Trunk Interceptor Sewer Project

PROJECT PROFILE

LOCATION:	Marysville, Ohio	ARCHITECT OR ENGINEER:	DLZ, Inc.
OWNER:	City of Marysville		Matt Anderson, (614) 778-0850
OWNER CONTACT:	Rick Varner, (937) 642-1036 125 E. Sixth Street Marysville, OH 43040	CONSTRUCTION MANAGER:	Same as Owner

The Trunk Interceptor Sewer Project was established to create a collection and transport flow from an existing Wastewater Treatment Facility to a new Marysville Water Reclamation Facility, and to provide gravity connections along the alignment for existing pump stations within the project area. In total, the project included construction of approximately six (6) miles of new trunk sewer, of which four (4) miles included construction of 60" diameter gravity and sewer, and two (2) miles of twin, parallel 24" and 30" force mains. The project also included design and construction of six (6) pump station arrondissements. Innovative construction techniques implemented on this project included: microtunneling, cofferdam construction of the Mill Creek river crossing, HDD installation of the twin force main pipes to cross Industrial Parkway, and jack and bore installation of twin force mains to cross the SR 33.

The highlight of this project for Super Excavators was the installation of 13,995 linear feet of 60" fiberglass (Hobas) microtunnel, and construction of 6,424 linear feet of 60" fiberglass (Hobas) pipe by open-cut. The average depth of the new sewer pipe was 45VF. The soils varied from soft silty sands to stiff clays to wet sands to wet sands/ cobbles/boulders. - Construction was mainly within unconsolidated materials consisting of glacial and post-glacial soils. Part of the project was constructed within a sand and gravel aquifer that is partially connected hydraulically to the underlying bedrock aquifer. Benching methods of excavation were employed to obtain required depth and stacked shields were used to maintain trench. 3,001 LF of the open cut installation required dewatering. The transitions in soil types during the microtunneling were challenging causing us to adjust slurry and separation processes throughout the project. Also, the MTBM design was adjusted to handle the difficult rocky ground conditions encountered. The motor, gear boxes, and tooling were specifically

PROJECT PROFILE

designed to handle the rocky and high groundwater conditions anticipated. The longest drive on the project was 1,100 lineal feet and we used intermediate jacking stations (IJS) on the drives longer than 750 lineal feet. The pipeline was installed at depths up to 45' below the natural water table. The project included two railroad crossings in which T-Lock lined RCP was installed.

Another highlight for Super Excavators was construction of 23 construction work shafts (launching / receiving shafts for MTBM work) ranging in depth between 25 to 53 vertical feet deep. Dewatering was utilized at the majority of the shafts, and at the shafts were dewatering was not allowed/utilitzed, SEI was required to install impervious impervoius plugs/barriers, and verify water tightness by installing control observations wells. Concrete shaft plugs ranged from 12-20' deep. The following shafts were constructed at depths greater than 40 vertical feet:

Shaft No. 20 - Launch Shaft - 53 vertical feet, liner plates

Shaft No. 21 - Receiving Shaft - 51 vertical feet, liner plates

Shaft No. 11 - Receiving Shaft - 46 vertical feet, wood / lagging

Shaft No. 19 - Receiving Shaft - 44 vertical feet, liner plates

Shaft No. 16 - Launch Shaft - 43 vertical feet, liner plates

Shaft No. 18 - Launch Shaft - 42 vertical feet, liner plates

To minimize impact to the shaft sites, we consolidated our separation equipment on trailers and stacked support equipment. The project was completed 6 months early and with no claims.

TOTAL VALUE OF CONTRACT:
$35,669,678

COMPLETION TIMELINE:
JUNE 14, 2007 - SEPTEMBER 1, 2009

COMPLETED AS:
PRIME CONTRACTOR

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