Clearwater Lake Dam

Piedmont, Missouri

Keller used four of its state-of-the-art hydromills to install the Clearwater Dam cutoff wall.

The project

The Clearwater Lake earth embankment dam was designed by the U.S. Army Corps of Engineers to provide water supply, recreation, and flood control to the surrounding local area. Construction on the dam was originally started in 1940 but was not completed until 1948 due to the Second World War.

The challenge

The dam is founded on karstic limestone rock that has developed significant groundwater seepage due to the rock's soluble chemical nature. The Corps invested considerable effort and expense to grout these seepage passages over the last several years and finally concluded that a deep cutoff wall would be necessary to provide a more permanent solution.

The solution

The U.S. Army Corps designed a cutoff wall to be competitively bid using the "Best Value" procurement process. Keller's technical proposal was successful and was awarded the contract as the prime contractor. As the prime contractor, Keller provided all of the necessary site construction support and working platform required to perform the work safely and efficiently.

Keller utilized four of its latest state-of-the-art hydromills to install the Clearwater Dam cutoff wall. Three hydromills worked full-time and the fourth was ready as a backup when one was down for servicing. The cutoff wall is 4,080 linear feet long to a depth of approximately 200 feet. The average penetration of the cutoff wall into rock is a minimum of 40 feet. Due to the large quantity of rock to be excavated up to strengths of 27,000 psi, Keller modified its fleet of hydromills in order to effectively penetrate this material, enabling it to complete the cutoff wall ahead of schedule and on budget.

Project facts

Owner(s)
U.S. Army Corps of Engineers, Little Rock District

Keller business unit(s)
Keller

Main contractor(s)
Keller

Engineer(s)
U.S. Army Corps of Engineers, Little Rock District

Solutions
Groundwater control and dewatering

Markets
Infrastructure
Dams and levees

Techniques
Diaphragm walls
Slurry cutoff walls

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