

Owner/Client:

Williamson County
City of Round Rock
2008 Enterprise Drive
Round Rock, Texas 78664

Contact:

Michael Thane, P.E.
512.218.3236

Role:

Prime Consultant

Construction Cost:

\$10,128,130

Completion Date:

December 2007

Nature of the Work:

- + Wastewater Modeling
- + Large Diameter Pipeline Design
- + Wastewater Lift Station Design
- + Tunneling/Boring

Services Provided

The City of Round Rock needed a large capacity wastewater interceptor to serve future development in the McNutt Creek drainage basin, the last undeveloped region inside the city. This drainage basin has an area of 9,000 acres and was anticipated to produce an average daily wastewater flow of 9.5 million gallons. Phase I of this project consisted of construction of the most downstream segment of this interceptor along with facilities for transfer of the flow into the Brushy Creek Regional Wastewater Treatment Plant.

K Friese & Associates, Inc. (KFA) was selected to provide design, permitting, bid phase, and construction administration services for the McNutt Creek Wastewater Interceptor – Phase 1. KFA also performed the preliminary engineering phase and determined that open-cut construction of the Interceptor with a lift station at the Brushy Creek Regional Wastewater Treatment Plant (BCRWWTP) would be the most cost-effective method of building this project. However, due to a need to accelerate the construction schedule, combined with the tremendous depths involved along portions of the alignment, it was decided to install the interceptor using tunnel installation following the preliminary engineering phase.

The interceptor is approximately 8,400 linear feet of 48-inch diameter pipe. Permits were required from several agencies including TxDOT, Texas Historical Commission and U.S. Army Corps of Engineers. The interceptor crossed Chandler Creek and McNutt Creek. The project also included crossings at U.S. 79 and Union Pacific Railroad. Installation by tunneling required two main shafts, one located at either end of the alignment and an intermediate shaft located approximately halfway along the alignment for access to the tunnel boring machine, removal of spoils and groundwater and insertion of tunnel related necessities like ventilation devices and high voltage power lines.

At the downstream end of the interceptor, located on the BCRWWTP property, a 3,500 gpm lift station was constructed to pump the flow into the treatment plant. This lift station is 65' deep due to the tunnel crossing two creeks upstream from the end of the interceptor.

