

1840s Barn Conversion

Milford, MI, USA



Nineteenth Century barn gets new life as the timber frame for an energy-efficient home

For a pair of ambitious Michigan homeowners, the conception of their new, cutting-edge home began not on drafting board, but 80 miles away from their building site with an abandoned 1840s barn outside of Fowlerville, Michigan. The aging structure was built using a traditional mortise and tenon timber frame that they felt was worth preserving as the skeleton for their new, energy-efficient home.

Crews meticulously disassembled the barn and erected the salvaged 34-foot-tall timber frame at the new building site. But the antique timbers required additional structural support and a full building enclosure system to complete the home.

The homeowners chose the Insulspan® Structural Insulating Panel (SIP) System for the walls and roof of their new 2,500 sq. ft. home. Prefabricated Insulspan SIPs provided a structural building enclosure and insulation in a single step, saving labor and reducing construction costs.

"Insulspan SIPs were cheaper than the competition and we needed to have structural support for these old timbers," said the homeowner.



Another major consideration for the homeowners was energy efficiency. With a core of continuous rigid insulation, Insulspan SIPs deliver better effective thermal resistance because they avoid thermal bridging at wood studs. Adding to the efficiency of the SIP building enclosure, the homeowners installed a ground-coupled heat exchanger that

draws pre-tempered incoming air through a tube buried in the ground, taking advantage of the consistent temperature of the soil.

"We liked the long term benefits of the Insulspan SIPs," said the homeowner. "We expect to have very low heating and cooling costs with the geothermal system and the building envelope."

"It was a privilege to be involved in the construction of a unique home like this," said Aaron Hinde, Insulspan Blissfield Sales Manager. "The addition of Insulspan SIPs really helped reduce heating costs, making this beautiful home more sustainable and affordable to live in."