Onsite **ONTARIO ONSITE WASTEWATER ASSOCIATION NEWSLETTER** treatment | technology | innovation | reuse | recycle

FALL/WINTER 2016



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Providing Clarification on Permitting and System Options Post January 1st

January 1st, 2017 marks the beginning of the CAN/BNO 3680-600 standard as the treatment unit certification requirement in Ontario. Certification to this standard replaces the MMAH Supplementary Standard SB-5, "Approved Treatment Units" from Sentence 8.6.2.2.(5) in the Building Code. The CAN/BNQ 3680-600 is a challenging standard which includes a six-month period with stress testing and frequent sampling; followed by an additional six-months of sampling to verify performance over the four seasons of the Quebec climate. Ontario has also adopted the requirement that the technologies are tested using a noncontrolled or minimum 10°C temperature standard, which are the most difficult of the certification options.

Every major change to the Building Code brings with it questions from industry, and the introduction of the CAN/BNQ 3680-600 certification requirement is no different. To help address these questions and bring some clarification to stakeholders, OOWA hosted a Permits and Systems Options event in Vaughan on October 14th which provided system manufacturers and suppliers an opportunity to present an update on their status (see the following list for the position of various technologies).

SUPPLIER STATUS

CAN/BNQ 3680-600 Certified Waterloo Biofilter Premier Tech Aqua Norweco (Hydro-Kinetic) **Biomicrobics (BioBarrier)**

Undergoing CAN/BNQ 3680-600 Certification or Indicated the Intent RH2O North America (WSB Clean) Waterloo Biofilter Premier Tech Aqua **Biomicrobics (MicroFAST)** Bionest Clearstream (continued on page 5)



OOWA President, Anne Egan, addresses the crowd at the Vaughan event.

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PRESIDENT'S MESSAGE

It is hard to believe we are nearing the end of another year. I hope that 2016 was a successful one for all of you. Your OOWA board of directors and committees have been busy throughout 2016 with many different initiatives designed to serve and bring value to our members.

Did you know that we have a Strategic Plan for our organization? This is a document that sets out the mission, vision and values of the organization, and outlines key organizational objectives, as well as specific strategies to achieve those objectives. The Board of Directors reviews and updates this document on an annual basis, from the "big picture" overarching mission and vision statements, right down to the specific work plans and action items developed to achieve our overarching goals and keep us moving forward.

Our Events Committee and local networking groups have been busy with our annual Fall Regional Meetings in various locations throughout the province. I know this is a busy time of year for many of us as we try to wrap up the 2016 season, but I hope that you managed to find time to attend one of these meetings; they provide invaluable opportunities for professional development, networking, and help you keep up to date on important industry news.

If you have not already registered to attend our 2017 Convention and Expo, I would encourage you to register to take advantage of the opportunities provided by this annual event. This will be our biggest trade show to date, which will be held at the Scotiabank Convention Centre in Niagara Falls from March 25 to March 27. Planning is well underway and we thank those sponsors, exhibitors and registered delegates who have already made the commitment to attend. There will be training sessions, important industry updates, opportunities to network with other professionals and OOWA members, and a chance to make your voice heard in your association.

Our industry is in the midst of some significant changes that will impact the way we go about our day to day work. As of January 1, 2017, the CAN/BNQ certification requirement for treatment units that were incorporated into the 2012 Ontario Building Code will take effect. This will alter the number and type of treatment units approved for use in Ontario. The public consultation process is also currently underway for the 2019 edition of the Ontario Building Code. Through our events and our media outreach, OOWA is keeping our membership informed of these significant changes. If you have any questions about these important issues, contact our Outreach Coordinator (Mike Gibbs), or a member of the Onsite Technical Committee, as they will be reviewing the proposed code changes in more detail. There are some fairly significant changes for Part 8 of the code. If you have opinions on these proposed changes (either in support of them, or not) I would encourage you to submit your own comments to the Ministry through the public consultation process.

OOWA continues to collaborate with like-minded organizations in our advocacy efforts for onsite and decentralized wastewater solutions as a sustainable and viable alternative to the big pipe. We are only just beginning to scratch the surface of what our collective voices can achieve in terms of effecting positive change for our industry. Improvement is a process that takes time and consistency. We must continue to push for a broad range of wastewater servicing options in order to find solutions that are the right fit to meet the specific needs of our local communities. At the same time, we need to strive for ongoing maintenance and management of all systems. I think we could agree that as an industry, there is room for improvement in terms of data management and record keeping. We need to hold ourselves accountable for the infrastructure we design and build.

Finally, OOWA is your association - I would encourage every member to take the time to attend an OOWA event, read the newsletter and media communications, and consider contributing your time to one of our committees.

Anne Egan President

anne





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To submit an article or place an advertisement contact the editor at **outeach@oowa.org**

The opinions expressed in this newsletter by contributing authors are not necessarily the opinions of OOWA's Board of Directors or the Association.



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Providing Clarification on Permitting and System Options Post January 1st

Continued from page 1

BMEC Approved

Enviro-Step Technologies (Eljen GSF) Make-Way Environmental (Enviro-Septic)

Due to very positive feedback and demand for similar content in other areas of the province. OOWA added a component of this event to all the fall regional meetings. While the Vaughan event focused more on the status of manufacturers and suppliers, the regional meetings expanded to provide more insight on the implementation and impact of the new regulations. Through lively panel discussions with local regulators, attendees learned first-hand valuable information to use to keep their businesses prepared and up to date. Some of the questions and topics that were tackled are listed below.

Regulator Panel Topics

• How long are existing permits for SB-5 approved treatment systems valid for?

• What information must be included in permit applications for CAN/BNQ 3680-600 certified technologies?

• How are Part 11 or Alternative Solution applications applied to sewage systems?

• What is required for industrial or commercial facilities?

OOWA's board members and committee volunteers will continue to work with key



The regulator panel gives guidance on permitting systems for 2017.



Event sponsors, Dominic and Isabelle of Enviro-STEP Technologies connect with attendees.

ministry staff to make sure our members' concerns are heard and that OOWA members are always updated about important regulatory changes. OOWA is active on a number of issues and will always be your go-to source for critical industry information. Contact us anytime if you have any questions or concerns. We're here for you.

OOWA Thanks the Sponsors of our "Permitting & Systems Options Event"



Saturday March 25, 2017

10:00	am to	11:00 am
12:00	pm to	4:00 pm
12:00	pm to	6:00 pm
1:00	pm to	4:00 pm
4:30	pm to	5:30 pm
7:00	pm to	9:00 pm

Board Meeting Registration Opens Exhibitor Set-up Afternoon Training Sessions Annual General Meeting Conference Welcome Reception

Sunday March 26, 2017

7:45 am to 8:30 am	Registration & Networking Coffee
8:30 am to 4:30 pm	Tradeshow Hours
9:00 am to 9:15 am	Opening Remarks
9:15 am to 10:15 am	Keynote Address
10:15 am to 10:45 am	Expo and Morning Networking Break
10:45 am to 11:30 am	Session 1 and Expo
11:45 am to 12:30 pm	Session 2 and Expo
12:30 pm to 1:30 pm	Networking Lunch
1:30 pm to 2:15 pm	Session 3 and Expo
2:30 pm to 3:15 pm	Session 4 and Expo
3:15 pm to 4:00 pm	Expo and Afternoon Networking
6:30 pm to 7:30 pm	Dinner Reception
7:30 pm to 9:30 pm	Annual Awards Dinner
9:30 pm onwards	OOWA Hospitality Sponsored Event

Monday March 27, 2017

7:45 am to	8:30 am	Registratio
8:30 am to	4:30 pm	Tradeshow
9:00 am to	10:00 am	Keynote A
10:00 am to	11:00 am	Expo and
11:00 am to	11:45 am	Session 5
12:00 pm to	12:45 pm	Session 6
1:00 pm to	Networkir	
2:00 pm to	2:45 pm	Session 7
3:00 pm to	3:45 pm	Closing R

Registration & Networking Coffee Tradeshow Hours Keynote Address Expo and Morning Networking Break Session 5 and Expo Session 6 and Expo Networking Lunch Session 7 and Expo Closing Remarks

OOWA Thanks our 2017 Convention & Expo Sponsors to Date

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OOWA Welcomes our 2017 Convention & Expo Exhibitors to Date

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OOWA's Registered Professional Program Gains Momentum

By Jane Zima, Professional Development Committee Chair

OOWA's registered professional program has been gaining momentum and presence over this past year. We are working hard to showcase our RPP members on the OOWA website, and will be adding additional features and benefits over the coming months.

As you may have noticed, we are working with a number of training providers to ensure we are best able to support you in your continuing education and skills development. One of our newest features is a monthly Training Bulletin, highlighting upcoming courses and training sessions provided by our training partners. The Training Bulletin also provides information about the opportunities and benefits available to RPP participates, and news about upcoming events. These monthly resources are designed to help guide you in the development in your knowledge and your work.

OOWA's 2017 annual convention and expo also promises something new and exciting. In the afternoon of the first day of the convention, Saturday March 25th, we will be offering a series of training sessions specially tailored to you. These training sessions will count towards RPP training hours, and are included in the cost of convention attendance, and therefore at no additional cost to you. The content of these training sessions is tailored to knowledge specific to this industry, and will be taught by practitioners with extensive industry or subject matter experience. Watch for the release of the convention schedule for details about these sessions. They are not to be missed!

The RPP directory is now live on the OOWA website. This directory will be updated with several other features in the coming months, and will showcase OOWA's Registered Professionals to both the public and industry alike.

If you would like to learn more about our Registered Professional Program, course offerings, or enrol, please visit our website for additional information. We look forward to working with you!

OOWA's Registered Professional Program: You'll be in Good Company

Register in OOWA's Registered Professional Program (RPP) or the 'In-Development Program' and join the ranks of other onsite professionals already getting recognition for their continuing skills and professional development efforts.

Kim Millen, Norfolk County, Inspector Anne Egan, R.J. Burnside & Associates, Designer (In-Development) Brady Straw, Waterloo Biofilter Systems, Designer (In-Development) Brenda Burrows-Rabb, Rabb Construction Ltd., Installer Brian Zingula, ESSE Canada, Regulatory Inspector (In-Development) Chris Allen, ESSE Canada, Project Admin Professional/Technical Sales Consultant (In-Development) Dave Ruppert, Ruppert Haulage, Installer Dean Kerr, Willis Kerr Consulting, Installer Deanna Simpson, ESSE Canada, Project Admin Professional (In-Development) Jasmine Marshall, ESSE Canada, Project Admin Professional/Technical Sales Consultant (In-Development) Jason Berry, ESSE Canada, Private Inspector (In-Development) Jason Rail, The Septic Store, Wastewater Service Technician Jason Steacy, JDS Enterprises, Installer Jessica Lynn Morin, ESSE Canada, Project Admin Professional (In-Development) Kara Yokom, ESSE Canada, Project Admin Professional (In-Development) OFESS/ Laurie Jarvo-Richer, City of Cornwall, Inspector Paul Sharp, Plumaid/Earthmoves, Onsite Installer (In-Development) Ray Foster, ESSE Canada, Wastewater Service Technician Rene Goulet, Rene Goulet Septic Pumping & Design, Designer Robert Palin, North Bay Mattawa Conservation, Inspector Robin Allen, North Bay Mattawa Conservation, Inspector Willis Kerr, Willis Kerr Consulting, Installer

Central Ontario Networking Group's Burgers and Beer 2016 Events

To strengthen connections between members in Central Ontario, Membership Committee Co-Chair Bill Robinson and volunteer Mark Goodman got together to plan and host two networking events. Dubbed 'Burgers and Beer' these networking barbeques will be repeated in the spring, summer and fall of 2017.

On the evening of Thursday, August 25th,55 attendees from the Innisfil area got together at Dave Dobinson's shop to network and to hear form Hank Dube, Enforcement Supervisor with the Ministry of Transportation. As part of his presentation Hank also conducted a hands-on circle check on a rig that Dave had set up.

Special Thanks!

OOWA also thanks Contractor Rental Supply for providing the BBQ and to Nick Folkerson of CRS for sweating it out over it to cook the burgers for us all!

OOWA would like to thank Dave and Danika Dobinson of Dave Dobinson Excavating for hosting this event.

Fall Networking Meeting

Central Ontario's 'Burgers and Beer II'

their awesome shop and to Diana Robinson of SepticCheck.ca for strictly managing the bar!

On Oct. 14, 20 attendees came out to OOWA's Central Ontario

Bruce Bolduc and Dale Thompson of Construction Workplace Safety did a presentation on trenching safety and how to prepare a health and safety plan for small businesses. Thanks again to Contractor Rental Supply for providing the BBQ, Mark Goodman and Eisses Pumping for hosting us at

Local Networking Group's second 'Burgers & Beer' meeting.

Thursday, October 14, Innisfil, ON







Bruce Bolduc and Dale Thompson talk trench safety at Mark Goodman's shop.

THANKS TO OUR BURGERS AND BEER SPONSORS

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Renewed & New Members Listing

RENEWED MEMBERS

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Bill Goodale, C.C. Tatham & Associates Mark Goodman, Eisses Pumping Services **Roger Gostlin**, Gostlin Sand & Gravel Mark Green, Leeds, Grenville & Lanark Health Unit **Richard Green**, R | Green Excavating Rudy Hartfiel, OWSIM Mark Heeg, Dynamic Fusion Erica Heeg, Dynamic Fusion Gary Hendy, WSP Canada Inc Marla Howard-Hogan, Hogans Excavation & Landscape Rick Howden, Core Earthworks Limited **Evan Hughes**, Evan Hughes Excavating Patrick Kelly, John Brooks Company Willis Kerr, Willis Kerr Contracting Ltd. **Dean Kerr**, Willis Kerr Contracting Ltd. Melissa King, Peto MacCallum Ltd Terry Kuipers, Town of Minto Joe Kuipers, City of Belleville Jason Lake, Xylem Inc Marc Lamoureux, Lamoureux Pumping Inc **Caitlin Larwa**, WSP Canada Inc Paul Leahy, Leahy Excavation Perry Leifso, Interpump Supply Ltd. Rob MacLellan, Moose Creek Cement Products Cathy Marcellus, Charles Morden Construction Keith Marenger, Gerry Leroux Excavating Dean McDonald, Township of North Glengarry Peter McGrath, Mr. Rooter Plumbing Joanne McGurn, KFLA Public Health Unit Jamie McMaster, Norton Construction Troy McMillan, Lloyd McMillan Equipment Lloyd McMillan, Lloyd McMillan Equipment Ltd Gord Mitchell, KFLA Public Health Unit Gerry Mitchell, Peto MacCallum Ltd Dale Moak, David Brown Construction Adrian Molloy, Molloy Contracting Inc David Morlock, FlowSpec Engineering Ltd **Tom Musgrove**, Northern Purification Systems **Caroline Newby**, Caroline's Septic Designs David Oatman, Kirwin & Oatman Excavating Andre Osborne, Vector Process Equipment Inc MurrayParish, Parish Home Inspections **Grant Parkinson**, GM BluePlan Engineering Gary Pearson, Pearson Engineering Ltd. Gordon Richardson, Clearford Water Systems Inc. Mike Ridgwell, City of Vaughan Richard Ritchie, The Rideau Group Steve Ritsema, Liberty Pumps Robert Robinson, Robinson Haulage Inc. Scott Roswell, Roswell Concrete Products Dale Sanchez, Vector Process Equipment Inc

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South Western Ontario Regional Meeting November 4th, London

Over 50 attendees came out to this regional meeting and got clarification from a panel of regulators regarding permitting for some onsite systems in 2017 under the new CAN/BNQ standard. They also heard from an installer, designer and engineer about who should address what and when for onsite installations, inspections and maintenance/repair. Anne Egan also presented OOWA's new guidance documents on Pump Chambers and Sand Filter Beds.

OOWA would like to thank our panelists:

Matt Farrell, CBO, Huron-Kinloss Township Jocelyn Kerrigan, Inspector, Lambton County Terry Kuipers, CBO, Town of Minto Gerry Knoop, Installer, Denby Environmental Brady Straw, Designer, Waterloo Biofilter Anne Egan, Engineer, R. J. Burnside & Associates

A big thanks also to Karen Wilkie and the staff of the Upper Thames River Conservation Authority for providing and arranging the venue. Also to Amy Knoop for baking the wonderful snacks and to Teresa Buckman of Make-Way Environmental for ensuring a smooth check in for attendees. SILVER LEVEL SPONSORS:



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Golden Horseshoe Regional Meeting November 10th, Hamilton

A total of 54 attendees came out in Hamilton to participate in similar discussions regarding permitting and system options beginning January 1st and to get the ins and outs on the working relationship between engineers, installers and designers. OOWA's guidance documents on Pump Chambers and Sand Filter Beds were also reviewed. Thank you to ESSE staff members Jasmine Marshall and Jim Lowe for their assistance at the registration desk!

OOWA would like to thank our panelists:

John Dorris, CBO, Town of Milton Tanya Killins, Inspector, Niagara Region Zoran Kristo, Inspector, City of Hamilton Denis Dick, Installer/Designer, D&B Construction Anne Egan, Engineer, R.J. Burnside & Associates

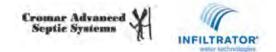
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Peterborough Regional Meeting November 18th, Peterborough

With the same agenda as the previous regional meetings, OOWA was excited to host over 40 attendees at this regional meeting. This event was the first time OOWA has delivered a regional event in the area. We were pleased to see such a great turn out of members and soon-to-be members.

Thanks to our panelists:

Anne Elmhirst, Part 8 Program Supervisor, City of Kawartha Lakes Kathleen Shepherd, Inspector, Peterborough Public Health Josh Coughlan, Designer, Cambium Katherine Rentsch, Engineer, R.J. Burnside & Associates Mike Shepherd, Installer, Shepherd Environmental Services SILVER LEVEL SPONSORS:

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Near North Regional Meeting December 1st, Port Carling

Continuing our conversations regarding the CAN/BNQ standard, the engineer, installer and designer nexus and OOWA's guidance documents, we hosted 54 attendees at the Port Carling Community Centre. Thanks to Sandy Bos and Cheryl Minty from the Township of Muskoka Lakes for their assistance in the promotion and venue logistics for this event.

Thanks to our panelists:

Sandy Bos, Inspector, Township of Muskoka Lakes Christopher Nagy, CBO, Town of Huntsville Brian Howden, Designer, Pristine Environment Consulting David Finch, Installer, Wes Finch & Sons Excavating Mike Varty, Engineer, WSP Canada

Central Ontario Regional Meeting December 9th, Innisfil

In the first real blast of winter, 37 attendees came out to the Innisfil Municipal Office to hear from local regulators about the new permitting changes and to learn for other local area OOWA members about how to navigate the ins and outs of the relationship between installers, designers and engineers. Thanks to Bill and Diana Robinson for their assistance in securing the venue and promoting the event.

Thanks to our speakers and panelists:

Katherine Rentsch, R.J. Burnside & Associates Bill Goodale, Inspector, C.C. Tatham & Associates Nick Ipollito, CBO, Township of Springwater Michelle Tremblay, Designer, MNT Consulting Bill Robinson, Installer, Robinson Enterprises Excavating Mike Varty, Engineer, WSP Canada GOLD LEVEL SPONSORS:



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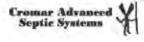


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2016 OOWA MEMBERSHIP BENEFITS





Life-side Assistance

















The OOWA Insurance Plan is administered by SeptiGuard, a company within the Verge Group. Coverage includes: General Liability, Pollution/ Environmental, Impairment/ Underground tank policies, Contractors Equipment, Barging and Waterborne Risks, Professional Liability for inspectors, designers etc., Vehicle/ Fleet coverage and Discount Home and Auto rates. Contact Scott Mullen: 905-688-9170 xt. 132 or email at mcmullen@vergeinsurance.com.

A new CAA Plus membership is reduced to \$99.00 for the first year (\$39.00 savings!) or a CAA Plus Associate Membership is reduced to \$75.00 for the first year. Contact CAA's Corporate Representative at 800-267-6394 ext. 6394 to sign up.

OOWA members save 10% at Mark's Work Warehouse on the follow items and more; Carhart merchandise, Dakota Workware, Coveralls and Overalls, casual wear, work gloves, and all CSA footwear. Present it at any location to receive your discount.

Peak Benefits Solutions provides comprehensive employee benefits packages that offer exclusive rates and access to savings not found with any other programs currently available. Peak's goal is to make individual plans rewarding for OOWA members by delivering quality products with excellent customer service. Contact Chad Donnelly at 1- 877-426-2704 for a personal consultation and quote.

ALS Laboratory Group provides a 30% discount on all your wastewater and soil testing needs. Contact Darlene Hoogenes-Stastny at 519-886-6910 or email at Darlene. Stastny@ALSGlobal.com.

Save 10% on any ORWC Course offering (cannot be used in conjunction with other discounts). See their course offerings at www.uoguelph.ca/orwc/ . Contact Bassim Abbassi at 519-824-4120 Ext. 52040 or via email at babbassi@uoguelph.ca.

OOWA has redeveloped the Registered Professional Program (RPP) to address the needs of ongoing training and continuing education demands from our members. OOWA Professional Designations include: Wastewater Service Technician, Designer, Installer, Private or Regulatory Inspector, Residuals Hauler, Project & Administrative Professional and Technical Sales Consultant.

OOWA has been working closely with our education partners to ensure that our members have access to courses that will provide them with the aptitudes they need to achieve their chosen RPP designations. Members enrolled in the 'In-Development Stream' of the RPP can now get special recognition for their dedication to skills and professional development on our new Find an Expert directory while working towards their RPP designations . Go to www.oowa.org to see the new directory and to learn how you can enroll and get placed on the directory now.

OOWA collaborates with other associations in communicating to government with one united voice on issues that are of mutual concern to our industries. OOWA is proud to inform our members know that you can access membership rates for events and resources provided by our association partners:

- The Ontario Association of Septic Industry Service
- The Ontario Building Officials Association
- The Ontario Ground Water Association

To get more information on these member benefits please visit our website at: www.oowa.org/about/join-oowa/

MEMBETZ PROFILE

Marc (founder) and Mario Lamoureux (partner/future owner) Lamoureux Pumping Inc.



THE LAMOUREAUX PUMPING TEAM

Services:

- Septic cleaning and septic system inspection
- Septic repair, sales and installation of filters and risers
- Commercial and residential holding tank pumping
- Grease interceptors and organic waste removal and disposal
- Water hauling
- Manure spreading
- Municipal biosolid spreading and hauling
- In progress for sand trap, oil, water separators pumping and disposal

Service Area: All Ontario, Quebec

Number of years in operation: 33 years

What go you started in the onsite wastewater industry?

Marc: I was hired as a wastewater truck driver, I bought the company after 4 months. I realized that there was a good opportunity in this industry. I started with an old 2000 gallons truck and now have a fleet of 4 trucks, 6 trailers and all the equipment.

Mario: I have worked outside the company to get experience. At 22 years old, I realized that I was truly meant for this industry and I followed my vision.

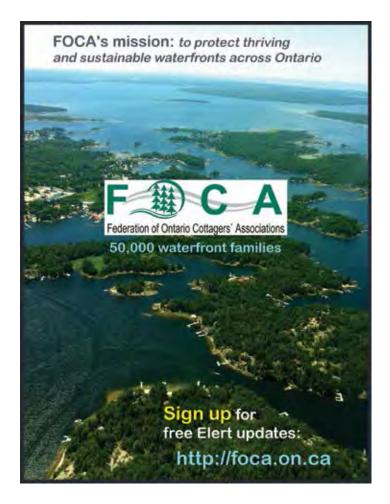
Give us one reason/secret for your success. We believe the key is customer service and to achieve that, you need great employees, just like we have. They work with the equipment and with our clients as if it was their own business. Most of our new clients are from referral. The clients like the friendly and professional service they receive but most importantly, customers like that we are available 24/7 to answer their call directly and not through an answering machine.

Where do you see the onsite industry going?

The environment is on everyone's lips right now. Because of this, there will be a growth in the importance of the industry. It will be important to continue to educate homeowners on the maintenance of septic tank system. We have already seen a big evolution in 33 years. In our area, it is difficult to depend on treatment plant for disposal. The price will differ for a company who owns a disposal site versus using a municipal disposal site.

What can the onsite industry do to improve?

We, as pumpers, have to work collaboratively and respect each other's businesses. We should focus on our reputation, the clients will call you not because you are cheaper but because of the service you offer. Also, being a member of OASIS and OOWA should be mandatory. It is an effective way to hear what is going on in the industry. An association has a bigger voice than just one owner. Finally, the location of the associations should be more centralized and conferences should be held in our low season (winter) in order to maximize participation.



Safety Policies and Programs

Bruce Bolduc, CHSC, CRSP, P.GSC, Construction Workplace Safety Training Ltd

Most companies now are aware of the requirement to have a Safety Policy. If not, then here's the rule. If your firm regularly employs 5 or more workers, you must have a safety policy and a safety program to implement that policy.

Now many people simply go to the internet and download the first free one they find. That can work, however, simply grabbing anything could leave the company exposed.

The policy and its accompanying program must be reflective of the company and its work.

As an example I have seen many companies with, what they thought was a good program, only to find out that it did not reference Ontario Regulations, or that the company that the policy was "borrowed" from is still referenced in the policy.

Of course this is only found out in the event of an accident or incident. Sadly many of these companies paid for the program.

You can imagine your surprise when the Ministry of Labour asks questions of your staff regarding responsibilities, and they don't even know you have a policy. Or your supervisor does not know he/she is responsible for the actions of your staff and sub-trades. A safety program does not have to be complicated and it does not have to be 150 pages with sub-categories. It does have to reflect the company's commitment to keeping their workers safe, and demonstrate how they going to accomplish that. The first part is just a policy statement. It must lay out basic responsibilities to the various parties, such as management, supervisors and workers. It must be signed and dated by upper management within the year. It must also be posted in a conspicuous location that workers can see it.

That is just the first part. The program must be more specific.

You should have a very clear discipline policy. This spells out what will happen in the event that someone breaks the rules. Most companies use the three strike process. 1. Verbal warning. 2. Written warning. 3. Termination.

You should also have policies on what to do in the event of an emergency. Who calls 911? Who directs in EMS? Who notifies the Ministry of Labour in the event of a "Critical Injury"? Who calls the family of the injured worker? Does the company have "modified duties"?

A policy on PPE is important. When and where to wear it, what to wear, who is responsible to make sure it's being used?

Training policies should be included. When is required? Does it meet the legal requirements? Who will pay for it?

Check the regulations for legally required policies, such as confined space, or traffic control. The company must have written procedures for many work activities and these must be communicated to each worker.

Social media, is a new type of policy that every company should have.

Can anyone post a picture of anything happening on the job? What happens in the event of an accident or injury? These postings can be used to convict a company. Other workers have filed WSIB claims, based on online harassment.

Finally, make sure that the legal responsibilities of each are addressed. This information must be clearly communicated to everyone. Simply having a binder in the truck or office does not help in clearing your name, or the company. Safety talks are an easy way to have everyone informed. Have an attendance sheet, and leave room for questions.

Construction Workplace Safety Training Ltd. is a full service safety consulting firm. We offer training, policies and procedures as well as on site evaluation and accident investigation.

Our staff have a broad range of backgrounds, from heavy equipment, construction, mining, logistics and commercial operations. We can assist in all safety issues of a company.



DISTRACTED DRIVING A REAL KILLER!



Distracted driving has become a major contributor to traffic crashes, along with alcohol and excessive speed. According to the National Safety Council, 25 percent of all traffic crashes that occurred recently involved a driver talking on a cell phone and resulted in 1.4 million crashes and 645,000 injuries. Another 200,000 crashes involved texting while driving.ⁱ Annually, during the past few years, more than 3,000 persons have lost their lives in crashes related to driver distraction and the numbers continue to rise.

The Federal Motor Carrier Safety Administration (FMCSA) reports that 3,675 persons lost their lives in 2010 in truck involved traffic crashes. Driver distraction/inattention has been identified as one of the top five causation factors in large truck and bus crashes."

The National Highway Traffic Safety Administration reports that while talking and texting on a cell phone is a major source of driver distraction, the most frequent forms of driver distraction are talking to passengers in the vehicle (80 percent) and adjusting the radio (65 percent)ⁱⁱⁱ

Distracted driving involves one or more of the following components:

Visual Distraction – looking away from the road at 55 miles per hour for as little as three seconds will result in the vehicle traveling 250 feet, almost the length of a football field.

Manual Distraction – removing one or both hands from the steering wheel to perform non-driving tasks such as dialing a cell phone or adjusting the radio.

Cognitive Distraction – the most dangerous form of driver distraction, involves activity that causes the driver to take their mind off the task of driving. Daydreaming is a common form of cognitive distraction.

Multi-tasking while driving can also lead to cognitive distraction. Cognitive distraction can cause a driver to become unaware of critical visual information. Research has shown cognitive distraction to have dangerous effects on driving as does alcohol.

Texting is the most dangerous form of distraction as it involves all three types of distraction and makes the risk of being involved in a crash 23 times more likely.^{iv}

Distracted driving can lead directly to extremely hazardous driving behaviors including speeding, following too closely and erratic lane usage. Distractions also reduce a driver's reaction time when responding to a dangerous situation. The American Transportation Research Institute (ATRI) reports that the likelihood of the driver of a commercial motor vehicle being involved in a crash increases significantly when the driver has been convicted of one of these hazardous actions.^v

All drivers should follow these tips to stay alert and focused and avoid distracted driving:

- Don't multi-task while driving.
- Don't drive while fatigued. Make sure you are well-rested before getting behind the wheel.
- NEVER text or email while driving. Pull off to a safe location if you must text.
- Avoid using a cell phone while driving. Even the use of a hands-free device is dangerous as it involves cognitive distraction.

- Program the GPS and adjust the mirrors and radio before driving.
- Avoid distracting activities such as eating, personal grooming and reaching for items.
- Avoid alcohol and drugs before and during driving.
- Buckle up! It is your last line of defense. Remember, seat belts save lives.

Remember, driving is a full-time job. Stay focused, keep your hands on the wheel, keep your eyes on the road and keep your mind in the game!

For more information about Defeating Distracted Driving, please visit these websites:

www.cvsa.org www.Distraction.gov www.AAAFoundation.org www.FMCSA.dot.gov www.DistractedDrivingHelp.com www.NHTSA.dot.gov www.OSHA.gov www.CDC.gov www.NSC.org www.operationsafedriver.org

i Understanding the Distracted Brain – National Safety Council, March 2010

ii Federal Motor Carrier Safety Administration Large Truck Crash Overview 2010

iii National Phone Survey on Distracted Driving Att itudes and Behavior–National Highway Transportation Safety Administration, December 2011

iv AAA Foundation for Traffi c Safety 2010 v American Transportation Research Institute report on Predicting Truck Crash Involvement, April 2011

Légumier Du Madawaska BioCord Upgrade

Bishop Water

The Légumier Du Madawaska is a vegetable processing facility located near Riviere-Verte, New Brunswick. The company has been in operation since 1974, and has grown continuously since then, with 3 different expansions involving increased processing capacity. The main vegetable processed is potatoes for fresh cut French Fries, but they also process carrots, turnips and cabbages. It employs 8-15 workers year round, and purchases all of its vegetables from local producers.

The Légumier had recently installed a system of 4 septic tanks to improve the treatment of the wastewater generated by the vegetable processing. While effective at removing suspended solids from the wastewater stream, an increased level of treatment was required to deal with the dissolved organics and increase the pH to the level required by the New Brunswick Department of the Environment.

BioCord Reactor Solution

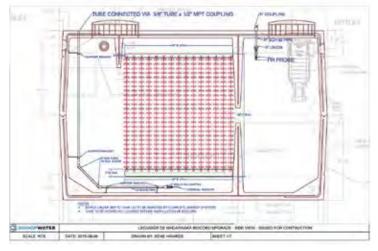
After examining several alternatives, the Légumier decided on installing BioCord Reactor Technology into their existing 4 tank septic system. BioCord Reactor Technology would provide a surface for treatment bacteria to grow, removing the organics from the wastewater treatment. A chemical dosing system was also installed to maintain the pH level.

Bishop Water Technologies prepared the full design of the BioCord Reactor system, including the aeration diffuser system and blower, stainless steel suspension brackets, and BioCord material. The pH adjustment system was designed and calibrated by Bishop Water Technologies.

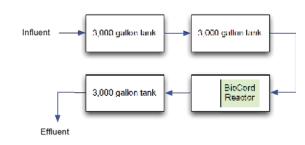
In partnership with Complete Energy Systems of Grand Falls, New Brunswick, installation of the BioCord, aeration and chemical dosing system proceeded quickly, taking two days. Proper scheduling allowed the Légumier to maintain full production while the installation was proceeding.

After a period of acclimatization, the pH adjustment system was able to increase the pH from an average of 5.9 to 7.2, a level much more suitable for the development of treatment bacteria in the system. Initial concentrations of BOD range from 1300-1700 mg/L, and has been reduced to less than 400mg/L. These results are expected to improve as the amount of treatment bacteria increase on the BioCord.

These results show the effectiveness of the installation of a fixed film system for the retrofit of small industrial wastewater treatment systems. It can be done with existing tankage, in a cost effective manner with a quick, simple installation. www.bishopwater.ca 220 Carswell St



BIOCORD IN SEPTIC TANK DESIGN



PROCESS DIAGRAM



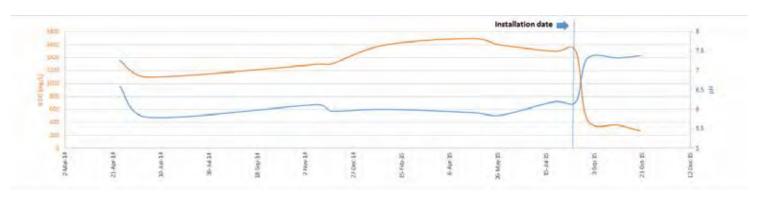
PH ADJUSTMENT SYSTEM AND BLOWER





PH ADJUSTMENT SYSTEM AND BLOWER

PH ADJUSTMENT SYSTEM AND BLOWER



LÉGUMIER DE MADAWASKA BIOCORD INSTALLATION

OOWA UPCOMING EVENTS

Watch for upcoming Eastern Ontario Regional Meetings coming in the spring of 2017.

Check our website's Events Calendar for details in the coming weeks: www.oowa.org/events



OOWA'S PRINT PUBLICATION HAS NEVER BEEN BETTER!

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Want to know more?

Contact OOWA's Outreach Coordinator, Mike Gibbs: 855-905-6692 ext. 101 or via email at outreach@oowa.org.



ESSE's System Warranty Program provides extended coverage for your system's durable components.

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Our Pledge to You

Our clients are our top priority. We operate with the highest standards of openness, always acting in the client's best interest.

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System Warranty eligibility is subject to participation in our our Maintenance Membership program



1-866-356-3773 www.essecanada.com info@essecanada.com



Service: Public Health Inspector, Environmental Health Safe Sewage Disposal Program

Service Area: Peterborough County and City

Number of years in role: 28 years

What go you started in the onsite wastewater industry?

I graduated from Ryerson University with a Bachelor's degree in Environmental Health. Ryerson provides a plethora of programs covering everything from communicable diseases, food safety, to private sewage disposal systems, etc. In order to become certified as a public health inspector at that time 6 months of practical experience was required in the field of public health. I worked 3 months with Toronto Public Health and 3 months with the Peterborough County-City Health Unit. What a difference! I chose Peterborough for the Land Control aspect.

Give us one reason/secret for your success.

Sewage is a Health Hazard. The goal is to protect people and the natural environment from adversely being exposed to sewage. I think everyone I know realizes that this is my main goal. The role of regulator naturally coincides with this. I enforce regulation. I follow regulation. When a regulator starts to "bend the Rules" so to speak then they are exposing themselves and their organization to unnecessary litigation. I use empathy, patience, tenacity, and humour to achieve compliance. Simple.



KATHLEEN SHEPHERD Public Health Inspector

Where do you see the onsite industry going?

I believe that each Canadian should be responsible for everything that we flush out into the environment. Class four private sewage disposal systems are the most environmentally "green" form of sewage disposal in Canada. If respected and maintained they serve us well. OOWA has done a great job bringing installers, regulators and manufacturers together for support and education. I see the industry growing together to provide safe and sustainable solutions to sewage disposal in Ontario.

What can the onsite industry do to improve?

As a regulator I would like to see the Ministry of Municipal Affairs develop a standard for inspection across Ontario. The Ontario Building Code is large and complex as a piece of legislation and as with most statutes open to interpretation. We, the regulators need to meet and develop an Ontario Approach to help everyone in the industry to grow and improve. We need to protect public health, the environment, and especially our surface and subsurface water.



OOWA IS A PROUD SUPPORTER & PARTNER OF:

Avoiding Benefit Administration Nightmares

Chris Zelasko, CEBS, Peak Benefits

Navigating the world of employee benefits can be a daunting task at times. As an employer, it's your job to ensure you succeed in your business; the last things you want to worry about are the potential pitfalls of benefits administration.

There are a number of things that you can do to help avoid potential situations and create your benefits administration processes. Some of the processes that need to be addressed:

- 1. Enrolling employees on time to avoid late applicant status. Medical Underwriting requests can cause undue hardship on both the employee and employer.
- 2. Updating salaries with the insurer annually. This helps ensure that the employee is properly insured for life and long-term disability.
- 3. Keeping everything with regards to enrolment in writing. Excess insurance options need to be communicated to the employee. Make sure it's documented.
- 4. Using waiver letters if all else fails. Sometimes, employees do not want coverage. Make sure that they sign off on the decline and are aware of the process if they want to enrol in the future.
- 5. Developing a corporate policy with regards to disability, maternity/paternity leave or leave of absence. Clarity at the outset for all concerned will take significant stress out of a situation.

Finally, working with a qualified Employee Benefit Consulting team can help streamline the processes and provide a framework of success. You have a business to run. It takes time to ensure that an effective process has been created and adopted. An experienced Consultant can help you navigate the world of benefits and help you avoid the potential conflicts that may arise.

At Peak Benefit Solutions, we help organizations develop a healthy and actively engaged workforce with customized, quality employee benefits programs. Through a strategic balance of value and efficiency, our plan designs empower you to be an employer of choice.

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For more information contact: Chad Donnelly cdonnelly@peakbenefitsolutions.com 1 877-426-2704 www.peakbenefitsolutions.com



How to UN-Complicate Your Business

By Ellen Rohr

The following story is true. The names have been changed to protect the innocent. If you think this story is about you...you are probably right.

In my seminars, I ask, "What one thing have you done that has made a huge difference in your life over the last year?"

One fellow raised his hand and said, "I used to write down my Projects and To Dos on little scraps of paper and sticky notes. It was messy and confusing. So, I started using a single notebook to write down everything I need to write down. This has helped me stay so much more organized."

Nice! I asked how much time a day this was saving him. "Oh, maybe 10 minutes a day." That's more than an hour a week. 52 hours over the course of a year. 520 hours, or 13 workweeks, over the course of ten years. Not to mention the savings of emotional energy, previously spent scouring through slips of paper trying to find something.

A small change can reap huge results. In the last 23 years of business building, I've become an expert. Here's what I've learned: Business is easy. We make things too complicated. Pretty much everything I do to help my clients be more successful is to UN-Complicate stuff. Do less and achieve more. Sound good? It is! Here are a few ways to streamline and maximize results.

1. Get clear on what you want. Write your Perfect Life essay or create a vision board. Most of my clients know what they don't want. Only a few are willing to lay claim to what they do want. When you have clarity of intention you can say, "No," a lot more often. That frees up tons of time and focuses your energy.

2. Raise your prices. I caught up with a past client who is still woefully underpriced. "What if you had doubled your prices ten years ago, when we first met?" Doesn't more money make lots of things easier? I've given this piece of advice more than any other in my career because this one thing will make the biggest difference in your life and for your family, team, customers and community.

3. Spend time with your employees. Ride along and sit side by side. Listen and learn. Share your vision and ask them what they think of it. Ask them what you might do to improve your performance as a leader. Ask them what you are doing that's getting in the way of their success. Add their ideas to your list of Projects and To Dos. Engage them to solve problems and grow your business. They will!

4. Put this week's To Dos and Projects on the Calendar. You can't do everything at once, so commit to a few Projects at a time. Then, make sure that Project time hits somebody's Calendar, yours or someone to whom you have delegated the Project. Plan your week and add in meeting times, personal time (gym, dates, kids' things) as well as your day-today job activities. Your Calendar is your best defense against the "gotta minutes" that can suck the life out of your day.

Consider, before you speak the words or do the activity, "Is this worth my time and energy? Is this aligned with what I really want?" If not, pare it out. If it is, do it now. It's so easy to get on the "treadmill" and unconsciously spin through another year. Try just one of these simple disciplines on for size ...and let me know what you discover as you make it part of your life.

"The best time to plant an oak tree is ten years ago. The second best time is today." ~ Chinese Proverb

About Ellen Rohr

Ellen nearly sank her husband's plumbing company after his partner died unexpectedly. Boy was she humbled! In desperation, Ellen figured out how to make lots money and turned the business around. She inspires thousands, in workshops, presentations and online, to make business un-complicated and live life un-leashed.

Ellen is also a successful franchisor, helping launch a plumbing franchise to 47 locations and \$40 million in sales in under 2 years. Now, she is the president of Zoom Drain and Sewer, LLC. Ellen is a popular, high-energy speaker and TV Celebrity who has been on over 60 news programs, encouraging people to make their own money.

Business UN-Complicated... Life UN-Leashed!

twitter: ellenrohr facebook: ellenrohr www.ellenrohr.com





Mac Taylor Corporation

Services: Septic Systems - Design, Install and Service, Site Preparation, Driveway Construction, Aggregate Sales

Service Area: All of Grey and Bruce Counties as well as parts of Simcoe County

Years in Operation: Over 30

What got you started in the Onsite Wastewater Industry?

I love the challenge of finding the most responsible solution for every property I work on. Finding the most environmentally responsible solution, at a price that the customer is happy with and that satisfies the Building Inspectors is very rewarding.

Give us one reason for your success:

Keeping up to date on the latest technologies and code changes while providing excellent customer service, at all levels, is key to earning the trust of customers and inspectors. Navigating the "red tape" can be frustrating for home owners and if you can take that stress off their plate, the entire process can go much smoother.

Where do you see the onsite industry going?

Rural development is obviously on the rise and that creates tremendous potential for the growth of the on-site industry.



MAC TAYLOR Mac Taylor Corporation

Educating home owners and developers, installer integrity, enforcement consistency at the Municipal level and technology development, all need to be in sync, to continue to build a strong industry.

What can the onsite industry do to improve?

For years, I have believed that the Onsite Wastewater Industry should be considered a Skilled Trade, with an approved and regulated Apprenticeship program. The lack of people entering this field of work is concerning. Construction will continue, and if we don't build up our industry professionals, the environment will be at risk.

JOIN AN OOWA COMMITTEE!

Want to really make an impact in the industry?

Why not contribute to our collective efforts in getting onsite and decentralized recognized as viable and critical rural infrastructure? OOWA is looking for enthusiastic and engaged individuals to help move the industry forward.

Contact Mike Gibbs to find out how to join our ranks! outreach@oowa.org



Toll Free: 1- 800- 263- 1297 or 905-852-6111 Website: www.newmarketprecast.com Email: info@newmarketprecast.com

20 Victoria Street North PO Box 1179, Uxbridge, Ontario L9P 1N4

YOUR WASTE WATER SPECIALISTS

MEMBETZ PROFILE

Michael Rahme Homepro Central Ontario Inc.

Services: Home inspections, Wood Energy Transfer Technology inspections, Septic and Thermography inspections

Service Area: Haliburton County, Kawartha Lakes & Muskoka

Number of Years in Operation: 20 years, Home inspector

What got you started in the onsite wastewater industry?

With HomePro Central On. Inc., a pre-purchase home inspection company, my objective has always been not only to educate but to also be in a position where I could satisfy all of the home buyers needs and help to minimize their risk as much as possible. Fourteen years ago, the occasional client was asking me what shape was their septic tank in, and aside from the old wives tales that I had picked up along the way, I recognized that I really was not in any position to render an accurate opinion. With 90% of my inspections being on rural property, achieving a septic inspector's designation seemed to be a natural fit. It was important that I would be fully armed with a complete understanding of, not only the on-site wastewater system, but also the soils that filtered it. My search for training landed me at the Ontario Rural Wastewater Centre in Guelph and, to my good fortune, this was my first meeting with Mr. Doug Joy.

Proceeding through their soils training (to a generalist level), septic trouble shooting course and finally the Part 8 Inspector/ Installers course. I then felt confident that I would be able to provide insight and understanding for my clients. To my amazement the real education on the re-inspection of existing on-site systems was just about to begin. The first thing to understand from a re-inspect standpoint is that each tank condition would be as different as the person that owned it.

Give us one reason/secret for your success.

Communication, clear, concise, and complete. You have to be patient, you can be the best practitioner in the industry but if you lack the ability to effectively communicate your findings with your client, you have not been successful with your endeavour. Speaking to your client rather than talking at them is a win win situation. They come away with the feeling of good value for the services rendered. Now, with their new found understanding, home and cottage owners alike are quick to boast to their friends, family, and neighbours of their new found knowledge and inevitably your name always comes up. This is my best marketing. I cannot help but smile when I am sitting in one of the Haliburton restaurants and I hear the patrons at the table behind me talking with some degree of passion about their



MICHAEL RAHME Homepro Central Ontario Inc.

septic systems over a coffee. That to me, whether I was part of the discussion or not is success.

Where do you see the onsite industry going?

Dare I say it, yes with cottages, it seems that septic has almost become vogue. The cottage and lake associations have the ability to be a massive lobbying group, with a long volunteer list of highly qualified people that are able to influence councils, municipalities and even provincial government. With lake associations now having a heightened understanding of the adverse effects that derelict septic systems will have on surface and groundwater alike the push is on to take action. This is an endeavour that is of mammoth proportions, and one that our municipal officials alone cannot be saddled with.

Time is of the essence, we have an opportunity, with an open dialogue, along with the cooperation of private service providers and municipalities alike, we could begin to meet this challenge head on. The will to move forward I believe will be the lesser of the two significant challenges that is facing the industry. Now that the understanding of pumping on a regular basis (approximately every 5 years) is as much apart of house maintenance as caulking windows and doors or restaining your deck and siding, the question is, where do we put it? I am a strong advocate for field dumping. With my cursory knowledge, I believe this to be the most effective method from both a treatment standpoint and a cost point. However, with Ontario being blessed with that amazing wonder known as the Canadian Shield effective treatment by way of percolation is out of the question as areas like the Muskoka district, are all too familiar with.

Of course beyond that challenge we have the NIMBY (not in my backyard) effect to contend with. As the dynamics of rural property owners change from born and bred local people to urbanites looking to start a new phase of their lives, they can be somewhat unfamiliar with some finer aspects of rural living such as the disposal of septage or even the spreading of manure. Pumping schedules could be carefully managed to coincide with a comprehensive Phase 2 inspection, thus, ensuring systems are functioning as intended and are not being pumped unnecessarily reducing some degree of burden on treatment centers and dump sites alike.

(contined on page 37)

Collaborating with WaterTAP to Achieve Better Best Practices

By Trish Johnson, lead for WaterTAP's Better Best Practices Initiative

In recognition of the Ontario's extensive water technology expertise, the provincial Water Opportunities Act, 2010 established the Water Technology Acceleration Project (WaterTAP), an organization that brings private-sector experience and guidance to helping water industry entrepreneurs gain access to the resources they need to successfully commercialize their products and services and grow their businesses.

In August 2016, WaterTAP launched its Better Best Practices Initiative to help remove the barriers associated with adopting innovative water technologies, particularly in Ontario.

The Better Best Practices Initiative is a series of collaborative projects that seek to continuously improve water management and leadership in Ontario by addressing challenges that can represent barriers to the adoption of innovative water technologies by end users.

Primarily, these projects focus on creating opportunities for education and awareness, as well as collaborating to develop regulations, approvals, policies, procurement, and funding mechanisms that build toward better best practices and, ultimately, enhance Ontario's position as a practicing global water leader.

WaterTAP is determining and scoping eligible projects by:

- Identifying needs in Ontario's water sector,
- Facilitating conversations and workshops with public and private stakeholders, and
- Working toward collaborative solutions to resolve the needs.

These projects will often involve partnerships with other organizations and subject matter experts. They will also build upon current provincial efforts to "clear the path," or minimize or remove red tape. As the lead for this new initiative at WaterTAP, I am excited to have the opportunity to shape projects with the goal of removing the barriers that prevent efficient water technology implementation in Ontario. After more than 30 years in the water and wastewater industries in Canada and the United States, I see this initiative as an opportunity to support some muchneeded discussions and action on infrastructure solutions.

As a longstanding supporter of OOWA and a current member of the Board of Directors, I also see this initiative as a way for our organizations to collaborate. I'm particularly interested in how Better Best Practices can encourage the appropriate use of onsite and decentralized water and wastewater solutions to provide efficiencies and "value for money" solutions for in small town and rural situations.

While OOWA and WaterTAP are two very different organizations, they now have opportunities to work together on some important common goals, such as education on changes to the Provincial Policy Statement and what they mean for planning in the onsite and decentralized industry. Better Best Practices can also help to streamline government processes for new technology and onsite systems approvals, increasing Ontario's capacity for management of new, small systems, and informing stakeholders about their lowcarbon benefits. These efforts will further support the onsite industry and small communities to achieve more efficient infrastructure growth in the future.

While it is not easy to source data to confirm the specific number of onsite systems installed in Ontario, it is estimated that 1.2 to 1.4 million households use decentralized wastewater systems in this province. These systems treat approximately 800 million litres of wastewater per day, and offer small communities, dispersed populations and rural developments environmental protection with a lower carbon footprint than conventional, centralized pipe solutions.¹

For this reason, it is important that the small system voice is heard. Working collaboratively with WaterTAP will further OOWA's efforts to ensure greater understanding of the need for the continued use of onsite wastewater systems as offering appropriate and sound environmental protection. Education about our new water technologies and solutions is important and so is increasing public understanding about their value, reliability, and appropriate use.

OOWA and WaterTAP will now be working together to help foster an entire segment of this market that still needs to be developed and deployed: the maintenance and management of onsite and decentralized wastewater systems. The two organizations can also look at BNQ certification and what it means for Ontario's onsite sector.

With WaterTAP's expanded second mandate focused on barrier reduction, there are now more opportunities to work together with OOWA and organizations like OOWA, to collaborate and share information and insights in support of Ontario's new, small, water, wastewater and stormwater systems.

We Want to Hear from You

WaterTAP is seeking input on the barriers that the onsite industry faces, and we welcome your stories.

Please contact Trish Johnson at trish.johnson@WaterTAPontario.com to provide your experience and join in this important conversation.

For more details on WaterTAP, please visit **www.WaterTAPontario.com**

1. info on # septics from OOWA/Marie- Christine Belanger

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MEMBETZ PROFILE

Dominic Mercier ENVIRO-STEP TECHNOLOGIES

Owners: Dominic Mercier and Isabelle Bedard

Services Enviro-STEP Technologies develops and commercializes onsite wastewater treatment solutions for residential, commercial, institutional and communal applications

Service Area: We distribute our different products in Quebec, Ontario, the Prairies and still have a lot of expansion opportunities.

Number of Years in Operation: Enviro-STEP Technologies is in its third year of operation. Its sister company Enviro Neptune is involved in research and development of our onsite solutions is in its seventh years of operation. As a civil Engineer I have developed, designed and commercialized onsite systems since 1995.

What got you started in the onsite wastewater industry?

Early in my career, I worked for a small engineering firm. This is where I got first introduced to the design of septic systems. Since then, in my 21 years of experience, I have continuously worked for companies developing onsite products or firms designing small to large onsite systems until I started my own company. Very quickly, I got involved in various onsite associations. I have given training sessions and attended conferences across Canada and the US.

Give us one reason/secret for your success.

I have always been motivated in finding simple and affordable solutions for people struggling with environmental and technical challenges. I take a lot of pride in developing technologies and designing solutions that not only meets the client environmental and regulatory obligations but also



DOMINIC MERCIER Enviro-Step Technologies

meets its technical and financial capacities. Every day in my professional and personal life, I try to listen as much as I talk. That has served me well so far.

Where do you see the onsite industry going?

Most people working in this industry do not realize the importance of their work and the impact of what they are doing for the people and the environment. We do not build septic system. We safely recharge aquifers and protect our water resources. Think about that...this is huge! It's only a matter of perspective. We have to see the big picture as an industry, take pride in our work and elevate our standards.

What can the onsite industry do to improve?

We have to increase the visibility and credibility of our industry. We have to demystify our work, popularize, document and publicize the direct and indirect positive impacts onsite wastewater management provides to our communities. We also have to elevate our standard in order to be seen as professionals and experts by all others. OOWA is the ideal platform to make it happen.



... work in the onsite industry?

Why don't you join the Ontario Onsite Wastewater Association! The onsite industry is at the front line of environmental protection. Only as a team can we build the profile and recognition that our industry deserves. We have discounts for corporate multiple memberships.

Connectivity to Internet brings Risks: Be Prepared

Paul LePage, Foundation BTS



COMPUTING EVOLUTION From Mainframes to Wearables

The number of computing devices connected to the Internet has been growing significantly year after year. Recently there has been a significant shift in the type of devices being attached. Traditionally, servers, workstations, laptops, tablets, smartphones, gaming consoles, routers, switches, firewalls and other user centric devices have connected, but now many manufacturers are introducing an increasing variety of "smart" devices.

Now, Internet enabled devices include things like DVRs, IP cameras, thermostats, wearables (like a Fitbit or an iWatch), e-readers, televisions, vehicles, home appliances, security systems, lighting systems, pet monitoring devices and cars. Somewhere between 2008 and 2009 the population of devices connected to the Internet became greater than the number of people on Earth. According to Cisco, this period defines the birth of the Internet of Things (IoT) (the point where there are more Internet connected devices than people.)





A ROBOT ARMY The most powerful force in computing is controlled by hackers

Amazingly, all of the devices described above are vulnerable to hackers and many devices, like IP cameras, DVRs, and Routers have already been infected by viruses and malware.

There is a multitude of benefits for malicious attackers in gaining control of millions of computing devices around the world. Some reasons an attacker might want to infect devices on your network are to:

- spy on users in a network
- get your personal information
- take over and infect other computers and devices on your network
- enslave computers in order to join them to a massive network called the botnet and
 - spread more viruses and malware
 - send out mass spam and phishing type campaigns
 - launch attacks on some network targets, like Spotify or the New York Times
- perform any type of activity where distributed computing may be beneficial

On October 21, 2016 Twitter, Paypal, Spotify and several other major web solutions providers were taken down because of something called a Distributed Denial of Service (DDOS) attack. In order for a DDOS attack to work, millions of devices are enslaved to work together to attack a single web resource target with thousands of meaningless queries per second. If the target resource has too many bogus queries to deal with, then it cannot deal with the good queries. The end result is that services on the target become super slow or unavailable.



ROGUE DEVICES

Free operating systems paired with a lack of concern for security are at the heart of a new threat

The unique thing about this attack is that it was performed by infected or enslaved devices which were NOT traditional computers. The attack came from devices like DVRs and Routers which had a vulnerability hackers were able to exploit in order to join these devices to the botnet. The botnet is an unbelievably powerful network of compromised computing devices and according to one FBI report approximately 500 million computing devices are infected every year.

Unfortunately, many of these devices were manufactured without ongoing maintenance and patch updates in mind. The manufacturer's focus has not been to manage the software on products already sold. The client doesn't have the means to manage the software on these products either, nor do they have the expectation that they should maintain and patch these devices. Imagine you buy a fridge from Costco and the instructions say you have to run patches on it every week. Your expectation as with all of your previous fridges, is that you plug it in

and it keeps your food cold. Why would you even imagine that your fridge could be hacked and converted into a slave to serve in the botnet army?

RESPONSIBILITY AND ACCOUNTABILITY

Uncontrolled and unmanaged devices are a threat to everyone

These new threats have caught the attention of government, major service providers and users of the Internet in general. We are in an era where responsible Internet use is not just about keeping your PC or Mac Antivirus Software up-to-date, but it is also about producing, maintaining or owning electronic devices which are secure, or which can be updated to become secure. In the OOWA we have members which

are Manufacturers of devices designed to monitor a variety of conditions. Newer device may interface with the Internet, are probably programmable and may have a Linux based host operating system. As a result, these devices will be a target for hackers.

If you are an inventor, a distributor or an owner of a device which is connected to the Internet, it is likely that in the future you will be responsible for securing these devices. Are you prepared for this type of responsibility?

INTERNET ENABLED DEVICES ARE HERE TO STAY

In the future, owners, distributors and manufacturers will be accountable to secure their Internet enabled devices.

The consequence of owning a device connected to the Internet which has been hacked will probably be that your ISP (Internet Service Provider) will terminate service to your location or device until the problem has been rectified. If you are a manufacturer, or distributor of these devices then the consequences could be more severe, especially if you have no means at your disposal to update devices already sent out to the end user.

In an era where more and more devices are Internet enabled, we must consider more than just convenience. As members of an important industry, we have to be mindful that security is also a major consideration, and that the devices we provide are a target for malicious intent and that we have the means and responsibility to mitigate this new type of risk.

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WATER SYSTEMS INC.

MEMBETZ PROFILE

Gillian Dumencu Clearford Water Systems

Services: Clearford is a provider of decentralized wastewater management solutions centred on the company's patented Small Bore Sewer (SBS™) technology. As an engineer at Clearford, I support business development and lead technical activities such as design, research and development, and intellectual property management.

Service Area: Ontario, and worldwide with projects in South America and India

Number of Years in Role: 3

What got you started in the onsite and decentralized wastewater industry?

I've always been fascinated by the built environment around me and how it interacts with the natural world. Getting into civil engineering may have been inevitable for a kid who built rock forts and splashed around in the swamps of Sudbury. But moving to the city and working in consulting made me realize that we have so much power to shape our environment, and as strong a responsibility to do so thoughtfully. Today, I'm glad to be a part of the onsite industry that is contributing thoughtful solutions towards water management.

Give us one reason/secret for your success.

You have to earn your reputation for reliability through attention to detail in every task. But you risk spinning your wheels and missing opportunities if you don't keep in mind the reasons why you're doing something. I'm learning that gaining success and respect requires understanding the context of your work, challenging assumptions where they don't fit, and encouraging critical discussion that results in better solutions.

Where do you see the onsite and decentralized industry going?

The onsite industry has built strong local presences and continues to organize itself for success. This is timely, as



GILLIAN DUMENCU Clearford Water Systems

the industry now seems poised for greater acceptance as a key piece of the puzzle towards sustainable servicing for communities. The public planning consciousness is catching up with what those in the industry have known a long time—that onsite and decentralized solutions are appropriate strategies for protecting watersheds and public resources.

What can the onsite and decentralized industry do to improve?

Wider acceptance of onsite and decentralized solutions seems to hinge on the frequency of success stories and recognition of these projects by municipalities and local agencies as providing low cost servicing that contributes to regional planning and environmental objectives. Industry people can reinforce the value of their services and technologies to local agencies; that will drive broader acceptance both laterally to other agencies across the province and upwardly through the levels of public planning and policy.

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... work in the onsite industry?

Why don't you join the Ontario Onsite Wastewater Association! The onsite industry is at the front line of environmental protection. Only as a team can we build the profile and recognition that our industry deserves. We have discounts for corporate multiple memberships.

Prepare Construction Equipment For Winter Storage

By Ed Wodalski

Whether getting equipment ready for storage or a hard-working winter, here are a few steps you will want to follow.

Depending on where you live, the winter chill may already be in the air. Hopefully, you've taken the time to properly store your equipment for spring. Or maybe you plan on using it year-round. A skidsteer loader, after all, makes a handy snow removal tool. In either case, your operator's manual is a good place to start. Each piece of equipment is unique and requires its own shutdown procedures.

Shutting down until spring?

Typically, winterization includes a multipoint inspection of your equipment: lubricate and/or replace parts; drain and/ or change fluids, oil and filters; check tires; and inspect the brakes, steering and gearboxes. This is also a good time to check the hours on your machine to see if it's due for required maintenance.

Lars Arnold, product manager forcompact equipment at Volvo Construction Equipment, says after referring to the operator's manual, it's a good idea to clean the machine, removing all dirt and corrosive materials.

"Grease the machine's moving parts; don't miss any grease points," he says."Check the machine for oil leaks and damage."

That includes engine oil as well as hydraulic fluids and lines, topping off as needed. And don't forget the windshield fluid. Arnold prefers using soap and water for summer, but switching out to an approved winter washer formula when temperatures dip to prevent damaging fluid reservoirs. He also recommends filling the fuel tank to prevent condensation and be sure the coolant is suited to your environment. It's also a good idea to use a fuel stabilizer.

Keep the tracks clean

If possible, store the machine inside, but if left outdoors, don't park it in the mud, especially tracked vehicles. It's also a good idea to jack your skid-steer wheels at least an inch off the ground to prevent flat spots."This will cause unnecessary wear and tear on the tracks if it becomes frozen to the ground," Arnold says. "Get some 2-by-8s or 2-by-12s and park the machine on the wood."

Arnold also recommends retracting all hydraulic cylinders, lowering the attachments to the ground and releasing the hydraulic pressure."If needed, apply a thin layer of grease or petroleum jelly to all exposed cylinder piston rods so you don't get rust."He also suggests removing the battery and keeping it in a warm, dry place."Put the battery on trickle charge or charge the battery periodically," he says. "Cover the machine with a tarp so you don't get moisture and snow buildup."

Warm it up

Arnold recommends periodically (monthly) starting the machine and running it until the engine reaches working temperature. Remove the grease from the cylinder pistons, check all fluid levels and carefully operate the hydraulic controls, making sure they function properly."Get the machine nice and warm and then put it back in storage," he says. "If the temperature is extremely low, like in the northern states or Canada, we recommend changing the hydraulic oil to an arctic oil. But again, this is different from machine to machine."

Working in winter?

Of course, not everyone shuts down until spring. If you plan on working your equipment this winter, be sure the diesel fuel is winter blend. Arnold says there's no need for additives unless you still have a summer blend in the tank."The other thing I would strongly recommend, besides checking the fluids for winter operation, is installing a block heater to ease engine starting and for comfort," he says. "And maybe a programmable diesel auxiliary heater; set it for an hour before you start working, that way the engine coolant and oil are already heated. When you start the engine it gets warm right away inside the cab."

Take time to stretch

Winter or summer it's always a good idea to idle down your equipment before shutting it off, especially a turbocharged engine, and give it time to warm up before you begin working.

"It's like an athlete, an athlete never comes out the locker room and starts playing; he always stretches and does warm-up exercises," Arnold says. "You need to do the same with your equipment. Before you start operating the machine hard, you need to make sure the engine is warmed up and the hydraulic oil is warmed up." He says an excavator started at -20 degrees needs time to get the oil warmed and moving in the cylinders and through the control valves.

This material is extracted from the full page article in the November2016 issue of Onsite Installer magazine, published by COLE Publishing Inc.,www.onsiteinstaller.com. It is reprinted by permission.

MEMBETZ PROFILE

Katherine Rentsch R.J. Burnside & Associates

Services:

Design, Inspection, Assessment and Monitoring and Reporting for Onsite Sewage Systems. I also moonlight as a course instructor for the ORWC.

Service Area: Southwestern Ontario

Number of Years in Role: 1 (this time around, I worked for Burnside for 3 years in the early 2000's). In between I was at the Ontario Rural Wastewater Centre at the University of Guelph.

What got you started in

the onsite and decentralized wastewater industry? Call it luck of the draw. After I graduated from University, I travelled for a year and came home broke. I was looking for work, and a friend of my dad's mentioned that his son worked at Burnside. I sent him (the son, Hi Steve Burnett!) my resumé and got an interview. Burnside liked me, and they thought I would be a good fit for the onsite wastewater team. I was happy at the time just to be offered a job, but as a recovering farm girl and wannabe hippie the rural servicing aspect really appealed to me.

Give us one reason/secret for your success.

Well, the jury might still be out on whether or not I'm "successful" but what I've tried to do so far is take advantage of the opportunity to work with people I can learn from, in all facets of the industry. I'm interested in what I do, which I think helps, and I'm not afraid to ask questions or say "I don't know", and people seem to respond to that. The trick, I've found, is not only to learn from the people around me, but to apply and share that information with others, which for me is very rewarding.

Where do you see the onsite and decentralized industry going?

The onsite and decentralized industry will continue to be an integral part of the wastewater servicing solutions for Ontario due to the geography of the Province – it just isn't feasible to service large parts of the province with centralized systems. I hope we will move to a more proactive management approach for onsite systems in all areas of the province to ensure



KATHERINE RENTSCH R.J. Burnside & Associates

continued protection of public health and the environment throughout the life of existing systems, and not just when they are initially installed. I also foresee future legislation for nutrient removal in sensitive areas; the Province has opened the door by adopting the CAN/BNQ certification standard for biological parameters and I think it's only a matter of time before they adopt it for parameters such as phosphorous and nitrogen. So technology will continue to improve and evolve in order to better meet these needs in our challenging climate.

What can the onsite and decentralized industry do to improve?

Onsite systems will continue to face difficulty in becoming a legitimate servicing option as long as operation and maintenance of these small systems is perceived to be lacking. We must show that we are committed to facing the challenge of maintaining small privately owned systems in order to protect public health and the environment. This will require all stakeholders, from government and Part 8 delivery agencies to business and academia, to work together to convince property owners that the wastewater treatment system in their backyard is infrastructure worth investing in.

Wastewater Servicing Challenges in Central Huron

The Municipality of Central Huron recently reviewed options for providing sanitary servicing to the residents of a swath of the Lake Huron lakeshore. Currently, they have no municipal sewage infrastructure in place for this particular stretch of shoreline, i.e. no sewer main or pump stations in place. In the spring of 2016, discussion amongst staff and council was whether or not Central Huron should contribute to increasing the capacity of a neighbouring municipal sewage collection system to accommodate future increased servicing to this area.

Background

In 2007, a wastewater servicing plan for the lakeshore area in question was developed and included two phases of servicing at an estimated cost of \$16.43 million. These estimates were from a report that was almost ten years old at the time, and were arrived at before the neighbouring Sewage Treatment System (STS) had reached capacity. The costs translated to an estimated \$30,000 to \$50,000 per household, dependent on the density of any future development. This study and the associated costs would need to be updated to 2016 values and then added to the estimated cost of up to \$5,870,000 that would be required to purchase the required sewage treatment capacity. This figure did not include the capital infrastructure required to collect sewage in Central Huron or the costs of increasing the capacity of the receiving wastewater treatment plant itself.

Economic Considerations

There can be a desire to develop residences in near shore areas citing that such desirable locations result in high value assessments for taxes. This may be true in some regions with waterfront development opportunities but, facilitating development along the lakeshore area in question is not efficient according to Central Huron staff. In Central Huron's situation, the lakeshore development area is 17 kms long and 2 kms wide and wastewater servicing would be impractical and cost prohibitive.

In addition, according to MPAC's analysis of sales of properties along the specific lakeshore area – values have dropped 9% over the last several years. Considering the potential volatility of the real estate market and the recession that was experienced in the previous decade it may be reasonable to reconsider whether or not there would still a demand to live along the lakeshore where residents are further from towns where local services are limited while paying a premium in property taxes.

Part of the cost recovery for infrastructure comes from property taxes and the spin off economies that large scale developments promote. However, development costs for municipalities don't stop at water and wastewater – once developed these additional



Lakeshore living is attractive but, smart growth must rule.

rate payers will require heightened levels of road maintenance, use of recreational facilities, increased fire coverage etc. Development is beneficial, but it would be prudent for the municipality of Central Huron to consider all future costs in their deliberations.

Presently, there is no developer inquiring or interested to build the scale of development that would make this level of infrastructure investment cost-effective.

Build it and they will Come?

Although there is interest from some developers in Central Huron's urban lakeshore area north of Bayfield, at this point it is small scale developers wanting to build 10 dwellings at a time. In addition, there are some developers looking to create 200+ site trailer/mobile home parks along the lakeshore but, those developments can be self-contained in terms of waste water.

Developers may argue that municipalities should foster development by providing essential services to underdeveloped lands. Some of the front-end investment costs will be borne by existing sewer users. In addition, "deferred benefit" fees can result in charging land owners who may have just invested considerable money in private septic systems or owners of vacant lands who have no means or interest in developing the property. Thus, without any major developers lining up, it would be a gamble forCentral Huron to service the lakeshore based on the possibility of future growth. This situation could create an unduly burdensome scenario for existing rate payers.

Options for Growth

On May 2nd, 2016 OOWA representatives Rick Esselment and Anne Egan presented to the Central Huron council regarding both small and large scale decentralized options available. Rick and Anne both discussed how the majority of costs associated with wastewater servicing are in the collection and conveyance system piping. The prospect of Central Huron linking into a centralized system in the future would come with a significant price tag considering the amount of pipe required for the long and narrow shoreline area.

Central Huron could allow for small scale development to occur based on demand and require that wastewater servicing for those developments be self-contained, managed on-site and paid for by the developer who would then pass the direct cost to the benefiting land owner. Depending on how development progressed, developers and the municipality could then scale up these decentralized systems to meet demand. This would allow Central Huron greater flexibility over the short and long term.

Outcome

On July 4th, 2016 the Municipality of Central Huron decided not to connect to the neighbouring sewage system. By opting for a step-wise approach to future development supported by decentralized wastewater servicing, the municipality will be saving existing and future rate payers a significant tax burden and are opening the door to innovative solutions to critical infrastructure challenges.

Thanks to Ian Koetsier of Central Huron and Steve Burns of B.M. Ross & Associates for their contributions to this article.



Properly maintained onsite and decentralized systems are safe options for near shore properties.

Member Profile: Michael Rahme Homepro Central Ontario Inc. *Continued from page 26*

What can the onsite industry do to improve?

The onsite industry and OOWA certainly appears to be making a strong effort to not only organize onsite professionals but also providing avenues for additional training, as well as forums such as this to keep membership well informed with advances in technology as well as the business at hand. As with everything there can always be room for improvement, and within the corner of the business that I am focused in, it is no exception. In regards to improvements it would be nice to see continuity within services performed. Presently I have the feeling of being on the outside looking in in regard to our process for re-inspection. My objective has always been to leave no stone unturned, however one has to be cognizant of the fact that we are working on other people's property. In my world, liability is a very real entity and we are always mindful of the "last person in" syndrome. The last thing we want is an angry homeowner calling in to our office with a finger pointed squarely on us and suggesting "well the system was working fine before you got here". I feel that visual inspection, when carried out in conjunction with a homeowners scheduled pump out, can and will provide a wealth of information not only pertaining to the septic tank itself but also the functionality.

Whereas, without a clean tank to assess significant oversights can arise. A simple stress test that simulates typical household use, and coupled with camering will also provide some understanding of the operation of the tile system. While the coordination of the inspector and the independent pumper is some added work and sometimes a headache for my office, the end result has paid dividends for us as well as property owner and buyers alike. The explanation time that my office takes in providing insight to the client as to why we only provide our service with a pump out does take time but 95% of our clients understand the rationale once explained. I like to think that we have set this as the status quo for Haliburton county.

A final thought, it would be nice if we had a consensus between service providers as to definitively what constitutes tank replacement vs tank repair. Many times we see tanks that are significantly corroded but have no damage below liquid level. Clients often would like to get another year out of them, what's your call?



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