Volume 24 | Issue 2
SUMMER 2023

20 YEARS

Ontario Onsite Wastewater Association

Onsite

ONTARIO ONSITE WASTEWATER ASSOCIATION NEWSLETTER
Education | Engagement | Leadership

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INSIDE

Ontario Onsite Wastewater Association

Filter Bed Sizing: Cracking the Code

By Anne Egan

P.Eng., Manager, Onsite Wastewater, R.J. Burnside & Associates Limited

Having worked in many different jurisdictions across Ontario, I have observed that there are some very different interpretations when it comes to the use of Filter Beds in accordance with 8.7.5 of the OBC. This has been witnessed among designers as well as regulators. While there is some room for interpretation of the code, there are certain critical aspects associated with filter bed sizing that are often applied incorrectly. A version of this article originally appeared in the Summer 2015 Edition of the Onsite Newsletter. Since that time, I have had many follow up questions and conversations, and there is still confusion and misapplication of the OBC when it comes to Filter Beds. This article has been updated to reflect these discussions in the hopes that we can achieve greater consistency in the application of the code.

Many times, I have heard that when a conventional leaching bed system will not fit on a particular site, the proposal is to use a filter bed because it is very compact and can be squeezed into a much smaller area. While the filter bed will typically occupy a smaller footprint than a conventional absorption trench bed, there are many cases where undersized filter beds are being installed because the required loading rates as specified in Table 8.7.4.1. of the OBC are not being respected.

The Filter Bed originated from a study conducted by the Ministry of the Environment which was published in 1974. Design guidelines for Filter Beds were then incorporated in the 1982 MOE Manual of Policy, Procedures, and Guidelines for Private Sewage Disposal Systems (the MOE "Green Book"), and were subsequently incorporated into 8.7.5 of the OBC. If you are a designer of filter bed systems, I would urge you to consult the old 1982 MOE guidelines (available online), as there is a lot of valuable background information in that document which did not necessarily get transferred to the code. Article 8.5 of this document clearly outlines the intent behind the filter bed sizing requirements, which is to make sure that the total area of the filter bed is based on loading rates that properly reflect the ability of the underlying soil to absorb the applied effluent on a continuous basis and over the entire life of the system without a breakout to ground surface, and to limit the probability that the soil component will be sized without proper consideration of soil characteristics and its absorption capabilities which could lead to system malfunction or failure.

Story continues page 36

Land Acknowledgement

The Ontario Onsite Wastewater Association (OOWA) represents members from across the Province of Ontario and beyond. We respectfully acknowledge that Ontario's lands and waters are the traditional territories of many First Nations, including the Anishnaabeg, Cree, Haudenosaunee, Huron-Wendat, Mississauga, Odawa, and Petun.

Our office in Nogojiwanong, or Peterborough, Ontario, is on the traditional territory of the Treaty 20 Michi Saagiig and Chippewa Nations, collectively known as the Williams Treaties First Nations, which include Curve Lake, Hiawatha, Alderville, Scugog Island, Rama, Beausoleil, and Georgina Island First Nations.

OOWA acknowledges that the First Nations have been and continue to be the stewards and caretakers of these lands and waters in perpetuity, and that they continue to maintain this responsibility to ensure their health and integrity for generations to come.

As onsite wastewater professionals, we have a role in protecting our waterways and human health by following industry best practices and promoting the regular maintenance of onsite wastewater systems.

OOWA Board of Directors

President's Message Summer 2023

What an awesome in-person Convention we had this year! It was a pleasure to see those who could make it in person again, to network within the industry, attend sessions, and enjoy the social events. There were many new products and technologies on display in the exhibit hall. The presentations were informative, with many bringing to light challenges and solutions to better the industry. Remember to login to Pheedloop to watch any presentations you missed live, or to rewatch the ones you attended.

Thanks to everyone who provided feedback through our survey or directly to our staff. We continue to welcome feedback as we are already planning for next year's Convention.

Following the association election at our AGM, our 2023-2024 Board of Directors includes Mike Gibbs and Paisley McDowell. We are grateful to outgoing Directors Marie-Christine Bélanger and Jami Quathamer for their years of service. Our Board Executive includes Danielle Ward returning for another term as the Treasurer, and Brenda Burrows-Rabb is our new Secretary. We are pleased to welcome several OOWA members who have recently joined our committees, contributing their time and professional expertise to our ongoing projects.

The Board has also created a New Initiatives Committee, recognizing the need for ongoing improvements and training within the industry, and to continue the conversations that emerged at the Convention. We have also launched a Member Forum on our website, where professionals can ask and answer important questions pertaining to the industry.

At the Awards Banquet, we recognized five industry professionals with OOWA awards, and announced our two scholarship recipients. You can read more about them in this newsletter.

I'd also request that everyone opt in to OOWA emails to receive monthly updates from us. You would have received the details in the June OnTrack and as separate emails, and we require your agreement to receive emails from us according to the Ontario Not-for-Profit Corporations Act (ONCA). All non-profit organizations in Ontario are required to fully comply with ONCA by October 19, 2024, and OOWA is well within this process.

We are looking forward to connecting with you during the fall Regional Meeting Series, and again at our 2024 Convention!

Brady Straw, President

Meet OOWA's 2023-2024 New Board of Directors and Executive Team

OOWA is pleased to announce the Executive Committee Members of the Board of Directors for 2023-2024.

We are grateful to our outgoing Board Members, **Marie-Christine Bélanger of Premier Tech Water and Environment** and **Jami Quathamer of Brooklin Concrete Products**. Each has served on OOWA's Board of Directors for the last three years, and we are grateful for their hard work and dedication towards the organization.

President
Brady Straw
Waterloo Biofilter Systems

Vice President
Bill Goodale
Tatham Engineering / Tiny Township

Secretary
Brenda Burrows-Rabb
Rabb Construction

Treasurer
Danielle Ward
Adams Brothers Construction

Join us in welcoming our new 2023-2024 Directors.

Paisley McDowell
EnVision Consultants

Mike Gibbs
ESSE Canada

The Board of Directors is always interested in hearing from our members. If there is something you would like to share with them, you can contact us at 1-855-905-6692 ext 101 or at outreach@oowa.org and we will connect you.

The new Board and Executive team wish you a prosperous summer season!

One of the beautiful waterways in the Rideau Valley. *(Photo credit: Rideau Valley Conservation Authority)*

Conservation Authorities Reporting on Watersheds Across Ontario

By: Deborah Balika, Source Water Protection Manager, Conservation Ontario, and Nekeisha Mohammed, Communications Officer, Conservation Ontario

Ontario's 36 Conservation Authorities track conditions across watersheds with decades of experience. They understand and report on the health of our rivers, lakes, and streams. They build forest diversity, identify vulnerable ecosystems, and protect essential surface and groundwater drinking water sources. Watershed Report Cards showcase partnerships and suggest further actions from high-level policy development to on-the-ground citizen science activities. On March 22, World Water Day 2023, Ontario's 36 Conservation Authorities unveiled their Watershed Report Cards, updated from the previous reporting in 2018.

Learn about your local watershed

Conservation Ontario produced a State of Ontario's Watersheds Story Map to support Conservation Authority Watershed Report Cards. The Story Map provides a provincial overview of the 2023 Watershed Report Card results.

The tool highlights excellent work already underway by Conservation Authorities and provides suggestions for future action by decision-makers, partners, and residents.

Examples of Conservation Authority Watershed Report Cards 2023.

We all have a role to play

Determining the health and resiliency of Ontario's watersheds requires understanding the current state of the local natural environment and ecosystem. This understanding begins with collecting information, making assessments through various watershed monitoring programs and developing strategies to protect, restore, or maintain the health of our water and land resources according to the scientific findings.

There is a direct link between human activities to watershed conditions, and it is an opportunity for watershed communities to identify individual and collective roles and responsibilities in protecting local water and land resources. Ontario Onsite Wastewater Association's efforts promoting the benefit and value of onsite and decentralized wastewater management through education, improved standards of practice, and advocacy will assist in keeping Ontario's watersheds healthy.

Conservation Authorities deliver value for money

Conservation Authorities make wise investments of funding from all levels of government and partners in nature-based programs. Green infrastructure, stewardship initiatives, stormwater management projects, tree planting, and rural water quality programs are a few examples of ways to improve or maintain watershed conditions.

Stratford and Area Master Gardeners have been planting 400 native shrubs along the Avon River. "This local environmental stewardship action is recommended in the Upper Thames River Conservation Authority watershed report card," says Stratford and Area Master Gardener coordinator Don Farwell.

Ontario's Conservation Authorities conduct valuable work monitoring and reporting on conditions within local watersheds. The Conservation Authorities' Watershed Report Cards culminate their monitoring efforts on a five-year reporting cycle. In addition to being used by Conservation Authorities, many organizations and agencies use these Watershed Report Cards to connect their monitoring and reporting to environmental conditions across Ontario.

The Watershed Report Cards reveal conditions of three key resource categories: surface water quality, forest cover, and groundwater quality. These categories relate to essential Conservation Authority business functions, including protecting and enhancing water quality and preserving and managing natural areas. While Watershed Report Cards do not report specifically on climate change, they reveal conditions on natural resource categories impacted by climate change. For more details on the resource categories, please visit Resource Categories & Indicators – Watershed Checkup.

Conservation Authority Watershed Report Card Grades

The Watershed Report Cards rely on a letter grading system that Conservation Ontario and the Conservation Authorities developed. This simple grading system makes it easy for readers to assess the watershed's health in general terms.

A - Very healthy watershed conditions

B - Healthy watershed conditions

C - Watershed conditions require improvement

D - Poor watershed conditions require improvement

F - Watershed significantly degrading requiring much improvement

Conservation Authorities are straightforward in their analysis of local conditions. They explain why these conditions exist, show current activities underway to address them, and suggest additional actions for improvement. They flag several key watershed issues, including stormwater runoff, invasive species, forest cover, loss of wetlands, vegetation along rivers, streams, and creeks, habitat loss (fish, wildlife, and birds) and pollution.

What are our findings in 2023?

The provincial averages of the 2023 Watershed Report Cards revealed the following grades: surface water quality *(Grade C)***, forest conditions** *(Grade C),* **and groundwater conditions** *(Grade B).* **There are some As and Bs in watersheds with fewer pressures, especially in Ontario's northern and eastern areas.**

We have not observed significant changes since the last Watershed Report Cards in 2018. However, resilient watersheds require ongoing investment to respond to the growing pressures of urbanization and climate change impacts to improve and maintain healthy watershed conditions. Our watersheds require constant and consistent efforts by all to keep them vibrant and healthy communities we all call home.

> *To learn more about the health of Ontario's watersheds, please visit* **www.watershedcheckup.ca.**

Exploring affordable options for private water and septic technologies: Informing planning of affordable housing in the City of Kawartha Lakes and Haliburton County

A community-based research project with the City of Kawartha Lakes and Trent University

In January 2023, the City of Kawartha Lakes partnered with Trent University's Community Research Centre to inform future planning of affordable housing by exploring affordable options for private water and septic technologies. This research project, conducted by students Ryan Sankar and Hilary Wright, investigated other communities that have overcome the lack of municipal services to build affordable housing. The successes of these case studies were evaluated from a financial, environmental, legal, and social perspective based on the needs of the City of Kawartha Lakes and the County of Haliburton.

Affordable Housing in Rural Ontario

The City of Kawartha Lakes is a rural area located in south-central Ontario with a population of 79,247, with a majority residing outside of urban centers. The County of Haliburton, north of Kawartha, has a permanent population of 20,571 residents. Many residences in Kawartha Lakes and Haliburton County do not have municipal water or municipal sewage services available. Both the City of Kawartha Lakes and the County of Haliburton have undertaken housing needs assessments to better understand the current and emerging housing needs in their respective communities. Some of the primary themes identified were the limited supply of private market rental housing as well as the need to improve the diversity of housing stock. The Eastern Ontario Wardens Caucus recently announced their regional housing plan, "7 in 7" which aims to designate $496.2 million to increase rent geared to income housing in the City of Kawartha Lakes and County of Haliburton with 1,225 new units by 2030. Concerns were expressed over this estimate, citing the added cost of building in rural municipalities without existing services as well as local opposition to new housing projects.

In the townships around the city, most properties rely on groundwater from dug or drilled wells for daily water usage, and a septic system for wastewater. The cost of installing conventional centralized water and septic systems in new build projects creates barriers to constructing affordable housing as the cost of these services increases the cost and maintenance of the property. This limits the opportunities for affordable housing in rural communities without municipal services. The cost of a new well depends on the depth of the well, which varies depending on the surrounding landscape. The variable geography of Kawartha Lakes and Haliburton County presents unique building challenges which may necessitate an alternative solution that can accommodate restrictive layers (clay or bedrock) as well as a high-water table. If a site has one or more of these conditions, a conventional septic system would not be advised, as it would pose environmental and human health risks including chemical pollutants and pathogenic organisms. Alternative wastewater systems are typically more expensive than conventional ones. Costs for a project can vary by region, installer, and based on the equipment and maintenance a system may require. Local neighbours are consulted when public processes such as rezoning and minor variances are required, and NIMBYism (Not-In-My-Backyard) is often evident. NIMBY describes the phenomenon in which residents of a neighbourhood designate a new development (e.g., shelter, affordable housing, group home) or change in occupancy of an existing development as inappropriate or unwanted for their local area. Housing projects in Haliburton County have been met with local opposition with residents citing concerns over safety and environmental impacts. Challenges to ongoing efforts in supportive housing in the City of Kawartha Lakes have had a negative impact on public perception and desire for future projects in affordable housing.

According to Aaron Mulcaster, City of Kawartha Lakes

project supervisor, “We are in an affordable housing crisis. Creative solutions and effort are needed in order to explore housing opportunities in rural and remote areas of Kawartha Lakes and Haliburton County. This work adds insight and information to our knowledge base that will assist us as we work to expand affordable housing options throughout our service area.”

The City of Kawartha Lakes, County of Haliburton, and local municipalities have undertaken several initiatives and implemented several strategies to increase the supply of affordable housing throughout the area; however, this need still exists and will continue to persist as house prices and average rents continue to rise. Implementing communal servicing (a decentralized system) has the potential to address many of these issues and assist the City of Kawartha Lakes and Haliburton County in achieving affordable housing in rural areas without municipal water or sewage services available.

Communal Water and Wastewater Services

Communal water and wastewater services are shared drinking water and sewage systems that provide drinking water and wastewater treatment to clusters of residences and businesses. Communal water systems are shared potable water sources from the collection of groundwater and treated through a common well or well(s). Similarly, communal wastewater systems are shared facilities for the collection, treatment, and disposal of sewage in a communal service development such as a communal septic tank. Communal systems are not connected to a single central facility, but rather ‘right-sized’ facilities that treat water and wastewater close to where it is needed or created which can be beneficial for rural communities situated far from municipally serviced areas.

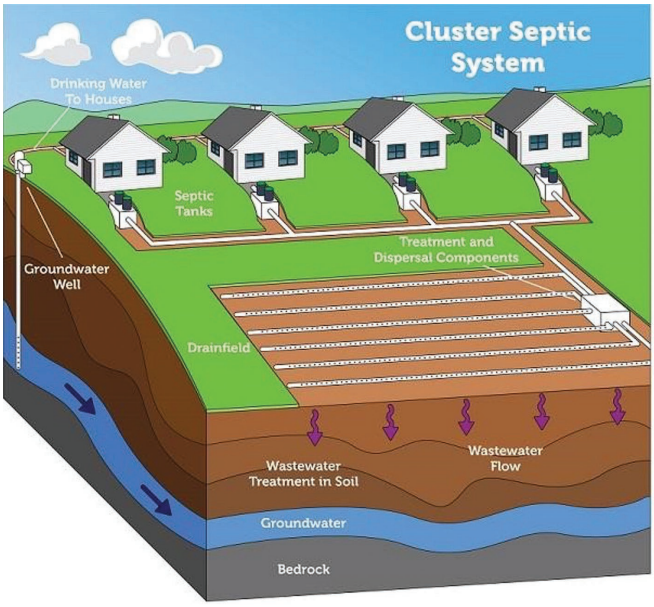
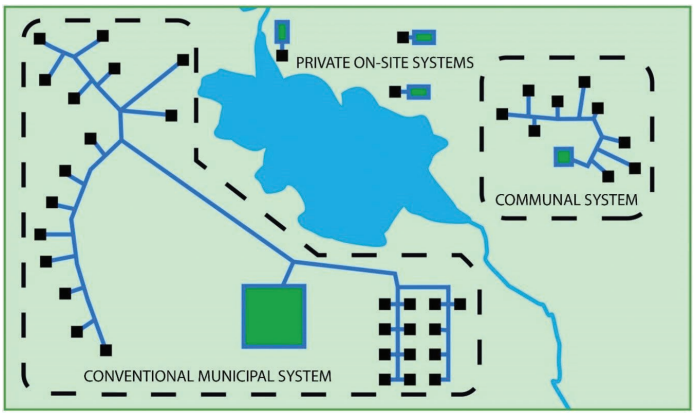


Diagram of cluster or communal septic system (EPA 2023).

The existing conventional options for drinking water and wastewater treatment are municipal centralized services and private individual on-site services. In a centralized municipal system, water is distributed to, and wastewater is collected from, a large service area through an extensive piped and costly underground sewer system. The water and wastewater are treated at a municipally owned plant which is generally oversized for current needs to account for future growth. The cost of this infrastructure in a rural community for a small municipality is tremendous and would not allow affordable housing to be achieved. By contrast, private individual on-site services which serve one unit are not typically feasible for affordable housing developments in rural areas.



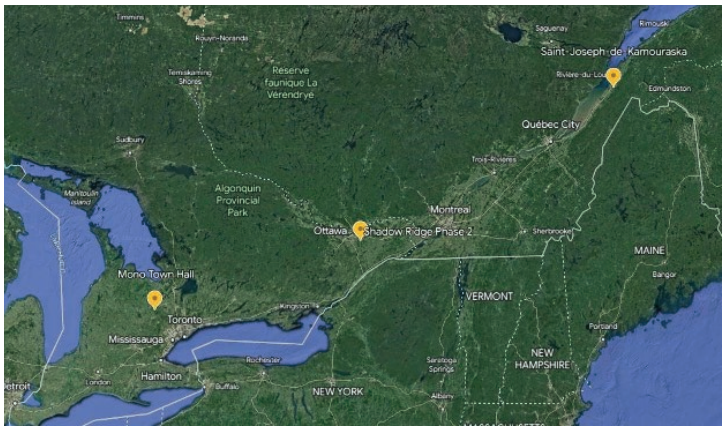
Comparison in land use between communal, private, and centralized municipal systems (WSP 2019).

Communal systems typically serve small-to-moderate development sizes with typical ranges between 10 to 300 units within each settlement area, which would suit the development needs of the City of Kawartha Lakes and Haliburton County. Communal systems have the potential to support more compact, land-efficient development than is possible with private servicing, and at a lower cost than is possible with new or expanding centralized municipal services due to reducing the need to pipe water and wastewater over long distances. This also makes communal servicing more environmentally and cost-friendly than private on-site options and expands centralized municipal services.

Additional benefits of communal servicing include efficient land use to allow for denser development on smaller lot sizes as compared to private on-site servicing. Numerous studies such as Tjandraatmadja et al. (2005) and Pinkham et al. (2004) show that communal servicing infrastructure can be a cost-effective alternative to centralized municipal infrastructure, by allowing municipalities to scale with development and eliminate the need for pipes and pumps to transport water. Environmental benefits include better environmental protection when having one communal well and one communal septic that is licensed and monitored by the municipality as opposed to dozens of

individual private wells and septic tanks that are not being monitored daily in the same location. The benefits for residents in these communal servicing areas are that they are not faced with the maintenance costs of their drinking water well and septic systems, rather the municipality that owns the infrastructure will be responsible for the monitoring and maintenance. This is critical for affordable housing communities and allows residents to have a wider selection of housing options including apartment units. Communal servicing can also instill confidence in the local residents knowing that their drinking water and wastewater systems are in very close proximity and often visible in their neighborhood.

Some communities in Ontario already rely on communal water and wastewater servicing, including Indigenous communities and RV parks. Interest in communal servicing tends to be greater in rural and lower-density communities. Shadowridge Estates is a small rural community located in Greely, Ottawa, Ontario with forty-five single detached houses and 113 semi-detached units operating on communal servicing. St-Joseph-de-Kamouraska, Quebec has eighty existing residential units that are operating on communal servicing owned by the local municipality. Fieldstone Development located in the Township of Mono, Ontario has a 340-unit subdivision of detached homes all operated under municipally owned communal servicing with the latest technology, allowing their community and municipality to save additional money on losses and maintenance costs.



Map of Southern Ontario and Québec showing communal service case study locations (Google Maps 2023).

Installation and maintenance of water and wastewater systems can vary significantly by region and alternative systems typically include higher costs in both installation and maintenance. To further the efforts by the City and County to provide a full range of housing options for all residents, including affordable options for residents with low incomes, we recommend:

- Utilizing communal water and wastewater systems in future rural developments.
- Continuing to recognize the need to prioritize sustainable water and wastewater systems.
- Maintaining industry connections to gain insight into regional successes.

For multi-unit affordable housing development in rural areas, communal water and wastewater systems have shown to be the most financially, environmentally, legislatively, and socially viable option.

About the Authors

Ryan Sankar

As a 2023 graduate of the Water Science, Bachelor of Science Honours degree program from Trent University, Ryan has a strong interest in protecting lake water quality and drinking water and wastewater process optimization. Ryan is licensed under the Ministry of Environment, Conservation, and Parks for Water Treatment, Water Distribution & Supply, Wastewater Treatment, and Wastewater Collection. Ryan is currently working for the City of Toronto conducting environmental monitoring and protection for Toronto's natural waterways and Lake Ontario beach water quality.

Hilary Wright

Hilary is a fourth-year transfer student in the Environmental Science program having graduated from Ecosystem Management Technology at Fleming College. Her experience studying and living in Kawartha highlighted the importance of addressing the housing crisis through sustainable development solutions. Hilary has worked as the Trent Alumni communications assistant for the last two years and looks forward to entering the environmental sector after graduating in 2024.

Upcoming OOWA Events

By Jenn McCallum, OOWA's Programs and Outreach Coordinator

Here's an overview of events coming up in the fall and winter.

Saturday, September 16 at 3:00 pm

Blue Jays vs. the Red Sox

Rogers Centre, Toronto

This is a great opportunity to catch up with other OOWA members, while catching a game on the flight deck!

September 18-22

Septic Awareness Week

Virtual

OOWA will be posting daily throughout this week on our social media channels about homeowner maintenance and servicing for onsite sewage systems. Re-share this content with your clients!

Septic Awareness Week is celebrated annually by the US Environmental Protection Agency, OOWA, and the Western Canada Onsite Wastewater Management Association, to raise awareness of proper maintenance for onsite sewage systems.

October and November

OOWA's Regional Meeting Series

Various locations throughout Ontario

We are planning towards the 2023 Regional Meeting Series. Each event is likely to be on a weekday evening, on a Tuesday, Wednesday, or Thursday, featuring a Part 8 Panel Discussion, and of course food! Stay tuned for more details. If you'd like to be involved in planning these events, or if you have suggestions, contact us at outreach@oowa.org or 1-855-905-6692 ext 101.

Photos above are from the 2022 Regional Meeting Series

March 3-5, 2024

OOWA's 2024 Annual Convention and Expo

Deerhurst Resort, Huntsville ON

Contact us at outreach@oowa.org if you'd like to present at next year's Convention, or if you have suggestions for topics!

To book your accommodations for 2024, call the Deerhurst Resort reservation line at 1-800-461-4393 and let them know you will be attending the Ontario Onsite Wastewater Association convention on March 3-5, 2024.

Stay tuned to the events calendar on OOWA's website (www.oowa.org) for our upcoming events!

Kevin Warner presenting about soil characterization at OOWA's 2023 Annual Convention and Expo. Photo credit: Arlene Quinn

MEMBER PROFILE

Ella Bird
Senior Inspector, On-site Sewage Systems and Deputy CBO

Ella Bird
Senior Inspector, On-site Sewage Systems and Deputy CBO

Name of Business/Organization:
North Bay-Mattawa Conservation Authority (NBMCA)

Service Area: West Parry Sound District

Number of Years in Operation/Role: 7 years

What got you started in the onsite wastewater industry?

I completed a 3-year program at Georgian College for Environmental Science and proceeded to complete an Honours B.Sc. degree in Environmental Science and Geography at McMaster University. I was very keen on working in planning or for the MNRF with "snakes and turtles" as a dream job (this is what I had done as co-op). Those industries seemed to be inundated with new graduates and I saw the opportunity at the NBMCA and jumped on it since it was in my geographic location. I was thrilled since wastewater is in the environmental realm and I consider it a never-ending learning career.

Give us one reason/secret for your success.

I consider myself to have a continuing / ever growing interest in the wastewater industry. I am always keen to learn about innovations such as code changes, BMEC and CAN/BNQ 3680-600 approved systems. I love to see and inspect BMEC and CAN/BNQ 3680-600 treatment systems on site as they are not our typical every day installs. Every time I get to inspect something like this is a learning experience and keeps me on my toes. Since the industry is so innovative it holds my interest which in turn leads to a successful career.

What was the most challenging onsite job you worked on or participated in?

Any system which is presented as an alternative solutions application is difficult. There are a lot of locations in this area without sufficient in-situ soils so reviewing the application and ensuring the objectives and functions of the code are met can be difficult. I have also experienced a site where a permit which met Ontario Building Code Part 8 requirements was met but was so severely altered after the Sewage System Permit was issued that the installer had to change it to an alternative solutions application as Part 8 could no longer be achieved.

If you could change one thing about the onsite/decentralized industry, what would it be?

I think there should be better clarification when it comes to Class 2 Greywater Pits. They can be very difficult to design as well as inspect due to the general nature of their description in the Ontario Building Code.

Where do you see the onsite industry going?

With smaller lots, bigger dwellings and multi generational properties becoming the norm in my area, I have been seeing many more alternative solutions applications, Shallow Buried Trenches as well as Level 4 treatment units being installed in conjunction with Type A beds. I see the industry inevitably being pushed this direction as a necessity to keep up with the growth of the northern population.

OOWA's 2022-2023 Industry Award Recipients

OOWA's President, Brady Straw, and Anne Egan, past President of OOWA and one of our Directors, announced the 2022-2023 Industry Awards at OOWA's Annual Convention and Expo on March 27, 2023 at our Awards Banquet. The following individuals were the recipients of this year's awards:

Industry Ambassador of the Year
Kevin Warner
Cambium Consulting & Engineering

Photo: Brady Straw and Anne Egan presenting Kevin Warner with the Industry Ambassador of the Year award.

Director of the Year
Brenda Burrows-Rabb
Rabb Construction

Photo: Brenda Burrows-Rabb, OOWA's Director of the Year.

Volunteer of the Year
Nico Nirschl
Liberty Pumps

Photo: Nico Nirschl, OOWA's Volunteer of the Year.

Young Professional of the Year
Jazmyne Woolley
RJ Burnside & Associates Ltd.

Jazmyne Woolley, accepting her Young Professional of the Year award.

Small Business Owner of the Year
Darren Hewgill
The Hewgill Group

Photo: Darren Hewgill, of the Hewgill Group, accepting his award as the Small Business Owner of the Year.

Do you know of someone exceptional, who should be nominated for an award in 2024? If so, please read the descriptions provided on the next page, and submit the nomination form. We accept nominations all year round, and the deadline to receive nominations for our 2024 awards will be January 15, 2024. We graciously accept and appreciate early nominations.

OOWA's Member Nomination 2024 Industry Recognition Awards

OOWA recognizes our members who demonstrate outstanding commitment and accomplishment to both the industry and the association. These dedicated professionals embody OOWA's vision of promoting and integrating onsite and decentralized wastewater treatment as a consistent, reliable, effective, and permanent servicing solution to our communities.

Award nominees and winners integrate OOWA's values by advocating for and implementing environmental protection. These individuals bring economic viability to our province, promoting healthy and sustainable communities and collaboration through education and outreach. OOWA will provide awards according to the following eight categories:

OOWA Industry Ambassador of the Year

This award recognizes an individual member who:

- Has done something extraordinary within the past year,
- Has helped to improve the onsite wastewater industry and our communities,
- Has increased awareness of the value of decentralized and onsite wastewater management in Ontario,
- Represents the industry and the organization with positive work and strong personal values,
- Demonstrates the OOWA Code of Ethics,
- Is recognized by their clients, business associates, and cohorts for conducting their services with exceptional integrity, and
- Is an outspoken advocate of the industry.

OOWA Corporate Steward Award

This award recognizes a business or association for:

- Leading in environmental programs that provide protection, renewal, or education on water resource management with onsite and decentralized solutions.

They:

- Have contributed in an exceptional way to the improved standards of practice, better public policy, or increased awareness of the value of decentralized and onsite wastewater management in Ontario, and
- Lead by example for other companies, cohorts, and industry stakeholders, by giving back to their community, through advocacy for the environment and natural resources.

OOWA Director of the Year

This award is presented to an OOWA Director recognizing their contribution to the Association and membership during this past year.

This individual has:

- Demonstrated exceptional input and understanding according to the objectives of the association,
- Dedicated their time, effort and personal resources to the ongoing guidance and strategic improvements of the association, and
- Consistently kept the best interests of the organization and the industry before any other gains when representing the Association.

Continues on next page.

OOWA's Member Nomination 2024 Industry Recognition Awards

OOWA Volunteer of the Year

This member has contributed well above expectations to a committee or task group in the past year.

They have:

- Dedicated their time, effort, and personal resources to advance the objectives of the Association through committee work and collaboration,
- Given back to the industry through their work with the committee, and
- Represented OOWA with exemplary conduct, demonstrating positive values and attitudes.

OOWA Corporate Innovator

This OOWA member:

- Demonstrates exemplary innovation in and advancement of onsite and decentralized wastewater treatment and management,
- Has advanced a product or service solution that adds value to decentralized wastewater management or treatment, and
- Has elevated innovative concepts and technologies, strengthening both the calibre of the industry and calibre of the Association.

OOWA Young Professional of the Year

This award recognizes an OOWA member who:

- Has contributed in an outstanding way towards the industry,
- Is 30 years old or younger,
- Exhibits the enthusiasm, drive, and professionalism required for success in our industry,
- Abides by the OOWA Member Code of Conduct,
- Dedicates their time volunteering for industry-related activities, and
- Demonstrates leadership within the onsite wastewater industry.

OOWA Small Business Owner of the Year

Small businesses are the core constituents of OOWA's membership, and are the front line representatives of the onsite wastewater industry.

The small business owner of the year is an OOWA member who:

- Is dedicated to the industry, and works tirelessly to serve their clients in delivering quality work and services,
- Abides by OOWA's Member Code of Conduct, and
- Is recognized by those in their community and the industry as having exceptional integrity and reliability.

OOWA Collaborator of the Year

Both organizations and individuals are eligible for this award. They:

- Work with OOWA on collaborative projects or ongoing efforts to improve industry performance, environmental outcomes, or community benefit.

OOWA's Member Nomination
2024 Industry Recognition Awards

OOWA has a dedicated, talented, and accomplished constituency that includes both individuals and organizations. By recognizing the vital roles and contributions made by its members, the Association leverages the collective strength of the membership to promote enduring changes and rewards to our communities. OOWA encourages members to nominate those who should be recognized for their efforts and contributions.

Please complete our award nomination form and email it to Jenn McCallum by January 15, 2024, at outreach@oowa.org. We graciously accept and appreciate early submissions, and we accept award nominations all year round.

Nominee Information

Provide these details about the person or organization you are nominating.

Full name:		
Address:		
City:	Prov. / State:	Postal / Zip Code:
Email:	Phone:	

Award Category

Please select one category for member nomination.

❍ Industry Ambassador	❍ Corporate Steward	❍ Director of the Year	❍ Volunteer of the Year
❍ Corporate Innovation	❍ Young Professional of the Year	❍ Small Business of the Year	❍ Collaborator of the Year

Why are you nominating this person for an award?

Please provide some information about why you are nominating this OOWA member for the indicated award, and for what contributions this member deserves to be recognized.

Nominator information

Provide your name and the following details about yourself.

Full name:	OOWA Member #:
Nominator signature:	Date:

5 Considerations if You're on the Fence About Electric Equipment

By Association of Equipment Manufacturers

With diesel prices over $5 per gallon in the United States, you might be wondering if an electric-powered machine could reduce your operating costs.

Or, you may be wanting to take the first steps towards reducing your company's carbon footprint. Whatever your reasons for investigating electric construction equipment, your time will be well spent because electric machines are going to be a big part of the future of construction. More than 128 countries around the world, including the United States, are committed to meeting a net-zero emissions target by 2050. We asked two experts on the leading edge of electric-powered construction equipment to help you make your decision.

1. Do I have the right applications for electric machinery?

Electrification is in its early stages and most of the electric construction equipment models commercially available are compact machines. Volvo Construction Equipment offers the L20 and L25 Electric compact wheel loaders, and the EC18, ECR18, and ECR25 Electric compact excavators. The CX15 EV Case mini-excavator will be coming to North America in 2023. Wacker Neuson offers the EZ17e Zero Tail excavator fully electric, DT10e track dumper, DW15e wheel dumper, and the WL20e wheel loader, in addition to battery-powered rammers and plates. Many others have designed electric concept machines.

"We started with the smaller machines because they are typically running only a few hours a day," says Lars Arnold, electromobility product manager for Volvo Construction Equipment.

Larger machines are coming. Volvo Construction Equipment is currently testing a 20-ton crawler excavator running on a 600 volt charging system that Arnold expects will be available in 2024.

Other applications where electric makes sense are indoor job sites and job sites with noise restrictions. "In Toronto, Canada construction noise is not permitted between 7 p.m. and 7 a.m.," says Kevin Forestell, president of Dozr, which offers an online equipment rental marketplace.

"Quieter electric equipment can positively impact project timelines as companies would be able to start earlier and work later into the evening without causing excessive noise."

"We've seen our electric machines used for enclosure renovation at a zoo without bothering the animals and for trail creation and maintenance in a federal wildlife area," Arnold says.

2. Can I work within the runtime of a full charge?

"Typically, most machines have a six to eight hour run time on a single charge, however, the time that charge takes can differ depending on the vehicle and charging source," Forestell says.

In a Volvo test, the L25 Electric compact wheel loader with a 40 kWh battery pack has a runtime of up to eight hours and takes six hours to fully charge.

"Runtime is better than many people think, and we know significant improvements will be made in this arena as technology and charging infrastructure continues to develop," Arnold says.

3. How will I charge the machine?

A 240-volt, 32-amp Level 2 AC-charging setup is what's recommended by Volvo. It's the same power used for running your water heater and stove in your home. The machines can be charged with a standard 120-volt outlet, but longer charging times make it impractical for construction.

"Insufficient infrastructure can be an issue for charging equipment, particularly at a more rural site or if there are several pieces of equipment to be charged," Forestell says.

Volvo offers a BEAM solar charger that is an off-grid, no-connection, free-standing option with a battery pack similar to the one inside the Volvo L25 Electric compact wheel loader.

The company is also working on a Benning DC rapid charger that would reduce charging time to just an hour or two. "This unit isn't off-grid, so it would need to be wired into a 480-volt, three-phase power grid at the location where you want to charge," Arnold says.

4. What can I expect in terms of performance?

According to Arnold, Volvo's electric machines have comparable or better power than their diesel counterparts. "Operators are surprised to experience the immediate torque and equal (or better) power."

"Many of the electric models coming out enable instant power and peak torque," says Forestell. "The primary difference in terms of power is the length of peak operating time which may differ from diesel depending on run times and the re-charge times."

What you won't get is as much noise. Removing the diesel engine and cooling fan reduces noise and vibration. "We're hearing how much less fatigued operators feel after several hours of work," Arnold says. On the ECR25 Electric excavator, exterior noise levels were reduced from 93 dB to 84 dB. A 10-decibel increase is perceived as twice as loud. "By reducing the noise by 9 decibels, we created an electric-powered construction machine that sounds two times quieter."

5. How do owning and operating costs compare?

Maintenance requirements are different for electric equipment "The simplified design of electric machines typically means that maintenance costs are lower," Forestell says.

Arnold says maintenance is much simpler without DEF or other filters. "Essentially, the only supplies required are grease and hydraulic oil," Arnold says. "This is much different than a conventional machine that requires fluid, filter and component checks as often as every day, with additional preventive fluid and filter maintenance."

Volvo Construction Equipment conservatively estimates that users will see 35% savings in maintenance cost and time over the life of the electric machine models.

In a test of Wacker Neuson zero-emissions equipment conducted in the UK, contractor Leonhard Weiss reported that maintenance issues were less common than with diesel engines.

Despite a much higher initial purchase price (approximately two times higher for Volvo units), no fuel costs and lower maintenance costs make electric machines a viable alternative to diesel-powered equipment, with the important bonus of less noise and no emissions. In addition, incentives may help offset costs. You can look for applicable programs on the Department of Energy website.

Get over the fence

One way to get over the fence is to experience the benefits of electric machinery yourself. Rental offers a low-commitment way to test out the equipment and determine its suitability for your company.

"Most of the main concerns about electric construction equipment come from a fear of the unknown," Arnold says. It's a great time to reach out to your local dealer to learn more.

AEM is the North American-based international trade group representing off-road equipment manufacturers and suppliers, with more than 1,000 companies and 200-plus product lines in the agriculture and construction-related sectors worldwide. AEM has an ownership stake in and manages several world-class exhibitions, including CONEXPO-CON/AGG.

This article first appeared online at OnsiteInstaller.com *(www.onsiteinstaller.com/online_exclusives/2022/10/5-considerations-if-youre-on-the-fence-about-electric-equipment)* on October 13, 2022, published by COLE Publishing, Three Lakes, Wis. It is reprinted by permission.

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OOWA 2020 Scholarship Update

Michelle Rea

Cambium Consulting and Engineering

I received the OOWA scholarship in 2020, just as the pandemic was hitting (remember that?!). I was studying as a mature student at Fleming College in the Advanced Water Systems Operations and Maintenance program (AWSOM for short, pretty sure they made that acronym work). Upon graduating, I was able to work a short contract at Duffin Creek Water Pollution Control Plant and then started working at Cambium Inc. in their water and wastewater group in early 2021.

At Cambium, I've focused mostly on on-site sewage systems; from site assessments and inspections, through detailed design of new systems and permit or ECA applications. It's been great seeing sites and learning the history of the industry. I was able to attend the first in-person OOWA conference this past March and learned so much more!

I see a lot of potential for this industry, and I hope there are like minded people who are working towards common goals. Bill 23 has certainly made a difference in this industry, and I want to make sure we aren't polluting our groundwater with development densification.

Chris Magwood's talk at the conference about embodied carbon was very informative. He spoke about the need to identify high embodied carbon materials so we can shift towards lower carbon emissions. He challenged our industry to do this work and I really want to see this started.

A few tasks our industry needs to complete and questions we should answer that came to mind at the conference are:

- Updating flow rates in the OBC (they haven't been updated in over 40 years!). I've got a great data set for a trailer park that's MUCH lower than OBC rates... anyone else have similar data?
- Looking at embodied carbon of all the materials we use for sewage system designs. Is there a way we can reduce our emissions?
- Gathering case studies on different sewage systems and their capabilities of phosphorous and nitrogen removal
- And just like what municipal plants are looking at, can we use any emerging technologies to treat or remove pollutants like pharmaceuticals?

To current and future students who are wondering about joining this industry: Please come work with us! The people are nice, the work is interesting, and it's not going anywhere!

OOWA's 2022-2023 Scholarship Winners

By Jenn McCallum, OOWA's Programs and Outreach Coordinator

OOWA's President, Brady Straw, and Anne Egan, a past President of OOWA and one of our Directors, announced the 2022-2023 Scholarships at OOWA's Annual Convention and Expo on March 27, 2023 at our Awards Banquet. The two winners of OOWA's scholarships were:

Brady Straw and Anne Egan presenting Grace Rabb with the OOWA 2023 University Scholarship cheque.

University Scholarship $3000

Grace Rabb

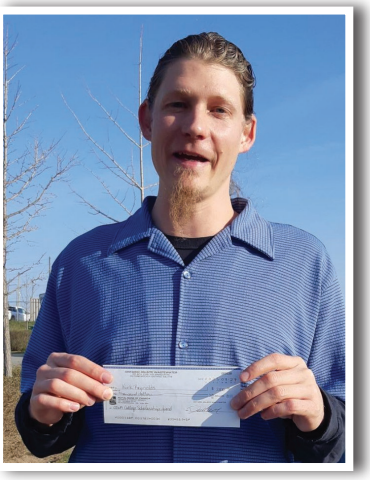
University of Guelph, Environmental Engineering Co-op program

Grace Rabb and I met in the winter via Zoom, and Grace shared the following about her scholarship award and her relevant experience:

I would like to thank OOWA for awarding this scholarship, and I'm honoured to receive it!

I'm in my 4th year of environmental engineering (co-op) at the University of Guelph. During my most recent co-op placement, I worked with both the Mississippi Rideau and the Ottawa Septic System Offices. I became a licensed septic system inspector under the Ontario Building Code, and served as a septic system inspector for the summer work term. My next co-op is with a small engineering consulting firm located in Whitby. I'm excited to see where the septic industry will go in the future. It's so interesting to see how on-site wastewater management can be an efficient and effective solution to sewage treatment.

> ***Watch the video on our YouTube channel***
> *(https://youtu.be/vYBK6JELr7Y)*



Kirk Reynolds receiving his OOWA 2023 College Scholarship cheque.

College Scholarship: $2000

Kirk Reynolds

Durham College, Environmental Technology program

Kirk Reynolds shared the following about his scholarship and his related experience:

I can't thank the OOWA team enough for this award. This funding will help me out so much this year! I would like to send recognition to both Dimitri Stathopoulos and Corrie Stender, two of my professors this year, for notifying everyone in the Environmental Technology program at Durham college about this scholarship opportunity. Without them, this would not have been possible and no one in our program at Durham College would know about OOWA. I can also tell you that I hope to get into a position this coming summer as a co-op student in one of our local water treatment plants here in the Durham Region but have applied for many summer positions in Durham, Peel, and York Regions. Water treatment is a fascinating field of study and extremely important to societies worldwide. It interests me because I feel it is one of the most important jobs on the planet. Without clean drinking water, we cannot live and without wastewater treatment, we will destroy so much of the natural beauty our planet has to offer. Hopefully, by jumping into this field with both feet I can not only grow as an individual but provide a valuable service to my community.

OOWA's Scholarship Application

Is there a university or college student in your life who would be a good candidate for an OOWA scholarship in 2024? If so, please share the following information with them. Note that scholarship applications are due on Friday, January 19, 2024, and the winners will be announced at our 2024 Convention and Expo.

The Ontario Onsite Wastewater Association (OOWA) sponsors two annual education scholarships to support student OOWA members who are enrolled in a post-secondary program and who will be returning to full time studies in the summer or fall semesters. *(Note that students can become OOWA members for free, with proof of enrollment.)*

The values of the annual scholarships are:

University Award: $3,000.00 | **College Award:** $2,000.00

Preference will be given to applicants who are enrolled in programs that will benefit the onsite wastewater industry, such as Environmental Studies, Public Health Enforcement, Wastewater Treatment, Civil Engineering, or Heavy Equipment Construction. Confirmation of summer internship or employment in the onsite wastewater industry, or past experience within the industry, will also be considered.

The University award is available to any student currently enrolled at an Ontario university. Students must be a member of OOWA, and they can become members for free, when proof of enrollment is included. Participants may only receive the award once during their studies.

University students must include the following documents in their application:

Please submit as a single PDF package including the following:

- Letter of interest in the scholarship, including relevant studies and/or experience
- Statement of program of study *(demonstrating enrollment)*
- Two letters of reference with signatures
- Transcript of related program grades *(can be an unofficial transcript)*
- Proof of OOWA membership *(and students can become members for free)*

The College award is available to any student currently enrolled at an Ontario college. Students must be a member of OOWA, and can become OOWA members for free, by including proof of enrollment. Participants may only receive the award once during their studies.

College students must include the following in their application package:

Please submit as a single PDF package including the following:

- Letter of interest in the scholarship, including relevant studies and/or experience
- Transcript of related program grades *(can be an unofficial transcript)*
- Two letters of reference with signatures
- Proof of OOWA membership *(and students can become members for free)*

Submissions must be in a PDF electronic file format and emailed to outreach@oowa.org, attention "OOWA Scholarship Program". Applications are due on Friday, January 19, 2024, and we graciously accept and appreciate early submissions. Successful applicants will be announced at our 2024 Convention on Monday, March 4, 2024.

Contribute to OOWA's next newsletter!

Do you have an interesting case study or topic you'd like to share with other OOWA members? There are several ways you can! One is to send us a presentation abstract for our 2024 Convention, and another option is to submit an article for OOWA's upcoming newsletters.

For an article, here are the writing guidelines:

Article length: 250-1500 words, and please include one or more quotes from clients or partners.

OOWA's membership is focused on decentralized and onsite wastewater treatment, most commonly onsite sewage systems, but other onsite wastewater classes featured in Part 8 of the Ontario Building Code are also applicable.

In your article, please include:

High resolution photos with captions: one or more photos, including credits *(identifying the person who took the photo)*

A headshot and short bio and headshot of the writer(s) should also be included.

If your business would like to advertise in the newsletter, please contact us at outreach@oowa.org for pricing and details.

The deadline for content (articles and ads) for our fall newsletter is October 2, 2023, and for our Convention newsletter, the deadline is January 15, 2024. We graciously appreciate and accept early submissions.

MEMBER PROFILE

Bob Garner
Project Engineer

Name of Business/Organization:
R.J. Burnside & Associates Limited

Services/Mandate:
Design and Permitting of Onsite Sewage Systems

Service Area: Primarily Southern Ontario

Number of Years in Operation/Role: 4 years

Bob Garner
Project Engineer

What got you started in the onsite wastewater industry?

Anne Egan from Burnside has long been involved with the Onsite Wastewater Industry and is the leader of our Onsite Wastewater Group here at Burnside. When an opportunity came up to join the group, I jumped in!

Give us one reason/secret for your success.

I try to maintain a solution-oriented mindset on a daily basis. Regardless of the challenges which arise on a project (or anything in life for that matter), remaining focused on developing solutions to the problems is, I believe, very important.

What was the most challenging onsite job you worked on or participated in?

A new sewage treatment plant at a campground with a surface water discharge into waters governed by Parks Canada and Transport Canada. The permitting process was very involved and required many disciplines in order to get the required approvals in time for construction of the system.

If you could change one thing about the onsite/decentralized industry, what would it be?

I can't say I have any thoughts on changes required in the industry at this time. I think there is a lot of opportunity for innovation and technological advancement in the industry and look forward to seeing those changes over the coming years.

Where do you see the onsite industry going?

I see great opportunity for the expansion of the industry. As concerns about environmental impacts from development grow, onsite sewage systems will continue to be a very important component of mitigating environmental impacts from rural development. Technological improvements will make treatment more economical and more widespread I believe.

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Long Time OOWA Member, Glenn Pembleton, Passes

With heavy hearts, we share the news that long time OOWA member Glenn Pembleton, 68, passed away peacefully on May 24th, 2023.

Taken from Arbor Memorial Obituary "Glenn was a man of great presence who filled a room with laughter, commanded respect, and admiration. Glenn had a ferocious work ethic. Everything he did was for his family. He had high standards and expectations of himself and his children. Always loving and encouraging them all to do and be their best."

After dedicating 20 years to Waterloo Biofilter Systems Inc., Glenn transitioned into retirement and gave way to his wanderlust. He travelled Europe, South America, and set sail on the Mediterranean Sea aboard the Talisman LII. He was a member of OOWA for many years and actively participated in Association events. Often you could locate Glenn in a room by looking for the circle of folks around him. He was filled with industry knowledge and insight that he loved to pass on to willing listeners – and there were many.

Approximately a year ago, Glenn was diagnosed with Stage 3 melanoma, and unfortunately this progressed into Leptomeningeal disease at the end of April 2023, and he passed soon after on May 24th. He displayed strength and a positive attitude while surrounded by his family and close friends in his final days. "Get busy living or get busy dying" is what he would often say, and that is precisely what he did.

Glenn is survived by his sister Brenda (Cam), brother Brian (Mary Ann), his sons Andrew (Gabrielle known as Gabster) their sons Malakai and Julien, and Timothy (Megan known as Tigger).

> *If you would like to leave a note for Glenn's family online, please visit his Guestbook at ArborMemorial.ca*

Ontario One Call has a new role in protecting public safety

By J. A. (Jim) Keech, P. Eng., President and Chief Executive Office, Ontario One Call

Ontario One Call (OOC) is on an exciting new journey. The former member-based service provider is now a public safety administrative authority. While much about OOC is changing, one thing is not - the organization will continue to promote safe excavation and facilitate timely locates. It should be noted that OOC does not physically mark the lines, pipes, or cables– the organization relays the dig information to the buried infrastructure owners so they can locate based on the request excavators submit.

Last year, more than 6 million notifications were sent to Underground Infrastructure Owners (UIOs) using the organization's custom web-based platform. The organization logged approximately 1 million requests to dig and fielded 230,000 calls through its contact centre.

Despite ongoing efforts, late locates remain a significant concern for all of Ontario's excavation stakeholders. Delivering better industry performance on locates is key to the safety of infrastructures, communities, and the environment, especially at a time when Ontario is in build mode.

Safety is at the heart of what OOC does and is its number one priority. There are three areas OOC is focusing on to fulfill its public safety mandate as an administrative authority - Education, Dedicated Locator, and Compliance.

Education

Investing in education is paramount to our mission. We are improving our current Professional Locate Administrator Course (PLAC), creating a new advanced version of it, and are about to launch a new course to help stakeholders understand best practices in digging safely, risks and consequences, and their responsibilities under the legislation. We will also redouble our efforts to promote safe excavation through awareness campaigns and partnerships with key stakeholders.

Dedicated Locator

As part of our commitment to protecting communities and infrastructure, we are growing the Dedicated Locator (DL) program which enhances the efficiency of the locates process by having a single locate service resource locate all underground infrastructure on a project. DL's benefits include safeguarding against downtime, improving productivity, preventing damage, and gaining control over any construction project. DL contributes to Ontario's growth by supporting the industry and the province's major construction projects.

Compliance

Safety is the industry's common mission and there is no safety without compliance. We believe in partnering with stakeholders to improve their performance while ensuring all safety regulations are observed. Better industry performance requires effort from everyone, and we are committed to being transparent and clear in our communications. Here are some initiatives OOC is working on:

- Our Director of Compliance & Industry Performance, Ryan McAfee, hosts **quarterly industry performance webinars** to share insights on locate performance data with stakeholders and keep them up to date about regulatory news and compliance topics.

  The first webinar of this series was hosted in May and shared OOC's four priorities for 2023, reducing late locates, reducing digging without locates, reducing ticket dumping, and improving locate performance connected to priority transit, infrastructure, and broadband projects.

In the first quarter of 2023, we have observed the following:

- 80% of locates by UIOs were completed on time. This is a 14% improvement compared to the same period last year (please note, excavation can not begin until the locates from all UIOs notified on a request for locates are completed).
- 21,495 locate requests were cancelled before the work-to-begin date. This improved by 41% compared to the same period last year.
- 18.2% of all requests for locates submitted from Jan to Feb were handled through the new statutory Dedicated Locator model.

  While we see an improvement in locate performance and a reduction in ticket dumping, this data belongs to the non-peak season. To put these stats into perspective, in 2022 only 35% of excavators were able to dig within 5 business days of the locate request (the period to provide a clearance or a physical locate as prescribed by the OUINS Act). While 68% of UIOs completed the requested locates within the required 5 business days, each locate request results in an average of 5-6 UIOs being notified, and Excavators cannot begin digging until ALL locate responses (markings or clearances) are delivered.

Compliance Support Program: we are launching a pilot project this year that will involve UIOs submitting plans to One Call to achieve compliance with locate performance. The pilot will result in lessons learned that we will share broadly.

Data: we are also investing in technology to deliver best-in-class performance reporting and protect and enhance OOC's data integrity. We want the industry to succeed, and we are here to support it.

Ontario One Call will continue to focus on its safety mandate through partnerships with stakeholders, key partners, and the provincial government.

The Government has announced a consultation this summer to encourage all stakeholders to bring forward solutions that will ensure we make the best use of available technology, and deliver faster locates through collaboration and new partnerships while reenergizing the promotion of safe excavation across the province.

Ontario has an ambitious build program – with hundreds of transit, housing and broadband projects; OOC and its key partners have a role to play in supporting this historic time by working across sectors to facilitate timely locates and promote digging safely.

We are on a journey, and we look forward to working with you.

About the author

Jim Keech is the President & Chief Executive Officer of Ontario One Call since October 2022. Previous to that, he was the President and CEO of Utilities Kingston and Kingston Hydro Corporation for over 20 years. Jim has extensive experience as a Board Member of a number of corporations including the TSSA.

Jim has over 35 years of experience in a multi-utility environment, including electric distribution, natural gas distribution, water/wastewater and fibre-optics sectors.

Jim holds a Bachelor of Science in Electrical Engineering from Queens University, is a member of the Association of Professional Engineers of Ontario and has received the ICD.D designation with The Institute of Corporate Directors.

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MEMBER PROFILE

Michelle Dada
Owner, MNT Consulting Group Inc.

Name of Business/Organization:
MNT Consulting Group Inc.

Owners: Michelle + Alejandro Dada

Services/Mandate:
Providing practical, collaborative + strategic engineered solutions through consulting + design. In-house holistic site planning with lot grading design, cut/fill + floodplain review, stormwater management and septic system design.

Service Area: Simcoe County, York Region, and the Muskokas

Number of Years in Operation/Role: I founded MNT Consulting Group Inc. in 2010 and have enjoyed providing planning and civil engineering support for land development projects in the Barrie area for nearly 20 years. We manage all aspects of the site plan process including zoning, onsite design plus lot grading design and including topographical surveys. We provide floodplain, shoreline, and cut/fill support services. Our holistic approach ensures an integrated and technically founded design that offers valuable engineering throughout the process.

What got you started in the onsite wastewater industry?

I love spending time outdoors and I've always naturally gravitated towards shoreline projects and other rural properties. With my background in larger wastewater design, a love for construction and figuring out how things work and alongside nature, I continue to enjoy being involved in the onsite industry. It has been a natural progression to have the opportunity to work on really interesting projects and within amazing teams with my environmental engineering background, location, and years of experience.

Give us one reason/secret for your success.

We build and renovate homes too, so it is easy for me to put myself in my clients' shoes as they go through the land development process. We live, work, and play in the area and we work closely with local contractors. I treat each project like it is my own and I value an integrated approach working with regulators, owners, designers, and contractors to come up with an optimal solution.

Michelle Dada
Owner, MNT Consulting Group Inc.

What was the most challenging onsite job you worked on or participated in?

We love a good challenge, and the most challenging jobs are typically small lots and in situations where we have a failed or failing system. With the current housing shortage and rise in demand for multiple family dwelling units we often find ourselves helping landowners through this complicated process. I find the real challenge is not usually the project and issues it may be facing but often challenges persist as it relates to communication and often lack of communication within a project team. Communication often helps to solve challenges and provides space for win-win solutions.

If you could change one thing about the onsite/decentralized industry, what would it be?

I feel lucky to work with local regulators, contractors, and designers who value proper design and ongoing maintenance of onsite systems. I would like to see more homeowners who understand the importance of their onsite system as a key component of their home, being at least as important to keep in good working order as other parts of the home, like the furnace, for example.

Where do you see the onsite industry going?

I think that we will continue to see our communities expand and grow with rural lots being created plus additional dwelling units being added to existing properties. There will continue to be growth within our industry, and I am excited to play a part in environmental advocacy within the onsite industry, with many opportunities to benefit our communities through good design, construction, and guidance on the ongoing maintenance and operation needs of onsite systems.

CALL FOR PRESENTATIONS

OOWA Annual Convention & Expo:
March 3-5, 2024
Deerhurst Resort
Huntsville, ON

DEADLINE
September 29, 2023
5:00 pm

Who can present?

Presenters from any business, industry, public organization and institution, university, municipality or regulatory agency are invited to submit a proposal.

Presentation Types:

- Treatment, system optimization and service
- Innovation
- In-the-field case studies
- Strategies for small-medium business

Details:

Submit a 250-500 word abstract, with a brief bio of the speaker. The abstract shall clearly specify the name and complete contact information of the speaker, the title and duration of the presentation, and key take-away messages. Specify your availability to present between March 3-5, 2024.

Advantages:

- Free registration for that day of the Convention
- Present to targeted audience
- Publication on the OOWA website
- An exceptional forum and captive audience of industry experts

Submit to:

Jenn McCallum
outreach@oowa.org

2023 OOWA Annual Convention and Expo Recap

The pre-Banquet reception on Monday, March 27, 2023.

By Jenn McCallum
OOWA's Programs and Outreach Coordinator

On March 26 to 28, we were pleased to host the OOWA Annual Convention and Expo in person again! Here's a summary of the event, in numbers:

One new self check-in registration process
that was streamlined and efficient through Pheedloop, plus engaging gamification!

A total of 336 people in attendance – wow!
Delegates included both OOWA members and non-members, representing suppliers, manufacturers, precasters, installers, regulators, and researchers of the onsite wastewater industry.

Thirteen sponsors,
including Platinum, Gold, and Silver level sponsors, plus the Sunday Welcome Reception Sponsor, Monday Banquet Wine Sponsor, and Scholarship Sponsor. Special thanks go out to them for supporting the event!

Thirty exhibitors, demonstrating their products and services for the industry.

Eighteen sessions,
featuring 24 presenters

Three great Sunday training sessions:

- Biological Health and Safety
- Regulator Course, and
- Introduction to Soil Characterization.

One hilarious and engaging trivia night, thanks to Brady Straw and Tracey Spragg for leading and organizing these activities!

Two excellent keynote speakers:

- Jill Heinerth
- Chris Magwood

Industry awards given out to five awesome OOWA members.

Two OOWA scholarships announced, and one each given to a deserving university and college student.

Story continues on next page.

2023 OOWA Annual Convention and Expo Recap

Bruschetta, just one example of the excellent food we enjoyed at this year's Convention.

Open Forum at the Convention, where moderators and delegates discussed proposed changes to the Ontario Building Code

We are grateful to OOWA's Board of Directors, Committees, sponsors, exhibitors, keynote speakers, session presenters, and delegates for making the event great. A special thanks go out to Deerhurst Resort for hosting the event and providing the excellent food and accommodations, Stronco for the pipe and drape amenities in the exhibitor hall, and Encore Global for their support with auditory and visual equipment. We look forward to joining everyone at Deerhurst Resort again, on March 3-5, 2024 for our next Annual Convention and Expo!

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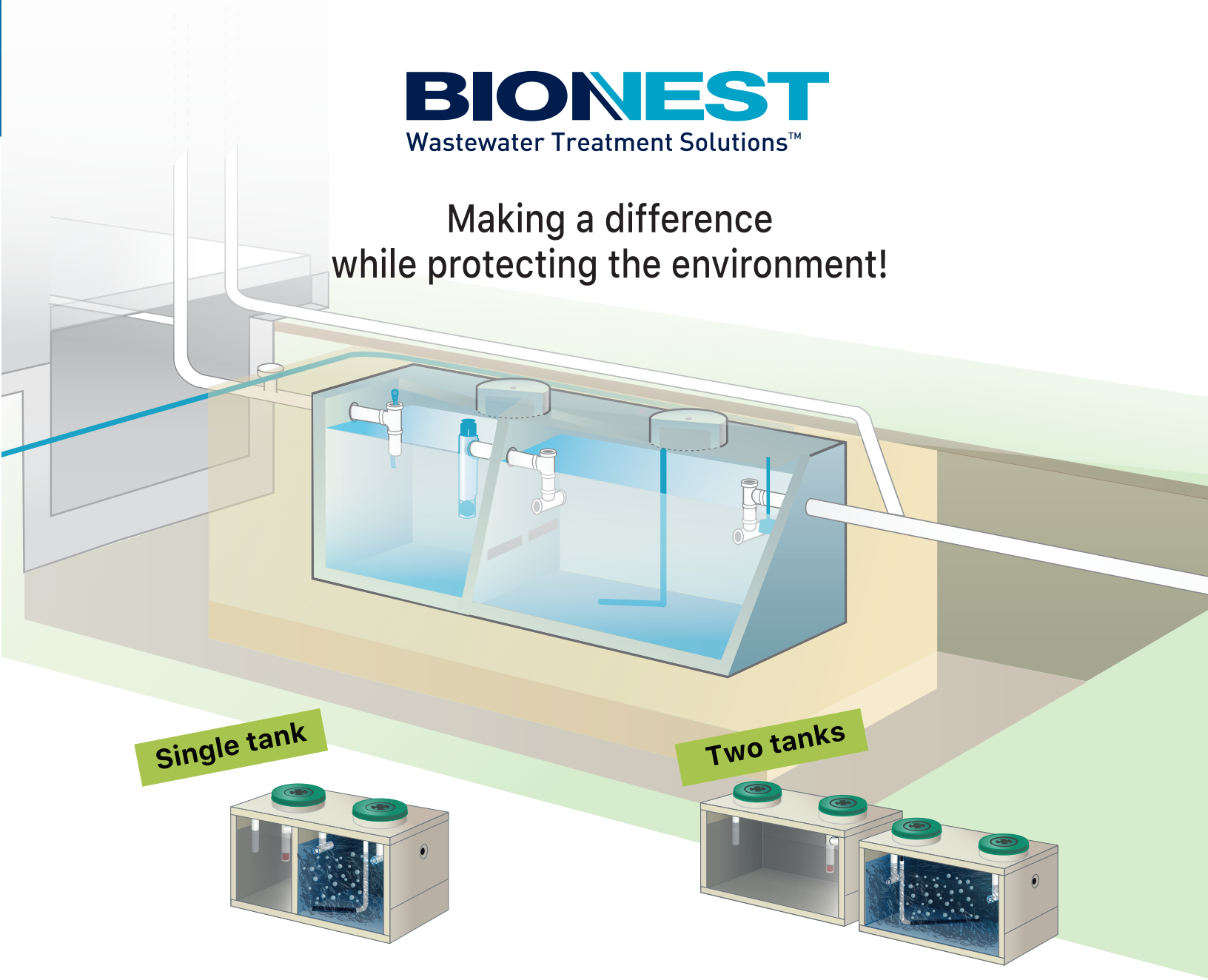

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Darcy Craigen
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Zach Dunford
Keith Dunn, Plumbing Dunn right
Bibi Easow, FlowSpec Engineering Ltd
Tyler Edwards
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Jeremy Gale
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Dakota Gionette
Hugh Glass
Ethan Goule
Noah Gray
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For the period of February 14 to May 31, 2023

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Filter Bed Sizing: Cracking the Code

Story continued from cover

The OBC has an additional requirement that was not in the MOE Green Book, which is to size the base of the bed such that it provides a minimum Loading Area in accordance with 8.7.4.1. As a rule, unless the native soils are sand with little to no fines, and a T-time of 15 min/cm or less, a filter bed needs to be raised or partially raised, with a mantle (minimum 15 m) and a total Loading Area in accordance with 8.7.4.1., as follows:

Table 8.7.4.1
Loading Rates for Fill Based Absorption Trenches and Filter Beds

Forming Part of Sentences 8.7.4.1 (1) and 8.7.5.2(2)

Item	Column 1 Percolation Time (T) of Soil, min	Column 2 Loading Rates (L/m^2) / day
1	1 < T ≤ 20	10
2	20< T ≤ 35	8
3	35 < T ≤ 50	6
4	T > 50	4

When sizing a filter bed, the designer must consider three separate calculations:

- Calculate the size of the Filter Surface (i.e., the size of the stone or leaching chamber surface that distributes the effluent evenly over the surface of the sand filter). This area is calculated using Q/75 for Q ≤ 3,000 L/day, or Q/50 for Q > 3,000 L/day.
- Calculate the extended Contact Area of the base of the Filter Sand, which is based on the familiar QT/850 relationship. (It is important to note that the T-time used in this calculation of the required Contact Area be that of the underlying soils, not the T-time of the imported filter sand).
- Calculate the total Loading Area of the base of the leaching bed, using the maximum loading rates (LR) as contained in Table 8.7.4.1., and sentences 8.7.5.2.(2) and 8.7.5.3.(1) of the OBC. The Loading Area is the total bed area, as calculated by Q/LR, and must extend a minimum of 15 m from the last distribution pipe with a thickness of at least 250 mm. Encompassed within this total Loading Area would be the Filter Sand Contact Area.

The Loading Area is the minimum size that is required at the base of any imported material where it forms the interface between this imported material and the underlying (native) soil material. Beyond the Contact Area, the Loading Area does not necessarily need to consist of the specified filter sand. Outside of the required Contact Area, a typical "septic sand" could be used for the mantle area, provided it meets sentence 8.7.4.2.(2) of the OBC (the 75% rule).

For illustrative purposes, consider a four-bedroom home with a design flow of 2,000 L/day on a site where the native soils are a silty sand mixture with a T-time of 25 min/cm. The area of the filter surface (stone layer) is calculated as 27 m2 based on Q/75 in accordance with 8.7.5.2(3). The required Contact Area at the base of the Filter Sand would be approximately 59 m2. Table 8.7.4.1. requires a maximum loading rate of 8 L/m2-day for soils with a T-time of 25 min/cm. Applying 2,000 L/day at 8 L/m2-day requires a total Loading Area of 250 m2. This area could consist of a bed that is 10 m wide by 25 m long, within which is contained at least 59 m2 of filter sand, and the required 27 m2 stone layer. This is significantly larger than the Contact Area, but it allows the effluent to be applied to the underlying soils at a suitable rate. This example is illustrated in Figure 1.

Story continues on page 39

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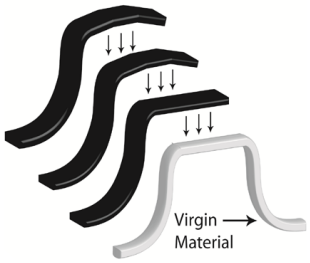

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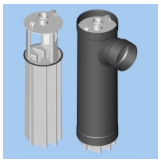

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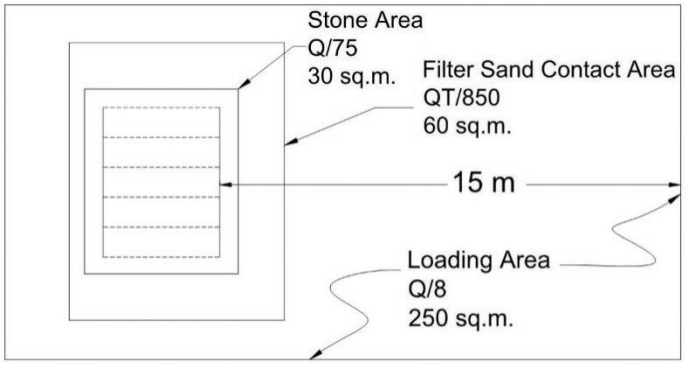
Filter Bed Sizing: Cracking the Code

Story continued from page 36

Figure 1: Typical Filter Bed Layout Based on 2000 L/day and T=25 min/cm



The Loading area becomes quite significant in low permeability silt and clay soils. If one applies the same calculations based on clay soils with T>50 min/cm, the maximum Loading Rate would be 4 L/m2-day and the total Loading Area for the filter bed must be increased to 500 m2 (refer to Figure 2). The Contact Area would be approximately 118 m2. Consider that one could actually lay out the filter bed in a configuration that provides the 15 m mantle within the 118 m2 of contact area. All too often, this is where the design ends up and it is significantly undersized. Applying 2,000 L/day over only the 118 m2 Contact Area results in a loading rate of approximately 17 L/m2-day which is almost three times the recommended maximum loading rate. The total size of a 2,000 L/day Filter Bed on soils with T > 50 min/cm needs to have an area of at least 500 m2. Figure 2 shows an example of this layout and Figure 3 shows a typical cross-section view.

While the filter bed would still be a smaller footprint than a conventional raised bed under many site conditions, many undersized filter beds are still being designed, permitted, and installed across the province. You can find additional information in OOWA's Sand Filter Bed Guidance Document *(https://www.oowa.org/industry-resources/guidance-documents/).*

Figure 2: Typical Filter Bed Layout Based on 2000 L/day and T>50 min/cm

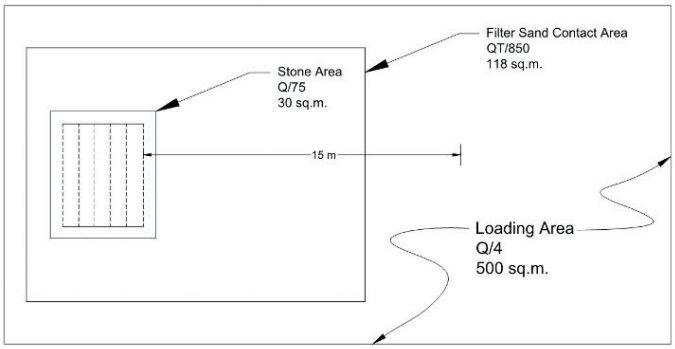
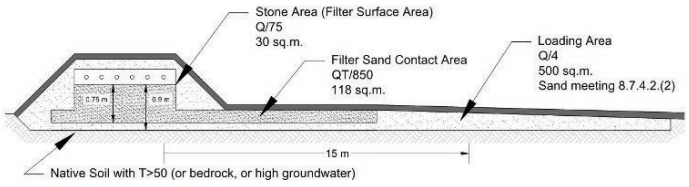


Figure 3: Typical Cross-Section of a Raised Filter Bed, including Loading Area for T > 50 min/cm



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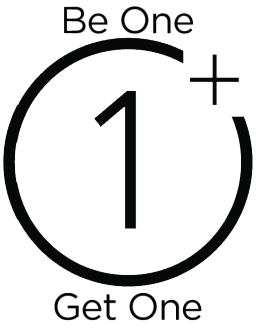

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