

CASE STUDY

Regional Water Reclamation Improvement Project

Project Type: Municipality, Regulatory Compliance

Location: Fountain, Colorado

HIGHLIGHTS

The project ensured the facility met the deadline for Colorado Regulation 85, mitigating regulatory risk.

Successfully linked new chemical addition and high-rate clarification equipment with the existing plant SCADA system.

IWS managed a single, turn-key delivery, covering civil work, building erection, and all process and utility system installations.

REGULATORY COMPLIANCE UNDER PRESSURE FOR PHOSPHORUS UPGRADE

The Harold D. Thompson Regional Water Reclamation Facility (HDTRWRF), managed by the Lower Fountain Metropolitan Sewage Disposal District (LFMSDD) in Fountain, CO, faced a critical mandate: comply with the stringent new effluent limits for phosphorus and inorganic nitrogen set by Colorado Regulation 85. To meet this deadline, the District embarked on an improvement project to construct a chemical addition and high-rate clarification system for total phosphorus control.

CHALLENGES FACED

- **Operating Plant Integration:** The new treatment facilities needed to be constructed and connected to the existing plant infrastructure without interrupting ongoing operations. This required careful planning for the removal of existing buried process piping and the connection of new lines, ensuring compliance while maintaining essential service.
- **Extensive Site Utility Relocation:** The project required significant preliminary work, including the relocation of critical existing site utilities such as natural gas and non-potable water lines, adding complexity and coordination risk to the project's critical path before major civil work could even begin.
- **Complex Civil and Structural Foundation Work:** Constructing the new high-rate clarification process tankage and foundations required substantial below-grade civil work, including deep excavation, earthwork, and the drilling and installation of reinforced concrete drilled caissons to ensure the structural integrity of the new process assets.



SOLUTIONS IMPLEMENTED

- **Proactive Stakeholder Communication:** IWS established regular contact with District Manager Jim Heckman, ensuring project alignment and rapid issue resolution.
- **Comprehensive Construction Scope:** IWS managed the entire construction life cycle, from site preparation (utility relocation, earthwork) to final commissioning. This included erecting a pre-engineered metal building, installing all mechanical, HVAC, electrical, and process equipment, minimizing reliance on multiple sub-contractors for core components.
- **Flexible and Responsive Management:** IWS quickly addressed unforeseen challenges and project changes, demonstrating flexibility and responsiveness that prevented schedule derailment.



OUTCOME AND IMPACT

- **Achieved Critical Regulatory Compliance:** The new treatment system was completed on time, successfully meeting the mandatory effluent limits of Colorado Regulation 85.
- **State-of-the-Art System Integration:** The complex chemical addition and high-rate clarification system was successfully integrated into the existing SCADA system, providing reliable, automated phosphorus control.
- **Secured High Client Satisfaction:** The District was "completely satisfied" with the project outcome, resulting in an unequivocal recommendation for IWS on future work.



The HDTRWRF Phosphorus Control Facilities project stands as a testament to the successful execution of complex infrastructure upgrades under tight regulatory deadlines. By prioritizing clear communication, maintaining flexibility, and successfully navigating significant construction and integration challenges, Integrated Water Services delivered a critical, high-performing asset that secured the District's compliance and earned a sincere and lasting partnership endorsement.

The District ended up completely satisfied with IWS at project completion. Regular contact and communications with the project manager, ensured that the project approach was consistent and completed to plan. IWS was also flexible and responsive to project change and all concerns raised by the District were dealt with promptly. I would have no hesitation in recommending IWS on future projects with the District or any organization."

Jim Heckman, District Manager of the Lower Fountain Metropolitan Sewage Disposal District



DOWNLOAD