

STORMWATER TMDL PLANNING AND COMPLIANCE GRANT KALAMAZOO, MICHIGAN

As a permitted municipal separate storm sewer system (MS4), WMU falls within the nonpoint source (NPS) load allocation of the phosphorus TMDL developed for the Kalamazoo River and Lake Allegan. K&A assisted Western Michigan University (WMU) in applying for and receiving a \$62,374 TMDL Compliance Planning Grant from the Michigan Department of Environmental Quality (MDEQ) in February 2010. As the technical consultant for WMU, K&A developed a TMDL compliance plan for WMU's MS4 related to phosphorus loading to Arcadia Creek (a tributary of the Kalamazoo River). More specifically, K&A assisted WMU with stormwater management planning for the 620 acres of the main campus MS4 footprint and 64 stormwater outfalls covered under the university's current Certificate of Coverage. To achieve the TMDL goal in Lake Allegan, NPS total phosphorus loads were targeted in 2001 for a 43% reduction from April-June and 50% reduction from July-September. The schedule to have met this goal as outlined in the TMDL was 2009. Up to 2011, there have been no MS4s (or any other nonpoint sources) that have been able to demonstrate any progress, let alone any ability to meet these goals. As is common with NPS urban stormwater and TMDLs, no linkages were previously made to assess how these WMU stormwater improvements had moved the university (as an MS4) any closer to knowing their 1998 TMDL baseline or progress towards meeting TMDL NPS load allocation goals.

This project resulted in a Total Maximum Daily Load (TMDL) MS4 compliance plan, which documents that Western Michigan University (WMU) has implemented best management practices (BMPs) and achieved total phosphorus (TP) load reductions sufficient to meet TMDL Load Allocation compliance goals. The plan also



provided a 'road map' for implementation of on-campus and off-campus stormwater BMPs to move WMU into a position of becoming Stormwater Neutral[®] verified. A water quality monitoring plan was created to allow WMU to effectively measure

BMP effectiveness. To complement this plan, stormwater BMP treatment recommendations were designed and engineered with costs and environmental benefits clearly defined in terms of water quality and hydrology to ensure that efforts are reasonable and feasible.

Project outcomes included:

- 1998 baseline TP load = 764 lbs/yr
- 13 BMP projects installed since 1998
- 53% of WMU campus treated by 2011
- Contributed over \$330,000 in local matching funds since 1998
- WMU cumulative TP reduction of 521.3 lbs/yr
- 68.2% reduction of 1998 baseline load
- First Kalamazoo River Watershed MS4 to achieve TMDL 50% reduction goal for total phosphorus

Contact:

Mr. Peter J. Strazdas
Associate Vice President of Facilities Management
Western Michigan University
1903 W. Michigan Ave
Kalamazoo MI 49008
(269) 387-8584

Project Costs:
\$62,374 (K&A)

Project Duration:
2010 - 2011