



EDEN PRAIRIE WATER PLANT INCREASES PROCESS EFFICIENCY WITH A COMPLETE LEVEL AND FLOW MEASUREMENT SOLUTION

Customer

Drinking Water Treatment Plant in Eden Prairie, Minnesota

Application

Wet well in a Drinking Water Treatment Plant

Challenge

The Drinking Water Treatment Plant in Eden Prairie serves a community of over 60,000 people, as well as the industries from the area. The plant can pump a maximum of 28 million gallons of water per day and, in 2022, the city treated 2.7 billion gallons for an average of 7.4 million gallons per day.

The plant has several wet wells, which receive and store water used in pumping stations that pump out wastewater. The wastewater is the by-product of water treatment and lime softening process. The water plant had been using a submersible hydrostatic pressure level sensor to measure the level in the wet well but it was problematic as it didn't provide reliable measurement. The submersible level sensor was giving inaccurate level readings due to buildup/caking on the diaphragm. This was restricting pump operations from operating effectively, as pump starts/stops were configured to certain levels causing either pumps to dry-run or overflow.

Results

- Significant reduction of maintenance costs
- Increased insights into water well status
- Accurate and reliable level measurements with non-contacting radar technology
- Higher protection against pump dry-running and overflows compared to legacy technologies, such as hydrostatic level sensors

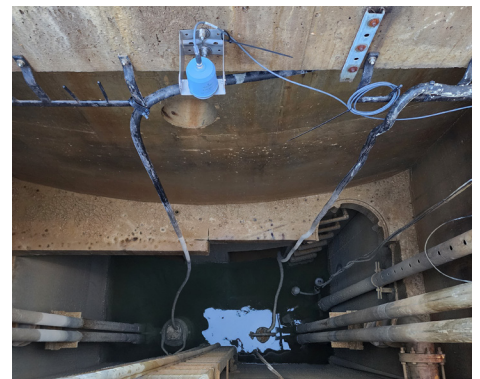


Image #1. The Rosemount™ 1208 Level and Flow Transmitter is installed in a wet well with a mounting bracket.

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Solution

The customer installed a complete level and flow measurement solution, composed of the Rosemount 1208 Non-Contacting Radar Level and Flow Transmitter and the Rosemount 3490 Controller. With this solution, the customer was able to improve the efficiency of drinking water management, achieve their sustainability goals, optimize the usage of water pumps, reduce maintenance task, and thereby lower the total cost of ownership.

The Rosemount 1208 proved to be easy to install, and by simply setting the reference height, it was able to deliver reliable measurements and disregard the echoes from the cement floor cutout at the bottom of the wet well. Unlike other legacy devices, non-contacting radar technology is unaffected by environmental or process conditions, and the sensor features 80 GHz FMCW Fast Sweep Technology. Thus, it delivers accurate and reliable level measurements in applications that fill fast, such as wet wells and other seasonally dependent pumping stations. The Rosemount 3490 Controller features a color LCD display and an easy-to-navigate menu that allowed the customer to visualize and gain insight into the drinking water well, which was located outdoors, from an indoor setting. Moreover, the controller transfers the measured values to the control room so that reports can be downloaded and sent to regulatory entities, if needed.

This complete level and flow measurement solution allows water plants, such as the Eden Prairie Plant, to optimize process efficiency by reducing manual rounds and eliminating maintenance tasks. But it also helps them to ensure sustainable operations by accurately monitoring processes and offering ease of use at every step.

Resources

Emerson Water & Wastewater

[Emerson.com/en-us/industries/automation/water-wastewater](https://www.emerson.com/en-us/industries/automation/water-wastewater)

Rosemount 1208 Non-Contacting Level and Flow Transmitter

[Emerson.com/Rosemount1208](https://www.emerson.com/Rosemount1208)

Rosemount 3490 Controller

[Emerson.com/Rosemount3490](https://www.emerson.com/Rosemount3490)

For more information, visit

[Emerson.com/Rosemount1208](https://www.emerson.com/Rosemount1208)

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Image #2 The Rosemount 3490 Controller is installed indoors, and shows the wet well status in real time