



Classic Competition



Elm Tree Residence

Elm Tree Residence



Participant information

Enercept, Inc.

Charlie Ewalt-Roberta Bartel-Neal Mack

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Watertown, SD 57201

Phone: 605-882-2222

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

High Performance: No

Project information

Elm Tree Residence

New Town, ND 58763

Date Completed: 07/2017

Dimensions of building (all floors of multi-story building): Irregular

Total sq. ft. of conditioned space:

10,625 sqft living space

1,253 sqft heated garage

Built By (if different than applicant)

Paramount Builders

Scott Stoeckel - Jarred Roloff

1407 Tacoma Avenue Unit 1

Bismarck, ND 58504

Panels Manufactured By: Enercept, Inc.

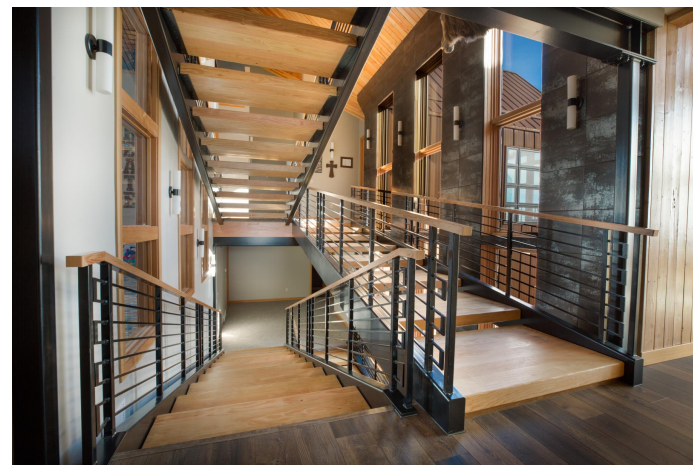
Designed By (if different than applicant - SIPA will only recognize members)

Plain View Design

Tanner Reidman

601 N 5th Street

Bismarck, ND 58501



Elm Tree Residence



Total sq. ft. of conditioned space:

10,625 sqft living space

1,253 sqft heated garage

Describe the end use of the building:

The Elm Tree project is an amazing home located on five generational family ranch. It is the primary residence for a young, growing family in North Dakota.

How did SIP construction help you get this job?

The customer liked the idea of having a shortened construction cycle by combining the steps of framing, insulating and sheathing into one step. They were also looking for clear-span, actual vault ceilings that would offer plenty of space to display the family's many animal mounts. The home is located on the top of a hill in open prairie, and the owners wanted to eliminate wind noise, the solid foam insulating core makes this possible.

SIP wall thickness and core material: 8" EPS walls

SIP roof thickness and core material: 10" EPS roof

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

In addition to saving time and labor cost, using SIPs on this project made it easier to work with the steel beams and girders used in the stair well that serves a connection between the two sections of the home. The builder could not have achieved the insulation R-value without using SIPs on this home. By using SIPs they were able to seal the home with less thermal bridging.

Describe any innovative design elements or structural engineering involved:

This unique home was built on the side of a hill. Special engineering was required to develop the best ways to support the structure. 12' - 14' foundation walls were built and backfilled to support the home. There are four sets of stairs, each are 28' long and have treads (step platforms) that are 2' - 3' deep. The stairs serve as the connection piece for two open living space on the two living levels and bonus space above.

Describe the HVAC system used on the project:

This home has one 60,000 BTU, 95% efficient propane furnace; two 100,000 BTU variable speed, two-stage, 96% efficient, dual source Comfort Maker furnaces that use either propane or electricity. The garage is heated with 75,000 BTU heater. The home has two 150 cfm Fantect HRV's. There are two 4-ton / 17 seer, two stage AC units. There is in-floor heat in the bathrooms.

Any additional comments on the project:

Other building features: Flooring is low VOC vinyl plank, 9,000 sqft of reclaimed Douglas Fir was used for tongue and groove wall and roof finishes. The outside is finished with Bridger Steel that is "rust to finish" noncoated material. IPE natural wood deck material was used outside patio. Weather-Shield, Zo-e-shield, Low-E windows with a 0.28 U-factor were installed. There are several of the larger, Low-E windows throughout the house providing breath-taking views of the expansive prairie. The large home profile blends naturally into the countryside. Despite its size the home has a small, cozy feel. In July 2016 severe storms with large hail, strong winds and tornadoes ripped through the area. The storm destroyed a 30,000 sqft building located on the property, but this home (still under construction) sustained no wind damage.

Front view

Elm Tree Residence



Stairwell

Elm Tree Residence



Dining room

Elm Tree Residence



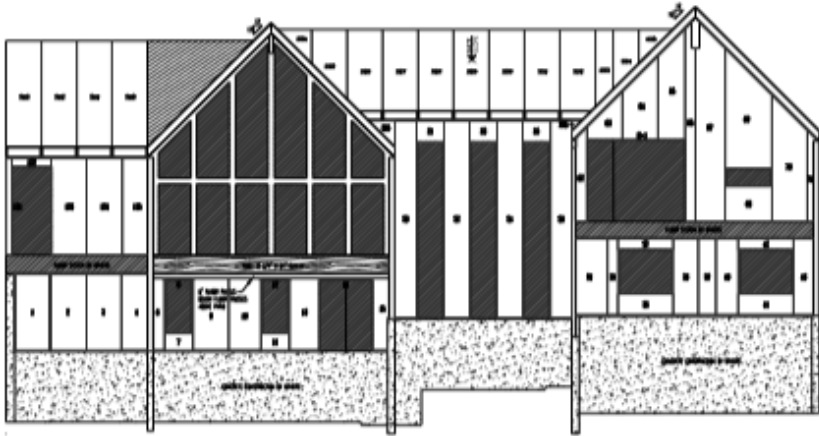
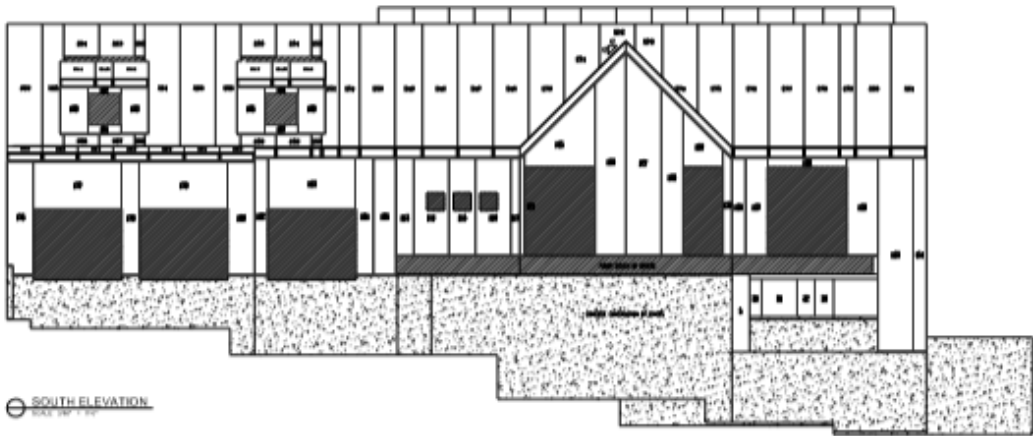






Elevation front

Elm Tree Residence





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ENERCEPT PANELS FOR ESTIMOLD

EXTERIOR ELEVATIONS

SCALE: AS NOTED

DRAWN BY: [blank]

DATE: 06-02-2015

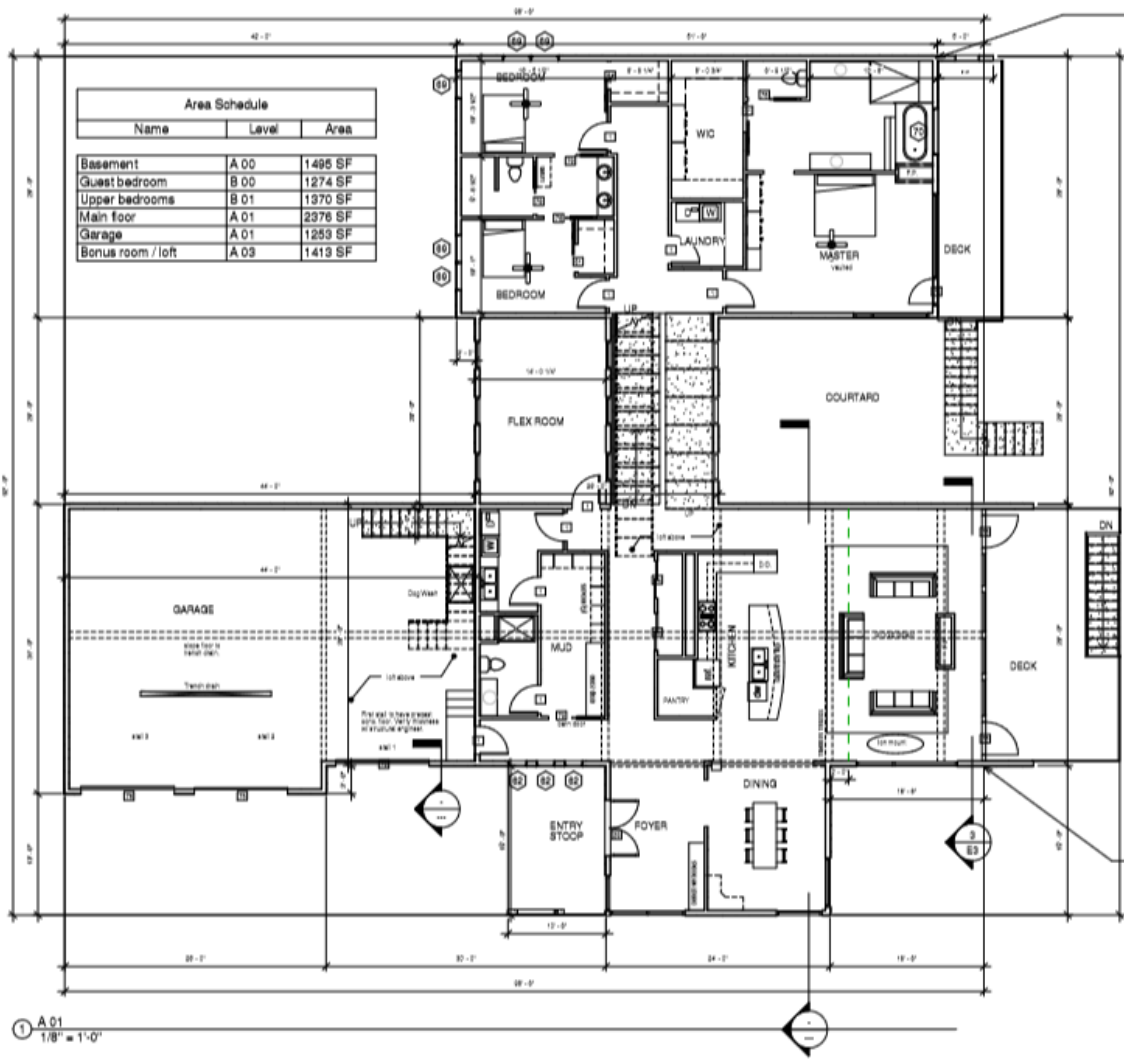
PROJECT NUMBER: [blank]

SHEET: 5 of 7



First floor plan

Elm Tree Residence



B 01

- Plan Notes:
- 1. First floor 11' SIP wall on 24' floor truss.
 - 2. SIP roof to sit directly on top of SIP wall.
 - 3. Beam size and location TBD

A 01

1 A 01
1/8" = 1'-0"

