

Application

PARTICIPANT INFORMATION

Company Name: SHIREY CONTRACTING
Contact Name: DONNA DADE SHIREY
Address: 230 NE JUNIPER ST.
City: ISSAQUAH
State: WA Zip: 98027
Phone: 425.427.1300
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Email: donna@shireycontracting.com
Website: www.shireycontracting.com

CATEGORY ENTRY (check one category)

- ☐ Single Family Homes (over 3,000 sq. ft.)
☒ Single Family Homes (under 3,000sq ft.)
☐ Multi-Family
☐ Agricultural
☐ Institutional / Industrial / Commercial
☐ Renovations

PROJECT INFORMATION

Project Name: ZERO ENERGY IDEA HOUSE
Address: 840 W.LK. SAMMAMISH PKWY SE
City: BELLEVUE
State: WA Zip: 98027
Date completed: 10.09
Total cost of project (exclusive of land): \$ 1,150,000
Dimensions of building (all floors of multi-story building): See Plans

BUILT BY (if different than applicant)

Company Name: _____
Contact Name: _____
Address: _____
City: _____
State: _____ Zip: _____

PANELS MANUFACTURED BY (members only)

Company Name: INSULSPAN

DESIGNED BY (if different than applicant – SIPA will only recognize members)

Company Name: CLINKSTON BUNNER ARCH.
Contact Name: DAVID CLINKSTON
Address: 105 W. JOHN ST.
City: SEATTLE
State: WA Zip: 98119

PLEASE ANSWER EACH QUESTION WITH AS MUCH DETAIL AS

POSSIBLE TO HELP IN THE JUDGING PROCESS See Attached.

Describe the end use of the building (attach additional pages if necessary)

How did SIP construction help you get this job?

Continued

Specify unique features of why the project is deserving of recognition (new construction techniques, customer problems solved, time / labor savings, financial savings, etc.)

What energy-efficient or green building products and / or techniques were incorporated into the building? Please list any local or national energy-efficient or green building certifications earned (ENERGY STAR, LEED, Built Green, etc.)?

HERS Index:

Which elements of the building (floors, walls, roof) were built with structural insulated panels? What thicknesses of SIPs were used?

Comments you would like in a news release on this building?

CHECKLIST

☒ My company is a SIPA member. Panels for this project were manufactured by a SIPA member.

☒ I have answered ALL the questions completely.

☒ I have enclosed the two required electronic images as defined in the SIPA Building Excellence Awards guidelines.

OPTIONAL

- ☒ I have enclosed photographs that display different stages of the building project
- ☒ I have enclosed a floor plan drawing (no larger than 17" x 22" in size)
- ☐ I have enclosed a letter from the building owner regarding the building project
- ☐ I have enclosed a list of local publications (name and full contact information) for press release distribution

PLEASE CONFIRM: I have read and understand the rules for this competition. This entry is structural insulated panel construction as defined in the SIPA Building Excellence Awards guidelines. I understand by making this submission that my pictures will be used by the Structural Insulated Panel Association (SIPA) to promote the use of structural insulated panels. I hereby give permission to SIPA to use the enclosed pictures for any use they see fit in that endeavor. I understand that where possible, SIPA will give credit for pictures used to my company as listed above.

Signature:

Donna Bradbury

Date:

4-6-10

Entries received that do not contain all required materials will be returned.

Entries received after Friday, March 26, 2010 will not be considered

Complete and return to the SIPA office:

P.O. Box 1699 Gig Harbor, WA 98335
For FedEx or UPS Deliveries ONLY:
6659 Kimball Drive NW, D-404
Gig Harbor, WA 98335
253.858.7472

FOR OFFICE USE ONLY

Entry Number

Date Received

Describe the end use of the building

The home was build as the residence for the owner/builders of the project. They have been building with SIPS since 1987. It has been a challenge to find builders, especially production builders, who understand how SIPS can solve many of the construction issues they face. The owner/builders decided there was a group of people who were interested in building better homes that would save energy and create homes with good indoor air quality. Thus, consumers were the focus of this "Idea" house. The owner/builder felt the time was right for consumers to learn how to be a part of the Green Building industry.

The Zero Energy Idea House was created as a teaching tool for students and consumers. The house has been open to the public for five weekends. It has also been available for private tours for schools, industry associations and any interested groups. To date, about 1500 people have been given tours of the house.

The tours focus on the design, structure, mechanical and ventilation, energy conservation, renewable energy, and materials. Volunteers from the non-profit Washington Home Performance assisted with the tours.

The project is a part of the Building America program and will be monitored by the Washington State University Energy Extension program. In order to know a house uses zero energy, the monitoring must be a year long. How it works is, sometimes power is purchased from the utility and then any extra power created on the house, will be sold back to the utility. After a year, the goal is to have the house create as much energy as is used. There will be a case study done once a year's worth of data is collected.

The owners are now living in the home and love it.

How did SIP construction help you get this job?

The owner/builder does not build any other way and there was no question that SIPS would be used!!

Specify unique features of why the project is deserving of recognition.

The house was built on an "in-fill" lot in Bellevue, Washington. There is a 65% slope below the house. After core drilling was performed, it was determined the soil was stable with a reading of 10,000 PSF. The foundation is extensive using six auger cast piles connected to grade beams with 28,000 pounds of rebar. There also is 200 yards of concrete in the foundation including a large six foot wide by 2 feet deep footing that anchors the house to the land.

About the exterior: The siding is fibrous cement with a rain screen behind it to make sure any moisture drains. The roof supports a green roof to control water run off. When building on a steep slope, it is important to manage the water. The green roof slowly releases rainwater which is collected by the gutter system and stored in a 3,000 gallon cistern under the garage. This water is used for irrigation purposes and any overflow is set up to automatically pump into the city storm water system. The gable roof supports Solar PV panels. There also is a wind turbine and solar hot water system on the roof.

Windows are energy efficient fiberglass frames with low E and argon filled glass.

The heating system is radiant floor with a veneer of Hickory on an engineered wood product. There is an ERV for ventilation with one way ports that bring in make up air for good indoor air quality. Also, all closets and other rooms have "jumper" grills to be sure there are no dead air spaces in the house.

Materials used on the interior of the house were reviewed for actually being "green". For example, the contractor toured the manufacturing facility where the cabinets were made. It was found to be truly a green product because the plant is employee-safe. No one needs to wear a protective breathing mask. The air is filtered and safe to breath. All glues, stains and paints are safe. These are cabinets good enough to be installed in a tight house.

A small house presents the architect with many challenges. It is easy to throw square footage at a project if parts don't work out. This architect did a great job of using every square inch of the house and created spaces that work. Visually, the house appears larger than it is because on the main level, the eye makes use of other spaces to create a larger feel. Windows were strategically placed to frame the view so the "eye" has a frame of reference and more of the view is seen.

The contractor likes to use "systems" for as many parts of construction as possible. For example, the decks are concrete and created off site and installed when brought in. SIPS are a system with little waste on the job site. The radiant floor heat is a system that includes the sub floor with the heating system. Steel beams were cut to fit and assembled on site. It is cost effective and waste free and saves time when parts of houses are created off site and simply assembled as they arrive.

This house is on the cutting edge of energy technology and wise use of materials creating the "house of the future".

What energy-efficient or green building products and or techniques were incorporated into the building? Please list any local or national energy-efficient or green building certifications earned.

One of the most important tests to be performed on the house was a blower door test. The builders had one performed before drywall to catch any air leakage into the house, one after drywall and one when the house was completed. The house is virtually air tight. In conjunction with the blower door test, the last two tests made use of thermal imaging heat gun. The process is reported in the attached HVAC/IRQ News. As a point of reference, the standard for an Energy Star rated house is 4 ACH@50Pascals. This house had a rating of 1.79 ACH@50Pascals. It is a very tight house.

Other Green features of the house are:

- Solar Hot Water
- Photovoltaic solar power generation
- Green Roof
- Energy Star light fixtures and appliances
- Fiberglass windows with Argon gas
- Radiant floor heat
- Wind Turbine
- Rainwater harvesting system
- Vegetated "living wall"
- Ductless hydronic heating
- Low flow showerheads and faucets
- Low VOC paints
- And much, much more.....

Certifications Earned:

Energy Star

Built Green 5 Star

Other recognition:

King County created a DVD about the house. It can be found on their website at: [kingcounty.gov/green tools](http://kingcounty.gov/green%20tools)

**Which elements of the building were built with Structural Insulated Panels?
What thicknesses of SIPs were used?**

The lower floor – 10" sips

The exterior walls – 6"sips

The roofs – 10" sips

Comments you would like in a news release on this building?

- Green homes can be stylish and beautiful
- A home can create as much energy as it uses
- With a high performance house, you can have a light footprint on the earth
- There are appliances available that use small amounts of electricity
- The house can be reviewed at: zeroenergyideahouse.com