Architect Martin Liefhebber has seen the future and it’s in Riverdale. He’s designed a house that’s completely off the grid and affordable. But can real people live there? By Michael McGowan

On a tired stretch of street in Riverdale rising above a row of dilapidated garages, a piece of land has been transformed into the future. At first glance, the vivid yellow siding and the deep-green angled front wall might be dismissed as a modernist’s whimsical indulgence. But the four-storey, 1,700-square-foot semi-detached unit, unpainted and connected to city sewage, water, hydro or gas, is anything but indulgent. Designed to operate using only the resources that fall on the site—sun and rain—this could be the prototype for a housing revolution.

That is, if it works. And eighty organizations, including Ontario Hydro, the Canada Mortgage and Housing Corporation, and the provincial Ministry of Health, which have donated services and materials, are betting their reputations that it will. So is architect Martin Liefhebber, the visionary behind the “Healthy House,” which won a 1991 CMHC competition to promote environmental responsibility. With a portfolio that runs from the institutional (Calumet College at York University) to the inspired (current projects include a straw-bale house and another made with discarded rubber tires), he has a long history of incorporating environmental alternatives into traditional architecture. But not ousness. I think environmental alternatives are the way to make things more affordable.” With everything from water usage to lighting fixtures under scrutiny, Liefhebber whitened away at consumption, but not modern amenities. All the conveniences—washing machines to flush toilets—are incorporated into the design, it’s just that they require considerably fewer resources to operate.

Impressed that Liefhebber’s design combined the practicality of folk knowledge (ivy growing on the side of the house to cool it off in summer, for instance) with the science of modern technology, builder Rolf Paloheimo decided to turn the project into reality. After a suitable site was found, he spent thousands of hours researching in libraries, on the Internet and consulting with other eco-builders to learn as much as he could. Although he admits that by becoming totally autonomous “we are really pushing the envelope,” he has confidence in the technology. In fact, he and his family will live in one unit while the CMHC opens the doors to the public for tours and demonstrations in the other. But confidence, enthusiasm and promises aside, the real crucible comes when these untested technologies are subjected to the rigours of daily use. Here, then, a visual guide to the science behind the revolution.

For information and tours, call 218-3343.

Billed as “smart windows,” they’re triple-pane and argon-filled, with an invisible coating of metallic particles that stops heat from escaping, because many of the windows are oriented to take advantage of the lower winter sun. They actually heat the house in the winter, explains Liefhebber. A drying bay is finished with a lime-based plaster that mimics the look of traditional stucco and doesn’t require painting.

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