



**Clean Michigan Initiative
Nonpoint Source Grant**
1999-0024



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Fleming's Roseland Sedimentation Basin

June 1st, 2000 - September 30th, 2003

This project is located in a 741 acre drainage district known as the North Bell Creek Drain, which outlets to the Upper Rouge River via Tarabusi Creek. The sub-drainage district is comprised of approximately 29% fully developed subdivision within the City of Farmington; approximately 28% commercial/light industrial area located along Nine Mile Road and M-102 within the City of Farmington; and approximately 43% rural residential area within the City of Farmington Hills. Currently, the storm water generated within this area contains sediments, nutrients, and other pollutants. Sediment and debris from local building construction also impacts the system on an intermittent basis. The goal of this project was to construct a multi-cell extended detention basin to aid in the removal of sediments and nutrients and to reduce peak flows of storm water.



Grant Amount: \$ 454,127
Match Funds: \$ 151,376

Total Amount: \$ 605,503

Best Management Practices:

- 1 Detention Basin
- 1 Sediment Basin
- 1 Grassed Waterway
- 1,150 linear feet Fencing
- 3,964 square yards Slope Stabilization
- 1 Wetland created
- 175 linear feet of Access Road



Annual Load Reductions:

- | | |
|--------------------|---------------|
| • Suspended Solids | 2 tons |
| • Nitrates | 28 lbs |
| • Phosphorous | 3 lbs |



Partners involved:

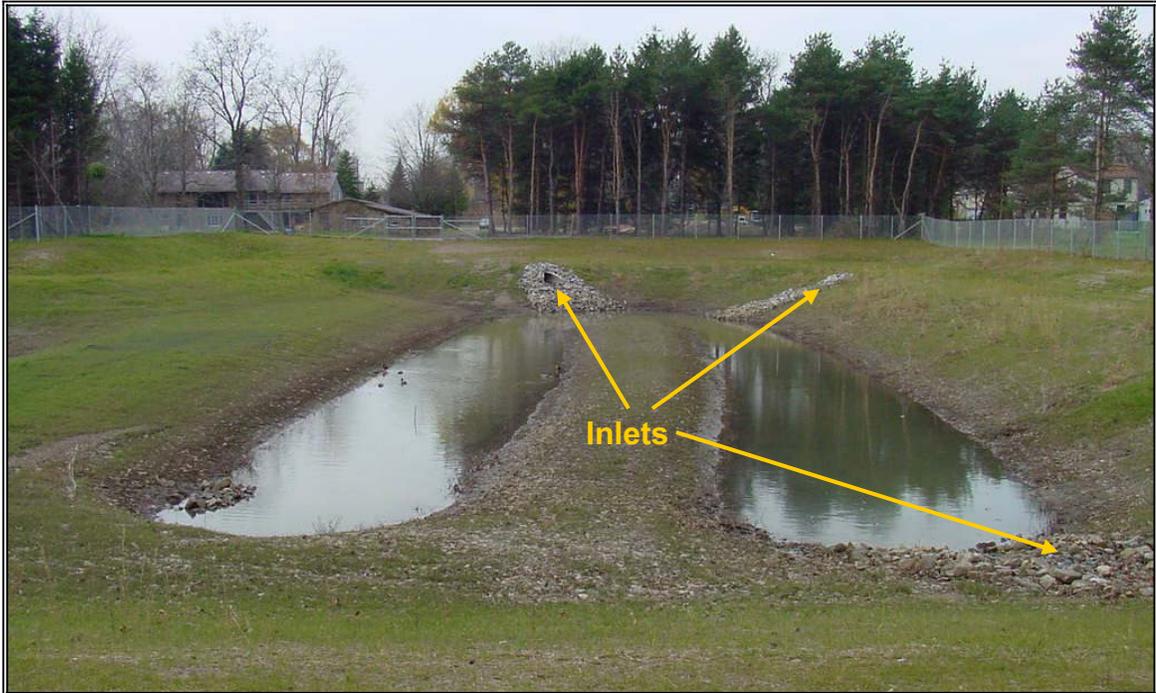
- City of Farmington Hills
- Michigan Department of Environmental Quality



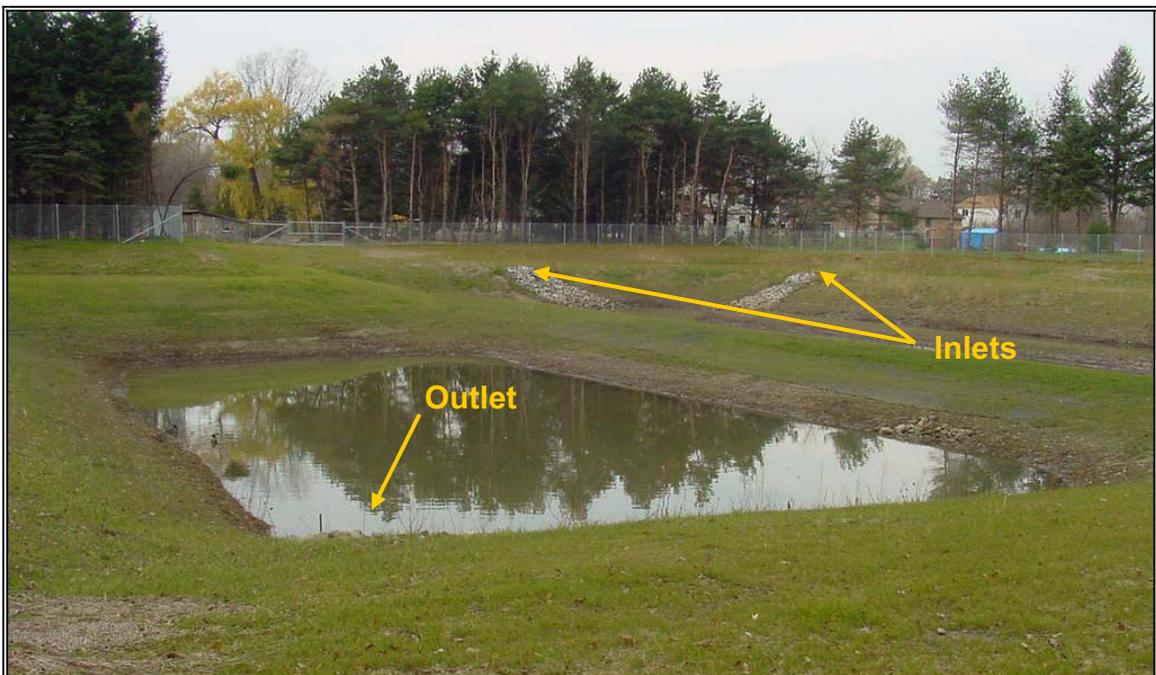
ISCO Flow Meters and water stage-actuated automatic samplers were installed in the major inlet and outlet of the sediment basin. This required confined space entry to mount the rings to the insides of the pipes.



Flemings Roseland/Cass Detention Basin



This is the first cell of the two-cell detention basin, which was designed to allow settlement of sediments and debris. Dry weather flow is carried through the meandering watercourse planted with wetland vegetation. Varying types of vegetation have been planted in both portions of the basin, increasing nutrient uptake and providing food and habitat for wildlife.



Along with the first cell, this second cell detains runoff from flows up to the 100-year event for a 24 to 36-hour period. Particular emphasis was placed on controlling channel-forming flows, those flows which recur on average every one to two years. This detention basin was specifically designed to contain the runoff from those storm events and release it slowly, with a release rate of 0.019 cubic feet per second per acre. Emergency overflow structures are in place to accommodate extreme floods.