

PERRYVILLE SOUTHEAST WASTEWATER TREATMENT PLANT IMPROVEMENTS

STATE PROGRAM: Missouri Department of Natural Resources

ASSISTANCE RECIPIENT: City of Perryville, Missouri

ASSISTANCE AMOUNT: \$27M



PROJECT DESCRIPTION

The City of Perryville's aging infrastructure limited its ability to continue meeting permit effluent limits. To address these concerns, the City garnered support from the community to invest in new wastewater treatment improvements to increase the design flow from 1.8 to 2.5 million gallons per day (MGD) and enhance the treatment capabilities, including those for nutrients and metals. The treatment plant's design increased flexibility in handling flow variations with changing weather patterns. The new components included a new three-channel oxidation ditch, a new influent pump station, headworks, clarifiers, a return activated sludge pump station, two tertiary disc filters, and an ultraviolet disinfection system. A \$27 million CWSRF loan and the chosen Progressive Design-Build construction delivery approach helped expedite the project timeline.

Water quality was a key factor in the new treatment plant design and studies were used to help refine the effluent discharge limits for metals. The receiving stream, Cinque Hommes Creek, is a tributary to the Mississippi River, so nutrient levels and downstream impact on Gulf Hypoxia were a factor. Another water quality consideration is the presence of grotto sculpins in the vicinity, which are endangered cave-dwelling fish that only occur in Perry County.

To read more about this case study, please visit <https://www.epa.gov/system/files/documents/2024-04/cwsrf-pisces-2023-recognition-program.pdf>.