HERBERT HOOVER DIKE | REHABILIATION

PROJECT UPDATE

SPRING 2013

The U.S. Army Corps of Engineers continues work on Herbert Hoover Dike, the 143-mile structure surrounding Lake Okeechobee. Since 2007, the Corps has made a significant investment, over $300 million, in projects designed to reduce the risk of catastrophic failure of the aging structure.

Actions taken include installing a cutoff wall, removing and replacing water control structures (culverts), and conducting a variety of studies and technical reviews to help ensure the safety of south Florida residents. Corps teams work daily on the dike, providing contractor oversight, quality assurance, inspections, and dike operations and maintenance. Much progress is also being made behind the scenes at the District, where a team of engineers, hydrologists, geologists, scientists, contract and real estate specialists, budget analysts, and many others, work to ensure the very best rehabilitation strategies are applied to the dike today and in the future.

THE DIKE

The Corps built the dike with gravel, rock, limestone, sand and shell. These natural materials allow water to flow through at times. This is a normal process called seepage. When the water level in the lake is too high, however, the water pressure causes extra seepage that can lead to internal erosion, or piping. When the water level is too low, the soil dries out and that changes the makeup within the structure and foundation. Neither extreme is good, so engineers closely monitor the lake levels and the dike.

OVERALL SYSTEMS APPROACH
DAM SAFETY MODIFICATION STUDY

The Corps is approaching this project utilizing a dam safety process that prioritizes what can be done to lower the risk across the entire HHD system. Work is underway on a Dam Safety Modification Study (DSMS) for HHD, which will address the entire dike as a system. It will include an approach to implement features based on priority and reducing risk as quickly as possible. All features currently planned and/or under construction support the goal of this study.

CUTOFF WALL CONSTRUCTION

The Corps is completing cutoff wall construction between Port Mayaca and Belle Glade in 2013. This is the culmination of a six-year effort. Construction of the cutoff wall helps reduce the risk by eliminating existing piping and preventing additional internal erosion through the dike and foundation.

HHD CULVERT REMOVALS OR REPLACEMENTS

Built in the 1930s, most of these old water control structures along the HHD are still in use today. From a structural integrity perspective, culverts pose a risk of failure due to the loss of embankment material into and along the culverts.

As part of the federal culvert replacement program, the Corps will replace or remove 32 culverts within the HHD system. Culvert 14, north of Canal Point, was removed in 2011. Replacement work began in 2012 to at Culverts 11 and 16 south of Port Mayaca, at Culverts 1 and 1A east of Moore Haven, and at Culverts 3 and 4A near South Bay. Additional contracts for the replacement of other structures are expected to be awarded by the fall. The Corps anticipates removing or replacing all the culverts with construction continuing through 2018.

LANDSIDE FEATURES AND SEEPAGE MANAGEMENT PILOT TEST

The Corps is planning to implement a pilot test to identify potential alternate plans that stabilize the dike for lower total project cost. This pilot test is planned to be along the southern embankment and is expected to demonstrate whether this alternative approach results in a more economical rehabilitation plan with less impact on adjacent lands while still addressing the embankment and foundation seepage and piping concerns. The results of this test will also support the overall risk reduction approach for the entire HHD system.

FOR MORE INFORMATION

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