

Public Comments & DNR Responses to Proposed Guidance

TMDL Guidance for MS4 Permits: Planning, Implementation and Modeling

The DNR received comments from the following individuals and or organizations:

B & C	Brown and Caldwell
Fitchburg	City of Fitchburg
Green Bay	City of Green Bay
Madison	City of Madison
MSA	MSA Professional Services
NCWSC	North Central Wisconsin Stormwater Coalition
NEWSC	Northeast Wisconsin Stormwater Consortium
Schoen	Schoen Engineering Solutions
Stoughton	City of Stoughton
Strand	Strand Associates and representing V. of Waunakee and T. of Westport

Note: Fitchburg, Strand and Stoughton indicated they agree with comments made by the City of Madison.

Madison - Comment 1: Page 3, Part 1 – last 2 sentences in par. 2: *“Compliance with TMDL requirements will need to be achieved on a reach by reach basis. Ultimately, water quality standards must be met in-stream at the compliance point located at the farthest most downstream point of the reachshed.”*

We recommend that the last sentence be removed or modified to give credit for actions taken and documented up stream. Specifically, what this language says as written is, “If MS4’s achieve their reduction percentages/LBS and the water quality does not meet the P standards as established by the WDNR, they will be asked to continue with additional reductions until WQ standards are met.” This presupposes that a water body will respond very shortly to improvements made, which is far from certain.

While this language is to some extent mandated by the enabling legislation, there are administrative methods to acknowledge the reductions that have or will take place without explicitly stating this in the guidance.

DNR Response: This sentence will be removed.

Green Bay – Comment 2: In Section D, Part 1 (page 5), last paragraph states that “Once an adequate level of implementation (of storm water BMPs) has been achieved, ambient monitoring can be used to judge progress and monitoring will ultimately be required to de-list impaired water and show compliance of the TMDL.” I recognize that this is many years down the road, but who will be required to do the ambient monitoring? Will this be the most downstream MS4? The WDNR or EPA?

DNR Response: Generally WDNR will perform the ambient monitoring to determine if a receiving stream is meeting its water quality standard. However, WDNR might use data collected by other entities to help make water quality assessments of a water body.

PERMIT AREA

NEWSC – Comment 1: Section D, Part 1 (page 5) – Please consider modifying the first open bullet to “The current municipal boundary and the current permitted area for the MS4. For purposes of TMDL compliance, the permitted area for cities, villages, towns, counties, and other con-tradition MS4s is the area within the Urbanized Area of the 2010 Decennial Census.” The permitted area for cities, villages, towns, and other permittees should be determined using the same criteria.

Green Bay – Comment 1: In Section D, Part 1 (page 5) - Please consider modifying the first open bullet to “The current municipal boundary and the current permitted area for the MS4. For purposes of TMDL compliance, the permitted area for cities, villages, towns, counties, and other non-traditional MS4s is the area within the Urbanized Area of the 2010 Decennial Census.” The permitted area for cities, villages, towns, and other permittees should be determined using the same criteria.

DNR Response: For TMDL compliance, EPA has suggested that a municipality is to be responsible for the pollutants draining through its MS4 regardless of source or location. DNR does not feel it is within the municipality’s control pollutant sources outside of its municipal boundary. The MS4 permit certainly was never meant to apply to an entire township area and has been limited to the mapped UA area and this is consistent with existing DNR permits and program guidance on defining the permitted area.

TMDL BASELINE CONDITION

B & C – Comment 1: Part 1, Page 5, Last Paragraph and page 6 second paragraph: In reference to guidance statement “Since TMDL development uses a 20 or 40% reduction baseline loading condition” we have the following comments: We believe the MS4 baseline condition in the Lower Fox TMDL document dated March 2012 is a “no controls” or 0% TSS reduction condition. We believe this for the following reasons:

1. Page 40 of the Lower Fox TMDL document states: “In some cases, the WLA for RSS assigned to MS4s in certain sub-basins (e.g., Mud Creek) results in a lower percent reduction (from baseline conditions) than that required by Wisconsin Administrative Code NR 151. The developed urban area of each unique MS4 is still required to meet, at a minimum, the Wisconsin Administrative Code NR 151 mandated 40% TSS reduction specified in MS4 permit.”
The NR 151 mandated 40% TSS reduction referenced in this paragraph is taken from a no controls condition or 0% TSS reduction condition.
2. Appendix C: This section describes how the LAs and WLAs were assigned. It states that the baseline concentrations were compared to the numeric targets. The numeric targets are the baseline concentrations were compared to the

numeric targets. The numeric targets are the values needed to meet the assimilative capacity of the water bodies. For MS4s the following occurred:

- a. Appendix C, page 132: The approach used to assign the TSS WLA to an MS4 was based on whether the MS4 within each reachshed contributed 40% of the baseline load. If it contributed less than 40%, it was assigned the percent reduction equal to the MS4s' percent contribution to the controllable baseline load for the tributary basin. This section has the following foot note "40% is the TSS reduction required by NR 151 stormwater regulations" The 40% TSS reduction required by NR 151 is from a no controls condition or 0% TSS reduction.
 - b. Appendix C, page 127: The approach used to assign the TP WLA to an MS4 was based on whether the MS4 within each reachshed contributed 30% of the baseline load. If it contributed less than 30% of the baseline line, if it was assigned a 30% TP reduction. If it contributed more than 30%, it was assigned the percent reduction equal to the MS4's percent contribution to the controllable baseline lad for the tributary basin. This section also has the following foot note: "30% is the average approximate TP reduction that is expected if MS4s achieve a 40% TSS reduction". The 40% TSS reduction referenced in this footnote is the reduction required by NR 151 from a no controls condition or 0% TSS reduction.
 - c. Appendix C states the goal of the MS4s is to meet the 40% TSS reduction requirement in NR 151.13. All the calculations used to determine the MS4 WLA revolved around whether or not an MS4 met the 40% TSS reduction goal from baseline for a particular reachshed. In NR 151.13, the baseline is 0% reduction of TSS. Because this section of Appendix C is directly tied to NR 151, it indicates that baseline of this TMDL is the same baseline as NR 151.13.
3. Appendix B,
- a. Page 112: the last paragraph compares the SWAT model calibrated TSS annual yield of 275 lbs/ac to the mean annual baseline load of 243 lbs/ac from 14 LFR sub-basin municipal storm water plans.
 - b. Page 113: the second paragraph compares the calibrated SWAT simulated annual phosphorus yield of 0.70 lbs/ac to the mean annual baseline load of 0.72 lbs/ac from the 14 LFR municipal stormwater plans.
 - c. The baseline used in development of these referenced plans is the baseline identified in NR 151.13, which is no controls, or 0%TSS reduction. It would appear the MS4 baseline used in the Lower Fox River TMDL is the same baseline used in the storm water management plans developed for compliance with NR 151.13.

Because of the DNR's definition of the Lower Fox River TMDL baseline condition, the municipalities will need to spend significant dollars in pollution control that is not required for the receiving waters to meet the water quality standards.

If the WDNR must create a policy that states baseline is 20% TSS reduction (and an assumed correlated TP reduction) for purposes of compliance with EPA requirements, then the WLA percentages published in the TMDL should be adjusted to account for that. For example, any MS4 reachshed with a published goal of 40% TSS reduction should become 25%. A 25% TSS reduction on top of the 20% TSS reduction from no controls will result in the 40% reduction needed for the stream to meet water quality criteria and for the MS4 to meet NR 151.13.

Madison - Comment 2: Page 4 last paragraph: *While there is some variation across the TMDL in Wisconsin, the baseline loading condition reflects the regulatory conditions stipulated in s. NR 151.13 and utilities either the 20% control requirement or the 40% control requirement as the starting point for the TMDL allocations.*

The two modern TMDLs that exist in WI are the Rock and Lower Fox. These TMDLs utilize a 40% reduction in TSS as a base and a 0% reduction in TSS as a base, respectively. The proposed DNR language does not indicate 0% as a baseline possibility and refers to 20% & 40% reductions being included in the TMDL calculations. TMDL's being worked on currently appear to be striving to use a 20% TSS reduction as the "base" but that is not set in stone yet, as these are far from adoption.

We recommend the removal of that sentence or replacement with something similar to "TMDL baselines and the associated percent TSS/TP reductions vary from TMDL to TMDL across the state depending on specific conditions associated with that TMDL development."

Green Bay – Comment 3: In Section D, Part 1 (page 6) – The Lower Fox River Basin TMDL was approved after January 1, 2012. The Lower Fox River Basin TMDL report does not clearly state if the TMDL was developed using a baseline loading condition of "no controls" or 20% TSS reduction pursuant to NR 151.13. Below is information from the Lower Fox River Basin TMDL report:

- a. The Lower Fox River Basin TMDL report indicates the Urban Area baseline SWAT-simulated TSS yield is 275 lbs/acre. The TMDL report compares the 275 lbs/acre TSS yield to a variety of other sources which ranged from 372 lbs/acre to 170 lbs/acre. The TSS yields associated with these other sources appear to be calculated from either USGS monitoring station data or WinSLAMM-simulated rainfall data.
- b. The Lower Fox River Basin TMDL report indicates the Urban Area baseline SWAT-simulated TP yield is 0.70 lbs/acre. The TMDL report compares the 0.70 lbs/acre TP yield to a variety of other sources which ranged from 0.85 lbs/acre to 0.5 lbs/acre. The TP yields associated with these other sources appear to be calculated from either SWAT-simulated or WinSLAMM-simulated rainfall data.

Green Bay – Comment 4: Please consider modifying the last sentence of the first paragraph on page 6 to state "For the Lower Fox River Basin TMDL, the "no controls" condition serves as the baseline loading condition." Please clarify how the 275 lbs/acre TSS yield and 0.70 lbs/acre TP yield was determined to be representative of the 20% TSS reduction contained in NR 151.13.

Green Bay – Comment 5: Utilizing the Total Percent Reduction as written within this Guidance Document, the City of Green Bay being within the Lower Fox River TMDL, would then be required to remove 72.2% TSS. The City was going to have an extremely

difficult time attempting to achieve the 40% TSS reduction that was within NR 151.13. This baseline criteria makes it virtually unachievable in my opinion.

Green Bay – Comment 6: Section D, Part 1 (page 6) – NR 151.13 does not provide a numeric phosphorus reduction goal. As such, it is assumed that the phosphorus allocation for the Lower Fox River Basin TMDL does not require adjustment using the formulas provided on page 6 of the guidance document. It should be clarified that these formulas only apply to the TSS pollutant.

NEWSC – Comment 2: Section D, Part (page 6) – The Lower Fox River Basin TMDL was approved after Jan. 1, 2012. The Lower Fox River Basin TMDL report does not clearly state if the TMDL was developed using a baseline loading condition of “no controls” or 20% TSS reduction pursuant to NR 151.13. Below is information from the Lower Fox River Basin TMDL report:

- a. The Lower Fox River Basin TMDL report indicates the Urban Area baseline SWAT-simulated TSS yield is 275 lbs/acre. The TMDL report compares the 275 lbs/acre TSS yield to a variety of other sources which ranged from 72 lbs/acre to 170 lbs/acre. The TSS yields associated with these other sources appear to be calculated from either USGS monitoring station data or WinSLAMM-simulated rainfall data.
- b. The Lower Fox River Basin TMDL report indicates that Urban Area baseline SWAT-simulated TP yield is 0.70 lbs/acre. The TMDL report compares the 0.70 lbs/acre TP yield to a variety of other sources which ranged from 0.85 lbs/acre to 0.5 lbs/acre. The TP yields associated with these other sources appear to be calculated from either SWAT-simulation or WinSLAMM-simulated rainfall data.

Please consider modifying the last sentence of the first paragraph on page 6 to state “For the Lower Fox River Basin TMDL, the “no controls” condition serves as the baseline loading condition.” Please clarify low the 275 lbs/acre TSS yield and 0.70 lbs/acre TP yield was determined to be representative of the 20% TSS reduction contained in NR 151.13.

DNR Response: It was a commonly held belief that the reduction goals in the TMDL were measured from a “no-controls” scenario similar to the s. NR 151.13 compliance requirements; however, this is not explicitly stated in the Lower Fox TMDL report. As DNR reviewed the TMDL report in conjunction with the development of implementation guidance we realized that the TMDL calculations use existing conditions defined by pollutant loads from 2004 to 2008 as the baseline condition. Permitted municipalities were required to meet a 20% TSS reduction by 2008 so DNR has interpreted existing conditions to correspond with the regulatory requirements of 20% TSS reduction and not “no controls”. In addition, DNR would like to give credit to municipalities that have gone beyond the 2008 regulatory requirement of 20% TSS reductions. As such, using the 20% reduction as the baseline, when compared to using an actual “existing conditions”, means that a municipality can take credit for the reductions attained beyond the 2008 requirements and apply them toward the TMDL reductions.

DNR, after negotiation with EPA, is allowing municipalities to develop stormwater management plans with self-selected water quality benchmarks. Unlike s. NR 151.13 which required a 20% TSS reduction by 2008 and a 40% reduction by 2013, the TMDL goals have more flexibility. With each permit term, the municipality will need to make progress toward meeting the TMDL reduction goals by taking

advantage of opportunities to install practices through redevelopment, new development, and implementation of new technologies and strategies to control TSS and phosphorus as they emerge. While this may, in some cases, result in extended compliance schedules, it will allow municipalities greater flexibility to meet TMDL reductions within many of the economic and design constraints that currently exist.

DNR acknowledges that the use of the 2008 regulatory requirements of 20% TSS reduction as the baseline instead of “no-controls” increases the percent reduction goals needed to meet the Lower Fox TMDL; however, it also better reflects the conditions simulated in the TMDL analysis. The extended compliance schedules will afford opportunities for adjustments in future stormwater management plans and will allow us to collectively evaluate progress and costs associated with stormwater management as we implement the TMDL goals.

PERCENT CALCULATION

NEWSC – Comment 3: Section D, Part 1 (page 6) – NR 15.13 does not provide a numeric phosphorus reduction goal. As such, it is assumed that the phosphorus allocation for the Lower Fox River Basin TMDL does not require adjustment using the formulas provided on page 6 of the guidance document. It should be clarified that these formulas only apply to the TSS pollutant.

B & C – Comment 2: Part 1, Page 6 of pdf, Formulas: The section should clarify that the formulas apply to TSS.

Strand – Comment 1:

1. Part 1-Expressing WLAs and Reduction Targets
 - a. Percent Reduction Equations (Page 6)-Add the following equations for TP. Also, add a *Note* in the document stating which tables in the Rock River TMDL (Appendix H and I) and Lower Fox River TMDL to use to pull the % control in TMDL number referenced in these equations.
 - i. Lower Fox River: Total TP Percent Reduction = $(15+(85*\% \text{ control in TMDL})$
 - ii. Rock River: Total TP Percent Reduction = $27+(73*\% \text{ control in TMDL})$
 - b. When using these equations, there is a difference in back calculating a % reduction from Appendix V and using the equations with Appendices H and I. In some cases, using Appendix V would indicate that in certain reaches the WLA is greater than the baseline load which would seem to indicate that no reductions are necessary. In these cases, the equation methodology now indicates that 27% TP and a 40% TSS reduction (at least in the Rock River watershed) would be necessary. Is this the DNR's intent in this situation?

Schoen - Comment 1: Clarify the formula (on page 6) for calculating the percent reduction as compared to the no-controls condition, especially for pollutants other than TSS. Percent reductions in TSS do not necessarily result in an equal percent reduction in TP. As the percent reduction formula is currently presented, it appears to assume that

the 20 or 40 percent TSS reduction required under NR 151 also results in a 20 or 40 percent reduction in TP. One way of achieving this would be to add text such as "...the baseline condition for TMDL pollutants other than TSS will be the percent reduction equivalent to that achieved under conditions defined for TSS..."

NCWSC – Comment 1: Clarify the formula (on page 6) for calculating the percent reduction as compared to the no-controls condition, especially for pollutants other than TSS. Percent reductions in TSS do not necessarily result in an equal percent reduction in TP. As the percent reduction formula is currently presented, it appears to assume that the 20 to 40 percent reduction required under NR 151 also results in a 20 or 40 percent reduction in TP. One way of achieving this would be to add text such as "... the baseline condition for TMDL pollutants other than TSS will be the percent reduction equivalent to that achieved under conditions defined for TSS..."

DNR Response: Formulas have been clarified and additional equations have been added to calculate the no-control percent reduction for total phosphorus in addition to TSS.

WQT & AM

Schoen - Comment 11: Broaden the adaptive management program to allow MS4's to participate independently, without requiring a WWTP partner. Consider allowing TSS to be directly addressed by adaptive management.

NCWSC – Comment 11: Broaden the adaptive management program to allow MS4's to participate independently, without requiring a WWTP partner. Consider allowing TSS to be directly addressed by adaptive management.

DNR Response: A legislative change was made allowing adaptive management to address TSS as well as TP. Any additional changes would require an administrative code and or statutory change. No change has been made to the guidance.

Madison - Comment 4: PART 2 – WQ Trading and Adaptive Management:

We recommend adding language that states: "Should a MS4 determine that it wishes to participate in an Adaptive Management or Water Quality Trading program, the MS4 shall be allowed to do so for all necessary load reductions, including those reductions that are needed to reach the 'base line' loading assumptions included in a TMDL."

For example, if an MS4 is at 30% TSS reduction in a given reachshed but the base load assumption in the TMDL is a 40% reduction, the Load Reduction mandated by the TDML is actually an understatement of the reduction needed, as the MS4 actually has a reduction needed to allow them to reach the TMDL's baseline existing condition.

Including this language would allow MS4s to use these methods to reach the mandates of the TMDL using one method providing the determine participation in one of these programs is in their best interest.

DNR Response: This guidance is not intended to cover adaptive management or pollutant trading, which have their own separate guidance documents. Those guidance documents are expected to be updated in the future with additional clarification for MS4s.

The TMDL establishes the allowable mass discharge of pollutants through WLAs and LAs; it does not establish a required load reduction. The MS4 annual average reduction is based on the allowable annual load that can be discharged. Whether or not the assumed baseline condition used in the TMDL is currently met does not change the allowable pollutant load to be discharged.

No change has been made to this guidance as a result of this comment.

NEWSC – Comment 4 & Green Bay – Comment 7: Section D, Part 2, Ordinance Review & Updates (page 7) – Please consider modifying a portion of the last sentence of the second paragraph under the “Ordinance Review and Updates” heard from “ is not be expected” to “is not to be expected”.

DNR Response: It has been corrected.

STREAMBANK STABILIZATION

NEWSC – Comment 5: Section D, Part 2, Streambanks Stabilization (page 7) – Please consider providing TSS and TP reduction Credit for streambank and shoreline stabilization projects that are not associated with maintenance of an MS4 system. Streambank and shoreline erosion can be a significant source of sediment and phosphorus.

The third paragraph on page 10 indicates that the MS4 should perform analysis and planning to identify cost-effective approaches for reduction pollutant discharges, including implementation of streambank stabilization. Page 7 and page 10 of the draft guidance appear contradictory.

The SWAT-simulated baseline loads for the Lower Fox River Basin TMDL were calibrated to actual stream and river monitoring data. As such, the streambank and shoreline erosion loads are inherently included in the TMDL baseline loads and allocations for agricultural and urban.

Green Bay – Comment 8: Section D, Part 2, Streambank Stabilization (page 7) – Please consider providing TSS and TP reduction credit for streambank and shoreline stabilization projects that are not associated with maintenance of an MS4 system. Streambank and shoreline erosion can be a significant source of sediment and phosphorus.

Green Bay – Comment 9: The third paragraph on page 10 indicates that the MS4 should perform analysis and planning to identify cost-effective approaches for reducing pollutant discharges, including implementation of streambank stabilization. Page 7 and page 10 of the draft guidance appear contradictory.

Green Bay – Comment 10: The SWAT-simulated baseline loads for the Lower Fox River Basin TMDL were calibrated to actual stream and river monitoring data. As such, the streambank and shoreline erosion loads are inherently included in the TMDL baseline loads and allocations for agriculture and urban and therefore, should be allowed as suitable projects to get credit for.

NCWSC – Comment 2: The guidance basically admits on p. 7 that stream bank restoration is a substantial source of pollutant loading, yet the TMDL baseline assumes that stream banks and other conveyance systems are stable. This is inconsistent and inappropriate; either stream bank erosion is a problem, and should be included in the TMDL loadings, or it isn't and should be left out of this guidance to MS4s.

B & C – Comment 3: Part 2, Page 7, Streambank Stabilization: The guidance prohibits the use of streambank stabilization as a means of MS4 TMDL Compliance. The SWAT-simulated baseline loads for the Lower Fox River Basin and Rock River Basin TMDLs were calibrated to actual stream and river monitoring data. As such, the streambank and shoreline erosion loads are inherently included in the TMDL baseline loads. WDNR document (Adaptive Management Technical Handbook [Page 17, Table 1, and Page 53, Figure 11]) identify streambank stabilization as an urban best management practice. Streambank and shoreline stabilization should be allowed as a stormwater control measure to meet MS4 WLS as long as the streambank stabilization is not applied to part of the MS4 system itself.

The third paragraph on page 10 indicates that the MS4 should perform analysis and planning to identify cost-effective approaches for reduction pollutant discharges, including implementation of streambank stabilization. Page 7 and Page 10 of the draft guidance appear contradictory.

Schoen - Comment 2: The guidance basically admits on page 7 that streambank restoration is a substantial source of pollutant loading, yet the TMDL baseline assumes that streambanks and other conveyance systems are stable. This is inconsistent and inappropriate; either streambank erosion is a problem, and should be included in the TMDL loadings, or it isn't, and should be left out of this guidance to MS4s. Consider modifying the currently open General MS4 permits to include stream bank preservation as an MS4 permit obligation.

DNR Response: For MS4s, WinSLAMM was used to determine the baseline MS4 load discharged, and it was then loaded into SWAT. WinSLAMM does not account for channel or stream erosion. If stream/channel erosion had been assigned a baseline load in the TMDL then the necessary reductions to all sources would be even higher. Therefore, it is not appropriate to take credit against the MS4 percent reduction to meet the TMDL for stabilization of conveyance systems within the MS4 service area. However, numeric credit could be taken through pollutant

trading for non-point source areas outside of the MS4 service area. This will be identified in the guidance.

CREDIT FOR PRACTICES

Strand – Comment 2: Part 2-Implementation and Compliance Benchmarks

- a. Operational Management Practices (Page 7)-Since many communities will be completing modeling and stormwater planning activities (TMDL Implementation Plan) in 2015 with DNR UNPS grant dollars to look at structural and non-structural BMPs for TMDL compliance, we are concerned that DNR guidance documents for credit given to soft-practices will be “late” in coming to effectively use in the TMDL Implementation Plans. We recommend that the DNR convene technical advisory committees for soft practices no later than July 1, 2014 with a draft document due by December 31, 2014, and a final document due by March 1, 2014. As with other guidance, we suggest initial guidance be based on the best available information at the time with the expectation that guidance will change over time. It should be noted that, theoretically, the in-stream water quality data collected to-date would “account” for existing street sweeping, leaf collection, public education, wetland harvesting, erosion control, active waterfowl management, and pet-waste enforcement programs. It would seem logical that guidance should be developed for credit for stronger programs than currently exist unless data shows that credit can be given for existing programs.

We are aware of the Madison leaf study that will not be complete until 2017 (report due) but that data regarding existing leaf collection practices will have been collected and have the opportunity to be analyzed by the end of 2014. We suggest that this data be analyzed as soon as possible to assist in setting the credit for leaf collection in a DNR guidance document.

- b. Streambank Stabilization (Page 7)-If this practice is not given credit toward meeting the TMDL for TSS and phosphorus, there will be very little impetus for a community to initiate and spend money on streambank stabilization projects. The fact that the TMDLs assume banks are stable appears to be incorrect. Logic suggests that if the TMDL ignores streambank erosion, then it is overestimating the load from urban and rural source areas to compensate. In this regard, streambank stabilization would be an urban and rural BMP that that would reduce the urban and rural source area loads. We propose that streambank stabilization be given credit towards meeting a TMDL.

Madison - Comment 3: PART 2 - Page 6 Operational Management Practices - We agree that there are many operational management issues that are not addressed in the TMDL modeling. Improvements made to address real issues need to be given credit if we expect to make headway in TSS and TP reductions in MS4 areas. Towards that end we recommend amending this paragraph to remove the text “*but DNR and the permittee should be able to come to an agreement as to whether the measure is beneficial.*” We believe that this determination should be made uniformly for the state, not on a permit by permit negotiation.

A MS4 can only reasonably be expected to implement a practice that will cost a set amount of money if there is a tangible/quantifiable reduction that can be granted toward the mandated load reductions. This would apply for Operational Management Practices and Stream bank Stabilization.

We suggest replacing that text with: “The DNR will convene technical advisory committees to determine a regulatory amount of load reduction that can be granted as credit (% or LBS) as a result of a municipality implementing “soft –control” practices.”

Schoen - Comment 7: The guidance alludes to practices currently beyond the capabilities of modeling (such as leaf pickup), acknowledges their pollutant removal importance, and states that WDNR will recognize their use, but does not establish how this will be quantified. The Department should establish protocols it will utilize to determine the level of pollutant loading reduction that will be assigned to these non-structural measures.

Schoen - Comment 8: Ongoing research indicates significant non-trivial complexities associated with accurately predicting TP loadings. For example:

- a. Substantial temporal variability in the dissolved fraction of TP over the summer.
- b. Variability associated with tree canopy density.
- c. Variability associated with vegetative type, include tree species.

WDNR should establish a schedule to review the extent of existing science, and basically formalize an “adaptive management” of the TMDL process itself over the next 10 to 20 years.

NCWSC – Comment 7: The guidance alludes to practices currently beyond the capabilities of modelling (such as leaf pickup), acknowledges their pollutant removal importance, and states that WDNR will recognize their use, but does not establish how this will be quantified. The Department should establish protocols it will utilize to determining the level of pollutant loading reduction that will be assigned to these no-structural measures.

NCWSC – Comment 8: Ongoing research indicates significant non-trivial complexities associated with accurately predicting TP loadings. For example:

- a. Substantial temporal variability in the dissolved fraction of TP over the summer.
- b. Variability associated with tree canopy density.
- c. Variability associated with vegetative type, include tree species.

WDNR should establish a schedule to review the extent of existing science, and basically formalize “adaptive management” of the TMDL process itself over the next 10 to 20 years.

DNR Response: DNR will utilize a technical standard development process consistent with s. NR 151.31.

WETLANDS

NEWSC – Comment 6: Section D, Part 2, Wetlands (page 8) – Please consider clarifying that all constructed wetlands installed for stormwater treatment credit are eligible for “non-waters-of-the-state” status.

Green Bay – Comment 11: Section D, Part 2, Wetlands (page 8) – Please consider clarifying that all constructed wetlands installed for stormwater treatment credit are eligible for “non-waters-of-the-state” status.

DNR Response: Wetland standards and applicable definitions are given within ch. NR 103, Wis. Adm. Code. Constructed wetlands are generally expected to meet the definition of an “artificial wetland” under s. NR 103.02(1m), Wis. Adm. Code.

Schoen - Comment 3: Allow wetlands constructed for mitigation to be used for pollutant reduction. The paragraph (on page 8) containing the prohibition on using mitigation wetlands describes the need to harvest constructed wetlands as they reach an equilibrium point; the same methodology should be allowed for mitigation wetlands. This would allow mitigation wetlands to collect revenue for both mitigation banking and pollutant removal, potentially increasing the area that would be financially sustainable to convert to wetlands.

NCWSC – Comment 3: Allows wetlands constructed for mitigation to be used for pollutant reduction. The paragraph (on p. 8) containing the prohibition on using mitigation wetlands describes the need to harvest constructed wetlands as they reach an equilibrium point; the same methodology should be allowed for mitigation wetlands. This would allow mitigation wetlands to collect revenue for both mitigation banking and pollutant removal, potentially increasing the area that would be financially sustainable to convert to wetlands.

DNR Response: Federal regulations do not allow for both treatment credit and credit for wetland mitigation in the same constructed wetland. Credit may only be taken for one or the other.

BENCHMARKS

NEWSC – Comment 7: Section D, Part 2, Compliance Schedule & Benchmarks (page 8) – Please consider providing an example compliance schedule. The draft guidance indicates that a compliance schedule will be including in the 2nd reissuance of the MS4 Permit but section 1.5.4.4.5.2 of the draft MS4 Permit indicates that a proposed implementation schedule needs to be submitted within the 1st reissuance of the MS4 Permit (i.e. March 31, 2018). Standing actual dates for an example municipal MS4 would be helpful.

Green Bay – Comment 12: Section D, Part 2, Compliance Schedule & Benchmarks (page 8) – Please consider providing an example compliance schedule. The draft guidance indicates that a compliance schedule will be included in the 2nd reissuance of

the MS4 Permit but section 1.5.4.5.2 of the draft MS4 Permit indicates that a proposed implementation schedule needs to be submitted within the 1st reissuance of the MS4 Permit (i.e. March 31, 2018). Stating actual dates for an example municipal MS4 would be helpful.

B & C – Comment 4: Page 8, Compliance Schedule and Benchmarks: The first paragraph could be made clearer if an example MS4 schedule was laid out with actual dates. The term “second reissuance” can be confusing.

DNR Response: We no longer refer to the issuance or 2nd reissuance of the permit in this guidance but rather reference the MS4 permit itself. The MS4 permit will contain the compliance schedule requirements. The MS4 general permits were issued in May 2014 so they can be directly referred to.

Strand – Comment 3: Part 3-Modeling

- a. MS4 vs TMDL Model-Some communities will have a portion of the community that drains to a TMDL watershed and some that doesn't. Is it expected that a community maintain two models, one for TMDL Compliance and one MS4 Compliance (20% TSS reduction)? In the TMDL watershed, “old” MS4 watersheds and modeling will change. We would envision that the “new” TMDL modeling/watersheds would supersede the “old” MS4 modeling/watersheds in the TMDL watershed such that the “old” MS4 modeling/watersheds would not need to be maintained moving forward. Please confirm.

DNR Response: Section 281.16 (2)(am)3, Wis. Stats., requires that all municipal storm water practices installed prior to July 1, 2011 be maintained to the MEP. Therefore, once an MS4 has demonstrated compliance with the 20% developed urban area standard, the 20% developed urban area analysis modeling does not need to be redone.

TMDL DEVELOPMENT

Schoen - Comment 9: Although this guidance is specific to MS4's, assumptions about agricultural practices are worth noting. If the baseline for load allocation assumes all agricultural practices are complying with NR 151, when this is almost assuredly not the case, the potential exists for the TMDL load allocation math to be wrong enough that even if all the point source permit holders eventually achieve compliance, the water bodies remain impaired. The assumptions for current conditions should reflect the best available scientific data, not the condition that is most politically palatable.

Schoen - Comment 10: Waste Load Allocation calculation should consider all options permissible by EPA, not just uniform percent reduction across all sources. Cost-effectiveness of implementation should be part of the methodology selection criteria.

Although WDNR currently has limited authority to regulate agricultural practices, include potential system-wide cost savings under hypothetical agricultural management scenarios. Providing this information to the public, and legislators, would be an excellent way to start the (long overdue) policy conversation Wisconsin needs to have regarding water quality and agriculture.

Schoen - Comment 12: Make sure the math is right before issuing a TMDL, including MOS and baseline assumptions. This includes establishing science-based statistical methods for determining MOS based on an uncertainty analysis of the data used to develop the TMDL. Existing conditions assumptions for at least one TMDL in development reportedly include that all agricultural practices are compliant with NR 151. One of the worst possible outcomes of a TMDL would be to have permit holders invest in substantial capital upgrades, only to have the water bodies remain impaired because the MOS or agricultural loadings were based on erroneous assumptions.

NCWSC – Comment 9: Although this guidance is specific to MS4's, assumptions about agricultural practices are worth noting. If the baseline for load allocation assumes all agricultural practices are complying with NR 151, when this is almost assuredly not the case, the potential source permit holders eventually achieve compliance, the water bodies remain impaired. The assumptions for current conditions should reflect the best available scientific data, not the condition that is most politically palatable.

NCWSC – Comment 10: Waste load allocation calculation should consider all options permissible by EPA, not just uniform percent reduction across all source. Cost-effectiveness of implementation should be part of the methodology selection criteria.

DNR RESPONSE: Comments of this nature are applicable to development and or approval of TMDLs. However, these comments are not relevant to implementation guidance of an approved TMDL. No change made to the implementation guidance.

MSA – Comment 1: The guidance calls for specifically modeling ***privately owned*** structural BMPs, but doesn't call for the same considerations for publicly owned BMPs. I would suggest changing the text to specifically require modeling of all structural BMPs.

DNR Response: This has been clarified and both public and privately owned structural BMPs are to be modeled accordingly.

TMDL ANALYSIS AREA

Strand – Comment 3: Part 3-Modeling

- b. TMDL Analysis Area (Page 11), Incorporation of rural areas - Does this paragraph apply to just Villages and Cities? Specifically, what is meant by

“Adjacent Urban Developed Areas”? Does this mean industrial park-type areas that don’t show up in the UA because of no population density?

DNR Response: Yes it is intended to apply to just cities and villages and this is intended to pull in industrial park-type areas.

Schoen - Comment 4: The “Incorporation of rural areas” section on page 11 states that “all areas within the 2010 urbanized area and adjacent urban developed areas” need to be counted for municipalities that incorporated an entire township, or a large portion. Later on the same page, areas outside of the 2010 urbanized area are declared optional for towns. These two statements potentially conflict for incorporated towns with areas of highly developed land use located outside of the Census Bureau Urbanized Area boundary.

NCWSC – Comment 4: The “Incorporation of rural areas” section on page 11 states that “all areas within the 2010 urbanized area and adjacent urban developed areas” need to be counted for municipalities that incorporate an entire township, or a large portion. Later on the same page, areas outside of the 2010 urbanized area are declared optional for towns. These two statements potentially conflict for incorporated towns with areas of highly developed land use located outside of the UA boundary.

DNR Response: DNR has clarified this discrepancy.

Schoen - Comment 5: The instruction (on page 11) to assign the “nearest urban land use” for ROW’s that have adjacent agricultural land use may conflict with the additional instruction to “select the urban land use that will most likely typify the traffic”. Replace “nearest” with “most appropriate”, and allow modelers to exercise professional judgment in determining what land use will best represent the area.

DNR Response: This change has been incorporated.

Green Bay – Comment 14: Section D, Part 3, TMDL Analysis Area, Highways (page 11) – In the “Highway” subsection, please consider clarifying the limits of responsibility for a roadway / highway crossing. For instance, sometimes the local roadway crossing is over the highway and sometimes the local roadway crossing is below the highway. Also, the local roadway crossing is often located within the highway right-of-way where the local MS4 does not have jurisdiction, ownership, operation or maintenance authority for a bridge, overpass, or approach.

NEWSC – Comment 9: Section D, Part 3, TMDL Analysis, Highways, (page 11) – In the “Highway” subsection, please consider clarifying the limits of responsibility for a roadway/highway crossing. For instance, sometimes the local roadway crossing is over the highway and sometimes the local roadway crossing is below the highway. Also, the local roadway crossing is often located within the highway right-of-way where the local MS4 does not have jurisdiction, ownership, operation or maintenance authority for a bridge, overpass or approach.

DNR Response: The guidance will clarify that a permitted MS4's runoff from a local road crossing of another highway is the responsibility of the entity that owns/operates the crossing structure.

NCWSC – Comment 5: The instruction on p.11 to assign the “nearest urban land use” for ROW's that have adjacent agricultural land use may conflict with the additional instruction to “select the urban land use that will most likely typify the traffic”. Replace “nearest” with “most appropriate”, and allow modelers to exercise professional judgment in determining what land use will best represent the area.

DNR Response: DNR agrees and will revise guidance accordingly.

Green Bay – Comment 13: Section D, Part 3, Guidance (page 11) – The phrase “MS4 as a whole” implies the TMDL allocations are a MS4-wide numeric standard, rather than a reachshed numeric standard.

NEWSC – Comment 8: Section D, Part 3, Guidance (page 11) – The phrase “MS4 as a whole” implies the TMDL allocations are a MS4-wide numeric standard, rather than a reachshed numeric standard.

DNR Response: The reference to “as a whole” has been removed.

PUMPED WATER

Strand – Comment 3: Part 3-Modeling

Modeling Clarifications (Page 13), 4th bullet-For pumped discharge from internally drained area, the phrase “expected to monitor” is used. How will this be administered by the DNR and how often would the monitoring need to be done?

NEWSC – Comment 10: Section D, Part 3 Modeling Clarification (page 13) – Please consider deleting the fourth bullet. The MS4 Permit is based on modeling, not monitoring. Also, an internally drained area that is pumped may already be permitted through another WPDES Permit such as a quarry, swimming pool, etc. It is not practicable or reasonable to require an MS4 to monitor pumped discharges from internally drained areas such as industrial and commercial loading docks, detention ponds, biofilters, etc. There are numerous examples of pumped facilities in Wisconsin.

Schoen - Comment 6: Page 13 includes a requirement that water pumped from an internally drained area needs to be monitored to determine the mass of pollutants discharged. No justification or explanation is given for this requirement, and it is not clearly explained. It could be interpreted as requiring chemical testing at the discharge, which could be a significant expense, or to mean that the volume must be measured and a pollutant load then extrapolated by assuming the same pollutant concentration as modeled runoff. This idea is complicated by the issue of groundwater pumping that occurs at some areas where stormwater is pumped from low-lying enclosed areas. Some MS4s have inlets in low-lying areas with highly permeable soils; wet conditions raise groundwater enough to require system pumping.

NCWSC – Comment 6: Page 13 includes a requirement that water pumped from an internally drained area needs to be monitored to determine the mass of pollutants discharge. No justification or explanation is given for this requirement, and it is not clearly explained. It could be interpreted as requiring chemical testing at the discharge, which could be a significant expense, or to mean that the volume must be measured and a pollutant load then extrapolated by assuming the same pollutant concentration as modeled runoff. This idea is complicated by the issue of groundwater pumping that occurs at some areas where stormwater is pumped from low-lying areas.

B & C – Comment 5: Page 13, Modeling Clarification, 4th bullet: This bullet requires monitoring to be conducted for stormwater that is pumped from an internally drained area. The term “internally drained” needs to be further defined. This term could apply to sites that already have a discharge permit (such as quarries or regulated industrial sites). It also could apply to situations that are only pumped out during very large storm events. These events are not generally considered in urban water quality analysis.

Green Bay – Comment 15: Section D, Part 3, Modeling Clarifications (page 13) – Please consider deleting the fourth bullet. The MS4 Permit is based on modeling, not monitoring. Also, an internally drained area that is pumped may already be permitted through another WPDES Permit such as a quarry, swimming pool, etc. It is duplication of effort for an MS4 to monitor a discharge that is already monitored. Also, it is not practicable or reasonable to require an MS4 to monitor pumped discharges from internally drained areas such as industrial and commercial loading docks, detention ponds, biofilters, etc. There are numerous examples of pumped facilities in Wisconsin.

DNR Response: Gathering of pumped monitoring data is needed to determine the mass discharged from internally-drained areas that are of many acres in size. A representative annual average mass discharge to include in the overall MS4 TMDL analysis is needed. For example, DNR intends to utilize monitoring data to determine the annual average mass discharged from Tiedemann Pond (City of Middleton) and Paradise Pond (City of Stoughton).

Green Bay – Comment 16: Section D, Part 3, Modeling Clarifications (page 13) – Please consider modifying the seventh bullet such that could be given for street sweeping / cleaning of non-curbed streets. The City sweeps our inverted alley sections multiple times a year, primarily in early spring, to collect the winter sand and debris that accumulated prior to discharging into the storm sewer system. If these non-curbed areas were not cleaned, then this material would potentially be transported and deposited in the waters of the state.

DNR Response: DNR has revised this bullet and will allow credit for street cleaning where a curb or equivalent barrier is present which leads to sediment build up on the street.

Prepared by: Eric Rortvedt, DNR Storm Water Engineer

Dated: October 20, 2014