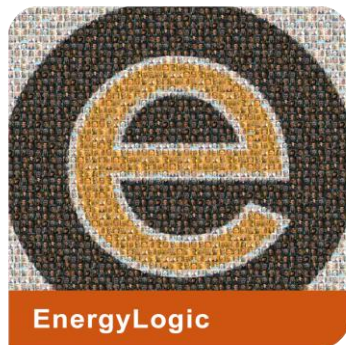


**EnergyLogic Presents**

# **Creating Consistent REM Ratings**

Tom Flanagan & Glenn Pease  
RESNET 2015





# Agenda

What is QA?

How does REMrate work?

What are some REMrate MVP entries?

Questions

Lunch



# About your Presenters

Glenn and Tom do QA

We do a LOT of QA

- EnergyLogic =~ 3000
- Rating Provider =~ 2500
- 3<sup>rd</sup> Party QA =~2000



# What is QA? Why do we do it?

- HERS Police? Or Constructive Feedback Loop?
- 10% File QA
- 1% Field QA
- Improve Ratings
- Improve Raters



# What is QA? How do we do it?

- Compare REM file to field data collection
- Look at plans and takeoffs, photos, etc.
- What determines pass or fail?
- Pass / Fail threshold is +/- 3 points or 3%



# How Hard Is It?

- It is VERY hard to be VERY good
- EVERYONE FAILS (some) QA (even me)
- HERS ratings are a constant learning opportunity.



# How Hard Is It?

- Tiny mistakes in a REM file compound
- Set yourself up to minimize these mistakes





# How does REMrate Work?

## Inputs

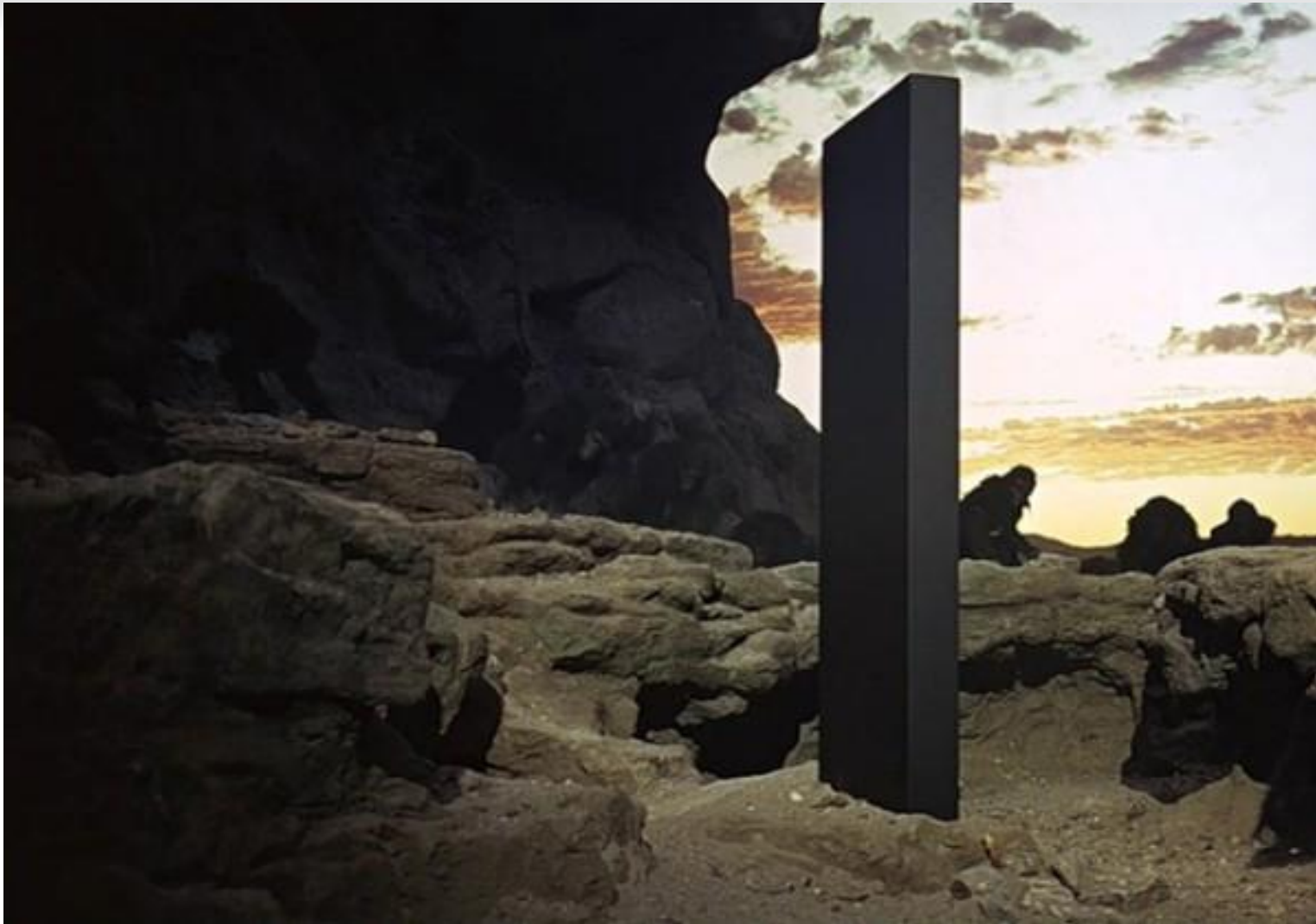
- CFA
- Volume
- Floors
- U-factors
- Doors
- Mechanical Equip
- Blower Door

## Outputs

- HERS Score
- Code Compliance
- [other useful stuff]



# How does REM/Rate Work?



# What does REM value most?



# What (we think) REM values most

- Floors above grade
- Foundation Type
- Framed Floors
- Radiant Barrier Roof
- CFLs
- Clothes Washer
- Sealed Attic Gables
- Roof Color
- Mechanical EAE
- Building Area
- Window Orientation
- On Grade Slab
- Ventilation
- Climate Zone



# Let's Do an Inspection

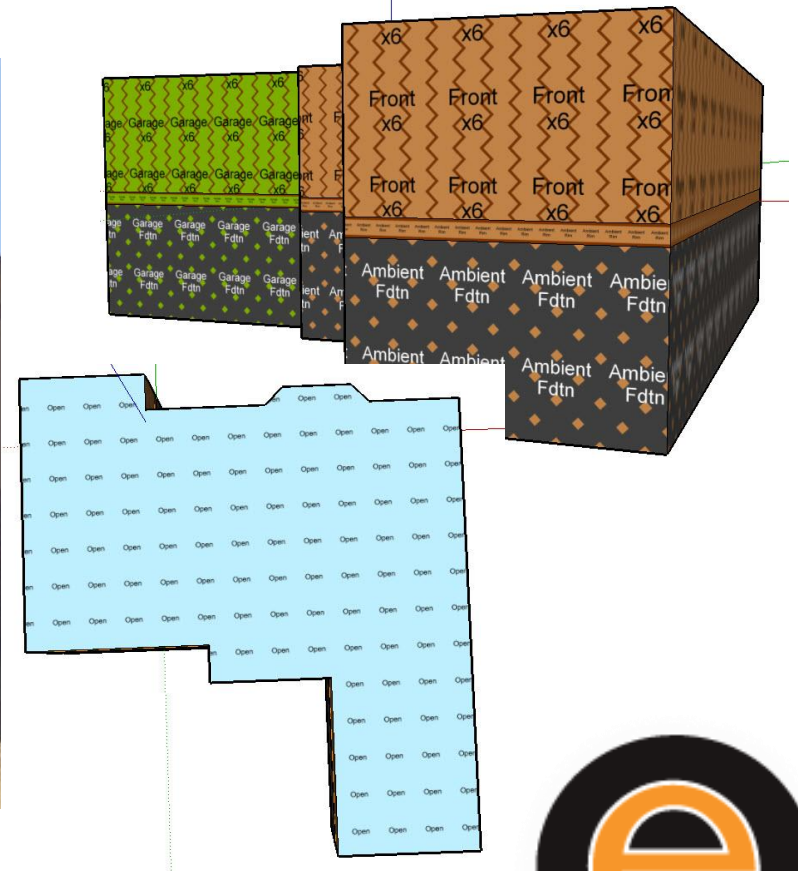
Morning 10077 Hough Point  
Subdivision: Meridian  
Map iCal

Parker

KB

1763

Xcel-ES-09 Code-Final w/LtO



# Where are we anyway?

- San Diego 92023

- Charleston 29023

Site Information:

Climate Location: San Diego, CA

Utility

Electricity: California E

Gas: California NG

Propane: None

Oil: None

Kerosene: None

Wood: None

Analysis

Updated: 01:08:09 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
V3.0* ENER...	Fails
V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	69
NY HERS Score	N/A

Code

IECC 2012 En...	Fails
-----------------	-------

Site Information:

Climate Location: Charleston, SC

Utility

Electricity: California E

Gas: California NG

Propane: None

Oil: None

Kerosene: None

Wood: None

Analysis

Updated: 01:10:07 PM

Programs

V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
V3.0* ENER...	Fails
V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	60
NY HERS Score	N/A

Code

IECC 2012 En...	Fails
-----------------	-------



# Where are we anyway?

- Greensboro, NC – 4A
- Greenville, NC – 3A

The image displays two side-by-side screenshots of a software dialog box titled "Location". Each dialog has a "Select Location" section with "By Zip Code" and "By State and City" options. The "By State and City" section shows a list of cities with "Greensboro" selected in the left dialog and "Greenville" selected in the right dialog. The "Current Selection and Data" section provides climate data for each location.

Location	HDD, Base 65F	CDH, Base 74F	IECC Climate Zone	ASHRAE W Factor	Design Heating Temp	Design Cooling Temp
Greensboro, NC	3877	11020	4A	0.72	20	90
Greenville, NC	3163	16040	3A	0.72	26	94

- Another 9 point HERS Swing

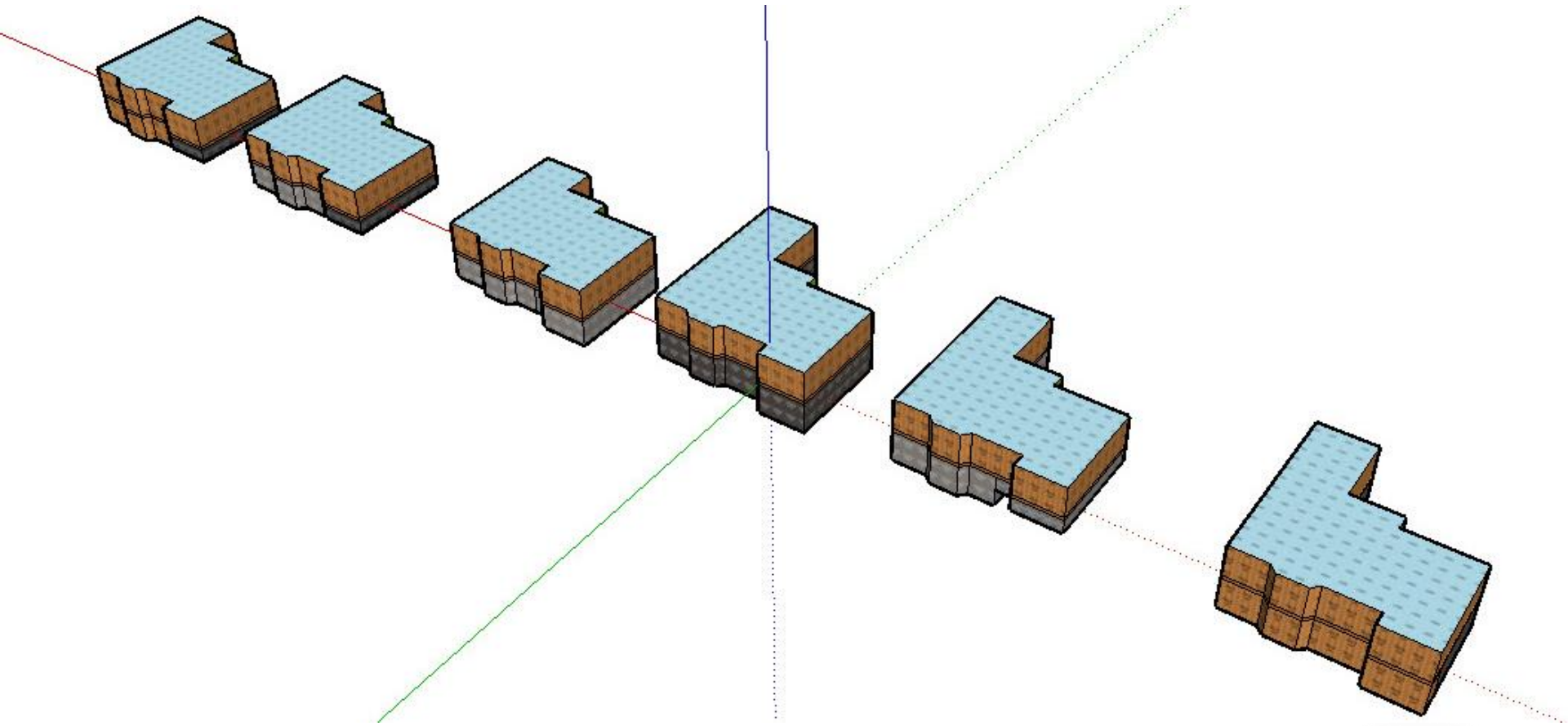


# Let's Do an Inspection



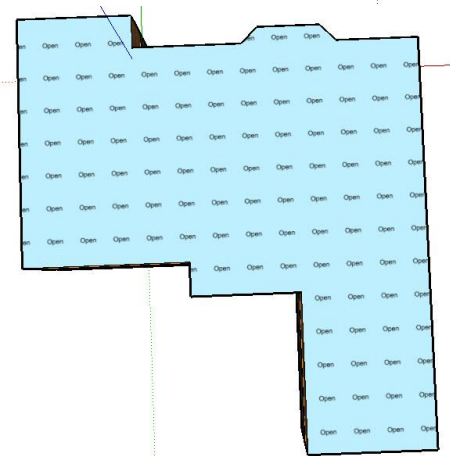
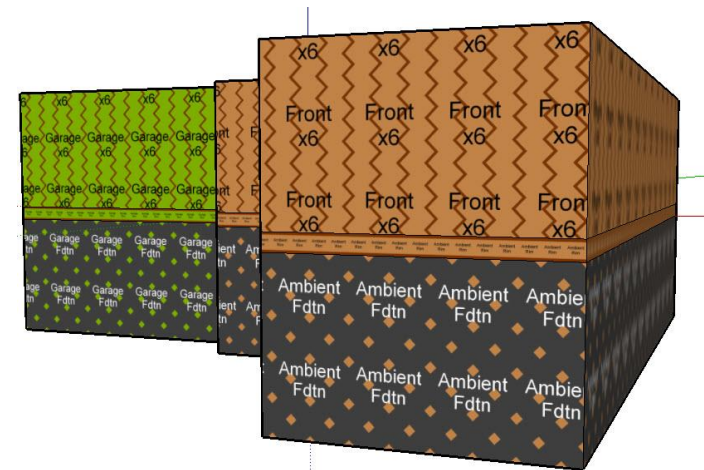


# Choose Wisely!

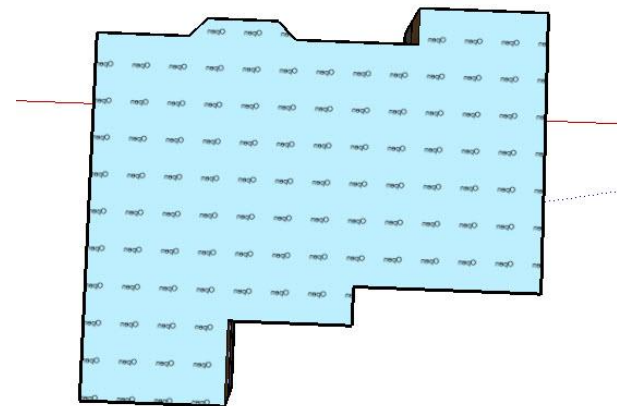
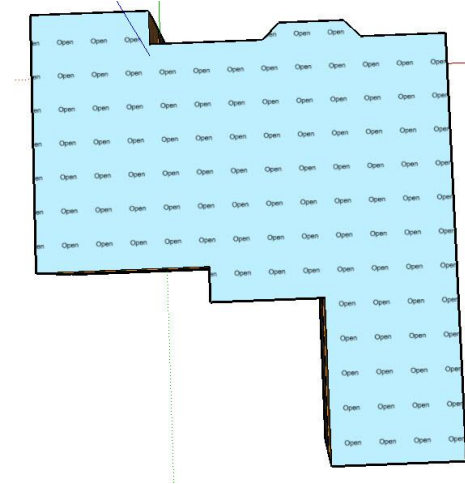


Analysis	
Updated: 04:17:18 PM	
<b>Total Area (sq ft)</b>	
Conditioned S...	3583
Shell Area	7544
AG Shell Area	3989
Foundation W...	1867.5
Slab Floors	1792
Frame Floors	0
Rim and Band ...	207.5
Above-Grade ...	1885.4
Windows	258.0
Doors	42.0
Ceilings	1792
Skylights	0.0
Ducts	860.0
<b>Ratios</b>	
Window-To-Wall	0.137
Window-To-Fl...	0.072
<b>Window Area By Orientatio...</b>	
North	16.0
Northeast	0.0
East	148.0
Southeast	0.0
South	68.0
Southwest	0.0
West	26.0
<div> <div>Energy</div> <div>Area</div> <div>Compliance</div> </div>	

Analysis	
Updated: 04:17:18 PM	
<b>Programs</b>	
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Passes
Tax Credit	Fails
DOE Challenge	Fails
HERS Index	63
NY HERS Score	N/A
<b>Code</b>	
IECC 2012 En...	Passes
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Fails
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes
<div> <div>Energy</div> <div>Area</div> <div>Compliance</div> </div>	



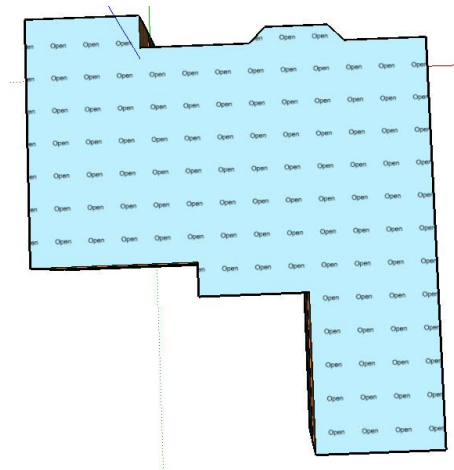






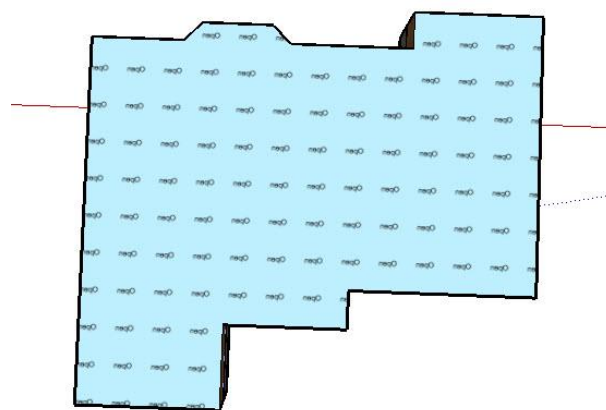
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<b>Total Area (sq ft)</b>	
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Ceilings	1792
Skylights	0.0
Ducts	860.0
<b>Ratios</b>	
Window-To-Wall	0.137
Window-To-Floor	0.072
<b>Window Area By Orientation...</b>	
North	16.0
Northeast	0.0
East	148.0
Southeast	0.0
South	68.0
Southwest	0.0
West	26.0

Analysis	
Updated: 04:17:18 PM	
<b>Programs</b>	
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Passes
Tax Credit	Fails
DOE Challenge	Fails
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NY HERS Score	N/A
<b>Code</b>	
IECC 2012 En...	Passes
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Fails
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes



Analysis																											
Updated: 04:31:12 PM																											
<div> <div></div> <div>2</div> <div></div> <div></div> </div>																											
<div>Total Area (sq ft)</div> <table> <tr><td>Conditioned S...</td><td>3265</td></tr> <tr><td>Shell Area</td><td>6610</td></tr> <tr><td>AG Shell Area</td><td>3612</td></tr> <tr><td>Foundation W...</td><td>1458.6</td></tr> <tr><td>Slab Floors</td><td>1633</td></tr> <tr><td>Frame Floors</td><td>0</td></tr> <tr><td>Rim and Band ...</td><td>186.9</td></tr> <tr><td>Above-Grade ...</td><td>1699.2</td></tr> <tr><td>Windows</td><td>238.0</td></tr> <tr><td>Doors</td><td>42.0</td></tr> <tr><td>Ceilings</td><td>1633</td></tr> <tr><td>Skylights</td><td>0.0</td></tr> <tr><td>Ducts</td><td>783.6</td></tr> </table>		Conditioned S...	3265	Shell Area	6610	AG Shell Area	3612	Foundation W...	1458.6	Slab Floors	1633	Frame Floors	0	Rim and Band ...	186.9	Above-Grade ...	1699.2	Windows	238.0	Doors	42.0	Ceilings	1633	Skylights	0.0	Ducts	783.6
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ASHRAE 90.2 ...	Passes																												
<div>Energy Area Compliance</div>																													



# Common Modeling Mistakes





# Modeling Walkout Basements





# Modeling Walkout Basements

- 1 slab tricks REM/Rate

Slab Floor Properties Summary

#	Name	Type	Area	Depth	Full Per	Grad...
1	Slab	Uninsulated**	896	8.5	180	0
2	Slab	Uninsulated**	896	0.0	180	60

New Delete Copy

Slab Floor Properties

Name:

Type:

Area (sq ft):  Full Perimeter (ft):

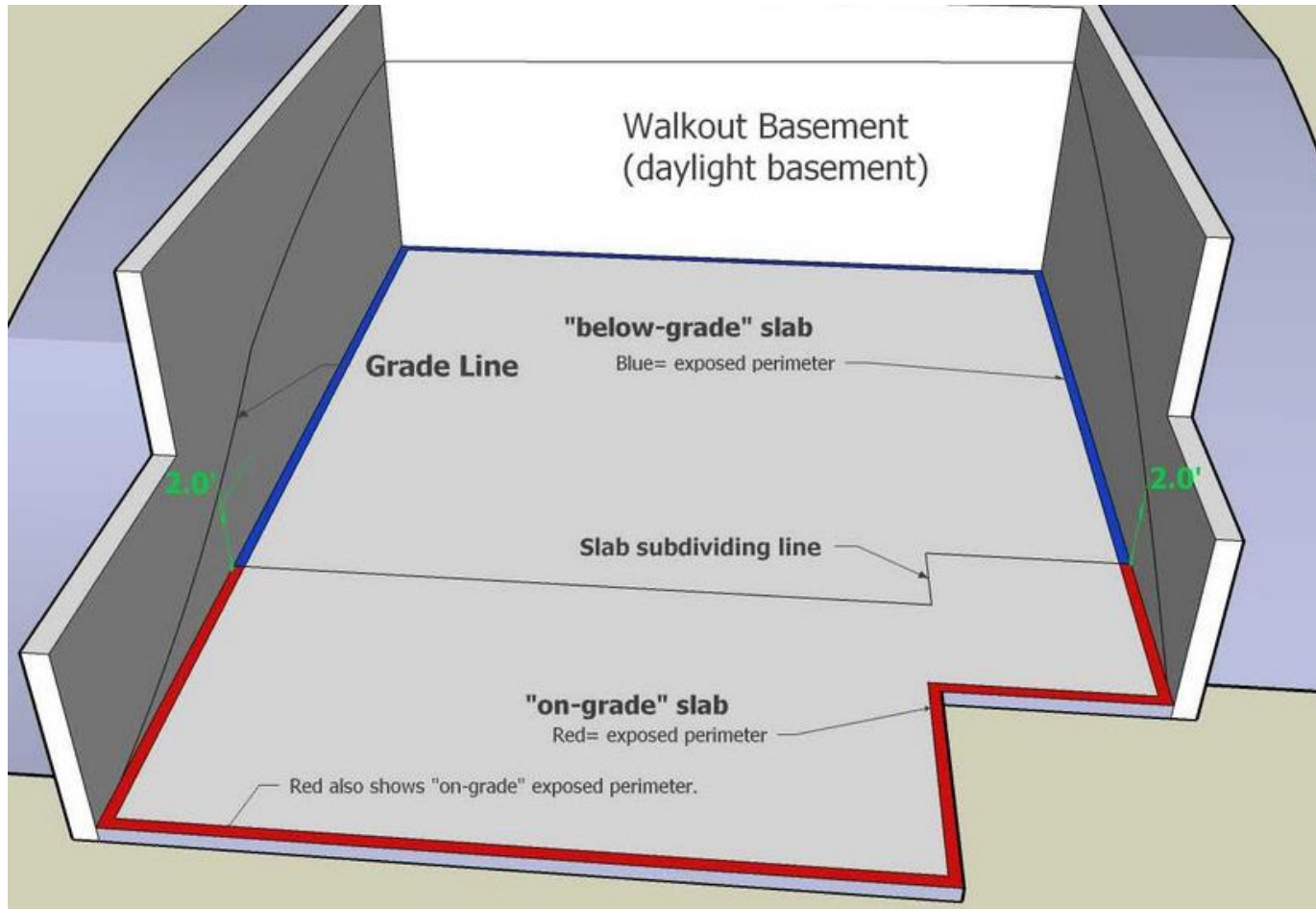
Depth Below Grade (ft):  Total Exposed Perimeter (ft):

(0 if on-grade) On-Grade Exposed Perimeter (ft):

Analysis	
Updated: 03:53:10 PM	
Programs	
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Fails
Tax Credit	Fails
DOE Challenge	Fails
HERS Index	63
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Fails

# Modeling Walkout Basements

- Be sure to model 2 slabs



HELP!!



# Modeling Walkout Basements

Updated: 04:02:31 PM

Conditioned Space (sq ft): 3583

of Conditioned Space (cu ft): 34190

Year: 2013

Type: Single-family detached

Number of Units: 1

Number of Bedrooms: 4

Foundation Type: N/A

Boundary Location: REM Default

Programs	Passes
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes

Challenge	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Fails
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

Updated: 04:04:22 PM

Conditioned Space (sq ft): 3583

of Conditioned Space (cu ft): 34190

Year: 2013

Type: Single-family detached

Number of Units: 2

Number of Bedrooms: 4

Foundation Type: N/A

Boundary Location: REM Default

Programs	Passes
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes

Challenge	Passes
IECC 2001 En...	Passes
IECC 2000 En...	Passes
IECC 1998 En...	Passes
ECCCNYS-2010	Fails
ECC of Southe...	Passes
MEC 1995 En...	Passes
MEC 1993 En...	Passes
MEC 1992 En...	Passes
ASHRAE 90.2 ...	Passes

On-Grade Slab = Floor On or Above Grade!



# Modeling Walkout Basements

- Model 2 slabs – Use the help menu!
- Floors **ON OR ABOVE** grade



# Modeling Attics



Vented



Sealed



Vented



Vaulted

# Modeling Attics – Vented/Flat

Vented



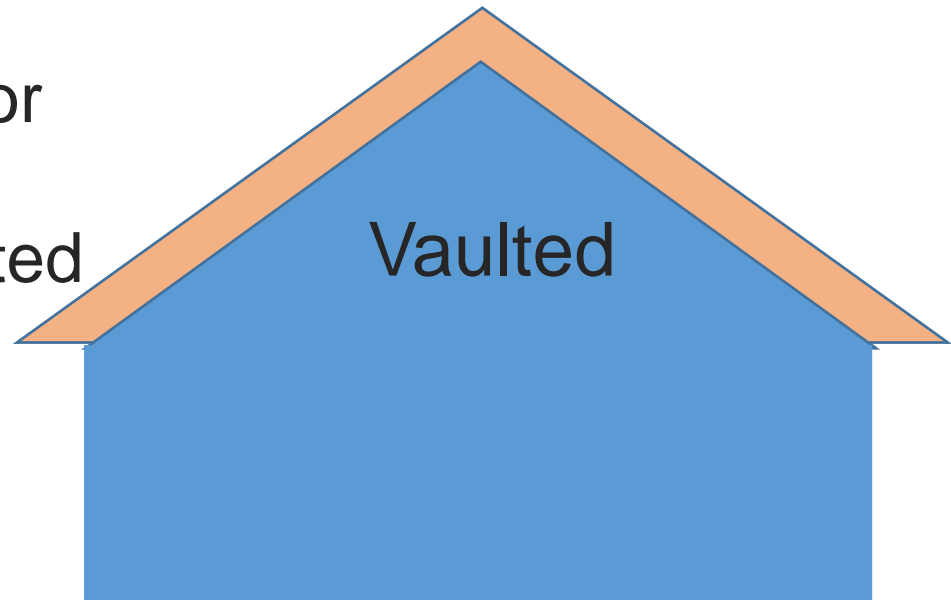
- Ceiling area = Attic Exterior Area

Ceiling Properties			
Name:	<input type="text" value="Flat Attic"/>		
Type:	<input type="text" value="R38 Blow Open G1"/>	<input type="text" value="U=0.026"/>	<input data-bbox="1199 1153 1267 1203" type="button" value="..."/>
Ceiling Area (sq ft):	<input type="text" value="1792"/>	Attic Exterior (sq ft):	<input type="text" value="1792"/> <input data-bbox="1199 1225 1360 1275" type="button" value="Calculate"/>



# Modeling Attics – Vault/Cathedral

- Ceiling area = Attic Exterior Area
- Ceiling library type = Vaulted
- Calculate button does nothing!



Ceiling Properties

Name:

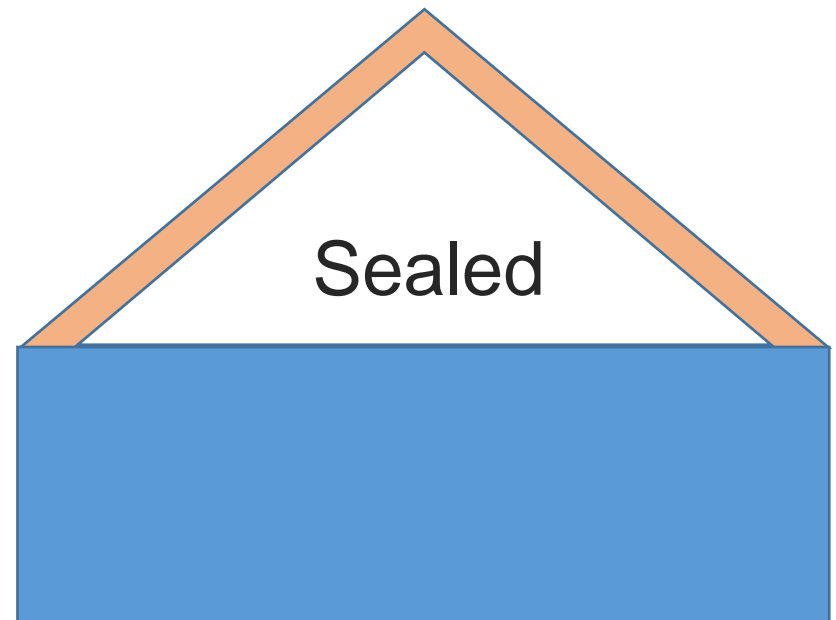
Type:  U=0.025

Ceiling Area (sq ft):  Attic Exterior (sq ft):



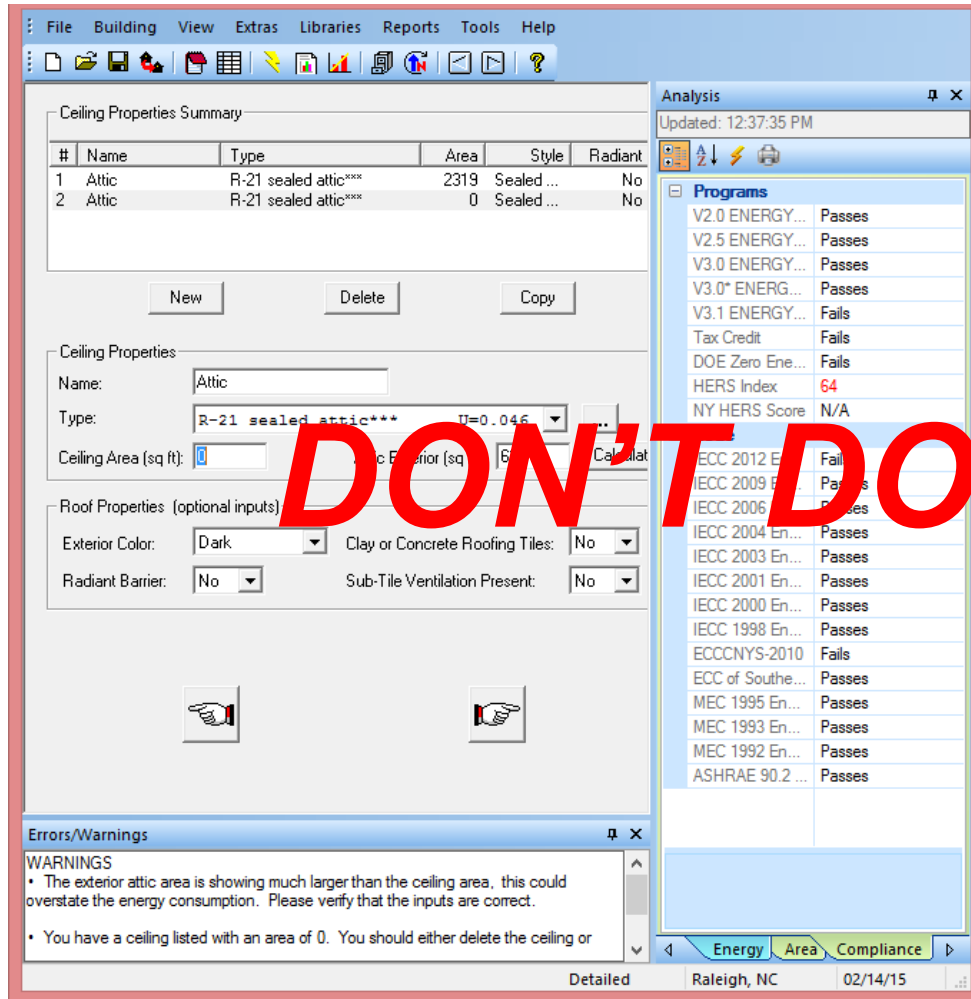
# Modeling Attics – Sealed

- Ceiling area < Attic Exterior Area
- Insulated gable end walls must be modeled
- Best practice is to model as AGW with sealed attic location





# Modeling Sealed Attics



- Gable walls included on Ceilings page

- Modeled as ceiling with only exterior area

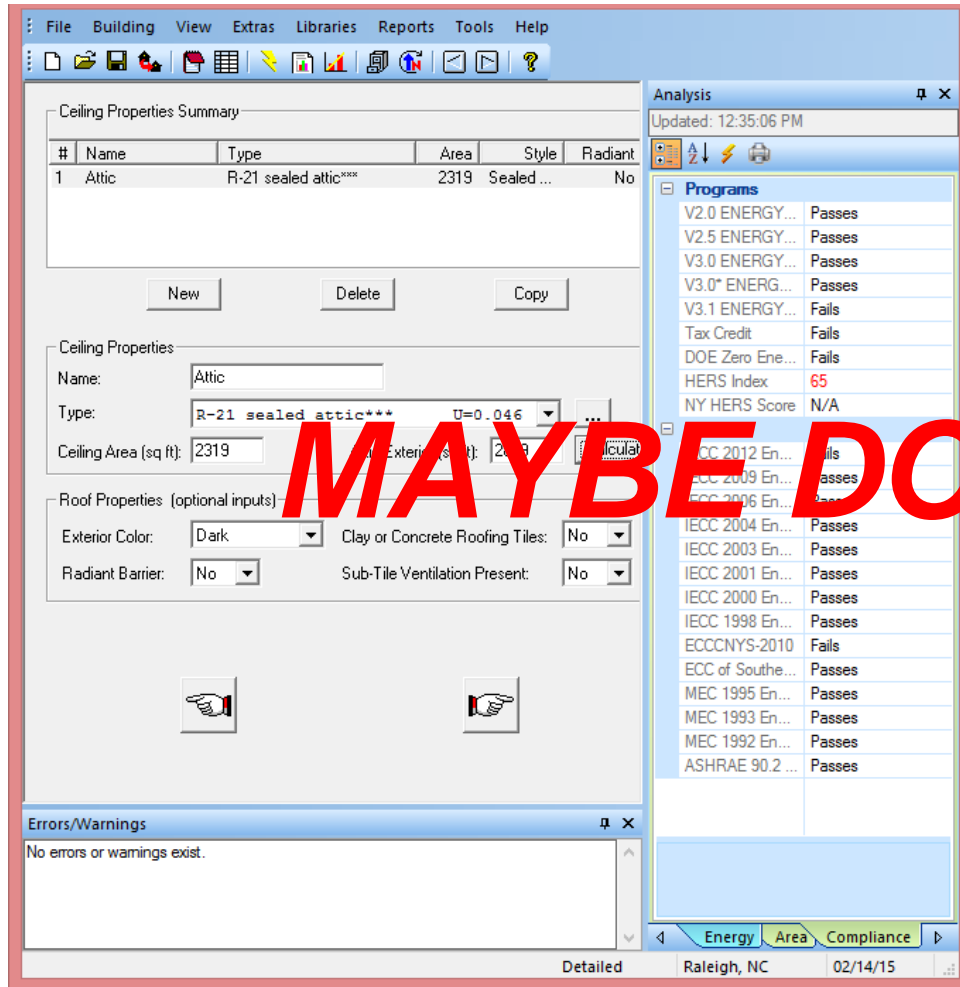
**DON'T DO THIS**

- Ceiling /= Exterior

- HERS 64



# Modeling Sealed Attics



- Gable walls included on Ceilings page

- Used “calculate” shortcut (x1.25)

- Ceiling /= Exterior

- HERS 65



# Modeling Sealed Attics

#	Name	Type	Area	Style	Radiant
1	Attic	R-21 sealed attic***	2319	Sealed ...	No

Buttons: New, Delete, Copy

Ceiling Properties

Name: Attic

Type: R-21 sealed attic\*\*\* U=0.046

Ceiling Area (sq ft): 2319 Attic Exterior (sq ft): 2319 Calculate

Roof Properties (optional inputs)

Exterior Color: Dark Clay or Concrete Roofing Tiles: No

Radiant Barrier: No Slate Tile Ventilation Present: No

Errors/Warnings

No errors or warnings exist.

Analysis

Updated: 12:32:39 PM

Programs

- V2.0 ENERGY... Passes
- V2.5 ENERGY... Passes
- V3.0 ENERGY... Passes
- V3.0\* ENERGY... Passes
- V3.1 ENERGY... Fails
- Tax Credit Fails
- DOE Zero Ene... Fails
- HERS Index 66
- NY HERS Score N/A

Code

- IECC 2012 En... Fails
- IECC 2009 En... Passes
- IECC 2006 En... Passes
- IECC 2004 En... Passes
- IECC 2003 En... Passes
- IECC 2001 En... Passes
- IECC 2000 En... Passes
- IECC 1998 En... Passes
- IECC 1995 En... Passes
- IECC 1992 En... Passes
- ASHRAE 90.2 ... Passes

Energy Area Compliance

Detailed Raleigh, NC 02/14/15

- Gable walls modeled on AGW Screen

- Ceiling = Exterior

- HERS 66

**PROBABLY DO THIS**



# Mechanical Equipment

- Who can tell me what this is?



# Mechanical Equipment



=

AFUE: 92.1%  
Output Heating Capacity: 65 MBTUH

The following data is for reference only and is not certified by AHRI:

Input:	69 MBTUH
Eff:	65.5 MMBTU/yr
Eac:	706 kWh/yr
PE:	134 Watts
Furnace Type:	Non-Weatherized
Config:	Upflow, Horizontal
Fuel Type:	Natural Gas, Propane Gas

**AHRI CERTIFIED**  
ahridirectory.org



/ =

Mechanical Equipment Properties

Library Type:	Space Heating	Number of Units:	1
Equipment:	92AFUE Gas Furn 70k	...	
Location:	Conditioned area		
Performance Adj. (%):	100.0	Heating	Cooling
		Load Served (%):	DH/W
		100.0	0.0
			0.0

- Might not change HERS score – BUT COME ON



# Mechanical Equipment – Fuel Type

REM/Rate v 14.5.1 - Plan 1610 Canterbury FB.blg

File Building View Extras Libraries Reports Tools Help

Analysis

Mechanical Equipment Properties Summary

Water Heating Type Library

Component State

- BW: M440T6FBN
- BW: M45036FBN
- BW: M1503\*\*\*N4
- BW: PDX250T6BN10
- BW: PDX250T6BN13
- BW: PDX250T6BN
- BW: PDX250T6FBN
- BW: PDX250T6FBN elec

New Delete Cut Copy Paste Up Down

Name: BW: PDX250T6FBN

Water Heater Type: Conventional

Fuel Type: Natural gas

Energy Factor: 0.62

Recovery Efficiency: 0.98

Water Tank Size (gallons): 48

Extra Tank Insulation (R-value): 0.0

Note:

OK Cancel Help

rams

rams	Passes
ENERGY...	Passes
ENERGY...	Passes
ENERGY...	Fails
ENERGY...	Fails
ENERGY...	Fails
ENERGY...	Fails
ENERGY...	Fails
Credit	Fails
Zero Ene...	Fails
S Index	63
ERS Score	N/A
2012 En...	Fails
2009 En...	Passes
2006 En...	Passes
2004 En...	Passes
2003 En...	Passes
2001 En...	Passes
2000 En...	Passes
1998 En...	Passes
CNYS-2010	Fails
of Southe...	Passes
1995 En...	Passes
1993 En...	Passes
1992 En...	Passes
RAE 90.2 ...	Passes

Energy Area Compliance

Detailed Parker, CO 02/14/15



## Mechanical Equipment – Fuel Type

Water Heating Type Library

Component: REU-VC2528FFUD-US e  
 REU-V2520FFU-US  
 REU-VA2528FFUD-US  
 REU-VA2535FFUD-UC  
 REU-KB3237FFUD-US  
 Eternal GU32DV  
 STATE  
 State: ES6 52 DORT

New Delete Cut Copy Paste Up Down

Name: State: ES6 52 DORT

Water Heater Type: Conventional

Fuel Type: Electric

Energy Factor: 0.91

Recovery Efficiency: 0.98

Water Tank Size (gallons): 50

Extra Tank Insulation (R-value): 0.0

Note:

OK Cancel Help

Errors/Warnings: No errors or warnings exist.

Energy Area Compliance

Detailed Parker, CO 02/14/15

**Water Heating Type Library**

Component: State

- REU-V2520FFU-US
- REU-VA2528FFUD-US
- REU-VA2535FFUD-UC
- REU-KB3237FFUD-US
- Eternal GU32DV
- STATE

State: ES6 52 DORT  
State: ES6 52 DORT

New Delete Cut Copy Paste Up Down

Name: State: ES6 52 DORT

Water Heater Type: Conventional

Fuel Type: Natural gas

Energy Factor: 0.91

Recovery Efficiency: 0.98

Water Tank Size (gallons): 50

Extra Tank Insulation (R-value): 0.0

Note:

OK Cancel Help

Program	Passes
0 ENERGY...	Passes
5 ENERGY...	Passes
0 ENERGY...	Fails
0 ENERGY...	Fails
1 ENERGY...	Fails
Credit	Fails
E Zero Ene...	Fails
RS Index	57
HERS Score	N/A
de	
C 2012 En...	Fails
C 2009 En...	Passes
C 2006 En...	Passes
C 2004 En...	Passes
C 2003 En...	Passes
C 2001 En...	Passes
C 2000 En...	Passes
C 1998 En...	Passes
CCNY-2010	Fails
C of Southe...	Passes
C 1995 En...	Passes
C 1993 En...	Passes
C 1992 En...	Passes
HRAE 90.2 ...	Passes

Errors/Warnings

No errors or warnings exist.

Detailed Parker, CO 02/14/15



# Ventilation

- Wattage

Mechanical Ventilation System for IAQ	
Type:	Exhaust Only
Sensible Recovery Efficiency (%):	0.0
Total Recovery Efficiency (%):	0.0
Rate (cfm):	80
Hours/Day:	24.0
Fan watts:	15.0

V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	64
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 E...	Passes

Mechanical Ventilation System for IAQ	
Type:	Exhaust Only
Sensible Recovery Efficiency (%):	0.0
Total Recovery Efficiency (%):	0.0
Rate (cfm):	80
Hours/Day:	24.0
Fan watts:	16.0

V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	65
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes
IECC 2001 En...	Passes





# Ventilation

- AirCycler

Mechanical Ventilation System for IAQ

Type:

Sensible Recovery Efficiency (%):

Total Recovery Efficiency (%):

Rate (cfm):

Hours/Day:

Fan watts:

V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	70
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes

Mechanical Ventilation System for IAQ

Type:

Sensible Recovery Efficiency (%):

Total Recovery Efficiency (%):

Rate (cfm):

Hours/Day:

Fan watts:

V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	64
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes
IECC 2006 En...	Passes
IECC 2004 En...	Passes
IECC 2003 En...	Passes



# The VERY SIMPLE stuff – Roof

- Roofing
  - Radiant Barrier will almost always move 1 HERS point
  - Tile roof with sub-tile ventilation might, too

Roof Properties (optional inputs)

Exterior Color:	<input type="text" value="Medium"/>	Clay or Concrete Roofing Tiles:	<input type="text" value="No"/>
Radiant Barrier:	<input type="text" value="No"/>	Sub-Tile Ventilation Present:	<input type="text" value="No"/>



# The **VERY SIMPLE** stuff – Lights

- CFLs

- HUGE HERS and Program Compliance swings
- Count your *fixtures*!
- Use the blink test!



- Qualifying Light Fixtures ... **kitchens, dining rooms, living rooms, family rooms/dens, bathrooms, hallways, stairways, entrances, bedrooms, garage, utility rooms, home offices, and outdoor** ... fixtures mounted on a building or pole. This *excludes* plug-in lamps, closets, unfinished basements, and landscape lighting.



# The VERY SIMPLE stuff – Appliances

- RESNET Default for Clothes Washers is 7x (!!!) worse than ENERGY STAR
  - Unlikely to see “RESNET Default” washer in new home
- 1 point HERS move for each Washer move
- Best to choose preset closest to installed washer
  - Monkeying with part of the settings will screw you up!

Clothes Washer and Dryer				Clothes Washer and Dryer									
Location:	Conditioned	Washer Presets:	RESNET Default	Location:	Conditioned	Washer Presets:	ENERGY STAR						
Dryer Fuel:	Electric	Washer MEF:	0.817	Elec Rate:	0.0803	Dryer Fuel:	Electric	Washer MEF:	3.410	Elec Rate:	0.1065		
Dryer Eff. Factor:	3.01	Washer LER:	704	kWh/yr	Gas Rate:	0.58	Dryer Eff. Factor:	3.01	Washer LER:	96	kWh/yr	Gas Rate:	1.22
Moisture Sensing	<input type="checkbox"/>	Capacity Cu.Ft.:	2.874	Annual Gas Cost:	23.00	Moisture Sensing	<input type="checkbox"/>	Capacity Cu.Ft.:	3.810	Annual Gas Cost:	11.00		



# The VERY SIMPLE stuff – Appliances

Dishwasher		Energy Factor: 0.62 or kWh/yr: 0		Place Setting Capacity: 12
Range/Oven				
Fuel: Electric	<input type="checkbox"/> Induction Range		<input type="checkbox"/> Convection Oven	
Clothes Washer and Dryer				
Location: Conditioned	Washer Presets: RESNET Default			
Dryer Fuel: Electric	Washer MEF: 0.817	Elec Rate: 0.0803		
Dryer Eff. Factor: 3.01	Washer LER: 704 kWh/yr	Gas Rate: 0.58		
Moisture Sensing <input type="checkbox"/>	Capacity Cu.Ft.: 2.874	Annual Gas Cost: 23.00		

Programs	
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Passes
V3.0* ENERGY...	Fails
V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	60
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes

- RESNET Default
- HERS 60

Dishwasher		Energy Factor: 0.62 or kWh/yr: 0		Place Setting Capacity: 12
Range/Oven				
Fuel: Electric	<input type="checkbox"/> Induction Range		<input type="checkbox"/> Convection Oven	
Clothes Washer and Dryer				
Location: Conditioned	Washer Presets: High Efficiency			
Dryer Fuel: Electric	Washer MEF: 2.550	Elec Rate: 0.1065		
Dryer Eff. Factor: 3.01	Washer LER: 151 kWh/yr	Gas Rate: 1.22		
Moisture Sensing <input type="checkbox"/>	Capacity Cu.Ft.: 3.310	Annual Gas Cost: 12.00		

Programs	
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Passes
V3.0* ENERGY...	Fails
V3.1 ENERGY...	Passes
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	58
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes

- High Efficiency
- HERS 58

Dishwasher		Energy Factor: 0.62 or kWh/yr: 0		Place Setting Capacity: 12
Range/Oven				
Fuel: Electric	<input type="checkbox"/> Induction Range		<input type="checkbox"/> Convection Oven	
Clothes Washer and Dryer				
Location: Conditioned	Washer Presets: RESNET Default			
Dryer Fuel: Electric	Washer MEF: 0.817	Elec Rate: 0.0803		
Dryer Eff. Factor: 3.01	Washer LER: 151 kWh/yr	Gas Rate: 0.58		
Moisture Sensing <input type="checkbox"/>	Capacity Cu.Ft.: 2.874	Annual Gas Cost: 23.00		

Programs	
V2.0 ENERGY...	Passes
V2.5 ENERGY...	Passes
V3.0 ENERGY...	Passes
V3.0* ENERGY...	Fails
V3.1 ENERGY...	Fails
Tax Credit	Fails
DOE Zero Ene...	Fails
HERS Index	62
NY HERS Score	N/A
Code	
IECC 2012 En...	Fails
IECC 2009 En...	Passes

- Default w/ 151 LER
- HERS 62



**I'm a RESNET QAD – Ask Me Anything**



**GO FORTH AND RATE**





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