

Authorized Dealer



Market segment
Industrial

Location
Sault Ste. Marie, Ontario, Canada

Total area
3,000 m² (32,292 ft²)

Project type
New construction and retrofit

Protocol
BACnet

Installation type
HVAC

Sault Ste. Marie West End Wastewater Treatment Plant

Project Profile

The City of Sault Ste. Marie is investing \$38 million to overhaul its [West End Wastewater Treatment Plant](#). About 25,000 people are served by this facility, which was commissioned in 1985. Sault Ste. Marie's wastewater conveyance system is a combination of linear sewer mains and force mains connected to 25 sanitary pumping stations. Wastewater flows over 664 kilometers before it reaches the city's two wastewater treatment plants. This is the first ever upgrade to the west end plant, which includes multiple buildings, some of which require hazardous location-rated equipment and wiring.



Authorized Dealer [S. & T. Group](#) installed a Reliable Controls building automation system to control the ventilation, heating, and cooling for the plant's administration, dewatering, headworks, and septage areas.

Total system objects
12,520

Installed equipment



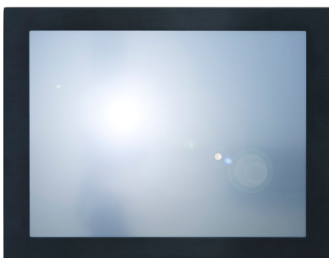
11 MACH-ProAir™ controllers



7 MACH-ProSys™ controllers



3 MACH-ProWebSys™ controllers

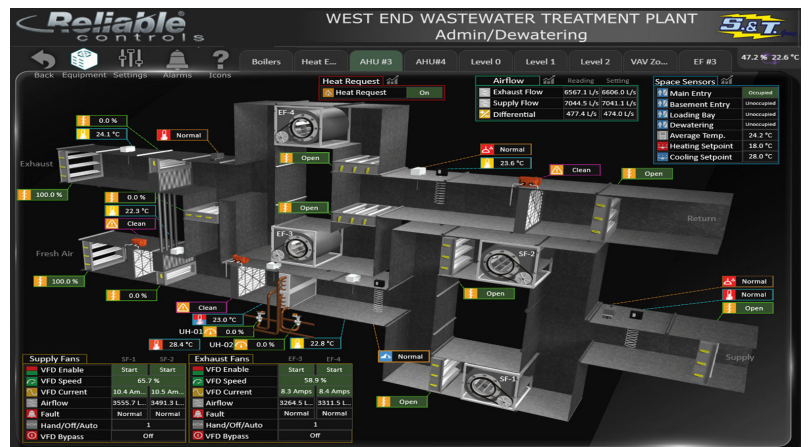


5 Touchscreen Panel devices

Before the upgrade, most of the facility's equipment was run independently. An existing control system had been installed to run the boilers but lacked a good operator interface and was not field-adjustable. S. & T. Group installed Touchscreen Panel devices throughout the plant that communicate over BACnet/IP and integrate with MACH-ProWebSys controllers to provide near real-time operator control and monitoring of all systems as well as SCADA connections for alarm callouts in the event of equipment failure. The MACH-ProWebSys combines a BACnet Building Controller, a BACnet Operator Workstation, and a powerful webserver in a compact package.

S. & T. Group took control of the plant's mechanical equipment using seven MACH-ProSys controllers that communicate with 12 variable frequency drives over BACnet MS/TP. This allows facility operators to easily access relevant data on the Touchscreen Panel devices. With extensive network routing ability to multiple open protocols and highly scalable inputs and outputs, the MACH-ProSys BACnet Building Controller is the ideal choice for large rooftop equipment, large mechanical rooms, and complex integrated systems.

For variable air volume control, S. & T. Group installed 11 MACH-ProAir controllers, each with an airflow sensor and onboard damper motor, eliminating the need for separate sensors and actuators. Today facility managers rely on the Reliable Controls system to meet ventilation requirements and operate equipment in explosion-proof areas of the plant. Since the building automation system upgrade, administration staff have noticed consistent temperature control and improved air quality.



Installed software



The flexibility of RC-Studio allowed S. & T. Group to smoothly integrate vital mechanical equipment and optimize control strategies. An easy-to-learn, easy-to-use BACnet Advanced Operator Workstation, RC-Studio provides real-time fault detection and diagnostics, so stakeholders can resolve issues before they become a problem. To optimize network communications and integrate open protocols, S. & T. Group used RC-Toolkit software. And with the use of RC-Archive, the City of Sault Ste. Marie has full control and ownership of its building data, with continuous downloads of data logs that provide a solid, dependable record of performance.

S. & T. Group was proud to leverage the 5-year warranty standard with all Reliable Controls products on this project. Facility operators have noted the new control system is user-friendly and easy to navigate.

To improve building sustainability and the client's return on investment, S. & T. Group leveraged the long warranty on Reliable Controls devices as well as their reparability and reliability. The team overcame some challenges with integrating the third-party variable refrigerant flow system by developing code that allowed the new building automation system to run seamlessly and efficiently.

Reliable Controls and S. & T. Group are glad to contribute to this important project in one of the oldest buildings in the Sault Ste. Marie area.

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