



**LOCATION**

Southern California

**APPLICATION**

Collection System and Lift Stations

# Lift Station Monitoring Provides Visibility And Control For Proactive Operations

## Overview

A community services district in Southern California provides water, wastewater, and garbage services to over 2,200 service connections. The district collects wastewater from seven lift stations and pumps it to a nearby city for treatment.

## Challenge

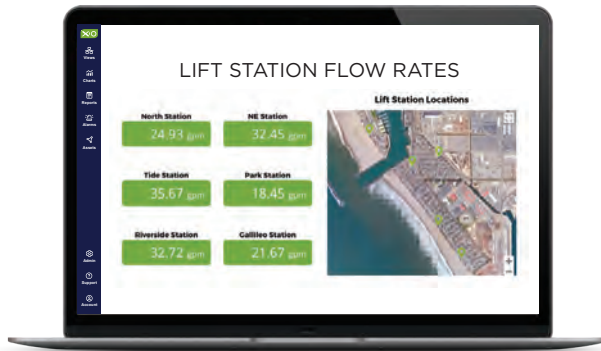
The district experienced two overflow close calls due to their aging SCADA alarm technology. The lift station's duplex pumps operated in a lead/lag configuration with traditional float switches. The alarm system was over 20 years old and involved a processor that alerted a third-party service which, in turn, called the operator on duty. Between the float switches and the alarm system, operators had no way to view system conditions remotely. Each time an alarm went off, operations staff had to travel to the site (regardless of time or day of the week) to inspect the lift station and clear the alarm.

Over the years, false alarm frequency increased significantly, resulting in a steep rise in overtime costs and an impact on the small operations staff.

## Solution

In an effort to gain tighter control over their system, the district pursued a cloud-based software solution to provide remote visibility into their wet wells and redundant control of their pumps.

Given the age of their system, the district chose to use XiO's on-site controller as the primary source of control, keeping the existing float switches as a redundant back up. XiO's solution included hardware and cloud-based software. The hardware components, FIU controller, current transducers, wastewater level sensor, and cellular modem, were preconfigured and shipped ready for installation by a licensed electrician. On-site installation took less than one day to mount the equipment, connect the wires, calibrate the sensor, and establish cellular communication.



Powerful cloud software allows users to view data from sewer sensors and other datasets via application programming interfaces (APIs).

## Results

Once the system was up-and-running, district staff were able to view numerous system values via the private web-based user portal. By monitoring multiple values, XiO's powerful software could detect changes in the system and send alarms (via text and email) to operators for conditions related to pumps, floats, electricity, and communications. **XiO's solution lowered the district's overtime call outs by 75%.** Based on results from the initial installation, the district installed monitoring systems at each of their remaining six lift stations.

XiO's preconfigured system and intuitive user interface eliminated the need for complicated SCADA programming and reduced the IT system burden for the small district. Leveraging the strengths of the cloud, XiO's system delivers greater security through data encryption and user authentication and authorization. The cloud-based system provides continuous software updates and backups. Being cloud-based also provides an added layer of redundancy and resiliency in the face of cyber threats and natural disasters.

With system data in the cloud, operators can view trend reports to spot anomalies and take actions proactively to prevent problems before they occur.

- Remote visibility into wet well levels and pumps
- Accurate alarms
- Pump status
- Float status
- Communication status
- Total volume pumped
- Inflow and infiltration monitoring

>> The combination of monitoring and redundant control reduced overtime call outs by 75%.

