

PROJECT Profile

INFRASTRUCTURE ENGINEERING

MUNICIPAL ENGINEERING CONSULTING

Section 10 Water Main Replacement and Drainage Improvement

Troy, MI

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

The project was constructed at the upper terminus of the 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-inch and 12-inch ductile iron water mains.

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, the 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 includes 6,000 feet of 8-inch and 12-inch water main replacement; 10,000 feet of ditch and culvert improvements; and 7,500 feet of under-drain improvements with drainage structure.

OWNER / CLIENT

City of Troy

PROJECT START - END

01/2003 - 6/2004

PROJECT COST

\$1,300,000

SDA KEY PERSONNEL

David W. Bluhm, PE

David Lakin, PE

Taylor Reynolds, PE

SDA PROJECT NO.

TR02003

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SPECIAL FEATURES

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

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