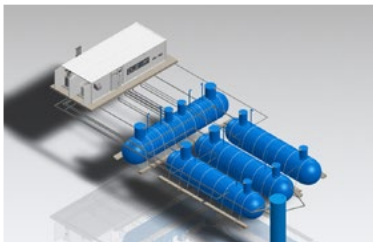
CASE STUDY



Newterra Helps Client Turn Former Auto Plant into Eco-Friendly Warehouse Hub

Newterra's Clear³-225 MBR System solves customer's highly variable flow rates challenge.

Market Served: Commercial Online Warehouse
Application: Decentralized Wastewater Treatment
Location: Talbotville, Ontario (Canada)
Challenge: Remote Wastewater Treatment
Solution/Service: Membrane Bioreactor (MBR) System

Summary

Newterra was contracted by a major Canadian Commercial Developer to supply a new wastewater treatment facility for a major online retail client who was looking for a logistically ideal location for their latest warehouse facility. The site was a former automobile assembly plant that had been returned to greenfield conditions including the decommissioning of the previous wastewater treatment plant.

The Challenge

The developer had previous experience supplying similar turnkey warehouses for this major online retail client. The new wastewater plant will be treating the domestic wastewater from the new warehouse facility and discharge the treated effluent into the municipal drain, which flows into a creek.

The proposed system would have to handle a wide range of peak and off-peak flows, accommodating fluctuations in employee numbers and seasonal variations estimated to vary from **4,226-61,287 GPD** (16-232 m^3/d).

The Solution

The developers felt the best solution for the project was the Clear³-225 MBR *(Membrane bioreactor)* Sewage Treatment System by Newterra. This system is a combination of an activated sludge biological treatment process with membrane filtration. This system was chosen for its ability to meet stringent effluent requirements, its tolerance to fluctuation of flows, and ease of constructibility and installation.

Newterra's Clear³-225 incorporates a comprehensive series of processes to ensure effective wastewater treatment. It begins with a Lift Station equipped with a coarse screen and Flow-equalization stage to buffer instantaneous peaks and homogenize the incoming wastewater. Fine Screening is employed to remove solid particles and debris. The Biological Treatment process promotes the aerobic breakdown of organic matter, followed by pH Correction and Alkalinity Addition to optimize the water's chemical balance. Phosphorous Reduction by chemical precipitation also takes place in the bioreactor. The system utilizes Membrane Filtration for solids removal, followed by Effluent Disinfection to eliminate any remaining prior to discharge to the environment.

The Clear³ system is particularly well suited for operation in applications with variable flows.

- Two biological and membrane trains where one can be taken off-line for extended periods of low flow.
- Level transmitters in the aerobic tanks with HMI adjustable setpoints to easily adjust the bioreactor volume.
- Sludge wasting rates can be easily adjusted to reduce or increase the Mixed Liquor Suspended Solids, varying the biological mass of the system.
- Membrane solids removal is effective at all flow ranges, producing pristine effluent under all conditions.

Newterra Corporation, Inc. | **+1 800.420.4056** | **newterra.com**

Case Study: *Decentralized Wastewater Treatment*

Clear³ self-contained systems are housed in modular building enclosures, built to meet local seasonal weather including insulation, heating, and ventilation. The Clear³ membrane bioreactor process utilizes ZeeWeed® membranes for exceptional permeate quality that meets the most stringent regulatory requirements for reuse applications or discharge to sensitive receptors.

What's Your Unique Water Question?

Contact us today at **+1.800.420.4056** to solve your most challenging water issue.

Scan/Click here
to learn more Newterra Clear³
Wastwater Systems!

▲ *Clear³ systems seamlessly blend into surroundings, such as this Newterra plant at a Luxury Resort Development in Ontario. Serving an expanding resort, it ensures environmentally-friendly wastewater discharge into a sensitive North American receiver.*

▲ *In under six months, Newterra delivered a Clear³ 10,000 GPD MBR Wastewater Treatment System as a replacement system to meet more stringent effluent requirements for a year-round residential community located just outside of Telluride, Colorado.*

▲ *An RV Park located on the shores of Lake Ontario transitioned from subsurface treatment to innovative Clear³ sewage treatment due to stirct regulations, site constraints, and challenges with discharge dilution highlighted by a Surface Water Assessment.*

Newterra Corporation, Inc. | **+1 800.420.4056** | **newterra.com**