

Best Practice

Wastewater Diversion and Reuse Project

CONTACT

Town of Unity
P. 306.228.2621
E-mail. maljan@sasktel.net
Mail. Box 1030, Unity, SK, S0K 4L0
Project Date: 2011 (Ongoing)

THE PRACTICE

In 2011, the Town of Unity commenced and completed the construction of 6 kilometres of a shallow-buried pipeline from the Sink and Gordon Lakes west of the Town, to the Killsqaw Lakes east of the Town. The pipeline carries waste water discharged from the Town's lagoon and storm sewer systems to the Killsqaw Lakes which supply the Sifto Salt Mine with water to cool their condensers. In the past, the Town's wastewater contributed to rising water levels in the Sink and Gordon Lakes. This project was required to assist Sifto Salt in accessing cooling water, while reducing the water levels that have threatened the Town's lagoon system and the neighboring golf course, among other lands.

The mineral content of the waste water is too high to utilize in irrigation practices but is similar if not less concentrated in minerals than that of Killsqaw Lakes. As well, any other water body in proximity to Sink and Gordon Lakes is a closed system, therefore diverting water to those areas would cause additional flooding. The Town of Unity is committed to this permanent waste water reuse project. This is a unique environmental partnership.

THE PROCESS

Several studies were completed by groups such as Sask Water and PFRA to determine a solution to the issue of the rising waters. Of all the solutions, the Waste Water Diversion and Reuse Project was the only acceptable solution, but it was also the most expensive. The Sask Watershed developed and promoted the Emergency Flood Reduction Program, which the Town of Unity applied for and was approved for 75% of the capital costs. The Town of Unity completed the applications for permits to construct and were provided short and long term permits to pump the wastewater. Tenders were awarded, a survey of the installation area was completed and the pipeline was installed in the summer and fall of 2011. In October 2011 pumping of waste water commenced.

THE RESULTS

The overall results of the practice will be the diversion of 120 dam 3 of wastewater from the Sink and Gordon Lakes every month. This will assist Sifto Salt to continue to utilize 3000 gallons per minute to cool their condensers. The Sink and Gordon Lake water levels should be reduced, allowing the used of surrounding lands, and reducing the threat of collapse for the Town's lagoon system.

LESSONS LEARNED

The main lesson learned from the Project is to plan and install infrastructure, such as the lagoon and the storm water system, in a location that will be sustainable in the future. As well, industrial development that prevents the natural drainage of water will be reviewed and scrutinized differently in the future.