

# North Carolina 2018 - R402.1.5 Total UA

## Property

171 Walker Grove Lane  
Lillington, NC 27546  
Model: 1756 Montcrest E-I2\_3  
Community: Walkers Grove

Walkers Grove 6  
True\_Walkers Grove 6\_1756  
Montcrest E-I2\_3\_GR\_WinPerPlan

## Organization

Performance Point, LLC.  
Rick Blair  
704-614-7175

## Builder

True Homes

## Inspection Status










Results are projected

**This report is based on a proposed design and does not confirm field enforcement of design elements.**

## Building UA

Elements	NC Reference	As Designed
Ceilings	67.0	58.9
Above-Grade Walls	158.2	159.8
Windows, Doors and Skylights	114.7	99.0
Slab Floor:	104.7	104.7
Framed Floors	12.4	12.5
Foundation Walls	0.0	0.0
Rim Joists	2.7	2.7
<b>Overall UA (Design must be equal or lower):</b>	<b>459.7</b>	<b>437.6</b>

## Requirements

	402.1.5	Total UA alternative compliance passes by 4.8%.
	402.3.2	Average SHGC: 0.30 Max SHGC: 0.30
	R402.4.2.2	Air Leakage Testing <small>Air sealing is 0.24 CFM50 / ft² Shell Area. It must not exceed 0.30 CFM50 / ft² Shell Area.</small>
	R402.5	Area-weighted average fenestration SHGC
	R402.5	Area-weighted average fenestration U-Factor
	R404.1	Lighting Equipment Efficiency
	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.
	R403.3.1	Duct Insulation
	403.3.3	Duct Testing

**Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 4.8%.**

Name: Rick Blair

Signature: 

Organization: Performance Point, LLC.

Digitally signed: 11/16/21 at 11:26 AM

## Ekotrope RATER - Version 4.0.1.2778

North Carolina 2018 Prescriptive compliance results calculated using Ekotrope RATER's energy and code compliance algorithm, including appropriate amendments.  
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.

# Energy Code Inspection Checklist

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## General Building Information

Conditioned Area (sq ft)	2,220
Conditioned Volume (cubic ft)	19,896
Insulated Shell Area (sq ft)	6,841.1

The building energy model in Ekotrope reflects the building assemblies and energy features listed below. Sometimes energy features will change in the field from what has been modeled. The inspection process should identify any changes and ensure that the home continues to meet the applicable energy code.

## Slab



Name: Slab(1,913 s.f., 210.5 ft. exterior perimeter)  
R-10 perimeter insulation, R-0 under slab insulation.

## Framed Floor



Name: Over Garage (263 s.f.)  
R-0 continuous insulation, R-19 cavity insulation  
Insulation Grade: I

## Foundation Wall

None Present

## Above Grade Wall



Name: 2x4 Ambient (1,767.4 s.f.)  
R-0 continuous insulation, R-15 cavity insulation  
Insulation Grade: I



Name: Niche (2 s.f.)  
R-3 continuous insulation, R-0 cavity insulation  
Insulation Grade: I



Name: 2x4 Garage (114.4 s.f.)  
R-0 continuous insulation, R-15 cavity insulation  
Insulation Grade: I

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Name: 2x4 Kneewall (373.9 s.f.)  
R-0 continuous insulation, R-15 cavity insulation  
Insulation Grade: I



Name: 2x6 Garage (124.7 s.f.)  
R-0 continuous insulation, R-19 cavity insulation  
Insulation Grade: I

## Rim Joist



Name: Attic (29.6 s.f.)  
R: 13.30



Name: Garage (19.1 s.f.)  
R: 13.30

## Ceiling / Roof



Name: 1st FI Ceiling (1,795 s.f.)  
R-28.5 continuous insulation, R-9.5 cavity insulation  
Insulation Grade: I



Name: 2nd FI Ceiling (178 s.f.)  
R-0 continuous insulation, R-38 cavity insulation  
Insulation Grade: I



Name: 1st FI Sloped (78 s.f.)  
R-0 continuous insulation, R-38 cavity insulation  
Insulation Grade: I



Name: 2nd FI Vault (183 s.f.)  
R-0 continuous insulation, R-38 cavity insulation  
Insulation Grade: I

## Opaque Door



Name: Front Door (20 s.f.)  
R: 7.00

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Name: Garage Entry 2x6 (17.8 s.f.)  
R: 7.00

Name: Smurf Door (2) (16 s.f.)  
R: 5.00

## Glazing

Name: Front (15 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH\_WEST

Name: Front Shd (30 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH\_WEST

Name: Right (30 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH\_EAST

Name: Right transom Fxd (6 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH\_EAST

Name: Right door Shd/Complete (17.8 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH\_EAST

Name: Back (60 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH\_EAST

Name: Back Shd/Some (30 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH\_EAST

Name: Back Shd/Some Fxd (25 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH\_EAST

Name: Left (60 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH\_WEST

## Skylight

None Present

## Mechanical Ventilation

None Present

## Mechanical Equipment

Water Heater • Electric • 100% Hot Water Load @ 0.95 Energy Factor

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 Heat Pump/ All • Electric • 100% Heating Load @ 8.2 HSPF, 100% Cooling Load @ 14 SEER

## Air Leakage Control

 Test Status: Blower-door tested  
House is air-sealed as to achieve 1,658 CFM50 (5.00 ACH50) or less at final blower-door test.

Infiltration Requirements for IECC in Climate Zone 4

- 2009 IECC Infiltration limit for the design home is 7 ACH50.
- 2012 IECC Infiltration limit for the design home is 3 ACH50.
- 2015 IECC Infiltration limit for the design home is 3 ACH50.
- 2018 IECC Infiltration limit for the design home is 3 ACH50.
- 2021 IECC Infiltration limit for the design home is 5 ACH50.

## Duct Leakage

Duct System 1

- NOT entirely within conditioned space, testing required
- Leakage to Outside specified as: 4 CFM25 / 100 ft<sup>2</sup>
- Total Leakage specified as: 4 CFM25 / 100 ft<sup>2</sup> (Post-Construction)

## Duct Leakage Code Requirements for IECC

2009 IECC:

- Postconstruction Leakage Test: Duct Leakage to Outdoors  $\leq 8$  CFM25 / 100 sq ft CFA.
- Rough in Test with AHU: Total Duct Leakage  $\leq 6$  CFM25 / 100 sq ft CFA.
- Rough in Test without AHU: Total Duct Leakage  $\leq 4$  CFM25 / 100 sq ft CFA.

2012 IECC Mandatory, 2015 and 2018 IECC Prescriptive Paths:

- Postconstruction Leakage Test: Total Duct Leakage  $\leq 4$  CFM25 / 100 sq ft CFA.
- Rough in Test with AHU: Total Duct Leakage  $\leq 4$  CFM25 / 100 sq ft CFA.
- Rough in Test without AHU: Total Duct Leakage  $\leq 3$  CFM25 / 100 sq ft CFA.

2015 and 2018 IECC Performance Paths (Cost Compliance):

- Leakage testing is required UNLESS all ducts and air handlers are located entirely within the thermal envelope.
- There is no pass/fail threshold for duct leakage on the performance path.

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## Project Notes

VF\_11/12/2021\_N/S Performance Report  
**True\_1756 Montcrest E-I2\_3**

-Used worst orientation (SW)  
DG\_11/16/2021  
Revised

## Energy Specifications Label

*171 Walker Grove Lane*

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Ekotrope RATER - Version: 4.0.1.2778

### Building Envelope Specs

Ceiling: R-38

Above Grade Walls: R-15

Foundation Walls: N/A

Exposed Floor: R-19

Slab: R-10

Infiltration: 5 ACH50

Duct Insulation: Supply: R8, Return: R8

Duct Lkg to Outdoors: 4 CFM25 / 100 ft<sup>2</sup>

### Window & Door Specs

U-Value: 0.33, SHGC: 0.3

Door: R-7

### Mechanical Equipment Specs

Heating: Air Source Heat Pump • Electric • 8.2

HSPF

Cooling: Air Source Heat Pump • Electric • 14

SEER

Hot Water: Residential Water Heater • Electric •

0.95 Energy Factor

Average Mechanical Ventilation: 0 CFM

### Builder or Design Professional

Signature: \_\_\_\_\_

# Builder Affidavit

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**Builder**

True Homes

**Inspection Status**

Results are projected

## Important Notice to Builder

Builder affirms in this affidavit that all building characteristics described in the Building Summary Report accurately reflect this New Home. Builder agrees to allow the Home Energy Rating System (HERS) Provider and/or Rater to verify building characteristics of this New Home fully at the HERS Rater/Provider's discretion. The HERS Provider and Rater do not create or imply any duty or obligations to Builder or any subsequent owner. Builder is responsible for taking any actions necessary to protect Builder's interest. There is no guarantee or warranty whatsoever expressed or implied from the HERS Provider or Rater.

HERS® Index Score:86

Builder Name: True Homes

Builder Signature: \_\_\_\_\_

Name:                     Rick Blair                    

Signature:                                         

Organization:                     Performance Point, LLC.                    

Digitally signed:                     11/16/21 at 11:26 AM