



Impaired Water Bodies and MS4 Permitting

Stormwater Team, Water Quality Division

April 20, 2021

Outline

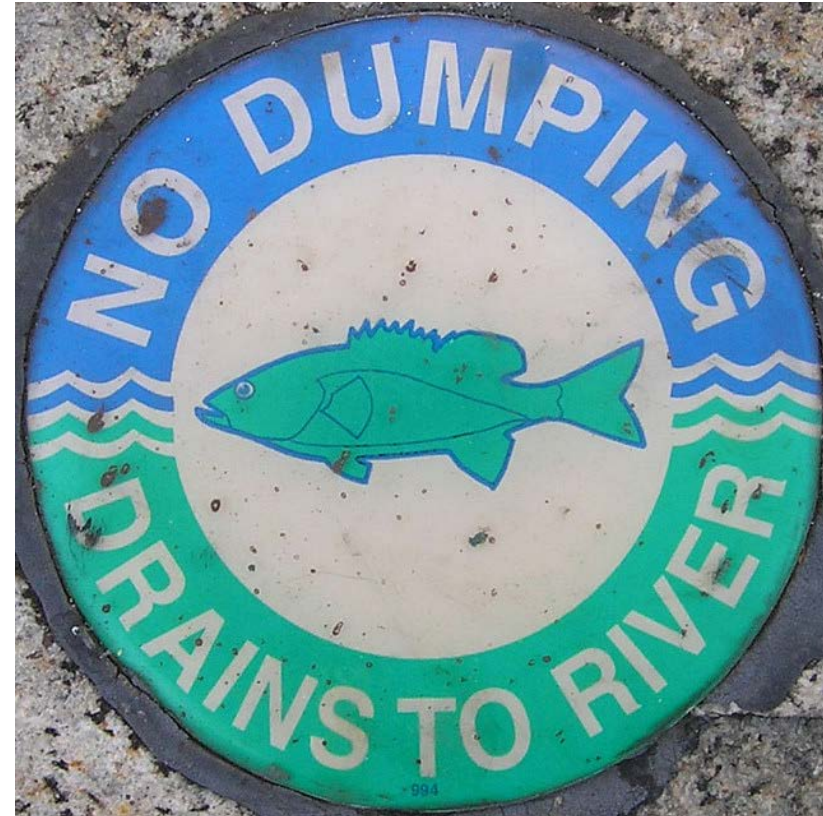
- Impaired Water Bodies and MS4s
- Texas Integrated Report
- Impaired Water Body Requirements
- TMDL Water Body Requirements
- Annual Report Requirements
- Resources and Contact Information



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MS4 Permits and Impaired Water Bodies

- Phase I & II MS4 permits include nearly identical requirements to address impaired water bodies
- Water bodies are considered impaired if identified as not meeting Texas Surface Water Quality Standards on the latest ***TCEQ & EPA-approved Texas Integrated Report Index of Water Quality Impairment.***



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Texas Integrated Report of Surface Water Quality

- [Texas Integrated Report](#) describes the status of the state's waters, as required by Sections 305(b) and 303(d) of the federal Clean Water Act.
- 2020 Texas 303(d) List
 - TCEQ Commission adopted on March 25, 2020
 - EPA approved on May 12, 2020



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2020 Texas Integrated Report Index of Water Quality Impairments

- MS4s must annually evaluate the status of their receiving water bodies to determine if they have been assigned a category for impairment
- Water body impairments:
 - **Category 4a** – TMDL requirements must be met
 - **Category 5** – impaired water bodies requirements must be met

Category 4: Standard is not supported for one or more designated uses but does not require the development of a TMDL.
Category 4a - All TMDLs have been completed and approved by EPA.
Category 4b - Other control requirements are reasonably expected to result in the attainment of all standards.
Category 4c - Nonattainment is shown to be caused by pollution, not by pollutants and that the water quality conditions cannot be changed by the allocation and control of pollutants through the TMDL process.

Category 5: The water body does not meet applicable water quality standards for one or more designated uses by one or more pollutants.
Category 5a - TMDLs are underway, scheduled, or will be scheduled for one or more parameters.
Category 5b - A review of the standards for one or more parameters will be conducted before a management strategy is selected, including a possible revision to the TSWQSSs.
Category 5c - Additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected.

2020 Texas Integrated Report Index of Water Quality Impairments

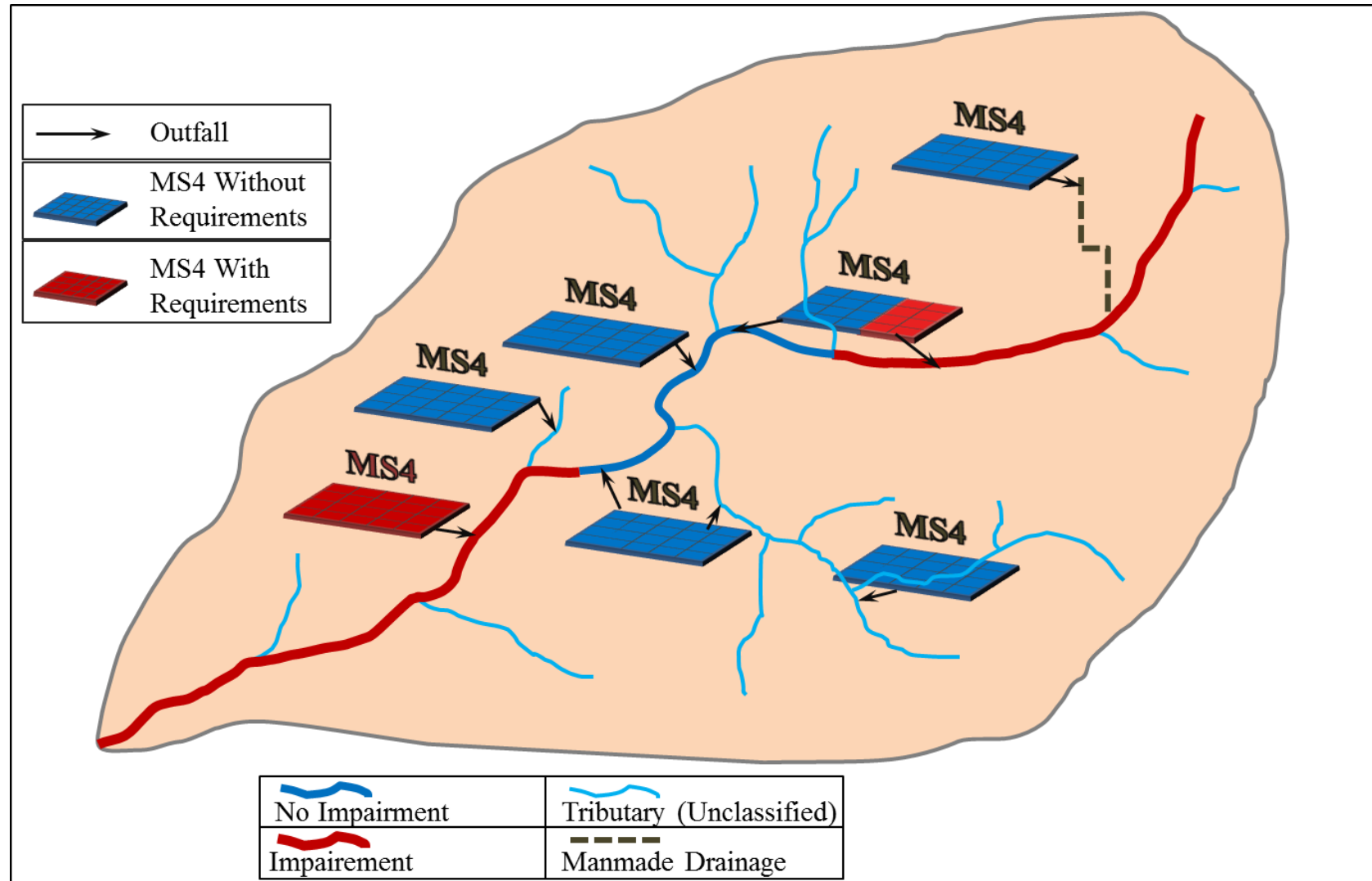
- Within two years following the approval date of any newly listed impaired waters, the MS4 must comply with the requirements for impaired water bodies

2020 Texas Integrated Report - Water Bodies Added to the Texas 303(d)

SegID:	Segment Name	Impairment Description	Category
0402B	Hughes Creek	Depressed dissolved oxygen in water	5c
0404E	Dry Creek	Bacteria in water (Recreation Use)	5c
0404J	Prairie Creek	Depressed dissolved oxygen in water	5c
0410	Black Cypress Bayou (Creek)	Lead in water	5c
0604A	Cedar Creek	Depressed dissolved oxygen in water	5c
0701D	Shallow Prong Lake	Depressed dissolved oxygen in water	5c
0804L	Town Creek	Bacteria in water (Recreation Use)	5c
0809C	Dosier Creek	Bacteria in water (Recreation Use)	5c
0809D	Derrett Creek	Bacteria in water (Recreation Use)	5c
0811B	Beans Creek	Bacteria in water (Recreation Use)	5c
0812	West Fork Trinity River Above Bridgeport Reservoir	Total dissolved solids in water	5c
0814	Chambers Creek Above Richland-Chambers Reservoir	Bacteria in water (Recreation Use)	5c

Impaired Water Body Requirements

- If the MS4 discharges **directly** into an impaired water body without an approved TMDL, the permittee must meet specific requirements



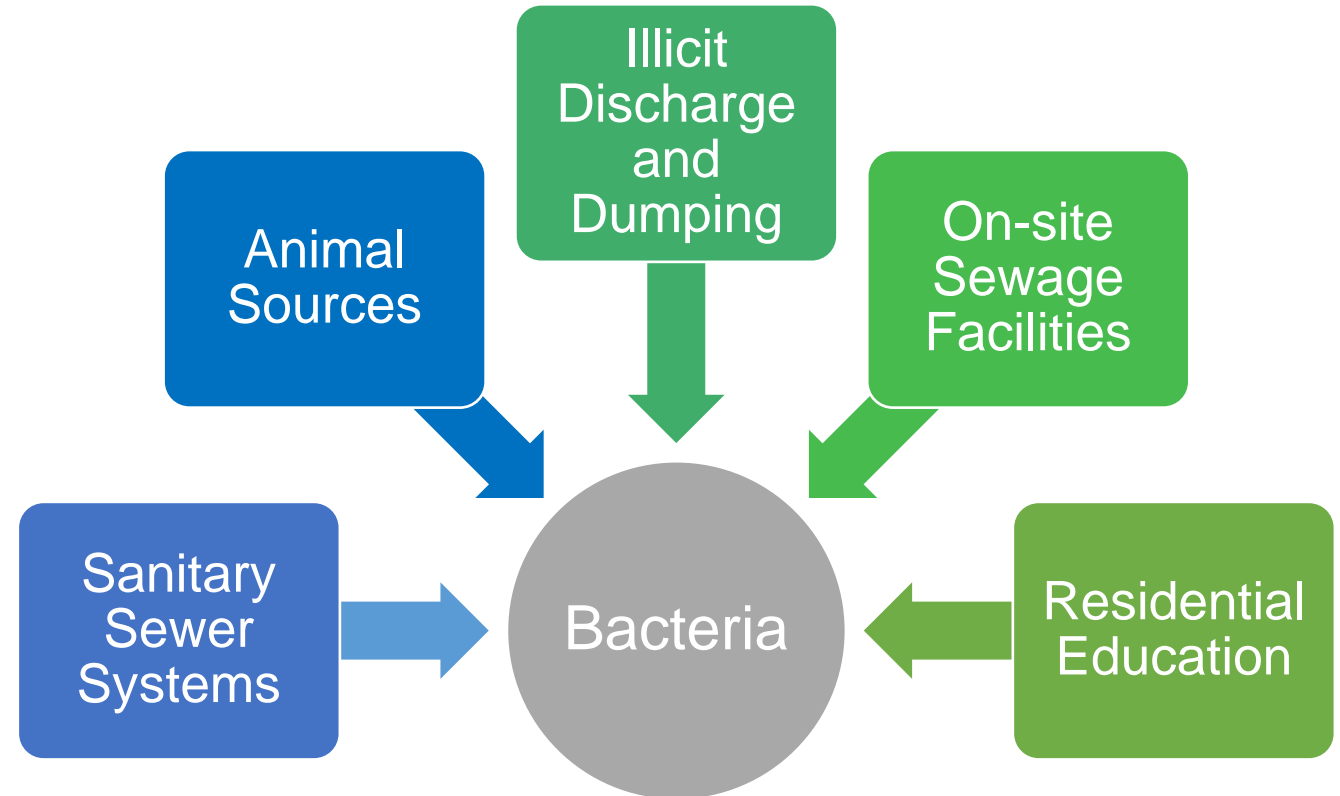
Impaired Water Body Requirements



- The permittee must determine if the MS4 may be a source of the pollutant(s) of concern (POC)
- If the MS4 is a source of the POC, the MS4's Stormwater Management Program (SWMP) must include focused best management practices (BMPs) with measurable goals to reduce the discharge of the POC

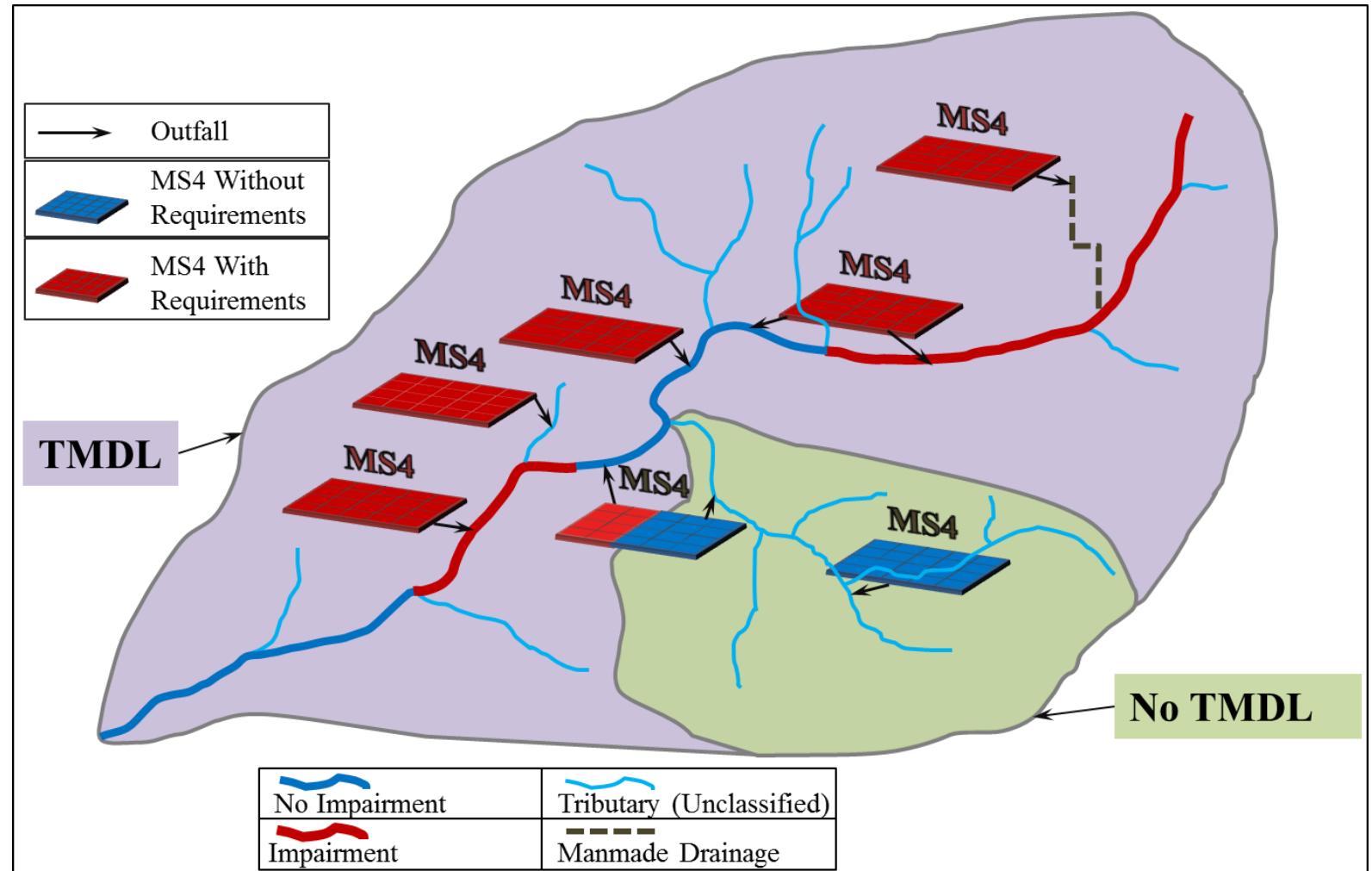
Impaired Water Body Requirements

- Where the POC is Bacteria:
 - MS4s are a source
 - Permittees must:
 - identify potential significant sources and
 - develop and implement focused BMPs for those sources



TMDL Requirements

- If the MS4 discharges ***directly or indirectly*** to an impaired water body with an approved TMDL and stormwater has the potential to cause or contribute to the impairment, the permittee must meet TMDL requirements



TMDL Requirements

The SWMP and annual reports must include information on:

Targeted Controls - To be implemented, such as identifying areas of focused effort or implementing additional BMPs to reduce the POC in the impaired waters

Measurable Goals - For each targeted control, a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term is required

Identification of Benchmark - The SWMP must identify a benchmark for the POC.

Monitoring or Assessment of Progress - Develop a plan to monitor or assess progress in achieving benchmarks and determine the effectiveness of BMPs

TMDL Requirements

Targeted Controls and Measurable Goals

Hypothetical Case Study: City of Smalltown, Texas, discharges to a TMDL water body with a POC for Bacteria. Animals have been identified as a significant contributor of bacteria in the watershed. The City also wants to increase the overall knowledge of the citizens on stormwater pollution.

Targeted Control: Pet Waste Station Campaign in Public Parks

- The City will set up at least two pet waste stations in every city owned park by December 2021.
- The City will provide educational materials about bacteria from pet waste in monthly Parks and Recreation newsletters from January 2021 through December 2024.

TMDL Requirements

Identification of Benchmarks

Option 1:

- If the MS4 is subject to a TMDL that identifies a Waste Load Allocation (WLA) for permitted MS4 stormwater sources, then the SWMP will identify it as the benchmark.
 - Where an aggregate allocation is used as a benchmark, all affected MS4s are jointly responsible for meeting the benchmark and must (jointly or individually) develop a monitoring/assessment plan

Table 61. *E. coli* TMDL summary calculations for the Upper Trinity River AUs 0805_04 and 0805_03

(all loads expressed as billion MPN/day)

AU	TMDL ^a	WLA _{WWTF} ^{b,c}	WLA _{SW} ^d	LA _{AU} ^e	LA _{USL}	MOS ^h	Future Growth ⁱ
0805_04	22,890	0	1,480	0	21,310 ^f	78.79	16.57
0805_03	25,640	477.0	2,123	0	22,890 ^g	137.8	18.96

TMDL Requirements

Identification of Benchmarks

Option 2:

- If multiple MS4s are discharging into the same impaired water body with an approved TMDL, with an aggregate WLA for all permitted stormwater MS4s, then the MS4s may combine or share efforts to determine an alternative sub-benchmark value for the POC for their respective MS4.
- The SWMP must:
 - clearly define this alternative approach and
 - describe how the sub-benchmark value would cumulatively support the aggregate WLA.
- Where an aggregate benchmark has been broken into sub-benchmark values for individual MS4s, each permittee is only responsible for progress in meeting its sub-benchmark value.

TMDL Requirements

- Where the POC is Bacteria:
 - Permittee shall develop and implement focused BMPs for those sources:
 - Animal Sources, Sanitary Sewer Systems, Illicit Discharge & Dumping, On-site Sewage Facilities, and Residential Education
 - If a TMDL Implementation Plan (I-Plan) is available, the permittee may either refer to the I-Plan for appropriate BMPs or provide appropriate alternative BMPs.



Approved by the Commission: December 11, 2013
Approved by the Coordination Committee: July 11, 2012
Revised by the Coordination Committee: June 15, 2017, June 13, 2019,
June 30, 2020

Implementation Plan Twenty-Three Total Maximum Daily Loads for Bacteria in the Greater Trinity River Region

Upper Trinity River

Segment 0805

Assessment Units 0805_03 and 0805_04

Cottonwood Branch and Grapevine Creek

Segments 0822A and 0822B

Assessment Units 0822A_02 and 0822B_01

Lower West Fork Trinity River

Segments 0841, 0841B, 0841C, 0841E, 0841G, 0841H, 0841J,
0841L, 0841M, 0841R, 0841T, and 0841U

Assessment Units 0841_01, 0841_02, 0841B_01, 0841C_01, 0841E_01,
0841G_01, 0841H_01, 0841J_01, 0841L_01, 0841M_01, 0841R_01,
0841T_01, and 0841U_01

Mountain Creek Lake Tributaries

Segments 0841F, 0841K, 0841N, 0841Q, and 0841V

Assessment Units 0841F_01, 0841K_01, 0841N_01, 0841Q_01, and
0841V_01

Sycamore Creek

Segment 0806E

Assessment Unit 0806E_01

TMDL Requirements

I-Plan BMPs - example

Implementation Plan

- **Implementation Strategy 3.0:** Adoption of green infrastructure (GI) and low impact development (LID) standards by municipalities

SWMP

- **BMP:** Evaluate development standards for inclusion of GI/LID standards.
- **Measurable Goal:** By December 2022, review development standards for inclusion of GI/LID standards. Initiate updates to the standards by February 2023 to address findings.

TMDL Requirements

Evaluation of Progress

Option 1 - Evaluating Program Implementation Measures:

- Permittees evaluate progress by:
 - describing the activities and BMPs implemented,
 - identifying the appropriateness of the identified BMPs, and
 - evaluating the success of implementing the measurable goals.

TMDL Requirements

Evaluation of Progress

Option 1 - Evaluating Program Implementation Measures:

- Permittees assess progress by using program implementation indicators such as:
 - (1) number of sources identified or eliminated;
 - (2) decrease in number of illegal dumping;
 - (3) increase in illegal dumping reporting;
 - (4) number of educational opportunities conducted;
 - (5) reductions in sanitary sewer flows (SSOs); or,
 - (6) increase in illegal discharge detection and elimination through dry screening, etc.

TMDL Requirements

Evaluation of Progress

Option 2 - Assessing Improvements in Water Quality:

- Permittee evaluates progress:
 - using available data for segment and assessment units of water bodies from other reliable sources, *or*
 - proposing and justifying a different approach
 - collecting additional instream or outfall monitoring data, etc.
- Permittees may use data from TCEQ, local river authorities, partnerships, and/or other local efforts as appropriate.



TMDL Requirements

Observing No Progress Toward the Benchmark

- If, by the end of the 3rd year from the effective date of the permit, the permittee observes no progress toward the benchmark either from program implementation or water quality assessments, the permittee shall:
 - Identify alternative focused BMPs that address new or increased efforts towards the benchmark, *or*
 - Develop a new approach to identify the most significant sources of the POC and develop alternative focused BMPs for those
 - This may also include information that identifies issues beyond the MS4's control
- BMPs must be included in the SWMP and subsequent annual reports

Annual Report Requirements

- The MS4 annual report must include information on compliance with impaired water body requirements, including results of any sampling conducted by the MS4
 - Identify any newly listed water bodies
 - Report progress towards achieving the benchmark
 - Report the benchmark and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.
 - Include an analysis of how the selected BMPs will be effective in contributing to achieving the benchmark value.

Stormwater Team Contacts

Stormwater Team



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- Ursula Canales
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Resources

- [2020 Texas Integrated Report – EPA Approved](#)
- [Segments with TMDLs - TCEQ](#)
- [National Menu of BMPs – EPA](#)
- [Small Business and Local Government Assistance - TCEQ](#)

Questions?



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