

## WATER TREATMENT AND DISTRIBUTION IMPROVEMENTS

**Location:** City of Lawrenceburg  
Anderson County,  
Kentucky

**Client:** City of Lawrenceburg  
Mayor Gary Chilton  
Phone: (502) 839-5372

**Completion  
Date:** Spring 2004



CDP Engineers, Inc. designed significant water system improvements for the City of Lawrenceburg, Kentucky. Capital improvements include an expansion/upgrade of the Kentucky River raw water pump station, 3,400 feet of 24-inch raw water line, a new 4.0 MGD water treatment plant (WTP), and 10,500 feet of 16-inch finished water transmission main. During the planning process, CDP Engineers assisted with an evaluation of various alternatives to provide a long-term and cost-effective water source for customers within the City of Lawrenceburg and Anderson County. CDP evaluated the reliability and treatability of source water from Pool No. 4 of the Kentucky River. Following a review of available documentation and discussions with the Kentucky Division of Water, it was determined that the Kentucky River would provide a dependable source of water for the future.

The technology incorporated into the new 4.0 MGD water treatment plant used state-of-the-art treatment and disinfection components and processes. CDP suggested the patented Actiflo<sup>®</sup> process as the sedimentation process for treating the turbid water of the Kentucky River while achieving compliance with the new requirements of the Interim Enhanced Surface Water Treatment Rule. To ensure compliance with the Disinfectant/Disinfection By-Products Rule, CDP recommended mixed oxidant disinfection achieved through the MIOX<sup>®</sup> process. The entire treatment facility is contained in a single building that enhances operations while addressing vulnerability/security concerns.

In addition to evaluating potential raw water sources, serious consideration was given to purchasing finished water from other water utilities in the region. This effort was intended to promote regionalization, enhance system reliability, and reduce water treatment capacity. Representatives of CDP participated in discussions with the Kentucky American Water Company, the City of Versailles and the Frankfort Water Plant Board regarding the purchase of water to meet long-term demands within Anderson County. Water treatment plant processes were selected to assure potable water compatibility in the event that a regional distribution system becomes reality.