Timber with Tech

This serene cottage belies its sophisticated commercial features

BY *Tracy Hanes*. PHOTOS BY *Tammy Fiegehen*

Andy Selin spends his weekends 640 kilometres away from his Toronto job at his upscale cottage in northern Ontario. "I am often asked why I have a cottage so far away," Selin, a mechanical engineer and principal in a commercial heating, ventilation and air conditioning firm, says. "But a lot of people get in their cars and battle traffic for three hours to get to Muskoka cottage country. Pearson Airport is only eight minutes from my office and the flight's one hour. I have a vehicle waiting for me at the Sault Ste. Marie airport. In three hours, I've gone from my Toronto office to sitting at my cottage.

LEFT
The home's timber frame materials are supplied by Sustainable Forest Initiative members.

RIGHT
The 5,500-square-foot home sits on a 10-acre lot. The limestone-coated steel roof looks like asphalt shingles.

BOTTOM LEFT
An open tread staircase allows the stonework on the wall to be admired.

BELOW
Various flooring materials are used including low VOC hardwood, tile, cork and leather tile.

"I feel the stress leaving my body as soon as I leave the airport in the Sault. I grew up there, I have family and a network of friends there, so it just seemed natural."

Selin typically heads to his 5,500-square-foot weekend home on a 10-acre private island off St. Joseph's Island on the North Channel Thursday afternoon and returns to Toronto Monday morning. High speed Internet makes it easy for him to keep tabs on work from his wilderness retreat. His three children often accompany him and the family spends summer vacation, holidays and school breaks there.

The custom-designed Normerica timber frame house boasts generous use of wood, natural stone and glass and fits beautifully into its rugged natural setting, yet includes cutting-edge technologies. Every room has a view of the water.

"I wanted to build a low-maintenance, environmentally-friendly building," says Selin. The home's timber frame materials are supplied by Sustainable Forest Initiative members, its pre-fabricated walls and roofs drastically reduced the amount of on-site waste, its high insulation levels and low-E argon windows provide an energy efficient building envelope. Its limestone-coated steel roof looks like asphalt shingles, but will last a lifetime and the pre-painted board and batten siding won't need repainting for two decades. The home's extensive decking is metal, topped with natural stone.

The home's heating and air conditioning is provided by a geothermal system that uses in-lake air exchangers to draw heat from the North Channel in winter or expel it in summer.

The beauty of timber frame is that you have total flexibility in rooflines and ceiling heights.

It was important to Selin to have a home that was compatible with the environment: "I didn't want a building that stuck out like a sore thumb." Rosseau Island was owned in the past by a governor from Michigan and had good swimming areas and unspoiled forest. But, without road access, it was difficult to build on and would not be accessible year-round, so Selin went through four levels of government to get approval to build a 1,000-foot causeway.

No approvals were needed to install the in-lake geothermal system, as the Ministry of Natural Resources does not yet have a policy on using lakes as a heat source

LEFT
The cottage decor is casual and comfortable to complement the rugged elements of the setting.

RIGHT
The kitchen has painted modern cabinets to counter the earthy wood tones and countertops made of quartz and glass from recycled beer bottles.

BELOW
A switch beside the bed turns off all lights in the cottage or the homeowner can use his iPhone to operate the system.

for the in-floor radiant heating and domestic hot water heating, although Selin says this type of system "lends itself so well to this environment." The system uses Limnion heat exchangers that are four feet in diameter.

Since the in-floor radiant heating can be slow to react, Selin uses another technology that's common in European commercial buildings: a Daikin Variable Refrigerant Volume system that has 13 different units inside the house and can move heat around where it's needed through lines about the same diameter as a finger. It requires no ductwork, which is ideal for a timber frame home. If a room is getting too hot because sun is pouring in through south-facing windows or a fireplace is burning, it will re-distribute heat to an area of the house where more heat is needed.

Another commercial product Selin used is an 8-by-10-foot wall of 'switchable' glass in his second-floor office which overlooks the living space below. With a flick of a switch, an LCD filament between two panes turns the glass from clear to opaque to provide privacy. It will soon be used in more residential projects, Selin predicts.

The Lutron lighting system is also state-of-the-art and networks all switch together in a programmable format.

"One of the biggest challenges in building is getting the switches set up right and envisioning what switch will be for what lights and which will be two-way and which ones three-way," says Selin. "This building is a total electronic lighting system and you don't worry about which switches operate which light."

For example, Selin has a switch at his bedside that turns off all lights in the cottage when he retires for the night or he can use his iPhone to operate the system.

Selin recruited family friend Caroline Mahovlich, owner of Design. (Design Period) in Calgary for interior design help. She has done several jobs in Sault Ste. Marie, including a local church, Gilbertson's Pancake house and other homes on St. Joseph's Island. The Selin cottage design complements the rugged elements of the landscape and timber frame, while introducing contemporary style.

The kitchen – the heart of the home – has painted modern cabinets to counter the earthy wood tones, sleek stainless steel appliances and countertops made of quartz and glass from recycled beer bottles

Various flooring materials are used, including low VOC hardwood, tile, cork and leather tile. "We have leather tile in the media room it's fantastic. It feels like alligator skin and it's so nice from a comfort standpoint with the in-floor heating," says Selin.

From his property, Selin can indulge his passion for an active outdoor lifestyle that includes road biking and cross-country skiing or watching wildlife such as deer, osprey and bald eagles.

Even when he's not in northern Ontario, Selin is in close contact with the cottage. With a sophisticated commercial-style automation system, he can use his laptop to tweak different systems, such as heating or pumping. He'll also receive an email if the floor sensors in the basement detect moisture or if the power goes out.

And even when he's physically in the big city, he can see what's happening at his island home through video surveillance provided by six cameras that he can access through his iPhone. HC

Pattern Language

The house was designed based on pattern language, a term coined by architect Christopher Alexander in the 1970s to describe a structured method of design practices that ordinary people can use to solve simple to complex design problems.

Selin says Alexander's patterns make homes more liveable and comfortable and he incorporated as many as he could in his northern home. The result is a house with southern exposure to maximize passive solar energy, a variety of pleasing room shapes, sizes and ceiling finishes, a 'podular' design that blends communal spaces with private spaces and areas that can be shut off from the rest of the house when not in use, such as the kids' bedrooms and games room. Three-season screened porches provide maximum enjoyment of the outdoors.

"We worked with a U.S. architect from New Mexico who was familiar with pattern language and did the original design but the look of the building wasn't going to fit into the northern Ontario landscape," says Selin. "I always wanted to build a timber frame house and knew about Normerica. We worked with them and (sales representative) Bill Williams and they came up with an original concept and added features we hadn't thought of, such as a cupola to bring the roof lines together.

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