



**Clean Michigan Initiative  
Nonpoint Source Grant**  
1999-0025

**City of Portage**

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**City of Portage Regional Storm Water Quality and Trailways Facility**

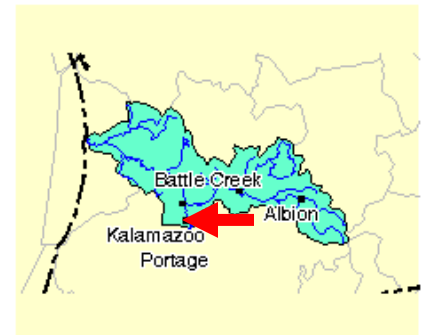
September 1, 2000 through August 1, 2001

The Consolidated Drain No. 1 is an open channel waterway which drains an area of approximately 463 acres in the City of Portage, Michigan. The drain was constructed by the Kalamazoo County Drain Commissioner in 1963 and was transferred to city jurisdiction in 1972. This watershed became highly urbanized with development in the Portage Commerce Square, a major retail shopping mall complex. The area continues to develop. Within this drainage, 33% of the land use is residential, 60% is commercial, and 7% is wooded, wetland, or open space. The goals of this project were to address storm water quantity and quality by installing innovative best management practices, enhance the City's existing trailway system, and educate the public on water quality issues.



**Grant Amount: \$ 423,900.00**  
**Match Funds: \$ 4,163,109.00**

**Total Amount: \$ 4,587,009.00**



**Best Management Practices:**



- 3,000 linear feet of meanders, deflectors, rock riprap, bio-engineering, vegetation buffers
- 11.5 acres of low-flow diversion, outflow swale, seeding and plantings
- 13.2 acres of silt fencing, clearing and grubbing, sediment fore-bay, check dams, live stake plantings
- 4 micro-pools/channels
- 3 habitat islands
- 1 concrete overflow structure

**Annual Load Reductions:**

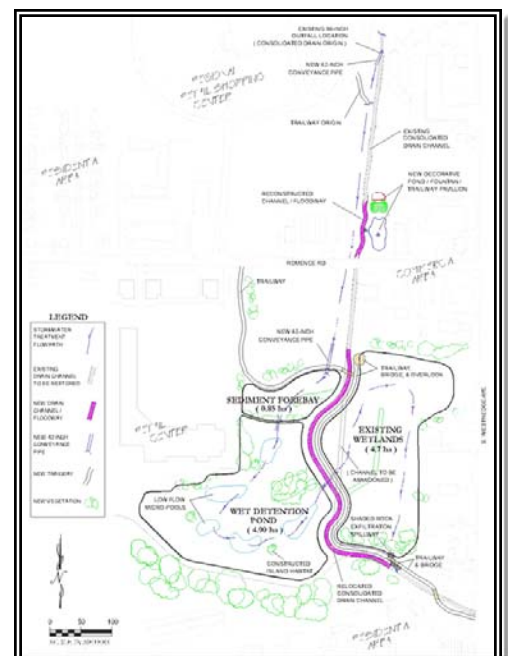
- Sediment: 40 tons/yr.
- Phosphorous: 256 lbs./yr.
- Nitrogen: 680 lbs./yr.

**Partners involved:**

- The Crossroads Mall
- Kalamazoo Foundation
- Kieser and Associates
- Michigan Department of Environmental Quality

**I&E Activities:**

- Installment of educational Placards along trail way





### Reconstructed Headwalls

