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The Mechanical Issue

The Importance of Understanding HVAC Systems

**With compliments
Muskoka in the City**

IN THIS ISSUE

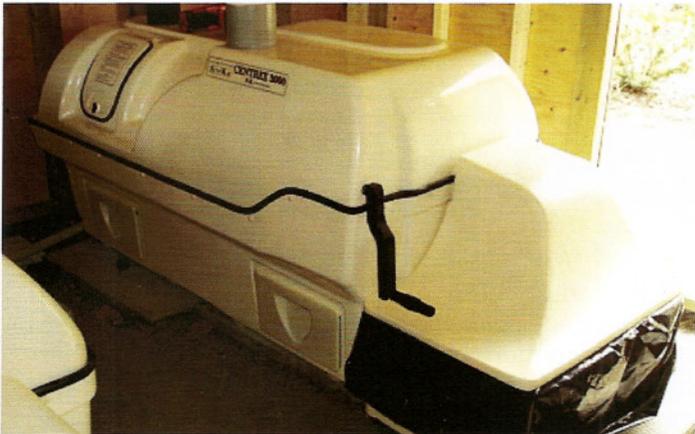
- Mike Martino Looks AT 40 Years of Energy Efficiency
- Upcoming OBC Changes
- Mechanicals for High Performance Homes
- Savings By Design: Zancor Homes
- DWHR in SB-12
- Ani Gets the Green!



AL SEYMOUR

Composting Toilets on the Course

If you can find a green solution that actually saves money, then the investment is a multiple win situation. Bill Gates says the next big thing will be toilet technology. Some of that future change is here today. Reducing or eliminating water consumption in design of new facilities or retrofitting of existing is an emerging change of practice.



For golf courses, recent player demographics have changed the demands for course owners. There are more seniors and women playing. Getting down to basic body functions – as we age we will have to use the “facilities” more often. The old standard of go “hide behind the tree” or see “Johnny- on-the-spot” doesn’t cut it any longer. A memorable golf experience includes clean, well built on-course restroom facilities. The traditional on-course options have been the low-end port-a-potty, the full-service half way house and the mid-range building on a pump out tank.

The key is water savings. If a course has an average of 150 golfers per day with 200 golf days in a season, and half the players use the on-course facility, 90,000 liters of water is needed for a 6 liter toilet facility. For an old 3.5 gallon guzzler, that would be 210,000 L. With a 1 pint flush toilet, water usage is reduced by 80,000 L and 200,000 L respectively. With a no water composting system, the water savings are 100%.

The other savings is capital costs. By disconnecting the infrastructure, the costs of running long distance buried electrical cable, water lines and sewer connection / septic bed construction are eliminated. An off-grid facility is created by combining composting toilet technology, solar power and evaporation bed. The “disconnect” allows the building to be much more site flexible. The infrastructure savings potential can be in the order of \$30,000 plus, per building.

Composting toilets use bacteria to break down solids. The liquid keeps the compost moist and combined with air flow, allows for happy aerobic bacteria to do their thing. Any excess liquid can go into an overflow drain which enters a mini evaporator bed.

The evaporation bed with shallow root perennial plants is designed to encourage liquid to be drawn up from the shallow bed. Ultra low water flush toilets or a non water system mean very little liquid into the ground. The small excavation area is less destructive to tree roots and local ecosystems.

The solutions are by no means cookie cutter. There are specific course requirements, location considerations, design details, building logistics and possible septic and building permits. My experience with permits for composting systems is that each municipality makes its own call, with the responses being from “no permit required”, to “permit required, how can we help”, to well, some challenges. The acceptance is definitely growing.

Examples of successful installations are Credit Valley Golf and Country Club, Muskoka Highlands GC and Parry Sound GC, Silver Creek GC (Garden River FN) in Ontario.

Other applications are cottages, remote homes, parks and out buildings, recreation facilities and for environmentally progressive home owners.

Going green with a washroom facility does take a little maintenance care to keep the bio system happy. The payoff is the budget, the golfers and the environment. The triple bottom line.



AL SEYMOUR IS THE PRESIDENT OF MUSKOKA IN THE CITY INC.