

PREFAB LIVING
in Washington





Project specifications

TYPE: Prefabricated new residential construction

LOCATION: Lake Whatcom, Washington

TOTAL SQ FT: 2,050 sq. ft.

LOT SIZE: 39,863 sq. ft.

FLOOR COVERING: Engineered VG carbonized bamboo

ENERGY: On-demand water heater

The Lake Whatcom project incorporates Method Homes' Cabin Model 2 with a site-built lower level. With 1250 sq. ft. upstairs and 800 below, the home is oriented to capture the expansive lake views from the property. It features custom FSC cabinetry, Warmboard radiant heat, foam and cellulose insulation in the walls and floor and a finished concrete floor in the basement. The home has a covered entry built for a future green roof, a rough sawn plywood ceiling and a custom fir and galvanized steel pipe stair railing.

Architect
Balance Associates

Located in Seattle Washington, Balance Associates began in 1980 by consulting government agencies and utilities on energy-efficient building designs and programs. Around 1990, their focus shifted from consulting to designing for their own clients. Today they design and oversee the construction of homes, cabins and other structures throughout the country. Balance Associates designs for sustainability and energy efficiency, balancing their clients' desires for environmental responsibility and architectural sophistication.

"Method Homes got us involved in this project when we were contracted to design their line of prefab cabins. We worked with Method's clients to determine the pre-fab model that would work best for their site, program and budget. The design style selected for the Lake Whatcom project was Model 2, Natural Modern.

With Warmboard we realized we would be able to achieve maximum levels of comfort for the homeowner, with minimal hassle or impact on design. It significantly simplified many of our processes. It was very easy to work with.

A daylight basement and lower floor entry area helped to ground the house, while giving the primary spaces in the house the best view of the lake.

Specializing in residential architecture in remote locations, we have extensive experience in the design of traditionally built and pre-fabricated homes."

Balance Associates
206.322.7737
balanceassociates.com



Builder
Method Homes

Method Homes offers durable and modern prefab homes with a focus on high quality craftsmanship and client satisfaction. They have an established portfolio focusing on sustainability, energy efficiency, healthy living and thoughtful design. Their prefab homes are built inside their custom production facility in the Pacific Northwest and shipped throughout the U.S. and parts of Canada. Method Homes builds custom projects for architects, developers, homeowners and commercial projects in addition to offering their own models.

“We use radiant heat on 80% of our projects due to the energy efficiency, increased comfort and the benefits to environmental air quality. As a modular manufacturer, we like Warmboard because it provides an even subfloor for us to work off of during factory production and keeps the weight of our modules down, making trucking and craning smoother. Warmboard streamlines many processes for us.

Because our projects are pre-fab and delivered in modules, incorporating Warmboard as the structural subfloor works really well! This project was delivered in modules with four heating zones tied together on site.

The ease of Warmboard's installation, especially for our factory production, is a huge plus. And we have been blown away by the responsiveness of the product once in operation. It heats up faster yet uses lower water temperatures, surpassing our, and our clients' needs for comfort and efficiency. Working with Warmboard has been an outstanding experience on many levels. We've already used Warmboard on over a dozen projects and are slated to use it many more times in 2012.”

Method Homes
206.789.5553
methodhomes.net



Homeowner

Mark Mikols

“We fell in love with Bellingham and Lake Whatcom after we were married at Beau Lodge in Alger. It’s the kind of town that’s great to live or vacation in, offering countless activities like skiing, biking, and kayaking or just hanging out to enjoy its beauty.

We wanted the house to be ‘tight’ and very efficient. From the layout of the home to the insulation, it was clear that this home needed to be low cost while we were away. We had the walls sealed with blown-in insulation to ensure it would be very well insulated. We also wanted a comfortable and quiet heating source, and found Warmboard, which heats up fast and makes the space very comfortable. The heat feels consistent throughout the day, even with the peaks and valleys of outside warming and cooling. The radiant system always feels very comfortable and there is no noise or blowing air. It’s a comfort that keeps its presence hidden.

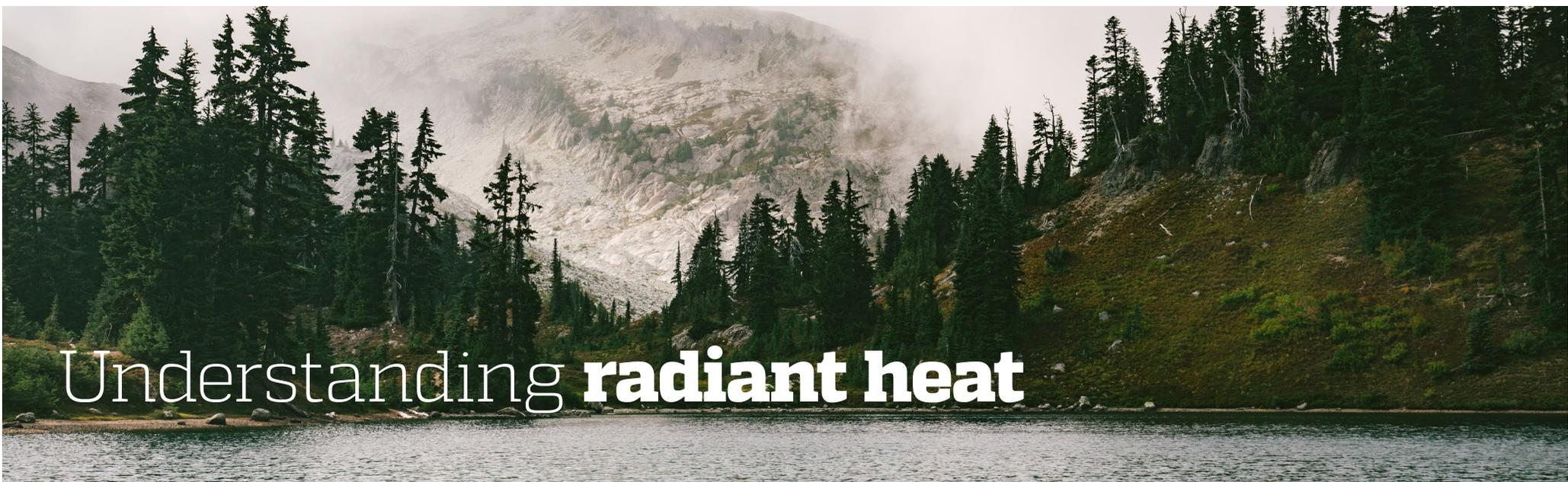
While initially we were only somewhat familiar with radiant, we really looked into it more when we began working with Method Homes. They were big advocates of Warmboard as it provided a sub-floor and heating source all in one product. It was a natural fit for our ‘green home.’ The builder really sold me on it and when we toured the model Method Cabin in Glacier Springs, it just had that hidden comfort we knew we wanted. It looked and felt warm.

I was sold on the efficient building method of using a radiant technology that was also the subfloor – it just made sense. I also liked that the panels were aluminum-covered which dispersed the heat quickly and evenly. This was very important for the cabin as we keep the heat turned down when we are away for lengths of time.

We used Bamboo throughout the entire upper level of the home, and it works well. Walking on the floor I feel satisfied that we used a sustainable flooring material along with an efficient heat source. It’s the little things that can really give you the most satisfaction and comfort.

We love our cabin home! We also love that our home was pre-fabricated in a warehouse and shipped and craned into place. It was ‘über-efficient’ and very well controlled. The method used to build the home and the efficiency with which our home was constructed are bragging points. It also just looks cool. It’s a technique that we read about in home magazines like Dwell for many homes in New Zealand and Australia. It was not such a new thing there, but here it may be much more common in the future. It also kept us on budget as the costs were very well managed by Method Homes.”





Understanding **radiant heat**

There's a country western song that makes the point that a doublewide built for two is not really a home until you take the wheels off. The focus of this month's edition of Radiant Architect demonstrates how far factory built modular homes have travelled from their double-wide ancestors. This issue's project demonstrates how well matched radiant and modular housing can be.

The use of the term "modular" describes the process by which large homes can be assembled quickly on site by "marrying" a number of modules that are shipped as all-but-complete segments. It was part of my vision for Warmboard, itself a modularized approach to radiant, that it would find its way into this evolving industry.

Radiant is a natural fit for modular construction because all radiant systems tend to have their floor areas divided into approximately 200-300 sf or less areas. Each floor area module contains a continuous loop of tubing ending at a manifold. Because a typical housing module that travels easily down a highway is approximately 600 sf, this means that two or three hydronic tubing loops can be efficiently installed, at the factory, complete to the manifold. On site, these manifolds can be linked together quickly and efficiently at the marriage lines of the home.

Forced air cannot match this efficiency. Thin sheet metal ductwork does not travel well down the road at 55 MPH and is not easy to interconnect when modules are married on site.

The more antiquated forms of radiant are challenging to use in modular building for other reasons. Slabs poured on subfloor are enormously heavy which makes them difficult to transport. Plus, the rigors of transporting rigid slabs tend to cause excessive cracking.

Apart from the normal thermodynamic inefficiencies of stapling tubing underneath subfloor, much of the savings of factory production are lost because of the enormous amounts of labor required by staple-up. And nailing hardwood to floors, with tubing already installed and invisible from above, is a recipe for putting a lot of holes in the tubing.

Warmboard by contrast, is relatively light, enormously strong and durable, and therefore ideal for integration into modules that must travel. Because the tubing is installed from above the subfloor, it is quite compatible with the factory construction process. Most modular housing is designed to a 2' module, which is inherently

compatible with our full-face 4x8 panel, thereby minimizing waste. And, Warmboard's ability to accommodate any finish floor type, all installed by the most efficient conventional construction methods, without tubing damage, allows the factory to offer the prospective owner the greatest number of finish floor options.

We can see from the comments of the homeowner, architect and builder that energy efficiency was an important driver of the decision to use Warmboard as it is with many of our site built projects. But as you can see from my comments, it is nice to know that the secondary ease-of-use benefits of Warmboard in the factory setting, gave them the freedom to enjoy the energy efficiency they so desired in their striking modular home.



Terry Alsberg
CEO, Inventor of Warmboard