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FINAL

January 2017 Update to the Texas Water Quality Management Plan



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< http://www.tceq.texas.gov/permitting/wqmp/WQmanagement_updates.html >

Developed in accordance with Sections 205(j), 208,
and 303 of the Federal 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 planning process developed and updated in accordance with provisions of Sections 205(j), 208, and 303 of the federal 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 Clean Water Act 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. The 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 ground water 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 updates², will become part of the WQMP after completion of its public participation process, certification by the 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 water quality management plans remain in effect.

The January 2017 WQMP update addresses the following topics:

1. Projected Effluent Limits Updates for water quality planning purposes
2. Service Area Population for Municipal Wastewater Facilities
3. Designation of Management Agencies for Municipal Wastewater Facilities
4. Total Maximum Daily Load Updates

¹ A formal definition for a water quality management plan is found in 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, and 10/2016.

The public comment period for the January WQMP update was from February 10, 2017 through March 13, 2017.

The Projected Effluent Limit Update section provides information compiled from November 1, 2016 through January 31, 2017, and is based on water quality standards, and 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 Agency sections for municipal wastewater facilities has been developed and evaluated by the TCEQ in cooperation with the Texas Water Development Board (TWDB) and regional water quality management planning agencies.

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

Projected Effluent Limit Updates

Table 1 reflects proposed effluent limits for new dischargers and preliminary revisions to original proposed effluent limits for preexisting dischargers (MGD-Million Gallons per Day, CBOD₅ – 5 Day Carbonaceous Biochemical Oxygen Demand, NH₃-N – Ammonia-Nitrogen, BOD₅ – 5 Day Biochemical Oxygen Demand and DO – Dissolved Oxygen).

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 water quality standards (WQS) effective at the time of the TCEQ production of this update. 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 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
10495-030	1014	TX0063002	City of Houston Harris	26.4	10	2201.76	2	440.35			4	June-Aug.
				26.4	10	2201.76	4	880.70			6	Sept.-May
10887-002	0507	TX0137332	City of Josephine Hunt	1.5	10	125.10	3	37.53			4	
11061-001	1016	TX0020800	Greenwood UD Harris	2.25	10	187.65	3	53.60			4	April-Oct.
				2.25	10	187.65	5	93.83			4	Nov.-March
14129-002	1434	TX0137448	City of Manor Travis	0.25	5	10.43	2	4.17			5	
14586-001	1004	TX0127400	Montgomery County MUD No. 105 Montgomery	0.90	10	75.06	3	22.52			6	
15411-001	0838	TX0136646	Johnson County Pipe, Inc. Johnson	0.24	10	20.02	3	6.00			4	
15489-001	1016	TX0137201	Gardner, David Allen Harris	0.038	10	3.17	3	0.95			4	
15514-001	0838	TX0137367	Marline Treatment, L. L.C. Tarrant	0.025					20	150.12	2	
15519-001	0803	TX0137391	OSR 786 L.L.C. Madison & Leon	0.05	10	4.17	3	1.25			4	

State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	CBOD₅ (mg/L)	CBOD₅ (lbs/day)	NH₃-N (mg/L)	NH₃-N (lbs/day)	BOD₅ (mg/L)	BOD₅ (lbs/day)	DO (mg/L)	Months/ Comments
15536-001	0823	TX0137464	Mustang SUD Denton	15.0	5	625.50	1.5	187.65			6	

Planning Information Summary

The Water Quality Planning Division of the TCEQ coordinated with the TWDB and regional planning agencies to compile the wastewater facility information in this section. Domestic facility financing decisions under the State Revolving Loan Fund (SRF) 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 the 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 wastewater treatment plant, additional treatment capacity, or the upgrading of a wastewater treatment plant 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.
4. Needs Year – The year in which the needs were identified for the planning area.
5. Basin Name – The river basin or designated planning area where the entity is located. The seven water quality management planning areas designated by the Governor are Corpus Christi [Coastal Bend Council of Governments (CBCOG)], Killeen-Temple [Central Texas Council of Governments (CTCOG)], Texarkana [Ark-Tex Council of Governments (ATCOG)], Southeast Texas [South East Texas Regional Planning Council (SETRPC)], Lower Rio Grande Valley [Lower Rio Grande Valley Development Council (LRGVDC)], Dallas-Fort Worth [North Central Texas Council of Governments (NCTCOG)] and Houston [Houston-Galveston Area Council (H-GAC)]. Basin names are shown for agencies outside one of these areas.
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 the 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 utilized 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 shall be as established in the completed and certified detailed engineering studies conducted during facility planning under the SRF and other state loan programs.

Specific effluent quality for any wastewater discharges resulting from any of the facilities recommended in this document will be in accordance with the rule on the Texas Surface Water Quality Standards in effect at the time of permit issuance for the 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 Alton	City of Alton Wastewater Treatment Area	C	2016	Nueces-Rio Grande Coastal/ LRGVDC	2202	Hidalgo	11/1/2016	Prepare master drainage study and improve stormwater collection	2016	14,735
									2020	15,640
									2030	19,420
									2040	23,215
City of Fort Worth	City of Fort Worth Wastewater Treatment Area	C	2016	Trinity River	0841	Tarrant	11/18/2016	Collection system improvements	2017	825,967
									2020	1,026,780
									2030	1,209,197
									2040	1,422,359
City of Jarrell	City of Jarrell Wastewater Treatment Area	T	2016	Brazos River	1213	Williamson	1/3/2017	Expansion of WWTP	2016	1,026
									2020	1,446
									2030	1,787
									2040	2,212
Jefferson County WCID #10	Jefferson County WCID Boundary	T	2016	Neches-Trinity Coastal	0701	Jefferson	11/14/2016	WWTP improvement project	2016	4,873
									2020	5,124
									2030	5,454
									2040	5,802
City of McAllen	City of McAllen Treatment Area	T	2016	Nueces-Rio Grande Coastal	2202	Hidalgo	1/3/2017	WWTP improvements	2015	132,337
									2020	164,957
									2025	204,720
									2040	244,325
City of River Oaks	City of River Oaks Treatment Area	C	2016	Trinity	0841	Tarrant	11/14/2016	Collection system improvements.	2015	7,500
									2020	7,500
									2030	7,500
									2040	7,500
City of Rogers	City limits	T	2016	Brazos River	1213	Bell	1/3/2017	WWTP improvements	2016	1,226
									2020	1,305
									2030	1,388
									2040	1,478
City of San Marcos	City limits	C	2016	Guadalupe River	1814	Hays	12/28/2016	Flood mitigation	2015	58,892
									2020	71,108
									2030	84,803
									2040	101,138

Designated Management Agencies

In order 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 Clean Water Act (see below list of requirements). Before an entity can apply for a state revolving fund 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 the services. The facilities listed in Table 3 have submitted Designated Management Agencies (DMA) resolutions to the TCEQ. The TCEQ submits this DMA information to the 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 Alton	City limits	C	10/11/2016
City of Anahuac	City limits	T/C	12/12/2016
City of Fort Worth	City limits	C	1/1/2009
City of Jarrell	City limits	T	12/20/2005
Jefferson County WCID #10	District boundary	T	7/28/2009
City of McAllen	Certificate of Convenience and Necessity (CCN)	T	1/9/2012
City of River Oaks	City limits	T	11/7/2016
City of Rogers	City limits	T	9/12/2016
City of San Marcos	City limits	C	10/23/1978

Total Maximum Daily Load Updates

The Total Maximum Daily Load (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 federal Clean Water Act.

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, the State develops an implementation plan with wasteload allocations for point source dischargers to mitigate anthropogenic (human-caused) sources of pollution within the watershed and restore full use of the water body.

The development of TMDLs is a process of intensive data collection and analysis. After adoption by the TCEQ, TMDLs are submitted to the EPA for review and approval.

The attached appendices may reflect proposed wasteload allocations for new dischargers and revisions to TMDLs. To be consistent, updates will be provided in the same units of measure used in the original TMDL document. Also note that for bacteria TMDLs, loads may be expressed in counts per day, organisms per day, colony forming units per day, or similar expressions. These typically reflect different lab methods, but for the purposes of the TMDL program, these terms are considered synonymous.

Appendix I. 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

TMDL Updates to the WQMP: Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds (1002, 1003, 1004, and 1004D)

The document 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 the TCEQ on 08/24/16 and approved by EPA on 10/07/16, and became an update to the state's Water Quality Management Plan (WQMP). It has not had any WQMP updates prior to this one.

The purpose of this update is to make the following changes to the TMDL, presented in Table 1:

- remove two permits for facilities that discharge outside of the project watershed,
- add four new permits, and
- update the WLAs for three facilities that have decreased their permitted discharges and one facility that has increased its permitted discharge.

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 in six AUs. This was originally presented in Table 17 in the original TMDL document, and the six affected AUs are included here as Table 2.

For AU 1003_03, the existing future growth allocation was insufficient to cover the increased flow to the AU for this update. However, ample loading is available in the WLA_{SW} and load allocation (LA) terms. A small amount was taken from each of those terms (in a way that maintains the proportions for them as presented in the original TMDL document) and allotted to future growth. This results in no change to the overall TMDL allocation.

In Table 18 of the original TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each AU. Because a small amount of loading was moved from the WLA_{SW} and LA terms to be used for future growth for AU 1003_03, that AU is updated in Table 3. These overall numbers for the other AUs did not change, and again this results in no change to the overall TMDL allocation.

Table 1 – Changes to Individual Wasteload Allocations (Updates Table 13, pp. 54-55 in the TMDL document.)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – <i>E. coli</i> in Billion MPN/day	TMDL Comments
14091-001	001	TX0095630	N/A (listed as 1002_06 in original TMDL)	NORTH PARK BUSINESS CENTER LTD. WWTF	N/A	N/A	Discharges to lake AU outside of project watershed
15061-001	001	TX0133817	N/A (listed as 1003_01 in original TMDL)	BELLA VISTA WWTP	N/A	N/A	Discharges to stream AU outside of project watershed
15440-001	001	TX0136867	1003_01	PLUM CREEK FWSD NO 1	0.8	1.908	New permit
15452-001	001	TX0136921	1003_01	CAMINO REAL WWTP	0.75	1.789	New permit
15454-001	001	TX0136948	1003_03	SAM HOUSTON AREA COUNCIL - BSA	0.125	0.298	New permit
15472-001	001	TX0137073	1004_01	GRAND PINES SUBDIVISION	2.1	5.008	New permit
13700-001	001	TX0090123	1004_01	CHATEAU WOODS WWTF	0.4	0.954	Increased permitted discharge
13985-001	001	TX0117706	1004F_01 ^a	REMBERT TRACT WWTF	0.38	0.906	Decreased permitted discharge
14523-001	001	TX0126713	1004F_01 ^a	MONTGOMERY COUNTY MUD 88 WWTF	0.36	0.859	Decreased permitted discharge
15317-001	001	TX0136000	1015_01 ^b	MAGNOLIA LAKE CREEK	0.0625	0.149	Decreased permitted discharge (and final permit did not include second outfall mentioned in original TMDL)

^a These facilities discharge via unimpaired and unclassified segment 1004F. This is a tributary to impaired AU 1004_01, which includes their individual wasteload allocations.

^b This facility discharges via unimpaired segment 1015. This is a tributary to impaired AU 1004_02, which includes its individual wasteload allocation.

Table 2 - *E. coli* TMDL Summary Calculations for Lake Houston Assessment Units (Updates Table 17, pp. 59 in the TMDL document.)

Assessment Unit	Segment Name	TMDL (Billion MPN/day)	MOS (Billion MPN/day)	WLA _{WWTF} (Billion MPN/day)	WLA _{SW} (Billion MPN/day)	LA _{AU} (Billion MPN/day)	LA _{TRIB} (Billion MPN/day)	LA _{RES} (Billion MPN/Day)	LA _{TOTAL} (Billion MPN/Day)	Future Growth (Billion MPN/day)
1002_06	Lake Houston	6,197	106.57	86.98	288.17	1,535.70	3,106.9	958.7	5,601.30	113.98
1003_01	East Fork San Jacinto River	866.4	43.32	8.61	1.75	809.81	0	0	809.81	2.91
1003_02	East Fork San Jacinto River	722.8	36.14	2.23	1.19	681.11	0	0	681.11	2.13
1003_03	East Fork San Jacinto River	203.3	10.16	0.39	0.10	191.9	0	0	191.9	0.75
1004_01	West Fork San Jacinto River	2,779	88.77	83.76	196.81	1,294.21	44.86	958.7	2,297.77	111.89
1004_02	West Fork San Jacinto River	1,141	9.12	38.99	4.04	75.26	0	958.7	1,033.96	54.89

Table 3 - Final *E. coli* TMDL Allocations (Updates Table 18, p. 60 in the TMDL document)

Assessment Unit	TMDL (Billion MPN/day)	WLA _{WWTF} (Billion MPN/day)	WLA _{SW} (Billion MPN/day)	LA _{TOTAL} (Billion MPN/day)	MOS (Billion MPN/day)
1003_03	203.3	1.14	0.10	191.90	10.16