Costly Storage Problems Become Fertilizer Sales Success Story

Township of Centre Wellington, Ontario, Canada

Lystek
Nothing wasted.
Everything to gain.

Centre Wellington takes advantage of its wastewater plant upgrade to reduce costly storage problems and convert its "waste" into a nutrient-rich, saleable fertilizer.

ABOUT

Centre Wellington is a township in South-Central Ontario, with a population of 26,000. The township consists of two urban centres, Elora and Fergus, with a number of smaller communities. **www.centrewellington.ca**

CHALLENGES

- Biosolids production had exceeded the Elora Wastewater Treatment Plant's (WWTP) processing and storage capabilities
- Limited space on-site for the construction of additional biosolids storage
- Costs for year-round off-site storage and disposal were escalating

SOLUTION

Centre Wellington selected Lystek THP as a biosolids treatment technology, along with additional plant upgrades, providing these benefits:

- Dramatic reduction in storage and hauling requirements for biosolids
- Production of a high-quality CFIA registered fertilizer product, providing a source of organic matter and cost-effective nutrients for local farmers

RESULT

- More than **6,000 tonnes** of biosolids residuals processed into concentrated liquid CFIA registered fertilizer and sold to local farmers
- Ability to store almost two years of LysteGro production volume on-site
- Minimal staff hours dedicated to advanced treatment process

KEY METRICS

Population Served: 7,500
WWTP Rating: 5,000 m³ / day (1.1 MGD)
Lystek THP Processing Footprint: 74 m² (800 ft²)
Lystek THP Module Size: 1 x **LY3** (0.3 dry tons / hr)
Feedstock: Municipal biosolids (aerobically digested)

The Town of Elora is a growing community, located along the Grand River in Wellington County, Ontario. Growth in the region resulted in increasing flows to the Elora WWTP. The WWTP generated a low-solids non-agricultural source material (NASM, or Class B biosolids) that was applied to local farmlands from spring to fall, and hauled to off-site storage and disposal in the winter. Increasing biosolids volumes and costs of management, along with other requirements for upgrades, led Township council to approve a project to expand and upgrade the treatment plant.

Lystek THP was pre-selected by the Town and specified as a mandatory part of the overall strategy to upgrade the plant's biosolids management practices. Christine Furlong, P.Eng., of Triton Engineering (the Township's Engineering Firm) said that a number of other biosolids management options were considered, "Lystek was selected because, when combined with an effective dewatering strategy, the process reduces typical issues associated with Class B biosolids. The net result is a substantial reduction in the volume of end product requiring management, as well as a smaller biosolids storage building."

"We also liked the fact that the process is returning organic material back to the earth," says Furlong. Another benefit is that Lystek THP eliminates pathogens, producing a Canadian Food Inspection Agency (CFIA) registered fertilizer (Class A biosolids), which can be used in agriculture the same as any commercial fertilizer product.

Ease-of-operations was another key requirement for the solution. "Our plant operations staff also has to look after other plants and lift stations," says Colin Baker, Managing Director of Infrastructure for the Township of Centre Wellington. A major benefit of Lystek THP is that while it must be monitored by plant staff, the process itself is fully automated and requires minimal operator intervention.

Along with the additional plant upgrades, Lystek THP was implemented at Elora WWTP by Wellington Construction Contractors, supervised by Triton Engineering Services in 2014. The Lystek process significantly reduced the storage requirements by concentrating the product, increasing the solids from 3% to 15%. "It's much easier to handle and store than a dewatered or dry product," confirms Furlong. The site now has approximately 2-years of storage capacity, and with Lystek's product management services, has sold more than 6,000 m³ of LysteGro fertilizer to local farmers at an average price of $7.00/m³.

About Lystek

Lystek is a leading provider of Thermal Hydrolysis solutions for the sustainable management of biosolids and organics. The multi-use, award-winning Lystek system reduces costs, volumes and GHG's by converting municipal and industrial wastewater treatment facilities into resource recovery centers. The technology transforms organic waste streams into value-added products and services, such as the patented LysteMize® process for optimizing digester performance, reducing volumes and increasing biogas production; LysteGro®, a high-value, nutrient-rich fertilizer and LysteCarb®, an alternative source of carbon for BNR systems.