July 2025 Update to the Texas Water Quality Management Plan

Prepared by
Water Quality Division, Office of Water

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY • PO BOX 13087 • AUSTIN, TX 78711-3087

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Developed in accordance with Sections 205(j), 208,
and 303 of the Clean Water Act
and applicable regulations thereto.

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Introduction

The Texas Water Quality Management Plan (WQMP) is the product of a wastewater treatment facility (WWTF) planning process developed and updated in accordance with provisions of Sections 205(j), 208, and 303 of the Clean Water Act (CWA), as amended. The WQMP is an important part of the State's program for accomplishing its clean water goals.[1]

The Texas Department of Water Resources, a predecessor agency of the Texas Commission on Environmental Quality (TCEQ), prepared the initial WQMP for waste treatment management during the late 1970s. The CWA mandates that the WQMP be updated as needed to fill information gaps and revise earlier certified and approved plans. Any updates to the plan need involve only the elements of the plan that require modification. The original plan and its subsequent updates are collectively referred to as the "State of Texas Water Quality Management Plan."

The WQMP is tied to the State's water quality assessments that identify priority water quality problems. WQMPs are used to direct planning for implementation measures that control and/or prevent water quality problems. Several elements may be contained in the WQMP, such as effluent limitations of wastewater facilities, total maximum daily loads (TMDLs), nonpoint source management controls, identification of designated management agencies, and groundwater and source-water protection planning. Some of these elements may be contained in separate documents, which are prepared independently of the current WQMP update process, but may be referenced as needed to address planning for water quality control measures.

This document, as with previous updates[2], will become part of the WQMP after completion of the public comment period, certification by TCEQ, and approval by the United States Environmental Protection Agency (EPA).

The materials presented in this document revise only the information specifically addressed in the following sections. Previously certified and approved WQMPs remain in effect.

[1] See the formal definition of a water quality management plan in Title 40 Code of Federal Regulations (CFR) 130.2(k).

[2] Fiscal Years 1974, 1975, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984/85, 1986/88, 1989, 1990, 1991, 1992, 1993/94, 1995, 1996, 1997/98, 02/1999, 05/1999, 07/1999, 10/1999, 01/2000, 04/2000, 07/2000, 10/2000, 01/2001, 04/2001, 07/2001, 10/2001, 01/2002, 04/2002, 07/2002, 10/2002, 01/2003, 04/2003, 07/2003, 10/2003, 01/2004, 04/2004, 07/2004, 10/2004, 01/2005, 04/2005, 07/2005, 10/2005, 01/2006, 04/2006, 07/2006, 10/2006, 01/2007, 04/2007, 07/2007, 10/2007, 01/2008, 04/2008, 07/2008, 10/2008, 01/2009, 04/2009, 07/2009, 10/2009, 01/2010, 04/2010, 07/2010,10/2010, 01/2011, 04/2011, 07/2011, 10/2011, BPUB 2011, 01/2012, 04/2012, 07/2012,10/2012, 01/2013, 04/2013, 07/2013,10/2013, 01/2014, 04/2014, 07/2014, 10/2014, 01/2015, 04/2015, 07/2015, 10/2015, 01/2016, 04/2016, 07/2016, 10/2016, 01/2017, 04/2017, 07/2017, 10/2017, 01/2018, 04/2018, 07/2018, 10/2018, 01/2019, Terra Verde 2019, 04/2019, 07/2019, 10/2019, 01/2020, 04/2020, and 07/2020, 10/2020, 01/2021, 04/2021, 07/2021, 10/2021, 01/2022, 04/2022, 07/2022, 10/2022, 01/2023, 04/2023, 7/2023, 10/2023, 01/2024, 04/2024, 07/2024, 10/2024, 1/2025, and 04/2025.

The draft July 2025 WQMP update addresses the following topics for water quality planning purposes:

1. Projected Effluent Limits Updates
2. Service Area Population for Municipal WWTFs
3. Designation of Management Agencies for Municipal WWTFs
4. TMDL Updates

The public comment period for the draft July WQMP update will be from August 8, 2025 through September 9, 2025.

The "Projected Effluent Limit Update" section provides information compiled from May 1, 2025 through July 31, 2025 and is based on Texas water quality standards (WQS). Projected effluent limits may be used for water quality planning purposes in Texas Pollutant Discharge Elimination System (TPDES) permit actions.

The "Service Area Population" and "Designation of Management Agencies" sections for municipal wastewater facilities were developed and evaluated by TCEQ in cooperation with the Texas Water Development Board (TWDB) and regional water quality management planning agencies.

The "Total Maximum Daily Load Update" section provides information on proposed wasteload allocations (WLAs) for new dischargers and revisions to existing TMDLs and was developed by the TCEQ TMDL Program in the Water Quality Planning Division.

Projected Effluent Limit Updates

Table 1 reflects proposed effluent limits for new dischargers and preliminary revisions to original proposed effluent limits for preexisting dischargers. Abbreviations used in the table heading include:

- BOD_5–5-Day Biochemical Oxygen Demand
- $CBOD_5$–5-Day Carbonaceous Biochemical Oxygen Demand
- DO–Dissolved Oxygen
- lbs/day–Pounds per Day
- MGD–Million Gallons per Day
- mg/L–Milligrams per Liter
- NH_3-N–Ammonia-Nitrogen

Effluent flows indicated in Table 1 reflect future needs and do not reflect current permits for these facilities. These revisions may be useful for water quality management planning purposes. The effluent flows and constituent limits indicated in the table have been preliminarily determined to be appropriate to satisfy the stream standards for dissolved oxygen in their respective receiving waters. These flow volumes and effluent sets may be modified at the time of permit action. These limits are based on the Texas WQS effective at the time of the production of this update. The WQS are subject to revision on a triennial basis.

Table 1. Projected Effluent Limit Updates

State Permit Number	Segment Number	EPA ID Number	Permittee Name and County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
10131-001	0810	TX0022632	City of Boyd Wise	0.98	10	81.73	3	24.52			4	
10404-002	2117	TX0117218	City of Dilley Frio	0.5	10	41.70	2	8.34			5	
12294-001	1016	TX0085413	Harris County Municipal Utility District No. 200 Harris	1.9	10	158.46	2	31.69			4	
15998-001	1244	TX0141321	South Fork Ranch Municipal Utility District Williamson	0.85	5	35.45	2	14.18			6	
16493-001	1202	TX0145696	Camp for all Foundation Washington	0.027	10	2.25	2	0.45			4	
16494-001	1808	TX0145700	Sigman Grafted LLC Caldwell	0.5	5	20.85	2	8.34			5	
16496-001	0902	TX0145718	Liberty Grand Partners, LP Liberty	1.4	5	58.38	2	23.35			6	
16505-001	1004	TX0145939	Clear Utilities, LLC Montgomery	0.125	10	10.43	3	3.13			6	
16511-001	1250	TX0145831	South Central Water Company Burnet	0.95	5	39.62	1.2	9.51			6	

State Permit Number	Segment Number	EPA ID Number	Permittee Name and County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
16517-001	1250	TX0145882	183 258 Liberty Hill LLC Williamson	0.5	5	20.85	2	8.34			5	
16520-001	1434	TX0145891	Elgin 104 Holdings, LLC Travis	0.125	5	5.21	2	2.09			5	
16550-001	0821	TX0146111	HC McKinney 3, LLC and McKinney Ridge, LLC Collin	0.75	5	31.28	1	6.26			6	
16590-001	1810	TX0146447	Schulle Farm Partners LP Caldwell	0.99	5	41.28	2	16.51			4	
16591-001	1228	TX0146455	TCCI Mayfield West WWTP LLC Johnson	0.95	10	79.23	2	15.85			4	
16608-001	1213	TX0146536	South Central Water Company Bell	0.75	10	62.55	2	12.51			6	
16629-001	1015	TX0146633	M/I Homes of Houston, LLC Montgomery	0.075	10	6.26	3	1.88			4	
16632-001	0823	TX0146676	636 Denton Dev Company, LLC Denton	0.48	10	40.03	3	12.01			5	

State Permit Number	Segment Number	EPA ID Number	Permittee Name and County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
16636-001	1014	TX0146692	Stor N Geaux, LLC Harris	0.01	10	0.83	2	0.17			6	
16639-001	1911	TX0146714	Southwind Land LLC and The Estate of Henry William Finck Wilson	0.9	10	75.06	2	15.01			4	
16640-001	1011	TX0146731	Lennar Homes of Texas Land and Construction, Ltd. Montgomery	0.45	10	37.53	3	11.26			6	
16647-001	1010	TX0146803	HydroTex LLC Montgomery	0.2	10	16.68	3	5.00			4	
16654-001	1014	TX0146862	Harris County Municipal Utility District No. 541 Harris	0.565	7	32.98	2	9.42			6	
16669-001	1011	TX0146960	Buck Road Water Reclamation LLC Montgomery	0.2	10	16.68	3	5.00			4	
16674-001	1302	TX0147001	Leedo Cabinets LLC Wharton	0.01	10	0.83	2	0.17			4	
16694-001	0810	TX0147168	City of Paradise Wise	0.45	10	37.53	2	7.51			5	

Planning Information Summary

The Water Quality Planning Division of TCEQ coordinated with TWDB and regional planning agencies to compile the wastewater facility information in this section. Domestic facility financing decisions under the State Revolving Fund (SRF) loan program must be consistent with the certified and approved WQMP.

The purpose of this section is to present data reflecting facility-planning needs, including previous water quality management plan needs requiring revision. Data are also presented to update other plan information for TWDB's SRF projects. Table 2 contains the updated service area population information. The table is organized in alphabetical order and includes the following 10 categories of information:

1. *Planning Area* – Area for which facility needs are proposed. The facility planning areas are subject to change during the facility planning process and any such changes will be documented in a later water quality management plan update. All planning areas listed are also designated management agencies (DMAs) unless otherwise noted in the "Comments" column.
2. *Service Area* – Area that receives the provided wastewater service.
3. *Needs* – A "T" indicates a need for either initial construction of a WWTF, additional treatment capacity, or the upgrading of a WWTF to meet existing or more stringent effluent requirements. A "C" indicates a need for improvements to, expansion of, rehabilitation of, or the initial construction of a wastewater collection system in the facility planning area. "T/C" indicates a need for both treatment and collection system facilities. More detailed facility planning conducted during a construction project may define additional needs and those needs will be reflected in a future update to the WQMP. A "F" indicates a need for flood mitigation.
4. *Needs Year* – The year in which the needs were identified for the planning area.
5. *Basin Name* – The river basin or designated planning entity for a designated planning area. The seven water quality management planning areas designated by the Governor are each administered by a Council of Governments (COG), a Development Council (DC), or a Planning Council (PC). Basin names are shown for areas outside one of these planning areas. The designated planning areas and their associated administering entities are:
    a. Corpus Christi – Coastal Bend COG (CBCOG)
    b. Killeen-Temple – Central Texas COG (CTCOG)
    c. Texarkana – Ark-Tex COG (ATCOG)
    d. Southeast Texas – South East Texas Regional Planning Council (SETRPC)
    e. Lower Rio Grande Valley – Lower Rio Grande Valley Development Council (LRGVDC)
    f. Dallas-Fort Worth – North Central Texas COG (NCTCOG)

g. Houston – Houston-Galveston Area Council (H-GAC)

6. *Segment* – The classified stream segment or tributary into which any recommended facility may discharge existing or projected wastewater. In the case of no-discharge facilities, this is the classified stream segment drainage area in which the facilities are located.
7. *County* – The county in which the facility planning area is located.
8. *Date* – The date the planning information was reviewed by TCEQ.
9. *Comments* – Additional explanation or other information concerning the facility planning area.
10. *Population* – The base year and projected populations for each facility planning area. Population projections presented are consistent with the latest available statewide population projections or represent the most current information obtained from facility planning analyses.

The facility information in this section is intended to be used in the preparation of facility plans and the subsequent design and construction of wastewater facilities. Design capacities of the treatment and collection systems will be based upon the population projections contained in this document, plus any additional needed capacity established for commercial/industrial flows and documented infiltration/inflow volumes (treatment or rehabilitation).

The probable needs shown under the "Needs" heading are preliminary findings; specific needs for an area must be as established in the completed and certified, detailed engineering studies conducted during facility planning under the SRF and other state loan programs.

Specific recommended effluent quality for any wastewater discharges resulting from any of the facilities in this document will be in accordance with the rule in the Texas WQS in effect at the time the permit is issued for a specific facility.

Table 2. Service Area Population Updates

Planning Agency	Service Area	Needs	Needs Year	Basin Name / COG	Segment	County	WQMP Date	Comments	Year	Population
City of Lindsay	City boundary	T	2060	Trinity	0824	Cooke	4/29/2025		2025	1437
									2030	1718
									2040	1758
									2050	1777
City of Cotulla	City Boundary	T/C	2045	Nueces	2105	La Salle	5/1/2025		2024	3754
									2030	4532
									2040	4901
									2050	5314

Designated Management Agencies

To be designated as a management agency for wastewater collection or treatment, an entity must demonstrate the legal, institutional, managerial and financial capability necessary to carry out the entity's responsibilities in accordance with Section 208(c) of the CWA (see below list of requirements). Before an entity can apply for an SRF loan, it must be recommended for designation as the management agency in the approved WQMP.

Designation as a management agency does not require the designated entity to provide wastewater services, but enables it to apply for grants and loans to provide those services. The facilities listed in Table 3 have submitted DMA resolutions to TCEQ. TCEQ submits this DMA information to EPA for approval as an update to the WQMP.

Section 208 (c) (2) Requirements for Management Agency

208(c)(2)(A): to carry out portions of an area-wide waste treatment plan.
208(c)(2)(B): to manage waste treatment works.
208(c)(2)(C): directly or by contract to design and construct new works.
208(c)(2)(D): to accept and utilize grants.
208(c)(2)(E): to raise revenues, including assessment of waste treatment charges.
208(c)(2)(F): to incur short and long term indebtedness.
208(c)(2)(G): to assure community pays proportionate cost.
208(c)(2)(H): to refuse to receive waste from non-compliant dischargers.
208(c)(2)(I): to accept for treatment industrial wastes.

Table 3. Designated Management Agencies

Planning Agency	Service Area	DMA Needs	DMA Date
City of Lindsay	City boundary	T	11/15/2024
City of Cotulla	City Boundary	T/C	11/11/2024

Total Maximum Daily Load Revisions

The TMDL Program works to improve water quality in impaired or threatened waters bodies in Texas. The program is authorized by and created to fulfill the requirements of Section 303(d) of the CWA.

The goal of a TMDL is to restore the full use of a water body that has limited quality in relation to one or more of its uses. The TMDL defines an environmental target, and based on that target, TCEQ and stakeholders develop an implementation plan with WLAs for point source dischargers to mitigate human-caused sources of pollution within the watershed and restore full use of the water body.

TMDLs are developed based on intensive data collection and scientific analysis. After adoption by TCEQ, TMDLs are submitted to EPA for review and approval.

The attached appendixes may reflect proposed WLAs for new dischargers and/or additions or revisions to TMDLs. Updates and addendums will be provided in the same units of measure used in the original TMDL document and will include the segment and assessment unit (AU) numbers of the affected segments. Also, note that for bacteria TMDLs, loads will typically be expressed as colony-forming units per day (cfu/day). On occasion, other expressions may be used due to different laboratory methods, such as counts or most probable number per day. For the purposes of the TMDL program, these terms are considered to be synonymous.

Appendix I. Eighteen TMDLs for Bacteria in Buffalo and Whiteoak Bayous and Tributaries

Assessment Units 1013_01, 1013A_01, 1013C_01, 1014_01, 1014M_01, 1014N_01, 1014O_01, 1017_01, 1017_02, 1017_03, 1017_04, 1017A_01, 1017B_02, 1017D_01, 1017E_01, 1014A_01, 1014B_01, 1014E_01,1014H_01, 1014H_02, 1014K_01, 1014K_02, 1014L_01

This appendix provides updates to TMDLs previously submitted through the state's WQMP for: Buffalo and Whiteoak Bayous and Tributaries (Segments 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E).

The report, *Eighteen Total Maximum Daily Loads for Bacteria in Buffalo and Whiteoak Bayous and Tributaries,* was adopted by TCEQ on April 8, 2009 and approved by EPA on June 11, 2009. Upon EPA approval, the TMDLs became part of the state's WQMP.

The Texas WQMP has been updated 40 times prior to this update for this TMDL. The previous updates have revised the list of individual waste load allocations (WLA) in the original TMDL document.

The purpose of this update is to make the following changes to the TMDLs (Table I-1):

- Add two new permits.

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for future growth (FG) in two assessment units (AU). This was originally presented in Table 53 in the original TMDL document. The two affected AUs in this update are included here as Table I-2.

For AU 1014H_02, the existing FG allocation was insufficient to cover the increased flow to the AU for this update. To account for this, the total amount exceeded beyond the original FG allocation was added to the total TMDL allocation. This change in flow resulted in a change to the overall TMDL allocation for the one AU, which has been updated in Tables I-2 and I-3. Please note that some calculations completed in the remainder of this appendix have been rounded and may not lead to the exact final amounts listed in the tables.

The WLA allocation was originally presented in Table 45 in the original TMDL document. The two affected AUs in this update are included here as Table I-2.

Table I-1 - Changes to individual WLAs for the TMDL watersheds

Updates Table 45, p. 99-103 in the original TMDL document.

The WLA is expressed in *E. coli* billion MPN/day.

State Permit Number	Outfall	EPA Permit Number	AU	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA)	TMDL/ Comments
16654-001	001	TX0146862	1014A_01	HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 541	0.565	1.347	New Permit
16636-001	001	TX0146692	1014H_02	STOR N GEAUX, LLC	0.01	0.024	New Permit

Table I-2 - TMDL summary calculations for two AUs in the TMDL watershed

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day.

AU	TMDL	WLA WWTF	WLA SW	LA	MOS	Upstream Load	FG
1014A_01	195.04	32.72	141.2	15.69	0	0	5.43
1014H_02	191.00	51.08	125.93	13.99	0	0	0

Abbreviations: WLA_{wwtf} – Wasteload Allocation for Wastewater Treatment Facilities, WLA_{sw} – Wasteload Allocation for Regulated Stormwater, LA – Load Allocation, MOS – Margin of Safety

Table I-3 – TMDL Final calculations

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day.

AU	TMDL	WLA WWTF	WLA SW	LA	MOS
1014H_02	191.00	51.08	125.93	13.99	0

Appendix II. Updates to Seven TMDLs for Indicator Bacteria in Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds

Segments 1002, 1003, 1004, and 1004D

This appendix provides updates to TMDLs previously submitted through the state's WQMP for: Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds.

The report, *Seven Total Maximum Daily Loads for Indicator Bacteria in Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds for Segments 1002, 1003, 1004, and 1004D,* was adopted by TCEQ on August 24, 2016 and approved by EPA on October 7, 2016. Upon EPA approval, the TMDLs became part of the state's WQMP.

The Texas WQMP has been updated 19 times prior to this update for these TMDLs. The previous updates have revised the list of individual WLAs in the original TMDL document. Additionally, TCEQ has submitted several addenda related to the original TMDLs in the October 2018 WQMP update, the January 2023 WQMP update, and, most recently, the April 2024 WQMP update. These addenda added three new AUs to the original TMDL project.

The purpose of this update is to make the following change to the TMDLs (Table II-1):

- Add one new permit.

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for FG in one AU. This was originally presented in Table 17 in the original TMDL document. The affected AU in this update is included here as Table II-2. Please note that some calculations completed in the remainder of this appendix have been rounded and may not lead to the exact final amounts listed in the tables.

Table II-1 - Changes to individual WLAs for the TMDL watersheds

Updates Table 13, p. 54-55 in the original TMDL document.

The WLA is expressed in billion MPN/day *E. coli*.

State Permit Number	Outfall	EPA Permit Number	AU	Permittee Name	Flow (MGD)	WLA	TMDL Comments
16505-001	001	TX0145939	1004_01	CLEAR UTILITIES, LLC	0.125	0.2981	New permit

Table II-2 - TMDL summary calculations for one AU in the TMDL watersheds

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day *E. coli*.

AU	Segment Name	TMDL	MOS	WLA WWTF	WLA SW	LA AU	LA TRIB	LA RES	LA TOTAL	FG
1004_01	West Fork San Jacinto River	2,779	88.77	107.13	196.81	1,294.21	44.86	958.7	2,297.77	88.52

Appendix III. Updates to Eight TMDLs for Indicator Bacteria in Greens Bayou Above Tidal and Tributaries

Assessment Units 1016_01, 1016_02, 1016_03, 1016A_02, 1016A_03, 1016B_01, 1016C_01, and 1016D_01

This appendix provides updates to TMDLs previously submitted through the state's WQMP for: Greens Bayou Above Tidal and Tributaries.

The report, *Eight Total Maximum Daily Loads for Indicator Bacteria in Greens Bayou Above Tidal and Tributaries: Segment 1016, 1016A, 1016B, 1016C, and 1016D*, was adopted by TCEQ on June 2, 2010 and approved by EPA on August 12, 2010. Upon EPA approval, the TMDLs became part of the state's WQMP.

The Texas WQMP has been updated 15 times prior to this update for this TMDL. The previous updates have revised the list of individual WLAs in the original TMDL document.

The purpose of this update is to make the following changes to the TMDLs (Table III-1):

- Increase the discharge for two existing permits.
- Remove two cancelled permits.

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for FG in six AUs. The WLA allocation was originally presented in Table 17 in the original TMDL document. The six affected AUs in this update are included here as Table III-2. Please note that some calculations completed in the remainder of this appendix have been rounded and may not lead to the exact final amounts listed in the tables.

In Table 18 of the original TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for FG within each AU. These overall numbers did not change; Table 18 of the original TMDL remains the same.

Table III-1 - Changes to individual WLAs for the TMDL watersheds

Updates Table 15, p. 39-42 in the original TMDL document.

The WLA is expressed in *E. coli* billion MPN/day.

State Permit Number	Outfall	EPA Permit Number	AU	Permittee Name	Flow (MGD)	WLA	TMDL/ Comments
12294-001[a]	001	TX0085413	1016_01	HARRIS CO. MUD 200	1.9	4.531	Increased discharge
10495-100[a]	001	TX0055310	1016_02	HOUSTON-NORTHGATE UD	NA	NA	Cancelled permit
15889-001[b]	001	TX0140350	1016A_03	HARRIS CO. MUD NO. 422	NA	NA	Cancelled permit
10495-122[a]	001	TX0103721	1016D_01	HOUSTON-NORTHBELT	11.5	27.425	Increased discharge

Abbreviations: NA – not applicable

[a] Permit listed in the original TMDL.

[b] Permit added as part of a previous WQMP update.

Table III-2 - TMDL summary calculations for six AUs in the TMDL watersheds

Table updated based on previously completed WQMP updates for these TMDLs

All loads expressed as billion MPN/day.

AU	Sampling Location	Stream Name	TMDL	WLA WWTF	WLA SW	LA	MOS	FG
1016_01	11371	Greens Bayou Above Tidal	403	62.5	293	0	20.2	27.3
1016_02	11371	Greens Bayou Above Tidal	1,020	113.2	789	0	51.2	66.6
1016_03	11369	Greens Bayou Above Tidal	1,780	223.6	1,114	167	89.0	186.4
1016A_02	11125	Garners Bayou	197	21.4	139.38	4.31	9.84	22.1
1016A_03	11125	Garners Bayou	419	59.7	230.3	14.7	21.0	93.3
1016D_01	16676	Unnamed Tributary of Greens Bayou	79.7	28.5	35.8	6.51	3.99	4.9

Appendix IV. Updates to Fifteen TMDLs for Indicator Bacteria in Watersheds Upstream of Lake Houston

Segments 1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011

This appendix provides updates to TMDLs previously submitted through the state's WQMP for: Watersheds Upstream of Lake Houston.

The report, *Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston for Segment Numbers 1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011,* was adopted by TCEQ on April 6, 2011 and approved by EPA on June 29, 2011. Upon EPA approval, the TMDLs became part of the state's WQMP.

The Texas WQMP has since been updated 49 times prior to this update for these TMDLs. The previous updates have revised the list of individual WLAs in the original TMDL document. Additionally, TCEQ submitted four addenda to the original TMDLs in the October 2013, October 2019, October 2020, and April 2022 WQMP updates. These addenda added 10 new AUs to the original TMDL project.

The purpose of this update is to make the following changes to the TMDLs (Table IV-1):

- Add two new permits.

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for FG in three AUs. This was originally presented in Table 18 in the original TMDL document. The three affected AUs in this update are included here as Table IV-2.

For AUs 1010_02, 1010_04, and 1011_02, the existing FG allocations were insufficient to cover the increased flow to the AUs for this update. To account for this, the total amount exceeded beyond the original FG allocation was added to the total TMDL allocation for each AU. These changes in flow resulted in a change to the overall TMDL allocation for each AU, which have been updated in Tables IV-2 and IV-3. Please note that some calculations completed in the remainder of this appendix have been rounded and may not lead to the exact final amounts listed in the tables.

Table IV-1 - Changes to individual WLAs for the TMDL watershed

Updates Table 16, p. 49-56 in the original TMDL document.

The WLA is expressed in billion MPN/day *E. coli*.

State Permit Number	Outfall	EPA Permit Number	AU	Permittee Name	Flow (MGD)	WLA	TMDL Comments
16515-001	001	TX0145874	1010_02	MARK A. MCDONALD AND PAUL D. SMITH	0.45	1.073	New permit
16640-001	001	TX0146731	1011_01	LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD.	0.45	1.073	New permit

Table IV-2 - TMDL summary calculations for three AUs in the TMDL watershed

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day *E. coli*.

AU	Sampling Location	Segment Name	TMDL	WLA $_{WWTF}$	WLA $_{SW}$	LA	MOS	FG
1010_02	14241	Caney Creek	253.25	10.15	30	200.8	12.3	0.00
1010_04	11334	Caney Creek	502.99	37.09	57.4	383.8	24.7	0.00
1011_02	17746	Peach Creek	422.7	18.60	34.5	348.5	21.1	0.00

Table IV-3 - TMDL final calculations

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day *E. coli*.

AU	TMDL	WLA $_{WWTF}$	WLA $_{SW}$	LA $_{TOTAL}$	MOS
1010_02	253.25	10.15	30	200.8	12.3
1010_04	502.99	37.09	57.4	383.8	24.7
1011_02	422.7	18.60	34.5	348.5	21.1

In addition, Table IV-4 below provides an update to Table 11 found in the October 2013 addendum to this TMDL project (*Addendum One to Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston: Six Additional Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston for Segments 1008B, 1008C, 1008E, and 1011*). One of the permits discussed earlier in this update also affects one AU in this addendum.

Table IV-5 below provides updates to Table 12 found in the October 2013 addendum to this TMDL project. The addendum added six AUs that were not included in the original TMDL. The AU affected here (1011_01) was included as an upstream loading to 1011_02 in the original TMDL. One of the permits (16640-001/TX0146731) affects the loading of 1011_01 as well as the original TMDL AU 1011_02.

For AU 1011_01, the existing FG allocation was insufficient to cover the increased flow to the AU for this update. To account for this, the total amount exceeded beyond the original FG allocation was added to the total TMDL allocation. This resulted in a change to the overall TMDL allocation for the one AU, which has been updated in Tables IV-5 and IV-6.

Table IV-4 - Changes to individual WLAs in the Peach Creek watershed

Updates Table 11, p. 23 in the TMDL addendum document.

The WLA is expressed in billion MPN/day *E. coli*.

State Permit Number	Outfall	EPA Permit Number	AU	Permittee Name	Flow (MGD)	WLA	TMDL Comments
16640-001	001	TX0146731	1011_01	Lennar Homes of Texas Land and Construction, Ltd.	0.45	1.073	New permit

Table IV-5 - TMDL summary calculations for one AU in the Peach Creek watershed

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day *E. coli*.

AU	Stream Name	TMDL	MOS	WLA WWTF	WLA SW	LA AU	LA RES	LA TOTAL	FG
1011_01	Peach Creek	226.25	10.7	14.40	3.05	198.1	0	198.1	0.00

Table IV-6 – TMDL addendum final calculations

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day *E. coli*.

AU	TMDL	WLA_{WWTF}	WLA_{SW}	LA_{TOTAL}	MOS
1011_01	226.25	14.40	3.05	198.1	10.7

Lastly, Table IV-7 below provides an update to Table VII-8 found in the April 2022 addendum to this TMDL project (*Addendum Four to Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston: One Total Maximum Daily Load for Indicator Bacteria in Caney Creek for AU 1010_03*). One of the permits discussed earlier in this update also affects one AU in this addendum.

Table IV-8 below provides updates to Table VII-9 found in the April 2022 addendum to this TMDL project. The addendum added one AU that was not included in the original TMDL. The AU affected here (1010_03) receives upstream loading from 1010_02 in the original TMDL. One of the permits (16515-001/TX0145874) affects the loading of 1010_03 as well as the original TMDL AU 1010_02.

In Table VII-10 of the addendum TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for FG within each AU. This overall number did not change; Table VII-10 of the original TMDL remains the same.

Table IV-7 - Changes to individual WLAs in the Caney Creek watershed

Updates Table VII-8, p. 20-21 in the TMDL addendum document.

The WLA is expressed in billion MPN/day *E. coli*.

State Permit Number	Outfall	EPA Permit Number	AU	Permittee Name	Flow (MGD)	WLA	TMDL Comments
16515-001	001	TX0145874	1010_03	Mark A. McDonald and Paul D. Smith	0.45	1.073	New permit

Table IV-8 - TMDL summary calculations for one AU in the Caney Creek watershed

Table updated based on previously completed WQMP updates for these TMDLs.

All loads expressed as billion MPN/day *E. coli*.

Water Body	AU	TMDL	MOS	WLA WWTF	WLA SW	LA	FG
Caney Creek	1010_03	237.441	11.872	13.47	12.977	188.219	10.90

Appendix V. Updates to Three TMDLs for Bacteria in the San Antonio Area

Segments 1910, 1910A, and 1911

This appendix provides updates to TMDLs previously submitted through the state's WQMP for: Salado Creek, Walzem Creek, and Upper San Antonio River.

The report, *Three Total Maximum Daily Loads for Bacteria in the San Antonio Area, For Segment Numbers: 1910 – Salado Creek, 1910A – Walzem Creek, and 1911 – Upper San Antonio River,* was adopted by TCEQ on July 25, 2007 and approved by EPA on Sep. 25, 2007. Upon EPA approval, the TMDLs became part of the state's WQMP.

The Texas WQMP has been updated seven times prior to this update for this TMDL. The previous updates have revised the list of individual WLAs in the original TMDL document. Additionally, TCEQ submitted addenda to the original TMDL in the April 2016 and October 2019 WQMP updates. These addenda added eight AUs to the original TMDL project.

The purpose of this update is to make the following change to the TMDLs (Table V-1):

- Add one new permit.

Tables V-2 and V-3 provide the updated TMDL equation for the affected segment. The original TMDL used fecal coliform as the primary indicator, along with a procedure for converting fecal coliform to *E. coli*. The criteria ratio of 0.63 (126/200 = 0.63) was applied to convert fecal coliform to *E. coli*. The original TMDL did not separate regulated stormwater loadings (WLA-MS4) from WWTF loadings, but that was addressed in the April 2009 WQMP update. Additionally, because this TMDL was developed without a specific allocation for future growth, a small amount was moved proportionately from the WLA-MS4 and LA terms to the WLA-WWTF term to accommodate the new facility and maintain the overall TMDL allocation.

Table V-1 - Changes to individual WLAs for the Upper San Antonio River watershed

State Permit Number	Outfall	EPA Permit Number	Segment	Permittee Name	Flow (MGD)	WLA – Fecal Coliform 10^6 org/day	WLA – *E. coli* 10^6 org/day	TMDL Comments
16639-001	001	TX0146714	1911	SOUTHWIND LAND LLC AND THE ESTATE OF HENRY WILLIAM FINCK	0.9	3,406.87	2,146.33	New permit

Table V-2 - Summary of Fecal Coliform TMDL for Impaired Reach (10^6 org/day)

Table updated based on previously completed WQMP updates for these TMDLs.

Segment #	Segment Name	WLA-WWTF	WLA-MS4	LA	MOS	TMDL
1911	Upper San Antonio River	275,181	17,323,252	10,221,066	1,450,110	29,269,609

Table V-3 - Summary of *E. coli* TMDL for Impaired Reach (10^6 org/day)

Table updated based on previously completed WQMP updates for these TMDLs.

Segment #	Segment Name	WLA-WWTF	WLA-MS4	LA	MOS	TMDL
1911	Upper San Antonio River	173,364	10,913,649	6,439,272	913,570	18,439,854