# ONTARIO ONSITE WASTEWATER ASSOCIATION NEWSLETTER

treatment | technology | innovation | reuse | recycle



#### INSIDE

- Mitigating the Effects of 1 Chemotherapy Drugs in a Large On-Site Wastewater Treatment and Disposal System
  - President's Message 3
  - 2018 Convention Schedule 7
  - Sponsors & Keynote 8 Speaker Announcement
- 2017 Regional Meeting Summary 10
  - MOECC Updates 12
  - Member Bio: 13 Jason Stephens
- 2018 OOWA Membership Benefits 14
- New & Renewed Members Listing 15
  - Highlighting RPP Graduates: 17 Dave Ruppert
  - WaterTAP Partnership Event 18
  - Member Bio: Kathryn Stasiuk 19
    - Company Educates Public 20 about Land Application
      - Member Bio: Joel Harvey 22
  - Geotube® and BioCord™ 23 for Septic Sludge Dewatering and Enhanced Biological Nutrient Removal
    - Member Bio: Jason Berry 25
    - Finding a Market for **26** Real Estate Inspections

#### Mitigating the Effects of Chemotherapy Drugs in a Large On-Site Wastewater Treatment and Disposal System

By Michael Varty, P.Eng., WSP Canada Inc.

After finishing up the base cut inspection for the new sewage disposal system at Camp Oochigaes (Ooch) in October 2015, the Director for Site Expansion at the Camp looked at me and said "This better work"; my response was that if it didn't, I was moving to Costa Rica. A fairly lighthearted response, but truthfully the stories I had heard in my previous 15 years of engineering about sites like this gave me reason to take extra care and consideration through this project's life cycle.

Camp Ooch isn't a regular children's camp, far from it. It is one of the most important Camp facilities that we have in Ontario, but not likely one that many people know much about. Camp Ooch is a privately funded, volunteer-based, facility that exclusively serves children with cancer.

In late 2013, WSP was tasked with designing both a remedial and expansion wastewater treatment system to service the Camp. The Camp's historic wastewater systems had failed, while at the same time the Camp was embarking on an ambitious expansion that would take their peak daily design sewage flows from 40,000 L/day to 80,000 L/day.



Camp Oochigaes surrounds Lily Lake, near Rosseau, ON

Outside of the regular challenges associated with a large design of this nature. in a rugged area of Ontario such as Rosseau, was the unique concern that many of the children who would attend the Camp would be on active rounds of chemotherapy medications. Having only heard stories of the negative effects of chemotherapy medications on on-site (septic) systems, we knew that this site needed to be carefully engineered. Chemotherapy medications have toxic effects on cells or cell growth, which can include inhibiting DNA synthesis or disrupting the mitotic spindle assembly to prevent mitosis (celldivision); thus the potential for negative effects on the wastewater treatment system, which would rely on a healthy microbiological population, was evident.

continued on page 4...

# HYDROMATIC® HV200 GRINDER SERIES DESTROYS WASTEWATER DEBRIS

Watch the video at www.hydromatic.com





MOP HEAD



#### PATENTED AXIAL CUTTER TECHNOLOGY

Easily slice through solids and trash found in domestic wastewater without roping or clogging

#### ADVANCED HYDRAULICS

The only single stage 2 HP grinder that can deliver up to 180° of lift for superior performance and reliability

# LEGENDARY SEAL LEAK DETECTION

True early warning system for reduced downtime and maintenance costs



4-490 Pinebush Road Cambridge, ON, N1T 0A5 888.363.PUMP (7867) orders.cacam@pentair.com

©2017 Pentair plc. All Rights Reserved.

#### OOWA Board of Directors

#### **Marie-Christine Belanger**

Premier Tech Aqua belm2@premiertech.com www.premiertechaqua.com

Andy Bauman FlowSpec Engineering, andyb@flowspec.ca www.flowspec.ca

#### Roddy Bolivar (Treasurer)

Bolivar = Phillips roddy.bolivar@bolivarphillips.ca www.bolivarphillips.ca

#### Anne Egan (President)

*R.J. Burnside & Assoc.* anne.egan@rjburnside.com www.rjburnside.com

### Rick Esselment

rick@essecanada.com www.essecanada.com

#### Bert Knip (Secretary)

Make-Way Environmental Technologies bert@makeway.ca www.makeway.ca

#### Gerry Knoop

Denby Environmental Services denbyseptic@gmail.com www.denbyseptic.com

#### **Don Krauss**

Infiltrator Systems dkrauss@infiltratorsystems.net www.infiltratorsystems.com

#### Bill Robinson

Robinson Enterprises bill@robinsonenterprises.ca www.robinsonenterprises.ca

#### Brady Straw (Vice President)

Waterloo Biofilter Systems brady@waterloo-biofilter.com www.waterloo-biofilter.com

Jane Zima SimbiH2O jane@simbih2o.com www.simbih2o.com

#### Kathleen Shepherd

Peterborough Public Health kshepherd@pcchu.ca www.peterboroughpublichealth.ca

#### John Moudakis

JM Consulting john@jmconsulting.agency www.jmconsulting.agency

### Coralie Lamaire-Chad

clamairechad@bionest.ca www.bionest-tech.com

#### Kevin Warner

Cambium Inc. kevin.warner@cambium-inc.com www.cambium-inc.com

### **PRESIDENT'S MESSAGE**

OnSite - Fall/Winter 2017

As we wrap up another year, I think we can reflect back on 2017 as a year of transition and change in our industry. Transition is never easy, and although there have been some bumps in the road, I think we have seen some positive changes as we work towards a more consistent approach to servicing in rural Ontario. We have seen changes from the government, from the requirement for CAN/ BNQ certification of treatment units coming into effect, to the more recent amendments to the Ontario Building Code which incorporate the use of chambers into Part 8. We are awaiting the next edition of the building code, which may include further changes to Part 8. The MOECC has seen some restructuring and we can expect some changes to the ECA process for systems over 10,000 L/day.

We have just delivered another round of successful Fall Regional Meetings for 2017. It is readily apparent that everyone has had a very busy fall and some of you may have been unable to attend the meeting in your area as a result of workload. This time of year always seems to be a bit of a scramble as we push to get things done before the weather turns, but with the wet spring we had this year, I'm hearing from many of you that projects were delayed and this Fall has been particularly busy. For those of you that were able to attend the Regional Meetings, we hope you found the sessions useful and informative. This year we heard about the latest Ontario Building Code updates, as well as an overview of the Inspections Best Practice Document. the newest in OOWA's Best Practice Series. I found our moderated panel and open forum discussions to be particularly interesting. Each discussion was unique, as the discussions tended to evolve organically based on points made by the folks in the room. There were certainly common threads in all of the discussions, but it was apparent that each part of the province faces its own unique challenges.

Planning for our 2018 Convention is well underway for April 15 to 17, 2018. Delegate, Exhibitor and Sponsor packages are available



#### Ontario Onsite Wastewater Association PO Box 2336, Peterborough, ON K9J 7Y8 1-855-905-OOWA (6692) www.oowa.org

now; be sure to register and book your rooms early! We are looking forward to returning to a recently renovated Deerhurst Resort for an agenda that will be packed with exceptional speakers, panel discussion, training and educational sessions, all complimented by our trade show event that showcases the latest and greatest products and services for the industry. The annual conference provides an invaluable opportunity for networking with the best and the brightest in our industry.

Traditional approaches to infrastructure are being challenged by economic factors, as well as climate change, and there is a need to rethink how we are providing servicing in Ontario. As an industry, we need to work toward a robust combination of regulation. design, installation, and ongoing maintenance and management of our onsite infrastructure to position ourselves as part of the solution in this changing landscape of servicing options. We are not there yet, but we will get there if we continue to move in a forward direction. away from the days of wastewater "disposal" (i.e. make it go away), towards integrated water treatment, reuse and management strategies. As we head into 2018, OOWA will continue to be the voice of the onsite industry and we must continue to advocate for onsite and decentralized wastewater solutions which are an integral part of servicing throughout Ontario.



anne lga

Anne Egan *President* 

# To submit an article or place an advertisement contact the editor at **outreach@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.

#### Mitigating the Effects of Chemotherapy Drugs in a Large On-Site Wastewater Treatment and Disposal System

Continued from page 1

In order to design a system capable of handling this unique wastewater stream, WSP needed to first understand what medications the Camp administered on a routine basis. Camp Ooch works closely with The Hospital for Sick Children in Toronto, which also became a great resource for this portion of the study. Through consultation with both the Camp and the hospital, the predominate medications were noted to be:

- Mercaptopurine (Oral)
- Methotrexate (Oral)
- Vincristine (Intravenous)
- Vinblastine (Intravenous)

WSP's goal was to create the simplest treatment design possible for the reduction/elimination of the medications and decided to explore the idea of using the half-life for the medications as a starting point. We had successfully implemented a similar half-life based design solution at a micro-scale for embalming wastewater from funeral homes in 2012 and were hopeful that something as simple as adequate holding capacity could work here as well.

Of the medications administered at the Camp, the oral medications (Mercaptopurine and Methotrexate) had relatively short half-lives of approximately 2 hours and 15 hours. These medications were also the ones that were most regularly being used at the Camp. In order to get to about 95 to 99% removal we needed about 5 or 6 half-life cycles to occur; meaning that for the oral medications we would need to supply a minimum of 3 days of flow equalization and storage prior to the wastewater treatment system.

The intravenous medications (Vinblastine and Vincristine) had longer half-lives of 1 day and 3 days (average), respectively. In order to supply 5 half-life cycles for these drugs to achieve approximately 95% removal the system would need to incorporate about 15 days of flow equalization and storage prior to the wastewater treatment system. At a flow rate of 80,000 L/day this would be about 1.2 million litres of equalization; which would be neither practical nor cost effective.

WSP had an additional consultation with The Hospital for Sick Children to determine the frequency that these intravenous medications would be administered. This was to understand the risk that the medications may pose to the wastewater treatment system if they were not highly removed prior to entering the wastewater treatment process. Unlike the oral medications which were frequently administered, the direction given from the hospital was to assume that a maximum of 5 doses in any given week would be administered of the intravenous drugs.

As these drugs were administered on an infrequent basis versus the number of children who attend the camp (up to 400 people present at any given time), a risk based approach to the design related to the intravenous medications was taken. WSP designed the system so that it would have approximately 3.5 days of sewage retention time within the sewage collection, equalization, and primary clarification tanks. With approximately one half-life of the intravenous medications

complete within that tankage volume, and conservatively a 400:1 dilution rate from the sewage produced elsewhere on the site (400 campers versus 1 intravenous dose), the risk associated with these drugs affecting the performance of the on-site sewage treatment system was deemed to be acceptable.

With over 95% reduction in the more common oral medications, and the risk of the intravenous medications deemed acceptable, WSP was then able to work with traditional wastewater treatment suppliers to determine the optimal packaged treatment plant for the Camp.

Ultimately the wastewater treatment system designed by WSP, and approved by the MOECC, included a Moving Bed Bioreactor (MBBR) system supplied by RH2O North America. The Wirbel-Schewebebett Biofilmverfahren (WSB) Clean Pro tertiary treatment system was designed to treat the sewage to Ontario Building Code (OBC) Level IV standards, with additional phosphorus removal by chemical precipitation. The system was successfully installed between the close of camp in 2015 and camp opening in 2016.



Additional pre-treatment tanks being installed prior to the sewage treatment system



Overview of the sewage treatment system installation

Parameters	Treated Effluent (mg/L)					
Sampling Event	Effluent Objective	Raw Sewage	July 2016	August 2016	June 2017	August 2017
CBODs	10	270	6	<2	<2	<3
TSS	10	99	5	6	16	28.6
TKN	-	121	28	39	5	7
Ammonia-N	-	86	25	39	6	5
Nitrite	-	<0.10	1.3	13.5	3.4	0.1
Nitrate	-	<0.20	36.8	46.5	34.5	45.0
Alkalinity (as CaCO3)	-	486	14	<1	<1	<10
рН	-	7.45	6.84	4.68	5.06	4.27

WSP has completed the sampling program required by the MOECC throughout 2016 and 2017, the results of the sampling program are noted in the table below:

There are some modifications to be made to the treatment system, specifically due to the higher than expected raw TKN values leading to an alkalinity deficiency in the wastewater; however, based on the sampling results to date it appears that the design has been successful in mitigating the effects of the chemotherapy drugs on the wastewater treatment system.

The design provided by WSP has demonstrated to be an effective solution to working with the complex wastewater stream found at Camp Ooch; which for me means that I'll be shoveling snow this winter, rather than hiding away on a beach in Costa Rica.



The Moving Bed Bioreactor (MBBR) sewage treatment system provided by RH2O North America

# A NEW ERA IN WATER MANAGEMENT.

Clearford has acquired Koester Canada and its Team Aquatic operations division, creating a new kind of water company that delivers water infrastructure solutions with sector leading efficiency and reliability.

Clearford's comprehensive offering combines new water and wastewater technologies with full solutions design, deployment, operating and project finance services. We're moving water management to a utility-like business model delivering risk-free modern water infrastructure.

O watermanaged.com

CLEARFORD



April 15 -17, 2018

1235 Deerhurst Drive, Huntsville, Ontario, P1H 2E8

# Thanks to our 2018 Convention & Expo Sponsors

PLATINUM LEVEL SPONSOR



#### **GOLD LEVEL SPONSOR**



SILVER LEVEL SPONSOR

A SKYLINE RESORT

MUSKOKA



WELCOME RECEPTION SPONSORS





# **2018 CONVENTION & EXPO SCHEDULE**

#### **SUNDAY, APRIL 15, 2018**

10:30	AM	to	11:30	AM	OOWA Board Meeting
12:00	PM	to	4:00	PM	Registration Opens
12:00	PM	to	6:00	PM	Exhibitor Set-up
1:00	PM	to	4:00	PM	Training Sessions
4:30	PM	to	5:30	PM	Annual General Meeting
7:00	PM	to	9:00	PM	Town Hall Meeting and Convention Welcome Reception

#### **MONDAY, APRIL 16, 2018**

7:30	AM	to	8:45	AM	Networking Breakfast
8:45	AM	to	9:00	AM	Convention Welcome and Opening Remarks
9:00	AM	to	10:00	AM	Keynote Speaker: Dan Needles
10:00	AM	to	10:30	AM	Networking Break & Exhibit Hall
10:30	AM	to	12:15	PM	Concurrent Presentation Sessions
12:15	PM	to	1:30	PM	Networking Lunch & Exhibit Hall
1:30	PM	to	4:00	PM	Concurrent Presentation Sessions
4:00	PM	to	4:30	PM	Networking Break & Exhibit Hall
6:30	PM	to	7:30	PM	Pre-Banquet Reception
7:30	PM	to	9:30	PM	Annual Awards Banquet
9:30	PM	onw	/ards		Hospitality Suites

#### **TUESDAY, APRIL 17, 2018**

7:30	AM	to	<b>8:45</b> AM	Networking Breakfast
8:45	AM	to	<b>9:00</b> AM	Convention Welcome and Opening Remarks
9:00	AM	to	<b>10:30</b> AM	Keynote Speaker & General Session
10:30	AM	to	<b>11:00</b> AM	Networking Break & Exhibit Hall
11:00	AM	to	12:30 PM	Concurrent Presentation Sessions
12:30	PM	to	<b>1:30</b> PM	Networking Lunch & Exhibit Hall
1:30	PM	to	<b>3:00</b> PM	Concurrent Presentation Sessions
3:00	PM	to	<b>3:10</b> PM	Thanks and Closing Remarks
3:10	PM	to	<b>4:00</b> PM	Final Networking Break & Exhibit Hall

# OOWA's convention organizing committee reserves the right to change this schedule at any time prior to the convention.



# **2018 Convention & Expo Keynote Speaker Announcement**

### **DAN NEEDLES**

Monday, April 16th, 2018 Deerhurst Resort, Huntsville, ON

OOWA is proud to announce that author and story teller Dan Needles will be our keynote speaker on Monday, April 16th. Dan is famous for making us laugh about the old rural community and the way it meets the modern world. For 30 years and from more than a thousand platforms, Dan has entertained audiences ranging from the Perth County Holstein Club Ladies Night to the Muck Soils Research Station in Bradford. He has appeared for the Canadian Club, The Canadian Bar Association, Royal Bank, the Royal Winter Fair, the Outdoor Farm Show, the Writer's Development Trust, Read for the Cure, the Farm Business Conference, Innovative Farmers of Ontario and many other organizations from B.C to the Maritimes.

### REGISTER TODAY!

Registration for OOWA's 2018 Convention and Expo can be done through the Eventbrite website.

For more information and to get prices for delegate, exhibitor and sponsorship packages, please go to Eventbrite.ca and search "OOWA's 2018 Convention and Trade Show".



### 2018 CONVENTION EXHIBITORS, TO DATE





# **2017 Regional Meeting Summary**

Thanks to the 225 attendees who came out to our Regional Meetings this fall. The focus of the meetings this year was on OOWA's Inspection of Onsite Systems Best Practice document and the potential changes coming to the Ontario Building Code (OBC) as a result of the recent Technical Advisory Committee review.

At each meeting we also conducted a panel discussion on a number of OBC interpretation issues which generated some lively discussion and good learning opportunities. A big thanks also to our presenters, Anne Egan (R.J. Burnside & Assoc.), Jay Berry (ESSE Canada), Jane Zima (SimbiH2O), Martin Burger (Groundwork Engineering), Brady Straw (Waterloo Biofilter Systems) and Don Krauss (Infiltrator Water Systems).

Go to OOWA's Regional Meetings & Events webpage to see a selection of the presentations that were delivered at all the meetings.

OOWA looks forward to planning our 2018 Regional Meetings to continue connecting with our members throughout the province. If you have any feedback or thoughts on how we can improve these meetings please contact **Mike Gibbs** at 1-855-905-6692 ext. 101 or via email at **outreach@oowa.org**.

#### Thanks to all of our OBC Interpretation Panel particpants:

#### Southwestern Ontario Regional Meeting

- Jocelyn Kerrigan, Lambton County
- Dan Friesen, *Exact Septic Systems*

#### **Golden Horseshoe Regional Meeting**

- Peter Vanderboom, Alpha Excavation
- Grant Parkinson, GM BluePlan Engineering

#### Peterborough Regional Meeting

- Walt Gibson, Gibson Engineering
- Anne Elmhirst, *City of Kawartha Lakes*
- Kathleen Shepherd, Peterborough Public Health

#### Near North/Muskoka Regional Meeting

- Sandy Bos, Township of Muskoka Lakes
- Caroline Newby, Caroline's Septic Design

#### Eastern Ontario Regional Meeting

- Brenda Burrows-Rabb, Rabb Construction
- Gord Mitchell, KFLA Health













# OOWA'S PRINT PUBLICATION HAS NEVER BEEN BETTER!

ntario Onsite

OOWA'S MEDIA SERVICES PRODUCES STRONG CONTENT WITH THE INDUSTRY'S MOST EFFECTIVE TARGETED REACH!

- Effectively reach a targeted audience of our 550+ industry members
- Extended exposure through web and social media circulation in addition to affiliated organizations who distribute our information products to their own members and contacts
- Publication available for 'extended run' on the OOWA website
- A trusted forum and 'go to' source of information for all specialists and civil representatives in the industry
- Position your company as a respected industry leader by supporting the association that represents Industry to government and other stakeholders



OOWA'S Media Services can help you make the most of your marketing budget!

#### Want to know more?

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

# Ministry of the Environment & Climate Change (MOECC) Updates

OOWA was recently invited to attend an information session held by the Ministry of the Environment & Climate Change (MOECC) to provide information regarding changes to the Environmental Compliance Approval (ECA) process, as well as a planned Ministry reorganization (effective December 5, 2017). Of note for many of our OOWA members, the new MOECC structure includes a consolidated Environmental Assessment & Permissions Division, which will be responsible for all approvals, licenses, permissions, certificates, etc. Additional information about the new MOECC divisions can be found here:

#### https://www.oowa.org/wp-content/uploads/2017/11/MOECC-Reorganization-Fall-2017.pdf

In addition to the reorganization, the majority of the information session was intended to provide updates regarding changes to the approvals process for ECAs. MOECC is committing to a one year standard of service timeframe for all ECA applications, starting in 2018. Priority review status will still be available for situations requiring a faster turn-around time, such as a requirement to meet a funding deadline, innovative technologies, and presumably situations involving an immediate risk to the environment that needs to be corrected. A copy of the slides from the presentation can be found here: *https://www.oowa.org/wp-content/uploads/2017/11/MOECC-One-Year-Service-Standard-for-ECAs-Nov-9-presentation.pdf* 

#### Below are some highlights of the new process:

- An augmented and more rigorous application screening process which may generate information requests to the applicant. Grossly deficient and/or incomplete applications may be rejected without an information request.
- Also of note is a requirement for Pre-Consultation for projects involving hydrogeological and surface water reports and effluent criteria. Applications for an ECA will now be required to demonstrate not only that a pre-consultation was conducted, but that the Ministry's Regional Technical Support Staff and District Office staff are in general concurrence with the proposal. If this concurrence cannot be obtained, proof of attempted pre-consultation must be included with the ECA application. When questioned about how this is being communicated to the local and regional offices, we were advised that MOECC are providing training to staff in these offices regarding the new requirements, and they working towards developing a standard of service timeline for reviews by technical support staff.
- Stop-clock provision. The review clock can be stopped if the reviewer makes a request for information from the applicant, and will be started again once the information has been provided. So the one year period may be extended by the number of days the clock was stopped.

The documentation indicates a maximum of 2 stop-clock provisions during the review, but MOECC Staff indicated during the information session that this is not "carved in stone". Ministry staff were asked to clarify how the current review process (which can be rather inefficient in that a reviewer may send several requests for information over several days or weeks) will be consolidated to avoid unnecessary delays and repeated "stopping of the clock". A new "review coordinator" will be assisting the technical reviewers to provide more consolidated review comments and requests for information.

The ECA Application From was recently updated and keep an eye on the Environmental Compliance Approvals pages on the MOECC website for an updated version of the Guide to Applying for an Environmental Compliance Approval, which will contain details of the updated process. *https://www.ontario.ca/page/environmental-complianceapproval#section-1* 

Hopefully these changes will improve the ECA process, as we all know it can be long and tedious. MOECC has relieved many of the back-logged ECA files, so we will see how things unfold as these changes take effect. If you have questions about these updates, please contact us.

# 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

# Promote Your Product Information Sessions with OOWA

Let OOWA help promote your product info sessions through our E-newsletter and Training Bulletin that are emailed directly to 550+ individual members throughout the province every month. Contact Mike Gibbs at outreach@oowa.org or 1-855-905-6692 ext. 101 to get more details.



Name of Business Stephens Excavating Contractors

#### Service Area

Grey Highlands, Blue Mountains, Southgate, North Dufferin, North Wellington

### Number of Years in Operation 20 years

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

Shortly out of high school I started working for an Excavation Company that specialized in septic system installation. As I worked on various sites with challenges, my interest in onsite sewage systems piqued. I then moved to a civil construction company for four years that did sewer and water main for infrastructure contracts.

As the demand in our local area for septic designers and installers increased, I saw my

# MEMBETZ PROFILE

#### JASON STEPHENS

Stephens Excavating Contractors

chance to start my own business. In the mid 1990's I took various courses for design and installation practices, to better understand the fundamentals of wastewater treatment. At that time the Building Departments of municipalities and counties were getting involved more directly with installers on code protocols. It became the responsibility of the Installer, or Engineer to design the system for each wastewater project.

# Where do you see the onsite industry going?

Obviously technology and research are the two main contributors. Educating designers, installers and regulators to better protect the environment by using proper practices are very important. As technology changes rapidly, we now more than ever are able to provide the best current and future treatment units in the world. With the demand on our environment to treat sewage at a rapid pace, it is important that our technology, practices and research stay ahead. Organizations like OOWA give the industry initiative to move forward.

# What can the onsite and decentralized industry do to improve?

In my opinion, educate. Every level from designers to end users of wastewater systems have to be aware of how important this treatment is. From usage practices to maintenance, the life expectancy of a treatment system can be greatly extended. By communicating, testing, and observing, consistently we can improve.

### Join OOWA www.oowa.org/join

#### ... 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.

# **2018 OOWA MEMBERSHIP BENEFITS**



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 following 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 members get guaranteed and discounted rates on car and trunk rentals.



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/

#### NEW MEMBERS (Aug 1st - Nov. 7th)

Doug Bingham, Newmarket Precast Darrell Brunton, Darrell Brunton Excavating Hayley Cahill, WSP Canada Inc. Mike Crain, Arnott Brothers Construction Cameron Curran, University of Guelph Jeff Dukelow, J.D. Duke Construction Inc. Hamza Furmli, McMaster University Joel Harvey, Shamrock Septic Alana Hollander, WSP Canada Inc. Aaron Jantzi, Rhino Excavation James Knechtel, Aqueous Operational Services Michael John Knor, Fleming College, Lindsay Paisley McDowell, WSP Canada Inc. Costantino Mongelli, Fanshawe College Jami Quathamer, Brooklin Concrete Products Glen Sharp, Francis Thomas Contracting Company Ltd John Slagter, Slagter Construction Carmen Staunton, Cambium Inc. Robert Stevens, Waterloo Biofilter Systems Inc. Andrew Sumary, Van Harten Surveying Marilyn Taylor, Mac Taylor Corporation Arturo Torres-Tuesta, Exact Septics Inc. **Cornelia Wyder**, Ryerson University Geanine Zuliani, Waterloo Biofilter Systems Inc.

#### RENEWED MEMBERS (Aug 1st -Dec 7)

Larry Acchione, Allto Construction Imad Aouli, WSP Canada Inc Randy Armstrong, Armstrong Pumping Ltd Lorne Bagshaw, Lorne Bagshaw Excavating Elizabeth Barendregt, Elizabeth M Barendregt Richard Barg, Xylem Applied Water Systems Dan Beaton, J.H. Cohoon Engineering Ltd. Jason Berry, ESSE & Associates Inc Roddy Bolivar, Bolivar = Phillips Janis Bortolotti, LaSalle Backhoe Service Kevin Bossy, Bishop Water Technologies Bruce Brisbois, Leroy Construction Mark Brosowski, Weber Environmental Services Martin Burger, Groundwork Engineering Limited Brenda Burrows-Rabb, Rabb Construction Ltd Earl Campbell, Howard Campbell & Sons Duane Campbell, Howard Campbell & Sons Carolyn Chan, GM BluePlan Engineering Jean-Pierre Corriveau, DBO Expert Keith Coulson, Coulson Bros Scow Service Charles Courchesne, Guy Courchesne Excavation Ltd Elmer Covill, Elmer's Construction James Cuming, Allto Construction Derek Demaine, Aqueous Operational Services Gary Deppe, Polylok Gerry Dignard, Canadian Shield Consultants Justin Dignard, Canadian Shield Consultants John Doner, L.M. Ent Water Mike Donnelly, City of Vaughan Scott Dundas, Dundas Excavating & Septic Service

### **OOWA HAS GONE DIGITAL!**



One of the benefits of being an OOWA member is getting access to all of the information products that we produce. During the third week of every month, OOWA emails a newsletter to all members containing important association news, regulatory updates and news on emerging industry trends.

To support the skills and professional development of our members, OOWA also emails our Training Bulletin on the first of every month. This bulletin lists courses offered by our training partners that are specific for onsite and decentralized wastewater professionals. Please share the Training Bulletin with your colleagues and managers to grow interest in the courses and to help raise the bar of the skills of everyone in our shared industry!

### Make these emails the ones you look forward to getting!

#### RENEWED MEMBERS CONTINUED (Aug 1st -Dec 7)

Cliff Eborall, Walters Custom Works Inc Mike Eisses, Eisses Bros. Excavating Rick Esselment, ESSE & Associates Inc Ray Foster, ESSE & Associates Inc John Fulton, Near North Supply Nilou Ghazi. E3 Laboratories Inc. Bill Goodale, C.C. Tatham & Associates Mark Goodman, Eisses Pumping Services Roger Gostlin, Gostlin Sand & Gravel Stefan Gruescu, LSK Septic and Drain Irene Hassas, Aslan Technologies Brian Howden, Pristine Environmental Consulting Services Evan Hughes, Evan Hughes Excavating Patricia Johnson, WaterTAP Ontario Willis Kerr, Willis Kerr Contracting Ltd. Dean Kerr, Willis Kerr Contracting Ltd. Tanya Killins, Niagara Region Melissa King, Peto MacCallum Ltd Randy Knight, Glen Knight Septic Service Perry Leifso, Interpump Supply Ltd. John Levie, ASI Water Bernard Mayer, BMK Health Inspection & Consulting Peter McGrath, Mr. Rooter Plumbing Troy McMillan, Lloyd McMillan Equipment Lloyd McMillan, Lloyd McMillan Equipment **Scott McMullen**, Verge Insurance Group (OOWA Insurance) Anthony Minniti, Verge Insurance Group (OOWA Insurance) Gerry Mitchell, Peto MacCallum Ltd Kevin Moniz. Strik Baldinelli Moniz Ltd John Moore, Town of Bradford West Gwillimbury John Moudakis, JM Consulting David Oatman, Kirwin & Oatman Excavating Murray Parish, Parish Home Inspections Grant Parkinson, GM BluePlan Engineering Richard Pellerin, Sco-Terra Consulting Group Limited Doug Rankin, Slagter Construction Mike Ridgwell, City of Vaughan Richard Ritchie, The Rideau Group Robert Robinson, Robinson Haulage Inc Edward Smith, Ted Smith Construction Dragan Sredojevic, Strik Baldinelli Moniz Ltd Mathew St Denis, Peto MacCallum Ltd Kathryn Stasiuk Riddell, WSP Canada Inc Mac Taylor, Mac Taylor Corp Keith Thomas, Francis Thomas Contracting Michelle Tremblay, MNT Consulting Group Inc. Claus Trost, Laurentian Valley Twp. Numair Uppal, Ontario Association Sewage Industry Services Michael Varty, WSP Canada Inc Mathew Walters, Walters Custom Works Inc Eric Watkin, C.C. Tatham & Associates Karen Wilkie, Upper Thames River Conservation Matthew Wilkinson, Wilkinson Heavy Precast John Winkup, LaSalle Backhoe Service Lindsay Wolfenberg, ASI Water Caitlin Wood, Niagara Region Derek Zomer, Zomer Corporation

#### OOWA E-MAIL COMMUNICATIONS TO MEMBERS: IMPORTANT INFORMATION

OOWA is communicating directly with our membership primarily through E-mail.

# Here are the important E-mails you get from OOWA staff:

- 1) **Membership Renewal Notices:** These reminder notices are E-mailed in 60 and then 30 days in advance of the renewal month of a member's renewal date. OOWA no longer mails hard copies of renewal notices or reminders.
- 2) Membership Renewal Receipts & Packages: Your receipt of membership payment is E-mailed to you immediately after your payment is received and processed by OOWA staff. Your E-mailed receipt is then followed up by a Renewal Package that is E-mailed separately a few days later. We experience the largest number of renewals between January and March so please be patient with us during this time!
- 3) Lapsed Renewal Reminders: These reminders are
  E-mailed out 30 and then 60 days after a member's renewal month. If a membership is not renewed after
  90 days of their renewal month they are removed from our on-line member directory.
- 4) Information Products: OOWA E-mails our monthly Training Bulletin, monthly E-Newsletter, event notices, and other special communications. You can request to have a hard copy of our tri-annual print newsletter, 'Onsite' mailed to you on your membership renewal form.

#### **PLEASE READ!**

To ensure that these important E-mails are reaching the right people in your business or ogranization, please be sure to provide the E-mail addresses of the staff person responsible for processing payments and the E-mails for the person or persons whose name (s) are on the membership. The OOWA membership renewal forms provides the required fields to provide this contact information. The above mentioned E-mails provide members with the information required to remain in good standing and to remain engaged and informed professionals. If a person is an OOWA member but is not the point person on E-mails coming into the business, please provide us with the E-mail address of the person who can share this information with those who need to see it. Thanks for helping us to communicate more effectively with you!

### Welcome to all our new 2017 RPP enrollments!

#### Jane Zima

SimbiH20 Project Admin Professional (In-Development)

#### **Greg Cherniak**

*Municipality of Dysart et al* Regulatory Inspector (In-Development)

Kevin Warner Cambium Inc. Onsite Designer (In-Development)

Paul Davis Durham Region Health Department Regulatory Inspector (In-Development)

Simon Thoume James Thoume Construction Onsite Installer (In-Development)

#### **Don Krauss**

Infiltrator Water Systems Technical Sales Consultant (In-Development)

#### **Peter Libicz**

*Home Inspection Right Away* Private Inspector (In-Development)

#### **Michael Rahme**

HomePro Inspections Private Inspector (In-Development)

#### **Mac Taylor**

*Mac Taylor Corporation* Onsite Designer, Installer, Private Inspector (In-Development)

#### Marilyn Taylor

Mac Taylor Corporation Project Admin Professional (In-Development)

#### Mike Gibbs

Ontario Onsite Wastewater Association Project Admin Professional (In-Development)



### HIGHLIGHTING RPP GRADUATES



Dave Ruppert Ruppert Haulage Inc.,

RPP Installer Designation Installer

#### Number of Years in Operation

I have been a licensed septic installer for 18 years and a member of OOWA for several years. As an installer, we meet with the clients and discuss their needs. I then design and install a system to suit their lot and soil conditions.

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

Being involved with OOWA has afforded me the opportunity to take advantage of the many courses being offered. Training is led by experts in their fields, such as soils, advanced design of systems and pumps & controls. Every year I take advantage of the refresher courses as well as the annual conference. The conference is an excellent networking opportunity with others in the onsite industry. I feel it is imperative to stay on top of new and emerging products and technologies to offer my clients the best possible solution for their site.



# OOWA and WaterTAP Partnership Event on Challenges and Opportunities for High-Strength Wastewater

by Simran Chattha, Content Writer and Strategist, WaterTAP Ontario

When they think of "onsite" systems, people often picture septic tanks that cottagers use to treat domestic waste. In practice, onsite systems have the ability to be useful in many more applications. Since these systems can treat flows of up to 10,000 litres per day, industry and businesses are starting to turn to onsite systems as they look for cost-effective solutions to treat high-strength wastewater.

While this trend continues to gather speed, it remains challenging for the onsite industry to implement these solutions. In Ontario, the provincial approvals process was designed with larger wastewater systems in mind. WaterTAP and the Ontario Onsite Wastewater Association (OOWA) want to work with government to improve this approvals process and make space for onsite solutions.

To this end, on September 21, OOWA and WaterTAP partnered to hold an event to share examples of technologies that are being used by commercial users to treat high-strength wastewater. Guest speakers – Andrew Hellebust, P.Eng., from Rivercourt Engineering; Kathryn Stasiuk, E.I.T., from WSP Canada; Anne Egan, P.Eng., and Ken Kaden, P.Eng., from R. J. Burnside & Associates – kicked off the day with their thoughts on opportunities and challenges, providing examples from current and recent projects.

The presenters and Youssouf Kalogo from the Ministry of Environment and Climate Change (MOECC) then held a panel discussion on "Improving Approvals." In this forum, participants discussed ways in which the approvals process can be streamlined to work efficiently and effectively for both government and industry.

Guest speaker Andrew Hellebust provided some examples of how constructed wetlands developed by Aqua Treatment Technologies are being used to pretreat high-strength winery wastewater in the Niagara Region. The MOECC is phasing out hauling for existing wineries and holding tanks are no longer allowed for new wineries. Given these requirements, there is a need for technologies that can be used onsite to meet the discharge limits so that wineries can avoid high-strength sewer surcharges, which can be very costly. Hellebust described how wineries are using pretreatment to reduce the organic loading down to that of domestic strength sewage, which gives wineries more options for how they treat the discharge.

Kathryn Stasiuk gave the next presentation, sharing a WSP project that is focused on treating chemotherapy drugs in an onsite system at a summer camp for kids with cancer in in Rosseau, Ontario. With this project, Camp Oochigeas has been able to achieve the CBOD objectives set by the MOECC and is close to meeting the TSS requirements by using bioreactors onsite. However, sampling for the specific cancer drugs is not required in the Environmental Compliance Approval (ECA) and there is no groundwater monitoring requirement for Rosseau Lake.

In the final presentation of the day, Anne Egan and Ken Kaden presented their challenges with servicing for Cowbell Brewery in Blyth, Ontario. This brewery is North America's first carbon-neutral brewery and the first in the world to use a closed-loop system. The project was originally planned to discharge to a municipal sewer connection involving two municipalities which would have resulted in high costs for pretreatment or sewer surcharges, so the team sought and found a more cost-effective onsite situation. The town requested a priority review of the project to expedite the approvals process with the MOECC. Even with this request, the approvals took eight months and included numerous costly ECA conditions, such as composite sampling, that the Director modified upon review.



#### Opportunity for further collaboration

The "Improving Approvals" panel discussion generated lively interaction with the audience. Many participants voiced concerns about the cumbersome approvals application process that is not geared toward onsite services. The group also identified a need for further clarity and supplemental guidance materials focused on subsurface discharges for flows of 10m3 or less (10,000 L/day or less) and fall under the Ontario Building Code (OBC). In addition, participants noted that the preconsultation process is often inconsistent, missing involvement from the approvals branch, and only includes technical services in early stages.

As a next step, Youssouf Kalogo of MOECC suggested establishing a working group to collaboratively address ongoing concerns about the approvals process. In addition to the concerns previously noted, some other areas that the working group could explore include:

- Clarifying the approvals process: Applicants reported that there are inconsistencies in the current approvals process and that the information they are asked to provide in an application can vary depending upon with whom they speak within the Approvals Branch. A working group could delve into this issue to arrive at solutions.
- Providing more information during the pre-consultation phase: The audience shared a concern that feedback on a project's design often comes after the application has been submitted, which causes delays in getting the project approval. If there is a clearer understanding of the information required during the pre-consultation phase, issues can be addressed earlier and this would help move the approvals process along more efficiently.
- Streamlining approval timelines: Currently, the MOECC is working towards approving all applications within a 12-month period to the onsite industry. This timeline is still lengthy and it would be useful to explore how it can be shortened.

#### What's next?

The exciting conclusion is that OOWA and WaterTAP are now collaborating to establish a working group with the MOECC in the winter of 2017. This joint effort will go a long way to improving approvals and addressing the challenges tabled by stakeholders during this event.

Stay tuned for an update on the progress and more on this working group at OOWA's Annual Conference taking place from April 15-17, 2018 in Huntsville!

# MEMBETZ PROFILE

#### **Kathryn Stasiuk**

WSP Canada Inc.

#### Name of Business

WSP Canada Inc.

#### Services

WSP provides a wide variety of services, however my group focuses on rural servicing for water and wastewater infrastructure.

#### Service Area

Rural servicing group: all of Ontario. WSP: international.

#### Number of Years in Role

2

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

I completed my undergrad in Water Resources Engineering at the University of Guelph and was originally introduced to the industry through a co-op program. I completed an 8-month co-op placement with the WSP Aurora office and have been involved ever since. The onsite sewage industry interested me initially due to the troubling statistic that 2.5 billion people in the world do not have adequate access to sanitation. I've also grown to understand the local human health and environmental significance here in Ontario.

#### Give us one reason/secret for your success.

The most prevalent reason for my success would be the positive impact of the mentoring I received from the intermediate and senior technical staff I have worked with at WSP. By learning the work habits, writing techniques, and perspectives of these experienced professionals I now know what it takes to be successful. I'm fortunate to be a part of a team environment that encourages personal growth and career development. The guidance provided by my team members has been essential to my career.



Kathryn Stasiuk WSP Canada Inc.

# Where do you see the onsite and decentralized industry going?

It appears that the onsite industry may be slowed for development on systems greater than 10,000 L/day due to the growing complexity and stringency of ECAs. The ageing infrastructure for the seasonal and rural residential systems may become a larger issue in the coming years as well. I believe the education of property owners regarding system lifespan and maintenance will also be a critical item to ensure future growth in the industry.

# What can the onsite and decentralized industry do to improve?

The private onsite industry can collaborate with the Ministry of Environment and Climate Change to improve the ECA application and approvals process, shortening the overall approval time and eliminating redundancies wherever possible. The onsite industry could also play a role in awareness and outreach for property owners to detail the average lifespan of disposal systems and outline the human health and environmental risks to poorly maintained systems.

#### **OOWA IS A PROUD SUPPORTER & PARTNER OF:**



# Company Hosts Open House to Clear the Air Regarding Septage

By Nate Smelle, Haliburton Echo

Published October 24, 2017



The Total Site Services team on site. Credit: Nate Smelle

Total Site Services Inc. held an open house at its Coaldale Road septic field on the Saturday of the holiday weekend to give residents of Haliburton County a better idea of what happens to their septage after their tank is pumped. Within the last few years, TSSI owner Pat Casey has noticed an increasing unease regarding field spreading and septic fields. Recognizing that some residents in the county have concerns that there is a lack of spreading capacity within the county, and that field spreading and septic fields are detrimental to the environment, he said they decided to invite the public in to see their operation for themselves.

"Our field is in the perfect location," he said. "The conditions of our site here are those of a massive septic bed. We are currently spreading only one-third of the septage that our licence allows. To put that into perspective, we estimate that the whole county volume combined could be serviced by our field alone. Of course, those volumes will fluctuate with how often individuals have their septic systems pumped."

Casey is in full support of the septic inspections that many municipalities are implementing. He believes they are a crucial step in maintaining the health of the area's lakes, residents' property values and the environment itself. He said the team at TSSI are always careful to keep in line with the standards set by the Ministry of the Environment and Climate Change, and take pride in being responsible stewards of the environment and the community. One way they do this, he said, is by scheduling pump-outs logistically so they can service as many people as they can in a day, while creating the smallest carbon footprint possible. This past summer, they hired an engineer from Hutchinson Environmental Services Ltd. to conduct an impact study on the plants, birds and other species that also use the field. The method of spreading and the maintenance of the septic field is also important in terms of environmental sustainability, explained Casey.

"We take care of the field by grid spreading, cutting the grass, picking up the debris is required in ensuring that the ground stays level so that no rainwater or substance can accumulate in puddles on the property."

The MOECC is currently reviewing its policies regarding field spreading and septic treatment, and their findings are expected to come out within the year. According to Casey, this may or may not change the way field spreading takes place.

Over the past year, Casey said TSSI has been putting together a plan for the future. As part of this plan, the company is planning to present a proposal to install holding cells on site, so that they can service the county on a year round basis. This will save residents money, he said because they won't have to spend it on hauling the septage out of the county during the colder months.

TSSI's pump truck operator Mike Morrison has some 30 years of experience pumping and spreading septage in Haliburton County. He is confident that TSSI's site on Coaldale Road, and the method of field spreading he practices with the company, is sustainable.

"When you have a site this good it is very easy to keep within the MOECC guidelines," he said. "That's why they have the guidelines. When you follow them, there is not usually a problem. There is the odd day you get the wrong tank and then we will take it to the end of the property where the wind won't pick it up. I know that I don't want to smell it at my home, so I don't want other people to have to smell it."

Morrison said that in areas such as Bracebridge where there are no spreading fields, septic Company hosts open house to clear the air regarding septage pumpout costs anywhere from \$300 to \$600 depending on the size of the tank. The increase in cost, he explained, is because the septage must be treated by a sewage treatment plant, field changes for filter bags, which are costly.

Currently, TSSI charges an average of \$175 for a pump-out in Haliburton County. In addition to septic design, installation, repairs, inspections and pumping, TSSI also provides services such as helping clients apply for permits, lot clearing, driver installations, demolition, excavation, drill and blast, landscaping and in-house well drilling and geothermal.

#### This article has been reproduced with permission from the Haliburton Echo.





Quick4 Equalizer 24

- Easily Transported to Jobsite
- More Cost Effective Installation
- Reduced Drainfield Footprint
- Greater Design Flexibility

Quick4 Equalizer 36

\* **Note:** On January 1, 2018, Clause 1.4.1.2.(1)(c) of Division A of the Regulation is amended by adding the following definition: (See: O. Reg. 139/17, s. 4 (12))

Leaching chamber means a formed structure with an open bottom and permeable sidewalls installed in a leaching bed for the purpose of distributing effluent from a treatment unit to the soil, as defined in Part 8 of Division B, or leaching bed fill in the leaching bed.

# **NEW CODE** Beginning **APPROVAL** January, 1, 2018

Chambers will be moved from the BMEC Authorization to the to the Ontario Building Code\*

800-221-4436 • www.infiltratorwater.com Don Krauss, Area Sales Manager • (888) 275-1238 • dkrauss@infiltratorwater.com

# MEMBETZ PROFILE

Joel Harvey Shamrock Septic Service

Name of Business

Shamrock Septic Service

**Owner** Joel Harvey

#### Services

Shamrock provides septic pumping, cleaning, inspections and repairs as well as sales and installation of filters and risers. We also provide biosolid spreading and hauling and look after grease interceptors and disposal.

#### Service Area

Ennismore, Bridgenorth, Peterborough and surrounding areas.

#### Number of Years in Operation

Shamrock Septic Service has been serving the area since 1974. Joel worked for Shamrock for seven years from 2000 to 2007. He and his partner Christine became the proud owners in August of this year.

# What got you started in the onsite wastewater industry?

After years in the roof anchoring business, I was looking for a change. In 2000, the owners of Shamrock, close family friends, invited me to join their team. In 2007, I began a career in drilling and blasting but after a decade, I knew I needed to stay closer to home and the owners of Shamrock were ready to retire; it was a perfect opportunity to lead a business that had been serving our community so well for so long.



The Shamrock Septic Service Team

# Give us one reason/secret for your success.

Christine, Wyatt and Lynnsey make up our small but dedicated team who bring quality, enthusiasm and knowledgeable service to Shamrock. We have a strong reputation in our community for providing great customer care and we do our best every day to uphold it. I would like to say how fortunate I am to have such a good group of people around me; this would be impossible without them.

# Where do you see the onsite industry going?

With the consistent growth in development of rural areas coupled with the proposed changes in legislation, I think many challenges lie ahead. However, if we continue to legitimize ourselves, band together and speak the truth, especially through organizations like OOWA, we'll be able to have a voice and face these challenges successfully, just like we have been for so many years.

# What can the onsite and decentralized industry do to improve?

More effort needs to be put into public education about the industry, particularly to destigmatize land application. I also believe everyone needs to be onboard to support province-wide standards of system maintenance inspections and re-inspections. Decentralized treatment and disposal is the only feasible way to continue to serve most of Ontario's communities so moving forward in a way that would not be irreversibly damaging to the industry will require increased support, communication and cooperation from government agencies and policy makers.

# Join OOWA ... work in the onsite industry?

www.oowa.org/join

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.

# Geotube<sup>®</sup> and BioCord<sup>™</sup> for Septic Sludge Dewatering and Enhanced Biological Nutrient Removal

Bishops Water

#### In regions without centralized sewage systems, such as the rural or Northern areas of North America, it can be a challenge to treat domestic wastewater.

Septic wastewater is often difficult to treat due to the presence of characteristically high and variable levels of contaminants (e.g. BOD/ COD, TSS, ammonia, phosphorus, metals, pathogens) compared to typical sewage, as well the hard-to-manage sludge and scum associated with decentralized wastewater treatment systems. On top of this, growing rural populations, coupled with an increase in the number of homes being built outside of city sewer limits, are resulting in an influx of septage that needs to be safely and effectively managed. Facilities receiving loads from sewage haulers often face difficulties due to the tendency for septic wastewater to upset the typical treatment process. Although holding tanks or equalization basins can help to reduce this risk, the resulting increase in operation and maintenance costs is undesirable, and dewatering alone as a pretreatment method is often ineffective and can still result in problem levels of soluble contaminants.

Bishop Water Technologies has developed a two-step solution to help treatment facilities safely manage septic sludge and more effectively reduce contaminant levels in the dewatered filtrate.

Geotube® units are large, dual-filament, polypropylene fabric containers used for efficient, low-maintenance, and cost-effective dewatering. Once septage sludge is pumped into the dewatering unit, a tailored polymer chemical conditioning solution is added, which helps the dewatering-resistant septage to separate and promotes the flocculation of solids. Dewatering occurs almost instantly, allowing filtered effluent to flow through the geotextile fabric while capturing solids inside the tube and retaining up to 100% of chemicals and metals present in the original influent. Solids captured inside the Geotube containers are left to consolidate, resulting in volume reductions due to further dewatering

and composting. Dewatered sludge can be used in landfills or as topsoil.

The filtrate released from the Geotube dewatering process is most often fed to a wastewater treatment facility for further processing. However, as mentioned previously, septic wastewater often contains levels of nutrients and BOD that far exceed typical sewage characteristics, meaning that even after Geotube's dewatering process, the parameters in the filtrate may still be too high for conventional activated sludge processes to reduce below discharge limits. Because of this, Bishop Water proposes the addition of a BioCord<sup>™</sup> treatment unit for enhanced biological nutrient and BOD removal. BioCord's modular design is comprised of a specialized substrate that acts as a high surface-area platform for the development of a stable, concentrated biofilm that is resistant to high hydraulic and organic loadings. Combined with its unique fine bubble-diffuser that allows for more efficient oxygen transfer with a lower energy usage than conventional aeration systems, BioCord is a cost-effective and simple solution for the treatment of high-strength septage filtrates.

To illustrate the effectiveness of Geotube and BioCord for the treatment of septic wastewater, two case studies can be referenced.

In the summer of 2008, Bishop Water Technologies partnered with The Eganville Sewage Treatment Plant located in Bonnechere Valley to utilize Geotube for dewatering and treatment of approximately 502 cubic metres of septage. Table 1 shows the effectiveness of Geotube in reducing contaminant concentrations from the influent stream.

At the end of the treatment season, the height of the dewatered septage in the Geotube was approximately 0.6 m, equating to approximately 35 cubic metres of dewatered septage in the 10% solids range (a volume reduction of 467 m 3). As can be seen from these results, Geotube proves to be an effective method for reducing





**Figure 1.** As a turnkey solution, BioCord reactors (top) can be used to treat the Geotube (bottom) filtrate for further reduction of soluble contaminants (e.g. ammonia, sBOD, phosphorus), reducing concentrations to below discharge limits and allowing for a consolidated two-step solution to more effective wastewater treatment.

sludge volumes, consolidating biosolids and producing a filtrate with contaminant concentrations well below the influent values.

In addition to utilizing Geotube for dewatering, BioCord has also been used in two pilot experiments to demonstrate its ability to treat septic wastewater. Septage **Table 1.** Concentration of contaminants in raw septage vs. in the Geotube filtrateafter dewatering.

	Raw Septage	Geotube <sup>®</sup> Filtrate		
Parameter (mg/L)	Average	Average	% Reduction	
Ammonia	132	125	5	
TKN	480	166	65	
Phosphorus	189	7	96	
BOD	3761	413	89	
Total Solids	16000	1400	91	
TSS	9400	121	99	
Metals				
Arsenic	0.024	<0.001	>96	
Cadmium	0.30	<0.005	>98	
Chromium	0.232	0.050	78	
Cobalt	0.100	<0.005	>95	
Copper	5.547	0.027	99	
Lead	0.475	<0.02	>99	
Mercury	0.011	<0.02	>81	
Molybdenum	0.125	<0.02	>98	
Nickel	0.211	<0.02	>81	
Selenium	0.039	<0.002	>95	
Zinc	10.905	0.058	99	
Microbiological		Dewatered (mg/Kg)		
E-coli (c/1 g dry)	260,000 -2,300,000	1,500 - 30,000		

**Table 2**. Contaminant concentrations of various wastewater streams at the Storring Septic lagoon facility. Final effluent concentrations from Storring Septic's polishing pond were all under discharge limits.

Parameter (mg/L)	Average range in raw septage (mg/L)	Influent average (mg/L)	BioCord effluent average (mg/L)	Competitor effluent average (mg/L)
COD	200-500	145	32	59
TSS	400 - 600	386	63	165
Ortho-P	6-25	12	6	8
NH <sub>3</sub> /NH <sub>4</sub>	400-600	194	64	129

typically consists of high levels of nutrients and organics and can be hard to treat given conventional activated sludge methods.

In a pilot project spearheaded by Queen's University and Storring Septic, a private sewage hauler and wastewater lagoon operator located in Tamworth, Ontario, a BioCord unit was installed at the facility to test its ability to treat high-strength domestic septage for lagoon enhancement and future capacity expansion. The BioCord reactor treated wastewater coming from Storring Septic's secondary lagoon, with the effluent gravity-drained into a final polishing pond before being discharged to the environment for land spreading. The BioCord pilot project was implemented for a full typical operational season, running until November 2015 when ambient temperatures dipped to as low as -2°C and biological activity is often halted. As seen from Table 2 below, BioCord was shown to significantly reduce levels of COD, TSS, phosphorus and ammonia from the influent, and outperformed a competitor's biofilm technology, leading to the conclusion that BioCord is a better, more cost-effective alternative to conventional activated sludge processes when treating high-strength septic wastewaters.

Together, the concerted treatments by BWT's Geotube dewatering units and BioCord biofilm technologies can be an effective method of treating high-strength septage that is often contaminated with hard-to-treat parameters such as heavy metals, high COD, and high nutrient levels. Employing Geotube as a first step allows for fast dewatering and consolidation of biosolids, while at the same time reducing many of the problem parameters from the resulting filtrate. BioCord can then be added as a second step to septic wastewater treatment. By allowing the consortium of microorganisms associated with BioCord's biofilm to stabilize Geotube's filtrate, BioCord can reduce levels of soluble organics and nutrients down to levels more manageable for treatment facilities and municipalities. The final effluent produced can then be routed to a number of pathways, including environmental discharge after being fed back into the front-end of a wastewater treatment facility, subsurface discharge, or use in spray irrigation applications.

# MEMBETZ PROFILE



Jason Berry ESSE Canada

#### Name of Business: ESSE Canada

Services: Inspections, Service & Maintenance, Sampling, Consulting

"Managing, protecting and restoring local water resources for sustainable communities and our future"

Service Area: Southwest, Central, Near North and Eastern Ontario

Number of Years in Role: 8.5 years as a Private Water and Wastewater System Inspector.

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

After graduating with a degree in Earth Surface Science, I began seeking out job opportunities in the environmental field and through a combination of networking and fortunate timing, I came across ESSE, which was then a smaller upstart company specializing in water and wastewater services. The company's vision of the wastewater industry and particularly and how we could help make a real difference is something that definitely struck a chord with me and got me excited about being a part of.

#### Give us one reason/secret for your success:

I would say a lot of it stems from a sincere emotional investment into the job and really caring about the people and properties we have the privilege to work for and work with. Performing a thorough inspection is a great opportunity to educate a homeowner or potential buyer on how a septic system is intended to function, and through the recognition of deficiencies or malfunctions, an opportunity to be part of positive change to better the environment

#### Where do you see the onsite industry going?

As water resources in Ontario become more threatened by development, I see a tonne of potential for the industry to grow with respect to decentralized or communal systems. Maintenance and management of smaller existing residential and commercial systems is also going to be key in helping them to perform better and for longer.

#### What can the onsite and decentralized industry do to improve?

I think we need to continue to change the way both the government and the public view the industry in order for it to be taken more seriously and allow for more innovative and localized solutions. Promoting education and outreach is a good first step and attracting more young, motivated people will help move the industry firmly into the 21st century and beyond.

#### FOCA's mission: to protect thriving and sustainable waterfronts across Ontario



#### Septic Tanks • Water Cisterns Pump Tanks • Holding Tanks Rain Water Harvesting

#### Multi Usage

Multi Layer Multi Coverage

- Inner layer of FDA approved virgin HDPE, two inside layers of PE for improved stability, plus one outer layer of black and UV-stabilized PE
- Lifetime\* corrosion protection and 5 years of labor insurance
- Strongest & heaviest poly tank on the market
- No water for backfilling required
- Low profile
- 100% watertight

Our multi-layered tank construction, consisting of virgin material surrounded by 3 layers of protection.



BEST TANK. BEST WARRANTY. BEST SYSTEM.

Roth Global Plastics www.roth-america.com 866-943-7256

# Finding a Market for Real Estate Inspections

Housing sales are rising all over. Now is your chance to help would-be homeowners and build a new profit center.

By Jim Kneiszel, Editor, Pumper Magazine

The residential housing market has been picking up steam in recent years following the real estate-induced recession that rocked the U.S. almost a decade ago. This creates more opportunities for expert services needed by buyers and sellers as they step out and make the biggest purchases of their lives.

An area that remains underserved is qualified septic system inspections, and I'm sure you've seen evidence of this vacuum of expertise firsthand from the homebuyer's perspective. No doubt at some point you have been the bearer of bad news to an unsuspecting new homeowner facing a costly system failure.

There's nothing quite so heartbreaking as a young couple, excited to move into their first house, only to find out they're going to be another \$10,000 in debt to replace a drainfield or crumbling septic tank. A recent Q&A story from syndicated House Detective columnist Barry Stone showed a great example of how homeowners need the help of septic service professionals.

#### **Septic Pro Needed**

"Last summer we moved from the city to the country and bought our first house with a septic system," wrote a reader. "A month after we moved in, both toilets overflowed onto the floor. That's when we learned the septic system was installed without a permit, and replacement ... would cost \$8,000. We asked our home inspector why he did not discover this problem and he said septic systems are not included in a home inspection. How can something as basic as sewage disposal not be part of a thorough inspection?"

Stone explained that septic systems are belowground and inaccessible to the general home inspector, and therefore not evaluated in a standard inspection. Because the septic tank must be pumped and other underground components must be carefully examined, Stone said a proper onsite inspection can only be performed by a septic service contractor.

"Homebuyers from the city are often unaware of this, being accustomed to the convenience of municipal sewers," he wrote. "Buying a rural property without a thorough septic evaluation is a major gamble and can have costly consequences. When a septic system stops working, the only thing that goes down the drain is money."

Stone was speaking to this befuddled homeowner and the general readership of homebuyers and sellers. But the message should be coming through loud and clear to pumpers as well: If you're not providing real estate inspections, you're not offering complete service to septic system users and you're not maximizing your revenue potential. As it turns out, homeowners are sorely in need of your expertise and, in turn, you could always use more income.

And as a side benefit to pumpers, educating customers and preventing disasters are great ways to build solid business relationships that pay off big over the long haul. You want consumer loyalty? Help sellers get out in front of a failed septic system to preserve a transaction and ease hard feelings. Or give buyers the leverage they need to get a septic issue fixed before they sign on the dotted line. In either scenario, you may develop customers for life.

#### **Crack the Market**

This is not the first time you've heard about the value of providing time-of-sale septic inspections. But it's a reminder that the real estate market is on a positive trajectory and opportunities exist to make inspections a valuable profit center and marketing engine for your business. You have the skills and the equipment to do the job. Now, how can you most effectively crack the market?

### Here are a couple ideas to get you started:

# Reach out to established home inspectors in your area

Home inspectors should be your ally, not your adversary, in better serving buyers and sellers. Call and meet with them, offering your expertise as a subcontractor when they encounter a situation where they are concerned about a home's onsite system. Share information about various types of septic systems and routine maintenance best practices that come from trusted wastewater industry sources. Encourage them to be more proactive in talking to their customers about septic inspections and proper care of these expensive systems. If you are going to expand your real estate services, maybe you could recruit one of these home inspectors to become a member of your team.

#### Start a homeowner education program

If you haven't done so already, add an education component to your website. Contact an area university extension service office, the local health department, vour state's wastewater trade association. the National Association of Wastewater Technicians (NAWT) and National Onsite Wastewater Recycling Association (NOWRA) to develop valuable content for brochures, mailings or other marketing materials. In order to better serve would-be homeowners, you need to reach and inform them first. Once you've developed education materials, approach homeowner associations and local governments, and offer to present seminars on septic maintenance.

#### Partner with real estate professionals

A movement to require real estate inspections by state, provincial and local governments is slow to gain momentum, and we've actually seen some backsliding on this issue. Realtors are big influencers when time-ofsale inspection rules are discussed, and an important conduit to homebuyers and sellers. It's critical to show your local real estate professionals why these inspections are good for their industry. Keeping both sides of a sale happy is good for the reputation of Realtors. An unsatisfied buyer facing a septic failure this time will not be their client when selling the home down the road. Realtors often say that inspections will slow or kill hard-earned sales commissions. This is a short-sighted attitude and your service can help smooth over rough situations. Do whatever you can to convince Realtors you are on the same side.

#### Dedicate a staff member to inspection work

To get a successful real estate inspection service off the ground, you might assign someone to work exclusively on the effort. The team member might concentrate on both reaching your customer base and providing the inspections. An inspector may not simply be your regular septic service technician called on to provide a new service. The inspector may dress differently, drive a different type of vehicle and carry different tools than your pumper/driver. They may need to develop deeper customer service skills, get trained to be more of a teacher, and spend hours rather than minutes with each client. Think of the inspector as a unique position on your team rather than a jack-of-all-trades.

#### Get out there and sell, sell, sell

Finding success with inspection work, just like pumping and any other related service, comes down to sales. You may really get stoked to overcome a challenge in the field, but you wouldn't be flipping that tank lid and hauling out the hose if it weren't for someone making the sale. When getting into inspections, put together a business plan, talk to others in the industry about their programs, and research all best practices. Then go out and find the customers who desperately need your service.

This material is extracted from the editorial in the September 2017 issue of Pumper Magazine, published by COLE Publishing Inc., www.pumper.com. It is reprinted by permission.

### 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

Approved as an alternative to a Class 4 System producing Tertiary Quality Effluent.



BMEC #13-03-365



#### **PROTECTING OUR ENVIRONMENT**

#### A WORLD OF ADVANTAGES

#### Treating Wastewater the way Nature

Intended

No electricity, pumps, or motors are required; the system naturally treats and disperses wastewater without noise or energy.

#### **Forget about Special Maintenance**

No media replacement required (such as peat moss, sand or other) and there are no mechanical parts to fail or repair. (An annual inspection is mandatory as per section 8.9.2.3 of the Ontario Building Code)

#### Natural is Better

Aerobic bacteria create an ecosystem that naturally digests wastewater and protects the underlying soils. The treatment process is well adapted to a wide range of climatic conditions.

#### Keep it Simple

 $\Box$ 

111

C

7

5

With no moving parts, this proven and reliable technology provides peace of mind to over hundreds of thousands of homeowners, business owners and wastewater professionals worldwide.

#### Proven Track Record

More than 200,000 systems installed worldwide



HOSTED AT THE:



DEERHURST

### DEERHURST RESORT IN MUSKOKA

April 15 -17, 2018

1235 Deerhurst Drive, Huntsville, Ontario, P1H 2E8

