Remain	20.0	0.60	Existing	No
Door 3	New Rear Wall	40.0	0.50	New	No

OPAQUE SURFACE CONSTRUCTIONS						
01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-value	Assembly Layers
Attic RoofExisting Home	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	<ul style="list-style-type: none"> • Cavity / Frame: no insul. / 2x4 Top Chrd • Roof Deck: Wood Siding/sheathing/decking • Roofing: Light Roof (Asphalt Shingle)
Default Wall Prior to 197	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	none	0.361	<ul style="list-style-type: none"> • Inside Finish: Gypsum Board • Cavity / Frame: no insul. / 2x4 • Exterior Finish: 3 Coat Stucco
R-0 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O.C.	none	0.472	<ul style="list-style-type: none"> • Inside Finish: Gypsum Board • Cavity / Frame: no insul. / 2x4
Default Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O.C.	none	0.216	<ul style="list-style-type: none"> • Floor Surface: Carpeted • Floor Deck: Wood Siding/sheathing/decking • Cavity / Frame: no insul. / 2x12
Attic RoofAddition to Home	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	R 13	0.078	<ul style="list-style-type: none"> • Under Roof Joists: R-0.0 insul. • Cavity / Frame: R-13.0 / 2x4 Top Chrd • Roof Deck: Wood Siding/sheathing/decking • Roofing: Light Roof (Asphalt Shingle)
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 15	0.095	<ul style="list-style-type: none"> • Inside Finish: Gypsum Board • Cavity / Frame: R-15 / 2x4 • Exterior Finish: 3 Coat Stucco
R-38 Roof Attic w/ R-13	Ceilings (below attic)	Wood Framed Ceiling	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.

SLAB FLOORS								
01	02	03	04	05	06	07	08	09
Name	Zone	Area (ft ²)	Perimeter (ft)	Edge Insul. R-value	Carpeted Fraction	Heated	Status	Verified Existing Condition
Slab-on-Grade	Addition to Home	400	0.1	None	0.8	No	Existing	No

Registration Number:

Registration Date/Time:

HERS Provider:

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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	---

WATER HEATING SYSTEMS							
01	02	03	04	05	06	07	08
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)	Status	Verified Existing Condition
DHW Sys 1	DHW	Standard	DHW Heater 1	1	Annual	Altered	No

WATER HEATERS										
01	02	03	04	05	06	07	08	09	10	11
Name	Heater Element Type	Tank Type	Number of Units	Tank Volume (gal)	Energy Factor or Efficiency	Input Rating/Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss / Recovery Eff	NEEA Heat Pump Type	Tank Location or Ambient Condition
DHW Heater 1	Gas	Small Instantaneous	1	n/a	0.82 EF	199900 Btu/hr	n/a	n/a	n/a	n/a

SPACE CONDITIONING SYSTEMS										
01	02	03		04		05	06	07	08	09
Name	System Type	Name	Ducted	Name	Ducted	Distribution System	Fan System	Floor Area Served	Status	Verified Existing Condition
Existing Heating and Air1	Other Heating and Cooling System	Heating Component 1	Yes	Cooling Component 1	Yes	Air Distribution System 1	HVAC Fan 1	1640	Existing	No

HVAC - HEATING UNIT TYPES			
01	02	03	04
Name	System Type	Number of Units	Efficiency
Heating Component 1	CntrlFurnace	1	80 AFUE

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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
Cooling Component 1	SplitAirCond	1	8.9	10	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC COOLING - HERS VERIFICATIONx					
01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
Cooling Component 1-hers-cool	Not Required	n/a	Not Required	Not Required	Not Required

HVAC - DISTRIBUTION SYSTEMS									
01	02	03	04	05	06	07	08	09	10
Name	Type	Duct Leakage	Insulation R-value	Supply Duct Location	Return Duct Location	Bypass Duct	Status	Verified Existing Condition	HERS Verification
Air Distribution System 1	Ducts located in attic (Ventilated and Unventilated)	Existing (not specified)	8.0	Attic	Attic	None	Existing + New	No	N/A

IAQ (Indoor Air Quality) FANS				
01	02	03	04	05
Name	IAQ CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
SFam IAQVentRpt	0	Default	0	Not Required

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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: Saurabh Patel	Documentation Author Signature: <i>Saurabh Patel</i>
Company: SoCal Title 24	Signature Date: 5/3/2017
Address: 8659 Red Oak St #1	CEA/HERS Certification Identification (If applicable):
City/State/Zip: Rancho Cucamonga, Ca 91730	Phone: 909.257.7547

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California: 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: Saurabh Patel	Responsible Designer Signature: <i>Saurabh Patel</i>
Company: SP Drafting	Date Signed:
Address: 8659 Red Oak St Suite I	License:
City/State/Zip: Rancho Cucamonga, CA 91730	Phone: