December 14, 2016
FINAL

October 2016 Update to the Texas Water Quality Management Plan

October 2016 Update to the Texas Water Quality Management Plan

Prepared by the
Office of Water
Water Quality Division

Compiled and distributed by the
Water Quality Assessment Section
Water Quality Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-150
Austin, Texas 78711-3087

December 2016

WQMP updates are also available on the TCEQ web site at:

< *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.

Texas Commission on Environmental Quality

Table of Contents

Tables

Appendices

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 updates[2], 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 October 2016 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 October WQMP update was from November 11, 2016 through December 13, 2016.

The Projected Effluent Limit Update section provides information compiled from August 1, 2016 through October 31, 2016, 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, $CBOD_5$ – 5 Day Carbonaceous Biochemical Oxygen Demand, NH_3-N – Ammonia-Nitrogen, BOD_5 – 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
10380-002	0832	TX0047724	City of Weatherford Parker *Combined Outfalls 001 & 002 Maximum Discharge 4.5 MGD	*4.5	5	187.65	1.6	60.05			6	Outfall 002
13910-001	0818	TX0116211	Kaufman County FWSD No. 1A Kaufman	0.84	5	35.03	1.1	7.71			6	
14056-001	0803	TX0117331	Monarch Utilities I L.P. San Jacinto	0.05	10	4.17	3	1.25			4	
14898-001	1243	TX0125610	Village of Salado Bell	0.30	5	12.51	2	5.00			4	Relocate Outfall
14903-001	1008	TX0072702	City of Magnolia Montgomery *Final 2.0 MGD includes polishing pond	*2.0	5	83.40	1.5	25.02			6	
15483-001	1009	TX0137162	290 Kickapoo Development Inc. Harris	0.022	10	1.83	3	0.55			6	
15486-001	1108	TX0137189	Manvel Town Center, Ltd. Brazoria	0.615	10	51.29	2	10.26			4	
15490-001	1009	TX0137219	Mason Westgreen L.P. Harris	0.60	10	50.04	2	10.01			4	
15498-001	2434	TX0137243	Blue Water Resort, Inc. Brazoria	0.01	10	0.83	3	0.25			4	

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
15500-001	1008	TX0137251	7E Property Holdings, L.P. Montgomery	0.0095	10	0.79	3	0.24			4	
15501-001	2304	TX0137260	City of Laredo Webb	4.75	10	396.15	3	118.85			4	
15513-001	2491	TX0137341	North Alamo WSC Hidalgo	0.70	10	58.38	3	17.51			4	

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
Acton Municipal Utility District	Acton Municipal Utility District Boundaries	T	2016	Brazos/ NCTCOG	1205	Hood	10/4/2016	Renovation of WWTF.	2020	6,095
									2030	6,645
									2040	7,195
City of Alamo	City of Alamo CCN Service Area	T	2016	Nueces-Rio Grande/ LRGVDC	2202	Hidalgo	10/3/2016	Planning, acquisition, and design of new WWTF.	2020	23,259
									2030	28,881
									2040	34,525
City of Anahuac	City of Anahuac Wastewater Treatment Area	T/C	2016	Bays and Estuaries/ H-GAC	2422	Chambers	10/13/2016	Collection system improvements and WWTF renovations.	2016	2,245
									2020	2,269
									2030	2,332
									2040	2,403
City of Bonham	City of Bonham Wastewater Treatment Area	T	2016	Red River	0202	Fannin	8/23/2016	Renovation of WWTF.	2020	12,603
									2030	16,000
									2040	22,000
City of LaPorte	City of LaPorte Extraterritorial Jurisdiction	C	2016	Bays and Estuaries/ H-GAC	2421	Harris	8/16/2016	Collection system improvements.	2015	35,309
									2020	34,345
									2025	34,500
									2030	34,774
City of Stephenville	City of Stephenville City Limits	C	2016	Erath/ NCTCOG	1255	Erath	10/3/2016	Collection system improvements.	2020	19,041
									2030	21,205
									2040	23,033
Memorial Point Utility District	Memorial Point Utility District Boundaries	T	2016	Trinity	0803	Polk	8/5/2016	Renovation of WWTF.	2015	1,010
									2020	1,085
									2025	1,148
									2030	1,210
Village of Vinton	Vinton Village Limits	C	2016	Rio Grande	2314	El Paso	10/18/2016	Design and construction of new collection system.	2020	5,769
									2030	7,578
									2040	8,715

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
Acton Municipal District	Acton Municipal District Boundaries	T	9/21/2016
City of Alamo	City of Alamo CCN Area	T	11/16/2010
City of Bonham	City of Bonham Wastewater Treatment Area	C	5/9/2016
City of LaPorte	City of LaPorte Extraterritorial Jurisdiction	C	1/25/2016
City of Stephenville	City of Stephenville City Limits	C	9/14/2016
Memorial Point Utility District	Memorial Point Utility District Boundaries	T	12/14/2015
Village of Vinton	Vinton Village Limits	C	8/22/2014

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 for 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. 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

TMDL Updates to the Water Quality Management Plan (WQMP): Watersheds Upstream of Lake Houston (1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011)

The document *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 the TCEQ on 04/06/11 and approved by EPA on 06/29/11, and became an update to the state's WQMP. Nineteen subsequent WQMP updates prior to this one have updated the list of individual wasteload allocations (WLAs) found in the original TMDL document. Additionally, an addendum to the original TMDL was submitted through the October 2013 WQMP update. This addendum added six new assessment units (AUs) to the original TMDL project.

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

- remove one canceled permit,
- add three new permits, and
- update the WLA for 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 eight AUs. This was originally presented in Table 18 in the original TMDL document, and the eight affected AUs are included here as Table 2.

For AU 1008_02, 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 $WLA_{StormWater}$ 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 July 2016 WQMP update) and allotted to future growth. This results in no change to the overall TMDL allocation.

In Table 19 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 $WLA_{StormWater}$ and LA terms to be used for future growth for AU 1008_02, that AU is updated in Table 3. These overall numbers for the other AUs did not change.

Table 1 – Changes to Individual Wasteload Allocations (Updates Table 16, pp. 49-56 in the TMDL document.)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – *E. coli* in Billion MPN/day	TMDL Comments
14903-001	001	TX0072702	1008_02	CITY OF MAGNOLIA	2.0	4.770	Increased discharge
15500-001	001	TX0137251	1008_02	7E PROPERTY HOLDINGS, LP	0.0095	0.023	New permit
15490-001	001	TX0137219	1009_01	MASON WESTGREEN LP	0.6	1.431	New permit
15483-001	001	TX0137162	1009E_01	290 KICKAPOO DEVELOPMENT INC.	0.022	0.052	New permit
14526-001	001	TX0031305	1009_04	SPRING ISD	N/A	N/A	Permit canceled

Table 2 - *E. coli* TMDL Summary Calculations for Lake Houston Assessment Units (Updates Table 18, pp. 61 in the TMDL document.)

Assessment Unit	Sampling Location	Stream Name	TMDL (Billion MPN/ day)	WLA_{WWTF} (Billion MPN/ day)	$WLA_{StormWater}$ (Billion MPN/ day)	LA (Billion MPN/ day)	MOS (Billion MPN/ day)	Future Growth (Billion MPN/ day)
1008_02	11314	Spring Creek	287	6.55	71.63	193.77	14.4	0.65
1008_03	11313	Spring Creek	1420	100.00	322	869	70.9	58.10
1008_04	11312	Spring Creek	1510	135.68	334	902	75.7	62.62
1009_01	11333	Cypress Creek	227	16.32	83.1	114.8	11.4	1.38
1009_02	11331	Cypress Creek	615	84.26	196	270	30.8	33.94
1009_03	11328	Cypress Creek	1340	169.71	415	574	67.0	114.29
1009_04	11324	Cypress Creek	1550	208.23	469	648	77.4	147.37
1009E_01	14159	Little Cypress Creek	91.1	12.33	16.14	48.42	4.56	9.65

Table 3 - Final *E. coli* TMDL Allocations (Updates Table 19, p. 62 in the TMDL document)

Assessment Unit	TMDL (Billion MPN/day)	WLA_{WWTF} (Billion MPN/day)	WLA_{MS4} (Billion MPN/day)	LA (Billion MPN/day)	MOS (Billion MPN/day)
1008_02	287	7.2	71.63	193.77	14.4

Appendix II. Two Total Maximum Daily Loads for Bacteria in Bastrop Bay/Oyster Lake and Christmas Bay (Segments 2433OW and 2434OW), Addendum Three to Six Total Maximum Daily Loads for Bacteria in Waters of the Upper Coast

TMDL Updates to the Water Quality Management Plan (WQMP): Two Total Maximum Daily Loads for Bacteria in Bastrop Bay/Oyster Lake and Christmas Bay (Segments 2433OW and 2434OW), Addendum Three to Six Total Maximum Daily Loads for Bacteria in Waters of the Upper Gulf Coast

The *document Six Total Maximum Daily Loads for Bacteria in Waters of the Upper Gulf Coast: Segments 2421, 2422, 2423, 2424, 2432, and 2439* was adopted by the TCEQ on 08/20/08 and approved by EPA on 02/04/09, and became an update to the state's Water Quality Management Plan (WQMP). Eight subsequent WQMP updates prior to this one have updated the list of individual wasteload allocations (WLAs) found in the original TMDL document. Additionally, two addenda to the original TMDL were submitted through the January 2012 and April 2012 WQMP updates. These addenda added four new assessment units (AUs) to the original TMDL project.

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

- add a new permit.

Note that this is a concentration-based TMDL, and therefore there are no final TMDL equations to be affected by this change.

In addition, this new facility discharges into a segment not included in the original TMDL. It was part of the third addendum to the original TMDL.

Table 1 – Daily Loads for WWTFs based on Concentration Allocations (Updates p. A-1 in TMDL)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) Fecal Coliform (org/day)*	Waste Load Allocation (WLA) *E. coli* (org/day)*	Waste Load Allocation (WLA) Enterococcus (org/day) *	Comments
15498-001	001	TX0137243	2434	BLUE WATER RESORT, INC.	0.010	75,708,236	47,696,188	13,248,941	New permit

*Concentrations limits will be based on the applicable indicator bacteria criterion geometric means (Fecal coliform or *E. coli* or Enterococcus).