

WESTERN MICHIGAN UNIVERSITY - STORMWATER NEUTRAL[®] VERIFIED KALAMAZOO, MI

Western Michigan University (WMU) has taken the lead on adaptive management to address stormwater runoff challenges in their community. WMU is a permitted Municipal Separate Storm Sewer System (MS4) within the Portage-Arcadia Creek basin in Kalamazoo, Michigan. It falls within the nonpoint source (NPS) load allocation for a Total Maximum Daily Load (TMDL) developed for the downstream Kalamazoo River and Lake Allegan requiring a 50% load reduction for total phosphorus (TP). Kieser & Associates, LLC (K&A) has been assisting WMU with stormwater management consulting and engineering services since 1999 in response to MS4 and TMDL issues.

For more than a decade, WMU has led local efforts to implement urban stormwater controls in the Portage-Arcadia Creek basin. Since 1998, WMU has implemented 30 stormwater control projects utilizing federal/state grant funding and strategic MS4 partnerships to implement controls identified within an EPA-approved Watershed Management Plan. With the help of K&A, WMU intentionally set out to become the first MS4 in the Kalamazoo River Watershed to document their efforts to reach the 50% TP reduction goal for their stormwater footprint of approximately 807 acres, including more than 100 buildings serving 25,000 students. A 2011 K&A evaluation of campus stormwater load reductions documented WMU efforts and achievement of this TMDL goal.

WMU also embraced a larger vision to become Stormwater Neutral[®] verified for TP (i.e., “net-zero” phosphorus load for their stormwater footprint). Stormwater Neutral[®] is an independent, third-party verification associated with “net-zero” stormwater loading resulting from stormwater controls, which may include offsets, relative to a quantifiable baseline condition. The university recently achieved this goal through additional on-campus projects beyond the TMDL target, as well as implementation of off-campus stormwater controls within the watershed serving as TP offsets. Control projects focused on multiple goals: reducing direct discharges of urban stormwater runoff to surface waters, naturalizing conveyances and stream corridors, repairing erosion caused by urban runoff, reducing phosphorus and sediment loads to tributaries of the Kalamazoo River, reducing flood potential and increasing groundwater recharge.

STORMWATER NEUTRAL[®]

WMU achieved Stormwater Neutral[®] verification status through strategic planning with K&A. Working collaboratively, K&A and WMU leveraged over \$1.5 million of State and Federal grants for the implementation of several stormwater control projects. Quantifying the water quality benefits of various project opportunities allowed WMU to implement the most cost-effective stormwater controls. This noteworthy accomplishment was conducted voluntarily by WMU above and beyond any MS4 stormwater program requirements or TMDL goals.

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