DATE: April 15, 2021

TO: Minnesota Pollution Control Agency

FROM: Cole Johnson, Water Quality Technician
Sean M. Simonson, Engineering Manager
David E. Bennett, PE Public Works Director/City Engineer

RE: South Metro Mississippi Compliance Determination

The City of Northfield is supplementing additional information along with the MS4 permit application as requested by the Minnesota Pollution Control Agency (MPCA) to explain the process on how the City determined it is in compliance of the South Metro Mississippi TMDL. This information is listed below.

MS4 Area Determination

City staff utilized the Northfield City Limits for the outer boundary of the applicable area for the TMDL. The city then removed any land use areas that are under the jurisdictional control of another MS4. The major areas this occurred was with the transportation and river corridors that run through the City Limits. The major transportation corridors include Trunk Highway 3, Trunk Highway 19, and Trunk Highway 246 which are under MnDOT Jurisdiction. The Cannon River Corridor was also removed from the City's Jurisdictional MS4 area. The total land area that was determined to be applicable to the City's MS4 Jurisdictional control is 5302.7 acres, which is reflected in the MPCA Simple Estimator calculations.

Waste Load Allocation Area Determination

City Staff reviewed the South Metro Mississippi TMDL Study to determine what area of the City's MS4 applied to the Waste Load Allocation. The Waste Load Allocation Area encompasses the City as a whole so it was determined that the entire City Jurisdictional MS4 area should be included in the WLA area (5302.7 acres).

Waste Load Allocation Compliance Determination

City Staff utilized the MPCA Simple Estimator tool to determine compliance with the South Metro Mississippi TMDL. Existing land use areas from the entire Jurisdictional MS4 Area were entered into the Simple Estimator tool to determine a base loading rate. The base loading rate provided by the simple estimator was 136.2 lbs/ac/yr which is below the TMDL WLA of 154 lbs/ac/yr. This calculation determined the City is in compliance with the WLA without the addition of any of the City Stormwater BMP's. The City did complete the calculations to determine what the annual loading rate is with the current Stormwater BMP's in place. City staff compiled Stormwater BMP's and intersecting land use to determine drainage areas for each Stormwater BMP's. These areas were populated in the Simple Estimator Tool to determine a reduction from the BMP's. The annual reduction from the Stormwater BMP's was calculated at 193,188.6 lbs. The City used this information to determine that the current loading rate with BMP's included is 99.76 lbs/ac/yr demonstrating further compliance with the WLA.

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Qualifying Stormwater BMP Selection

The BMP's that were utilized for this reduction calculation were City Stormwater Ponds and Filtration Basins. All City owned Stomwater Ponds and Filtration Basins were used since there is not an established baseline year for the TMDL. Street sweeping and sump cleaning are an integral part of the City Operations which provide a sizable Total Suspended Solids (TSS) reduction but the City was unable to quantify this reduction due to the lack of science based data on what that reduction is. The City looks forward to adding these BMP's as a quantifiable reduction to show further compliance on this WLA when the data becomes available.