

CITY OF PORTAGE CONSOLIDATED DRAIN REGIONAL STORMWATER TREATMENT AND TRAILWAYS FACILITY

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Project Costs: \$4.7 million; K&A = \$250,000

Dates of Completion: July 1999-November 2001

Anticipating Phase II Stormwater regulations and a TMDL, the City of Portage is taking proactive steps to address the increasing need for water quality improvement. In a unique project, a regional stormwater treatment system for Consolidated Drain # 1 (Figure 1.) has recently been constructed, which will significantly increase the quality of life for city residents and biota in Portage Creek while meeting and exceeding regulatory requirements.

Figure 1. Existing condition of Consolidated Drain # 1.

In an effort to finance such a unique project, applications for CMI and 319 grant monies were prepared by K&A and submitted for the fall of 1999. The 319 funds were approved and assigned to tasks and timetables. The project was one of five considered for CMI funding.

This new stormwater treatment facility links a recreational trailway system that nearly doubles the length of existing trailways within the city, provides treatment for stormwater (Figure 2). Rendering illustrating renovated drain and trailway.



runoff from 463 acres within the highly commercialized urban core and targets 80% pollution removal rates for phosphorus and suspended solids. As designed, the new facility substantially enhances and improves flood protection. Furthermore, it has allowed for reclamation of more "brownfield" land through replacement of several private, poorly maintained and failing detention basins.

These former detention basins were ineffective at pollutant removal and flow moderation. Prior to construction of the new treatment facility, the Consolidated Drain discharged directly into Portage Creek, a designated coldwater trout stream, seriously impacting the fishery and macro-invertebrate habitat.

The new facility is municipally-owned and maintained. The design integrates several stormwater treatment options, illustrated in Figure 3., including a sediment forebay, wet detention pond and both existing and created wetland treatment areas. More than a mile of accessible scenic trailways and overlooks now connect major retail and recreational facilities. These trailways offer access to the 25-acre stormwater treatment area that provides new wildlife habitat, a restored meandering stream corridor and more favorable, preserved cold-water characteristics. To compliment the recreational access, there are several environmental education stations carefully located throughout the site with opportunities for local group participation in ongoing research and investigations with respect to this unique treatment approach. K&A is part of a long-term monitoring program that has been established to evaluate the effectiveness of the treatment processes involved. Support for the later has been received from Ducks Unlimited, Trout Unlimited and the National Wildlife Federation.

Construction on this facility was largely completed last year with the stormwater facility coming on-line in July 2001.



Figure 3. Schematic layout for the new 25-acre innovative stormwater treatment system servicing a 463-acre watershed located in Portage, Michigan.