



Stepp Tree House

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Participant information

Enercept, Inc.
Charlie Ewalt, Roberta Bartel
3100 9th Avenue SE
Watertown, SD 57201
Phone: 605-882-2222
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Category

Single Family 'Small House' under 900 sq. ft.

High Performance: No

Project information

Stepp Tree House
47724 SD Highway 50
Elk Point, SD 57025

Date Completed: November 2018

Total cost of project (exclusive of land): n/a

Dimensions of building (all floors of multi-story building): 26' x 24'

Asking price/purchase price (Affordable Housing only): n/a

Total sq. ft. of conditioned space: 624 sq. ft.

Built By (*if different than applicant*)

JBar Construction Specialties
Josh Barber
2301 Research Parkway
Brookings, SD 57006

Panels Manufactured By

Company Name (members only): Enercept, Inc.



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

JBar Construction Specialties
Josh Barber
2301 Research Parkway
Brookings, SD 57006

Total sq. ft. of conditioned space: 624 sq. ft.

Describe the end use of the building: This unique and rustic vacation cabin, situated among the tree tops in a quiet wooded area, is a getaway retreat for the owners. The couple also plan to generate income and share their home away from home by renting it to others via Air BnB.

How did SIP construction help you get this job? Carrie Stepp is an author and nature-lover. She had the dream of building a tree house and wanted to maximize the living space without leaving a large footprint in the trees. Because the tree house was built on posts and not a solid foundation, they needed the structural integrity of SIPs. Using rigid SIP construction will also prevent the cabin from twisting and turning over time. SIPs made this unique project feasible.

SIP wall thickness and core material: 4" with EPS Insulating Core

SIP roof thickness and core material: 4" with EPS Insulating Core

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? The cabin is built as a tree house, 14' in the air and supported by Post and Beam construction. It is located in a draw, in the middle of a wooded country lot. SIPs made the job easier. Panels were assembled on the ground and lifted into place with a 56' boom. They were able to enclose the cabin in one day. The Post and Beam construction (like timber framing) marries well with a SIP enclosure system.

Describe any innovative design elements or structural engineering involved: The project was designed to utilize one-piece jumbo panels where possible. The stair case to the ground-level deck was engineered to be self-supporting.

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: n/a

HERS Index (required only for High Performance Category and recommended for residential projects): n/a

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

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: The tree house cabin is heated and cooled with an LG Mini-Split, Air to Air Heat Pump.

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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) The windows are energy efficient Integrity Marvin Windows.

A highly reflective, eco-friendly, ultra-cold, Dura Coat steel roof covers the SIP roof panels.

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category): LED lighting was used throughout the cabin.

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

Exterior view

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Front view

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Exterior view

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Elevation plans

Stepp Tree House

