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newterra:
Statement of Qualifications

Innovative Treatment for Water, Sewage, Wastewater & Groundwater

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Table of Contents

A

Company Overview

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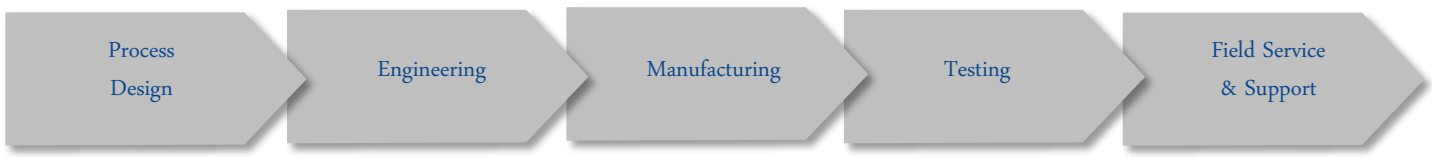
Overview: A Significant History of Water Treatment Expertise

newterra is recognized as a leader in providing sustainable water and wastewater treatment solutions for industrial, military, municipal and land development clients. In operation since 1863, we have designed, engineered and manufactured tens of thousands of systems and components used throughout the world. Our focus has grown to include soil and groundwater remediation systems over the past two decades. In that time, our team has expanded to over 250+ employees worldwide – all focused on our Total Commitment to Project Success.

Headquartered in Brockville, Ontario, where our primary 175,000 sq. ft. Lean manufacturing facility is located, **newterra** also has engineering offices in Toronto, Burlington and Trooper, Pennsylvania, and manufacturing facilities in Macon, Georgia, Venice, Florida and Langgöns, Germany. Additionally, we have sales offices throughout North America and in Santiago, Chile. To provide post-installation support, **newterra** operates four strategically located Service Centers in the United States and Canada, the largest of which is in Calgary, Alberta, home to our Certified Operations team. Each of these locations stocks replacement parts and rental equipment for rapid deployment – and is staffed by trained technicians with extensive service, installation and retrofit experience.

We Control the Full Process

At **newterra**, we specialize in providing custom solutions to a wide range of complex water treatment challenges. Our expertise in water chemistry and the associated technologies to remove organic and inorganic contaminants is built on our extensive list of projects for remediating groundwater. The unique nature of these projects inspired our integrated operational philosophy.



We take full control of every aspect of the treatment systems we build – from process design and engineering to manufacturing our own membranes, tanks and systems. We also install and commission our systems, and offer post-installation parts and service. This ensures that every **newterra** system meets our high standards for quality and on-time delivery.

Along with our innovative technology, this industry-leading approach has been acknowledged with **newterra's** selection from over 9,000 nominations and input from an expert panel as a **Global Cleantech Top 100 Company**. It has also earned us **Deliotte's Best Managed Companies Award** for seven consecutive years.

North America’s Largest Rental Fleet of Remediation Equipment

Remediation projects often require a quick response – from engineering a solution right through to the deployment of assets. That reality has led **newterra** to pre-engineer, build and rent a significant fleet of remediation equipment. Dispatched from our four Service Centers located throughout North America, these resources have allowed us to address and minimize the impact of contaminated sites for a wide range of clients.

Our fleet of over 150 units includes fully contained, easily transported systems for soil vapor extraction, multiphase extraction, groundwater and air treatment, and air sparging.

Significant Manufacturing Capabilities

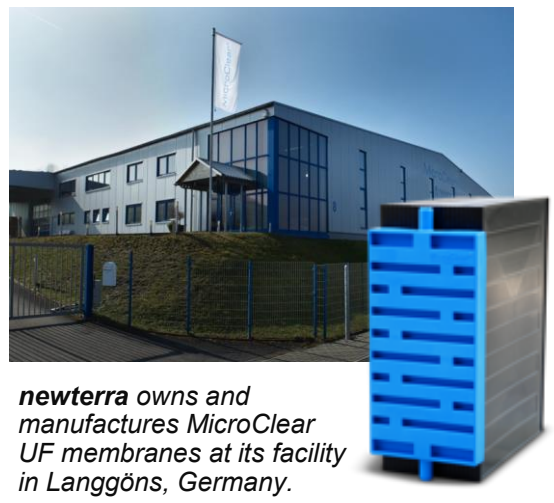
newterra Primary Manufacturing Facilities - Brockville, Ontario
With over three acres of heated manufacturing space (135,000 sq. ft.), our main manufacturing center in Brockville enables **newterra** to build and test multiple large scale treatment systems simultaneously. Our Production Team is comprised of certified tradespeople who work in dedicated customer-focused teams to see a system through from start-to-finish. A philosophy of continuous improvement and Lean manufacturing techniques guide our processes and allow us to maintain very high quality levels. Our Brockville operations feature ground level loading docks for ease of shipping, and our overall electrical capacity allows us to fully test the designed equipment. **newterra** systems leave our facility with MET- and UL-certifications, eliminating the need for electrical inspections at the installation site. They also undergo rigorous hydraulic testing in our plant before being released.

newterra Steel Services Plant - Macon, Georgia
newterra designs and builds the specialized equalization, aeration and stainless steel membrane tanks used in our treatment systems. Our Macon, Georgia facility provides steel fabrication of critical system components and allows us to produce customized systems in minimal time. We've made significant investments in precision equipment, including a Flying-Optics 6 kW Laser Cutting System that is capable of cutting metal up to 1.25" thick at an accuracy level of 0.004". The close coordination between our facilities also allows the pre-building of standardized tanks for large orders.

Our Brockville facilities feature over three acres of manufacturing space. Each system is built from start-to-finish by a customer-focused team to maximize quality, and is shipped with MET and UL electrical certifications.

***We** design and build the specialized tanks and other components used in **newterra** systems at our dedicated Macon, Georgia steel fabrication plant.*

newterra MicroClear Membrane Plant - Langgöns, Germany
Our commitment to “owning the process” includes manufacturing our **newterra** MicroClear™ membranes in our own dedicated ISO 9001:2008 certified facility. Located in Langgöns, Germany, our MicroClear manufacturing plant features specialized laser welding equipment that allows us to adhere the UF membrane material to our proprietary backing plate with extreme precision. Having direct control of our membrane supply allows **newterra** to respond very quickly to large orders, and facilitate on-time delivery of this critical component to our Brockville facility.

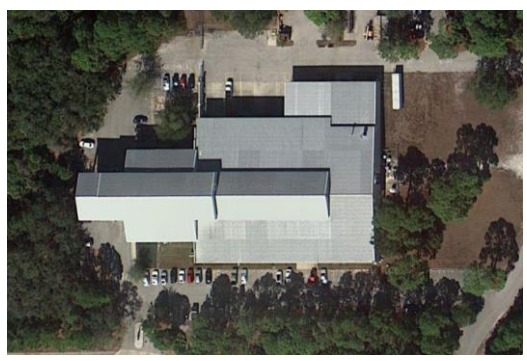


***newterra** owns and manufactures MicroClear UF membranes at its facility in Langgöns, Germany.*

We Don’t Outsource Production

At **newterra**, we are not beholden to subcontractors. By having direct control over every phase of a project - including membrane, tank and system production – we can design, build, test and install treatment systems within very short lead times.

Another benefit of directly managing all aspects is that our Engineering, Production and Service Teams are constantly collaborating internally and with our clients. This results in ongoing improvements that streamline assembly, increase efficiency, and optimize quality. Integrating **newterra** Service professionals into our team approach also ensures that our systems are designed and built with the operator in mind – so our control systems are intuitive, and maintenance procedures can be completed safely and efficiently.



Our newest production center – a 40,000 sq. ft. facility in Venice, FL provides a geographically strategic location for system assembly and a base to manufacture our own reverse osmosis filtration components.

On-site Inventory

Our Brockville operations are situated on 16 acres, which affords us significant on-site storage for tanks and other large components of our systems. We have a “container farm” for storage of the ISO-certified shipping containers that are used to house many of our modular treatment solutions, and also maintain an inventory of systems for rapid deployment and rental.

Our Brockville facilities allow strategic on-site management of a large inventory of components, tanks, and containers, as well as completed systems for rapid deployment and rental.

A Culture of Commitment

Our culture is one of celebrating and supporting the success of our teammates and partners in an environment where we enjoy what we do, the people we work with and are proud of the accomplishments of our company. Our guiding philosophy at **newterra** is to build long term relationships with our employees, our customers and our suppliers. We do not treat our partners as a one time transaction – nor do we expected to be treated that way.

At **newterra**, we approach opportunities and challenges with a sense of urgency that demonstrates our commitment to the success our customers.

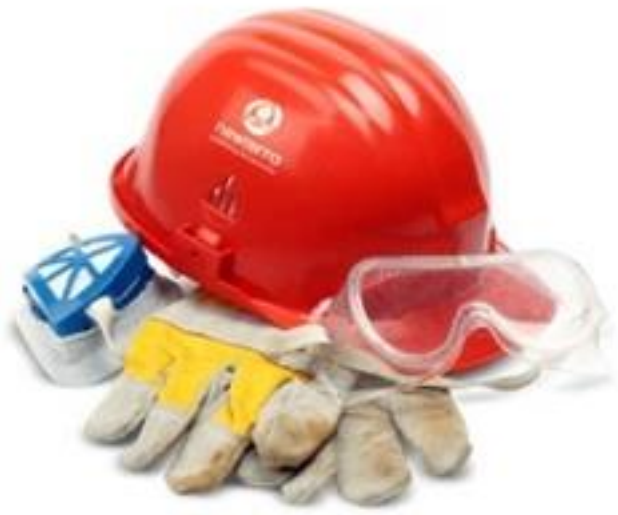
newterra Core Values

- **Honesty** in all that we do
- **Respect** for the individual
- **Safety** in the workplace and home

- **Commitment** to our **success**
- **Commitment** to our **customers' success**
- **Commitment** to our **environment**

An Excellent Track Record for Safety

Health and safety are fundamental components of our training programs and workplace protocols at **newterra**. Protecting employees, contractors, business partners and visitors to our facilities and job sites from the risk of workplace injury or illness is a primary objective.



We rigidly follow Lockout-Tagout (LOGO) protocols, Arc Flash safety and other procedures, and conduct weekly safety meetings with all production employees. Additionally, monthly safety meetings are held on a company-wide basis, along with formal Health & Safety training sessions annually. We are proud of our safety record (see **newterra** safety stats below) and our vigilance for continuous improvement in safety processes.

We reinforce that training through routine inspections throughout our operations, and an annual audit of our Health & Safety Program that is based on the Workplace Safety and Insurance Board's (WSIB) Workwell Audit.

newterra Workplace Safety Statistics	2013	2012	2011	2010
Avg. Number of Production Employees	98	84	68	68
Number of Medical Treatment Cases	2	1	1	0
Number of Deaths	0	0	0	0
Number of Cases Involving Days Away from Work (lost workday cases)	1	0	1	0
Number of Cases Involving Restricted Work Activities (restricted workday cases)	1	0	0	0
Number of Other Recordable Injuries	0	1	0	0

B

Installation Examples

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Soil & Groundwater Installation Examples

newterra is extremely well suited to bring technology expertise and innovative solutions to a wide range of remediation challenges. Our **experience engineering and manufacturing groundwater treatment systems** dates back to 1992, and includes more than a thousand projects over our twenty-two year history. In that time, we've worked closely with major consulting firms, including CH2M Hill, Arcadis and others.

A sample of remediation projects for which we've supplied equipment design, engineering, manufacturing, installation and support includes the following:

Pump & Treat System, Lac Mégantic, Quebec

In operation since December 2013

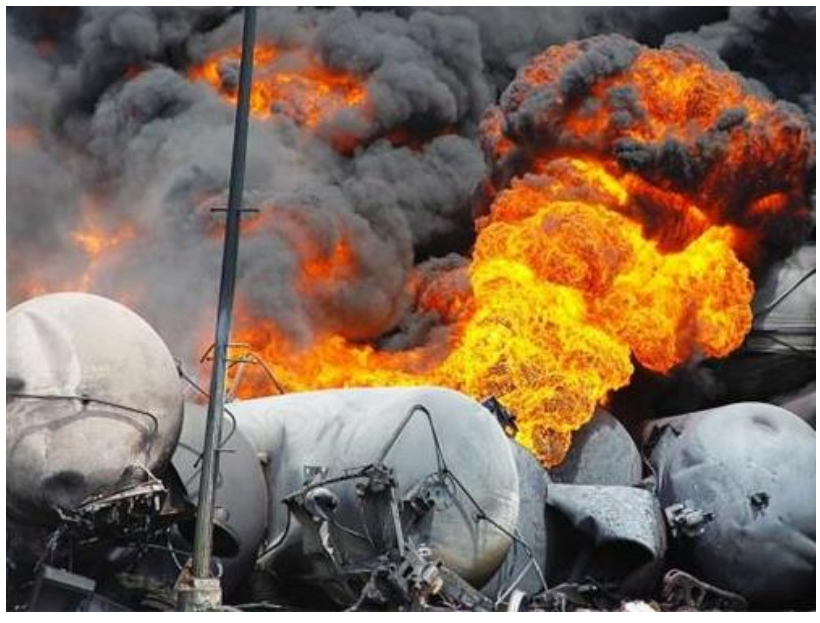
On July 6, 2013, an unattended 74-car freight train carrying crude oil slowly rolled from a Quebec rail yard, picking up speed as it descended the rail line towards the small town of Lac Mégantic. As it reached the center of town, travelling at over 60 miles per hour, it derailed and exploded violently – killing 42 people and destroying almost half of the downtown area.

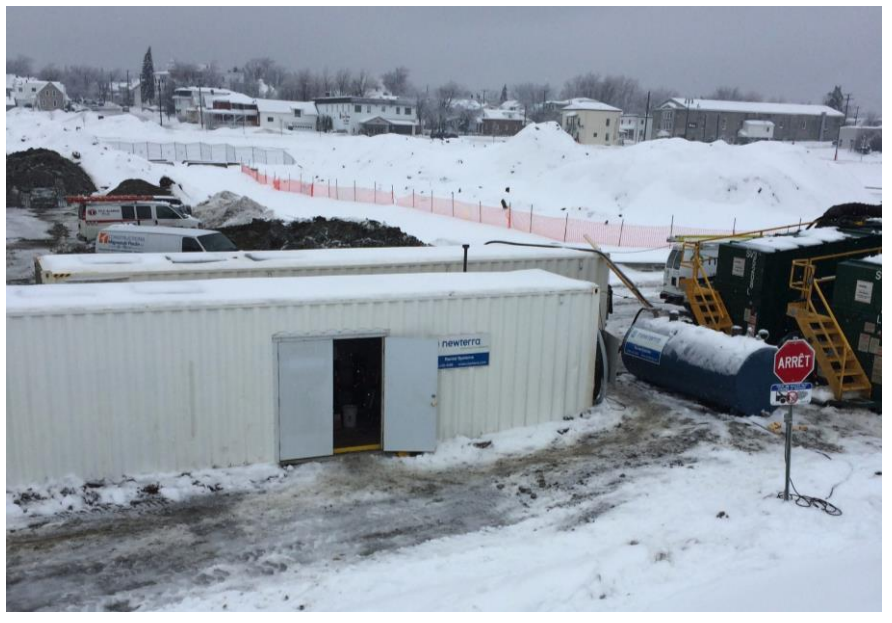
Over 1.5 million gallons of crude oil escaped the ruptured and burning tanker cars, resulting in a significant environmental disaster. Emergency measures were taken immediately to control water and oil. Five months later, in December 2013, a longer term water treatment solution was implemented, including the installation of two **newterra** water treatment systems.

Each **newterra** system, packaged in 40" sea containers, is capable of treating 120 USGPM. The treatment systems include oil water separation, bag filtration, clay filtration media and, finally, carbon vessels. The first system was delivered within a week and the second followed a week later. Start-up services were provided immediately after installation during the third week.

The start-up included testing to demonstrate the effectiveness of the process train in removing hydrocarbons, and the systems have been running since that time. Currently estimates have the units running until October 2014.

newterra's understanding of the process needs and associated risks, our significant rental inventory, and rapid response to set-up and test has helped accelerate the remediation efforts in the aftermath of this tragedy.





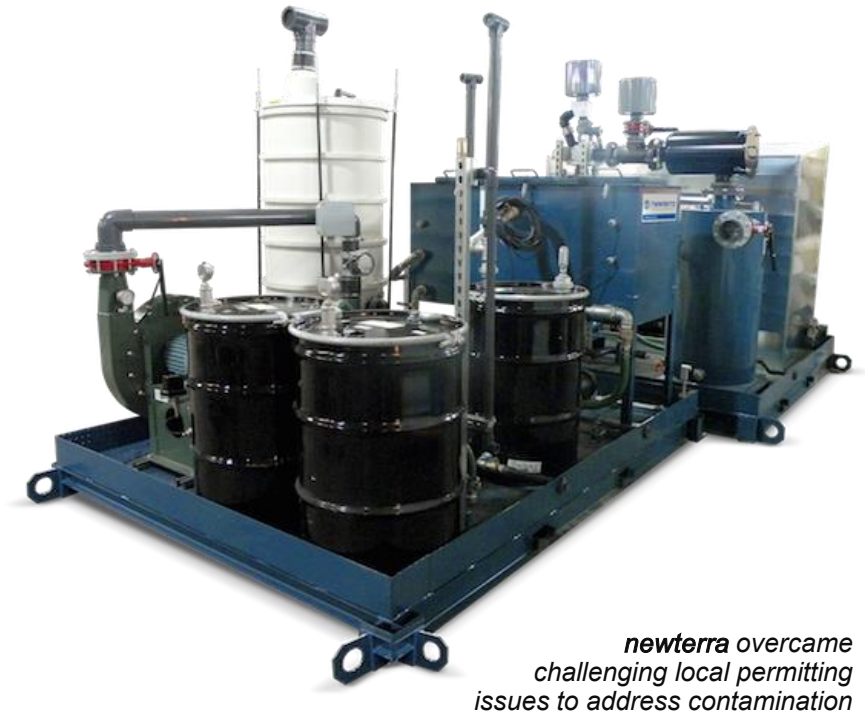
*In the aftermath of a tragic train derailment in Lac Mégantic that spilled 1.5 million gallons of crude oil, **newterra** was able to respond with an effective remediation solution within weeks*

Retail Gas Station Remediation, Washington State

In operation since [year]

The site, a former retail gas station located in a residential area of a Washington State, required remediation due to contamination by gasoline range organics and benzene.

newterra was called upon by Arcadis for a system to remediate the site. Stringent local permitting was a key issue in developing the solution. newterra was able to engineer a cost-effective approach to providing a Dual Phase Extraction and Groundwater Treatment System that complied with local codes. The two skid system consisted of an oil-water separator, air stripper and liquid phase carbon for groundwater treatment. A catalytic oxidizer was incorporate for vapor treatment.



***newterra** overcame challenging local permitting issues to address contamination at the site of a former retail gas station.*

Fort Drum US Army Base, New York State

In operation: 2011

At some point in 2001 or 2002, a faulty valve on a sump beneath a helicopter refueling oasis began leaking jet fuel at the Wheeler-Sack Army Airfield of Fort Drum. When it was discovered in April 2006, it was estimated that approximately 350,000 gallons of jet fuel had spilled into the ground, contaminating a three acre area of the base.

Rapid deployment of remediation technologies for groundwater treatment and product recovery, as well as soil vapor extraction was required for the cleanup operation – which was limited to warmer months. This seasonal limitation was due to the fact that all sub-surface piping was existing and installed above grade due to cost constraints associated with installing new piping below the frost line for winter operation.

newterra's on-site remediation solution consists of a combination of equipment from our extensive rental fleet, along with customized systems we designed and built specifically for the project. We have modified several of our rental systems over time in response to changes in site conditions and end-user requirements.

Over the course of the multi-year project, newterra has become a consistent entity based on our responsiveness and the quality of our solutions. Despite different prime contractors at various phases of the cleanup, newterra has been chose consistently to be the preferred equipment supplier over the contract periods.

***newterra** has been instrumental in the remediation efforts at Fort Drum in New York state. Three acres of the base were contaminated by 350,000 gallons of jet fuel following an undetected leak at a helicopter refueling station.*

Solar-Powered Groundwater Pump & Treat System, Lockheed Martin Missiles & Fire Control, Orlando, Florida

In operation: 2010

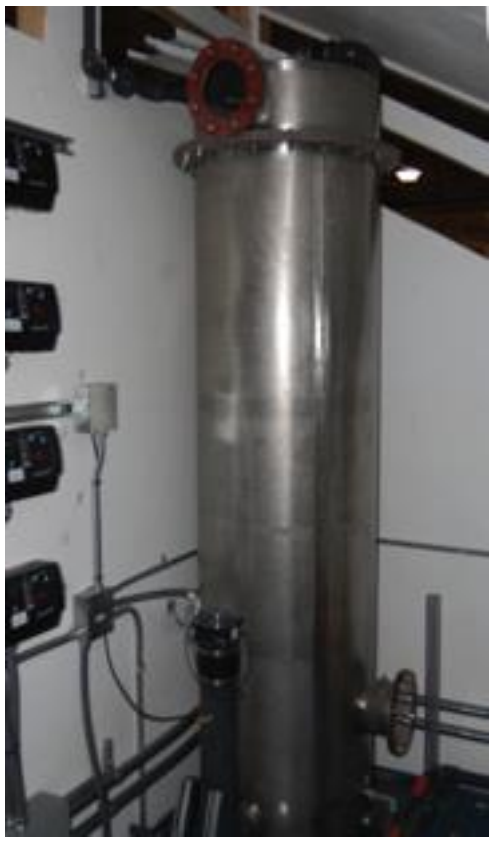
Located near Orlando,Florida, the Lockheed Martin Missiles & Fire Control site had groundwater with moderate levels of contamination by chlorinated solvents. They required a customized system that would prevent migration of the contaminants and begin the remediation process. A key requirement of the project was that the system be powered completely by renewable energy – in this instance, solar power.

Assessment of the contaminants led to the selection of air stripping as the most effective remediation technology. However, based on the moderately high flow rates and the heavy energy consumption of traditional air strippers, a customized system would need to be developed. Partnering with HSW Engineering, **newterra** developed a modified tower-type air stripper that incorporated a unique venturi effect to enhance air flow and minimize the electrical requirements of the DC fan.

Groundwater extraction was addressed with seven Grundfos 5 GPM electric pumps which, like the air stripper and controller, were solar powered. The control system featured battery backup and integrated alarms.

Another critical element of the system was the **newterra**-designed enclosure. The roof was angled to maximize energy capture of the integrated solar panels. Natural passive lighting and ventilation by convection were also instrumental in the design of the wind load certified enclosure.

newterra's partnership approach resulted in an effective remediation system powered completely by solar energy and packaged in a highly efficient enclosure.



Other Technology Installation Examples

newterra has a tremendous depth of experience in the treatment of water with a wide range of contaminants, in a wide range of climate extremes.

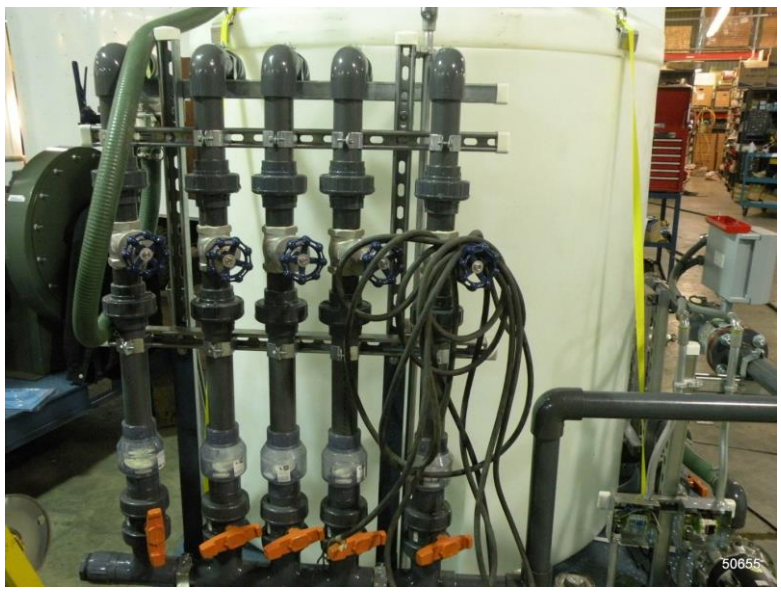
Aeration

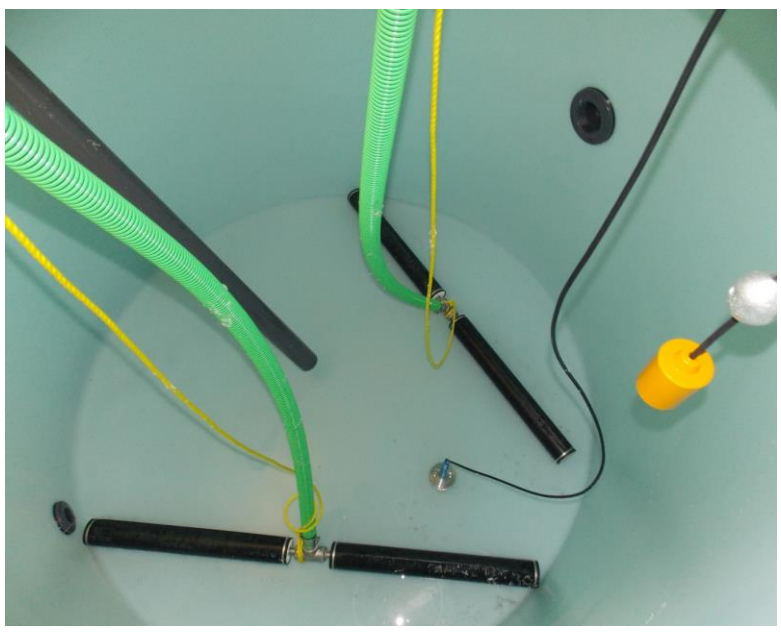
Aeration is normally used at the front end of a water treatment system when either pre-oxidation is required, or there are volatiles in the water such as benzene, hydrogen sulfide, or other constituent that can be removed before the main process to reduce the loading on the system. (for example, before a greensand filter)

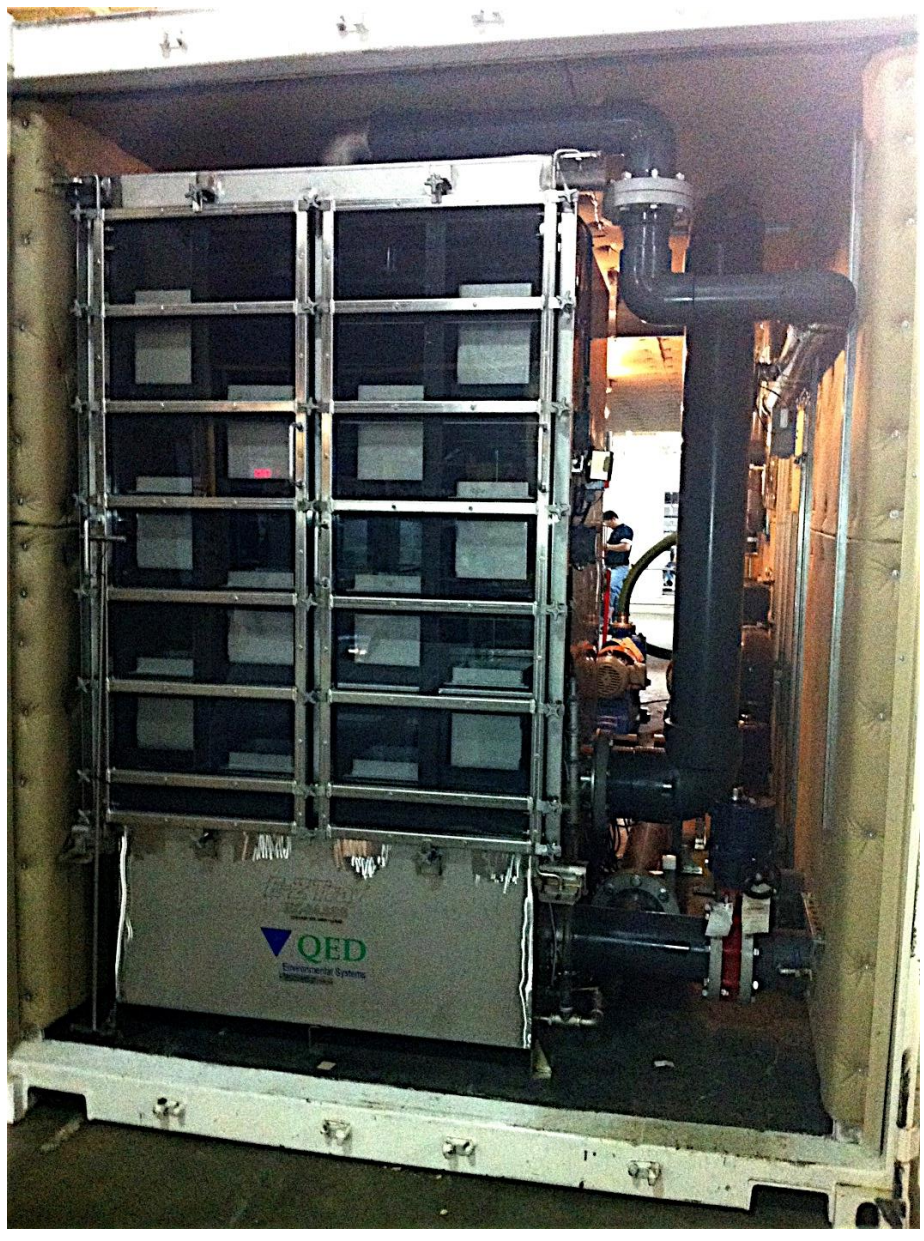
This is typically a simple process of introducing air into a tank via blower and header, or slightly more complex with the use of air stripping technology.

newterra has been building aeration and air stripping systems for over twenty years, and has completed over 300 separate projects involving aeration technology – from a few to hundreds of gpm.

newterra has decades of experience with the treatment technologies used in potable water systems combined with a deep understanding of remote camp solution requirements.







Chemical Treatment / TSS Removal

TSS (Total Suspended Solids) removal is important when the water source is from rivers, canals or low land reservoirs, which tend to have high suspended solids, numerous dissolved constituents, and often a significant bacterial load.

Typical processes for removal of Suspended Solids include:

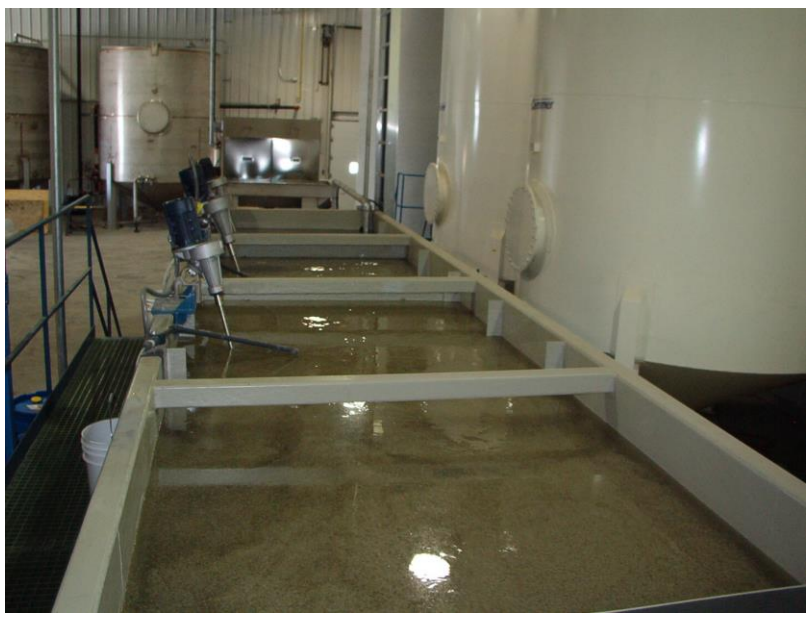
•pH Adjustment

•Coagulation and Flocculation

•Clarification

•Sand filtration or media filtration

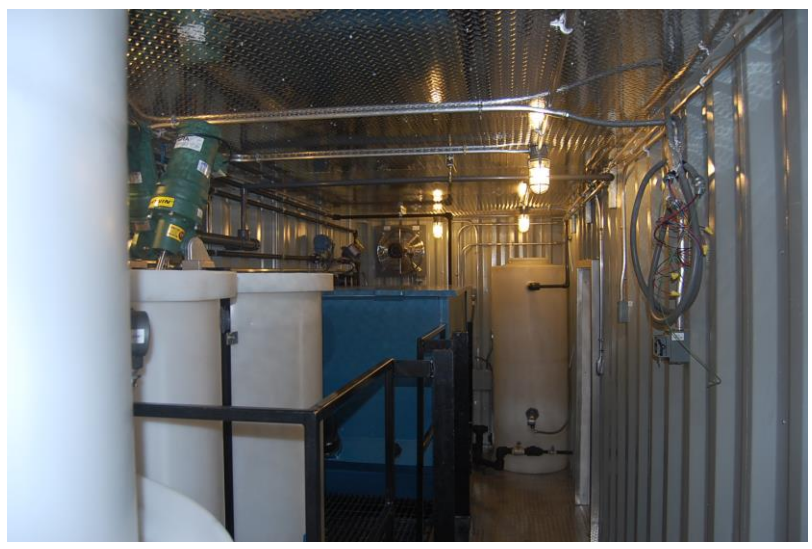
newterra has significant experience and numerous projects in this technology – from small to large flow rates.



Project - Directline: *TSS removal from waste water prior to secondary treatment. Included pre-screen, pH adjustment, polymer flocculation, clarification, sludge removal. Contact: Tony Ricciutto*

Project - Bennett: *TSS removal from waste water prior to reuse or discharge. Included pre-screen, pH adjustment, polymer flocculation, clarification, sludge removal, media filtration.*

Project - Krispy Kernel: *TSS removal from wash water prior to reuse or discharge. Included pre-screen, pH adjustment, polymer flocculation, clarification, sludge removal.*



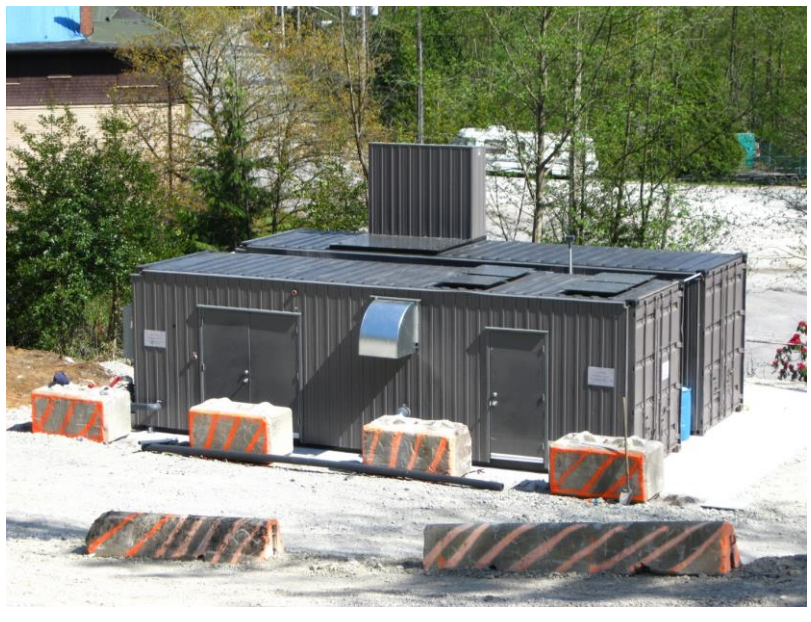
Project - MRCan (Alberta-Peyto): *TSS removal from gas condensate water prior to methanol recovery. Included pH adjustment, polymer flocculation, clarification, TSS measurement.*
Contact: Rod Vinner

Iron & Metals Removal

When dealing with deep and shallow groundwater, the water may be rich in dissolved solids, especially carbonates and sulphates of calcium and magnesium. In addition to this, iron and manganese are often present, which must be removed to make the water palatable for drinking, cooking and laundry use. Typically these must be removed prior to subsequent membrane treatment.

newterra has significant experience in the removal of these constituents from water. Both greensand filtration and our proprietary deferrum technology have been used.

Project - City of Belleville:
Iron removal system 800 m^3/day.



Project - Imperial Oil (IOCO) Site:
Iron removal system 100 m^3/day
Contact: Linda Eastcott

Media Filtration

Media filtration can be used in several areas in the treatment process, including greensand filtration, TSS removal, post filtration with sand and carbon.

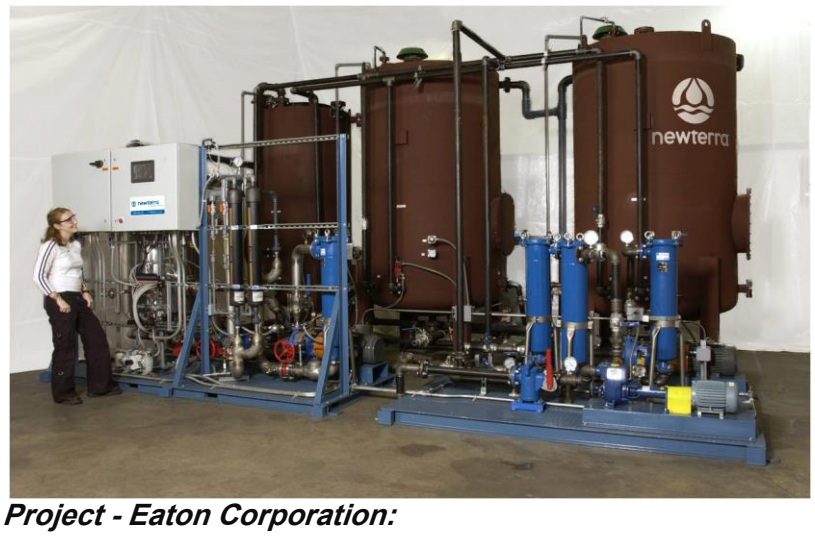
newterra has two decades of experience building media filtration systems. These include systems for metals removal, iron removal, and hydrocarbon removal. Our media filtration systems have included automated backwash, chemical feed and other ancillary systems.

Project - Sydney Tar Ponds:
Media filtration systems
Contact: John Armistead (AECOM)

Membrane Filtration

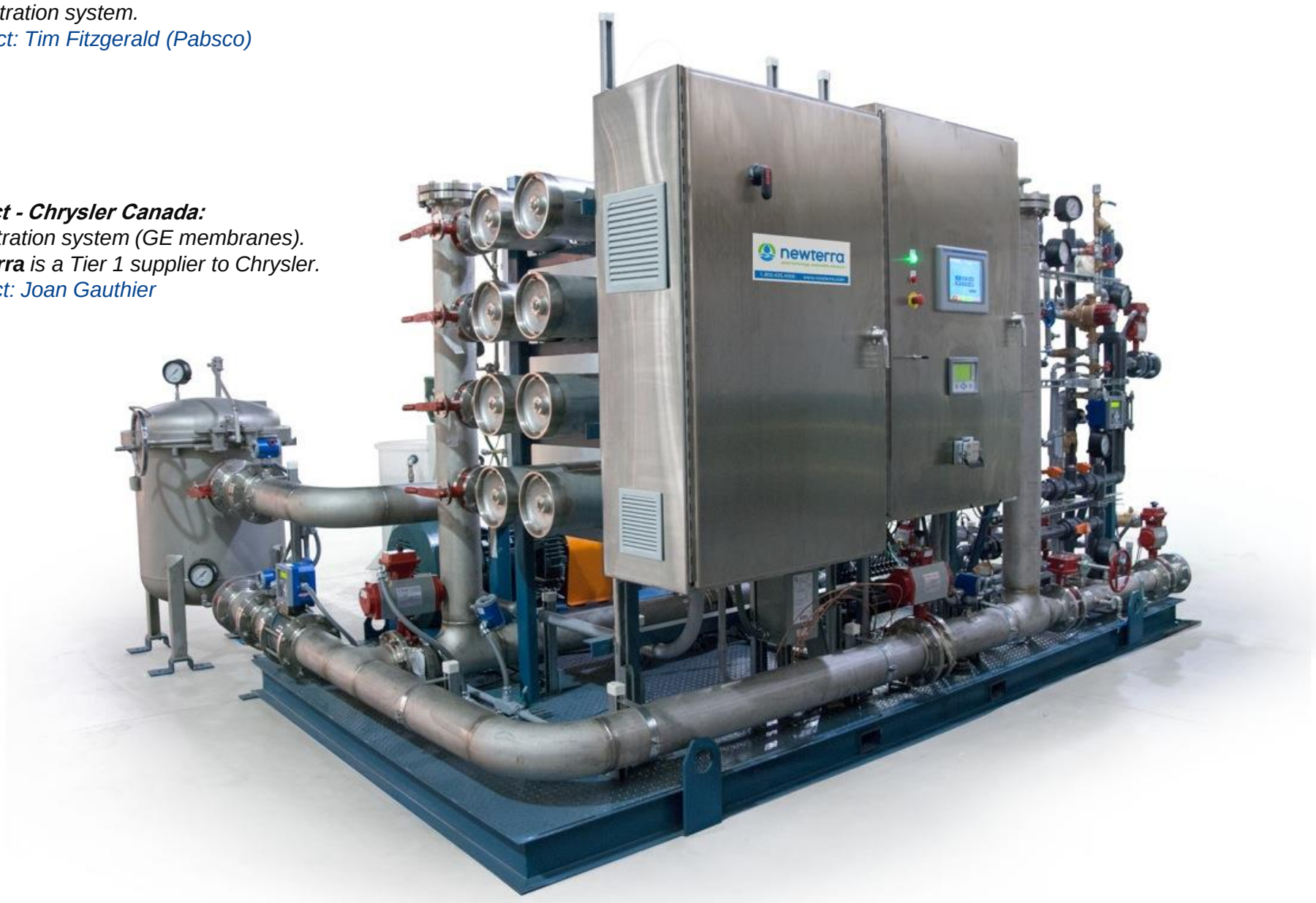
Membrane filtration is often used as a post treatment after iron/metals removal. Membrane systems use a membrane filter in place of granular media to filter water without coagulants. Membranes are classified as micro, ultra, nano or RO. Each has a particular role to play depending on the process design criteria.

newterra has over two decades of experience engineering and manufacturing systems that employ membrane filtration. Depending on the dynamics of a specific project will will outsource the membrane filtration skid or build it in-house. To date, we have completed over 30 membrane filtration systems in-house.



Project - Eaton Corporation:
Ultrafiltration system.
Contact: Tim Fitzgerald (Pabsco)

Project - Chrysler Canada:
Ultrafiltration system (GE membranes).
***newterra** is a Tier 1 supplier to Chrysler.*
Contact: Joan Gauthier



Media Articles

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Recent Media References

THE GLOBE AND MAIL

Globe & Mail: A solution in a box for remote work sites

By RICHARD BLACKWELL

newterra's modular sewage treatment system is designed to expand or contract, depending on work force needs

For **newterra ltd.**, the key to selling innovative products is to think inside the box.

The Brockville, Ont.-based company makes sewage treatment systems for remote locations. Its products combine advanced filtering technology with a modular approach that packages its equipment inside standard shipping containers.

The containers – essentially giant steel boxes – can be easily shipped just about anywhere, and the capacity of a system can be increased merely by adding more units. That is hugely appealing to mining or oil and gas firms that need to process sewage at remote camps in the Canadian North, Africa, South America, or anywhere around the world.

"They ship in modules and literally assemble them on site in the middle of jungles and on the side of mountains," said David Henderson, managing director of Toronto venture capital firm XPV Capital Corp., which invests money in companies that are developing leading-edge water technologies – including the privately held **newterra**. "The very cool thing is that they assemble like Lego blocks."

newterra is currently delivering a sewage treatment plant packaged in 26 large shipping containers to an 8,000 person mining camp in Zambia

newterra is currently delivering a sewage treatment plant packaged in 26 large shipping containers to a mining camp in Zambia, where it will process the effluent generated by 8,000 people. The system will be fully operational within a few weeks of its arrival, and less than six months after the order was initially placed. That's a huge advantage compared to the time-consuming process of building a sewage plant on site – a two to three year project.

Another large plant, still in the planning stages, will serve 15,000 people at a construction camp in a remote oil and gas project in northern Alberta.

A key advantage of these sewage plants, said **newterra** Chief Executive Officer Bruce Lounsbury, is that they can expand or contract, depending on the needs at the site. A typical mining operation may start with a handful of employees, expand to a huge work force during construction, then settle back to a smaller number of workers during production. Bringing in or removing modular sewage processing units can easily accommodate that shift.

The company, which now has about 200 employees, settled on this "plug and play" approach soon after it was founded in the early 1990s, Mr. Lounsbury said. He and his partner Robert Kennedy (now the company's president) were then making systems to clean up groundwater contaminated by gas stations or dry-cleaning plants. "Our skill was taking relatively understood technologies and modularizing them," he said.

After about seven years of expanding that groundwater remediation business, mainly in the United States, the company was looking for a larger market, and decided to add sewage and waste water treatment to its portfolio. In that bigger game, however, advanced technology is crucial.

newterra settled on what are called membrane bio-reactors – a technology originally invented in Canada that uses layers of semi-permeable membranes to draw clean water out of a waste-water soup. Eventually, the company purchased its German-based membrane supplier, so it now has more control over the technology.

Indeed, **newterra** takes an unusual approach in today's world of outsourcing, in that it controls its entire supply chain, from the membrane maker to its Georgia division that builds its steel tanks and components, to its manufacturing operations in Brockville. At the same time its on-the-ground service and support people gather client feedback that helps it adjust systems to closely match customers' requirements.

"The bulk of our innovation is through working with the customer and coming up with a design that meets their needs," Mr. Lounsbury said.

While **newterra** has so far sold most of its systems to resource companies, it is increasingly eyeing markets that aren't in remote locations.

Already it has installed a sewage system at a small condo and motel development just outside Brockville, and it is making treatment plants for a B.C. housing development, a golf course clubhouse in Western Canada, and a campground in Ohio. In the future it sees the potential for decentralized sewage processing in municipalities. Instead of expanding over-taxed central sewage treatment plants, cities could add strategically placed stand-alone plants to complement their older operations.

"Maybe it will be five or 10 years before cities start to think seriously about decentralizing [sewage treatment], but we will be there," Mr. Kennedy said.

Waste to water... What is the water used for?

The water that is withdrawn from **newterra's** sewage treatment systems in North America is released into the environment, or used for irrigation, dust suppression or the flushing of toilets.

Is it drinkable?

With very little extra treatment it would be drinkable. But that reuse of waste water is a hard sell with consumers in North America, where less than 5 per cent of water is directly recycled.

In other countries – particularly those with severe water shortages – attitudes are different. In Singapore there is "basically toilet-to-tap," said **newterra** President Robert Kennedy.

The Globe and Mail, Inc.
Reprinted from The Globe and Mail, in the "Report on Business" section.

InvestinOntario.com: Getting real about innovation:

newterra's modular sewage treatment system is designed to expand or contract, depending on work force needs

Firms that operate in Ontario, Canada are perfectly positioned to lead the global effort to develop innovative water treatment technologies. By leveraging Ontario's positive business climate, generous R&D incentives, market access, and highly skilled labour force, and government support, Ontario companies have been able to launch many smart water breakthroughs. One such company that is emerging as an innovation leader in creating such technologies is **newterra ltd.**

Today, more than 780 million people worldwide lack access to clean water and 2.5 billion lack adequate sanitation. According to the World Water Council, within two decades the demand for fresh water could exceed the supply by 40 per cent.

Firms that operate in Ontario, Canada are perfectly positioned to lead the global effort to develop innovative water treatment technologies. In fact, two of the world's most widely employed water treatment solutions - UV disinfection and membrane filtration - were invented here. By leveraging Ontario's positive business climate, generous R&D incentives, market access, and highly skilled labour force, and government support, Ontario companies have been able to launch many smart water breakthroughs. One such company that is emerging as an innovation leader in creating such technologies is **newterra Ltd.**

newterra developed membranes (with a pore size of 0.04 microns) so small that no further filtration is required before water is re-used or returned to the environment.

The Challenge

Many traditional municipal sewage and water systems throughout the world currently operate at capacity. Those systems require efficient, cost-effective solutions to handle increasing demands for clean water. Of additional concern in remote communities is an increasing focus on environmental responsibility and "green thinking" when it comes to water treatment. Without water – a diminishing global resource – and wastewater treatment, economic growth in densely populated as well as remote areas will stagnate.

The Opportunity

According to U.S.-based technology and business analytics firm BCC Research, the worldwide water and wastewater treatment market is worth about $100 billion. A growing portion of this market is for portable, modular water treatment systems required to efficiently service remote resource industries, such as mining and oil operations, as well as for municipal, industrial and agricultural infrastructures.

Background

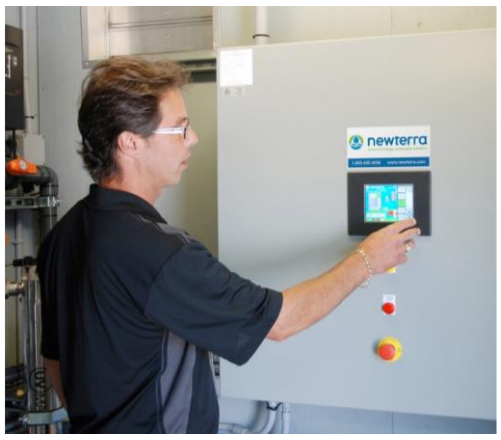
newterra initially earned its reputation as a leading North American provider of groundwater remediation systems. Based in Ontario, it then expanded into waste and water treatment. Determined to control its own supply chain from design to installation and service, **newterra** acquired its German membrane supplier in 2011.

The firm currently employs over 170 people and expects to double its exports, workforce and revenues over the next three to five years. It has been recognized as one of Deloitte's 50 best managed companies for the past six consecutive years, and the firm is a big reason why Ontario is regarded as a global leader in wastewater treatment technology.

The Solution

Based on membrane bioreactor technology (originally developed by ZENON, another Ontario company), **newterra** developed membranes (with a pore size of 0.04 microns) so small that no further filtration is required before water is re-used or returned to the environment. As a result, facilities reusing the treated wastewater can conserve water efficiently and economically. As an added bonus, the treated water also exceeds World Health Organization standards. "It's clean enough to drink," says company CEO Bruce Lounsbury.

The **newterra** approach also offers flexibility. As a particular resource development shifts locations, the treatment modules are easy to disassemble, transport and then put back together again. Mining companies from around the world, especially in South America and Africa, have adopted **newterra's** unique products. The company now has more than 4,000 installations worldwide.



*Exterior and interior views of one of **newterra's** MBR modular systems*

Why Ontario?
Top-notch talent for growth

newterra currently has three projects with Barrick Gold in Chile to evaluate the reuse of water from camp toilets, kitchens, showers and laundry at their mining sites to reduce the impact of trucking clean water to their sites and the "dirty water" from their sites.

In seeking new markets, **newterra** realized it had competitive advantages even beyond the actual membrane technology it had developed. Ontario's track record in wastewater treatment and water innovation creates "momentum," says Lounsbury. He explains: "Successful companies attract top students. As a result, the province has a great workforce with graduates from great schools."

Government support for industry

Lounsbury notes that excellent government support, both from the Ontario and federal governments, made the province an ideal place for his company to establish a beachhead to take on global markets.

A strategic location and proximity to market

Lounsbury also cites Ontario's location and close proximity to major U.S. urban markets as a great strategic advantage. "We can easily access any North American supplier," he says. "And when we shipped to Zambia, we only had to put our products on a truck for a few hours to Montreal and then on a ship to Africa. No problem."

***newterra** currently has three projects with Barrick Gold in Chile to evaluate the reuse of water from camp toilets, kitchens, showers and laundry at their mining sites to reduce the impact of trucking clean water to their sites and the "dirty water" from their sites.*

Ontario Premier announces funding support of newterra's Centre of Excellence for Advanced Water Treatment

Ontario Premier, Kathleen Wynne, travelled to **newterra's** Brockville headquarters Monday to announce provincial funding for the **newterra** Centre of Excellence for Advanced Water Treatment. The new initiative will allow **newterra** to accelerate research and development of its innovative membrane-based treatment technology and meet the growing global demand for its water treatment systems. Premier Wynne toured the company's 170,000 square foot manufacturing facility before revealing an investment of $1.2 million by the province.

"I believe in Ontario's capacity to grow our manufacturing sector, I think that clean water technology is a perfect example of what we can sell to the world and what we can market," said Premier Wynne in her announcement. "I am thrilled that we've been able to be part of supporting the expansion of this great company.

The financial infusion, through the Eastern Ontario Development Fund (EODF), supports **newterra's** investment of almost $10 million in its Brockville facilities and capabilities. The **newterra** Centre of Excellence in Advanced Water Treatment is expected to add 121 jobs over the next four years, bringing the company's employee base in the Eastern Ontario city to over 200 people. Work at the new facility will allow **newterra** to expand the engineering, development and manufacturing of its modular water and wastewater treatment systems for domestic and international markets.

newterra is a shining example of Ontario's growing leadership in sustainable water treatment innovation, according to company CEO, Bruce Lounsbury. "Over the past two decades, we've pioneered and commercialized treatment technologies used by Fortune 500 companies in Ontario, across North America, and around the world. Our Centre of Excellence for Advanced Water Treatment is an important step in keeping **newterra** and Ontario at the forefront of the water industry."

The world's freshwater supply is under increased stress from pollution, industrialization and growing demand, That has fueled more stringent regulatory standards for water treatment and helped drive the use of **newterra's** patented MicroClear™ membrane technology worldwide. **newterra** systems treat sewage and other wastewater to near potable water quality, allowing it to be reused for secondary applications, or directly discharged – even in environmentally sensitive areas.

"Our self-contained systems are mobile, scalable and have proven themselves in remote work camps under some of them most extreme conditions on the planet," commented **newterra** President, Robert Kennedy, "They're now being sought by private developers who are building off-the-grid and require decentralized treatment systems that can grow with their developments. The investment just announced by Premier Wynne will allow us to increase our share of these and other markets, and continue to return water back to nature's high standards."

"newterra systems are now being sought by private developers who are building off-the-grid and require decentralized treatment systems that can grow with their developments."

*Ontario Premier Kathleen Wynne tours **newterra's** 170,000 sq. ft. Lean manufacturing facility with company President Robert Kennedy.*

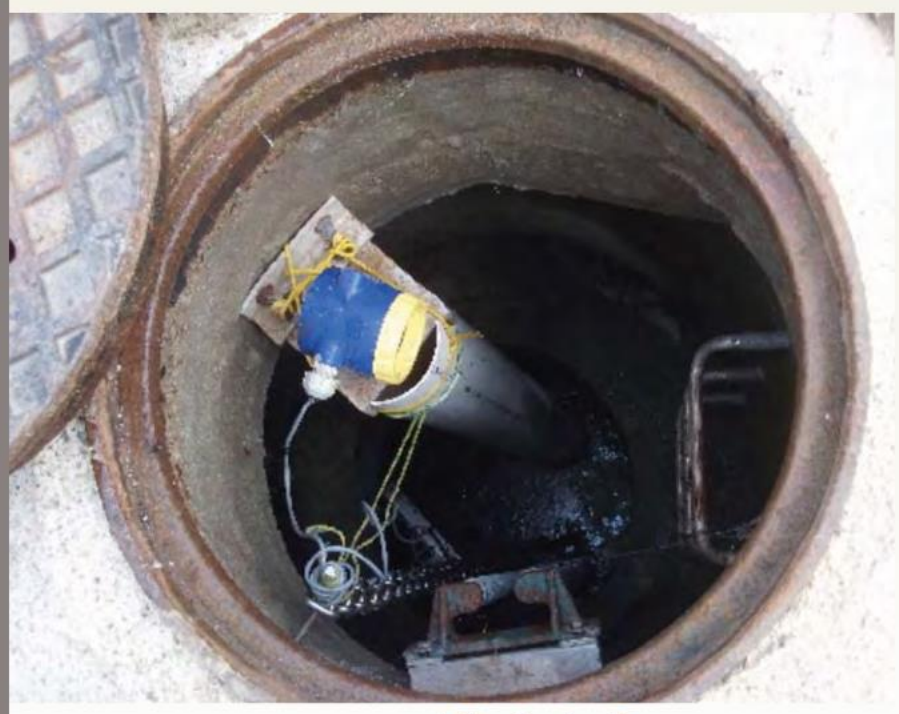
newterra
smart technology. sustainable solutions.℠

Church Road Transfer Station

Project Background

The Regional District of Nanaimo introduced the green bin program to handle all compostable material that is picked up from its customers. The green bin program handles all food wastes generated from households and composts this material keeping in line with the RDN's Zero Waste Program.

To handle this, the RDN upgraded its Church Road transfer station near Parksville, BC. The upgrade included expanding the existing transfer building along with construction of a new building to handle commercial and source separated organic wastes along with the recycle material and curbside garbage pick-up. This is intended to allow the facility to handle waste products well into the future. This also enhances the environmental performance of the facility through the adaptation of improved wastewater management and water conservation measures, green building strategies and other sustainability measures. The package membrane bioreactor wastewater treatment plant is part of the transfer station upgrades.



Influent wet well

Influent wastewater

Overview

The MBR plant is completely housed in a modified 40 foot shipping container. Its main function is to treat the water that is used to clean the floors of organic waste when the trucks have off-loaded. The wastewater first goes through an oil and grease separator and then into a wet well. It is then

Aeration Tank

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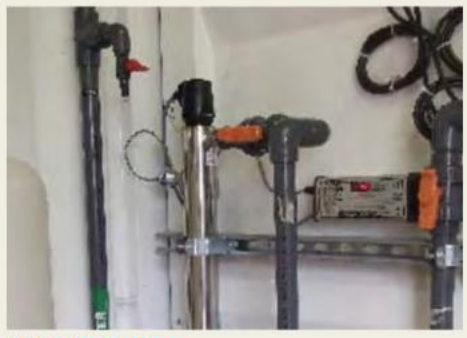
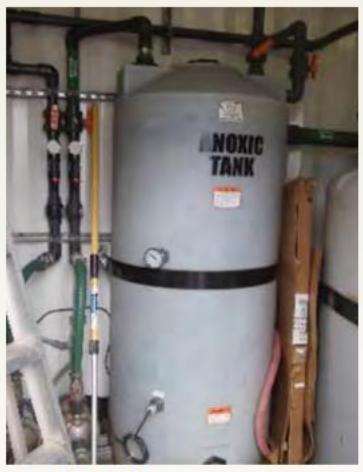
Wastewater Treatment Plant – Parksville BC

pumped through a strainer and into a primary settling tank. After this, it goes to an aerated equalization tank. After aeration it enters into an anoxic tank. After leaving the anoxic tank it flows into another aeration tank and then through the membranes. The membranes are 0.04 micron and do not allow any bacteria or viruses through but it still goes onto further processing. This effluent is then disinfected with UV disinfection and then is stored and reused for floor washing as needed. No effluent is discharged into the environment making this a closed loop system. The waste sludge produced is then trucked to the French Creek Pollution Control Center for further processing. Rain water is also collected from the roofs of the transfer station to ensure an adequate water supply for hosing purposes.

Thanks to Chris Brown and Ben Routledge for the Profile.



UV Disinfection



Anoxic Tank

Membrane Tanks

Analytical Data

Design Flow:	3m/day
Average Flow:	1.3m/day (max was 3509L on Aug. 8, 2013)
Average Retention Time:	8 hrs.

Design Influent Range

BOD mg/L:	160–450
TSS mg/L:	115–450
COD mg/L:	350-1000
FOG mg/L:	50

Influent Values

	Average	Maximum
BOD mg/L:	2307	6200
TSS mg/L:	565	19270
COD mg/L:	3546	227000
FOG mg/L:	99.8	1410

Effluent Values

	Effluent
BOD mg/L:	<5
Turbidity NTU:	<1
pH:	6 to 9
Fecal Coliform:	<2.2/100 ml
FOG mg/L:	<1

Operator Profile — Ben Routledge

Born and raised in the Nanaimo area, **Ben Routledge** has worked for the Regional District of Nanaimo since June 2010. He has been involved with the WWTP at the Church Road Transfer Station since June 2011 and has filled the position of WWTP Tech/Maintenance operator since March 2013. Having studied from TRU he is currently working towards his Level 1 Certification from the EOCP. As a closed loop system Ben enjoys the challenges that each day brings at the Church Road Transfer Station.

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About newterra

newterra is a leading provider of decentralized water and wastewater treatment and remediation solutions to the industrial and municipal markets. With its suite of patented and proprietary technologies, **newterra** offers a broad range of solutions to the world's most demanding industrial end users including mining, oil & gas, and food & beverage companies. **newterra's** capabilities – from design & engineering to manufacturing in its own facilities – allow the company to maintain full control over the quality of its systems while achieving on-time delivery. With operations in Canada, the United States, Germany, and Chile, **newterra** can address its customers' needs on a global basis. **newterra** is a distinguished recipient of Deloitte's Best Managed Companies for the past seven consecutive years – earning it coveted Platinum status. **newterra** was also selected from over 9,000 nominations and input from an expert panel to be a 2013 Global Cleantech Top 100 Company.

For additional information, please contact:

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