REScheck Software Version 4.6.5

Compliance Certificate

Project POWDER MOUNTAIN HOUSE

Energy Code:	**Utah Energy Conservation Code**
Location:	**Elwood, Utah**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Orientation:	**Bldg. faces 0 deg. from North**
Conditioned Floor Area:	**5,151 ft2**
Glazing Area	**21%**
Climate Zone:	**6 (6833 HDD)**
Permit Date:	
Permit Number:	

Construction Site:
8645 East Copper Crest
Eden, UT 84310

Owner/Agent:
TOM BUTTGENBACH
TOM WISCOMBE ARCHITECT
2404 WILSHIRE BLVD
LOS ANGELES, CA 90057
213-647-7238

Designer/Contractor:
MARK SHAMIM
SHAMIM ENGINEERING
CONSULTANT INC.
5530 CORBIN AVE.
TARZANA, CA 91356
818-188-6778
MARK@SHAMIMENGINEERING.COM

Compliance: Passes using UA trade-off

Compliance: **1.5% Better Than Code** Maximum UA: **1940** Your UA: **1910**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules.
It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling 1: Cathedral Ceiling	2,184	34.0	18.0	0.019	39
Skylight 1: Metal Frame with Thermal Break:Double Pane	128			0.550	70
Ceiling 2: Cathedral Ceiling	749	34.0	18.0	0.019	14
Ceiling 3: Cathedral Ceiling	790	34.0	18.0	0.019	15
Wall 1: Wood Frame, 24" o .c. Orientation: Back	2,152	20.0	13.0	0.031	64
Window 1: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Back	36			0.320	12
Door 1: Solid Orientation: Back	30			0.710	21
Door 2: Solid Orientation: Back	23			0.710	16
Wall 2: Wood Frame, 24" o .c. Orientation: Right side	1,898	20.0	13.0	0.031	54
Window 2: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Right side	169			0.320	54
Wall 3: Steel Frame, 24" o.c. Orientation: Left side	1,819	20.0	13.0	0.042	70

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Window 3: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Left side	156			0.320	50
Wall 4: Steel Frame, 24" o.c. Orientation: Front	2,155	20.0	13.0	0.042	50
Window 4: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Front	968			0.320	310
Wall 5: Steel Frame, 24" o.c. Orientation: Unspecified	207	20.0	13.0	0.042	0
Window 5: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Unspecified	201			0.320	64
Wall 6: Steel Frame, 24" o.c. Orientation: Unspecified	340	20.0	13.0	0.042	3
Window 6: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Unspecified	269			0.320	86
Basement Wall 1: Solid Concrete or Masonry Orientation: Back Wall height: 12.0' Depth below grade: 10.0' Insulation depth: 6.0'	962	1.6	13.0	0.060	58
Basement Wall 2: Solid Concrete or Masonry Orientation: Right side Wall height: 12.0' Depth below grade: 10.0' Insulation depth: 6.0'	584	1.6	13.0	0.060	35
Basement Wall 3: Solid Concrete or Masonry Orientation: Unspecified Wall height: 12.0' Depth below grade: 10.0' Insulation depth: 6.0'	434	1.6	13.0	0.060	26
Floor 1: Slab-On-Grade:Heated Insulation depth: 1.0'	904		15.0	0.884	799

Mechanical Equipment

Description	Fuel type	Efficiency
Air Source		9 HSPF, 15 SEER
Other (Except Gas-Fired Steam)		96 AFUE

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the Utah Energy Conservation Code requirements in RES*check* Version 4.6.5 and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Name - Title _____ Signature _____ Date _____

Inspection Checklist

Energy Code: Utah Energy Conservation Code

Requirements: 94.0% were addressed directly in the RES*check* software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1][1]	Construction drawings and documentation demonstrate energy code compliance for the building envelope.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
302.1, 403.6 [PR2][2]	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr____ Cooling: Btu/hr____	Heating: Btu/hr____ Cooling: Btu/hr____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1 [FO1][1]	Slab edge insulation R-value.	R-____ ☐ Unheated ☐ Heated	R-____ ☐ Unheated ☐ Heated	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2, 402.2.9 [FO2][1]	Slab edge insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.1.1 [FO3][1]	Slab edge insulation depth/length.	_____ ft	_____ ft	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1 [FO4][1]	Conditioned basement wall insulation R-value. Where interior insulation is used, verification may need to occur during Insulation Inspection. Not required in warm-humid locations in Climate Zone 3.	R-_____ R-_____	R-_____ R-_____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2 [FO5][1]	Conditioned basement wall insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.2.8 [FO6][1]	Conditioned basement wall insulation depth of burial or distance from top of wall.	_____ ft	_____ ft	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2.1 [FO11][2]	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.8 [FO12][2]	Snow- and ice-melting system controls installed.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1][1]	Door U-factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1, 402.3.1, 402.3.3, 402.3.6, 402.5 [FR2][1]	Glazing U-factor (area-weighted average).	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.3 [FR4][1]	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.1.1, 402.3.3, 402.3.6, 402.5 [FR5][1]	Skylight U-factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.4.3 [FR20][1]	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Site-built window, skylights, and doors.
402.4.4 [FR16][2]	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.2.1 [FR12][1]	Supply ducts in attics are insulated to ≥R-8. All other ducts in unconditioned spaces or outside the building envelope are insulated to ≥R-6.	R-____ R-____	R-____ R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.2.2 [FR13][1]	All joints and seams of air ducts, air handlers, and filter boxes are sealed.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.3 [FR17][2]	HVAC piping conveying fluids above 105 ºF or chilled fluids below 55 ºF are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.3.1 [FR24][2]	Protection of insulation on HVAC piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.4.2 [FR18][2]	Hot water pipes are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.5 [FR19][2]	Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13][2]	All installed insulation is labeled or the installed R-values provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.1.1, 402.2.5, 402.2.6 [IN3][1]	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R-_____ ☐ Wood ☐ Mass ☐ Steel	R-_____ ☐ Wood ☐ Mass ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2 [IN4][1]	Wall insulation is installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1][1]	Ceiling insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.1.1, 303.2 [FI2][1]	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft².			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.2.3 [FI22][2]	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
402.2.4 [FI3][1]	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.2 [FI8][2]	Wood-burning fireplaces have tight fitting flue dampers and outdoor air for combustion.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.2.2 [FI4][1]	Duct tightness test result of <=10 cfm/100 ft2 across the system or <=7.5 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.2.2.1 [FI24][1]	Air handler leakage designated by manufacturer at <=2% of design air flow.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.1.1 [FI9][2]	Programmable thermostats installed on forced air furnaces.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.1.2 [FI10][2]	Heat pump thermostat installed on heat pumps.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.4.1 [FI11][2]	Circulating service hot water systems have automatic or accessible manual controls.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.5.1 [FI25][2]	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.9.1 [FI12][3]	Readily accessible switch on heaters for swimming pools or permanent in-ground spas.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.9.2 [FI19][3]	Timer switches on heaters and pumps serving pools and permanent spas.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.9.3 [FI20][3]	Heated pools and permanent spas have a vapor retardant cover.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
401.3 [FI7][2]	Compliance certificate posted.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
303.3 [FI18][3]	Manufacturer manuals for mechanical and water heating systems have been provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)