City of Colorado Springs and CH2M HILL Fountain Creek Recovery Project

The Fountain Creek Recovery Project is an effort by the City of Colorado Springs and Colorado Springs Utilities to protect the environment. Fountain Creek is a tributary of the Arkansas River, draining nearly a 1,000 square mile area that includes portions of El Paso, Teller and Pueblo counties. The population of the watershed has grown dramatically and now exceeds a half million people. The Fountain Creek Recovery Project was developed to protect downstream water quality from impacts associated with upstream wastewater spills caused by vandalism, blockages, or other occurrences.

The City of Colorado Springs is implementing a $250 million, 25-year program to protect the Fountain Creek watershed. One of its most innovative projects to date is with Colorado Springs Utilities and CH2M HILL to design and build a system that will divert stream flows from Fountain Creek when they contain spilled wastewater. Colorado Springs Utilities will operate the system. The project can capture flows in Fountain Creek approximately 300 days out of the year making it possible to prevent spills from reaching downstream residents and communities. The Fountain Creek Recovery Project began in March 2006 and was completed in July 2007.

Innovation

The Fountain Creek Recovery Project is a great example of an environmentally sound and proactive approach to effectively manage water resources. The project is unlike any other diversion project in the country. Its purpose is to mitigate sanitary sewer overflows that spill into Fountain Creek by capturing the spill and sending it back to its wastewater facility for treatment. Spills will be recovered from the creek at the downstream most location of the wastewater system to a storage pond and then will be pumped to the existing wastewater treatment plant for treatment.

The facility was designed to capture and store the non-storm flows in Fountain Creek for four hours. In addition to capturing and storing Fountain Creek flows containing spills, an exchange pond was built to store uncontaminated water. The water in the exchange pond will be released downstream of where flows are diverted during spill events to maintain flows in the creek.
Creativity of approach

The project is capable of capturing flows in Fountain Creek at the Stubbs and Miller diversion dam for approximately 300 days out of the year (normal, non-storm, flows in Fountain Creek) during a sanitary sewer spill. A new 18.5 MG hydraulic asphalt lined Spill Pond was designed and constructed to temporarily store the diverted Fountain Creek flow that contains the sanitary sewer spill. From the Spill Pond, water will be pumped to an existing wastewater treatment facility for treatment. A second pond, the +20 MG Exchange Pond, was constructed to return previously stored uncontaminated water to the creek in place of diverted flows in order to maintain flows in the creek. With Colorado Springs Utilities staff already trained, the CH2M HILL team successfully handed the facility over in early July.

Cost savings

The project was designed using a site that incorporated a gravity diversion, saving the cost of having to build a pump station to capture flows from the creek.

Benefit to both public and private partners

"Colorado Springs Utilities chose a public/private partnership with CH2M HILL for implementation of the Fountain Creek Recovery Project in order to leverage the environmental commitment and technical expertise of both organizations for the best possible outcome. Colorado Springs Utilities used this project to meet an exceptional standard of environmental stewardship to the community of Colorado Springs and its regional neighbors by creating a new line of defense against the impacts of potential wastewater spills. CH2M HILL, with outstanding design and construction capabilities, and a track record of excellent performance, was able to meet very ambitious project implementation requirements," says Bruce McCormick, Chief Water Services Officer, Colorado Springs Utilities.

Measurable results

With the Fountain Creek Recovery Project complete, the City was able to follow through on the commitment it made to residents and communities down stream that it would mitigate wastewater spills and improve the environment.