



# Green TECH *the Series*



## CARACO 'LEED'S THE WAY

I had the opportunity to meet with Ken Dantzer from CaraCo Corporation. They are a subdivision builder in Kingston. Ken's company is nearly finished a LEED model home that is located just off Princess Street behind the Rona Store. They are hoping to attain the Gold Standard once this home is finished. All of the homes I have covered in previous columns were "test homes" that



contained multiple high-tech energy upgrades and unfortunately a considerably upgraded cost. This CaraCo Home is being built for the energy conscious buyer who understands the need to conserve, but at a much more affordable price.

I asked Ken to go through the 8 point LEED profile on this home. Section One is Innovation and Design and here this home is a sleeper. It does not look one bit out of place on its subdivision lot. Often high tech homes look "techy", so to speak. However when you pay close attention to the position of the windows and other details, CaraCo has quietly blended the design features in. The value of Location and Social Linkage is the second section. The home is within easy walking distance to Princess Street, a main thoroughfare in Kingston. Bus service is nearby. It is being built on a designated urban use plan. The third section is called Sustainable Sites and this means minimizing the impact on the site. With the expense of a building lot today in a city and the size of this home CaraCo was

able to utilize the standard lot size sold today very effectively. Section four is on Water Efficiency and the CaraCo home really shines here. All toilets are dual flush, a gate shutoff in the laundry, low flow taps and shower heads are to be used. The planned landscape will use a controlled irrigation system and a storage bladder is being installed under the deck. Once the landscape is done we will be back to feature this design. The Energy and Atmosphere category has the highest point's value in LEED. This represents a well insulated building with efficient heating and cooling. I asked Ken why they used a conventional poured foundation rather than an ICF installation. He stated honestly that while there is certainly value in ICF, they feel that it should be done from foundation to the roof and here the cost become prohibitive. They did however use the Walltite foam for the entire interior walls of the basement; an excellent eco-energy efficient foam. The walls are wood frame; however CaraCo lined the outside walls with another foam layer. They were able to get an R27 value. The ceilings are done in blown insulation to an insulation value of R50. All the windows are EnergyStar rated. I noted a model of furnace I had not seen before, a new Luxaire Acclimate Modulating Gas Furnace that advertises a whopping 97.5% efficiency. Luxaire builds in a Geo-Trak system that allows the installer to set the operating cycle for the climate in the region of the home. Ken stated this type of



furnace supplies a precise temperature control for excellent energy efficiency. The hot water is supplied by a Rinnai on demand hot water unit and Ken noted that all of the supply pipes are fully insulated, a good idea. Ken noted that drain water heat recovery units like the one installed in this home are becoming a regular feature in CaraCo homes. In a home with a large family these units can reduce the cost of heating your hot water substantially. It was nice to see a builder add small touches like sealing all the air ducts and including a solar ready race in their framework, thereby making it easy to install any solar hardware at a later date.

Section six covers Materials and Resources including the use of green products and reduced construction waste. Ken said they were on target for reduced waste; one recycled feature was the use of a new shingle that has a 30% recycled content. The home contained multiple Energy Star installations like the windows and heating and A/C system. Section seven covers Indoor Environmental Quality and Ken's team used low VOC paints throughout the entire home, the wood flooring were coated in environmentally responsible finishes. These wood floors met the standards for responsible forest use. The cedar for the outside deck was selected for its durability, however it had to come from British Columbia so rather than use transport they waited for it to come by rail, reducing the GHG needed to obtain this decking. The home has a complete



Heat Recovery Ventilation system installed for occupancy air quality.

The last section in the LEED standards is Education and Awareness and I expected Ken to state they would prepare a fully documented technical manual. In fact Ken stated that was not their plans, rather a reader friendly easy to understand booklet that covered all aspect in plain language, nice touch.

Ken commented that they were hoping to reach a rating of 86, which would put them in the LEED Gold category. He went on to comment that they have had some setbacks; some things they hoped would work did not pan out. He stated that they have worked closely with their trades to best evaluate the progress on this home and how they can introduce some of the features in all their homes. Ken stated that the owners of CaraCo recognize this is the future and they are prepared to make that next step.

I walked away from this home pleasantly surprised at the progress CaraCo is making. Ken listed off many more features, far more than space permits. One comment he made deserves recognition. New homes like this use dramatically less water, sewage and electrical capacity. Maybe its time the demands of installing the larger systems now required by municipalities should be reviewed, it would show up in reduced infrastructure costs to the city, lower lot fees and better new home prices.

