

# From Landfill Disposal to Resource Recovery

City of North Battleford, Saskatchewan, Canada



*The City of North Battleford is the first municipality in Western Canada to adopt and successfully implement Lystek's advanced, award-winning biosolids management solution.*

## ABOUT

North Battleford is a City in west-central Saskatchewan, with a approximate population of 14,000. [www.citofnb.ca](http://www.citofnb.ca)

## CHALLENGES

- Biosolids were being disposed of in the City's landfill, causing nuisance odours and structural concerns
- Regulatory mandate by provincial Water Security Agency to move to beneficial use

## SOLUTION

North Battleford Selected Lystek THP as an advanced biosolids treatment technology, providing these benefits:

- Ability to produce a Canadian Food Inspection Agency (CFIA, or Class A) registered fertilizer from biosolids for use on local farmland
- Retrofitting of Lystek THP into existing dewatering building, saving space and capital cost
- Easy-to-operate, cost effective solution delivered ahead of the deadline required by the provincial agency

## RESULT

- More than **30,000 tonnes** of biosolids residuals processed into concentrated liquid CFIA registered fertilizer and sold to local farmers
- Elimination of landfilling as a biosolids management practice

- Capital and operational cost savings of over 110% by implementing Lystek THP compared with other options for comparable technologies, established during a competitive bidding process
- Lystek THP deployed on a rapid timeline (1 year) to meet the Water Security Agency's timeline



## KEY METRICS

**Population Served:** 14,000

**WWTP Rating:** 7,320 m<sup>3</sup> / day (1.9 MGD)

**Lystek THP Processing Footprint:** 111 m<sup>2</sup> (1,200 ft<sup>2</sup>)

**Lystek THP Module Size:** 1 x **LY6** (0.6 dry tons / hr)

**Feedstock:** Municipal Biosolids (aerobically digested)



The City of North Battleford is located along the North Saskatchewan River in west-central Saskatchewan.

For many years, the North Battleford Wastewater Treatment Plant's (WWTP) biosolids management strategy was disposal of dewatered biosolids in the City-owned landfill. By 2012, this practice was causing problems, "We were basically dumping more dewatered biosolids into the landfill than it could handle," confirms Stewart Schafer, Director of Operations for North Battleford. "This was far from ideal," continues Schafer, "The material took up valuable space, created problems for our landfill equipment and was a major source of odour," he adds.

As a result of these issues, the Provincial regulatory body, the Water Security Agency, mandated that North Battleford have a new biosolids management solution in place by November 1, 2015.

The City of North Battleford saw this as an opportunity to turn their "waste" into a resource. "Wastewater treatment plant biosolids should be considered

a resource not a liability," says Schafer.

To that end, the City issued a Request for Proposals (RFP) outlining specific requirements for a process that could transform their wastewater biosolids residuals into a Class A

fertilizer which would be acceptable to the Water Security Agency. The RFP process generated three responses, and Lystek THP was selected because it produced a CFIA-registered (Class A) product, at the lowest capital and operating cost, and was the only option that could be fully deployed in the required timeline. In addition, due to the small footprint of the Lystek THP processing equipment, the system was easily retrofit into existing building space in a truck bay of the dewatering building. This approach allowed for significant cost and time savings in project deployment.

Lystek THP was implemented at the North Battleford WWTP in 2014, and has been operational since that time. To date, the LysteGro fertilizer program has diverted more than 30,000 tonnes of biosolids to local farmland.



## 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.