

REGIONAL WASTEWATER IMPROVEMENTS, PHASE III

STATE PROGRAM: Texas Water Development Board

ASSISTANCE RECIPIENT: Sienna Regional Municipal Utility District

ASSISTANCE AMOUNT: \$25 million



PROJECT DESCRIPTION

Sienna Regional Municipal Utility District received a \$25 million CWSRF loan to address challenges associated with significant population growth combined with aging wastewater infrastructure. The District remedied this through a regionalization agreement with Missouri City. As part of the project, multiple package plants were decommissioned and replaced with a single upgraded treatment plant. As part of the improvements to the regional wastewater treatment facility, the existing oxidation ditches were upgraded to a complete mixed sludge process with nitrification for improved nutrient removal. Wastewater at the new plant is treated to a Type I reuse standard, which makes it suitable for agricultural applications where human contact with the reclaimed water is likely.

The consolidation of the treatment plants resulted in lower overall operation and maintenance expenses, which decreases the burden on ratepayers. It also means fewer outfalls to local surface waters and a lower environmental impact to the local watershed. The improvements to the treatment plant reduced the nutrient content and improved the overall quality of the effluent, while increasing the plant's treatment capacity up to 4.5 million gallons per day. The project was completed in November 2024.

To read more about this case study, please visit [PISCES 2025 Recognition Program Compendium](#).