



San Diego, California
April 15-20, 2007

Paper B-3-02

CONSTRUCTION OF THE REDWOOD TRUNK SEWER FOR THE CITY OF OXNARD, CALIFORNIA USING MICROTUNNELING

Richard Guglomo¹

¹ Kennedy/Jenks Consultants, Federal Way, WA

ABSTRACT: The City of Oxnard, California is experiencing explosive growth. In 2002, the City accepted applications from developers to construct 20,000 new homes. The existing trunk sewer system is not capable of accepting new connections. The City decided to replace the trunk sewer along the existing trunk sewer alignment to accommodate growth. This replacement sewer, Redwood Trunk Sewer, is 45,000 feet long consisting of the following:

1. 25,000 feet long continuous microtunnel segment 60-inch and 42-inch nominal ID was constructed using ASTM D3262, FRP Pipe.
2. 3,200 feet long microtunnel segment of 36-inch was constructed using ASTM D6783, Polymer Concrete Pipe
3. 16,800 feet long open cut segment of 36-inch and 42-inch ID was constructed using ASTM D3262, FRP Pipe.

This project was constructed in streets that have traffic counts in excess of 30,000 CPD. The microtunnel portions of the project were constructed in deep groundwater. An option to construct using Open Cut where the ground water was below the bottom of the pipe was included in the bid.

The lessons learned from this project include the need to size access shafts large enough to accommodate manufacturers microtunneling equipment, the need to limit pipe lengths to prevent telescoping due to high axial loads imposed from jacking equipment, operator qualifications and experience, including a bid item for an emergency rescue shaft, providing adequate construction time on large projects to accommodate construction difficulties, allowing the contractor to construct 24/7 to meet construction scheduling, requiring intermediate jacking stations to limit axial jacking forces to 75% of allowable axial load, and other similar construction issues.