

WATER TREATMENT PLANT IMPROVEMENTS

MARSHALL MUNICIPAL UTILITIES | MARSHALL, MISSOURI



PROJECT DESCRIPTION

McClure has completed several projects for Marshall Municipal Utilities (MMU) at their 7 MGD water treatment facility. In 2008, McClure completed the design of the new sodium hypochlorite generation, storage, and feed system to replace the outdated chlorine gas system at the water plant. The storage of multiple-ton chlorine cylinders at the plant was a concern due to security and concerns about the cylinders being located near a high-speed rail line. It was determined that the most cost-effective option was to convert to an on-site sodium hypochlorite generation system. The new generation system and storage tanks were housed in a new building constructed of concrete masonry and brick. McClure provided all plans, specifications, bidding services, and construction services including full-time construction observation.

In 2012, construction was completed on a project addressing the enhancement of the water plant solids handling lagoon treatment system. The project included the replacement of a failing concrete sludge settling basin and sludge pumping system. Additional settling was enhanced in two large earthen sludge treatment lagoons by the installation of hanging curtain baffles. A tablet dechlorination system was added to the system discharge line to allow the discharge to meet Total Residual Chlorine permit limits. McClure provided wastewater discharge permit assistance to MMU.

In 2013, McClure provided plans and specifications for the replacement of coatings throughout the water plant. Testing was completed on all coatings prior to bidding the project to determine potential hazardous materials the painting contractor would handle. The project was completed in 2014. Coatings were replaced on steel plant components including treatment basins, chemical storage towers, stairs, pumps, and piping. Interior and some exterior building coatings were replaced.

Construction was completed in 2018 on an expansion to the water plant. The project included a new 500,000-gallon concrete Clearwell, three new 2800 GPM vertical turbine high service pumps, one new 5,350 GPM vertical turbine backwash pump, a new laboratory and administration building, the addition of ammonia feed equipment, and an interface with the utilities' SCADA system. Baffles were added to the City's large in-ground storage tanks and a mixing system added to the 500,000-gallon elevated storage tower.

COMPLETION DATE

2018

COST OF SERVICES

\$750,000

REFERENCE

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