Lake Ontelaunee Watershed - MS4 TMDL Plan Supplement

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Summary

Maidencreek Township, per Federal and State Regulations, has been subject to MS4 NPDES permitting requirements since the program's inception in 2003. As a component of the Township's permit renewal NOI submission, Systems Design Engineering (SDE) prepared a TMDL Plan on behalf of the Township for the purposes of complying with the Lake Ontelaunee Watershed TMDL for sediment and nutrients. The Pennsylvania Department of Environmental Protection (DEP) provided comments to Maidencreek Township in a letter dated February 26, 2015.

The Department's review letter identified several perceived deficiencies:

1. A discrepancy between the TMDL document's description of the drainage area and the TMDL Strategy Plan's drainage area.
2. The consultant's use of the New Hampshire Storm water Manual instead of the Pennsylvania Storm water BMP manual.
3. The consultant's recommendation of annual street-sweeping as a BMP to generate the requisite load reductions when the BMP Manual recommends weekly sweeping to achieve the required numeric load reduction. Additionally, DEP's comments note that "wash-on" material entering a road as opposed to material actually generated within the confines of the roadway cannot be swept effectively, as much of this loading will transpire during precipitation events.
4. The DEP is requiring that the Township solicit Public Participation and Involvement for the TMDL strategy.

With these items in consideration, Great Valley Consultants is providing the attached Supplement as an alternate proposal for the purposes of assisting the Township in complying with the requirements of the Lake Ontelaunee Watershed TMDL plan.

TMDL MS4 Waste Load Allocations

Per the TMDL, the waste load allocation (WLA) for sediment is 26.6 metric tons/year (58,643 pounds per year) and the WLA for phosphorous is 5.98 kg/year (13.19 pounds/year). The TMDL requires a reduction of sediment loading of 74% and a reduction of phosphorous loading of 94%. While these percent reductions are attributed to the MS4 area, it is clear from a pragmatic standpoint that the Township's 2.4 acres of streets and adjacent right-of-way are not the source of this quantity of sediment and nutrients. Other land uses in the drainage area include open fields and agricultural facilities, which are much more likely to generate the volume and type of materials outlined in the TMDL.

TMDL Strategy

Based upon the conditions outlined above, it is more feasible to proceed first by encouraging property owners outside the Township's Right-of-Way to voluntarily implement measures to mitigate the quantity of sediment and phosphorous in runoff. This can be done implementing agricultural conservation techniques such as contour farming, no-till farming, or reduced utilization of fertilizers. Additionally, properties with landscaped features can utilize less fertilizer and pesticides, assuming these

materials are being utilized currently. The key is that outreach can be performed to these property owners using the assistance of local and County-level conservation agencies specializing in public education and outreach to agricultural land users. Preliminary conversations with these agencies have also been promising in securing funding opportunities for these sorts of efforts.

The first step of the plan would involve compiling information about the ownership and uses of the properties in the drainage area. Second, information of existing private and public storm sewer facilities would be compiled into a comprehensive view of the subshed draining to Outfall Number 050 on Lake Ontelaunee. It is anticipated that this phase of the plan would take about a year to implement. In concurrence with these efforts, as the information is developed, the Township would reach out to local agencies such as the Berks County Conservation District and Berks Nature (formally the Berks County Conservancy). The Township already has contact with these organizations through the Berks County MS4 Steering Committee, a jointly-funded and administered agency which pools resources for Public Education, Outreach, and Involvement for both MS4-compliance purposes and for general environmental stewardship. Upon buy-in from these potential stakeholders, a series of meetings could be scheduled with property owners to test the opportunity for implementation of conservational measures to mitigate the sediment and phosphorous loading to the Maidencreek Township MS4. It is expected that these measures would take at least two years to be implemented.

While the implementation of the aforementioned measures by property owners is ongoing, an effort will be made to map the currently unknown network of private and public storm water facilities that ultimately drain to Lake Ontelaunee at Outfall Number 050. This will allow for several measures to be undertaken depending on the outcome of the education, outreach, and involvement efforts towards property owners. In the event that the property owners “buy-in” to the program, a thorough analysis of the surrounding area will provide a baseline for measuring improvement over time. If property owners do not agree to voluntary measures to mitigate pollutants in runoff, a thorough knowledge of property information, storm water facility ownership and layout will be necessary to assess alternate solutions.

If the Township and its partners are not successful in obtaining voluntary cooperation from property owners by the conclusion of the third year after notice of approval of the TMDL Strategy Plan by DEP, the Township will begin plans to seek additional alternatives for TMDL compliance to remediate the sediment and phosphorous in the runoff from the regulated subwatershed. Please note that until the Township has developed a thorough inventory of the existing facilities and established a baseline of existing water quality conditions in the subshed draining to Outfall Number 050, it is not immediately known what BMP or BMPs will be appropriate to meet the TMDL requirements of 74% reduction in sediment and a 94% reduction in phosphorous.

Preliminary Facilities Inventory

The Township has access to land development plans of one of the private properties in the regulated watershed area and will begin incorporating this information with the Township's storm water facilities map. The Township has also retained our office to locate other suspected existing facilities, including a cross-pipe under the railroad from one private property to another. As previously outlined, this work will continue throughout the approval process of this TMDL Strategy Plan.

Other MS4-Related Activities

The Township will also continue all regular MS4-related efforts associated with these facilities, including IDD&E inspections and PCSWM inspections. The Township will also continue to undertake the non-structural BMP of annual street sweeping activities as mentioned in the previous 2013 TMDL Strategy Plan submission by Systems Design Engineering.