ONSITE
WASTEWATER NEWS
ONTARIO ON-SITE WASTEWATER ASSOCIATION NEWSLETTER

InSide

- NOWRA Conference 2003
- Changes in the *Building Code Act*
- Research & Science: *Design Improvements for On-site Systems*
- OOWA Sub-committee Report

Volume 4
Issue 2
December 2003

OnSite is published three times a year by Ontario On-Site Wastewater Association. To submit an article or place an advertisement, contact the LandOwner Resource Centre at (613) 692-2390 ext. 1137

Mailing address:
P.O. Box 599,
5524 Dickinson Street,
Manotick, Ontario
K4M 1A5

Technical Review
Terry K. Davidson

Editor
Jocelyn Chandler
Design
LandOwner Resource Centre

Visit us at
www.oowa.org
Ontario Rural Wastewater Centre at
www.orwc.uoguelph.ca

NOWRA Conference 2003

By Roaming Reporter Robert Passmore

This years National Onsite Wastewater and Recycling Association (NOWRA) Conference took place in November at the Cool Springs Marriott Hotel and Conference Centre in Franklin Tennessee. Franklin is approximately 15 miles south of Nashville, and about 30 miles north of Lynchburg, home of the Jack Daniels Distillery (Need I say more!).

This year's conference was well attended with over 300 attendees. The exhibit hall was full and even overflowed into a nearby hallway to make room for some last minute additions. The first day allowed exhibitors time to setup, while many of the attendees made use of several workshops on various onsite issues. Seminars and A-Z learning classes were the focus of days two and three, with ample opportunity to network and learn as much as one wanted. Field trips to various onsite installations, etc. were set aside for the fourth day of the conference.

Conference attendees were again overwhelmed by the amount of information presented throughout the conference. As a good roving reporter, I managed to jot down a general areas that might be important to our OOWA membership. First off, much of the technical seminars dealt with nutrient removal (i.e. nitrogen and phosphorous). This differed significantly from years past where the main focuses were on advanced treatment units meeting tertiary quality effluent levels.

Operation and Maintenance continued to be a hot topic, with much technical and opinion information being presented. It was made clear that the industry has concerns about maintenance and understands that good maintenance can only be achieved through the cooperation of the private sector maintenance providers, the manufacture, the regulator and the homeowner (sound familiar?).

Re-inspection has become a very hot topic this year and each seminar on this topic was packed with participants from all sectors of the onsite industry. Seeing such participation from the regulators, installers and policy makers is encouraging and it will no doubt translate into better regulators for re-inspection of onsite systems. With many areas in the United States have already implemented re-inspection programs to varying degrees of success, I am sure we will see this coming to Ontario soon.

All in all the OOWA members that attended the NOWRA conference had a great time and learned much. I must point out that OOWA and NOWRA have an agreement whereby OOWA members get preferred rates on attending the NOWRA conference. If you haven't been to one then you are really missing out on something big. You have to actually be there to feel the excitement of having over 300 people passionately talking about onsite wastewater on the national level.

5th Annual Ontario On-Site Wastewater Conference and Exhibition

March 8 and 9, 2004
Crowne Plaza Hotel and Conference Centre
Ottawa, Ontario

Contact:
Office of Open Learning
(519) 767-5000

Letter to the Editor

Submitted by Bill Seabrook, Green Valley Environmental Services, Ottawa

HELP WANTED –
Qualified persons to design, install, service and inspect onsite sewage treatment systems in Ontario

This ad will not be successful because there aren't any fully qualified people available other than those already employed in the onsite industry today. Designers, installers, service providers, and regulators all have the same problem when it comes to hiring additional qualified staff. There aren't any available.

The question that has to be asked is what is a qualified person. Fully cross-trained personnel should have a broad knowledge of the industry and should actually understand what others are trying to accomplish in their particular discipline. An example would be that the installer actually understands why a designer has designed a system in a certain way and try to build the system through good construction practices so that the system will protect the ground water, have a long life, and be easy to service. If the installer through this understanding of the design finds that the design in his or her opinion will not protect the ground water, have a long life, or be easy to service he/she then can offer the designer some constructive criticism and together solve the problem. A designer through a greater understanding of good construction practices will be able to offer better designs and supervise construction in a more meaningful way. This is just one example of how the four disciplines mentioned above can work together to provide more effective onsite sewage treatment systems.

Qualified people need to be paid accordingly if we are going to attract them to our industry. If this industry became a certified trade and enjoyed the same status as a mechanic, electrician, or refrigeration mechanic we would be paying our journeymen approximately $28 – $30 per hour.

Seems like a higher wage than we can afford? I don't think so. Take the average system installation and say it took 30 hours to install. If the industry pays $10 per hour more than at the present time this would amount to $300. I think that this would be returned to the employer in the form of higher productivity and better quality installations. Productivity and quality are definitely not lost on our customers or our image as an industry. The same scenario is true for designers, service providers, and regulators.

Getting to the point were we have a pool of qualified people available will take some time. I would like to see people in the industry serve a five-year apprenticeship as the other trades do. This would combine practical experience with three terms at the community college level where theory would be taught for approximately three or four months each term. Credits would be given for some individuals depending on education. An example might be that a graduate from a civil engineering technicians program would be given a credit for the basic theory portion and serve only a four-year apprenticeship.

In order to implement any program of this nature, OOWA will have to become involved and lobby our provincial government. The first step will be to make it mandatory to be qualified to work in the onsite industry. Secondly, the Ministry of Colleges and Universities would have to set up the apprenticeship program. Of course the appropriate phasing and grandfathering will have to be accepted as part of the implementation process.

In closing, I would remind our members that our goal should be to firstly protect groundwater quality, and secondly to provide our customers with the best quality onsite sewage treatment system available for their homes and families. More qualified personnel are the first step toward accomplishing these goals.

Please send all comments pro or con to our editor Jocelyn Chandler at Rideau Valley Conservation Authority.

Ottawa Well Program

The City of Ottawa, in partnership with the Ontario Ministry of the Environment and the Ottawa Septic System Office, is implementing a pilot program to help ensure new wells awaiting construction are built in accordance with Ontario regulations. The Well Inspection Pilot Program runs until the 15th of January 2004. For more information or to register for participation please call (613) 692-2390 or 1-800-387-5304 or visit www.rideauvalley.on.ca/wells

S-Files

Unexplainable or inexplicable septic sightings

Stu Sunderland of Sundex impressed us with his "septic system kit" (Clearstream design version) — everything you could need completely packaged onto his trailer. Note the roll of geotextile on the very front!

SFI

SAND FILTRATION INC.

an Orenco Systems Incorporated Distributor

35-A Shirk Place
Kitchener, Ontario, CANADA
N2K 1R3
Tel. (519)743-1780
Fax. (519)743-1781
Email: albrown@limnoterragroup.com

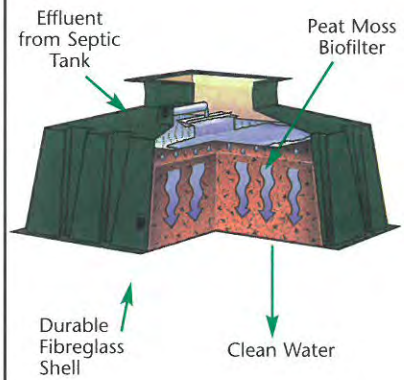
. Advanced Tertiary On-Site Sewage Technology
. Single Home, Communal, Commercial and Institutional Applications
. Installer and Designer Training And Development Available
. Small Bore Sewer Technology
. Septic Tank Effluent Pumping Systems (STEP)
. Septic Tank Effluent Gravity Systems (STEG)
. Orenco Certified Design, Operation, Maintenance and Inspection
. Approved For Use In Ontario

Effluent Filters & Carbon Filters
Call for pricing today!

Wastewater Products Distributor and Engineering Design Assistance

Septic Problems?

The new Ecoflo® Biofiltration System uses peat moss technology to treat your domestic wastewater.



- ✓ Small Lots
- ✓ Difficult Soils
- ✓ Compact Size
- ✓ Ideal for Cottages
- ✓ 8 Year Annual Maintenance Included
- ✓ No Electrical Parts
- ✓ Excellent Reliability
- ✓ Environmentally Friendly

Ecoflo®

Call ECOFLO-ONTARIO
for Free Information
Toll Free: 1-877-738-2991
(613) 738-2991
e-mail: ecoflont@istar.ca
web page: ecofloontario.com

News Flash!

Changes in the *Building Code Act*, 1992 & the *Building Code* via Bill 124

What's happening?

- Province of Ontario has initiated regulatory reform throught Bill 124 to respond to longstanding concerns. The objective of the legislation is to:
  - Streamline the approvals process;
  - Increase the safety and quality of building construction in Ontario;
- Enhance accountability; and
  - Create a more transparent regulatory environment for the construction industry.

Why will it take two years to implement these new regulations?

- Allows for sufficient time for a smooth transition to the new system.
- Time required to complete the development of the qualification and registration system.
- Time required to allow for building officials, inspectors, designers and staff from Registered Code Agencies (RCAs) to pass the required exams and complete courses they may wish to take.
- Allow for municipalities, Boards of Health, and Conservation Authorities to change their administrative procedures to bring them into line with the new legislation.

When will it take place?

- Changes are to take place in 2 steps
  - Step 1 is in effect as of September 1, 2003 has included provisions to:
    - Allow building officials and other building practitioners to take examinations related to Building Code knowledge;
    - Provide for a smooth transition for on-site sewage inspectors and installers who are already required under the *Building Code Act,* 1992 to have qualifications, and
    - Provide for certain "housekeeping" changes.
  - Step 2 takes effect July 1, 2005, which will be the majority of the supporting regulation and includes:
    - Mandatory qualifications for building officials, certain classes of designers, and Registered Code Agencies (RCAs) staff;
    - Mandatory registration for certain classes of designers and RCAs, including insurance;
    - The use of a common building permit application form;
    - Time frames within which decisions must be made on issuing a building permit;
    - Stages of construction when a building must be inspected;
    - Authority to allow municipalities to appoint RCA's, or let certain building permit applicants to appoint their own RCA;
    - New rules governing building permit fees to enhance transparency; and
    - An expedited route to the Ontario Municipal Board (OMB) in case of site plan disputes.

Next steps?

- The regulation recognizes the current certification of inspectors and licensing of installers. Additional updates will be issued concerning new requirements under Bill 124.
- Establishment of a Building Advisory Committee (BAC) consisting of a broad range of building sector stakeholders will be struck shortly to provide advice to the Ministry on Bill 124 implementation issues, including builders' accountability.

Resources:

- Website for Fact Sheet, Q&A on Bill 124: www.obc.mah.gov.on.ca.
- Questions? Contact James Douglas, Coordinator — Policy & Legislation, Building and Development Branch @ 416-585-7174.

Summary of OOWA Sub-Committee Meetings, August 2003

Public Relations

- The OOWA exhibit booth is being put together and will be available for various trade shows/exhibitions
- The booth will have different removable panels, which will be interchanged depending on the audience

Membership

- To encourage regulators to join, a special regulator section on the OOWA website will be developed — coming soon in 2004!
- Advertisements in the classified section of *Cottage Life* magazine will be placed to increase membership
- "Proud member of OOWA" stickers are being designed for members
- local meetings for regional chapters will be piloted in eastern Ontario in January 2004

Government Relations

- OOWA position paper on education is being written with plans to present it to the Minister
- OOWA members invited to be part of committees to:
  - review proposed *Building Code* changes (September 11 meeting)
  - help determine how new technologies will be approved

Research

- OOWA will sponsor a scholarship for a university graduate student involved with on-site research in key areas
- Priority will be given to those who are doing research in key areas
- Bryan Whitehead will sponsor first year $1,000 scholarship
- They will also be given free OOWA membership, and be expected to present something at the conference

Better Water FAST®

FAST® wastewater treatment systems help you build environmentally advanced yet simple and affordable projects. Ideally suited for use in single family dwellings, clustered residential developments and subdivisions, restaurants or other high strength commercial applications, a versatile FAST system is ready to serve your needs. FAST can even be used to retrofit a failed conventional septic system, giving home owners and small communities the innovative solutions they seek.

Dependable, affordable...FAST.

Nitrogen Reduction
Unsurpassed treatment in a single tank

Fixed film aerobic treatment
Proven, safe and reliable...a cut above

Repairs failed septic systems
Simple repair with minimal disruption

Flexible design
Many sizes and affordable options

BIO-MICROBICS® INCORPORATED

FAST® wastewater treatment systems

8450 Cole Parkway, Shawnee, KS 66227 ▪ **800-753-FAST(3278)**
Fax: 913-422-0808 ▪ www.biomicrobics.com ▪ onsite@biomicrobics.com

Reading you can recommend to homeowners

- *A New Homeowner's Guide to Septic Systems,* Ontario New Home Warrant Program. 1998.
- *Care and Feeding of Your Septic System,* Ontario Ministry of the Environment. PIBS 3209E.
- *Best Management Practices — Water Management,* Agriculture and Agri-Food Canada; Ontario Ministry of Agriculture, Food and Rural Affairs: and Ontario Federation of Agriculture. ISBN 0-7778-2361-6. 1994.
- *Ontario Environmental Farm Plan — Second Edition,* Ontario Farm Environment Coalition. ISBN 0-9697005-1-2. 1996
- *1997 Ontario Building Code: Code & Guide for Sewage Systems 1997.* Ontario Ministry of Municipal Affairs and Housing. ISBN 0-7778-7343-5.

(excerpt from *Septic Smart,* Ontario Soil and Crop Improvement Association, 1999)

Research & Science

The Centre for Water Resources Studies at Dalhousie University publishes regular reports from their on-site wastewater research program. The following article contains the recommendations from the section on "Design Improvements for On-site Systems," in the report for *Phase III* (1993-1996), by J.D. Mooers and D.H. Waller. This website contains an abundance information on completed and ongoing research. http://www.dal.ca/~cwrs/cwrs/onsite/cwrstab.htm

Design Improvements for On-Site Systems

As a direct result of the establishment of the On-Site Wastewater Research Program and the resulting exposure to all sectors of the on-site industry at conferences, workshops, in news letters, text books, and scientific journals a number of obvious problems and design solutions have become apparent. As these modifications do not belong with any specific project under the On-Site Wastewater Research Program, they have been grouped in this list. While any or all of these considerations will improve the functioning of an individual system, they would also be fundamental modifications necessary to an area considering establishment of an on-site wastewater disposal management program.

Field Monitoring Ports

One of the best indicators of the performance of an on-site disposal field is the presence or absence of ponded liquid. If the gravel layer in the trench or bed is full of standing liquid either an impermeable biomat has developed at the gravel soil interface or the natural soil is not permeable enough to carry away the liquid load placed on the system. An essential tool for a very quick assessment of system performance is observation tubes extending from the infiltrative surface (aggregate/ soil interface) to or above the ground surface. These monitoring tubes provide an easy access to the infiltrative surface to see if ponding is occurring and may be easily constructed with a piece of capped 4 inch PVC pipe which is securely anchored in the bed.

Tank Risers

Septic tanks are often not maintained because the location of the tank is either unknown or is so deeply buried that access is difficult. The addition of a riser on the manhole of a septic tank allows the access cover to be brought to, or near, the surface. With easy access the septic tank may be opened and scum and sludge levels monitored to determine the state of the tank. In this manner pumping intervals can be based on need, allowing the homeowner to have the tank pumped only when necessary. This also has the result of reducing the load on the local septage treatment facility.

Two Compartment, or Multiple Tanks

The primary function of a septic tank is to separate the solids from the liquid. In order to achieve this it is necessary to have a quiescent settling zone and an outlet that allows for discharge without re-suspending settled particles. As stated in the *Nova Scotia On-Site Disposal Guidelines* (1988) "a two compartment tank gives better treatment because better protection is given against carry-over to the discharge pipe." Where possible the use of two compartment or multiple tanks should be encouraged.

Serviceable Laterals

Sometimes the reason an on-site system starts to back up into the house is that the lateral distribution beds in the disposal bed have become clogged. If an elbow joint is put on the end of all laterals to bring the pipe flush with the ground surface and is then capped, this will allow easy service access should the laterals become clogged.

Effluent Filters

In a conventional one chamber septic tank effluent enters the tank through an inlet Tee or baffle, flows through the relatively quiet zone, and then exits past an outlet baffle or outlet Tee. Depending on the loading rate and flow velocity through the tank, solids carry over from the tank can be considerable. One way of reducing the solids load is to replace the outflow Tee with an effluent filter. These usually consist of a plastic screen or mesh through which the effluent must pass before flowing to the field. This has the result of preventing the passage of larger particles and also slows the flow velocity to allow the maximum settling of smaller particles.

Photo: *Septic Smart*, Ontario Soil and Crop Improvement Association

Water Conservation

On-site wastewater disposal systems are designed to treat a specific daily load of liquid. This design is based on the hydraulic ability of the soil beneath the disposal system. If this loading rate is exceeded the liquid will seek an alternative route off the site, which often involves ponding on the surface and flowing across the lawn or driveway. One way to avoid the overloading problem is to implement water conservation measures in the house including low flow shower heads, sink aerators, low-flow toilets. With a lower flow the possibility of standing liquid in the field is reduced, allowing the soil below the disposal bed to dry and aerate and thus maintain a good operating permeability. As the toilet is the largest water using appliance in the home, significant water use reductions can be achieved by using an ultra low flow toilet. Older toilets use 5 to 7 gallons per flush, current conventional toilets, known as low-flow, are typically 3.5 gallons per flush, and those described as ultra-low-flow use 1.6 gallons per flush. One recent study *(Small Flows Newsletter,* 1993) showed a total water reduction of 34 percent after the installation of ultra-low-flow toilets in a building. As discussed above, the benefit to the disposal field from water conservation is such that ultra low flush toilets are recommended for any house with an on-site disposal system.

Water Tight Septic Tanks

The importance of water tight septic tanks is two-fold. One, in conditions where the water table is deep, a leaky tank will allow untreated effluent to pass directly from the tank into the ground without the treatment benefit from passing through the disposal field. And two, at a site with a shallow water table a leaky tank will take in water and send it through the disposal bed resulting in the possibility of a hydraulic overload. In general the tanks constructed in Nova Scotia are two compartment tanks which require a sealing compound between the top and bottom portions of the tank. Research in a number of districts of the US has found that the sealing compound can react with the groundwater and become ineffective, or differential settling and frost action can work to pull the tank apart. Some designs of polyethylene and fiberglass tanks have also been shown to be prone to deformation and leaking when full of liquid. In Nova Scotia the application to manufacture septic tanks requires that any tanks that are produced be water tight. However, no systematic testing of various tank designs for water tightness, at the time of manufacture, or prior to installation is carried out in Nova Scotia.

Your OOWA Board of Directors 2003/2004

Name	Telephone
Bob Thomson	(613) 258-2333
Al Brown	(519) 743-1780
David Cooke	(613) 549-1232 X 259
Doug Joy	(519) 824-4120 X 3048
Philippe Masuey	(613) 738-2991
Terry Davidson	(613) 692-0160 X 1107
Bill Seabrook	(613) 692-2616
George Eastwood	(905) 627-2918
Tom Musgrove	(905) 729-3212
Alex Campbell	(519) 939-2075
Craig Jowett	(519) 856-0757
Robert Passmore	(613) 692-0160 X 1106
Doug Robinson	(519) 648-2101
Mark Green	(613) 345-5685
Dennis Dick	(905) 468-0690

Rob's World

By Robert A. Passmore, B.Eng.

Psychology 101

Well when I wrote this latest edition of *Rob's World,* I had to hurry since Christmas was fast approaching and I didn't want to let Christmas cheer cloud my judgement. Those who read this column know that I can be a little "passionate" about issues related to the onsite wastewater industry, but lately "passionate" just won't cut it!

Day after day, I continue to witness many people in the onsite industry doing all of the things that I keep trying to tell them not to do. Many installers continue to cut corners to make a quick buck. Many designers still refuse to provide their clients with all of the options available for a given design. Many inspectors continue to refuse to follow the building code. Many manufacturer's still aren't providing continuous training for their distributors and service staff. Finally, almost all homeowners continue to go with the lowest bidder and most will not spring for a septic system assessment when they are purchasing a new house!

The previous sentence is underlined because I wanted to draw you attention to it. You see folks, this is the root of our problem: the homeowner. Nearly every homeowner purchasing or building a new house outside of municipally serviced areas has no understanding of how a sewage system works, or that they should be fearful of that fact. Even more alarming is the fact that these people only care about the costs associated with the sewage system. How much is it going to cost me? Why should I install this system when the other one is cheaper? Can't this be installed cheaper? Why is the guy that lives in his truck at the end of the road cheaper than you?

I think you get the picture. If one was to assign a grade to how we, as members of the onsite wastewater industry have provided our services to the homeowner, we would surely get a failing grade. Now many of you reading this should take offense to the previous statement. Good that shows that you care! But just caring is no longer good enough, we need to do more. We need to change the thinking of the homeowner. We need to make them understand the reasons why, as good professionals, we want to provide the best service to them. We need them to understand we do this not just for our own good, but also for theirs.

No matter how strong we build the onsite wastewater industry in Ontario, we are only as good as our weakest link. Folks, we are now at war, and since we can't harm them, we need to educate them. Education, integrity and sincerity are our only weapons in this battle. A person will not accept the words of a person who lacks sincerity or integrity. The homeowner must respect us as onsite wastewater professionals before we can educate them.

That having been stated, we cannot expect to win the war to educate all homeowners. There will be those, for whatever reason, will thumb their noses at us and show us about as much respect as they would have for a snake oil salesman (perhaps even less!). I have a story to share with you all to illustrate this point.

Late this past summer, a mother bought a new house. Her son, always trying to educate people on sewage systems, urged to his mother to have have an assessment done on the existing septic system prior to purchasing the property. His parents had endured his lectures on septic systems for years now, so when his mother said, "yes, don't worry I will," he thought all would be well.

Shortly after that conversation the son got a call that the house had been purchased. He asked if the septic assessment had been done, his mother said yes. Several weeks later the son was able to make it down to see his mother to get a tour of the house and grounds. During the tour of the grounds, the son asked his mother, "Where is the septic system?" The mother was silent then said, " I think it's over there somewhere." as she pointed to the area beneath a garden. The son then asked to look at the assessment report. His mother produced a two-inch thick binder that a building inspector had provided with the inspection. The binder contained many glossy coloured brochures and a form inspection document detailing the inspections carried out on this house built around 1990. The son finally found the page detailing the assessment performed on the sewage system. The son, reading the two sentence paragraph at the bottom of the page, quickly turned it over to read the rest of it. There was nothing further about the assessment.

The son, utterly disgusted, asked why a proper assessment had not been done. "Your father thought $500 was too much to spend on a septic system. Besides, it's only a septic system, it not like it's my roof!" The mother then went on to say, "Don't worry there's no problem with it, the guy we bought it from said he'd never had to pump the septic tank!"

The story is pretty sad isn't it, and I can tell you how the rest of it went at another time. The mother and father, having been given the knowledge of the function and knowing the proper care and maintenance of a sewage system chose to disregard everything they had been told by their son, to save a lowsy $500! Some could argue that at least they made an informed decision, but as the mother and father, are in fact, my parents, I do not agree with that argument. All I see is that if the people that we educate and who respect us still chose the cheap way out, we have a far greater battle to fight then had first thought.

Don't complain Rob, it means you get an extra $500 in the will.
Signed: the Technical Editor

Feature Installation

This particular project involved the conversion of a failed media filter to a suspended growth aeration system. The project was managed by Mr. Hal Lewis, P. Eng. of Stantec Consulting Limited.

Sanitech Communal Systems was awarded the contract to design and construct the repair. Sanitech retained the services of Mr. Robin Smith, P. Eng., of Robin Smith Engineering to provide the process design brief to be submitted to the Ministry of the Environment. Once the approval was granted, Sanitech proceeded with the retrofit.

The existing tank consisted of a single tank approximately 30 metres in length, 3 metres wide and 2.5 metres deep. The tank had been poured in place and had a 300 mm thick roof. At one end, the filter media had rested in a raised section above the roof of the tank. This particular area was re-used for the foundation of the new control building. Inside this building now are the blowers and controls for all pumps in the system.

The SaniTech supplied system utilized a SaniTech Model SB26M nitrification/denitrification single sludge process based on the four-stage Bardenpho process. This process was selected as it uses the wastewater carbon to carry-out pre-denitrification thus minimizing the requirement for a carbon addition such as methanol to affect denitrification. Also, the primary denitrification stage, in advance of the nitrification stage, provides 50 per cent of the alkalinity requirement for nitrification. Together with the source alkalinity present in the wastewater, the denitrification alkalinity will provide sufficient alkalinity to maintain a buffer and not inhibit complete nitrification either from alkalinity reduction or changes in pH.

The system components were generally as follows:

- Primary settling/grit removal
- Primary flow equalization and raw sewage pumping;
- Biological single sludge carbon oxidation, nitrification/ idenitrification process. A four-stage Bardenpho process will utilize wastewater carbon to accomplish denitrification;
- Secondary clarification;
- Sludge storage facilities;
- Associated aeration, pumping, chemical storage and feed equipment.
- The new tank walls were poured into the existing tank.

The forms were lowered through openings cored in the existing tank roof. These 600 mm openings were subsequently used as access openings for the new system.

A new clarifier tank was added for final clarification before being pumped to the leaching beds. Monitoring to date has shown BOD as low as undetectable. As the system approaches maturity, all results are anticipated to be excellent.

From the Editor

Some of you may have noticed (and responded to) the 2004 membership forms packaged with your last newsletter. You will find another one in this newsletter. If you still have the last one, pass this one on to someone who may be interested. This year, we would really like to see 2004 membership renewals and new applications in by the end of January 2004. This will allow members to receive the full complement of benefits that the ONSITE Association has to offer. Membership includes a certificate, NOWRA membership (you will receive their newsletter and get a great discount on their spectacular annual conference), all the ONSITE newsletters and another great discount for the 5th Annual Ontario Onsite Wastewater Conference (check out the banner in this newsletter, this year it is in Ottawa!). You also are listed as an ONSITE Expert on our website, providing the public with reputable contacts for their septic system needs. As usual, I am looking for your contributions to share with others in the on-site industry through this newsletter. We always give out free ONSITE t-shirts or caps for our contributors. As always, suggestions and comments are always welcome. This issue, free ONSITE gear goes to Scott Robinson of Sani Tech Communal Systems Inc. and to D.H. Waller at C.W.R.S.

Frequently Asked Questions

Composed by Ray Boyd, Part 8 Inspector, OSSO, Reviewed by Ahmed Sharaf, P.Eng. Building Code Advisor, MMAH

Q ▶ Can a pump chamber be installed at distances less than the minimum clearances indicated in the OBC Tables 8.2.1.6.A.B. and C?

A ▶ Yes. A pump chamber is not a treatment unit. It is transferring effluent (equivalent to solid pipe transferring effluent from one location to another) and therefore does not require the minimum clearances specified for treatment units or distribution pipes.

Q ▶ An existing home is to be renovated. An existing septic tank is <3600 L and is located 10.5 m from an existing drilled well. Can the septic tank be utilized in the present location?

A ▶ Yes. Compliance alternatives O.B.C Table 11.5.1.1 would allow the CBO to permit the existing clearance of <15m to the drilled well and O.B.C. Table 11.3.1.1 would permit an existing septic tank of <3600 L to be utilized. Note: The existing tanks' location and/or size is permitted provided there is no increase in design flow due to the renovation. An increase in design flow would cause a reduction in performance level and therefore the tank location and size would be required to conform to the O.B.C.

Ontario Rural Wastewater Centre Courses

The Ontario Rural Wastewater Centre has the following upcoming courses being offered at their facilities. For more information, contact Angela Mason at (519) 824-4120 x 54687

- Management of Decentralized Systems — Spring 2004, Ottawa
- Water in the Developing World — Winter 2004, Ottawa
- Constructed Wetlands — Spring 2004, Alfred
- Part 8 OBC On-Site Sewage System Installer/Inspector course — January 12–16, 2004, Ottawa

Calendar of Events

March 21-24, 2004 — **10th National Symposium on Individual and Small Community Sewage Systems** and concurrently With **Eighth International Drainage Symposium,** Sheraton Grand Sacramento Hotel & Sacramento Convention Center, Sacramento, CA.

Two separate conferences with attendee crossover privileges. The 10th National Symposium on Individual and Small Community Sewage Systems will have twelve concurrent sessions over the three days covering such issues as risk assessment, design and evaluation of technologies, soils, fate of contaminants, source and wastewater characterization, and small community systems. Register Online at http://www.asae.org/meetings.

R. J. Burnside & Associates Limited
Engineers • Hydrogeologists • Environmental Consultants

BURNSIDE Offices Located Throughout Ontario

Sewage Project Backed Up?

Our On-Site System Specialists can assist you with:

- Approvals and Development
- Design and Operations
- Maintenance and Monitoring
- Sewage Systems Investigation
- Septage Disposal Facilities
- Innovative Technological Solutions

Contact: Alex Campbell, M. Sc.
15 Townline, Orangeville, ON L9W 3R4
Toll Free: 1 800-265-9662
Tel: 519-941-5331 Fax: 519-941-8120
Email: acampbell@rjburnside.com Website: www.rjrburnside.com

Septic Solutions

The Clearstream Wastewater System uses aeration technology to treat your wastewater.

- **Suits small fully treed lots**
- **Difficult soils**
- **Ideal for cottages, islands and large homes**
- **Unique style**
- **Annual maintenance**
- **Very low operating cost**
- **Environmental enhancements**
- **Excellent reliability**

To order your Clearstream Wastewater System contact:
Northern Purification Systems
Telephone: (905) 729-3212
Toll Free: 1-877-20FECAL (33225)
Fax: (905) 729-4171
E-mail: norpur@sympatico.ca

NPS
NORTHERN PURIFICATION SYSTEMS
2614 Concession 4, Loretto, Ontario L0G 1L0

THE FUTURE OF DRAINAGE ... NOW!

EZflow™ CANADA

Why Use EZ*flow* Drainage Products?

Each 10' length replaces 1000lbs of Stone
Product is lightweight, easy to use and installs quickly
EZ*flow* has 40% more void space
EZ*flow* has 5X the flow rate of clear granular material
EZ*flow* is made of 90% recycled material
EZ*flow* is OBC approved for Septic Fields, Foundations, etc
Great for retrofits, tight spaces, rear yard drains and golf courses

The patented EZ*flow* geosynthetic aggregate is uniquely engineered with "flow channels" designed to increase void space — creating greater water flow and storage capacity.

The EZ*flow* Internal Connector

RING INDUSTRIAL GROUP

TOLL FREE 1-866-303-5692
www. ezflowcanada.com

Superior North Contracting
Thunder Bay, ON
1-888-770-2755

Muskoka Plastics Ltd.
Huntsville, ON
705-788-0149

Canadian Shield Consultants Agency
Sudbury, ON
Ottawa, ON
Niagara Region, ON
1-866-691-0424

Underground Specialties,
Windsor, ON
519-737-1263

Underground Specialties,
Cambridge, ON
519-622-3185

Waterloo Biofilter® Septic System

Residential & Communal
Sewage Treatment Systems

- above or below ground units
- seasonal or year-round cottages & resorts
- 99% fecal coliform removal
- small disposal area, easy maintenance

A Better Choice for Difficult Sites
bedrock, clay, high water table, small lot

143 Dennis St., Rockwood, ON N0B 2K0
Ph: 519-856-0757 Fax: 519-856-0759
www.waterloo-biofilter.com

SaniTech

SaniTech Communal Systems Inc. provides design build advanced wastewater treatment systems. Specializing in turn-key solutions, SaniTech provides complete systems for every application including:

• RESIDENTIAL • COMMUNAL • INDUSTRIAL
• MUNICIPAL • RETRO-FIT

From your basic single-family dwelling to treating high strength or variable flow projects, SaniTech has a solution for you. Give us a call today and see just what our company has to offer.

SaniTech Communal Systems Inc
Toll Free: 1-866-888-0388
(519) 648-2103
(519) 648-3585
sales@sanitechinc.com

PROVEN WASTEWATER TREATMENT TECHNOLOGY
WWW.SANITECHINC.COM

Authorized Licensed Norweco® Distributer

The following is a list of Do's and Don'ts recommended to optimize your sewage system performance

- Do familiarize yourself with the location of your septic system and, if it has one, the electrical control panel.
- Do keep an "as built" system diagram in a safe place for reference (and let future owners of the house know where it is located).
- Do divert surface water away from your leaching bed.
- Do pump out your septic tank on a regular basis (every 3–5 years).
- Do repair leaky plumbing fixtures.
- Do conserve water to reduce the amount of wastewater that must be treated.
- Do replace old toilets with a low-flush model.
- Do keep lint out of your septic system by cleaning the lint filters on your washing machine.
- Do add an effluent filter and access riser to your septic tank if it doesn't yet have them.
- Do keep the tank access lid secure to the riser at all times.
- Do provide regular maintenance for your effluent filter (usually located at the outlet of your septic tank).
- Do keep accurate records of septic system maintenance and service calls.
- Do maintain your sewage system as required.

- Don't flush hazardous chemicals.
- Don't flush substances that cause maintenance problems and/or increase the need for septage pumping.
- Don't flush cigarette butts or sanitary products.
- Don't use a garbage disposal/garburator.
- Don't plant trees or shrubs too close to the septic system or leaching bed.
- Don't use special additives that are touted to enhance the performance of your tank or system.
- Don't use excessive amounts of water (190 litres per person per day is typical).
- Don't leave interior faucets on to protect water lines during cold spells. Instead, properly insulate or heat your faucets and plumbing.
- Don't dig without knowing the location of your septic system.
- Don't drive over your septic tank or any buried components in your sewage system.
- Don't dump RV waste into your septic tank.
- Don't enter a tank. Gases generated in the septic tank and/or oxygen depletion can be fatal.
- Don't ever connect rain gutters, storm drains or allow surface water to drain into a sewage system.
- Don't remove and throw away the effluent filter instead of cleaning it.