

A dream home made of mud

Cob building is as old as the hills. Now, fuelled by high lumber costs and enviro trends, it's on the comeback in the Pacific Northwest

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VICTORIA

-- Ann and Gord Baird's dream house has in-floor heating, solar and wind power to run appliances, a plug-in for an electric car and a wall of windows to capture the sun's heat from the south.

It's all very contemporary - except the house is made of mud.

Ann, a former financial manager, and Gord, an auto body shop owner, both quit their jobs to construct their 2,150-square-foot home of cob, a centuries-old construction technique using dirt, clay and straw.

They started building this spring on their 7.5-acre property near Victoria and hope to move into the house with four other family members by this October.

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"We've got new tech meeting old tech," says Mr. Baird, 37.

When completed, it will be the first code-approved, load-bearing, high-occupancy two-storey cob house in North America.

"We look at ourselves as being very mainstream," says Ms. Baird, 40. "We're just building a house out of dirt."

Cob building is as old as the hills in places such as Devon and Cornwall in England, Wales, and Brittany in France, where a number of 500-year-old homes are still inhabited.

The ancient technique has been making a comeback in Britain and the Pacific Northwest since the early nineties, fuelled by rising lumber costs and the sustainable building trend.

Last year in Worcestershire, England, a modern architect-designed cob house with sleek, contemporary decor sold for the equivalent of \$1.6-million.

The Oregon-based Cob Cottage Co. started North America's cob revival, which has spread to British Columbia and points farther east.

Cob is ideally suited to the Wet Coast, provided the building has deep overhangs and gutters to protect the earthen walls as well as a high, impervious foundation, according to Cob Cottage.

Like a ceramic flower pot, cob absorbs moisture in the air without weakening and releases it again when it bakes in the sun.

"Cob" is an old English word meaning lump or rounded mass. Building with cob is as easy as making mud pies. Traditionally, cobbers use their hands and feet to form lumps of earth mixed with sand and straw for strength.

Cob building makes environmental sense, according to Cob Cottage, because it uses minimal wood and no synthetic materials such as vinyl siding, fibreglass insulation or paint, making it a wise choice for people with chemical sensitivities.

The materials are dirt cheap. The Bairds estimate construction costs at about \$210,000 - roughly \$97 a square foot - including renewable energy systems, materials, engineer's drawings and their own labour factored in at \$20 an hour.

Most of the cob houses that have sprouted up in British Columbia resemble hobbit homes, with curved doorways and bulbous walls embellished with hand-sculpted sun rays, waves and goddess figures.

Increasingly, however, cob builders such as the Bairds are emphasizing function over form. On Saltspring Island, Becky and Paul Niedziela combined cob and wood-framing techniques in their 1,700-square-foot house to meet building code.

Other builders are working closely with various levels of government to gain acceptance for traditional cob buildings. O.U.R. Ecovillage - a 25-acre sustainable community on Vancouver Island - is the first site in Canada to obtain a permit to build a cluster of cob homes, a project to be completed by 2010.

Established in 1999 by a small group of sustainability advocates, the community of 40 residents is a demonstration village that offers tours and workshops on natural building, permaculture and low-impact living.

"We have a 100 people contacting us a week here," co-founder Brandy Gallagher says.

The village's 10 cob homes will feature renewable energy sources, alternative wastewater treatment and the use of recycled materials. O.U.R. Ecovillage hopes to make cob mainstream, Ms. Gallagher says. "We're creating a Canadian showcase," she adds.

Traditional cobbing is laborious and time-consuming, but the technique is evolving. By using a Rototiller, the Bairds are mixing cob five times faster than the hand and foot method while using only about 20 litres of gas for the entire house.

Another innovation is the Bairds' use of B.C.-mined pumice in the cob mixture, which will provide better insulation than many conventional homes do, according to independent testing.

As well, the Bairds worked with engineering professor Kris Dick at the University of Manitoba to devise a system for seismic stability using diagonal tethers made of aircraft cable in the cob walls.

The engineer's involvement was the Bairds' key to obtaining a building permit, according to the project's building inspector, Chris Leek. "We're hanging our hat on the professional engineer," he says.

There's room for more cob buildings in semi-rural areas, Mr. Leek says, but dirt houses may not fit in everywhere. Because the people who build them tend to be "a little earthy," he says, most cob houses end up looking "a bit like a mushroom."

But the same isn't true of historic cob buildings erected in Canada by early immigrants from the British Isles. In Ontario, both the 1839 St. Thomas Anglican Church in Shanty Bay and a private home in Weston, built in 1827, are still in use. Neither looks out of place in their surroundings.

Building cob to code is more challenging in municipalities with no recent history of dirt buildings. In Toronto, local cobbler Georgie Donais has spent months dealing with the legalities of constructing a public cob bathroom in Dufferin Grove Park - inspired by the cob popcorn stand in Vancouver's Stanley Park. She is working with other community members as well as architect Martin Liefhebber.

"The problem, of course, is that no one has done it before in Ontario, officially," says Mr. Liefhebber, who specializes in alternative building. Nevertheless, a building permit is expected within the month.

With climate change in the news, constructing with materials at hand makes increasing sense, according to the Bairds on Vancouver Island.

"House construction can be much simpler and more sustainable than today's green building standards suggest," Mr. Baird says. The beauty of cob, he adds, is "anyone can do it."

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