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FINAL

January 2011 Update to the Texas Water Quality Management Plan

Prepared by the:
Office of Water, Water Quality Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

January 2011 Update to the Texas Water Quality Management Plan

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WQMP updates are also available on the TCEQ web site at:
< www.tceq.texas.gov/nav/eq/eq_wqmp.html >

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



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Table of Contents

Introduction 1
Projected Effluent Limit Updates 3
Planning Information Summary 6
Designated Management Agencies 9
Total Maximum Daily Load Updates 10

Tables

Table 1. Projected Effluent Limit Updates 4
Table 2. Service Area Population Updates 8
Table 3. Designated Management Agencies Updates 9

Appendixes

Appendix I. Eighteen Total Maximum Daily Loads for Bacteria in Buffalo and Whiteoak Bayous and Tributaries For Segment Numbers 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E..... 11
Appendix II. Five Total Maximum Daily Loads for Indicator Bacteria in Brays Bayou Above Tidal and Tributaries For Segment Numbers 1007B, 1007C, 1007E, and 1007L 12
Appendix III. Thirteen Total Maximum Daily Loads for Indicator Bacteria in Eastern Houston Watersheds For Segment Numbers 1006F, 1006H, 1007F, 1007G, 1007H, 1007I, 1007K, 1007M, 1007O, and 1007R 14
Appendix IV. Four Total Maximum Daily Loads for Indicator Bacteria in Halls Bayou and Tributaries For Segment Numbers 1006D, 1006I, and 1006J 16
Appendix V. Four Total Maximum Daily Loads for Indicator Bacteria in Sims Bayou Above Tidal and Tributary For Segment Numbers 1007D and 1007N 18

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 on behalf of the Governor of Texas, and approval by the 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 2011 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

The Projected Effluent Limit Update section provides information compiled from November 1, 2010 through January 31, 2011, 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.

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 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, and 10/2010.

The Service Area Population and Designation of Management Agencies 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 waste load 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 effective at the time of the TCEQ production of this update. Water Quality Standards 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
10078-001	1223	0054844	City of De Leon Comanche	0.295	10	24.60	3	7.38			4	
10201-001	0505	0026557	City of Kilgore Gregg	6.0	7	350.28	2	100.08			6	Outfall 001 Mar-Nov
			<u>Note:</u> Outfall 001 and Outfall 002 combined flow cannot exceed 6.0 MGD	6.0	7	350.28	12	600.48			6	Outfall 001 Dec-Feb
				6.0	10	500.40	2	100.08			4	Outfall 002 Apr-Nov
				6.0	10	500.40	12	600.48			4	Outfall 002 Dec-Mar
10466-002	1803	0132829	City of Victoria Victoria	8.8					20	1,467.84	2	
10489-007	1248	0132233	City of Georgetown Williamson	3.0	5	125.10	1.2	30.02			6	
10503-002	2491	0024112	City of Edinburg Hidalgo	7.6	5	316.92	1.5	95.08			6	Existing Outfall
				12.3	10	1,025.82	2	205.16			6	South Route Outfall
				12.3	10	1,025.82	2	205.16			6	North Route Outfall
10504-001	2202	0132802	City of Donna Hidalgo	2.7	10	225.18	3	67.55			4	
10543-015	1428	0132934	City of Austin Travis	0.30	5	12.51	2	5.00			4	
10570-001	1007	0020052	Harris County WCID Harris	0.60	10	50.04	3	15.01			4	
12250-001	1007	0084484	Harris County MUD No. 122 Harris	0.25	10	20.85	3	6.26			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
12834-001	1014	0094307	Harris County MUD No. 167 Harris	1.50	7	87.57	2	25.02			6	Outfall 001
			<u>Note:</u> Outfall 001 and Outfall 002 combined flow cannot exceed 1.50 MGD	1.50	7	87.57	2	25.02			6	Outfall 002
14946-001	1434	0132080	XS Ranch Fund VI, L.P. Bastrop	0.99	10	82.57	2	16.51			5	
14986-001	2441	0132781	Two Rivers Realm, G.P., L.L.C. Matagorda	0.099					10	8.26	4	
14989-001	1015	0132845	The Cardon Group, L.L.C. Montgomery	0.96	10	80.06	3	24.02			4	
14990-001	1007	0132835	GRDM/West Main Partners, L.P. Harris	0.02	10	1.67	3	0.50			4	
14992-001	1108	0132896	Skymark Development Co., Inc. Fort Bend	0.70	10	58.38	2	11.68			4	
14993-001	1006	0132900	NK VII Partners, Ltd. Harris	0.005	10	0.42	3	0.13			4	
14994-001	1218	0132446	American Water Operations and Maintenance Inc. Bell	0.030					20	5.00	2	

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 Bryan	City of Bryan	C	2010	Brazos River Basin	1209	Brazos	02/01/2011	Improvements to the collection system.	2010	74,650
									2020	84,038
									2030	92,672
									2040	99,339

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 Updates

Planning Agency	Service Area	DMA Needs	DMA Date	DMA Area/Comments
City of Bryan	City of Bryan	T/C	11/23/2010	City Limits

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 waste load 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 U.S. Environmental Protection Agency for review and approval.

The attached appendixes may reflect proposed waste load 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. And 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. Eighteen Total Maximum Daily Loads for Bacteria in Buffalo and Whiteoak Bayous and Tributaries For Segment Numbers 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E

TMDL Updates to the Water Quality Management Plan (WQMP): Whiteoak and Buffalo Bayous and Tributaries (Segments 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E)

The document *Eighteen Total Maximum Daily Loads for Bacteria in Buffalo and Whiteoak Bayous and Tributaries For Segment Numbers 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E* was adopted by the TCEQ on 04/08/2009 and approved by EPA on 06/11/09, and became an update to the state's WQMP.

The TMDL document included individual Waste Load Allocations (WLAs) for bacteria for entities within the Buffalo and Whiteoak Bayous watershed. The purpose of this update is to make the following change to the TMDL:

- Adjust WLAs for a permit that has been amended since the last WQMP update for this TMDL (Table 1).

In addition, 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 within one assessment unit, as is reflected in Table 53 of the TMDL (and Table 2 here). In Table 54 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, this overall number did not change, and Table 54 of the TMDL remains the same.

Table 1 - Waste Load Allocations for Permitted Facilities –Amended Discharges

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
12834-001	001	TX0094307	1014A_01	Harris Co. MUD #167	0.54	1.29	Table 15, pp. 39-42
12834-001	002	TX0094307	1014A_01	Harris Co. MUD #167	0.96	2.29	Table 15, pp. 39-42

Table 2 - *E. coli* TMDL Summary Calculations

Assessment Unit	TMDL (Billion MPN/day)	WLA _{WWTF} (Billion MPN/day)	WLA _{StormWater} (Billion MPN/day)	LA (Billion MPN/day)	MOS (Billion MPN/day)	Upstream Load (Billion MPN/day)	Future WWTF Capacity (Billion MPN/day) Growth
1014A_01	195.04	30.48	141.2	15.69	0	0	7.67

Appendix II. Five Total Maximum Daily Loads for Indicator Bacteria in Brays Bayou Above Tidal and Tributaries For Segment Numbers 1007B, 1007C, 1007E, and 1007L

TMDL Updates to the Water Quality Management Plan (WQMP): Brays Bayou Above Tidal and Tributaries (1007B, 1007C, 1007E, and 1007L)

The document *Five Total Maximum Daily Loads for Indicator Bacteria in Brays Bayou Above Tidal and Tributaries For Segment Numbers 1007B, 1007C, 1007E, and 1007L* was adopted by the TCEQ on 09/15/2010 and approved by EPA on 09/27/10, and became an update to the state's WQMP.

The TMDL document included individual Waste Load Allocations (WLAs) for bacteria for entities within the Brays Bayou watershed. The purpose of this update is to make the following changes to the TMDL:

- Remove the individual WLAs for permits that should not have been included in the original TMDL (six industrial permits with no domestic component) and remove the individual WLA for a permit that has been revoked (Table 1)
- Adjust two WLAs for permits that have been amended since the inception of the TMDL (Table 2)
- Assign an individual WLA for a permit issued since the calculations for the original TMDL were made (Table 3)

In addition, 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 within two assessment units, as is reflected in Table 17 of the TMDL, and presented in Table 4 here. In Table 18 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 18 of the TMDL remains the same.

Table 1 - Waste Load Allocations for Permitted Facilities – Removed After Original TMDL

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
01286-000	001	TX0008851	1007B_01	Texas Medical Center Central Heating & Cooling Services Corp.	N/A	N/A	No domestic component; remove from Table 15, pp. 35-36
01853-000	001	TX0052761	1007B_01	Shell Chemical LP & Equilon Enterprises LLC	N/A	N/A	No domestic component; remove from Table 15, pp. 35-36
01853-000	002	TX0052761	1007B_01	Shell Chemical LP & Equilon Enterprises LLC	N/A	N/A	No domestic component; remove from Table 15, pp. 35-36
01225-000	001	TX0003824	1007C_01	Texas Instruments Inc.	N/A	N/A	No domestic component; remove from Table 15, pp. 35-36
01225-000	002	TX0003824	1007C_01	Texas Instruments Inc.	N/A	N/A	No domestic component; remove from Table 15, pp. 35-36
03060-001	001	TX0104540	1007E_01	Weatherford Farms Inc.	N/A	N/A	No domestic component; remove from Table 15, pp. 35-36
13884-001	001	TX0119474	1007B_01	Nguyen, Loc Dac	N/A	N/A	Revoked; remove from Table 15, pp. 35-36

Table 2 - Waste Load Allocations for Permitted Facilities – Amended Since Original TMDL

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
14850-001	001	TX0026972	1007B_01	City of Southside Place	0.3	0.715	Change to Table 15, pp. 35-36
14418-001	001	TX0056481	1007B_02	Chelford City MUD	14.0	33.4	Change to Table 15, pp. 35-36

Table 3 - Waste Load Allocations for Permitted Facilities – Added Since Original TMDL

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
14961-001	001	TX0132438	1007B_01	Nancy Chau	0.03	0.0715	Add to Table 15, pp. 35-36

Table 4 - *E. coli* TMDL Summary Calculations for Brays Bayou Assessment Units (Only equations that have changed are included)

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 (Billion MPN/day) Growth
1007B_01	11138	Brays Bayou Above Tidal	2,390	365	1,830	9.06	120	68.7
1007B_02	15848	Brays Bayou Above Tidal	162	37.6	100	2.05	8.09	13.8
1007C_01	11169	Keegans Bayou Above Tidal	325	86.0	200	7.01	16.3	16.3
1007E_01	16652	Willow Waterhole Bayou Above Tidal	130	2.98	120	0	6.49	0.463

Appendix III. Thirteen Total Maximum Daily Loads for Indicator Bacteria in Eastern Houston Watersheds For Segment Numbers 1006F, 1006H, 1007F, 1007G, 1007H, 1007I, 1007K, 1007M, 1007O, and 1007R

TMDL Updates to the Water Quality Management Plan (WQMP): Eastern Houston Watersheds (1006F, 1006H, 1007F, 1007G, 1007H, 1007I, 1007K, 1007M, 1007O, and 1007R)

The document *Thirteen Total Maximum Daily Loads for Indicator Bacteria in Eastern Houston Watersheds For Segment Numbers 1006F, 1006H, 1007F, 1007G, 1007H, 1007I, 1007K, 1007M, 1007O, and 1007R* was adopted by the TCEQ on 09/15/2010 and approved by EPA on 09/27/10, and became an update to the state's WQMP.

The TMDL document included individual Waste Load Allocations (WLAs) for bacteria for entities within the Eastern Houston watersheds. The purpose of this update is to make the following changes to the TMDL:

- Remove the individual WLAs for two permits that have expired or have been withdrawn (Table 1)
- Correct the TMDL equation for one assessment unit (Table 2)

In addition, 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 within two assessment units, as is reflected in Table 17 of the TMDL, and presented in Table 2 here. In Table 18 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 18 of the TMDL remains the same for these assessment units.

After the completion of the TMDL, we noticed that the incorrect flow regime was used to determine the allocations for one assessment unit – 1007O_01. The lowest flows were used, rather than the highest. To be consistent with how the other TMDL allocations were developed for this and other Houston-area bacteria TMDL projects, the allocations for 1007O_01 were re-calculated based on the highest flow regime. The new equations are found in Tables 2 and 3 in this document, and update Tables 17 and 18 in the TMDL document, respectively.

Table 1 - Waste Load Allocations for Permitted Facilities – Removed After Original TMDL

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
14690-001	001	TX0128601	1006F_01	Normandy Utility Co LP	N/A	N/A	Permit expired; remove from Table 15, p. 40
11923-001	001	TX0075078	1006H_01	G & C Investment Co LLP & Garlock Sealing	N/A	N/A	Permit withdrawn; remove from Table 15, p. 40

Table 2 - *E. coli* TMDL Summary Calculations for Eastern Houston Assessment Units (Only equations that have changed are included)

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 (Billion MPN/day) Growth
1006F_01	16662	Big Gulch Above Tidal	14.9	0.62	7.33	5.53	0.744	0.656
1006H_01	16663	Spring Gully Above Tidal	34.8	0.0358	29	3.96	1.74	0.0401
1007O_01	16649	Unnamed Non-Tidal Tributary of Buffalo Bay	14.6	NA	13.87	0	0.73	0

Table 3 – Final TMDL Allocations for Eastern Houston Assessment Units (only equation that has changed is included)

Assessment Unit	TMDL (Billion MPN/day)	WLA _{WWTF} * (Billion MPN/day)	WLA _{StormWater} (Billion MPN/day)	LA (Billion MPN/day)	MOS (Billion MPN/day)
1007O_01	14.6	0	13.87	0	0.73

* Is WLA-WWTF plus AFG

Appendix IV. Four Total Maximum Daily Loads for Indicator Bacteria in Halls Bayou and Tributaries For Segment Numbers 1006D, 1006I, and 1006J

TMDL Updates to the Water Quality Management Plan (WQMP): Halls Bayou and Tributaries (1006D, 1006I, and 1006J)

The document *Four Total Maximum Daily Loads for Indicator Bacteria in Halls Bayou and Tributaries For Segment Numbers 1006D, 1006I, and 1006J* was adopted by the TCEQ on 09/15/2010 and approved by EPA on 09/27/10, and became an update to the state's WQMP.

The TMDL document included individual Waste Load Allocations (WLAs) for bacteria for entities within the Halls Bayou watershed. The purpose of this update is to make the following changes to the TMDL:

- Remove the individual WLAs for three permits that have expired (Table 1)
- Assign individual WLAs for two permits issued since the calculations for the original TMDL were made (Table 2)
- Add a clarification concerning one permit (Table 3)

In addition, 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 within two assessment units, as is reflected in Table 1 8 of the TMDL, and presented in Table 4 here. In Table 19 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 19 of the TMDL remains the same.

Table 1 - Waste Load Allocations for Permitted Facilities – Removed After Original TMDL

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
12070-004	001	TX0100323	1006D_02	Aldine ISD	N/A	N/A	Permit expired; remove from Table 16, pp. 35-36
12917-001	001	TX0095516	1006D_02	William Emmett Hartzog Jr.	N/A	N/A	Permit expired; remove from Table 16, pp. 35-36
12772-001	001	TX0093572	1006J_01	5510 Acorn LLC	N/A	N/A	Permit expired; remove from Table 16, pp. 35-36

Table 2 - Waste Load Allocations for Permitted Facilities – Added Since Original TMDL

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
14966-001	001	TX0132519	1006D_02	Sampogna Properties LP	0.02	0.0477	Add to Table 16, pp. 35-36
14993-001	001	TX0132900	1006D_02	NK VII Partners LTD	0.005	0.0119	Add to Table 16, pp. 35-36

Table 3 – Clarification for One Permitted Facility

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
01536-000	002	TX0007650	1006D_02	Ashbrook Simon-Hartley Operations LP	N/A	N/A	Not addressed in original TMDL; No domestic component. Do not add to Table 16, pp. 35-36

Table 4 - *E. coli* TMDL Summary Calculations for Halls Bayou Assessment Units (Only equations that have changed are included)

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 (Billion MPN/day) Growth
1006D_01	20023	Halls Bayou Below US 59	463	42.6	382	3.4	23.2	12.1
1006D_02	11126	Halls Bayou Above US 59	280	25.4*	233	0	14	6.94*
1006J_01	16665	Unnamed Tributary of Halls Bayou	26.1	0.246	24.4	0	1.31	0.204

*Numbers changed, but are not apparent given the significant digits used in the table.

Appendix V. Four Total Maximum Daily Loads for Indicator Bacteria in Sims Bayou Above Tidal and Tributary For Segment Numbers 1007D and 1007N

TMDL Updates to the Water Quality Management Plan (WQMP): Sims Bayou Above Tidal and Tributary (Segments 1007D and 1007N)

The document *Four Total Maximum Daily Loads for Indicator Bacteria in Sims Bayou Above Tidal and Tributary For Segment Numbers 1007D and 1007N* was adopted by the TCEQ on 09/15/2010 and approved by EPA on 09/27/10, and became an update to the state's WQMP.

The TMDL document included individual Waste Load Allocations (WLAs) for bacteria for entities within the Sims Bayou watershed. The purpose of this update is to make the following changes to the TMDL:

- Remove the individual WLAs for permits that should not have been included in the original TMDL (two industrial permits with no domestic component) (Table 1)
- Include an individual WLA for a permit issued since the calculations for the original TMDL were made (Table 2)

In addition, 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 within two assessment units, as is reflected in Table 17 of the TMDL, and presented in Table 3 here. In Table 18 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 18 of the TMDL remains the same.

Table 1 - Waste Load Allocations for Permitted Facilities – Removed After Original TMDL

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
01260-000	001	TX0004014	1007D_02	DuPont Houston Crop Protect	N/A	N/A	No domestic component; remove from Table 15, p. 33
02294-000	001	TX0079561	1007D_02	Muehlstein Compounded Prod.	N/A	N/A	No domestic component; remove from Table 15, p. 33

Table 2 - Waste Load Allocations for Permitted Facilities – Added Since Original TMDL

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
14990-001	001	TX0132835	1007D_02	GRDM/West Main Partners LP	0.02	0.0477	New permit; add to Table 15, p. 33

Table 3 - *E. coli* TMDL Summary Calculations for Sims Bayou Assessment Units (Only equations that have changed are included)

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 (Billion MPN/day) Growth
1007D_02	11133	Sims Bayou Above Tidal	527	90.1*	358	10.2	26.3	42*
1007D_03	11132	Sims Bayou Above Tidal	777	107*	569	17.5	38.9	45.3*

*Numbers changed, but are not apparent given the significant digits used in the table.