

South Branch Potomac River Water Treatment Facility

Client: Town of Moorefield

Year: 2022 Cost: \$27,000,000



Gwin, Dobson & Foreman designed one of the state's most advanced water treatment plants for the Town of Moorefield, WV. Moorefield furnishes water to over 6,200 customers, including the Hardy County Public Service District and Hardy County Development Authority. The town also supplies water to a Pilgrim's Pride poultry processing facility that employs over 1,000 workers.

The existing treatment plant, originally designed by GD&F in 1959, will be upgraded and expanded to 8.0 MGD with membrane filtration and ultraviolet disinfection for intakes on the South Fork and South Branch of the Potomac River.



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The \$27 million project included the following project elements:

- The plant uses advanced treatment technologies for particle removal to the sub-micron level; control of disinfection byproducts; taste, odor and color control; and pathogen removal/inactivation.
- The river sources have seasonal high levels of total organic carbon and turbidity. Pretreatment in the form of coagulation/sedimentation reduces TOC and turbidity levels to acceptable levels prior to membrane filtration.
- Unit operations include river intake/pump facilities, coagulation, flocculation, sedimentation; cartridge membrane filtration, ultraviolet disinfection, waste holding lagoons, chlorination, chemical feed systems and clearwell. The filtration systems were pilot tested to verify performance and process design assumptions.
- A custom-designed SCADA system to operate and monitor the treatment process.
- The UV disinfection system provides for enhanced inactivation of pathogens such as giardia and cryptosporidium.

GD&F performed pilot testing, planning, engineering, design, bidding, construction administration, construction inspection and system start-up/commissioning services.

The project will provide a safe and dependable drinking water supply for Moorefield and the greater Hardy County region for many years to come.