# Oxford County's Ingersoll WWTP receives a 'roof lift'

Oxford County, Ontario, owns and operates nine wastewater treatment plants, serving over 65,000 residents and various industries and commercial institutions. The Oxford County Ingersoll Wastewater Treatment Plant provides secondary treatment for the Town of Ingersoll.

The plant has an approved treatment capacity of 10,230 $m^3$/d and includes two separate facilities fed from a common pumping station and preliminary treatment works. Both the old and new plants are conventional activated sludge plants. The first plant was built in 1947 and has a design capacity of 3,410 $m^3$/d. The second plant was constructed in 1974, retrofitted in 2004, and has a design capacity of 6,820 $m^3$/d.

The WWTP treats both domestic and industrial wastewater. In 2009, the average daily flow rate was approximately 7,276 $m^3$/d, or 71% of the approved capacity.

Over the years, both the tanks and the roofs have experienced wear and weathering. Through scheduled maintenance, the concrete tanks continued to be operational; however, the roofs had corroded. Operations staff recognized that the existing roofs were in poor condition and needed to be replaced. Public Works considered two options to upgrade the digesters.

*Aerial view of the Ingersoll Wastewater Treatment Plant.*

Option 1 was to keep the existing concrete tanks and look at purchasing new custom-sized glass-fused-to-steel roofs. Option 2 was to replace both the tanks and roofs.

After discussing both options with the County's engineering consultants, the decision was made to repair the existing concrete tanks and design and install new glass-fused-to-steel roofs. This option would be more economical in the short term. In addition, it would allow time for a complete environmental assessment on the projected requirements of the facility up to 2035.

*Greatario's externally supported roof is built to accommodate higher static and dynamic loads.*

Because the existing tanks were being kept, the tender required roofs be custom designed to fit tanks 46.19' in diameter.

Oxford County pre-purchased Greatario's custom-designed glass-fused-to-steel covers in early 2011, to be installed in coordination with a general contractor who would complete the overall digester upgrades.

Greatario's externally supported roof (ESR) is built to accommodate higher static and dynamic loads, such as mixers and for higher pressures and vacuum conditions. Vitrium™ glass-fused-to-steel coating is a single, strong, integrated glass and steel material fused together at 1,500°C in a climate controlled furnace. The subsequent hard, inert barrier on both the interior and exterior tank surfaces guards against corrosion. Impermeable to liquids and vapours, it controls undercutting caused by corrosion and offers excellent impact and abrasion resistance.

Construction of the roofs began in October, 2011. They are now installed, and the digesters were scheduled to be operational in July 2012.

*For more information,*
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