

CASE STUDY / MAPLE GROVE WTP RESIDUALS HANDLING PROJECT

## RETROFIT REVAMPS WATER TREATMENT PLANT

When the Maple Grove Water Treatment Facility in Lakewood, Colorado, came upon its 10th year of service, The Consolidated Mutual Water Co. improved the plant by upgrading its residuals handling process.



# SEAMLESS DELIVERY METHOD HELPS FACILITY IMPROVE OPERATIONS

Using an engineer-procure-construct (EPC) delivery method, the utility was able to simplify water operations at the WTP and meet an expedited schedule.

## PROJECT STATS

### CLIENT

The Consolidated Mutual Water Co.

### LOCATION

Lakewood, Colorado

### COMPLETION DATE

February 2020

# 15.6

**MGD WATER  
TREATMENT PLANT**

## CHALLENGE

After 10 years of providing water services for the community, the Maple Grove Water Treatment Facility in Lakewood, Colorado, required an upgrade. The Consolidated Mutual Water Co. wanted to improve the facility's dewatering process for managing its water treatment residuals.

The utility's goals for the project included replacing existing drying beds, which are operations intensive and produce unpleasant odors, with a mechanical dewatering system.

## SOLUTION

For this project, The Consolidated Mutual Water Co. turned to us for residuals management study, design and engineer-procure-construct (EPC) services.

The treatment process of the existing plant has flocculation and lamella plate settlers followed by submerged membrane filtration. The study evaluated the addition of various mechanical dewatering methods to replace the existing drying beds. The residuals study incorporated a detailed residuals production evaluation, on-site pilot testing for four different systems and conceptual design development for a new facility.





Upon completion of the analysis, we developed a detailed design for the new 4,400-square-foot building to house the new dewatering equipment. The new equipment includes two 15,000-gallon solids storage tanks, two dewatering presses, three cavity pumps, two polymer preparation systems, and feed valves, piping and controls.

Because the new facility would be located in the footprint of the existing drying beds, an interim residuals management plan was needed to keep the plant operating through the 2019 peak demand season. The EPC delivery method allowed for the procurement of the dewatering equipment during the design phase. This meant the equipment could be installed in a temporary enclosure and operated while the new facility was under construction.

## RESULTS

Construction of the retrofitted facility was completed in early 2020. With the new equipment and dewatering method in place, the facility is meeting the goals of the utility with reduced heavy equipment noise levels, reduced odors and an increase in water saved during the treatment process.



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