



## Customer

Wastewater Treatment Plant

## System Integrator

Xylem Dewatering Solutions  
[www.godwinpumps.com](http://www.godwinpumps.com)

## Location

USA

## Challenges

- > Implement a temporary wastewater bypass system
- > Coordinate control of pumps via individual flow meters
- > Configure redundant HMIs for web-based control and data logging

## Products

Industrial Automation  
Red Lion Modular Controllers  
Red Lion G3 HMIs

## Results

- > Seamless integration with existing equipment
- > Control drives, meters and pumps without use of PLCs
- > Provide real-time data logging, visualization and protocol conversion

*“Red Lion’s industrial automation products enabled us to successfully install a modern temporary water bypass system that integrates with the plant’s SCADA system to provide real-time monitoring and control capabilities without the need for a traditional PLC.”*

- Steven Rock, Controls Design Engineer, Xylem Dewatering Solutions

## Project Scope

A wastewater treatment plant in a major US city turned to Xylem Dewatering Solutions during a recent expansion and renovation project, which required a temporary bypass system to divert a peak wastewater flow of 128 Million Gallons per Day (MGD) and integrate into an existing SCADA system. Xylem installed an electric bypass system capable of transporting water flow via six 335hp submersible electric pumps on Variable Frequency Drives (VFD) and eight 24 inch flow meters alongside a one megawatt diesel driven generator. The design balanced bypass flow to eight separate tanks by installing discharge headers that divided the water into eight separate 24 inch lines. Each of the eight discharge pipes had an individual in-line flow meter.

## Solution

Xylem used industrial automation products from Red Lion Controls as part of this bypass system deployment. By directly connecting each magnetic flow meter to a Red Lion Modular Controller, the plant is now able to record individual and total system flow as well as control gate valves to ensure proper water flow to each tank. Plant administrators can also regulate the VFDs running the submersible electric pumps. In addition, a Red Lion G306 is used as the plant’s central HMI to provide protocol conversion, built-in data logging, an OPC server to interact with the SCADA system and an email server for sending notifications. Additional Red Lion G303 HMIs are installed at each VFD to deliver local status and enable manual intervention as required.

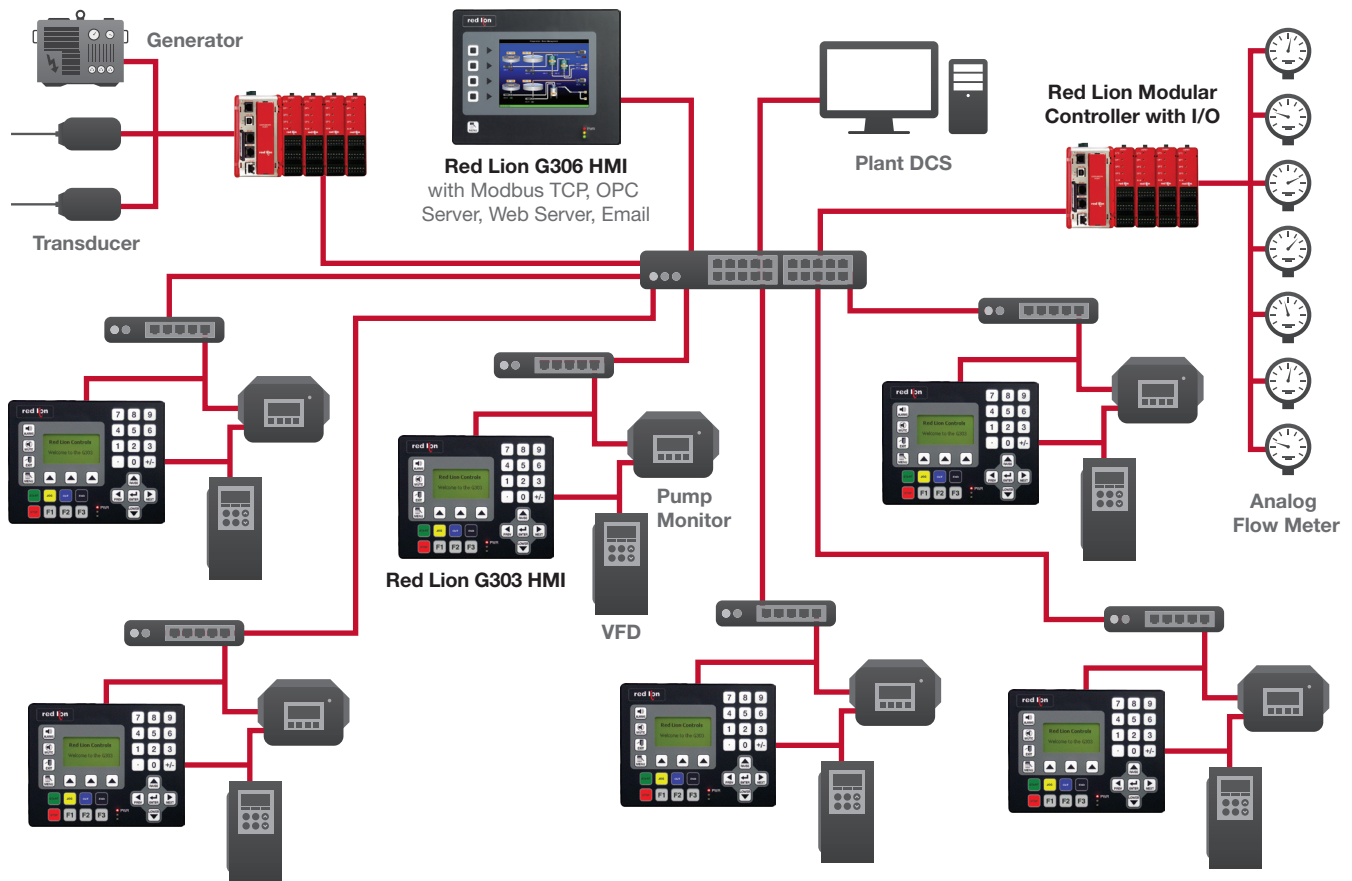
## Benefits

The comprehensive Xylem/Red Lion industrial automation solution enables the plant to seamlessly integrate the temporary bypass into its SCADA system as well as monitor status and access log data in real time. The plant is now able to control drives, meters and pumps without using a traditional PLC. This provides local visualization that enables administrators to make critical decisions.

## Products

Model	Description
CSMSTRSX	Red Lion Modular Controller with I/O
G306MS00	Red Lion G306 HMI with 6-Inch Outdoor Display
G303S000	Red Lion G303 HMI with 3-Inch Outdoor Display

## Network Diagram



[www.redlion.net](http://www.redlion.net)

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As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our automation, Ethernet and cellular M2M technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron® and Sixnet®. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. Red Lion is part of Spectris plc, the productivity-enhancing instrumentation and controls company. For more information, please visit [www.redlion.net](http://www.redlion.net).

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