

# 2021 IECC R-406 Projected Energy Rating Index Report

Property	Organization	Energy Rating Index Information
Builder:Eric Smith Architecture & Planning Address: 2410 Ski Trail Lane, Steamboat Springs, CO 80487	Company:EnergyLogic Phone: Rater:Jeremy Hansen	Projected Rating Rating No: Date Rated:2024-02-01 Rater ID (RTIN):0430334

Estimated Annual Energy Consumption*		
	Rated Home Calculated Energy Use (MBtu)	Rated Home Cost (\$/yr)
Heating	35.4	\$1,484
Cooling	0.0	\$0
Water Heating	3.3	\$139
Lights & Appliances	22.8	\$955
Photovoltaics	0.0	\$0
Service charge	-	\$0
Total	61.4	\$2,578
*Based on standard operating conditions		

ERI with PV:49

ERI without PV:49

Annual Estimates	
Electric (kWh):18,002.2	CO2 Emissions (Tons):2.6
Natural Gas (Therms):0.0	

Maximum Energy Rating Index:53	This Home's Energy Rating Index:49	PASS
This home MEETS the Energy Rating Index Score requirement of 2021 IECC R-406 for Climate Zone 7. It MEETS all of the requirements verified by Ekotrope. Mandatory requirements are summarized on the 2nd page of this report, some of which are not verified by Ekotrope.		
Name: Jeremy Hansen	Signature:	
Organization: EnergyLogic	Digitally signed:	2/22/24 at 11:32 AM

Rating Provider Data and Seal	
Company:EnergyLogic Address:PO Box N, Berthoud, CO 80513 Phone #:(970) 556-0839 Fax #:	
To determine if a provider is properly accredited go to: <a href="http://www.resnet.us/professional/programs/search_directory">www.resnet.us/professional/programs/search_directory</a>	

(Projected. Confirmation required.)

Climate Zone 7 Mandatory Requirements		
Provision Number	Topic	Compliance Decision
R406.5	IECC 2021 ERI: 49 Max allowed: 95% of 53 (50.35)	Pass
R402.4.1.2	Air Leakage Testing	Pass
R403.3.1	Duct Insulation	Pass
R403.3.5	Duct Testing	Pass
R404.1	Lighting Equipment	Pass
Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	Pass
R403.6.2	Mechanical Ventilation Efficacy	Pass
R403.6.1	Mechanical Ventilation Energy Recovery	Pass
R406.2	All other requirements from Table R406.2 not explicitly checked by Ekotrope.	Fail*

\* This is a projected rating. These items must eventually be field-verified by the Rater, Field Inspector, Code Inspector, or Builder.

Ekotrope RATER - Version 4.2.1.3343

IECC 2021 ERI compliance results calculated using Ekotrope RATER's energy and code compliance algorithm.  
Ekotrope RATER is a RESNET Accredited HERS Rating Tool. All results are based on data entered by Ekotrope users.  
Ekotrope disclaims all liability for the information shown on this report.

# Building Specification Summary



### Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

### Organization

EnergyLogic  
Jeremy Hansen

### Inspection Status

Results are projected

### Builder

Template - Eric Smith Architecture & Planning  
Report

Eric Smith Architecture & Planning

## Building Information

Conditioned Area [ft²]	3,140.00
Conditioned Volume [ft³]	49,188.00
Thermal Boundary Area [ft²]	11,413.00
Number Of Bedrooms	4
Housing Type	Apartment, end unit

## Rating

HERS ERI	51
HERS ERI w/o PV	51

## Building Shell

Ceiling w/ Attic	None
Vaulted Ceiling	None
Above Grade Walls	2x6 R27 16" OC (2" CCF + R13 batt); U-0.047
Found. Walls	R15 Foam Board; R-15
Framed Floors	None
Slabs	Uninsulated Slab; R-0

Windows (largest)	U-Value: 0.3, SHGC: 0.35
Window / Wall Ratio	0.27
Window / Floor Ratio	0.14
Infiltration	3 ACH50
Duct Lkg to Outside	46 CFM @ 25Pa (2.01 / 100 ft²)
Total Duct Leakage	91 CFM @ 25Pa (Post-Construction)

## Mechanical Systems

Heating	Air Source Heat Pump • Electric • 9.4 HSPF2
Cooling	Air Source Heat Pump • Electric • 15.6 SEER2
Water Heating	Residential Water Heater • Electric • 3.83 UEF
Programmable Thermostat	Yes
Ventilation System	75 CFM • 35 Watts • ERV
Whole House Fan	N/A

## Lights and Appliances

Percent Interior LED	100%	Clothes Dryer Fuel	Electric
Percent Exterior LED	100%	Clothes Dryer CEF	3.5
Refrigerator (kWh/yr)	739.0	Clothes Washer LER (kWh/yr)	284.0
Dishwasher Efficiency	270 kWh	Clothes Washer Capacity	4.2
Ceiling Fan	None	Range/Oven Fuel	Electric

# Building Summary

## Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

## Organization

EnergyLogic  
Jeremy Hansen

## Inspection Status

Results are projected

## Builder

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## General Building Information

Number Of Bedrooms	4
Number Of Floors	1
Conditioned Floor Area [sq. ft.]	3,140
Has Electric Vehicle Ready Space	No
Unconditioned, attached garage?	No
Conditioned Volume [cu. ft.]	49,188
Total Units in Building	4
Residence Type	Apartment, end unit
Number of Floors in Building	4
Floor Number	1
Model	
Community	Astrid Condos
RESNET/IECC 2006-2018 Climate Zone	7B
IECC 2021 Climate Zone	7B

## Foundation Wall

Name	Library Type	Height Above Grade	Depth Below Grade	Perimeter	Location	Enclosing
2x2 Back Foundation Walls	16oc R5 Foam board 1" deep in 2x2 studs	-10	20	135	Exposed Exterior	Conditioned Space
Crawl (deeper underground portion)	R15 Foam Board	-10	13.5	168	Exposed Exterior	Conditioned Crawlspace
Crawl (south portion)	R15 Foam Board	0.5	3.5	147	Exposed Exterior	Conditioned Crawlspace
Finished Foundation Side Walls	16oc R5 + R15 foam board (1" between 2x2 studs + 3"	0	10	58	Exposed Exterior	Conditioned Space

## Foundation Wall Library List

Name	Feet From Wall Top To Continuous Insulation Top	Feet From Wall Top To Continuous Insulation Bottom	Is Fully Insulated	Continuous R-value	Cavity R-value	Effective Insulation R-value
16oc R5 + R15 foam board (1" between 2x2	N/A	N/A	Yes	15.00	1.95	N/A
16oc R5 Foam board 1" deep in 2x2 studs	N/A	N/A	Yes	0.00	5.00	N/A
R15 Foam Board	N/A	N/A	Yes	15.00	N/A	N/A

## Slab

Name	Library Type	Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
Crawl Slab	Uninsulated Slab	338	Below Grade	0	0	3,140.0 ft²	Exposed Exterior	Conditioned Crawlspace

# Building Summary

<b>Property</b> 2410 Ski Trail Lane Steamboat Springs, CO 80487 Community: Astrid Condos	<b>Organization</b> EnergyLogic Jeremy Hansen	<b>Inspection Status</b> Results are projected
<b>Builder</b> Eric Smith Architecture & Planning		
Template - Eric Smith Architecture & Planning (ESA) - Lower Report		

## Slab Library List

Name	Wall Construction Type	Slab Completely Insulated?	Underslab Insulation Width [ft]	Perimeter Insulation Depth [ft]	Perimeter Insulation R Value	Perimeter Insulation Is Exterior	Thermal Break	Effective R-value
Uninsulated Slab	Wood Frame / Other	No	0	0	0	Yes	No	0.00

## Framed Floor

None Present

## Framed Floor Library List

None Present

## Rim Joist

Name	Library Type	Surface Area	Location
Ambient Rim	R 39	338.0 ft²	Exposed Exterior

## Rim Joist Library List

Name	Effective Insulation R-value
R 39	39.00

## Wall

Name	Library Type	Surface Color	Surface Area	Location
AGW	2x6 R27 16" OC (2" CCF + R13 batt)	Medium	1,439.0 ft²	Exposed Exterior
Elevator	2x2 R5 foam board (1" between 2x2 studs)	Medium	250.0 ft²	Conditioned Space (Adiabatic)

# Building Summary

Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

Organization

EnergyLogic  
Jeremy Hansen

Inspection Status

Results are projected

Builder

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Wall Library List

Name	Effective R-value
2x2 R5 foam board (1" between 2x2 studs)	10.387
2x6 R27 16" OC (2" CCF + R13 batt)	21.197

## Glazing

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Is Operable	Overhang Depth	Overhang Ft To Top	Overhang Ft To Bottom	Orientation	Surface Area
Front	3035	AGW		Yes	0	0	0	Southeast	255.5 ft²
Front - Slider	3035	AGW		Yes	0	0	0	Southeast	80.0 ft²
Left	3035	AGW		Yes	0	0	0	Southwest	10.0 ft²
Left - Slider	3035	AGW		Yes	0	0	0	Southwest	80.0 ft²
Left - door	3035	AGW		Yes	0	0	0	Southwest	24.0 ft²

## Glazing Library List

Name	Shgc	U-factor
3035	0.35	0.300

## Skylight

None Present

## Skylight Library List

None Present

# Building Summary

Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

Organization

EnergyLogic  
Jeremy Hansen

Inspection Status

Results are projected

Builder

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower Report

## Opaque Door

None Present

## Opaque Door Library List

None Present

## Roof Insulation

Name	Library Type	Attic Exterior Area [ft²]	Clay or Concrete Roof Tiles	Surface Color	Surface Area	Location
Ceiling	Adiabatic	3,140	No	Medium	3,140.0 ft²	Conditioned Space (Adiabatic)

## Roof Insulation Library List

Name	Has Radiant Barrier	Effective R-value
Adiabatic	No	1.431

## Whole House Infiltration

Infiltration	Measurement Type	Shelter Class
3 ACH at 50 Pa	Blower-door tested	4

## Mechanical Ventilation

Ventilation Type	Ventilation Rate [ft³ / Minute]	Operational hours per day	Fan Watts	Runs once every three hours	Energy Recovery Percent	Model Number	Manufacturer
ERV	75 CFM	24	35 Watts	Yes	75		

# Building Summary



<b>Property</b> 2410 Ski Trail Lane Steamboat Springs, CO 80487 Community: Astrid Condos	<b>Organization</b> EnergyLogic Jeremy Hansen	<b>Inspection Status</b> Results are projected
Template - Eric Smith Architecture & Planning (ESA) - Lower Report	<b>Builder</b> Eric Smith Architecture & Planning	

## Lighting

% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting	% Exterior LED Lighting	% Garage Fluorescent Lighting	% Garage LED Lighting
0	100	0	100	0	100

## Onsite Generation

None Present

## Onsite Generation Library List

None Present

## Solar Generation

None Present

## Dehumidifier

None Present

## Dehumidifier Library List

None Present

## Whole House Fan

None Present



# Building Summary

## Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

## Organization

EnergyLogic  
Jeremy Hansen

## Inspection Status

Results are projected

## Builder

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Whole House Fan Library List

None Present

## Conditioning Equipment

Name	Library Type	Serial Number	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	Location
ASHP	Carrier 38MURAQ48AB3 outdoor +		73%	73%	0%	Conditioned Space
ASHP - 2	Carrier 38MURAQ18AB3 outdoor +		27%	27%	0%	Conditioned Space
Water Heater 1	Rheem PROPH40 T2 RH375-SO 40 Gal Hybrid		0%	0%	50%	Conditioned Space
Water Heater 2	Rheem PROPH40 T2 RH375-SO 40 Gal Hybrid		0%	0%	50%	Conditioned Space

## Equipment Type: Carrier 38MURAQ18AB3 outdoor + 40MUAQA24XA3 indoor

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	ECM (Variable Speed)
Heat Pump System Type	Unspecified
Heating Efficiency	9.3 HSPF2
Heating Capacity [kBtu/h]	19
Backup Fuel Type	Electric
Switchover Temperature [°F]	-22
Backup Heating Efficiency	1 Adjusted Efficiency
Use default Supplemental Heat	Yes
Cooling Efficiency	18 SEER2
Cooling Capacity [kBtu/h]	18

# Building Summary

**Property**

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

**Organization**

EnergyLogic  
Jeremy Hansen

**Inspection Status**

Results are projected

**Builder**

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Equipment Type: Carrier 38MURAQ48AB3 outdoor + 40MUAAQ48XA3 indoor

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	ECM (Variable Speed)
Heat Pump System Type	Split System
Heating Efficiency	9.4 HSPF2
Heating Capacity [kBtu/h]	50
Backup Fuel Type	Electric
Switchover Temperature [°F]	-22
Backup Heating Efficiency	1 Adjusted Efficiency
Use default Supplemental Heat	Yes
Cooling Efficiency	15.6 SEER2
Cooling Capacity [kBtu/h]	47

## Equipment Type: Rheem PROPH40 T2 RH375-SO 40 Gal Hybrid Electric UEF 3.45

Equipment Type	Residential Water Heater
Fuel Type	Electric
Distribution Type	Hydronic Delivery (Radiant)
Hot Water Efficiency	3.83 UEF
Tank Capacity (gal.)	36

# Building Summary

**Property**

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

**Organization**

EnergyLogic  
Jeremy Hansen

**Inspection Status**

Results are projected

**Builder**

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Distribution System

Distribution Type	Forced Air
Heating Equipment	ASHP
Cooling Equipment	ASHP
Sq. Feet Served	2,292
# Return Grilles	4
Supply Duct R Value	0
Return Duct R Value	0
Supply Duct Area [ft <sup>2</sup> ]	618.84
Return Duct Area [ft <sup>2</sup> ]	458.4
Leakage to Outdoors	46 CFM @ 25Pa (2.01 / 100 ft <sup>2</sup> )
Total Leakage	91 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Conditioned Space
Percent Supply Area	100
Percent Return Area	100
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

# Building Summary

## Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

## Organization

EnergyLogic  
Jeremy Hansen

## Inspection Status

Results are projected

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Builder

Eric Smith Architecture & Planning

## Distribution System

Distribution Type	Forced Air
Heating Equipment	ASHP - 2
Cooling Equipment	ASHP - 2
Sq. Feet Served	848
# Return Grilles	2
Supply Duct R Value	0
Return Duct R Value	0
Supply Duct Area [ft <sup>2</sup> ]	228.96
Return Duct Area [ft <sup>2</sup> ]	84.8
Leakage to Outdoors	17 CFM @ 25Pa (2 / 100 ft <sup>2</sup> )
Total Leakage	33 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Conditioned Space
Percent Supply Area	100
Percent Return Area	100
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

## HVAC Grading

HVAC Grading Not Conducted

## Ceiling Fan

Has Ceiling Fan	No
Cfm Per Watt	70.42253521

# Building Summary

## Property

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

## Organization

EnergyLogic  
Jeremy Hansen

## Inspection Status

Results are projected

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Builder

Eric Smith Architecture & Planning

### Water Distribution

Water Fixture Type	Low-flow
Use Default Hot Water Pipe Length	No
Hot Water Pipe Length [ft]	90
At Least R3 Pipe Insulation?	Yes
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	170
Drain Water Heat Recovery?	No

### Clothes Dryer

Cef	3.45
Fuel Type	Electric
Field Utilization	Moisture Sensing
Is Outside Conditioned Space	No
Clothes Dryer Available	Yes
Defaults Type	Custom

### Clothes Washer

Label Energy Rating	284 kWh/Year
Annual Gas Cost	\$18.00
Electric Rate	\$0.12/kWh
Gas Rate	\$1.09/Therm
Capacity	4.2
Imef	1.57
Defaults Type	Standard 2018+
Load Type	Front-load
Loads Per Week	6
Is Outside Conditioned Space	No
Clothes Washer Available	Yes

### Dishwasher

Dishwasher Defaults Type	Custom
Dishwasher Size	Standard
Dishwasher Efficiency	270 kWh
Annual Gas Cost	\$33.12
Electric Rate	\$0.12/kWh
Gas Rate	\$1.09/Therm
Is Outside Conditioned Space	No
Dishwasher Available	Yes

# Building Summary

**Property**

2410 Ski Trail Lane  
Steamboat Springs, CO 80487  
Community: Astrid Condos

**Organization**

EnergyLogic  
Jeremy Hansen

**Inspection Status**

Results are projected

**Builder**

Eric Smith Architecture & Planning

Template - Eric Smith Architecture & Planning (ESA) - Lower  
Report

## Appliances and Controls

Programmable thermostat?	Yes
Range/Oven Fuel	Electric
Convection Oven?	Yes
Induction Range?	No
Range/Oven Outside Conditioned Space?	No
Refrigerator Consumption	739 kWh/Year
Refrigerator Outside Conditioned Space?	No

## Notes

Eko v4.2.1 used for projected ERI reports

This project is using the actual ERI reports, not the HERS score. Make sure you print the IECC 2021 ERI report for compliance and not the HERS score or HERS reference home. Need ERI of 50 or better.

Sketch Eko data is tricky because of the layout of this home but the template data here should be accurate. Call Jeremy with questions.