SmartSights

CASE STUDY | WATER TREATMENT

City of White Rock's Investment Brings Dramatic Improvements in Water Quality

WHITE ROCK
City by the Sea

LOCATION
White Rock, British Columbia

INDUSTRY
Water & Wastewater Treatment

WEBSITE
whiterockcity.ca

CHAMPION
Chris Zota

White Rock is a city in southwestern British Columbia, Canada, near Vancouver. It borders Semiahmoo Bay to the south and is surrounded on three sides by South Surrey.

Water Infrastructure Overview

For 40 years, the almost 20,000 residents depended on private utility companies that owned and operated the city's water infrastructure. After realizing more transparency and greater investments were needed, the city acquired the utility in 2015. Since then, White Rock has taken many steps to improve the water quality, including increasing water storage capacity by 33%, investing nearly $12 million to construct a water quality treatment plant, and completing a health-mandated secondary disinfection throughout the entire distribution system.

White Rock's water system is comprised of seven deep water wells, one water treatment plant—utilizing ozone as a pre-oxidant and a filtration system for the primary removal of manganese and arsenic—two booster pump stations, three reservoirs and three PRV stations. Water Services provides water treatment and distribution for all of the City's drinking water. The team also monitors water quality, chemical treatment, flow controls and pressure points throughout the distribution system.

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>
> ***Chris Zota***
> *IT Manager,*
> *City of White Rock*

Challenges with the Old System

For many years, the utility operated on an old SCADA platform utilizing an outdated hardware auto-dialer alarm notification system. This caused many problems, including providing inaccurate telemetry and overflowing reservoirs. The system was limited to eight inputs, which presented challenges in deciding the most crucial aspects to monitor.

Water Services knew they needed an upgrade and in 2010 installed GE iFIX and WIN-911, SmartSights' alarm notification software that allowed them to monitor all pertinent equipment and water quality parameters with room for expansion.

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SCADA and Alarm Notification Upgrade

In 2018, White Rock began implementing a Water Master Plan that coincided with the water quality treatment plant construction. City leaders knew this was the perfect time to once again upgrade the SCADA platform and integrate a more robust remote monitoring and notification software system. After thorough research, the city selected the GE iFIX Dual SCADA and SmartSights WIN-911 Pro as a solution, to push critical plant alarm and event details to remote workers via SMS Text Message.

Implementing the latest alarm notification platform, WIN-911 Pro, has provided a centralized and unified system that integrates well with the SCADA platform. Additionally, it improves safety, reduces workers response times and delivers information quickly.

Two recent incidents have proven the value of alarm notification software. The after-hours, on-call operator received notification from WIN-911 that a 'VFD Fault' alarm was active. Receiving this notice allowed the operator to remotely intervene, assess the situation and correct the issue in a timely fashion.

WIN-911 also alerted the on-call operator to an early morning hydro power outage that effected the WTP and one booster pump station. After being notified that the emergency generators were running at their respective locations, the operator was able to remotely login to SCADA and confirm that all systems were running, and that the emergency back-up power system was operating smoothly.

"WIN-911 assures users of receiving timely alerts that could potentially affect customers service. The quick notification means operators can immediately respond to issues like monitored water quality parameters, equipment, or possible water main breaks occurring during or after hours," commented Dean Brown WDII, WTII operator City of White Rock. "This saves time and can mitigate the potential of service disruptions due to slow response and the escalation of an otherwise unknown situation," Brown added.

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Software During the Pandemic

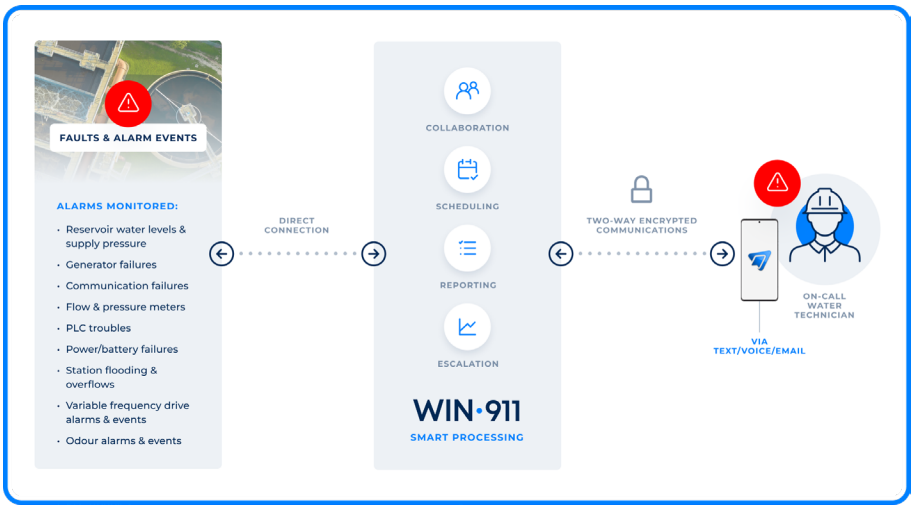
State-of-the-art digital technology helps avoid unanticipated risks. These innovations can drive significant economic and environmental improvements, and ensure continuity in service when staff are working remotely, like during this pandemic.

Under increased and unprecedented pressure to do more with less, and to find new means of paying for infrastructure, water owners and operators recognize that it is essential to understand and optimize the capacity of their assets. One way they can do this is through the use of remote monitoring and notification software, which allows fewer people to monitor many more assets using devices that people already have, such as smartphones and tablets. Uninterrupted remote availability is essential to ensure that systems can be continuously monitored, even without staff onsite or with very few people working at the facility.

> *"COVID-19 forced all of our workers offsite from March through June. Because of WIN-911, we received important notifications via our tablets or smart phones and were able to fix any problems remotely, ensuring emergencies didn't occur and avoiding any unplanned downtime."*

Chris Zota
IT Manager,
City of White Rock

Alarms Received Within Two-Minutes of Reaching SCADA



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