



Ford Residence

Ford Residence



Participant information

Panelwrights LLC
Al Cobb
808 French Road
Shenandoah Junction, WV 25442

Phone: 304-876-0265
Email Address: annie@panelwrights.com
Website: www.panelwrights.com

Category
Single Family Homes (over 3,000 sq. ft.)

Project information
Ford Residence
Hedgesville, WV 25427

Date Completed: February 2018

Total cost of project (exclusive of land): \$1,000,000

Dimensions of building (all floors of multi-story building):
67' x 51' (First Floor) 67' x 34' (Second Floor)

Total sq. ft. of conditioned space: 3052 sq ft

Built By (if different than applicant)
Panelwrights LLC
Al Cobb
808 French Road
Shenandoah Junction, WV 25442

Panels Manufactured By
Company Name (members only): Insulspan



Ford Residence



Designed By (if different than applicant - SIPA will only recognize members)

Natural Elements Homes (not a SIPA member)

Panelwrights LLC

808 French Road

Shenandoah Junction, WV 25442

Total sq. ft. of conditioned space: 3052 sq ft

Please answer each question with as much detail as possible to help in the judging process.

Describe the end use of the building: Private Residence with Home Office, Workshop, Exercise Room, and extensive entertaining area, located on historic Back Creek in the Eastern Panhandle of West Virginia.

How did SIP construction help you get this job? The homeowners' ultimate goal was to be energy independent. They contacted Panelwrights because of our reputation of building low energy and off-grid structures. The homeowners were familiar with SIP construction and wanted to work with an experienced SIP contractor.

SIP wall thickness and core material: 6.5" EPS

SIP roof thickness and core material: 12.5" EPS

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? SIPs were used for maximum energy efficiency and the SIP design met the structural needs of the hybrid timber frame structure. Using SIPs yielded high performance and reduced energy costs on this home. The final HERs score allowed the homeowner to enjoy a tax credit on the home.

Describe any innovative design elements or structural engineering involved:

- * A Frost Protected Shallow Foundation vastly improved performance as the entire slab (exposed as finished floor) was insulated from ground contact.
- * Perimeter of slab was insulated with Nailbase Panels using cementitious skin as part of the FPSF.
- * Passive Solar Design by Panelwrights to maximize solar gain with southern exposure and solar shading with properly sized overhands.
- * Back Ventilated Exterior Cladding using woven polypropylene matting to improve performance and durability.

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Please list any certifications the project received, such as ENERGY STAR, LEED, National Green Building Standard, WELL, Passive House, Green Globes or local green building programs. Only list certifications that are completed: Energy Star

HERS Index (required only for High Performance Category and recommended for residential projects): 48

Blower door test results (ACH50) (required only for High Performance Category and recommended for residential projects): 1.0 ACH

Energy use intensity in kBtu/ft² (required only for High Performance Category and recommended for commercial projects): N/A

Describe the HVAC system used on the project: * 4 zoned mini split with SEER-21

* 3 zoned radiant floor - electric to be compatible with solar.

* Whole house ventilation using ERV

* Soap Stone wood oven/stove

Describe any other energy-saving materials used in the building envelope other than SIPs. List U-values of windows used and the U or R-value of any insulation materials. (judged only for High Performance Category) R-50 Frost Protected Shallow Foundation using EPS high density foam with perimeter nailbase and zero contact with ground due to foam detail (see attached)

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category): Passive solar design by Panelwrights to maximize solar gain with southern exposure and solar shading with properly sized and located overhands.

Were any solar panels installed on the project? If so, indicate the size of the system (judged only for High Performance Category): Currently being installed to allow net-zero operations by end of 2019

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc. (judged only for High Performance Category):

* All interior finishes are low or no VOC.

* Substantial amount of trim details were from locally harvested wood.

* Landscaping includes edible fruit and nut trees native to the area.

Any additional comments on the project:

Panorama

Ford Residence



Exterior view - rear

Ford Residence



Interior great room

Ford Residence

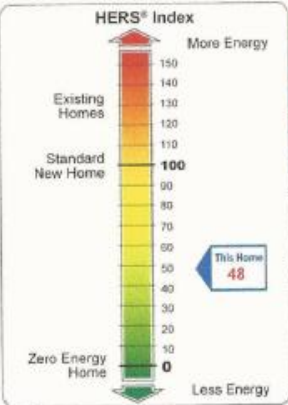


HERS Index

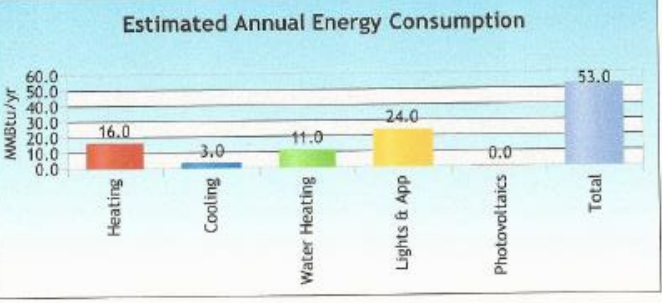
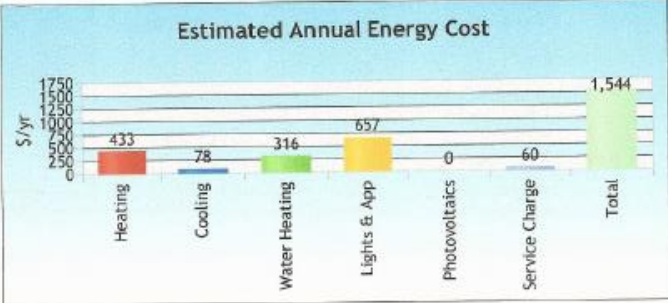
Ford Residence



HERS PERFORMANCE



ENERGY RATING CERTIFICATE



Address 14228 Back Creek Valley Road
Hedgesville, WV 25427

House Type Single-family detached

Cond. Area 3052 sq. ft.

Rating No. HESr-0052

Issue Date December 15, 2016

Certification Verified

Annual Estimates*

Electric(kWh): 15632

CO2 emissions(Tons): 16

Annual Savings**: \$2064

* Based on standard operating conditions

** Based on a HERS 130 Index Home

TITLE

Company

Address

Certified Rater Randy Swartz

Rater ID 3413864

Registry ID 262702814

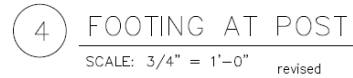
Rating Date 12/8/2016

Signature

REM/Rate - Residential Energy Analysis and Rating Software v14.6.4

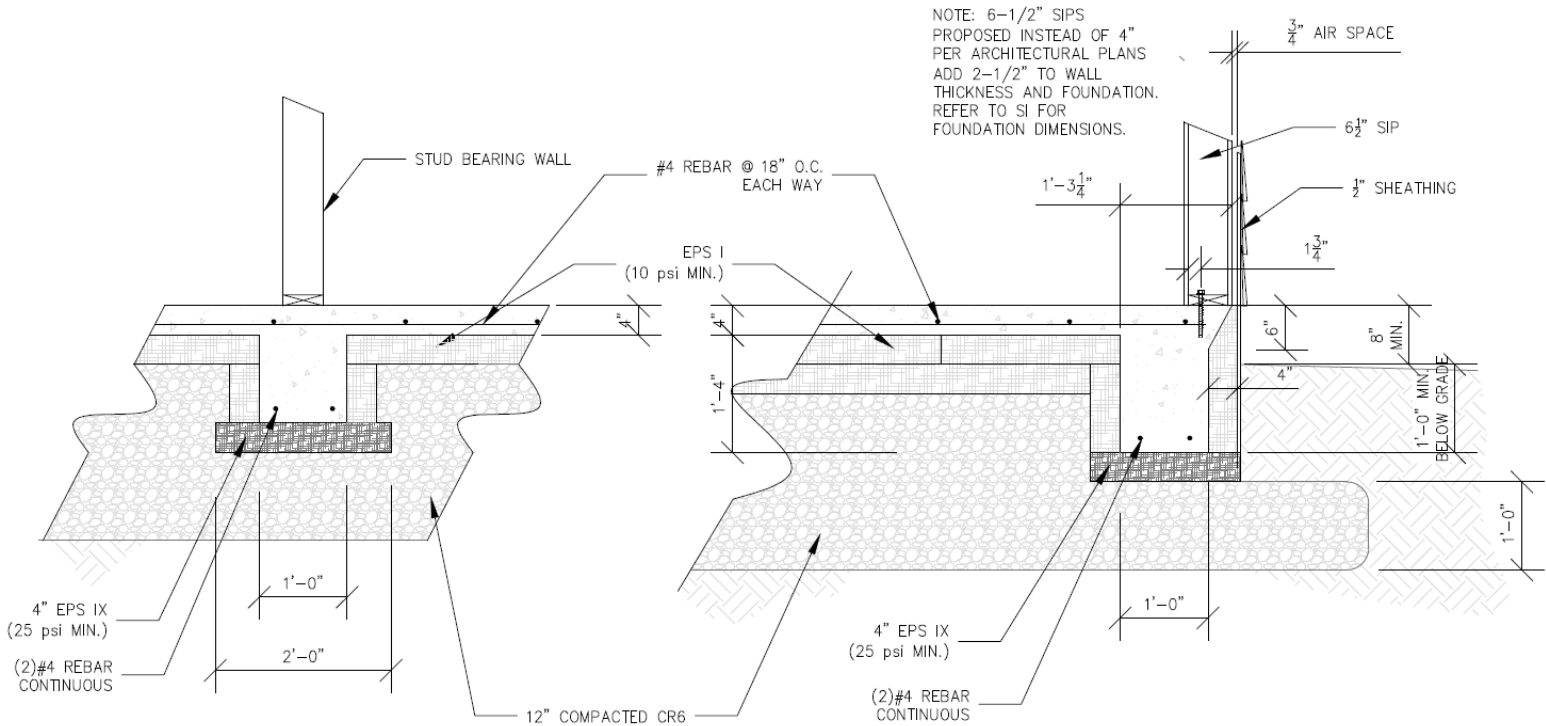
This information does not constitute any warranty of energy cost or savings. © 1985-2016 Noresco, Boulder, Colorado.

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.



Foundation details

Ford Residence

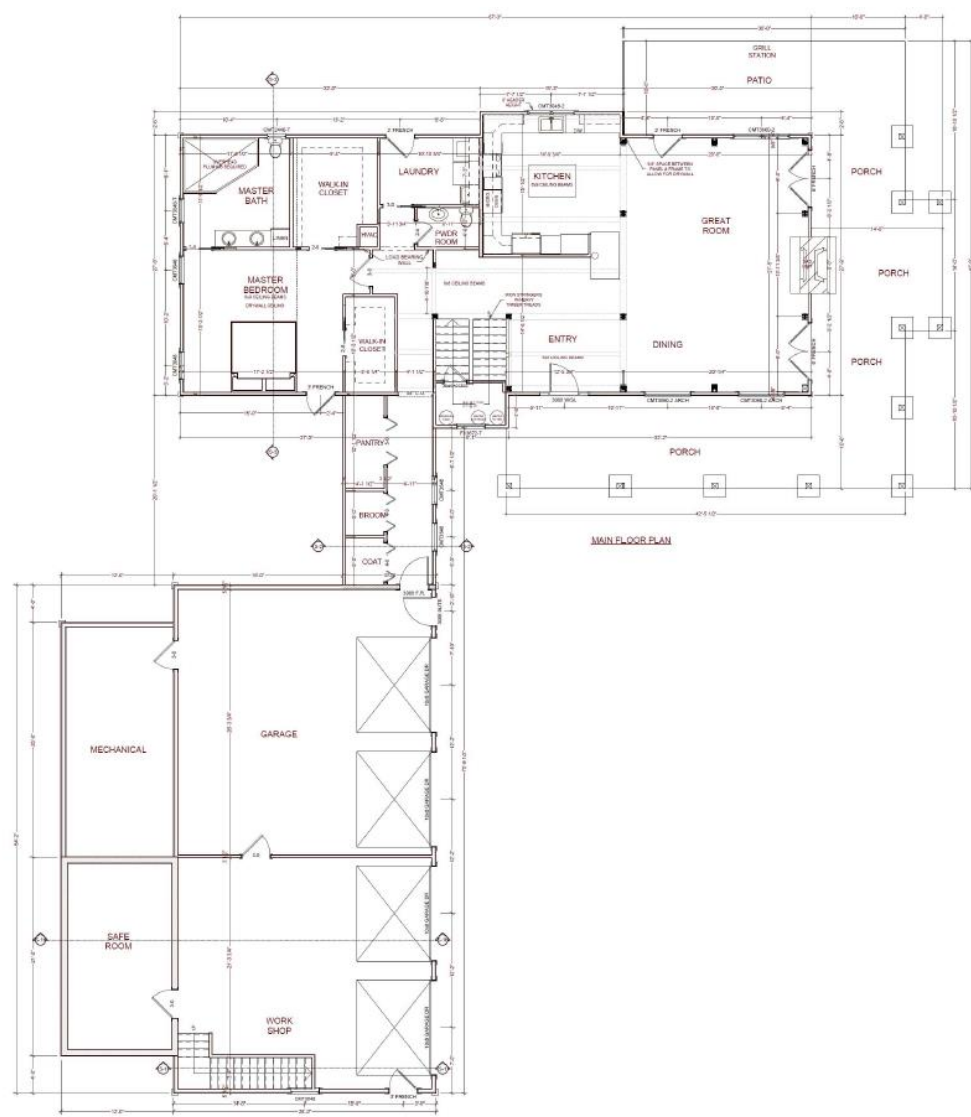


2 INTERIOR WALL FOOTING
SCALE: 3/4" = 1'-0"

3 SLAB EDGE TYPICAL DETAIL
SCALE: 3/4" = 1'-0" revised

First Floor Plan

Ford Residence



Second Floor Plan

