ONSITE
WASTEWATER NEWS
ONTARIO ONSITE WASTEWATER ASSOCIATION NEWSLETTER

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Introducing OOWA's New President...

As a long-time professional of the Ontario onsite wastewater industry and one of the founding members of the Ontario Onsite Wastewater Association, Mr. Al Brown has proudly taken over as the President of the Association.

"I've believed in this Association since its inception," says Al, "I'm proud to be serving as your president for the next two years. I hope your trust and votes will prove to be well placed."

Al has always taken a leadership role with the Association as the chair of the Public Relations Committee, Vice-President and now President. Al's passion for the wastewater industry is reflected in his technical expertise in the area of water and environmental resources with an emphasis on onsite systems. With more than 20 years of experience in installation and supervision of onsite wastewater systems and small bore sewer technology, he knows what it takes to develop and grow the wastewater industry.

Al came to Sand Filtration Inc. (SFI) from Limnoterra as one of three owners. SFI is one of six divisions of internationally owned Limnoterra Group of Companies. Limnoterra Limited provides professional consultation services in environmental sciences and its applications. Incorporated in 1979 by Dr. R. Jon Planck, in the early 80s, Limnoterra Limited of Kitchener, Ontario began looking for a better onsite sewage treatment technology that could be offered as an alternative to standard Class IV septic systems.

It is the mission of Sand Filtration Inc. to promote environmentally sustainable development of rural and un-sewered areas through the effective use of small bore sewers and onsite wastewater and disposal technologies.

Limnoterra incorporated Sand Filtration Inc. in 1992 following a submission for change to Ontario Ministry of the Environment under the *Water Resources Act*. This enabled Orenco and sand filtration technologies to come to Ontario in an orderly and organized manner. As a representative of Orenco, SFI provides systems and equipment that are manufactured by Orenco Systems Inc. SFI also offers design assistance to consulting engineers through their in-house engineer who works closely with Orenco's engineering and design teams. □

New Members' Benefits Program Launched

by Stephen Boulet

Successfully launched at this year's 7th Annual Ontario Onsite Wastewater Conference and Exhibition, the Members' Benefits Program is now in full swing with four major partnerships in place. Only members of the Ontario Onsite Wastewater Association are able to benefit from these and future partnerships.

Ontario Onsite Wastewater Association Members can now expect to take advantage of the following Partnerships through the Members'

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Benefits Program, including Mark's Work Wearhouse, Cansel Survey Equipment Inc., Grand & Toy and the CAA — Canadian Auto Association.

Current Partnerships

The Ontario Onsite Wastewater Association continues to strive to exceed members' needs and expectations with industry essential benefits and opportunities. More partnerships will be announced and added to the Members' Benefits Program in the near future.

To learn more or to become a member please visit the OOWA website at www.oowa.org. □

imagewear by Mark's Work Wearhouse

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Mr. Iggy Ip from Waterloo Biofilter Systems Inc. has stepped down as a director with OOWA to pursue other professional opportunities. We wish Mr. Ip all the best in his future pursuits.

The High-Tech of a Creek: Discovered by RH_2O.

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2006 Conference Builds on Successes of Previous Years

by Doug Joy, Conference Chair

The 7th annual Ontario On-site Wastewater Conference and Exhibition was an overwhelming success. This was no mean feat given the successes of previous years. This year saw over 30 exhibitors and over 230 delegates gather for two days in Kitchener to share design ideas, new technologies and different approaches to regulation and professionalism in our industry.

Although as an organizer I don't always get to enjoy all aspects of the conference — too many little details to work out — I came away with what I believe were three highlights of this year's conference. These were the exhibits, the keynote speakers and the banquet on Monday night.

For most I think the exhibits are a must see at the conference and this year was no exception. First time exhibitors included Zenon and RH_2O with new technology from Germany. If I'm not mistaken, Zenon was not the only exhibitor with membrane treatment technology. This is an approach only considered for larger installations until recently. One item I particularly liked was a new locking riser lid from GAG-Simtech — no screws required. If only I could get them to install at my home where I am down to my last two screws for my current system!

Our keynote speakers, Mary Clark and David Wasmandorf, had important messages for us. From Mary, a Director with NOWRA, we were challenged to continue to improve the industry. She noted some of the challenges and barriers to the industry in the U.S. such as a discriminator regulatory environment, narrow thinking of "old sewer guys" and limited financial rewards for promoting onsite. She also noted the many successes in the U.S. from working together including the NOWRA model code, the EPA design manual and the gradual improvement in the regulatory environment. On an amusing note, I will always remember Mary's introduction to a technology used in some parts of the east coast called the "sand-bottom septic tank."

David, as a former president of the Canadian Homebuilders Association and a large local building contractor, certainly has a background that involves the on-site industry. His basic message was that we need to work together, not as separate entities, if we want to continue to see growth in the rural development sector. We, as an association and an industry, need to build bridges with the building industry to ensure onsite is considered a viable alternative for rural servicing.

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Rob's World

By Robert A. Passmore, B.Eng.

Opportunity

It is amazing how a seemingly innocuous event can have a profound impact on a person's perspective in life. For me, that event was the birth of my first son.

Having grown up on a hog farm in southern Ontario, witnessing births (and usually assisting) was the norm. However, such events never really sparked much profound thought. So when my wife was in labour, I instinctively reacted as I did on the farm (a few subtle comments about the fact that it was only one — not 12, etc.). However, when our son was delivered it was profoundly different. Suddenly there was more to think about — is he healthy, how will we protect him as he grows up, what will he grow up to become? I quickly found out that these questions were typical for new parents and such fears were typical.

That having been said, a new question has emerged that I believe is the most important question of all. It came as a result of a recent meeting I had with a client concerning a new onsite septic system. During the meeting, the client asked why on earth would I get into the septic business. Upon further explanation, the client insisted that dealing with sewage systems seemed a lowly profession, just above garbage collectors and philosophy graduates. Now, I have experienced this situation many times in my career and have always explained the fact that the onsite wastewater industry is of immense importance, usually going on to explain the benefits and necessities. In this particular case, however was much more outspoken and passionate than usual (yes — difficult to believe isn't it!). I told the client that his/her attitude towards onsite wastewater treatment was short sighted, ignorant and generally insulting to the entire wastewater industry. After a few minutes of further lecturing, the client had changed their impression of the industry.

The reason that I became so irritated by this client's attitude sprang from the question: Will my son be provided with the opportunity to pursue a career in onsite wastewater treatment free from society's condemnation of the industry?

We, in the Ontario Onsite Wastewater Association (OOWA), have long preached the benefits of onsite wastewater treatment. We have endeavored to better ourselves and others in the industry and our industry is stronger for it. However, we are falling behind in our efforts to educate the public on the need for, and the operation and maintenance of, onsite septic systems. Perhaps it is the fact that we all encounter people with the same attitude as my client on a regular basis and become hardened to it. Whatever the reason, we can no longer allow society to continue in ignorance of the importance of what we do. It is dangerous and potentially destructive to allow such ignorance to persist.

I propose that the members of OOWA begin to take an active part in educating others on the importance of our industry. The OOWA Board of Directors is working on an education package that will allow industry members to make presentations to community associations, municipalities and generally any group that takes an interest. Furthermore, all OOWA Board of Director members are committed to making these presentations in their local areas. It is time that we all step up and start educating the general public, not just our clients. If we don't start right now, we cannot create the opportunities for our would-be successors, and our industry will inevitably disappear back into the shadows of obscurity. □

Continued from page 3

This was the first year we've had a banquet and it was launched to help with fundraising for OOWA. One disappointment was that I think more people wanted to go than we had tickets for. Buy early next year! For the one hundred who went, we all had a highly enjoyable evening at the Transylvania Club of food, fellowship and entertainment. Well, maybe not so good entertainment, but it gave us all something to talk about. I am happy to report the banquet raised over $1,500 for OOWA.

Planning for next year's conference has already begun. If you have any ideas send them along and I'll make sure the conference planning committee gets them. Better yet, why not volunteer to help with the organization of next year's conference? □

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Searchmont Ski Resort Gets a Facilities and Wastewater System Facelift

By Dennis F. Hallahan, P.E. Technical Director, Infiltrator Systems Inc. and Chris Kresin, M.Sc. (Eng.), P.Eng, Consulting Engineer, Kresin Engineering Corporation

As one of the premier ski resorts in Northern Ontario, Searchmont has diverse terrain that offers challenging skiing and snowboarding. With the popularity of the resort growing, the Resort identified the requirement to position itself to allow an increase in its guest facilities to accommodate increased visitation. The current on-site sewage system, comprised of a series of septic tanks and a disposal field, was operating beyond capacity and the resort had been pumping and hauling septic effluent in order to accommodate the sewage flows generated by the resort. A new disposal field or an expansion of the existing disposal field was necessary in order to accommodate the existing sewage flows, and increased flows from the new facilities program. The system had to be installed in a timely fashion to ensure the resort opened for the December ski season kickoff.

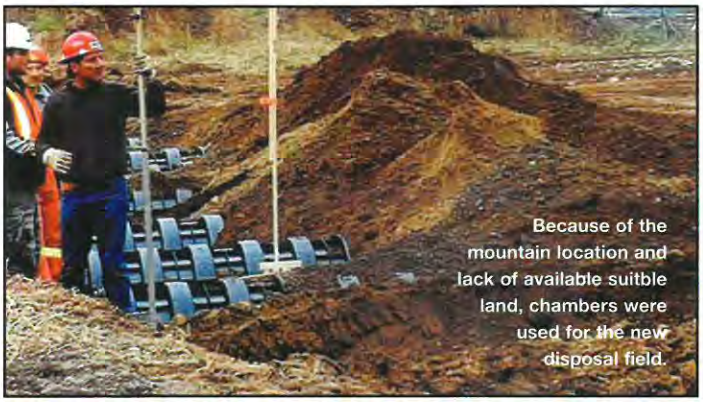
The mountain location and resort footprint contributed to a lack of available suitable land for a new disposal field sized according to regional guidelines. The engineering firm working with the resort, Kresin Engineering Corporation, was tasked with identifying a solution that would allow them to utilize the same location as the original on-site sewage system. Kresin proposed that the system be reconstructed in its original location and that it: include an increase in septic tank capacity; maximize the use of existing sewage balancing tanks; and incorporate a reconstructed disposal field.

The original system possessed inadequate treatment volume (septic tank capacity) and disposal field area. Several options were considered including, replacing septic tanks with advanced treatment units to reduce required disposal field length or a surface water effluent discharge. Ultimately, the selected approach was to better treat and dispose of the generated sanitary sewage through the provision of increased retention time in septic tanks. Due to significant flow variability between seasons, advanced treatment was not a viable option and increased disposal field capacity was not an option due to space constraints. The selected design would accommodate the increase in average daily design flow of the system to 97,000 liters/day with a maximum flow of 169,000 liters/day. A 73,300-liter septic tank volume was designed into the new system with balancing tanks providing an additional 125,000-liter storage volume. In addition, system operations were improved through the use of automated controls to control disposal field dosing and pumping effluent that overflowed to the balancing tanks back to the on-site sewage system for disposal during periods of low-flow.

The re-constructed system received Ontario Ministry of Environment (MOE) approval as a large on-site sewage system. Ontario regulations specify that all on-site sewage systems under 10,000 liters/day be designed under the requirements of Part 8 of the *Ontario Building Code* (OBC). Onsite wastewater systems over 10,000 liters/day are required to be engineered and approved by the MOE.

Infiltrator Systems Inc.'s Standard H-10 Chambers were chosen in place of the original pipe and stone disposal field because of their ability to accommodate disposal field reductions of up to 50 percent with equal or better performance than stone systems, and to store effluent within the chambers allowing percolation over a greater period of time than traditional disposal fields. Ease of installation, cost effective treatment and the minimal amount of required maintenance and servicing, which would eliminate the worry of scheduled maintenance during the busy ski tourist season and adventure outfitting in the off-season, also supported the specification of this system.

Infiltrator chambers were installed over an area that included native material as well as fill material.



Because of the mountain location and lack of available suitble land, chambers were used for the new disposal field.

"The advantages provided by the Infiltrator H-10 Chambers allowed us to meet Provincial MOE approval requirements for an on-site sewage system disposal field while working within the space-limited site," says Chris Kresin, consulting engineer from Kresin Engineering Corporation, Sault Ste. Marie, Ontario. Chambers were constructed in beds over an area that included native material as well as fill material. Installation began in November at the onset of winter. Due to the quick and easy installation of the chambers, the project was completed in a short period of time and the complete system was fully functional for the December ski season kick-off.

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This project was MOE approved to accept 1,440 meters of the 34-inch wide Standard H-10 Chamber as a replacement to 2,880 meters of conventional 4-inch pipe and stone beds. This represents a 50 percent reduction in length. Septic tank effluent is introduced to the disposal field through a dosing tank, which receives effluent from a submersible pump located in a pump tank. The field is comprised of six individual pods each having 8 runs of Standard H-10 Chambers, which receive effluent based on their available capacity. The system was completed in time for the ski season and is currently functioning well with no reported disposal field capacity problems or operational issues to date. Operation and maintenance of the system is minimal and generally limited to ensuring float switches are unobstructed, and periodic checks of balancing tank and dosing chamber liquid levels. General operation is carried out by resort maintenance staff and during off-season periods, they also determine the need for septic tank clean-out.

For more information visit www.infiltratorsystems.com or email Dennis Hallahan at dhallahan@infiltratorsystems.net. Chris Kresin can be reached at chris@kresinengineering.ca. □

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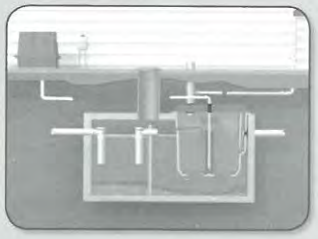

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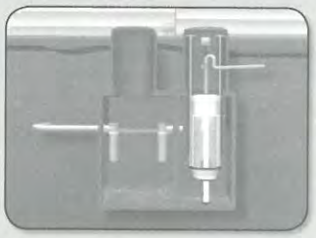

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Did You Know?

Ontario Building Code Facts!

Attention all designers, installers, and regulators. What do you think of when you here the term "low boy"? Did you know that most plastic septic tanks are considered low boy tanks and do not meet the requirements of the OBC clause 8.2.2.3.(8), which states that, "A septic tank shall be of such design and construction as will permit the collection and holding of sanitary sewage therein to a depth of not less than 1,200 mm except that a depth of not less than 900 mm is permitted where the excavation is in rock, or to avoid rupture or displacement of the tank due to ground water pressure."

Update on North America's First Performance Code for Onsite Systems

May 2, 2006 | By: Frank Hay, President, BC OnSite Sewage Association | www.bcossa.com

On May 30, 2005 the BC provincial government enacted *Sewerage System Regulation* came into legal effect. This regulation placed obligations on the onsite wastewater treatment industry members who were not "professionals" (i.e., professional engineers) to become educated and trained by the BC OnSite Sewage Association and recognized by the Applied Science Technologists and Technicians of BC as registered practitioners. The education, training and registration program was organized to register practitioners in the categories of planner (site assessor), installer and maintenance provider.

The Regulation required only authorized persons (i.e., registered practitioners or professionals) to conduct site and soil assessments, to design, plan, install and maintain onsite sewerage systems with daily flow rate of up to 6,000 US gals (22,720 litres).

In BC, the Regulation is under the jurisdiction of the *Health Act* and is administered by local health authorities. The new Regulation reduced the role of the health authorities public health inspectors and replaced the permit issuance process with a "filing" process. Only an authorized person can do a filing of an onsite system, issue Letters of Certification to confirm compliance of the system to a standard practice and issue a maintenance plan for that system. All systems must now have a written *Operation and Maintenance Plan* that is the responsibility of the property owner to maintain records of the maintenance.

The provincial government established the Sewerage System Leadership Council to review the results of the first construction season under the regulation and BCOSSA has a seat on the six member Leadership Council. The Leadership Council is to review the implementation of the new regulation and make recommendations to the government accordingly.

In October 2005, BCOSSA entered in a Memorandum of Understanding with the Provincial Government to be the stewards of the government's *Standard Practice Manual* for the purpose of interpretation and amendments to the Manual. The Standard Practice Manual (SPM) is in essence the prescriptive design manual for onsite systems Province wide. The SPM is amendable by actions of BCOSSA approved by the officials of the Government without legislative involvement.

Issues that have come out of the first season that are being addressed by the Leadership Council are basically three items. One is the clarification of standard practice as required by the regulation. Another is the use of non-registered persons to work under supervision of a professional. The third is the health authorities dealing with their new role and enforcement of the new regulation.

The Leadership Council has developed a definition of standard practice that is: "standard practice" means the current publication by an onsite wastewater recognized authority that provides a detailed description of a method or technique and/or treatment objective to be applied to the construction and maintenance of sewerage systems for site assessment, soil evaluation, installation, or maintenance that when applied does not create or contribute to a health hazard or environmental risk, provided that the "standard practice" being applied meets the conditions of:

a) Vertical separation of natural and constructed soil,
b) Horizontal setback distances,
c) Hydraulic loading rates, and
d) Minimum daily sewage flow rates, as referenced in the *Sewerage System Standard Practice Manual.*

The use of non-registered persons under the supervision of a Professional is a source of great robust discussions and is not fully resolved.

The health authorities due diligence and enforcement issues arising from the new regulation are being worked on given the new framework under the regulation and what powers and duties are to be exercised and when are being clarified.

This last of the three issues is a significant matter that has the potential, if not resolved suitably, to undermine the government's intended and desired outcome of performance based regulation. There is the expectation that this will be resolved in the next few weeks or months to allow the new regulation to succeed and bring prosperity to the onsite industry, protect public health and the environment and serve the greater public good. □

Make-Way Environmental Technologies Inc. —

Supporting the Next Generation of Wastewater Professionals!

by Stephen Boulet

Honouring this year's scholarship recipient Ms. Anamika Sikdar from Queen's University is Mr. Bert Knip of Make-Way Environmental Technologies Inc., who proudly sponsored the Ontario Onsite Wastewater Association's 2006 Annual Scholarship Program.

The Ontario Onsite Wastewater Association continues to be a strong supporter of research that focuses on the onsite wastewater industry working towards the growth and development of this industry as a viable and alternative solution to the big pipe sewer. The Association's vision of "permanent wastewater servicing through onsite treatment," can be recognized one student at a time.

For the third year the Annual Scholarship Program has been available and provides support to the Ontario onsite wastewater students conducting research at the graduate level. This scholarship is awarded every year at the Annual Ontario Onsite Wastewater Conference and Exhibition held in March. □

Mr. Bert Knip of Make-Way Environmental Technologies Inc., presenting prize to this year's 2006 Scholarship winner Ms. Anamika Sikdar from Queen's University, at this year's Ontario Onsite Wastewater Conference held in Kitchener Ontario.

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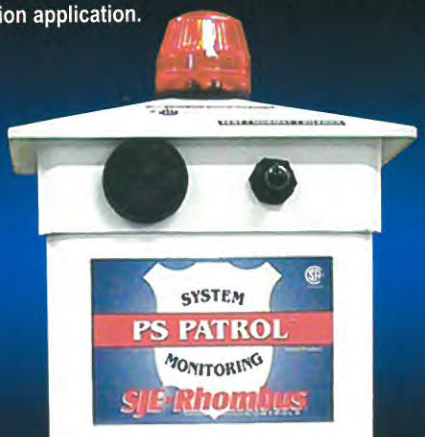

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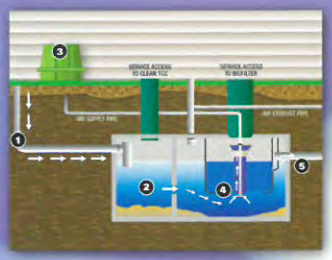

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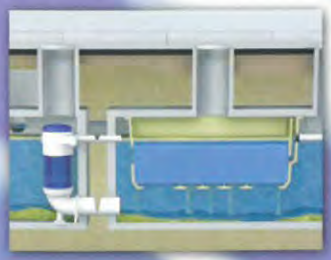

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