TPDES MS4 Permitting and Impaired Water Bodies

Stormwater Team, Water Quality Division

August 16, 2023

Outline

- MS4 Permits and Impaired Water Bodies
- Texas Integrated Report
- Impaired Water Body Requirements
- TMDL Requirements
- Annual Report Requirements
- Program Announcements
- Resources and Contact Information

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*.

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.
- 2022 Texas 303(d) List
  - TCEQ Commission adopted on June 1, 2022
  - EPA approved on July 7, 2022

2022 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 pollutaints 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 TSWQSs. *Category 5c* - Additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected.

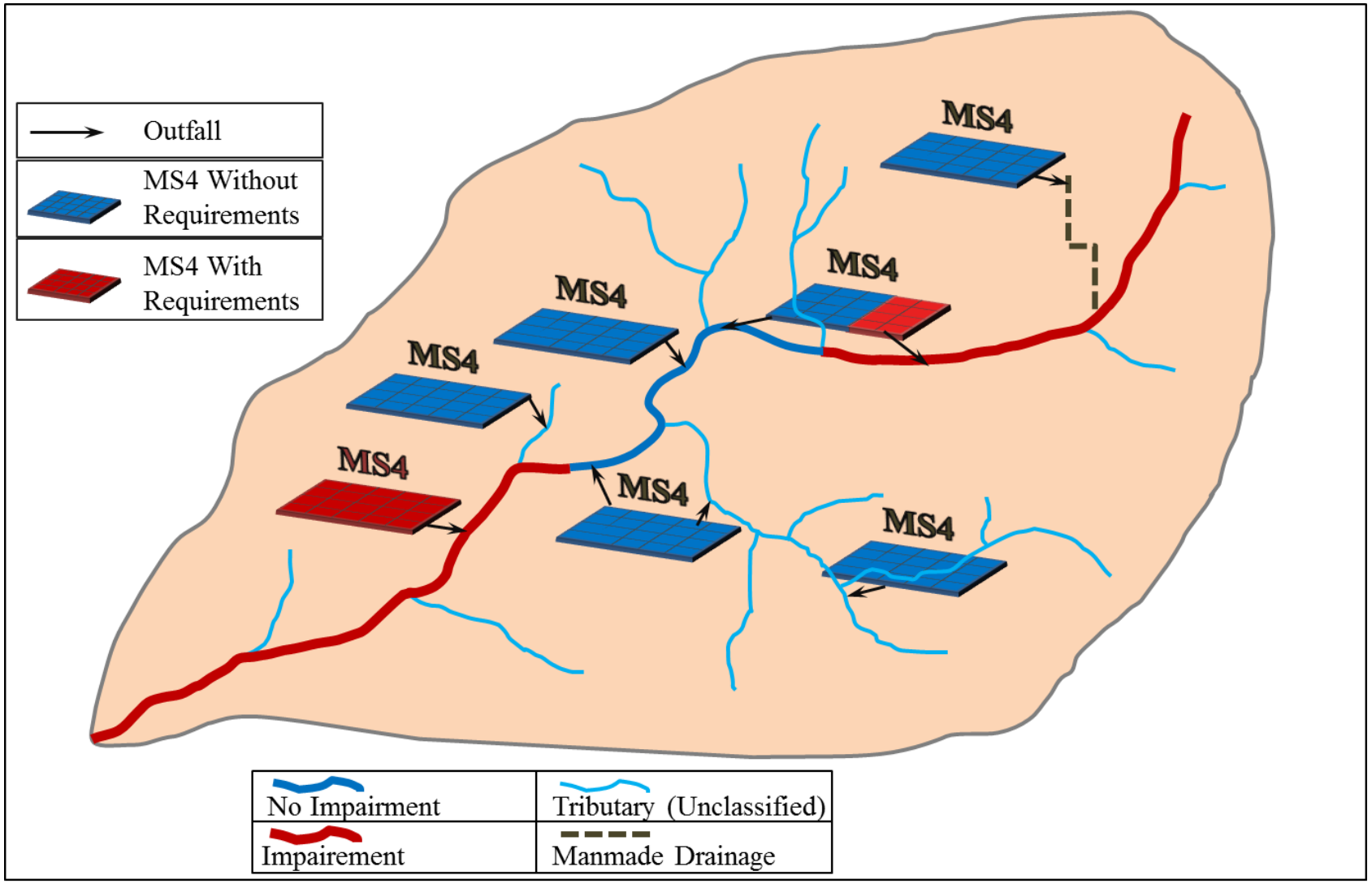
2022 Texas Integrated Report Index of Water Quality Impairments

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

Segment ID	Segment Name	AU ID	Parameter	Category
1007B	Brays Bayou Above Tidal	1007B_01	Bacteria in water (Recreation Use)	4a
		1007B_02	Bacteria in water (Recreation Use)	4a
1007C	Keegans Bayou Above Tidal	1007C_01	Bacteria in water (Recreation Use)	4a
1007D	Sims Bayou Above Tidal	1007D_01	Bacteria in water (Recreation Use)	4a
		1007D_02	Bacteria in water (Recreation Use)	4a
		1007D_03	Bacteria in water (Recreation Use)	4a
1007E	Willow Waterhole Bayou Above Tidal	1007E_01	Bacteria in water (Recreation Use)	4a
1007F	Berry Bayou Above Tidal	1007F_01	Bacteria in water (Recreation Use)	4a
1007G	Kuhlman Gully Above Tidal	1007G_01	Bacteria in water (Recreation Use)	4a
1007H	Pine Gully Above Tidal	1007H_01	Bacteria in water (Recreation Use)	4a
			Depressed dissolved oxygen in water	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

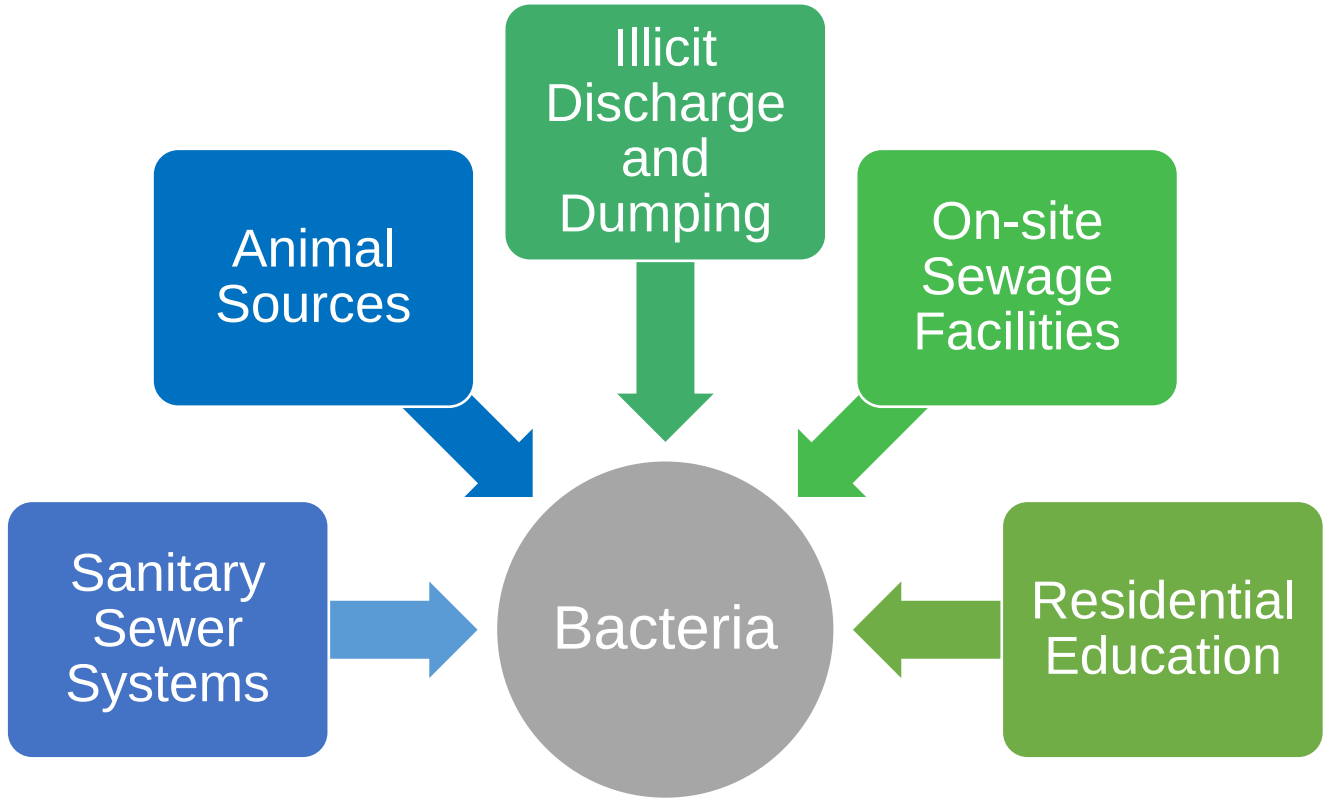


Impaired Water Body Requirements

- 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

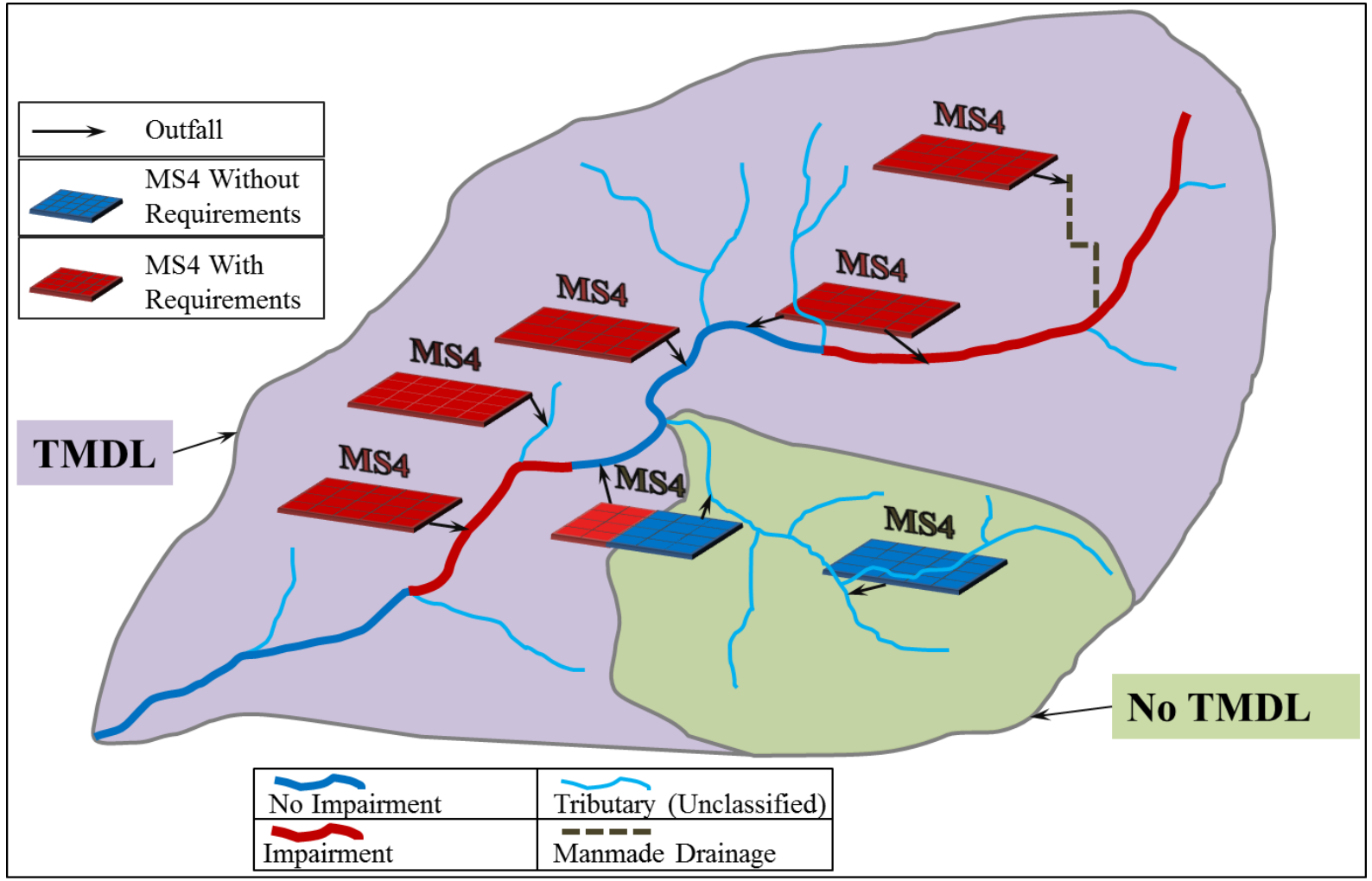
Impaired Water Body Requirements

- Where the POC is *Bacteria*:
  - MS4s are always a source
  - Permittees must:
    - identify their 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 MS4's 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 – *Case Study*

Targeted Controls and Measurable Goals

Hypothetical Case Study: City of Smalltown, Texas, discharges to a water body with an established TMDL to address the POC, 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

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 17. *E. coli* TMDL Summary Calculations for Brays Bayou AUs

Assessment Unit	Sampling Location	Stream Name	TMDL[a] (Billion MPN/day)	WLA_{WWTF}[b] (Billion MPN/day)	$WLA_{StormWater}$[d] (Billion MPN/day)
1007B_01	11138	Brays Bayou Above Tidal	2,390	377[c]	1,830
1007B_02	15848		162	41.2	100

TMDL Requirements

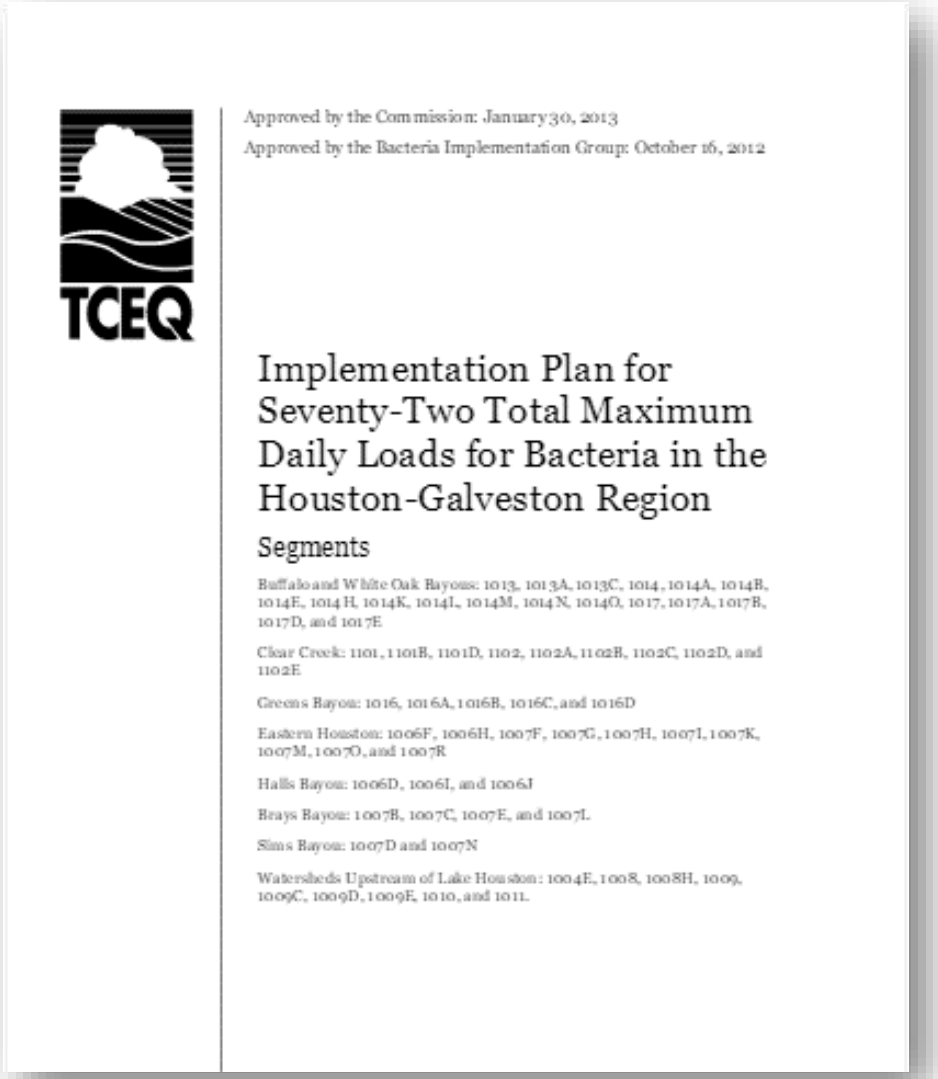
Identification of Benchmarks

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) has been developed, the permittee will either:
    - refer to the I-Plan for appropriate BMPs or
    - provide appropriate alternative BMPs.



TCEQ

Approved by the Commission: January 30, 2013

Approved by the Bacteria Implementation Group: October 16, 2012

Implementation Plan for Seventy-Two Total Maximum Daily Loads for Bacteria in the Houston-Galveston Region

Segments

Buffalo and White Oak Bayous: 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E

Clear Creek: 1101, 1101B, 1101D, 1102, 1102A, 1102B, 1102C, 1102D, and 1102E

Greens Bayou: 1016, 1016A, 1016B, 1016C, and 1016D

Eastern Houston: 1006F, 1006H, 1007F, 1007G, 1007H, 1007I, 1007K, 1007M, 1007O, and 1007R

Halls Bayou: 1006D, 1006I, and 1006J

Brays Bayou: 1007B, 1007C, 1007E, and 1007L

Sims Bayou: 1007D and 1007N

Watersheds Upstream of Lake Houston: 1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011.

TMDL Requirements

I-Plan BMPs - example

Implementation Plan	SWMP
• **Implementation Strategy 6.1:** Detect and Eliminate Illicit Discharges. Jurisdictions shall devise and implement a program, as they deem practicable, to detect and eliminate illicit discharges that assist them in identifying sources for further enforcement action.	

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

<u>Option 2 - Assessing Improvements in Water Quality:</u>

- Permittees evaluate 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 third 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.

2024 Phase II MS4 General Permit Renewal

- TCEQ is in the process of renewing the TPDES general permit for small MS4s (TXR040000) which expires on January 24, 2024
- Significant changes to the proposed general permit include:
  - Moved from a Two-Step to a Comprehensive permitting approach:
    - Eliminated the requirement to submit SWMPs to TCEQ for review
    - Eliminated the requirement for MS4s to publish notice of their SWMP approval
  - Required all applications and annual reports to be submitted electronically through EPA's NetMS4 system,
  - Replaced the term "urbanized area" in the permit with the phrase "urban areas with a population of at least 50,000," in response to the U.S. Census Bureau's decision to discontinue the use of the term "urbanized area", and
  - Included "urban areas with a population of at least 50,000" based on the 2020 Decennial Census.

2024 Phase II MS4 General Permit Renewal

Resources

- 2022 Texas Integrated Report – EPA Approved
- Segments with TMDLs - TCEQ
- National Menu of BMPs – EPA
- Small Business and Local Government Assistance - TCEQ

Stormwater Team Contacts

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Questions?