

TMDL Application Form

2020 TMDL Application Form: Compliance Narrative

Date: 4/29/2021

South Metro Mississippi TSS TMDL-Mississippi River-(07040001-531)-TSS [Compliant]

Narrative Summary (requested per 4/22/21 Incomplete MS4 Part 2 Application email):

The TMDL study area for the South Metro Mississippi River TSS TMDL (07040001-531) encompasses the entire municipality. The water quality model P8 version 3.5 was used to evaluate pollutant loading. SCS Curve Number (CN) and directly connected impervious values were calculated for catchments utilizing the 2015 University of Minnesota land use data set to define impervious area, and best available SSURGO soils data to define CN for pervious areas. The default P8 NURP50 particle file was used to define sediment and pollutant characteristics within the study area.

The South Metro Mississippi River TSS TMDL specifies a WLA areal loading rate for all tributary MS4s of 154 lbs TSS / acre / year. The South Metro Mississippi TSS TMDL does not specify any baseline year and did not incorporate BMPs within municipal MS4 areas. For this reason, all BMPs within the MS4 jurisdictional area were modeled. The raw TSS areal loading rate from the modeled area (prior to accounting for BMP reduction) is 240.4 lbs TSS / acre / year, and the final areal loading rate (after accounting for pollutant reduction in modeled BMPs) is 53.9 lbs TSS / acre / year. The final TSS areal loading rate is below the WLA of 154 lbs TSS / acre / year, therefore, the City is compliant with this WLA.

Minnehaha Creek Watershed Lakes TMDL-Nokomis-(27-0019-00)-TP [Compliant]

Narrative Summary (requested per 4/22/21 Incomplete MS4 Part 2 Application email):

The TMDL study area for the Minnehaha Creek Watershed Lakes TMDL-Nokomis-(27-0019-00) (Lake Nokomis TMDL) spans 1,234 acres of the City of Richfield, including drainage areas tributary to Legion and Taft Lake (as outlined in Table 13 and shown in Figure 26 of the TMDL document). Although the TMDL does not explicitly define a baseline year, continuous XPSWMM modeling referenced in Appendix D of the TMDL was conducted for the year 1999. The TMDL identifies an existing load of 118 lbs TP / year from the regulated portion of Richfield and a WLA of 108 lbs TP / year, resulting in a required reduction of 10 lbs TP / year from the regulated portion of Richfield.

Since publication of the Lake Nokomis TMDL, the City of Richfield and Minnehaha Creek Watershed District (MCWD) have completed a joint project to improve the water quality of Taft and Legion Lake and meet regulatory WLA requirements established by the Lake Nokomis TMDL. The Taft Lake / Legion Lake Watershed Water Quality Improvement Project included several significant watershed improvement projects, including the implementation of a stormwater reuse infiltration and irrigation system at Legion Lake, a stormwater reuse infiltration system at Taft Lake, and an offline alum treatment flocculation system at Taft Lake. The infiltration/reuse systems pull water from the respective waterbodies where water is used for irrigation or is pumped to underground infiltration systems. The Taft Lake alum flocculation system pumps water from Taft Lake to an alum flocculation system and returns treated stormwater back to the Lake. Pollutant reduction performance of the infiltration, reuse, and flocculation systems is determined through pollutant concentration monitoring and pumped volume monitoring performed at each system. As outlined within the "BMPs for

WLAs met" section of the TMDL application form, in 2020 the infiltration/reuse systems and flocculation system reduced TP by 69.1 lbs and 12.9 lbs (82.0 lbs TP total), respectively, during their operating seasons. The City of Richfield and MCWD have a joint agreement in place to each claim 50-percent of the total reduction achieved by the Taft/Legion Lake Watershed Water Quality Improvement Project (50% x 82.0 lbs = 41.0 lbs TP reduction claimed by Richfield). The TP reduction of 41.0 lbs exceeds the required 10 lbs of TP reduction outlined in the TMDL. Based on this evaluation, the City of Richfield is compliant with the Lake Nokomis TP TMDL.