

# Home Additions and Renovations

## Part 1 — The Homeowners' Opportunity to Go Green

By Thom Mills

Somewhere between the home renovation and new construction lies the realm of the home addition; a space that encompasses elements of both worlds. It's been said that the home addition can be the greatest construction challenge because of factors coming from both sides.

### INITIAL PLANS

I found myself in this realm in August 2007. I had grown up on a family farm and had decided to return to it. Originally built in the 1840s, it was already a tight living space while I was growing up in a family of five. Now, the same house needed to accommodate my parents plus my own family of six. The need for the house to grow larger presented the opportunity to go green.

### GREENHOMETV IS BORN

I must confess that professionally, I do not come from a construction background. As owner of a video and film company, my talents are in project organization and



Christy Bremer, C2 Design

execution related to that field. Our company's direction had been moving for years towards creating unique and educational content. As we were planning this building project, it became clear that it would provide content that would fit right in with our company's direction. GreenHomeTV was then born to allow us to share this building experience with others.

### MOVING TO THE EXTRAORDINARY

The planned addition would effectively double the size of the house, from about 2,000-square-foot to 4,000. It

would require all the structural, mechanical and electrical systems found in new construction housing with some systems integrating with those in the original structure.



Glenn Boccini, Dark Lighting

We began the project by consulting a few local architects and contractors. Plans were drawn up for a conventionally built addition based on standard 2x6 construction, batt insulation, poured concrete foundation and heat provided by a separate oil fired furnace (the original portion of the house was oil heated). Based on this design, we had received a heat loss calculation that indicated a structural heat loss for the addition of 46,000 Btuh. Research indicated that by implementing more intelligent design, technologies and building methods, we could substantially reduce this heat loss

Many homeowners are aware of the Eco-Energy program run by the government of Canada through Natural Resources Canada. Anyone considering renovations or additions to their home should very seriously consider applying for a home energy audit and rebates under this program. Much of the core of the Eco-Energy program relates to insulation, heating and cooling; all areas likely being addressed in most substantial renovations or additions. Homeowners should also keep in mind that products purchased and rebated for under this program are also eligible for the HRTC program allowing you to compound these programs.

In our project, instead of installing a separate heating system for the addition, we will be removing the old oil furnace and replacing it with a system that will support the whole home. In this manner, products that will be supporting the addition are covered under the Eco-Energy program.

Details can be found at [www.ecoaction.gc.ca/](http://www.ecoaction.gc.ca/).

This past June, the Canadian Green Building Council (CaGBC) hosted their second national summit based on the theme "Every Building Can be Green." The CaGBC's initial emphasis was on commercial buildings, but this theme also recognizes that all buildings can be green whether commercial or residential, existing or new. I had the opportunity to meet up with Thomas Mueller, President of the CaGBC. Visit our website at [www.greenhometv.org/builderarchitect/](http://www.greenhometv.org/builderarchitect/) for the video interview.



**John Godden, Clearsphere.**

and turn a rather ordinary home addition into something truly extraordinary.

As planning moved forward, we also saw that this was an opportunity to improve the whole house in the process through renovations and upgrades. (See sidebars.)

### **BE CAREFUL WHO YOU LISTEN TO**

As a result of this new green perspective, a project rework became necessary. It became clear that we required advice and input beyond our local heating contractor and architect. The saying goes, “Be careful who you listen to.” When building green, this is especially applicable. There are many who will give advice, free quotes, etc. My experience is that it is very difficult to gain sound advice from a professional with a solid track record and reputation without also getting a product sales pitch.

During the time I was completely surrounded by confusing and often contradictory claims related to structural and mechanical systems, I was introduced to John Godden of Clearsphere. Godden brought his wealth of real-world building experience and technical expertise to our project to help us work through the seemingly insurmountable decisions that needed to be made. These included planning sessions looking at various options related to the building envelope, heating, cooling, air quality, water conservation and others.

One of the main reasons for this home addition was to provide my parents with a one-floor living space with an emphasis on accessibility. As they move further into their golden years, being able to

stay with family has become a prime objective. Issues of accessibility and mobility need to be considered. Scott Puddicombe of Puddicombe Access Solutions enhanced the design of the additions on the first floor to ensure a high quality lifestyle.

The floor plan that we were working with was fairly complete, but did need

some attention. Christy Bremer of C2 Design, a sustainable interior design specialist and a member of ARIDO, started working with us to address these issues plus provide advice on sustainable options for flooring, interior finishes and much more. Bremer has proved to be an invaluable resource for bringing together an aesthetic look that respects

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rural tradition while embracing modern trends and sustainable materials.

Complementing Bremer's work, Glenn Boccini of Dark Lighting worked with us to sort out the myriad of choices available in lighting technologies and designs. Here too, substantial analysis allowed for an objective look at LED, fluorescent, CFL, MR16, PAR 50, GU10 and a dizzying array of other lighting technology and terms. Boccini has developed a lighting plan that appropriately uses the various technologies to create a look that enhances the modern/traditional look we've chosen while supplementing the natural lighting strategy afforded by the structure's large windows and sun tubes.

## THE VALUE OF SELF-EDUCATION

Even with this competent group of experts as part of our project, I found there



**Scott Puddicombe,**  
Puddicombe Access  
Solutions

I read lots of books on green buildings, visited demonstration homes and ecology centers, attended home shows and much more. Not everything I learned would eventually be applied to our project, but the experience did give me a good foundation upon which to evaluate the decisions I've had to make in this process. I can't stress enough the importance of this step for the homeowner, whether they are planning on building

or renovating themselves, hiring a contractor or purchasing from a builder.

to be absolutely no replacement for self-education. Anticipating that this project would eventually happen, I was a casual student of building techniques and strategies for many years prior.

or renovating themselves, hiring a contractor or purchasing from a builder.

## IT'S ONLY JUST BEGUN

Of course, this just scratches the surface of the planning phase of our project. Follow up editions will go into details of specific areas looking at the options presented and the decisions made.

The home addition may be one of the greatest construction challenges. In the end, we'll realize multiple increases in value: value of lifestyle for the family, value in the house and property, and value for the environment. A worthy investment indeed.

Follow the GreenHomeTV Home Addition Project plus coverage of other green building projects at [www.greenhometv.org](http://www.greenhometv.org). For links to specific people, companies and other references made in this article, please go to [www.greenhometv.org/builderarchitect/](http://www.greenhometv.org/builderarchitect/). ■

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