Sault Ste. Marie International Bridge Plaza & Customs Building

Sault Ste. Marie, ON, Canada

Government

Overview

The Sault Ste. Marie International Bridge Plaza and Customs Building (Canadian Customs) is situated on the border between Sault Ste. Marie, ON and Sault Ste. Marie, MI. The building houses the Canadian Border Security Agency, handling both commercial and general traffic.

Project Details

Reliable Controls Authorized Dealer, S&T Group Inc., successfully completed this project for Canadian Customs.

The networked hardware includes MACH-ProSys and MACH-ProCom controllers, which provide an IP backbone and the majority of the system points for mechanical equipment. MACH-ProZone and MACH-ProAir controllers communicate MS/TP back to the mechanical equipment that serves them. Third party devices communicate over a combination of MS/TP and IP devices.

Canadian Customs is comprised of two main buildings, each serviced by a dedicated hot water boiler system. Multiple air handling units provide cooling and hot water heating to VAV boxes serving the individual spaces. The VAV boxes also control radiant ceiling panels to provide additional heating. In-floor heat manifolds provide additional heating for public spaces and hot water force flow heaters top up entrance vestibules and doorways. Each building also has a dedicated VRF system providing heating and cooling for IT rooms, meeting rooms, and some offices.

The BACnet® protocol provides integration to lighting controls via a BACnet gateway and uses space occupancy sensors for HVAC occupancy detection.

This project was unique due to integrating multiple systems over various protocols and with varying capabilities and functionality, which creates a very diverse system. The combination of hot water heat, DX cooling and VRF systems allows for excellent temperature control and occupant comfort. The need to integrate with multiple unique systems and protocols brought many challenges to this project.

Power and gas metering was implemented to track and provide data for decreasing energy consumption and determining high usage trends and warnings. Occupancy sensors allow for shutdown of equipment on a per-space basis while maintaining occupant comfort in occupied areas.

The Sault Ste. Marie International Bridge Plaza and Customs Building benefitted from the flexibility of the MACH-System™ and its capabilities to accomplish very specific sequences of operations using a wide range of technologies while providing a seamless and accessible user interface.

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www.reliablecontrols.com/projects/overview

Project Type:
New Construction

Installation Type:
Boiler, CO_2 Monitoring, Fan Coil Unit, Heatpump, HVA, Lighting, Power, VAV, Toxic Gas Monitoring (Carbon Monoxide and Nitrogen Dioxide)

Total Area:
2,750 m^2 (29,601 ft^2)

Network:
IEA-485, Ethernet, Fibreoptic, WAN, BACnet, SMTP, SNMP, Modbus

Points:
950

Equipment Installed:
14 MACH-ProSys™
1 MACH-ProWebCom™
6 MACH-ProZone™
25 MACH-ProAir™

Reliable Controls® Dealer:
S&T Group, Inc.

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BACnet