

Participant information

Premier SIPS
James Hodgson
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Category

Single Family Homes (under 3,000 sq ft.)

High Performance:

Yes

Project information

Lambo Residence
Not disclosed
Bellingham, WA 98229

Date Completed:

January 2019

Total sq. ft. of conditioned space:

2,707 sq. ft.

Built By (if different than applicant)

TC Legend Homes
Ted Clifton Jr
Canyon Rd
Bellingham, WA 98229

Panels Manufactured By: Company Name (members only):

Premier Building Systems

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

TC Legend Homes
Premier SIPS
Canyon Rd
Puyallup, WA 98375

Describe the end use of the building:

Custom Residence

How did SIP construction help you get this job?

Beyond just Green Building, a positive-energy home not only produces 100% of the energy it needs for heat, lighting, and appliances but generates enough extra solar power to run an electric car thousands of miles a year! Amazing, right?

SIP wall thickness and core material:

6" GPS Walls

SIP roof thickness and core material:

10" GPS Roof

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy?

Structural Insulated Panels (SIPs) are the most efficient and technologically advanced framing system available. These locally made panels come precisely cut, allowing for fast construction, a strong, air-tight shell, and practically zero jobsite waste.

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:

2019 Housing Innovation Award Winner!

Washington State Build Green Program

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

without PV 34; with PV -11

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

0.44 ACH 50

Describe the HVAC system used on the project:

- Ventilation: HRV, continuous ventilation, with boost timers; MERV 13 filters.
- HVAC: Combined heat and hot water, air-to-water heat pump, 3.92 COP, radiant floor heating; 23 SEER AC; propane fireplace backup; passive solar design.

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)

- Foundation: Slab on grade, fiber mesh-reinforced 4" concrete, 4" R-20 EPS foam under- slab, R-23 ICF stem walls, slab is finished floor.
- Windows: Triple-pane, argon-filled, low-e3, vinyl casement frames, U=0.14, SHGC=0.33.

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category:

- Hot Water: Heat pump water heater, 3.92 COP, 50-gal.; electric tankless backup; PEX pipes.
- Lighting: 100% LED, motion sensors, daylighting.
- Appliances: ENERGY STAR clothes washer, dryer, dishwasher, and refrigerator.

Were any solar panels installed on the project? If so, indicate the size of the system (judged only for High Performance Category):

Solar: 10.07-kW PV system.

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):

Other: Electric vehicle charging station, stepless entry, curb-less shower, wider doors, HBCD-free SIPs, low-to-no-VOC products, formaldehyde-free cabinets.

Any additional comments on the project:

The house is weighted south, toward the sun. With both asymmetrical roofs; longer to the south for solar build-out and a preponderance of south glazing for wintertime passive harvesting, the windows are appropriately shaded, with regionally appropriate eaves and porches, against summertime overheating.

The gross footprint of the house is rectangular, stretched with the long-axis running east-west to maximize space available for solar harvest on roofs and south wall, with much smaller east and west walls which overheat as they take the full force of the sun in summer. The slab-on-grade floor is finished to be left exposed and imparts a visceral, cooling, underfoot mass.

The slab also houses in-floor hydronic heating and radiates warm comfort during the long winter season, which, like all the seasons, can be felt and seen keenly in this house though the diversity of landscape views.

The home also features an open floor plan, with no wasted hallway space. The living area loft provides a sense of grandeur, but the modest-sized bedrooms and bathrooms require less energy and provide balanced efficiency.