

Office Memorandum

DATE : October 16th, 2014

TO : Nancy Heskett
Municipal Wastewater Section
Municipal Division

FROM : Marco Graziani
Municipal Wastewater Section
Municipal Division

PHONE : 651-757-2398

SUBJECT : **Expanded Fecal Coliform Bacteria Wasteload Allocation for the Lansing Township WWTP NPDES/SDS Permit (MN0063461)**

The Lansing Township wastewater treatment plant (WWTP) is a stabilization pond wastewater treatment facility with a controlled discharge to the Cedar River, a Class 2B, 3C, 4A, 4B, 5, 6 water. The WWTP has an average wet weather design flow (AWWDF) of 0.026 million gallons per day (mgd) and is authorized to discharge up to six inches per day from its 1.25 acre secondary pond. The maximum permitted effluent volume is 0.204 mgd. The permitted fecal coliform effluent limit is 200 organisms per 100 mL (April through October).

On April 5, 2006, the [Lower Mississippi River Basin Fecal Coliform TMDL](#) report was approved by the U.S. Environmental Protection Agency. For WWTPs, wasteload allocations (WLAs) are calculated by multiplying AWWDF for continuously discharging WWTPs, or the maximum permitted discharge rate for controlled discharge pond facilities by the permitted discharge fecal coliform limit of 200 organisms per 100 mL. As long as WWTP's discharge at or below the fecal coliform limit of 200 organisms per 100 mL they will not cause violations of the water quality standard regardless of their fecal coliform load.

An analysis of the effects of expanded wasteload allocations, prepared by Tetrattech for the Zumbro River Turbidity TMDL (Cleland 2011), demonstrates that current discharges can be expanded and new NPDES discharges can be added while maintaining water quality standards, provided the permitted NPDES/SDS effluent concentrations remain at or below the in-stream concentration targets.

The TMDL's WLA for the Lansing Township WWTP was incorrectly calculated from the facility's AWWDF of 0.026 mgd (0.04 cfs) rather than the maximum permitted effluent volume of 0.204 mgd (0.316 cfs). The WWTP's Fecal Coliform wasteload allocation is being expanded to be consistent with the maximum effluent volume authorized by the facility's NPDES/SDS permit. Expansion of the facility's Fecal Coliform WLA will not contribute to the Fecal Coliform impairment in the Cedar River because the NPDES/SDS Permit's Fecal Coliform

permitted discharge limit of 200 organisms per 100 ml is equivalent to the water quality standard.

The Lansing Township WWTP is permitted to discharge 0.204 mgd (0.316 cfs). This results in an increase of 0.164 cfs of flow from the WWTP to the Cedar River, which in turn expands the fecal coliform loading capacity by 0.0404 trillion organisms/month (t-org/mo). The discharge will not result in a decrease in the Cedar River's water quality because fecal coliform bacteria loading capacities will increase as a result of the increased stream flow resulting from the discharge.

	Approved Wasteload Allocation	Flow Increase	Fecal Coliform Load Increase	Modified Wasteload Allocation
Lansing Township WWTP WLA Expansion	0.006 t-org/mo.	0.164 cfs	0.04 t-org./mo.	0.046 t-org./mo.
Cedar River (AUID 07080201-502) Loading Capacity Expansion		0.164 cfs	0.04 t-org./mo.	