Section 10 Watermain Replacement & Drainage Improvement

Troy, Michigan

The replacement of aging cast iron systems throughout an established residential neighborhood was required. The existing system was abandoned and service reconnections were made to the new watermain system.

The project was constructed at the upper terminus of Frederick Drain and included the replacement of the existing ditch and culvert systems on both sides of the residential roadways, as well as segments of an enclosed drainage system.

Serving as the City of Troy's Engineering consultant, **Spalding DeDecker Associates, Inc. (SDA)** designed replacement 8" and 12" ductile iron watermains.

SDA prepared a hydrology/hydraulic drainage study to size the overland flow route for the 10-year storm event for culvert, edge drain improvements, and storm sewer replacements. The project also included a 100-year storm piping system with a low/high flow weir to maintain low flows into a sensitive wetland area upstream of the Frederick Drain. Drainage improvements included an extensive 8-inch underdrain system with drainage structures throughout the project.

SDA provided topographic survey, drainage evaluations, preparation of preliminary and final construction drawings, engineer's estimates of construction cost, permit acquisition, and right-of-way evaluation and recommendations for acquisition.

The work included 6,000' of 8" and 12" water main replacement, 10,000' of ditch and culvert improvements, and 7,500' of under-drain improvements with drainage structure.

SPECIAL FEATURES

The project required close coordination with area residents due to extensive landscaping and large trees throughout the project area. Directional drilling and jack/bore operations were used to minimize construction impacts to sensitive areas.

Additionally, design plans were prepared and different tasks of the project were coordinated for construction.

OWNER / CLIENT

City of Troy

PROJECT START - END

January 2003 - June 2004

SDA PROJECT NO.

TR02-003