

**BOARD OF DIRECTORS
SAN JACINTO RIVER AUTHORITY
MINUTES OF REGULAR MEETING
FEBRUARY 28, 2019**

A regular meeting of the Board of Directors of the San Jacinto River Authority was held at 8:00 a.m., February 28, 2019, at the San Jacinto River Authority General and Administration Building, a notice of said meeting was posted as required by law. President Lloyd Tisdale, Vice-President Ronnie Anderson, Treasurer Mark Micheletti, and Board Members Kaaren Cambio and Brenda Cooper were present. Secretary Jim Alexander and Assistant Secretary Ed Boulware were absent. General Manager Jace Houston, Deputy General Manager Ron Kelling, Director of Financial and Administrative Services Tom Michel, Director of Water Resources and Flood Management Chuck Gilman, Director of Communications and Public Affairs Heather Ramsey Cook, GRP Division Manager Mark Smith, Lake Conroe Division Manager Bret Raley, Administrative Services Manager Cynthia Bowman, Financial Advisor Jan Bartholomew, and General Counsel Mitchell Page were in attendance.

1. CALL TO ORDER

The meeting was called to order at 8:02 a.m.

2. PLEDGES OF ALLEGIANCE

The Pledges of Allegiance were led by Mr. Anderson.

3. PUBLIC COMMENTS

Mr. Bob Rehak of Houston, Texas, Mr. Bill Fowler of Kingwood, Texas, Ms. Amy Slaughter, of Kingwood, Texas, and Mr. Rigby Owen, of Montgomery, Texas, spoke in favor of the temporary seasonal lowering of Lake Conroe. Mr. Dan Krueger of Houston, Texas, spoke in opposition of the temporary lake lowering strategy.

4. DIVISION UPDATES

a. G & A:

Mr. Houston reported on his participation at the House Natural Resources Committee to discuss issues related to flooding. He provided testimony relative to pre-releases from water supply reservoirs, referencing the Texas Water Conservation Association's white paper entitled "Flooding in Texas: Preparation and Response".

b. G & A:

Ms. Cook reported on several press releases issued, meetings attended throughout the month, as well as dissemination of information related to upcoming projects.

c. G & A:

Mr. Michel welcomed and introduced Risk Manager Belinda Raindl. He also provided a brief summary of the monthly financials and the annual energy report.

d. Woodlands:

No update was provided by the Woodlands Division.

e. GRP:

Mr. Smith reported that the GRP Review Committee recommended approval of the GRP Water Conservation/Drought Contingency Plans.

f. Lake Conroe:

Mr. Gilman provided an update on the Lake Conroe Division's operator residence. He explained that the mold accumulation was more extensive than originally anticipated, therefore the revised estimate to repair the residence is \$112,000, which is an increase of \$32,000 from the original estimate of \$80,000. He stated that repairs to the residence will not take place due to the substantial cost to repair and continued by reporting that additional improvements will be made to the Adams Building to accommodate 24-hour operations. These additional scope items being considered in the Adams Building will be included as bid alternatives.

g. Highlands:

No update was provided by the Highlands Division.

h. Flood Management:

Mr. Gilman provided updates regarding the regional flood study with Harris County Flood Control District and the Spring Creek Siting Study.

5. CONSENT AGENDA

Ms. Cambio made a motion to approve the consent agenda as recommended. The motion was seconded by Mr. Anderson and carried unanimously.

a. Approval of Minutes

Approve the minutes of the Regular Meeting of January 24, 2019.

b. Unaudited Financials for the Month of January, 2019

Approve the unaudited financials for the month of January, 2019.

c. Resolution Adopting Revised Water Conservation Plans and Drought Contingency Plans

Adopt Resolution No. 2019-R-03, attached hereto as Exhibit "A", of the San Jacinto River Authority Board of Directors adopting revised Water Conservation Plans and Drought Contingency Plans; authorizing the General Manager to implement such revised plans; repealing and rescinding all prior plans; and containing other provisions related thereto.

d. Resolution Adopting 2019 Prevailing Wage Rate Scales for Construction Projects

Adopt Resolution No. 2019-R-04, attached hereto as Exhibit “B”, of the San Jacinto River Authority Board of Directors adopting the 2019 prevailing wage rate scales for construction projects.

e. Resolution Adopting List of Qualified Brokers

Adopt Resolution No. 2019-R-05, attached hereto as Exhibit “C”, of the San Jacinto River Authority Board of Directors adopting list of qualified brokers authorized to engage in investment transactions with the Authority.

f. Revised Federal Single Audit Report for the Fiscal Year Ended August 31, 2018

Approve the revised Federal Single Audit Report for the fiscal year ended August 31, 2018.

g. Construction Contract for 12-inch Water Line Replacement across Panther Branch at Grogan's Point Road

Authorize the General Manager to execute a construction contract with Alcott, Inc., dba TCH, in the amount of \$322,010, for 12-inch Water Line Replacement across Panther Branch at Grogan's Point Road in The Woodlands, and contract modifications up to \$75,000.

h. Construction Contract for Rehabilitation of Water Well Nos. 25 and 31

Authorize the General Manager to execute a construction contract with Weisinger Incorporated in the amount of \$436,127, for Rehabilitation of Water Well Nos. 25 and 31 in The Woodlands, and contract modifications up to \$75,000.

6. REGULAR AGENDA

a. G&A

1. Election of Officers to the Board of Directors

Mr. Tisdale announced that Mr. Alexander, Secretary of the Board of Directors, would like to step down from this position. Mr. Anderson made a motion to elect Ms. Cambio as Secretary of the Board of Directors. The motion was seconded by Mr. Micheletti and carried unanimously.

b. WOODLANDS

It was announced that items 6b1 and 6b2 would be considered together.

Mr. Kelling provided information related to Work Order No. 9 with Kimley-Horn as well as Work Order No. 7 with Texas Water Engineering. Mr. Micheletti made a motion to approve items 6b1 and 6b2. The motion was seconded by Mr. Anderson and carried unanimously.

1. Work Order No. 9 for Lift Station No. 4 Replacement, Lift Station No. 23 Rehabilitation, and Wastewater Treatment Facility No. 3 Lift Station Rehabilitation

Authorize the General Manager to execute Work Order No. 9 with Kimley-Horn and Associates, Inc., in an amount not to exceed \$28,990, for professional engineering services for Lift Station No. 4 Replacement, Lift Station No. 23 Rehabilitation, and Wastewater Treatment Facility No. 3 Lift Station Rehabilitation in The Woodlands.

2. Work Order No. 7 for Lift Station No. 4 Replacement, Lift Station No. 23 Rehabilitation, and Wastewater Treatment Facility No. 3 Lift Station Rehabilitation

Authorize the General Manager to execute Work Order No. 7 with Texas Water Engineering, PLLC, in an amount not to exceed \$30,602, for construction management services for Lift Station No. 4 Replacement, Lift Station No. 23 Rehabilitation, and Wastewater Treatment Facility No. 3 Lift Station Rehabilitation in The Woodlands.

c. RAW WATER ENTERPRISE

It was announced that items 6c1 and 6c2 would be considered together.

Mr. Dan Hilderbrandt provided information related to the construction contract as well as Work Order No. 1 associated with Siphon 7 Improvements - Phase 1. Ms. Cooper made a motion to approve items 6c1 and 6c2. The motion was seconded by Mr. Micheletti and carried with all present voting aye.

1. Construction Contract for Siphon 7 Improvements - Phase 1 in Highlands

Authorize the General Manager to execute a construction contract with Boyer, Inc., in the amount of \$1,851,340, for Siphon 7 Improvements - Phase 1 in Highlands, and contract modifications up to \$75,000.

2. Professional Services Agreement and Work Order No. 1 for Siphon 7 Improvements - Phase 1 in Highlands

Authorize the General Manager to execute a professional services agreement and Work Order No. 1 with KIT Professionals, Inc., in an amount not to exceed \$164,299, for construction management and inspection services for Siphon 7 Improvements - Phase 1 in Highlands.

d. FLOOD MANAGEMENT

1. Annual Review of Temporary Lake Lowering Strategy

Mr. Gilman reviewed statistics related to the 2018 temporary lowering of Lake Conroe. He provided a summary of the temporary seasonal lake lowering strategy adopted by the Board in May, 2018, which was to gradually reduce and maintain the level of Lake Conroe at 200 feet msl starting April 1st through the end of May, and to begin capturing flows to restore normal lake elevation on June 1st. He further explained that for the fall season, beginning August 1st, the strategy was to gradually reduce the level of Lake Conroe with a goal of reaching 200 feet msl by August 15th, and to continue gradually lowering the level of Lake Conroe after August 15th with the goal of reaching (and maintaining) 199 feet msl by August 31st. Flows would be captured beginning October 1st to restore normal lake elevation. Mr. Gilman reiterated that the intent of the Board was to review this strategy annually in February for the purpose of creating

a near term, temporary flood mitigation benefit, while more permanent mitigation strategies are put into place including, but not limited to, dredging. Mr. Gilman provided a brief update related to the dredging project according to the latest progress reports released by the Corps of Engineers. Mr. Gilman reported that the Corps of Engineers and the Federal Emergency Management Agency (“FEMA”) recognized that additional material was deposited at the mouth of the West Fork during Hurricane Harvey. He explained FEMA’s willingness to put forth debris management dollars to remove some of the additional sedimentation from a large sand bar at the mouth of the West Fork commonly referred to as the “mouth bar,” which will restore flow capacity of the river. Mr. Gilman discussed that the City of Houston is seeking \$50 million in grant funding from FEMA to add ten additional gates to the Lake Houston Dam. He stated that currently, the City of Houston is creating a model to identify any additional downstream impacts that could result from additional gates on Lake Houston. Further discussion ensued. Ms. Cambio made a motion to continue the protocol the Board adopted last year and to review the strategy of releasing the City of Houston's water from Lake Conroe to reduce the lake level by one-foot in the spring and two-feet in the fall in another year. The motion was seconded by Mr. Micheletti. Ms. Cooper stated that her concern with the proposed strategy is related to the possibility of drought and the impacts of same in the future. Mr. Tisdale reiterated that the proposed strategy lowers the lake to the specified levels, and in the event of drought, releases would not be made if the lake was already below those specified levels. Ms. Cambio reiterated the City of Houston’s willingness to continue this strategy. With no further discussion, the motion carried with four ayes (Mr. Tisdale, Mr. Anderson, Ms. Cambio, and Mr. Micheletti) and one nay (Ms. Cooper).

7. BRIEFINGS AND PRESENTATIONS

a. Presentation of Annual Energy Report for period September 1, 2017, through August 31, 2018

Mr. Michel presented information related to the Annual Energy Report for period September 1, 2017, through August 31, 2018, as required by law.

b. Presentation of the San Jacinto River Authority Strategic Plan

Mr. David Eisenlohr of the Azimuth Group provided information related to the San Jacinto River Authority’s Strategic Plan. He stated that the process began in February, 2018, and went on to provide an overview of the planning process. He explained stakeholder engagement by focus groups (legislative offices, GRP Review Committee, large industrial customers, and The Woodlands Municipal Utility Districts), summarized the findings of each of the focus groups, and provided an overview of the various processes which led to the structure of the strategic plan. He stated that some of the core elements were already in place and only required further update or refinement. He reviewed the matrix in which the goals, objectives, initiatives, and key performance indicators were compiled. Mr. Eisenlohr went on to provide upcoming key dates, as well as a schedule for formal adoption.

8. EXECUTIVE SESSION

The meeting was called into Executive Session at 9:58 a.m., under the authority of the Texas Government Code, Section 551.071, consultation with the Authority’s attorney.

9. RECONVENE IN OPEN SESSION FOR ACTION FOLLOWING EXECUTIVE SESSION

The meeting was reconvened in open session at 11:57 a.m. No action was taken regarding the items discussed in executive session.

10. ANNOUNCEMENTS / FUTURE AGENDA

It was announced that the next San Jacinto River Authority Board of Directors meeting will take place on March 28, 2019.

11. ADJOURN

Without objection, the meeting was adjourned at 11:58 a.m.



A handwritten signature in cursive script that reads "Kaaren Cambio".

Kaaren Cambio
Secretary, Board of Directors

Exhibit A

RESOLUTION NO. 2019-R-03

RESOLUTION ADOPTING REVISED WATER CONSERVATION PLANS AND DROUGHT CONTINGENCY PLANS; AUTHORIZING THE IMPLEMENTATION OF SUCH REVISED PLANS; REPEALING AND RESCINDING ALL PRIOR PLANS; AND CONTAINING OTHER PROVISIONS RELATING TO THE SUBJECT

WHEREAS, the San Jacinto River Authority (the "Authority") has water rights issued by the Texas Commission on Environmental Quality and its predecessor agencies (collectively, the "TCEQ") to divert water from the San Jacinto River and Trinity River basins; and

WHEREAS, the Authority, by and through its Highlands Division, owns and operates water supply and distribution systems and facilities, including the Lake Houston Pump Station, East Canal Transfer Pump Station, Highlands Reservoir, and the Highlands Canal System, in order to sell and deliver water out of such rights to certain customers generally located in eastern Harris County; and

WHEREAS, the Authority also owns an interest in Lake Conroe Dam and Reservoir, located in Montgomery and Walker Counties ("Lake Conroe") upstream on the San Jacinto River from the Lake Houston Reservoir, and holds certain contract rights and water rights issued by the TCEQ to divert or release and use water from Lake Conroe; and

WHEREAS, the Authority, by and through its Lake Conroe Division, operates Lake Conroe and sells water out of such rights to customers located in Montgomery County, generally in close proximity to Lake Conroe; and

WHEREAS, the Authority, by and through its Woodlands Division, owns and operates an extensive water supply and distribution system and facilities for providing regional, wholesale services to customers in the area of The Woodlands; and

WHEREAS, the Authority, by and through its Groundwater Reduction Plan Division (the "GRP Division"), owns and operates a surface water treatment facility and transmission system that will withdraw water from Lake Conroe for treatment, distribution and sale to its Woodlands Division and certain other customers; and

WHEREAS, in connection with the management of such facilities, systems and operations, the Authority has previously adopted various Water Conservation Plans and Drought Contingency Plans (collectively, the "Plans") in accordance with the requirements of Chapter 11, Texas Water Code, as amended, and the rules of the TCEQ under Chapter 288 of Title 30, Texas Administrative Code, as amended; and

WHEREAS, the Board of Directors of the Authority has determined that it is in the public interest to revise and replace the Plans; Now, Therefore,

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SAN JACINTO RIVER AUTHORITY, THAT:

Section 1: The Plans, as previously adopted and amended by the Authority, are hereby repealed and rescinded in its entirety.

Section 2: The Board of Directors of the Authority hereby approves and adopts the revised water conservation and drought contingency plans, each dated as of the date hereof, titled as follows: *Water Conservation Plan for San Jacinto River Authority Highlands Division; Drought Contingency Plan for San Jacinto River Authority Highlands Division; Water Conservation Plan for San Jacinto River Authority Lake Conroe Division; Drought Contingency Plan for San Jacinto River Authority Lake Conroe Division; Water Conservation Plan for San Jacinto River Authority Woodlands Division; Drought Contingency Plan for San Jacinto River Authority Woodlands Division; Water Conservation Plan for San Jacinto River Authority GRP Division; and Drought Contingency Plan for San Jacinto River Authority GRP Division* (collectively, the "Revised Plans").

Section 3: The Revised Plans, together with any amendments thereto which may be made from time to time, shall be maintained on file in the official records of the Authority and filed, as appropriate, with the TCEQ, the Texas Water Development Board and any other agencies with jurisdiction.

Section 4: It shall be the policy of the Authority that the programs and procedures set forth in the Revised Plans be implemented immediately. The General Manager of the Authority shall report to the Board of Directors of the Authority and other interested agencies annually on the implementation and effectiveness of the Revised Plans in accordance with the procedures set forth in the Revised Plans.

Section 5: The General Manager of the Authority is hereby designated as the official responsible for implementation of the Revised Plans in accordance with the guidelines set forth in the Revised Plans.

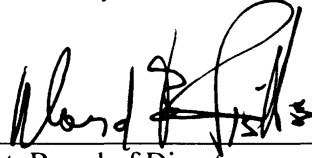
Section 6: It shall be the policy of the Authority to support and assist its wholesale and retail customers in (1) designating their pre-assigned officials as having the responsibility and authority to implement the Revised Plans, (2) allowing for enforcement of the Revised Plans, and (3) providing civil penalties for noncompliance with the Revised Plans.

Section 7: It shall be the policy of the Authority that the *Water Conservation Plan for San Jacinto River Authority GRP Division* and the *Drought Contingency Plan for San Jacinto River Authority GRP Division* establish minimum requirements which shall be adopted, respectively, in a water conservation plan and a drought contingency by each participant in the Authority's Groundwater Reduction Plan. The General Manager of the Authority and the GRP Administrator are hereby authorized and directed to take such actions as are deemed necessary and appropriate to ensure that the participants in the Authority's Groundwater Reduction Plan (the "Participants") adopt water conservation plans and drought contingency plans that are reasonably determined to meet or exceed such minimum requirements. Further, it shall be the policy of the Authority to support and assist the Participants in (1) adopting such water

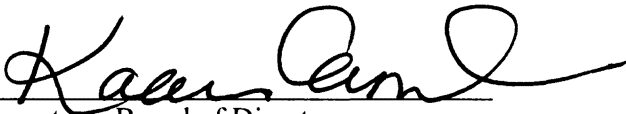
conservation plans and drought contingency plans, and (2) implementing and enforcing such water conservation plans and drought contingency plans.

Section 8: This Resolution shall be and remain in full force and effect from and after the date of its passage and approval.

PASSED AND APPROVED this 28th day of February, 2019.



President, Board of Directors



Secretary, Board of Directors

(SEAL)



Water Conservation Plan

for

**San Jacinto River Authority
Highlands Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-2
Section 3. Water Conservation Plan	3-1
3.1 Highlands Division 5- and 10-year Water Conservation Target Goals.....	3-1
3.2 Water Conservation Methods	3-2
3.2.1 Metering and Record Management	3-2
3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses	3-4
3.2.3 Recycling and Reuse	3-4
3.2.4 Rate Structure	3-4
3.2.5 Contractual Requirements for Customer Water Conservation Plans	3-5
3.2.6 Customer Conservation Plan Guidance;.....	3-6
3.2.7 Customer Reporting Requirements	3-6
3.2.8 Public Information and Education	3-6
3.2.9 Encouraging Customer Conservation Practices.....	3-7
3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan.....	3-7

Tables

Table 2-1. SJRA Water Rights Portfolio	2-2
Table 2-2. 2018 Surface Water Diversion	2-3

Figures

Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. Highlands Canal System Layout.....	2-4
Figure 2-2. MUD District Boundaries.....	2-5

Appendices

Appendix A – Water Utility Profiles
Appendix B – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG
Appendix C – TCEQ Form 20645

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend, and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a Board of Directors. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Water Conservation Plan (including utility description, service area description, and customer data) for the Highlands Division (the Division). The Division’s Drought Contingency Plan is provided under a separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

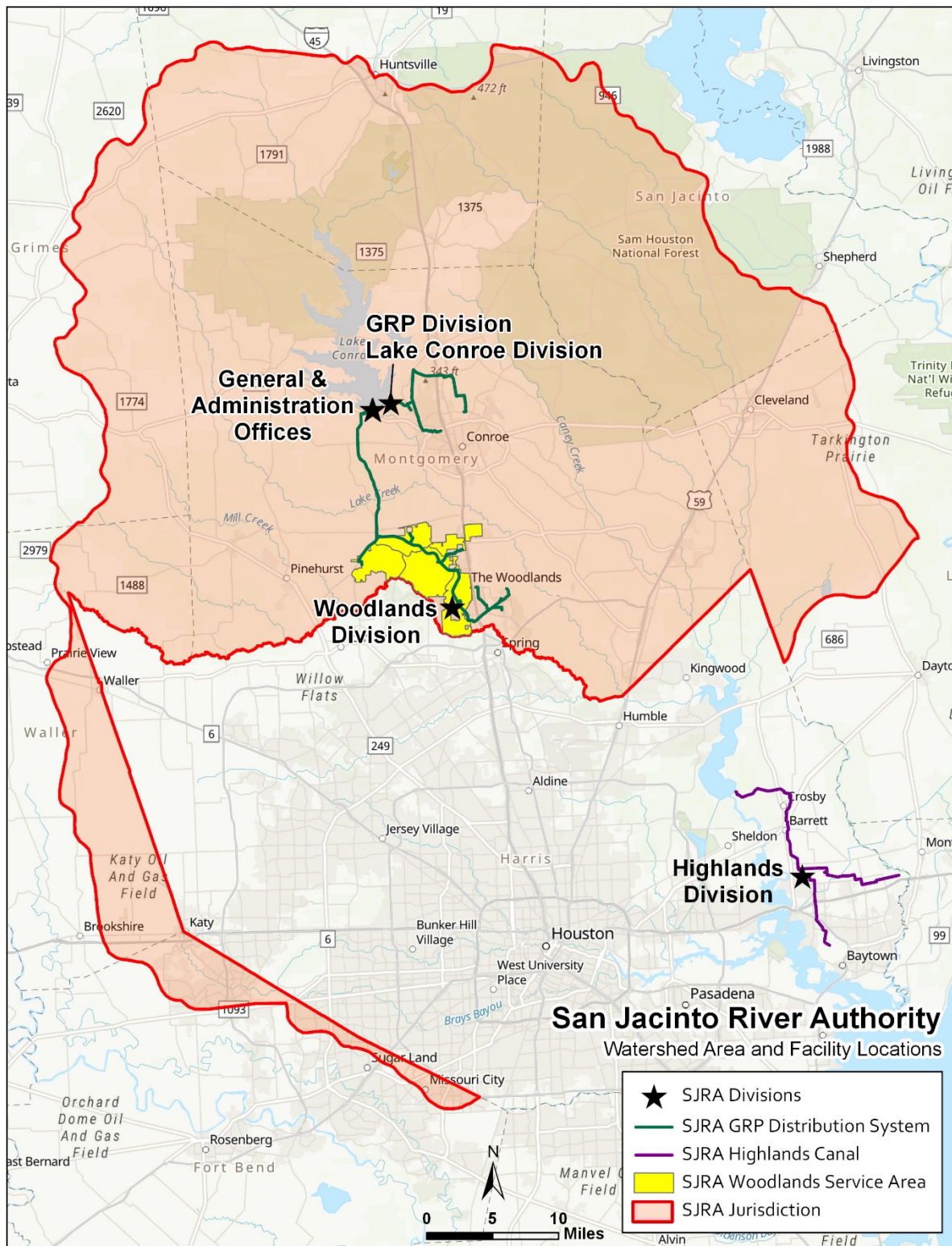


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

In 1945, SJRA purchased the Highlands Canal System, which serves municipal, industrial, and agricultural/irrigation customers in southeast Harris County. Water available for this system is obtained from the following:

SJRA obtained a 55,000 ac-ft/yr run-of-river right Certificate of Adjudication (COA) 10-4964 from water stored in and diverted from Lake Houston. The Highlands Canal System transfers this water from Lake Houston to the approximately 1,400-acre Highlands Reservoir, which serves as a regulating reservoir for the system, and then South and East Baytown and Cedar Bayou area, respectively, via approximately 27 miles of canals

In 1994, SJRA and the Devers Canal Rice Producers Association (DCRPA) purchased the bulk assets of Trinity Water Reserve, Inc. Those assets included the Devers Canal System, which covers parts of Liberty, Chambers, and Jefferson Counties, as well as Permit No. 5271, which authorizes a 58,500 ac-ft/yr diversion from the Trinity River at a point in south central Liberty County. The purchase arrangements included the transfer of 56,000 ac-ft/yr of water rights to SJRA. The remaining 2,500 ac-ft/yr of water rights was transferred to DCRPA. Permit No. 5271 was successfully amended to reflect the purchase arrangement. SJRA's 56,000 ac-ft/yr right is permitted for multiple uses. A portion of this water is also utilized to serve industrial customers in southeast Harris County.

In 2003, SJRA purchased an additional 30,000 ac-ft/yr of Trinity River water rights from the Chambers Liberty Counties Navigation District (CLCND) under Certificate of Adjudication No. 08-4279.

In 2004, SJRA was granted 14,944 ac-ft/yr of water rights associated with groundwater based effluent return flows from its three wastewater treatment plants in the San Jacinto River Basin (Permit 5809). A portion of this water is also utilized to serve customers in southeast Harris County.

In 2008, the SJRA was granted 14,100 ac-ft/yr of unappropriated firm yield (additional storage) of Lake Houston under Permit No. 5807.

In 2009 the SJRA was granted 40,000 ac-ft/yr of yield (additional run-of-river) from the San Jacinto River to be diverted at Lake Houston through Permit No. 5808. This supply is considered interruptible based on flow conditions within the San Jacinto River but may be utilized within SJRA's service area.

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/yr) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963.

Lake Conroe's water right's availability to the Highlands Division will be extremely limited due to use of the lake as a supply for the SJRA Groundwater Reduction Plan (GRP) Division. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin.

SJRA meets wholesale raw water needs in the Highlands Division service area through a combination of sources. Water from run-of-river COA 10-4964 and Permit 10-5808, along with Lake Houston reservoir yield from Permit 10-5807, and SJRA's reuse authorized under Permit 10-5809 is diverted at the southeast corner of Lake Houston via SJRA's pump station to supply the Highlands Canal System. SJRA's water rights in the Trinity River as appropriated in Permit 08-5271 and COA 08-4279 are utilized via the CWA conveyance system and pumped to the Highlands Canal System at two locations south and east of the Highlands Reservoir. SJRA's supplies are summarized in Table 2-1 below.

Table 2-1. SJRA Water Rights Portfolio

Source*	Permitted Amount (ac-ft/yr)
Trinity River (COA 08-4279)	30,000
Lake Conroe (COA 10-4963)	33,333
Lake Houston (COA 10-4964)	55,000
Trinity River (Permit 08-5271)	56,000
Lake Houston (Permit 10-5807)	14,100
Lake Houston (Permit 10-5808)	40,000
Reuse (Permit 10-5809)	14,944
*Please note that not all water sources shown are available to all SJRA Divisions.	

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. The Division is a wholesale provider of surface water (via the Highlands Canal System) for industrial, agricultural/irrigation, and municipal uses. The Highlands Division service area, per Agreement with City of Houston, covers approximately 316 square miles in Harris County east of the San Jacinto River. Figure 2-1 illustrates the layout of the Highlands Canal System.

Via the Highlands Canal System, the Division provides water to the Crosby MUD, Newport MUD, and Harris County MUD No. 50 (Figure 2-2), industrial customers in the Baytown and Cedar Bayou areas, and agricultural/irrigation customers. The three MUD's service area is approximately 7.7 square miles. In 2018, there was a total of 76,812 ac-ft diverted from the system (Table 2-2). The Division does not own or operate wastewater infrastructure.

Table 2-2. 2018 Surface Water Diversion

Municipal	1,500 ac-ft
Industrial	74,717 ac-ft
Agricultural/Irrigation	595 ac-ft
Total	76,812 ac-ft

In 2018, total wholesale municipal supplies via the Highlands Canal System were 1,500 ac-ft. The Baytown Industrial Complex/Cedar Bayou area in eastern Harris County is home to numerous industries to which the Division provides water. In 2018, there was a total of 74,717 ac-ft diverted from the Highlands Canal System to provide wholesale raw water to the Division's industrial customers. Water supplied by the Division to the Baytown and Cedar Bayou areas is used in petroleum refining and chemical production industries to produce products such as petrochemicals, other chemicals, and refined products.

Wholesale raw water is also provided by the Division to multiple agricultural/irrigation customers in eastern Harris County for irrigating approximately 600 acres. In 2018, there was a total of 595 ac-ft diverted for agricultural/irrigation uses. A full report of the Division's municipal, industrial, and agricultural/irrigation customer information can be found in Appendix A, the Water Utility Profiles.

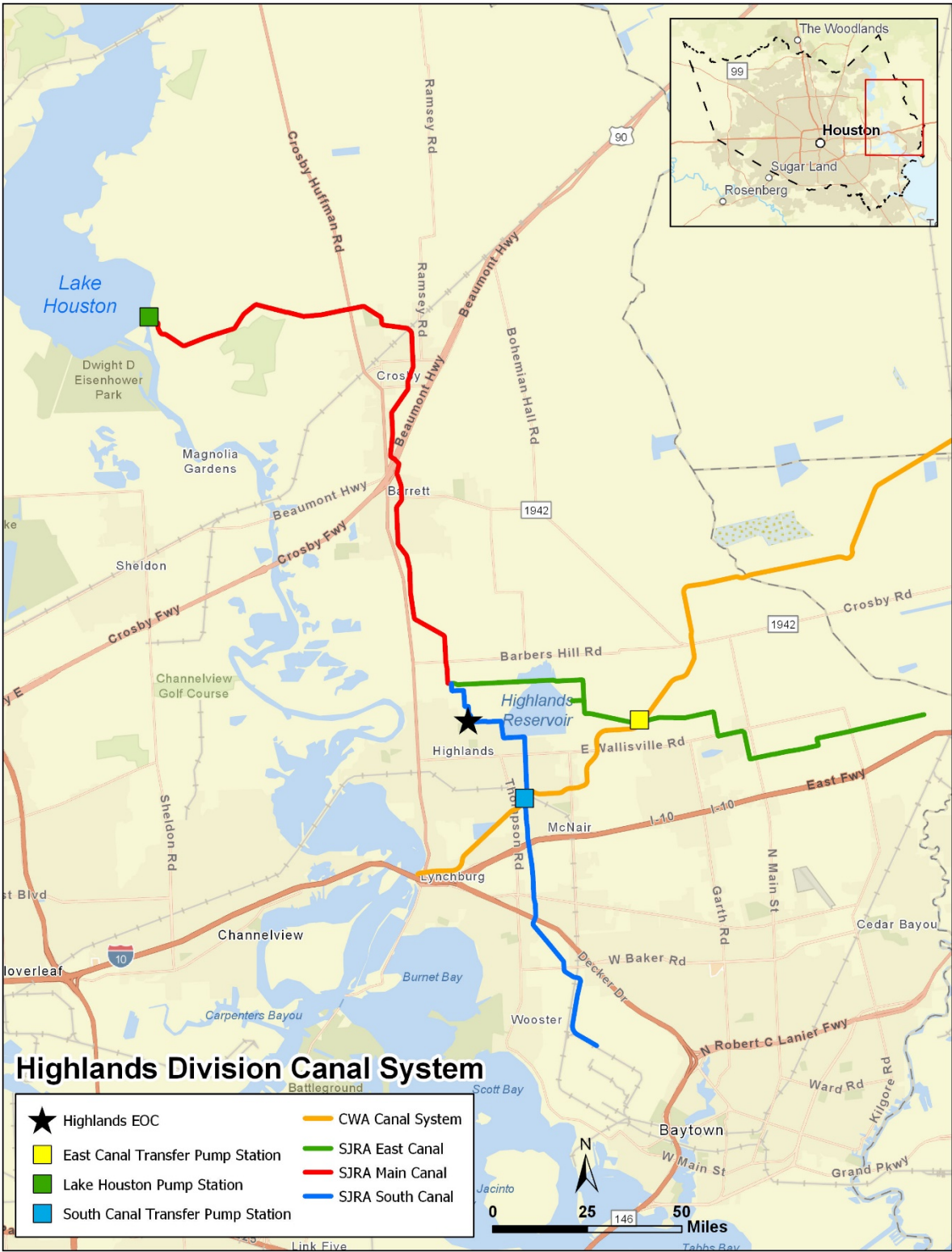


Figure 2-1. Highlands Canal System Layout

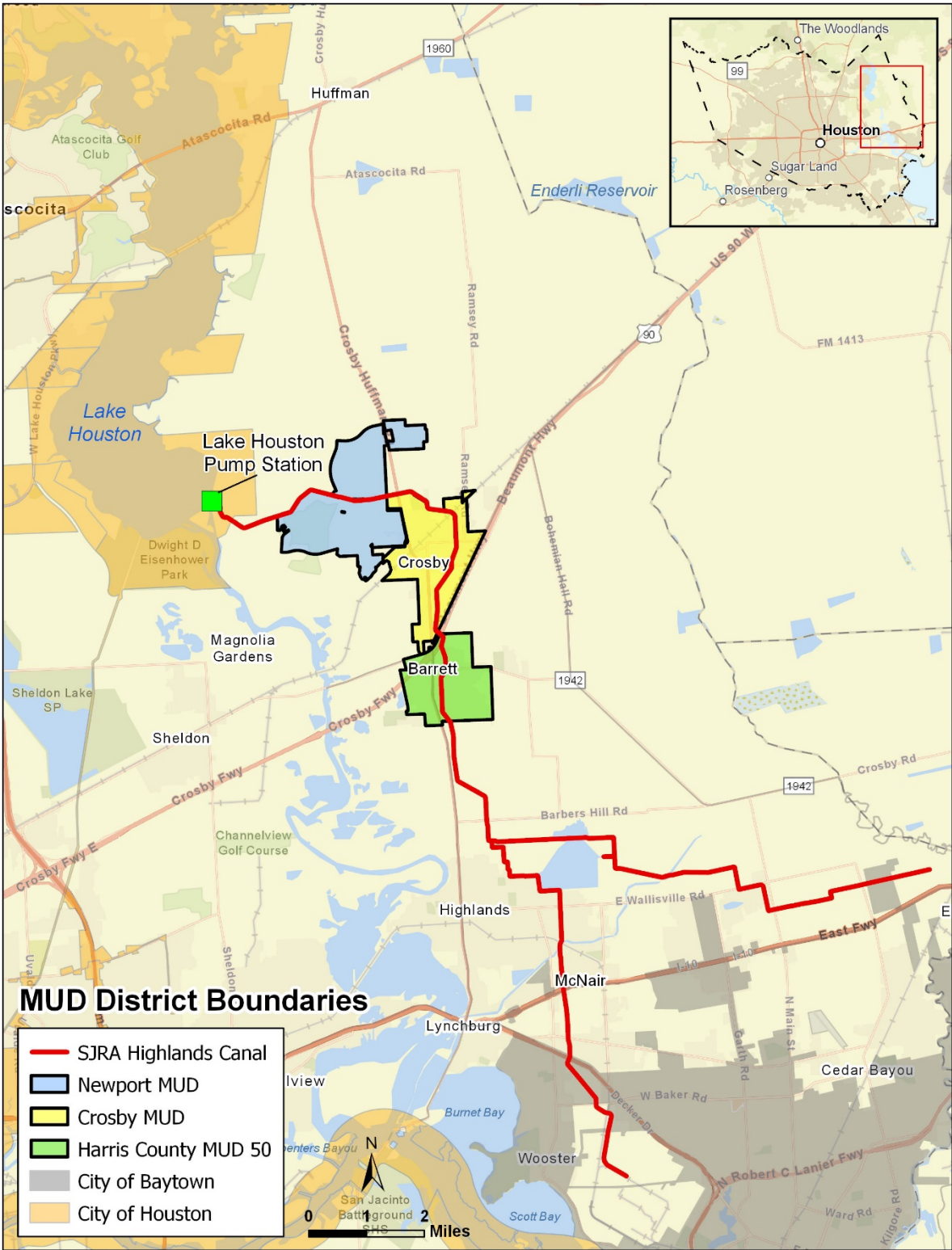


Figure 2-2. MUD District Boundaries

This page intentionally left blank.

Section 3. Water Conservation Plan

In the Texas Water Code, water conservation is defined as follows:

“(A) The development of water resources; and,

“(B) Those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.”³

Based upon these concepts of water conservation, the Division’s objective is to develop a water conservation plan that increases water use efficiency, thereby reducing water demands, without adversely affecting population and the economic growth potential of its customers.

3.1 Highlands Division 5- and 10-year Water Conservation Target Goals

The Division does not have direct control over the demands that it serves. A large majority of the water is supplied to industrial customers. The Division is not involved in the day-to-day operations of its customers. Since the last Water Conservation Plan update (February 2014), the Highlands Division’s industrial customers have performed facility expansions which have led to increases in contracted amounts of raw water. The water conservation measures described below include those under the direct control of, and being implemented by, the Division as well as goals supported and encouraged by the Division for implementation by its customers. The SJRA Highlands Division is to achieve a reduction in surface water demand, for municipal customers only, at a rate of 2.5% over a 5-year period, and 5% over a 10-year period. Average per-capita demand for the Division for 2014 through 2018 was 107.8 gallons per capita per day (gpcd). It is the goal of the Division to reduce per-capita demand to 105.1 gpcd by the end of 2024 and 102.4 gpcd by the end of 2029. The Highlands Division manages an open canal transmission system and all diversions are made directly from that system, but the Division encourages its customers to use best management practices to keep water loss below 10%, annually.

³ TWC, Section 17.001 (23) (A) and (B).

3.2 Water Conservation Methods

The Division's water conservation plan includes the following water conservation methods. Each method is described in greater detail in the following subsections.

- Metering and Record Management;
- Leak Detection and Repair, and Minimization of Conveyance Losses;
- Recycling and Reuse;
- Rate Structure;
- Contractual Requirements for Customer Water Conservation Plans;
- Customer Conservation Plan Guidance;
- Customer Reporting Requirements;
- Public Information and Education;
- Encouraging Customer Conservation Practices; and
- Implementation, Enforcement, Coordination with Regional Water Planning Group (RWPG), and Updating of the Plan.

There are two reservoirs (Lake Conroe and Lake Houston) in the San Jacinto River system however, they are operated by separate entity's therefore the Highlands Division does not have a reservoir system operations plan.

3.2.1 Metering and Record Management

The customers of the Division are responsible for metering as required by their water supply contracts. The long-term water supply contracts with each customer were developed at different times and therefore the specific language in each contract may vary. The most recent contract language is as follows:

Buyer shall, at its expense, install and maintain the necessary measuring equipment, including venturi or other standard type water meters, totalizers and recording devices, with such metering equipment to be installed and maintained at the Point of Delivery, or at such other point as approved by the Authority, in such manner as will accurately meter the quantity of water delivered to Buyer hereunder.

Meters shall be read daily by the employees or agents of Buyer, and the date, time and the amount of water taken each day shall be reported to the Authority monthly on or before the fifth (5th) business day of the following calendar month. Unless and until mutually agreed upon and confirmed in writing by the parties, Buyer agrees to provide to the

Authority by electronic mail (a) current flow meter readings not less frequently than hourly, and (b) current totalizer readings {at approximately (\pm 2 hours) the same time on}{as of} the last calendar day of each month.

Subject to Buyer's reasonable security and safety requirements, the Authority shall have access to and the right to inspect at all reasonable times Buyer's measuring equipment, appliances and all pertinent records and data for the purpose of verifying the quantity of water delivered hereunder.

The metering equipment installed and maintained by Buyer hereunder shall be checked by representatives of Buyer and the Authority jointly at {one hundred eighty (180) calendar day periods}{on an annual basis during the month of {MONTH}}, and more often at the reasonable request of either party (the "Inspection Date"), for the purpose of determining its accuracy. In the event a representative is not designated by either party for the purpose of making such test or calibration, or such representative fails to appear, then the test and calibration made by the other party shall be binding upon the party who fails to designate a representative or whose representative fails to appear. Any required test or calibration of the metering equipment shall be done by the employees or agents of Buyer; provided, however, that the Authority shall be given not less than five (5) business days' notice of such testing and calibration and shall be permitted to have one or more representatives present to observe such testing and calibration. If any such test shows a deviation of more than two percent (2%) from the manufacturer's tolerances, standards or specifications, such meter shall be promptly recalibrated, as nearly as practicable, to such manufacturer's tolerances, standards or specifications, and the volume of water delivered during one-half (1/2) of the period extending back to the immediately preceding Inspection Date shall be adjusted accordingly for payment purposes.

The Authority may, at its option and expense, install and operate one or more check meters, but unless otherwise agreed in writing by the parties, or unless Buyer's measuring equipment is out of service or not registering accurately, measurement for purposes of this Contract shall be made by Buyer's measuring equipment. All such check meters shall be of standard make and shall be subject at all reasonable times to inspection and examination by an employee or agent of Buyer, but the reading, calibration and adjustment of such check meters shall be made only by the Authority. Should the Authority enter upon Buyer's premises for the purposes permitted above, the Authority

shall exercise due care and diligence while on Buyer's premises, and all of Buyer's security and safety rules shall be strictly observed.

The data collected from the metering of customers allows the Division and SJRA to maintain a detailed record management system of water deliveries. As described in the contract language above, customers of the Division are responsible for installing and maintaining meters at their points of delivery (canal system diversion locations). Also as described in the contracts, access to these meters will be given to the Division by each customer for inspection purposes. Meters must be maintained by each customer to the level of accuracy specified in the customer's wholesale water supply contract with the Division.

3.2.2 Leak Detection and Repair, and Minimization of Conveyance Losses

The Division is committed to conservation through monitoring and improvement of its delivery system. The Division, specifically, continues to make efforts to minimize losses through its canal system through various practices. The Division has undertaken a number of measures in implementing system improvements, including routine inspections and evaluations of the Highlands Canal System, hydraulic modeling and flow measurement, and establishment and implementation of a 10-Year Project Plan. The Division has also initiated the use of computerized maintenance management system (CMMS) software to assist in the management, scheduling, and recording of all maintenance activities. Supervisory control and data acquisition (SCADA) infrastructure has been added to the Highlands Canal System to monitor canal flows, levels, and numerous controls and data at the raw water pump stations. The Division encourages customers to take measures to reduce water loss (below 10%) to prevent waste and facilitate achievement of the Water Conservation Plan demand reduction goals as specified above.

3.2.3 Recycling and Reuse

SJRA utilizes a number of once-through reuse supplies across its divisions. Currently, the Division meets a portion of its needs through indirect reuse of effluent flows from The Woodlands, Texas, via SJRA's Woodlands Division wastewater treatment plants, in the San Jacinto River Basin. The Division will continue to consider and evaluate opportunities for reuse as they develop.

3.2.4 Rate Structure

SJRA utilizes a non-promotional rate structure for contracts with customers of the Division; these rates are periodically reviewed and adjusted as necessary. SJRA also encourages the Division's customers to establish rate structures promoting conservation for sales to their wholesale and retail customers.

3.2.5 Contractual Requirements for Customer Water Conservation Plans

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements. Additionally, SJRA will include in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan a requirement that customers develop and implement water conservation plans as required by Title 30, Texas Administrative Code, Chapter 288 30 TAC §288). Per 30 TAC §288, any future contract, renewal, or amendment will also require that successive sales from SJRA customers to others include a contractual stipulation for water conservation requirements. At a minimum, customer conservation plans must comply with the requirements of 30 TAC §288.

The long-term water supply contracts with each customer were developed at different times and therefore the specific language in each contract may vary. The most recent contract language regarding Water Conservation and Drought Contingency Plans is as follows:

Buyer shall develop and implement water conservation and drought contingency plans to conserve water resources and to promote practices that will reduce loss or waste of water, improve efficiency in the use of water, or increase the recycling and reuse of water. Buyer's water conservation plan and drought contingency plan shall be at least equal to or more stringent than that adopted by the Authority, and Buyer shall comply with all requirements of the TCEQ, Texas Water Development Board, and any other federal, state or local regulatory agency with jurisdiction. Buyer shall forward its water conservation plan and drought contingency plan to the Authority for its review and approval within one hundred eighty (180) calendar days following the date the Authority adopts any revision to its existing water conservation and drought contingency plans.

Upon written request from the Authority, Buyer shall report progress made in implementation of its water conservation and drought contingency plans on an annual basis on or before February 1st of each year during the term of this Contract. Buyer shall amend its water conservation and drought contingency plans to reflect revisions to the Authority's plans, programs, and rules within one hundred eighty (180) calendar days after notice from the Authority of the adoption of such revisions.

SJRA may periodically update this language, as well as the Water Conservation and Drought Contingency Plans for the Division to meet legal requirements or address changing conditions; subsequent to such revisions, customers of the Division are requested to update their water conservation and drought contingency plans as applicable.

3.2.6 Customer Conservation Plan Guidance;

SJRA will provide to customers upon request, model water conservation plans as developed by TCEQ, meeting the contractual requirements described in Section 3.2.5 above for each customer type. Additionally, SJRA will at customer request review draft customer water conservation and drought contingency plans for consistency with contractual requirements and the Division's Water Conservation and Drought Contingency Plans. Customers can contact the Division for information regarding the Division's Plans and contractual requirements.

3.2.7 Customer Reporting Requirements

In 2011, the 82nd Texas Legislature passed Senate Bill (SB) 181, which addressed the need for consistency in water use reporting by municipalities, water utilities, and others. Subsequently, TWDB and TCEQ developed detailed guidance and procedures for calculating and reporting water use, water loss, and other factors.

While SJRA is not directly impacted by these requirements as a wholesale provider, the Division and other divisions provide contractual water supply to a number of entities which are impacted by SB181. The broad range of water uses served by SJRA and the requirements of multiple State reporting programs creates a need for consistent customer reporting. As such, SJRA requires customer water usage reports, including any values for per-capita water demand, to follow the procedures established by TWDB and TCEQ.⁴ Water use reports should include data at the sector level (single family residential, multi-family residential, industrial, commercial, agricultural, etc.) and should additionally include estimated population served and calculated water loss. Further, SJRA may request that customers annually submit to SJRA a copy of all conservation plan reporting forms, if required by TCEQ, that are submitted to TCEQ.

3.2.8 Public Information and Education

SJRA has the option to utilize a plethora of water conservation resources that the TWDB, American Water Works Association, and American Public Works Association originally created as components of their own public education campaigns. Individual pamphlets and educational messages provided from these entities would be selected for specialized water conservation needs as they arise. SJRA also provides and constantly updates conservation information and efficient water use on the Authority website at <http://www.sjra.net/>.

SJRA will provide, as needed and/or requested, water conservation literature to the customers of the Division. The Division is committed to promoting improvements in industrial, municipal, and

⁴ TWDB et al. 2012. Guidance and Methodology for Reporting on Water Conservation and Water Use

agricultural/irrigation processes to achieve conservation with its customers.

SJRA, across all divisions, will make information available through its public information and education program for plumbers and customers to use when purchasing and installing plumbing fixtures, water-using appliances, and watering equipment. Information regarding retrofit devices, such as low-flow shower heads or toilet dams that reduce water use by replacing or modifying existing fixtures or appliances, will also be provided.

Other public information approaches which SJRA has utilized in the past and may implement in the future include public tours of various facilities across all divisions, participation in local environmental events, classroom water conservation educational programs, and joint operation of a mobile teaching lab.

3.2.9 Encouraging Customer Conservation Practices

SJRA and the Division encourages their customers to consider implementing rules, measures, and emerging technologies that promote water conservation and efficient use. Recommended measures include, but are not limited to, the following:

- Prohibitions on wasting water;
- Time-of-day watering restrictions;
- Water conservation pricing structures;
- Landscape irrigation conservation, including integrating rainfall/freeze sensors into irrigation systems;
- Water reuse
- Rainwater harvesting
- Public education programs

Additional information on conservation practices for a wide range of water uses can be found at the TWDB website (<http://www.twdb.texas.gov/>).

3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan

The Highlands Division Manager and/or designees will act as the administrator(s) of the Water Conservation Plan for the Highlands Division. The administrator(s) will oversee the execution and implementation of all elements of the program and monitor the progress of the plan. Additionally, the administrator(s) will be responsible for submission of an annual report to the TCEQ and TWDB on the progress of, and any changes to, the Water Conservation Plan. SJRA is responsible for maintaining adequate records for Plan compliance with TCEQ and TWDB.

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements.

The Division is located within the Region H Regional Water Planning Area. In accordance with the TCEQ rules, the Division provides a copy of its Water Conservation Plan to the Region H Regional Water Planning Group (RWPG). A copy of the transmittal letter is included in Appendix B.

Every five years, SJRA will examine the Division's Water Conservation Plan and revise as necessary. The Water Conservation Plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix B.

Appendix A

Water Utility Profiles

This page intentionally left blank.

San Jacinto River Authority – Highlands Division

**TCEQ Form 20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.

I. WHOLESALE SERVICE AREA POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Service area size (in square miles): 2,453 square miles (SJRA's jurisdiction is in the San Jacinto River Basin) 316 square miles (Highlands service area via agreement with the City of Houston), 7.7 square miles (Highlands Division Municipal Customers), Highlands Division serves customers at discrete diversion locations along the canal system. Please see Attachment A for SJRA service area and Attachment B for Highlands canal system layout.

(Please attach a copy of service-area map.)

2. Current population of service area: Total population of service area: 13,699
(Crosby Mud (2,299) and Newport Mud (11,400))
3. Current population served for:
 - a. Water – 13,745
 - b. Wastewater _____

4. Population served for previous five years:

Year	Population
2014	11,655
2015	12,350
2016	12,670
2017	13,232
2018	13,745

5. Projected population for service area in the following decades:

Year	Population
2020	14,004
2030	20,016
2040	20,509
2050	20,824
2060	21,171

6. List source or method for the calculation of current and projected population size.

The previous and projected population data was provided by Crosby MUD and Newport MUD. The projections provided are based on an increase of 1% each year. This is the same method utilized by the MUDs in their projection calculations.

B. Customers Data

List (or attach) the names of all wholesale customers, amount of annual contract, and amount of annual use for each customer for the previous year:

Wholesale Customer	Contracted Amount (acre-feet)	Previous Year (2018) Amount of Water Delivered (acre-feet)
1. Crosby Mud	1,120 (1 MGD)	619.79
2. Newport Mud	2,072 (1.85 MGD)	880.26
3. Harris Co Mud 50	560 (0.5 MGD)	0
4. _____	_____	_____
5. _____	_____	_____

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amounts for the previous five years (in acre feet):

*Includes municipal use only.

Year	Treated Water	Raw Water*
2014	0	1,646
2015	0	1,547
2016	0	1,946
2017	0	987
2018	0	1,500
Totals	0	7,626

B. Water Accounting Data

1. Total amount of water diverted at the point of diversion(s) for the previous five years (in acre-feet) for all water uses: ***Diverted by SJRA Highlands Division customers**

<i>Year</i>	2014	2015	2016	2017	2018
<i>Month</i>					
January	5,778	4,833	5,394	5,807	5,966
February	4,763	4,570	5,171	5,415	5,449
March	5,594	5,593	5,544	5,657	6,333
April	5,577	5,723	5,642	5,314	5,662
May	6,048	5,299	6,084	5,949	6,089
June	6,007	5,758	6,029	6,140	6,349
July	6,567	6,984	6,471	6,609	7,361
August	6,442	6,819	6,455	5,827	7,661
September	5,769	5,837	5,991	4,859	6,805
October	5,173	6,098	5,795	5,714	6,632
November	5,096	5,579	5,528	5,636	6,183
December	5,042	5,517	5,687	5,750	6,322
Totals	67,859	68,611	69,792	68,687	76,812

2. Wholesale population served and total amount of water diverted for **municipal use** for the previous five years (in acre-feet):

<i>Year</i>	<i>Total Population Served</i>	<i>Total Annual Water Diverted for Municipal Use</i>
2014	11,655	1,646
2015	12,350	1,547
2016	12,670	1,946
2017	13,232	987
2018	13,745	1,500

C. Projected Water Demands

If applicable, project and attach water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

III. WATER SUPPLY SYSTEM DATA

A. Projected Water Demands

List all current water supply sources and the amounts authorized (in acre feet) with each.

Water Type	Source	Amount Authorized
Surface Water	Lake Houston (4964)	55,000 acre-feet
	Lake Houston (5807)	14,100 acre-feet
	Lake Conroe (4963)	33,334 acre-feet
	Trinity River (5271)	56,000 acre-feet
	San Jacinto River (5808)	40,000 acre-feet
Groundwater	N/A	N/A
Other	GW-Based Effluent Reuse(5809)	14,944 acre-feet

B. Treatment and Distribution System - [N/A- (The Highlands Division system is raw water only.)]

1. Design daily capacity of system (MGD):
2. Storage capacity (MGD):
 - c. Elevated _____
 - d. Ground _____
3. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable) - [N/A- The Highlands Division does not provide wastewater services.]

1. Design capacity of wastewater treatment plant(s) (MGD):
2. Briefly describe the wastewater system(s) of the area serviced by the wholesale public water supplier. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

B. Wastewater Data for Service Area [N/A- The Highlands Division does not provide wastewater service.)]

1. Percent of water service area served by wastewater system: _____ %
2. Monthly volume treated for previous five years (in 1,000 gallons):

<i>Year</i>	2014	2015	2016	2017	2018
<i>Month</i>					
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Totals					

V. ADDITIONAL REQUIRED INFORMATION

In addition to the description of the wholesaler's service area (profile from above), a water conservation plan for a wholesale public water supplier must include, at a minimum, additional information as required by Title 30, Texas Administrative Code, Chapter 288.5. Note: If the water conservation plan does not provide information for each requirement an explanation must be included as to why the requirement is not applicable.

A. Specific, Quantified 5 & 10-Year Targets

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals. Note that the goals established by wholesale water suppliers under this subparagraph are not enforceable.

B. Metering Devices

The water conservation plan must include a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply.

C. Record Management Program

The water conservation plan must include a monitoring and record management program for determining water deliveries, sales, and losses.

D. Metering/Leak-Detection and Repair Program

The water conservation plan must include a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system.

E. Reservoir Systems Operations Plan

The water conservation plan must include a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin. The reservoir systems operations plan shall include optimization of water supplies as one of the significant goals of the plan.

F. Contract Requirements for Successive Customer Conservation

The water conservation plan must include a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of Title 30 TAC Chapter 288. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

G. Enforcement Procedure and Official Adoption

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

H. Coordination with the Regional Water Planning Group(s)

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

Example statement to be included within the water conservation plan:

The service area of the _____ (name of water supplier) is located within the _____ (name of regional water planning area or areas) and _____ (name of water supplier) has provided a copy of this water conservation plan to the _____ (name of regional water planning group or groups).

I. Plan Review and Update

A wholesale water supplier shall review and update its water conservation plan, as appropriate based on an assessment of previous five-year and ten-year targets and any other new or updated information. A wholesale water supplier shall review and update the next revision of its water conservation plan no later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

J. Additional Conservation Strategies

Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of this chapter, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. Conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;
2. A program to assist agricultural customers in the development of conservation, pollution prevention and abatement plans;
3. A program for reuse and/or recycling of wastewater and/or graywater;
4. A cost-share program;
5. A technical assistance and outreach program;
6. A program for purchase and direct distribution of water conservation equipment; and
7. Any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

San Jacinto River Authority – Highlands Division

Attachments to TCEQ Form

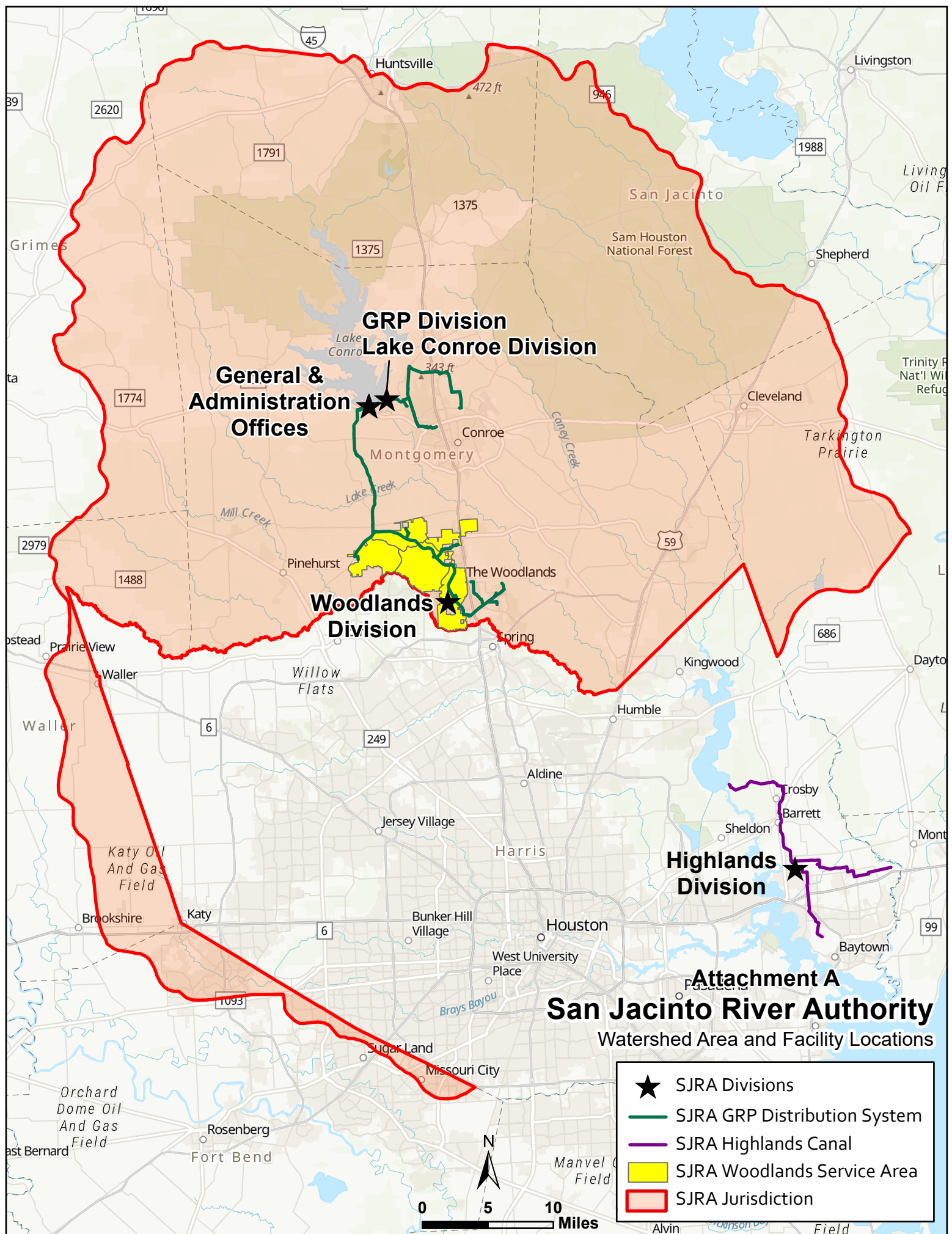
**20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.

Attachment A

SJRA Service Area

This page intentionally left blank.

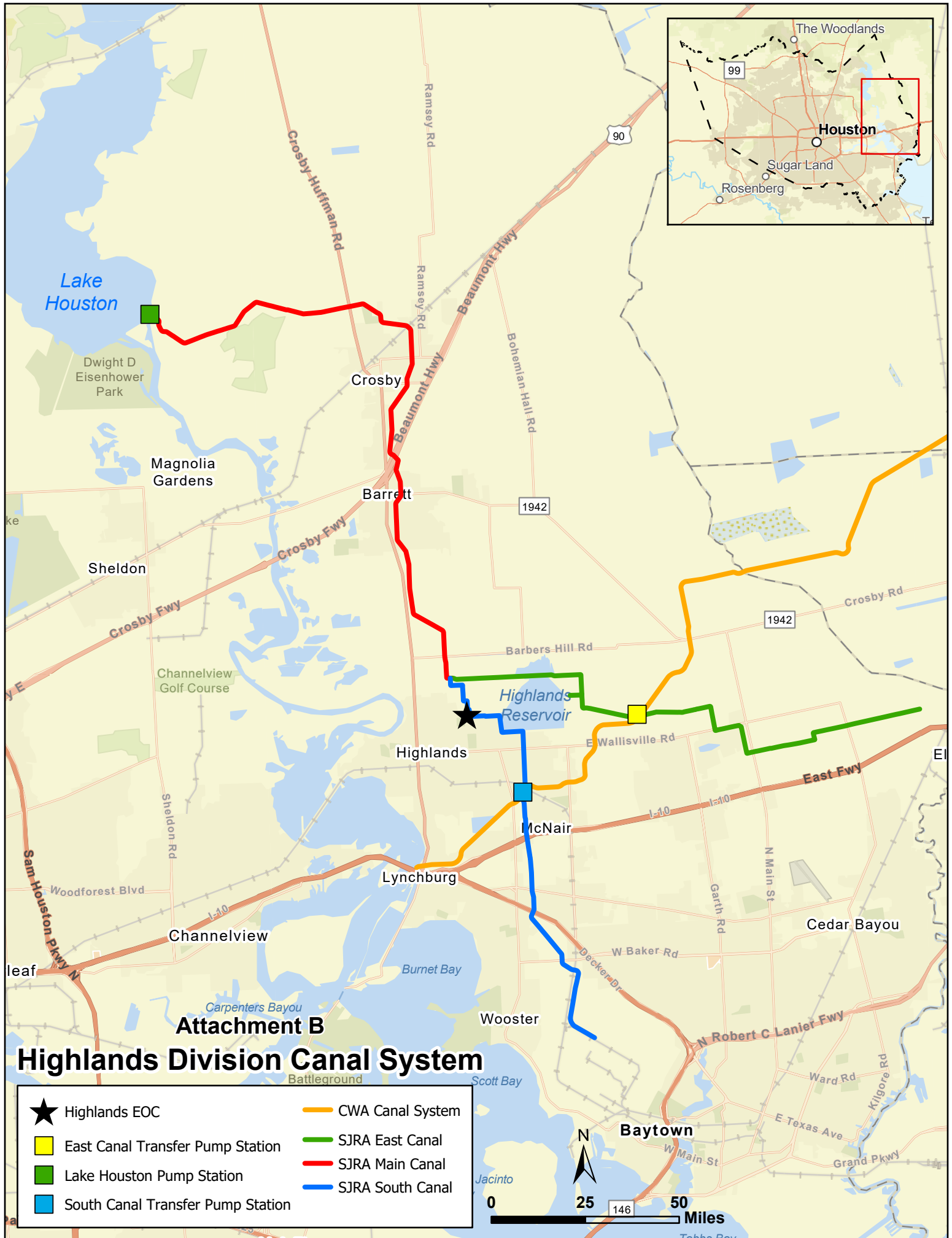


This page intentionally left blank.

Attachment B

Highlands Division Canal System

This page intentionally left blank.



Attachment B
Highlands Division Canal System

This page intentionally left blank.

San Jacinto River Authority – Highlands Division

TCEQ Form 10213: Industrial/Mining Water Conservation Plan

This page intentionally left blank.



Texas Commission on Environmental Quality

INDUSTRIAL/MINING WATER CONSERVATION PLAN

This form is provided to assist entities in conservation plan development for industrial/mining water use. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority-Highlands Division

Address: General & Administration Highlands Division
P.O. Box 329 P.O. Box 861
Conroe, TX 77305 Highlands, TX 77562

Telephone Number: (936) 588-3111 (936) 828-3980

Form Completed by: Kimberly Wright

Title: Highlands Division Manager

Signature: _____ Date: / /

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

I. BACKGROUND DATA

A. Water Use

1. Annual diversion appropriated or requested (in acre-feet): 173,377 (Lake Houston, Lake Conroe, Trinity River, Effluent Reuse)
2. Maximum diversion rate (cfs): 783

B. Water Sources

1. Please indicate the maximum or average annual amounts of water currently used and anticipated to be used (in acre-feet) for industrial/mining purposes: **NOTE: The amounts shown in the below table are current and anticipated usages based on 2018, the allocation of the usages to each water right/source will vary annually based on its availability. The total acre-feet diverted by highlands Division Industrial customers equals 74,717 ac-ft. This is higher than the total allocated to each water right due to the open canal system. Anticipated use for 2019 is 1% higher than 2018 applied 1% increase to firm Water Right 4964.**

Source	Water Right No. (s)	Current Use (2018)	Anticipated Use (2019)
Surface Water			
Lake Houston (4964)	4964	3,876	4,611
Trinity (5271)	5271	16,912	16,912
Lake Houston (5807)	5807	14,100	14,100
San Jacinto (5808)	5808	37,905	37,905
GW Effluent Reuse (5809)	5809	697	697
Groundwater			
Purchased			
TOTAL		73,490	74,225

2. How was the surface water data and/or groundwater data provided above (B1) obtained?
Master meter X; Customer meter X; Estimated _____; Other _____
Lake Houston Pump Station, East Canal Transfer Pump Station, South Canal Transfer Pump Station – Industrial Only, plus industrial customer meter readings
3. Was purchased water raw or treated?
If both, % raw X; % treated _____ and Supplier(s): _____

C. Industrial/Mining Information

1. Major product(s) or service(s) produced by applicant: 2911 (Petroleum refining and chemical production), 2821 (Plastics Material and Synthetic Resins), 2822 (Synthetic Rubber), 2874 (Phosphatic Fertilizers)
2. North American Industry Classification System (NAICS):
324110 (Petroleum refining and related chemical production)
325192 325312 _____

II. WATER USE AND CONSERVATION PRACTICES

A. Water Use in Industrial or Mining Processes

<i>Production Use</i>	<i>% Groundwater</i>	<i>% Surface Water</i>	<i>% Saline Water</i>	<i>% Treated Water</i>	<i>*Water Use (in acre-ft.)</i>
Cooling, condensing, & refrigeration	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Processing, washing, transport	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Boiler feed	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Incorporated into product	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Other	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>

<i>Facility Use</i>	<i>% Groundwater</i>	<i>% Surface Water</i>	<i>% Saline Water</i>	<i>% Treated Water</i>	<i>*Water Use (in acre-ft.)</i>
Cooling tower(s)	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Pond(s)	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Once through	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Sanitary & drinking water	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>
Irrigation & dust control	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u> </u>

* *Water Use* information is not provided by customers to the applicant for reporting as indicated above for *Product Use* and *Facility Use*.

1. Was fresh water recirculated at this facility? Yes
2. Provide a detailed description of how the water will be utilized in the industrial or mining process.
Various cooling and petroleum/chemical processing.

3. Estimate the quantity of water consumed in production and mining processes and is therefore unavailable for reuse, discharge, or other means of disposal.
100% of all water used for production is not available for SJRA reuse.
4. Monthly water demand for previous year (2018) (in acre-feet). ***Contracted amounts.**

Month	Diversion Amount	% of Water Returned (If Any)	Monthly Demand (In Acre-Feet)
January	Lake Houston/Trinity River	0	6,615
February	Lake Houston/Trinity River	0	6,032
March	Lake Houston/Trinity River	0	6,926
April	Lake Houston/Trinity River	0	6,603
May	Lake Houston/Trinity River	0	7,509
June	Lake Houston/Trinity River	0	7,687
July	Lake Houston/Trinity River	0	8,822
August	Lake Houston/Trinity River	0	9,073
September	Lake Houston/Trinity River	0	8,368
October	Lake Houston/Trinity River	0	8,125
November	Lake Houston/Trinity River	0	7,778
December	Lake Houston/Trinity River	0	8,092
TOTALS		0	91,630 (Contracted)

5. Projected monthly water demand for next year (2019) (in acre-feet). ***Contracted amounts.**

Month	Diversion Amount	% of Water Returned (If Any)	Monthly Demand (In Acre-Feet)
January	Lake Houston/Trinity River	0	6,615
February	Lake Houston/Trinity River	0	6,032
March	Lake Houston/Trinity River	0	6,926
April	Lake Houston/Trinity River	0	6,603
May	Lake Houston/Trinity River	0	7,509
June	Lake Houston/Trinity River	0	7,687
July	Lake Houston/Trinity River	0	8,822
August	Lake Houston/Trinity River	0	9,073
September	Lake Houston/Trinity River	0	8,368
October	Lake Houston/Trinity River	0	8,125

November	Lake Houston/Trinity River	0	7,778
December	Lake Houston/Trinity River	0	8,092
TOTALS		0	91,630 (Contracted)

B. Specific and Quantified Conservation Goal

Water conservation goals for the industrial and mining sector are generally established either for (1) the amount of water recycled, (2) the amount of water reused, or (3) the amount of water not lost or consumed, and therefore is available for return flow.

1. Water conservation goal (water use efficiency measure)

Type of goal(s):

☒ % reused water

☒ % of water not consumed and therefore returned

☒ Other (Maintain efficient delivery system that controls conveyance losses, minimize process losses, utilize innovative technologies, and continue methods of public information, education, and awareness.)

2. Provide specific and quantified five-year and ten-year targets for water savings and the basis for development of such goals for this water use/facility.

The SJRA Highlands Division is to achieve a reduction in water demand, for municipal customers only, of 2.5% over a 5-year period, and 5% over a 10-year period. The Highlands Division manages an open canal transmission system and all diversions are made directly from that system, therefore the Division encourages its customers to use best management practices to keep water loss below 10%, annually. Efforts should include those to maintain efficient delivery system that controls conveyance losses, minimize process losses, utilize innovative technologies, continue methods of public information, education and awareness, and incorporate re-use and recycling strategies.

3. Describe the methods and/or device(s) within an accuracy of plus or minus 5% used to measure and account for the amount of water diverted from the supply source.

Customer installed water meters. Customer contracts require regular meter calibrations and reporting to the SJRA Highlands Division.

4. Provide a description of the leak-detection and repair, and water-loss accounting measures used.

Monthly, maintenance staff inspects the Raw Water System for leaks and when necessary performs maintenance and repairs. Staff also controls vegetation with chemicals along the canal system to minimize the loss for capacity. Monitoring of the System via SCADA (alarms defined) and daily rounds and inspections by maintenance staff, ensures that overflows throughout the System are minimal.

5. Equipment and/or process modifications used to improve water use efficiency.

Customers are provided assistance by SJRA staff in completion of their own Water Conservation and Drought Contingency Plans. Customers are required to submit their plans to SJRA per the contract requirements. SJRA is not involved with process modifications made by their customers. Customers are required to provide annual meter calibrations to ensure accuracy and to control losses.

6. Other water conservation techniques used.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

San Jacinto River Authority – Highlands Division

**TCEQ Form 10244: System Inventory and Water Conservation Plan for
Agricultural Water Suppliers Providing Water to More than One User**

This page intentionally left blank.



Texas Commission on Environmental Quality

SYSTEM INVENTORY AND WATER CONSERVATION PLAN FOR AGRICULTURAL WATER SUPPLIERS PROVIDING WATER TO MORE THAN ONE USER

This form is provided to assist entities in conservation plan development for agricultural water suppliers providing water to more than one user. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name:	San Jacinto River Authority - Highlands Division	
	General and Administration	Highlands Division
	PO Box 329	PO Box 861
Address:	Conroe, TX 77305	Highlands, TX 77562
Telephone Number:	(936) 5883111	Fax: (936) 828-3980
Form Completed by:	Kimberly Wright	
Title:	Highlands Division Manager	
Signature:	Date: / /	

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

I. BACKGROUND DATA

A. Structural Facilities

1. Description of service area:

Agricultural lands within the Crosby and Baytown area, approximately 600 acres.

2. Total miles of main canals and pipelines: **27**
3. Total miles of lateral canals and pipelines: **0**
4. Description of canal construction:
 - a. Miles of unlined canals **27**
 - b. Miles of lined canals **0**
 - c. Miles of enclosed pipelines **0**
 - d. Other _____

5. Description of canal conditions and recent or planned improvements:

The Highlands Canal System was constructed in the 1940s with various modifications and improvements. The San Jacinto River Authority has a 10-Year Project Plan in place to identify and repair problem locations throughout the canal system.

6. Reservoir capacity, if applicable: **3,800 acre-feet**

7. Description of pumps and pumping stations:

Lake Houston Pump Station- 90.0 MGD Firm Capacity

East Canal Transfer Pump Station- 8.25 MGD Firm Capacity

South Canal Transfer Pump Station- 22.0 MGD Firm Capacity

8. Description of meters and/or measuring devices:

The Highlands Division pump stations, including the Lake Houston Pump Station and East Canal Transfer Pump Station use differential metering devices. South Canal Transfer Pump Station uses a propeller style meter.

9. Description of customer gates and measuring devices:

Irrigation customers use multiple intakes and flowmeters that are calibrated on a schedule defined in their contract or no less than annually.

10. Description of any other structural facilities not covered above:

SJRA has approximately 55 canal structures, siphons, and culverts to allow the canal system to cross under roads, ditches, railroads, etc. These structures also provide flow control capabilities.

B. Management Practices

1. **Total water available to district (in acre-feet/year): 55,000 (irrigation only) *** ***Note SJRA's water right for COA 10-4964 includes a multi-purpose right which allows for irrigation use. Agricultural use comprises less than 1.4% of the total water use for this permit. The only agricultural users include several small turf grass farmers that receive untreated water from SJRA through the Highlands System. The responses in this section are attributable to this irrigation use only, unless otherwise stated.**
 - a. Maximum water rights allocation to district: 55,000 (See information above)
 - b. Water rights number(s): COA 10-4964
 - c. Other water contracted to be delivered by district: Permit 5807, Permit 5808, Permit 5271, Permit 5809, COA 10-4963
2. **Average annual water diverted by district (in acre-feet/year): 75,786 (2018, All Uses)- Water diverted from Lake Houston Pump Station, East Canal Transfer Pump Station, and the South Canal Transfer Pump Station**
3. **Average annual water delivered to customers (in acre-feet/year): 76,812 (2018, All Uses)**
4. **Delivery efficiency (percentage): 100% *Note that due to the Highlands Division open canal system diverted water as allocated to a water right is typically less than the water delivered/diverted by the Highlands Division customers.**

5. Historical diversion and deliveries for the previous three years (**in acre-feet/year**):

<i>Year</i>	<i>Total Water Diverted Annually</i>	<i>Irrigation Water Delivered Annually</i>	<i>Municipal Water Delivered Annually</i>	<i>Total Water Delivered Annually</i>	<i>Estimated Delivery Efficiency (%)</i>
2016	69,792	627	1946	69,792	100%
2017	68,687	567	987	68,687	100%
2018	76,812	595	1,500	76,812	100%
Average	71,764	596.33	1,478	71,764	100%

6. Practices and/or devices used to account for water deliveries:

SJRA does routine inspections for leaks along the canal system and at structures to minimize conveyance losses.

Agriculture customers are required to calibrate water meters as defined in their contract or no less than once annually.

7. Water pricing policy:

Raw Water Rate Order adopted by the Board of Directors and effective January 1, 2019 - 0.465 per 1,000 gallons.

Short term contract rates may be up to four times the raw water rate reflected above.

8. Operating rules and policies which encourage water conservation:

Customers are required to calibrate meters no less than annually.

SJRA does routine inspections for leaks along the canal system and at structures to minimize conveyance losses.

SJRA targets a minimum canal free board to minimize overtopping.

9. Provide specific, quantified five-year and ten-year targets for water savings in the spaces below, including maximum allowable losses for the storage and distribution system. Water savings may be represented in acre-feet or in water use efficiency. If necessary, please provide an explanation in the space provided.

The SJRA Highlands Division is to achieve a reduction in water demand for municipal customers only, of 2.5% over a 5-year period, and 5% over a 10-year period. The Highlands Division manages an open canal transmission system and

all diversions are made directly from that system, therefore the Division encourages its customers to use best management practices to keep water loss below 10%, annually. Efforts should include those that maintain an efficient delivery system that controls conveyance losses, minimize process losses, utilize innovative technologies, continue methods of public information, education and awareness, and incorporate re-use and recycling strategies.

Quantified five-year and ten-year targets for water savings:

a. 5-year goal:

Savings in acre-feet N/A or system efficiency as a percentage N/A %

b. 10-year goal:

Savings in acre-feet N/A or system efficiency as a percentage N/A %

(Examples of Typical Efficiencies for Various Types of Irrigation Systems –
Surface: 50-80%; Sprinkler: 70-85%; LEPA: 80-90%; Micro-irrigation: 85-95%)

10. Describe the practice(s) and/or device(s) which will be utilized to measure and account for the amount of water diverted from the source(s) of supply:
 - Flowmeters are used at the Lake Houston Pump Station and East Canal Transfer Pump Station.
 - Irrigation customers use a propeller style metering device.

11. Describe the monitoring and record management program for water deliveries, sales, and losses:

SJRA records water pumped daily and records water delivered through a monthly Raw Water report.

12. Describe any methods that will be used for water loss control, leak detection, and repair:

Maintain an efficient delivery system that controls conveyance losses to a practical level. Continue 10-Year Project Plan updates to identify and repair leaking or problem areas in system. (Siphon structures are evaluated/prioritized annually). Continue to routinely inspect for leaks and when necessary, repair. Perform other routine maintenance, such as clearance of vegetation to minimize conveyance losses.

13. Describe any program for customer assistance in the development of on-farm water conservation and pollution prevention measures:

Customers are provided assistance by SJRA staff in completion of their own Water Conservation and Drought Contingency Plans. Customers are required to submit their plans to SJRA per their contract requirements. SJRA also provides methods of public information, education, and awareness.

14. Describe any other water conservation practice, method, or technique which the supplier shows to be appropriate for achieving conservation (if applicable):

N/A

C. User profile

1. Total number of acres or square miles in service area: **Approximately 316 square miles**
2. Average number of acres irrigated annually: **~ 600**
3. Projected number of acres to be irrigated in 10 years: **~ 600 - Depends on needs of local irrigators.**
4. Number of active irrigation customers: **2**
5. Total irrigation water delivered annually (in acre-feet): **595 Acre-feet**
6. Types of crops grown by customers:
Grass
7. Types of irrigation systems used by customers:
Sprinkler Systems/Irrigators
8. Types of drainage systems used by customers:
Natural water run-off

9. Further description of irrigation customers:

Golf course irrigation, grass/turf farm irrigation

10. List of municipal customers and number of acre-feet allocated annually:

Refer to TCEQ Form 20162

11. List of industrial and other large customers and number of acre-feet allocated annually:

Refer to TCEQ Form 10213

D. Additional Requirements

1. A requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in 30 TAC chapter 288; if the customer intends to resell the water, then the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with applicable provisions of this chapter. Provide a detailed description of how the water will be utilized in the production process including how the water is diverted and transported from the supply source(s).
2. Evidence of official adoption of the water conservation plan and goals, by ordinance, rule, resolution, or tariff, indicating that the plan reflects official policy of the supplier.
3. Documentation of coordination with the Regional Water Planning Groups in order to insure consistency with the appropriate approved regional water plans.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

This page intentionally left blank.

Appendix B

Resolutions Passed by SJRA Transmittal Letter to Region H RWPG

This page intentionally left blank.

Appendix C

**Highlands Division TCEQ Form 20645 - Water Conservation Implementation
Report Form and Summary of Updates/Revisions to Water Conservation Plan**

This page intentionally left blank.



WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

- 1. Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
- 2. Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019**. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: _____
2. Water Right Permit or Certificate Nos. _____

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

- _____ Municipal Water Use by Public Water Supplier
_____ Wholesale Public Water Supplier
_____ Industrial Use
_____ Mining Use
_____ Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

- _____ Individually-Operated Irrigation System
_____ Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes _____ No _____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.
- Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288.
http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
 - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserves.html

*Call 512-239-4691 or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

Yes_____ No_____

If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?

Yes_____ No_____

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

9. Form Completed by (Point of Contact): _____
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: _____

Contact Address: _____

Contact Phone Number: _____ Contact Email Address: _____

Signature: _____

Date: _____

Drought Contingency Plan

for

**San Jacinto River Authority
Highlands Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction.....	1-1
Section 2. Utility and Service Area Description	2-1
2.1 Utility Description	2-1
2.2 Service Area Description	2-2
Section 3. Drought Contingency Plan.....	3-1
3.1 Drought Contingency Plan – Highlands Division.....	3-1
3.2 Trigger Conditions – Initiation and Termination	3-1
3.3 Notification of Initiation and Termination.....	3-4
3.4 Drought Response Stages.....	3-4
3.5 Pro Rata Water Allocation	3-6
3.6 Compliance Metrics	3-6
3.7 Public Involvement	3-6
3.8 Procedures for Granting Variances	3-6
3.9 Implementation and Enforcement.....	3-7
3.10 Coordination with RWPG.....	3-7
3.11 Updating of the Plan	3-8
 <u>Tables</u>	
Table 2-1. SJRA Water Rights Portfolio	2-2
Table 2-2. 2018 Surface Water Diversion	2-3
 <u>Figures</u>	
Figure 1-1. Watershed Area and Facility Locations	1-2
Figure 2-1. Highlands Canal System Layout.....	2-4
Figure 2-2. MUD District Boundaries	2-5
 <u>Appendices</u>	
Appendix A –Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG	

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend, and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a Board of Directors. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Drought Contingency Plan (including utility description, service area description, and drought measures) for the Highlands Division (the Division). The Division’s Water Conservation Plan is provided under separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

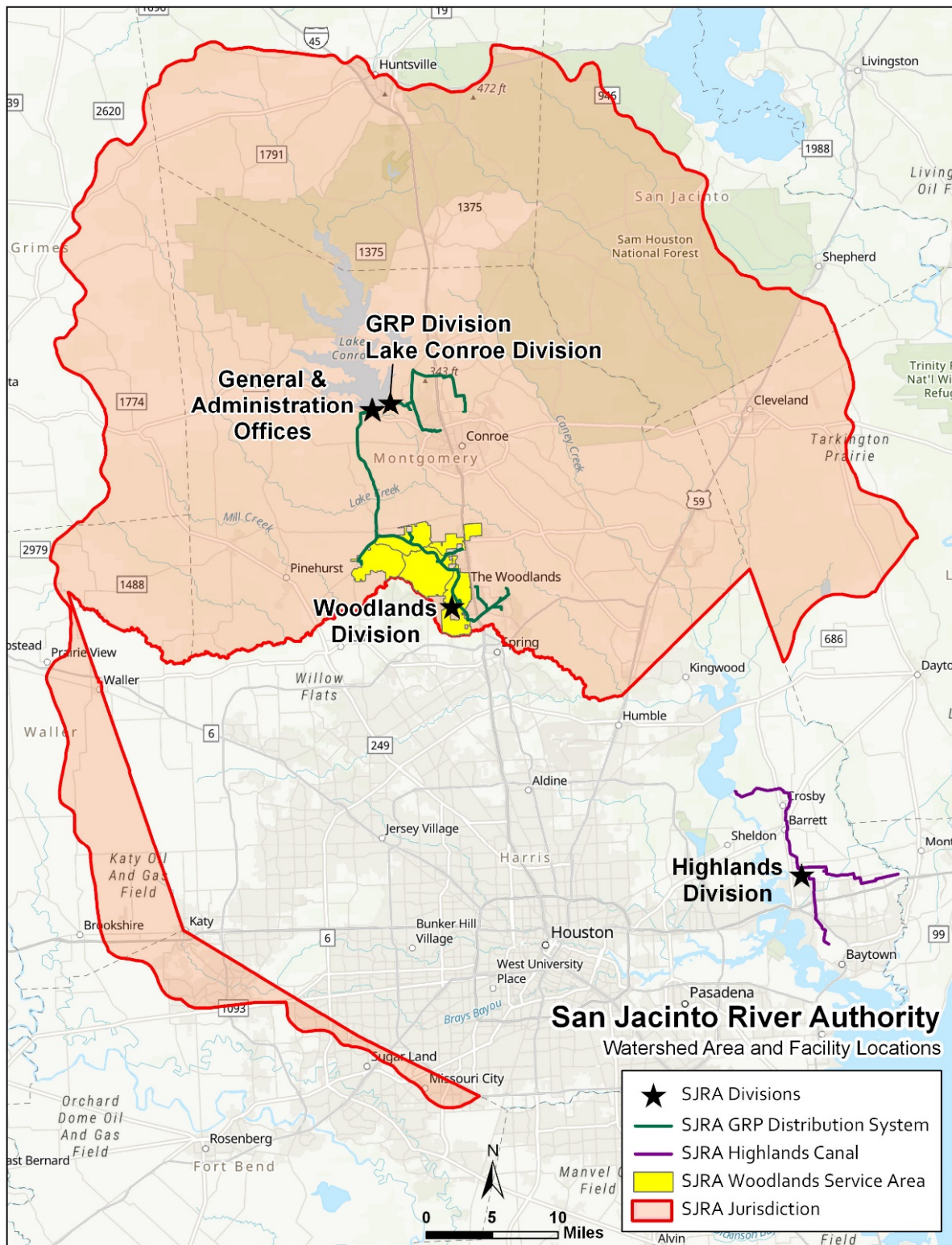


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

In 1945, SJRA purchased the Highlands Canal System, which serves municipal, industrial, and agricultural/irrigation customers in southeast Harris County. Water available for this system is obtained from the following:

SJRA obtained a 55,000 ac-ft/yr run-of-river right Certificate of Adjudication (COA) 10-4964 from water stored in and diverted from Lake Houston. The Highlands Canal System transfers this water from Lake Houston to the approximately 1,400-acre Highlands Reservoir, which serves as a regulating reservoir for the system, and then South and East Baytown and Cedar Bayou area, respectively, via approximately 27 miles of canals

In 1994, SJRA and the Devers Canal Rice Producers Association (DCRPA) purchased the bulk assets of Trinity Water Reserve, Inc. Those assets included the Devers Canal System, which covers parts of Liberty, Chambers, and Jefferson Counties, as well as Permit No. 5271, which authorizes a 58,500 ac-ft/yr diversion from the Trinity River at a point in south central Liberty County. The purchase arrangements included the transfer of 56,000 ac-ft/yr of water rights to SJRA. The remaining 2,500 ac-ft/yr of water rights was transferred to DCRPA. Permit No. 5271 was successfully amended to reflect the purchase arrangement. SJRA's 56,000 ac-ft/yr right is permitted for multiple uses. A portion of this water is also utilized to serve industrial customers in southeast Harris County.

In 2003, SJRA purchased an additional 30,000 ac-ft/yr of Trinity River water rights from the Chambers Liberty Counties Navigation District (CLCND) under Certificate of Adjudication No. 08-4279.

In 2004, SJRA was granted 14,944 ac-ft/yr of water rights associated with return flows from its three wastewater treatment plants in the San Jacinto River Basin (Permit 5809). A portion of this water is also utilized to serve customers in southeast Harris County.

In 2008, the SJRA was granted 14,100 ac-ft/yr of unappropriated firm yield (additional storage) of Lake Houston under Permit No. 5807.

In 2009 the SJRA was granted 40,000 ac-ft/yr of yield (additional run-of-river) from the San Jacinto River to be diverted at Lake Houston through Permit No. 5808. This supply is considered interruptible based on flow conditions within the San Jacinto River but may be utilized within SJRA's service area.

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/yr) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. Lake Conroe's water right's availability to the Highlands Division will be extremely limited due to use of

the lake as a supply for the SJRA Groundwater Reduction Plan (GRP) Division. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin.

SJRA meets wholesale raw water needs in the Highlands Division service area through a combination of sources. Water from run-of-river COA 10-4964 and Permit 10-5808, along with Lake Houston reservoir yield from Permit 10-5807, and SJRA's reuse authorized under Permit 10-5809 is diverted at the southeast corner of Lake Houston via SJRA's pump station to supply the Highlands Canal System. SJRA's water rights in the Trinity River as appropriated in Permit 08-5271 and COA 08-4279 are utilized via the CWA conveyance system and pumped to the Highlands Canal System at two locations south and east of the Highlands Reservoir. SJRA's supplies are summarized in Table 2-1 below.

Table 2-1. SJRA Water Rights Portfolio

Source*	Permitted Amount (ac-ft/yr)
Trinity River (COA 08-4279)	30,000
Lake Conroe (COA 10-4963)	33,333
Lake Houston (COA 10-4964)	55,000
Trinity River (Permit 08-5271)	56,000
Lake Houston (Permit 10-5807)	14,100
Lake Houston (Permit 10-5808)	40,000
Reuse (Permit 10-5809)	14,944

*Please note that not all water sources shown are available to all SJRA Divisions.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. The Division is a wholesale provider of surface water (via the Highlands Canal System) for industrial, agricultural/irrigation, and municipal uses. The Highlands Division service area, per Agreement with City of Houston, covers approximately 316 square miles in Harris County east of the San Jacinto River. Figure 2-1 illustrates the layout of the Highlands Canal System.

Via the Highlands Canal System, the Division provides water to the Crosby MUD, Newport MUD, and Harris County MUD No. 50 (Figure 2-2), industrial customers in the Baytown and Cedar Bayou areas, and agricultural/irrigation customers. The three MUDs' service area is approximately 7.7 square miles. In 2018, there was a total of 76,812 ac-ft diverted from the system (Table 2-2). The Division does not own or operate wastewater infrastructure.

Table 2-2. 2018 Surface Water Diversion

Municipal	1,500 ac-ft
Industrial	74,717 ac-ft
Agricultural/Irrigation	595 ac-ft
Total	76,812 ac-ft

In 2018, total wholesale municipal supplies via the Highlands Canal System were 1,500 ac-ft. The Baytown Industrial Complex/Cedar Bayou area in eastern Harris County is home to numerous industries to which the Division provides water. In 2018, there was a total of 74,717 ac-ft diverted from the Highlands Canal System to provide wholesale raw water to the Division's industrial customers. Water supplied by the Division to the Baytown and Cedar Bayou areas is used in petroleum refining and chemical production industries to produce products such as petrochemicals, other chemicals, and refined products.

Wholesale raw water is also provided by the Division to multiple agricultural/irrigation customers in eastern Harris County for irrigating approximately 600 acres. In 2018, there was a total of 595 ac-ft diverted for agricultural/irrigation uses.

A full description of the Division's municipal, industrial, and agricultural/irrigation customer information can be found under separate cover in the Division's Water Conservation Plan.

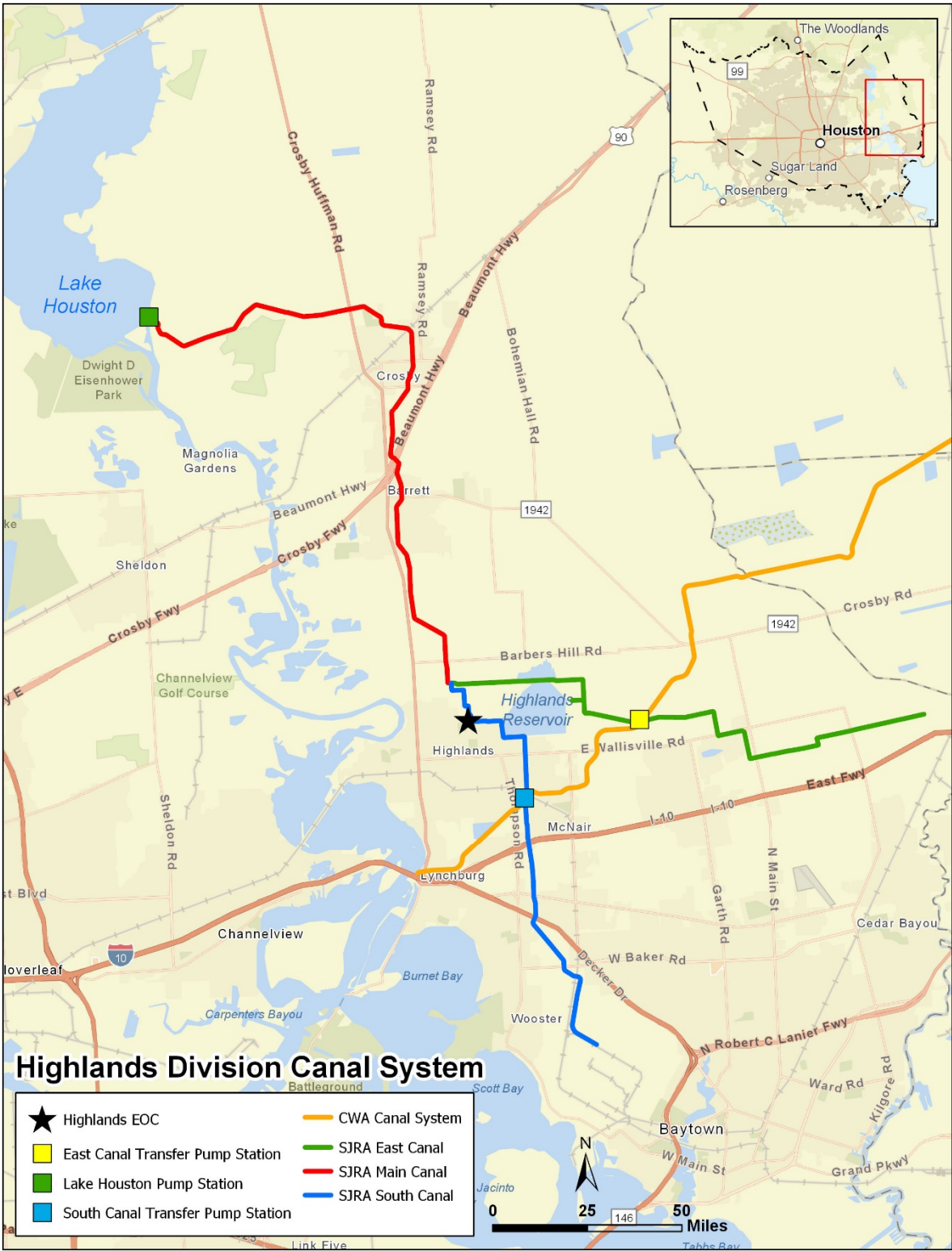


Figure 2-1. Highlands Canal System Layout

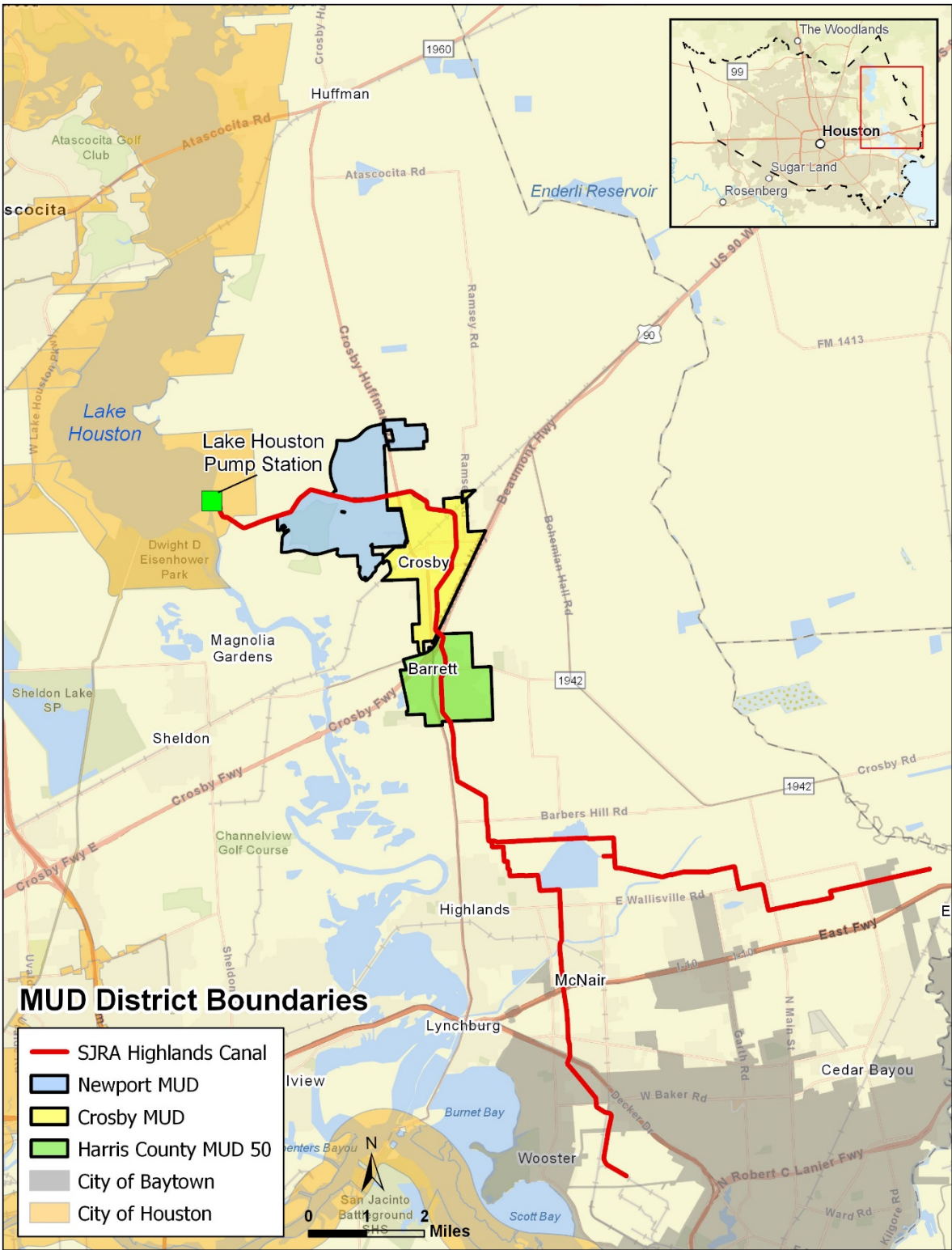


Figure 2-2. MUD District Boundaries

This page intentionally left blank.

Section 3. Drought Contingency Plan

Drought, or a number of other uncontrollable circumstances, can disrupt the normal availability of water supply. Even though an area may have an adequate water supply, the supply can become contaminated, or a disaster can disrupt or destroy the supply. During drought periods, consumer demand is often significantly higher than normal. The failure or inadequacy of raw water delivery system also can present a utility with an emergency demand management situation.

It is important to distinguish between drought contingency planning and water conservation planning. As detailed in the Division's Water Conservation Plan, water conservation involves implementing permanent water use efficiencies or reuse practices. Drought contingency planning establishes temporary methods or techniques to be used only as drought and/or emergency conditions persist. The SJRA has developed a drought contingency plan with regard to the wholesaling of surface water from Lake Houston and the Trinity River to the customers of the Division.

3.1 Drought Contingency Plan – Highlands Division

SJRA provides raw surface water from Lake Houston and the Trinity River to customers of the Division. In order to conserve the available water supply and/or protect the integrity of water supply facilities during water supply shortages or other supply emergency conditions that can have adverse effects on its customers, SJRA has developed the following drought contingency plan elements.

3.2 Trigger Conditions – Initiation and Termination

As discussed in Section 2 of this drought contingency plan, SJRA provides raw surface water to its Highlands customers primarily from Lake Houston and the Trinity River. For this reason, initiation of drought stages for the Division is based on the water surface elevation of Lake Houston³ in conjunction with Trinity River flows at Romayor, Texas⁴.

The General Manager of the SJRA or a designated representative will monitor water supply and/or demand conditions on a monthly basis or more frequently as conditions warrant and will determine when conditions warrant initiation or termination of each drought stage. The trigger points listed below have been selected through a hydrologic modeling process to work conjunctively with the measures identified in Section 3.4 to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. If deemed appropriate by the General Manager or a designated representative, termination of a drought stage

³ Vertical datum NAVD 1988, 2001 adjustment

⁴ USGS Gage 08066500 Trinity River at Romayor, TX

is followed by initiation of a lower drought stage. An Emergency Water Supply Condition may be initiated or terminated without subsequent enactment of other stages. The various drought contingency stages may be initiated or terminated at the discretion of the General Manager or a designated representative. Otherwise, initiation and termination of the stages shall be as follows:

Stage 1: Voluntary Reduction

Initiation:

- Lake Houston is below an elevation of 40.2 feet and Trinity River flows at Romayor are below 4,000 cubic feet per second; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- Lake Houston is above an elevation of 40.2 feet or Trinity River flows at Romayor are above 4,000 cubic feet per second for seven consecutive days; or
- Termination of Stage 1 due to indications from monitoring of water demands/weather forecasts.

Stage 2: Moderate Conditions

Initiation:

- Lake Houston is below an elevation of 39.2 feet and Trinity River flows at Romayor are below 4,000 cubic feet per second; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- Lake Houston is above an elevation of 39.2 feet or Trinity River flows at Romayor are above 4,000 cubic feet per second for seven consecutive days; or
- Termination of Stage 2 due to indications from monitoring of water demands/weather forecasts.

Stage 3: Advanced Conditions

Initiation:

- Lake Houston is below an elevation of 37.2 feet; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- Lake Houston is above an elevation of 37.2 feet for seven consecutive days; or
- Termination of Stage 3 due to indications from monitoring of water demands/weather forecasts.

Stage 4: Severe Conditions

Initiation:

- Lake Houston is below an elevation of 35.2 feet; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- Lake Houston is above an elevation of 35.2 feet for seven consecutive days; or
- Termination of Stage 4 due to indications from monitoring of water demands/weather forecasts.

Emergency Water Supply Condition

Initiation:

- Anticipation of a drought condition beyond historical level of severity; or
- System failure in the Highlands Canal system; or
- Contamination of the water supply has occurred; or
- Enactment of Emergency Water Supply Condition initiation due to other factors at the discretion of the General Manager or a designated representative.

Termination:

- Restoration of the Highlands Canal system to operational status; or
- Containment or elimination of water supply contamination
- Termination of Emergency Water Supply Condition due to other factors at the discretion of

the General Manager or a designated representative.

Each stage may also be initiated or terminated at the discretion of the General Manager or a designated representative.

3.3 Notification of Initiation and Termination

The General Manager of the SJRA or a designated representative will notify its wholesale customer representatives in writing by electronic mail when a trigger condition has been met. When the trigger conditions that initiated the drought measures have subsided, the General Manager or a designated representative will inform the wholesale customer representatives in writing by electronic mail. Additionally, TCEQ will be notified within five business days of initiation or termination of drought stages beyond Stage 1. Notification of drought stage initiation or termination will also be posted on the SJRA website.

3.4 Drought Response Stages

The General Manager or a designated representative will monitor water supply and demand conditions, and in accordance with the triggering criteria set forth in Section 3.2 will determine that a water shortage exists, or when an emergency condition exists. The reductions listed below have been selected through a hydrologic modeling process to work conjunctively with the trigger points identified in Section 3.2 to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. The following actions will be taken when a drought stage or Emergency Water Supply Condition is initiated:

Stage 1: Voluntary Reduction

Target: Achieve a voluntary 5% reduction in use

- Contact wholesale raw water customers of the Division to discuss situation.
- Request that wholesale customers initiate voluntary measures to reduce water use.

Stage 2: Moderate Conditions

Target: Achieve a 5% reduction in non-industrial use (October through March)

Achieve a 10% reduction in non-industrial use (April through September)

- Contact wholesale raw water customers of the Division to discuss situation.
- Require that non-industrial wholesale customers initiate mandatory measures to reduce water use by a seasonal 5% or 10%.

Stage 3: Advanced Conditions

Target: Achieve a 10% reduction in non-industrial use (October through March)

Achieve a 20% reduction in non-industrial use (April through September)

Achieve a 1% reduction in industrial use

- Contact wholesale raw water customers of the Division to discuss situation and continue to do so on a weekly basis until termination.
- Require wholesale customers initiate mandatory measures to reduce water use by a seasonal 10% or 20% for non-industrial customers and 1% for industrial customers.

Stage 4: Severe Conditions

Target: Achieve a 15% reduction in non-industrial use (October through March)

Achieve a 30% reduction in non-industrial use (April through September)

Achieve a 5% reduction in industrial use

- Contact wholesale raw water customers of the Division to discuss situation and continue to do so on a weekly basis until termination.
- Require wholesale customers initiate mandatory measures to reduce water use by a seasonal 15% or 30% for non-industrial customers and 5% for industrial customers.

Emergency Water Supply Condition

Target: Subject to scope and nature of emergency

- If appropriate, notify city, county, and/or state emergency response officials for assistance.
- Assess the severity of the problem and identify actions needed and time required to solve the problem.
- Notify TCEQ within five days of initiation or termination of emergency conditions.
- Inform wholesale customers and discuss possible actions, including but not limited to initiation of actions available under Stages 1 through 4.
- If deemed necessary by the General Manager or a designated representative, impose mandatory water rationing per Texas Water Code (TWC) §11.039 to reduce water demand to a level determined by the General Manager or a designated representative and notify TCEQ.
- Undertake necessary actions, such as repair or cleanup, to resolve issue.

3.5 Pro Rata Water Allocation

If deemed necessary by the General Manager or a designated representative due to a drought or Emergency Water Supply condition, SJRA will initiate allocation of water supplies on a pro rata basis in accordance with TWC §11.039 and the force majeure clause and other relevant terms of the contract in place with each raw water customer. TWC §11.039 directs that if a shortage occurs due to drought, accident, or other cause in a water supply covered by a TWDB-approved Water Conservation Plan, the entity controlling the supply shall divide the water to be distributed pro rata among all customers.

3.6 Compliance Metrics

The target of Stages 1 through 4 (and in some circumstances an Emergency Water Supply Condition) is to reduce water use by a certain percentage. Because water demands for Division customers change over time and may be impacted by weather conditions or application of drought response measures, a standard approach to defining a customer's demand must be applied. For the purposes of this drought contingency plan, each customer's demand shall be determined as that customer's water use for the preceding two years, averaged for each month. These demand values will be provided to customers at the beginning of each year. Customer requests for variances to the provided demand values will be considered at an administrative level through an appeal process as described in Section 3.8.

3.7 Public Involvement

Public involvement measures associated with this drought contingency plan shall include the following:

- Making proposed documents available to the public prior to adoption.
- Posting of notice of an SJRA Board of Directors meeting to include consideration of the plan for adoption.
- Consideration and adoption of the plan by the SJRA Board of Directors at a meeting to be open to the public.

Upon adoption of the plan, the completed drought contingency plan with relevant documentation reflecting adoption will be posted on the SJRA website.

3.8 Procedures for Granting Variances

The General Manager or a designated representative may grant a temporary variance to mandatory measures to reduce water use, to calculated customer demand as discussed in Section 3.6, or to pro rata water allocation policies if one or more of the following conditions are met:

- Failure to grant such variance would cause an emergency condition adversely affecting the

public health, welfare, or safety.

- Compliance with this plan cannot be technically accomplished during the duration of the water supply shortage or other conditions for which the plan is in effect.
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

The decision to grant or deny such a variance is at the discretion of the General Manager or a designated representative. Persons or entities requesting an exemption from the provisions of this plan shall file a written petition for variance with the General Manager or a designated representative within five business days after the mandatory measures to reduce water use or the pro rata allocation has been invoked. Once received, the General Manager or a designated representative will have five business days to respond, in writing, to a petition for variance.

3.9 Implementation and Enforcement

The SJRA General Manager or a designated representative will be responsible for implementation and enforcement of the drought contingency plan. During any period when pro rata allocation of available water supplies is in effect, the General Manager or a designated representative has the authority to discontinue service to any customer who fails to comply with the conditions of the allocation, declaring the customer in breach of contract. Prior to discontinuance of service, the General Manager or a designated representative will issue a warning to the wholesale customer, and work with the customer to ensure that they are complying with the restrictions. In the event the customer fails to voluntarily comply, a court injunction will be obtained for violation of the Texas Water Code and for breach of contract.

Once notified of initiation of a drought stage with mandatory demand reduction, Division customers are required to reduce their water use in accordance with the appropriate stage as described above. In order to promote compliance with the drought contingency plan, the General Manager or a designated representative may enact a special temporary drought contingency rate structure with certain non-promotional rates for each drought stage. Customers failing to comply with mandatory demand reductions may also be subject to disincentive fees and be required to reimburse SJRA or the Division for any costs, fines, or penalties incurred by SJRA or the Division as a result of the customer's noncompliance. Enforcement actions, including penalties, will not be put into place until 30 calendar days after a drought stage is initiated.

3.10 Coordination with RWPG

The Division is located within the Region H Regional Water Planning Area. In accordance with TCEQ rules, the Division has provided a copy of the Division drought contingency plan to the Region H

Regional Water Planning Group. A copy of the transmittal letter is included in Appendix A.

3.11 Updating of the Plan

Every five years, SJRA will examine the Division operations to determine if trigger conditions need to be re-established. Updates may also be considered earlier than each five years in the case of any changes to operations that would warrant a re-examination of the trigger conditions. Any updates will result in a revised drought contingency plan.

The drought contingency plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix A.

Appendix A
Resolutions Passed by SJRA
Transmittal Letter to Region H RWPG

This page intentionally left blank.

Water Conservation Plan

for

**San Jacinto River Authority
Lake Conroe Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-1
Section 3. Water Conservation Plan	3-1
3.1 Lake Conroe Division 5- and 10-year Water Conservation Target Goals	3-1
3.2 Water Conservation Methods	3-1
3.2.1 Metering and Record Management	3-2
3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses	3-4
3.2.3 Recycling and Reuse	3-4
3.2.4 Rate Structure	3-4
3.2.5 Contractual Requirements for Customer Water Conservation Plans	3-4
3.2.6 Customer Conservation Plan Guidance;.....	3-5
3.2.7 Customer Reporting Requirements	3-6
3.2.8 Public Information and Education	3-6
3.2.9 Encouraging Customer Conservation Practices.....	3-7
3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan.....	3-7

Tables

Table 2-1. 2018 Surface Water Diversion.....	2-3
--	-----

Figures

Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. Lake Conroe Division Customers.....	2-2

Appendices

Appendix A – Water Utility Profiles
Appendix B – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG
Appendix C – TCEQ Form 20645

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit Water Conservation and Drought Contingency Plans to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend, and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in East Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management Divisions. The following is provided as the Water Conservation Plan (including utility description, service area description, and customer data) for the Lake Conroe Division (the Division). The Division’s Drought Contingency Plan is provided under a separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

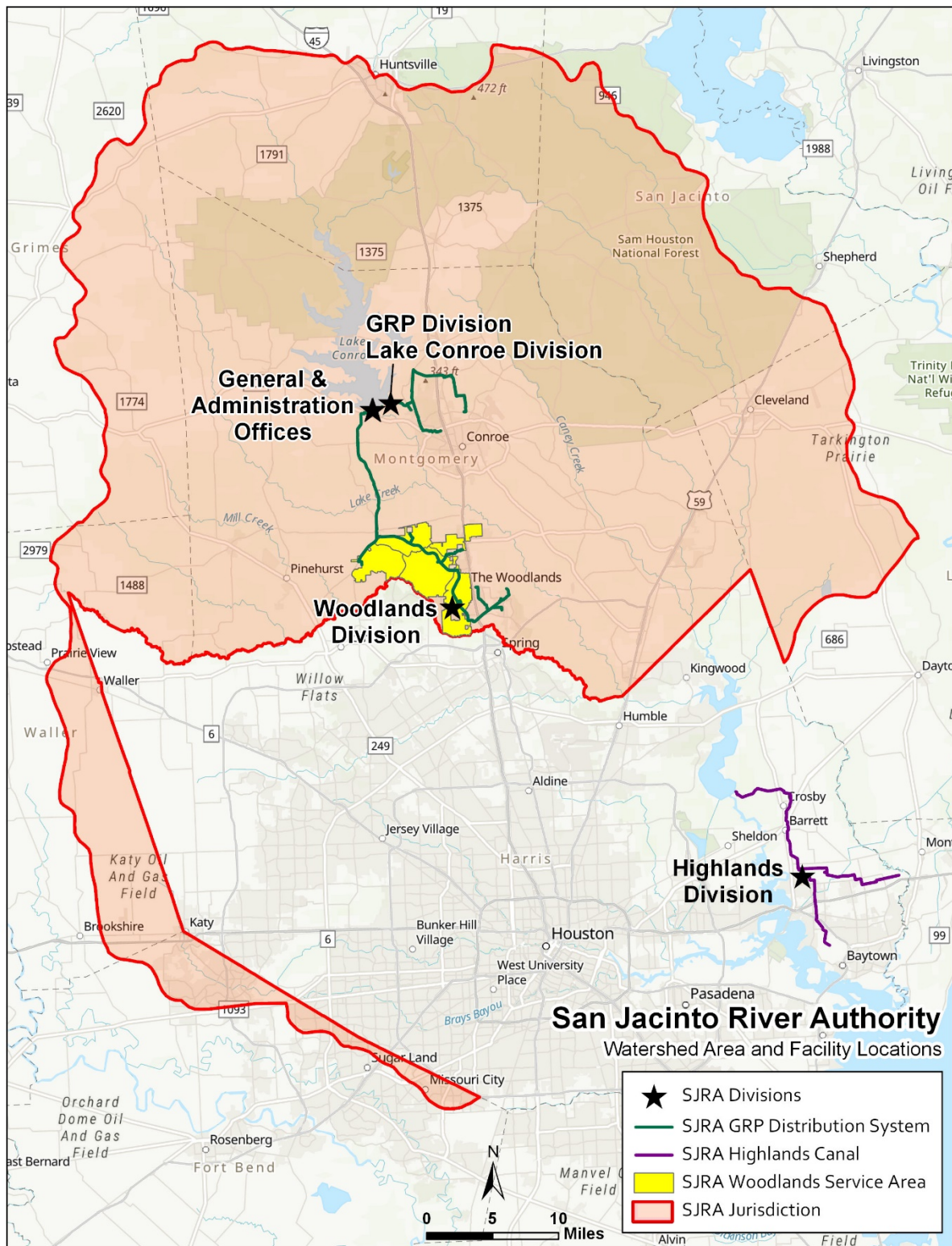


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/year) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. Lake Houston is owned by the City of Houston and the water rights for yield from the reservoir are shared by the City of Houston and SJRA. SJRA also holds an option contract for the purchase of the Houston portion of water in Lake Conroe.

The Lake Conroe water right is used by SJRA to meet the needs of its customers, some of whom are in close proximity to the Lake. In addition to raw water customers in the immediate vicinity of Lake Conroe, the reservoir also serves as the source of water for the participating members of the GRP Division. The GRP began delivering water to its customers in June 2015. The SJRA's water right for Lake Conroe (33,333 ac-ft/yr) is permitted for multiple uses.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. A map of Lake Conroe, showing the location of the surrounding golf courses and power generating facility served by SJRA, is provided below (Figure 2-1). These customers take their water directly from Lake Conroe. In 2018, there were approximately 21,325 ac-ft diverted from Lake Conroe (Table 2-1). The Division does not own or operate wastewater infrastructure.

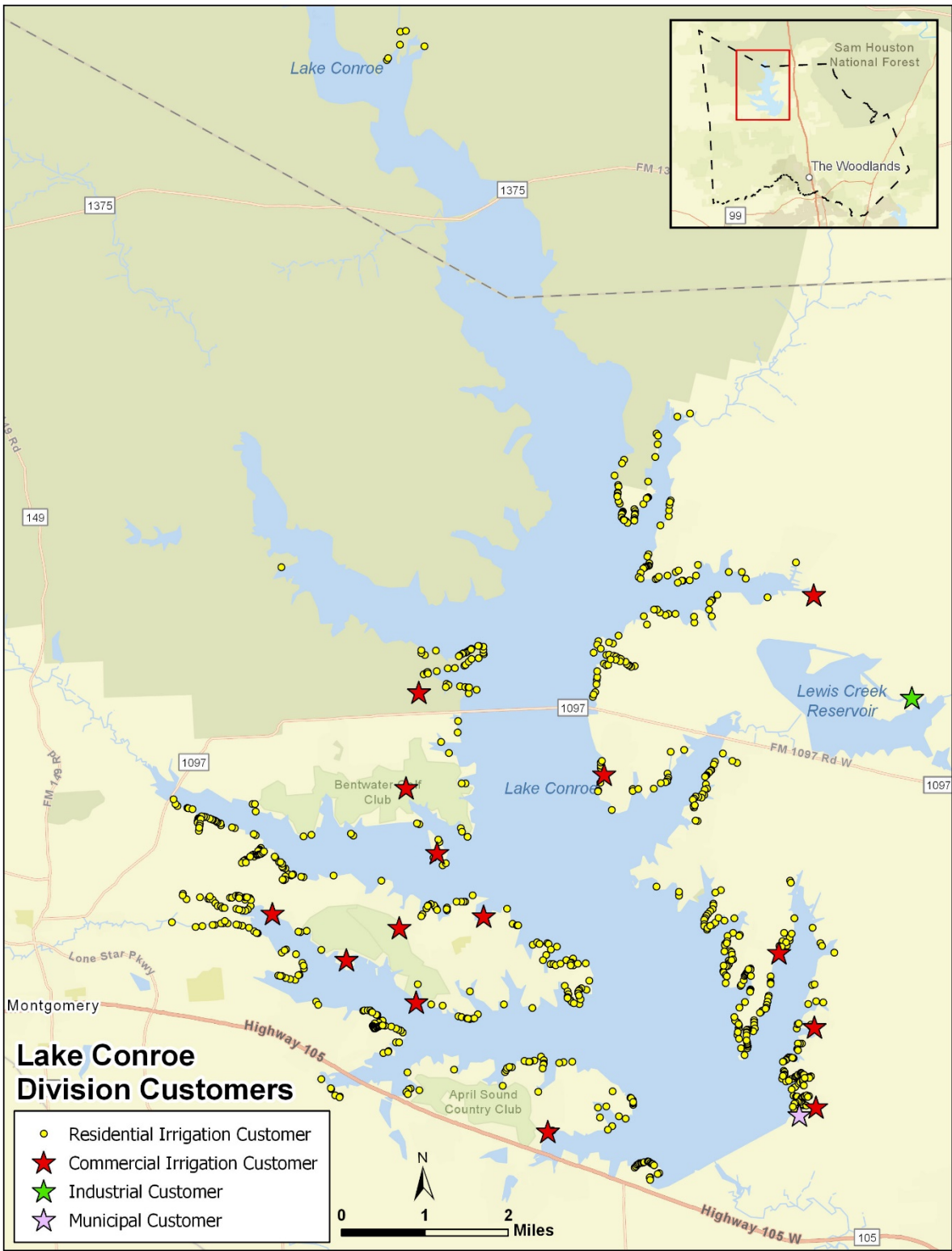


Figure 2-1. Lake Conroe Division Customers

Table 2-1. 2018 Surface Water Diversion

Municipal	14,639 ac-ft
Industrial	5,727 ac-ft
Irrigation	959 ac-ft
Total	21,325 ac-ft

The Division serves a power generating facility that uses surface water primarily for cooling purposes. In 2018, there were 5,727 ac-ft diverted from Lake Conroe to provide wholesale water to the power generating facility.

The SJRA maintains 16 small commercial irrigation contracts, which allow nearby golf courses, resorts, and lakeside communities to pump water directly from Lake Conroe for landscape irrigation purposes. The acreage irrigated by these users varies, but is estimated at 1,000 total acres. In 2018, there was 495 ac-ft diverted for commercial irrigation uses. There are also a small number of private individual property owners who pump raw water directly from Lake Conroe for landscape irrigation of their lakeside property through use of short-term contracts. The Division estimates usage for these customers by applying an approach developed by Texas A&M's Water Management Department which generates water budgets using a crop-specific coefficient for standard turf and incorporates irrigable area and environmental climate data. In 2018, the Division contracted with 751 households and delivered an estimated 464 ac-ft of water for private irrigation use.

Use of Lake Conroe as a municipal supply for the GRP Division began in June 2015. Most of the GRP Participant's population continues to be served by groundwater, but some of the larger users receive surface water. Therefore, part of the GRP Participant's population is served by a combination of treated surface water and treated groundwater, while other GRP Participants use groundwater exclusively. The GRP Participant's population currently served by SJRA from Lake Conroe as of 2018 was 246,626.

A full description of the Lake Conroe Division's raw water customer information can be found in Appendix A, the Water Utility Profiles.

This page intentionally left blank.

Section 3. Water Conservation Plan

In the Texas Water Code, water conservation is defined as follows:

“(A) The development of water resources; and,

“(B) Those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.”³

Based upon these concepts of water conservation, the Division’s objective is to develop a water conservation plan that increases water use efficiency, thereby reducing water demands, without adversely affecting population and the economic growth potential of its customers.

3.1 Lake Conroe Division 5- and 10-year Water Conservation Target Goals

The Division does not have direct control over the demands that it serves, as the Division’s customers take water directly from the lake into their own systems. The SJRA is not involved in the day-to-day operations of its customers; however, it is working closely with customers to encourage water-use reduction. While the Division does also serve as a supplier to other SJRA divisions, those divisions in turn act solely as wholesale providers and thus also are not in direct control of customer demands. The water conservation measures described below include those under the direct control of, and being implemented by, the Division as well as goals supported and encouraged by the Division for implementation by its customers. The SJRA Lake Conroe Division is to achieve a reduction in surface water demand, for municipal customers only, of 2.5% over a 5-year period, and 5% over a 10-year period. Average per-capita demand for the Division for 2016 through 2018 was 72.2 gallons per capita per day (gpcd). It is the goal of the Division to reduce per-capita demand to 70.4 gpcd by the end of 2024 and 68.6 gpcd by the end of 2029. The Lake Conroe Division does not manage or control any water transmission lines and all diversions are made directly from Lake Conroe, but the Division encourages its customers to use best management practices to keep water loss below 10%, annually.

3.2 Water Conservation Methods

The Division’s water conservation plan includes the following water conservation methods. Each method is described in greater detail in the following subsections.

³ TWC, Section 17.001 (23) (A) and (B).

- Metering and Record Management;
- Leak Detection, Repair, and Minimization of Conveyance Losses;
- Recycling and Reuse;
- Rate Structure;
- Contractual Requirements for Customer Water Conservation Plans;
- Customer Conservation Plan Guidance;
- Customer Reporting Requirements;
- Public Information and Education;
- Encouraging Customer Conservation Practices; and
- Implementation, Enforcement, Coordination with Regional Water Planning Group (RWPG), and Updating of the Plan.

There are two reservoirs (Lake Conroe and Lake Houston in the San Jacinto River system however, they are operated by separate entity's therefore the Lake Conroe Division does not have a reservoir system operations plan.

3.2.1 Metering and Record Management

The customers of the Division are responsible for metering as required by their water supply contracts. The long-term water supply contracts with each customer were developed at different times and therefore the specific language in each contract may vary. The most recent contract language is as follows:

Buyer shall, at its expense, install and maintain the necessary measuring equipment, including venturi or other standard type water meters, totalizers and recording devices, with such metering equipment to be installed and maintained at the Point of Delivery, or at such other point as approved by the Authority, in such manner as will accurately meter the quantity of water delivered to Buyer hereunder.

Meters shall be read daily by the employees or agents of Buyer, and the date, time and the amount of water taken each day shall be reported to the Authority monthly on or before the fifth (5th) business day of the following calendar month. Unless and until mutually agreed upon and confirmed in writing by the parties, Buyer agrees to provide to the Authority by electronic mail (a) current flow meter readings not less frequently than hourly, and (b)

current totalizer readings {at approximately (± 2 hours) the same time on}{as of} the last calendar day of each month.

Subject to Buyer's reasonable security and safety requirements, the Authority shall have access to and the right to inspect at all reasonable times Buyer's measuring equipment, appliances and all pertinent records and data for the purpose of verifying the quantity of water delivered hereunder.

The metering equipment installed and maintained by Buyer hereunder shall be checked by representatives of Buyer and the Authority jointly at {one hundred eighty (180) calendar day periods}{on an annual basis during the month of {MONTH}}, and more often at the reasonable request of either party (the "Inspection Date"), for the purpose of determining its accuracy. In the event a representative is not designated by either party for the purpose of making such test or calibration, or such representative fails to appear, then the test and calibration made by the other party shall be binding upon the party who fails to designate a representative or whose representative fails to appear. Any required test or calibration of the metering equipment shall be done by the employees or agents of Buyer; provided, however, that the Authority shall be given not less than five (5) business days' notice of such testing and calibration and shall be permitted to have one or more representatives present to observe such testing and calibration. If any such test shows a deviation of more than two percent (2%) from the manufacturer's tolerances, standards or specifications, such meter shall be promptly recalibrated, as nearly as practicable, to such manufacturer's tolerances, standards or specifications, and the volume of water delivered during one-half (1/2) of the period extending back to the immediately preceding Inspection Date shall be adjusted accordingly for payment purposes.

The Authority may, at its option and expense, install and operate one or more check meters, but unless otherwise agreed in writing by the parties, or unless Buyer's measuring equipment is out of service or not registering accurately, measurement for purposes of this Contract shall be made by Buyer's measuring equipment. All such check meters shall be of standard make and shall be subject at all reasonable times to inspection and examination by an employee or agent of Buyer, but the reading, calibration and adjustment of such check meters shall be made only by the Authority. Should the Authority enter upon Buyer's premises for the purposes permitted above, the Authority shall exercise due care and diligence while on Buyer's premises, and all of Buyer's security and safety rules shall be

strictly observed.

The data collected from the metering of customers allows the Division and SJRA to maintain a detailed record management system of water deliveries. As described in the contract language above, customers of the Division are responsible for installing and maintaining meters at their points of delivery (Lake Conroe diversion locations). Also as described in the contracts, access to these meters will be given to the Division by each customer for inspection purposes. Meters must be maintained by each customer to the level of accuracy specified in the customer's wholesale water supply contract with the Division.

3.2.2 Leak Detection and Repair, and Minimization of Conveyance Losses

Lake Conroe is maintained by the SJRA, including routine inspections for leaks and dam integrity. Those components of the system used to take water from the Lake into each customer's system are owned and maintained by the customer. They are routinely inspected by the customer for leaks and, when necessary, repaired. The Division encourages customers to take measures to reduce water loss (below 10%) to prevent waste and facilitate achievement of the Water Conservation Plan demand reduction goals as specified above.

3.2.3 Recycling and Reuse

SJRA utilizes a number of once-through reuse supplies across its divisions. The Division will continue to consider and evaluate opportunities for reuse as they develop.

3.2.4 Rate Structure

SJRA utilizes a non-promotional rate structure for contracts with customers of the Division; these rates are periodically reviewed and adjusted as necessary. SJRA also encourages the Division's customers to establish rate structures promoting conservation for sales to their wholesale and retail customers.

3.2.5 Contractual Requirements for Customer Water Conservation Plans

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements. Additionally, SJRA will include in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan a requirement that customers develop and implement water conservation plans as required by Title 30, Texas Administrative Code, Chapter 288 30 TAC §288). Per 30 TAC §288, any future contract, renewal, or amendment will also require that successive sales from SJRA customers to others include a contractual stipulation for water conservation requirements. At a minimum, customer conservation plans must comply with the requirements of 30 TAC §288.

The long-term water supply contracts with each customer were developed at different times and

therefore the specific language in each contract may vary. The most recent contract language regarding Water Conservation and Drought Contingency Plans is as follows:

Buyer shall develop and implement water conservation and drought contingency plans to conserve water resources and to promote practices that will reduce loss or waste of water, improve efficiency in the use of water, or increase the recycling and reuse of water. Buyer's water conservation plan and drought contingency plan shall be at least equal to or more stringent than that adopted by the Authority, and Buyer shall comply with all requirements of the TCEQ, Texas Water Development Board, and any other federal, state or local regulatory agency with jurisdiction. Buyer shall forward its water conservation plan and drought contingency plan to the Authority for its review and approval within one hundred eighty (180) calendar days following the date the Authority adopts any revision to its existing water conservation and drought contingency plans.

Upon written request from the Authority, Buyer shall report progress made in implementation of its water conservation and drought contingency plans on an annual basis on or before February 1st of each year during the term of this Contract. Buyer shall amend its water conservation and drought contingency plans to reflect revisions to the Authority's plans, programs, and rules within one hundred eighty (180) calendar days after notice from the Authority of the adoption of such revisions.

SJRA may periodically update this language, as well as the Water Conservation and Drought Contingency Plans for the Division to meet legal requirements or address changing conditions; Subsequent to such revisions, customers of the Division are requested to update their water conservation and drought contingency plans as applicable.

3.2.6 Customer Conservation Plan Guidance;

SJRA will provide to customers upon request, model water conservation plans as developed by TCEQ, meeting the contractual requirements described in Section 3.2.5 above for each customer type. Additionally, SJRA will at customer request review draft customer water conservation and drought contingency plans for consistency with contractual requirements and the Division's Water Conservation and Drought Contingency Plans. Customers can contract the Division regarding the Division's Plans and contractual requirements.

3.2.7 Customer Reporting Requirements

In 2011, the 82nd Texas Legislature passed Senate Bill (SB) 181, which addressed the need for consistency in water use reporting by municipalities, water utilities, and others. Subsequently, TWDB and TCEQ developed detailed guidance and procedures for calculating and reporting water use, water loss, and other factors.

While SJRA is not directly impacted by these requirements as a wholesale provider, the Division and other divisions provide contractual water supply to a number of entities which are impacted by SB181. The broad range of water uses served by SJRA and the requirements of multiple State reporting programs creates a need for consistent customer reporting. As such, SJRA will require customer water usage reports, including any values for per-capita water demand, to follow the procedures established by TWDB and TCEQ.⁴ Water use reports should include data at the sector level (single family residential, multi-family residential, industrial, commercial, agricultural, etc.) and should additionally include estimated population served and calculated water loss. Further, SJRA may request that customers annually submit to SJRA a copy of all conservation plan reporting forms, if required by TCEQ, that are submitted to TCEQ.

3.2.8 Public Information and Education

SJRA has the option to utilize a plethora of water conservation resources that the TWDB, American Water Works Association, and American Public Works Association originally created as components of their own public education campaigns. Individual pamphlets and educational messages provided from these entities would be selected for specialized water conservation needs as they arise. SJRA also provides and constantly updates conservation information and efficient water use on the Authority website at <http://www.sjra.net/>.

SJRA will provide, as needed and/or requested, water conservation literature to the customers of the Division. The Division is committed to promoting improvements in industrial, municipal, and agricultural/irrigation processes to achieve conservation with its customers.

SJRA, across all divisions, will make information available through its public information and education program for plumbers and customers to use when purchasing and installing plumbing fixtures, water-using appliances, and watering equipment. Information regarding retrofit devices, such as low-flow shower heads or toilet dams that reduce water use by replacing or modifying existing fixtures or appliances, will also be provided.

Other public information approaches which SJRA has utilized in the past and may implement in the future include public tours of various facilities across all divisions, participation in local environmental

⁴ TWDB et al. 2012. Guidance and Methodology for Reporting on Water Conservation and Water Use

events, classroom water conservation educational programs, and joint operation of a mobile teaching lab.

3.2.9 Encouraging Customer Conservation Practices

SJRA and the Division encourages their customers to consider implementing rules, measures, and emerging technologies that promote water conservation and efficient use. Recommended measures include, but are not limited to, the following:

- Prohibitions on wasting water;
- Time-of-day watering restrictions;
- Water conservation pricing structures;
- Landscape irrigation conservation, including integrating rainfall/freeze sensors into irrigation systems;
- Water reuse
- Rainwater harvesting
- Public education programs

Additional information on conservation practices for a wide range of water uses can be found at the TWDB website (<http://www.twdb.texas.gov/>).

3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan

The Lake Conroe Division Manager and/or designees will act as the administrator(s) of the Water Conservation Plan for the Lake Conroe Division. The administrator(s) will oversee the execution and implementation of all elements of the program and monitor the progress of the plan. Additionally, the administrator(s) will be responsible for submission of an annual report to the TCEQ and TWDB on the progress of, and any changes to, the water conservation plan. SJRA is responsible for maintaining adequate records for Plan compliance with TCEQ and TWDB.

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements.

The Division is located within the Region H Regional Water Planning Area. In accordance with TCEQ rules, the Division provides a copy of its water conservation plan to the Region H Regional Water Planning Group (RWPG). A copy of the transmittal letter is included in Appendix B.

Every five years, SJRA will examine the Division's Water Conservation Plan and revise as necessary. The Water Conservation Plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix B.

This page intentionally left blank.

Appendix A

Water Utility Profiles

This page intentionally left blank.

San Jacinto River Authority – Lake Conroe Division

**TCEQ Form 20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.



Texas Commission on Environmental Quality

PROFILE AND WATER CONSERVATION PLAN REQUIREMENTS FOR WHOLESALE PUBLIC WATER SUPPLIERS

This form is provided to assist wholesale public water suppliers in water conservation plan development. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority – Lake Conroe Division

Address: P.O. Box 329 Conroe, TX 77305

Telephone Number: (936) 588-1111 Fax: (936) 588-1114

Water Right No.(s): COA 10-4963

Regional Water Planning Group: H

Form Completed by: Bret Raley

Title: Lake Conroe Division Manager

Person responsible for implementing conservation program: Bret Raley Phone: (936) 537-5784

Signature: _____ Date: / /

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

PROFILE

I. WHOLESALE SERVICE AREA POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Service area size (in square miles): 1,042 (Montgomery County)
(Please attach a copy of service-area map) – Also see *service area map separately in SJRA GRP Division Water Conservation Plan document.*
2. Current population of service area: 570,934 (Montgomery County) (*census.gov*)

3. Current population served for:
 - a. Water 246,626 - (Population includes GRP Participants who receive surface water)
 - b. Wastewater N/A

4. Population served for previous five years:
5. Projected population for service area in the following decades:

Year	Population	Year	Population
2014*	0	2020	429,342
2015	349,138	2030	574,880
2016	365,178	2040	710,018
2017	381,219	2050**	NO DATA
2018	397,260	2060**	NO DATA

* conversion process did not start until 2016 with some entities starting in 2015
The above population data includes all GRP Participants, including those who do not receive surface water.

6. List source or method for the calculation of current and projected population size.
***Population projection above were developed from data included in SJRA's Groundwater Reduction Plan (GRP). The population data above includes all GRP Participants within SJRA's Joint GRP.*

B. Customers Data

List (or attach) the names of all wholesale customers, amount of annual contract, and amount of annual use for each customer for the previous year:

The SJRA GRP Division is the only wholesale municipal customer of the SJRA Lake Conroe Division. There is no set contract amount between the Divisions as the amount of supply required will vary from year to year. The annual use for 2018 was 14,639 ac-ft. Additional information is included in the GRP Division Water Conservation Plan and associated TCEQ form 20162.

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amounts for the previous five years (in acre feet):

*Includes municipal use only.

Year	Treated Water	Raw Water*
2014	0	0
2015	0	5,249
2016	0	19,990
2017	0	19,469
2018	0	14,639
Totals	0	59,347

B. Water Accounting Data

1. Total amount of water diverted at the point of diversion(s) for the previous five years (in acre-feet) for all water uses:

Year	2014	2015	2016	2017	2018
<i>Month</i>					
January	4	2	1,397	1,735	1,109
February	7	2	1,704	1,541	1,339
March	3	61	1,987	1,968	1,322
April	34	67	2,256	2,342	1,307
May	128	61	2,580	2,711	1,794
June	29	1,645	2,847	2,308	2,445
July	85	2,072	4,299	3,136	2,924
August	757	1,998	2,846	4,370	2,746
September	677	1,408	2,098	2,019	1,903
October	22	1,660	2,807	2,441	1,671
November	11	1,276	2,188	1,537	1,115
December	685	1,279	1,867	1,268	1,640
Totals	2,442	11,532	28,876	27,374	21,325

2. Wholesale population served and total amount of water diverted for **municipal use** for the previous five years (in acre-feet):

Year	Total Population Served	Total Annual Water Diverted for Municipal Use
2014	0	0
2015	176,390	5,249
2016	199,802	19,990

2017	223,214	19,469
2018	246,626	14,639

C. Projected Water Demands

If applicable, project and attach water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

Projected Lake Conroe municipal demands are shown in the table below. These values were developed from data included in the SJRA Groundwater Reduction Plan, the SJRA GRP Pumpage Rate Study, and the Harris-Galveston Subsidence District Regional Groundwater update. Values reflect estimated surface water needs for SJRA GRP Division.

Projected Lake Conroe Division Wholesale Municipal Demand		
Year	MGD*	Ac-ft
2019	24.00	26,883.42
2020	24.00	26,883.42
2021	28.00	31,363.99
2022	28.00	31,363.99
2023	28.00	31,363.99
2024	28.00	31,363.99
2025	28.00	31,363.99
2026	28.00	31,363.99
2027	28.00	31,363.99
2028	28.00	31,363.99

*Millions of gallons per day.

III. WATER SUPPLY SYSTEM DATA

A. Projected Water Demands

List all current water supply sources and the amounts authorized (in acre feet) with each.

Water Type	Source	Amount Authorized
Surface Water	Lake Conroe (10-4963)	33,333
	Lake Conroe Contract w/City of Houston	66,667(variable)
Groundwater		0

Other

0

*B. Treatment and Distribution System (if providing treated water) N/A**

****Treatment infrastructure described separately in SJRA GRP Division Water Conservation Plan document.***

1. Design daily capacity of system (MGD):
2. Storage capacity (MGD):
 - c. Elevated _____
 - d. Ground _____
3. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks.

IV. WASTEWATER SYSTEM DATA

N/A wastewater service not provided by Division.

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s) (MGD):
2. Briefly describe the wastewater system(s) of the area serviced by the wholesale public water supplier. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: _____ %
2. Monthly volume treated for previous five years (in 1,000 gallons):

<i>Year</i>					
<i>Month</i>					
January					
February					
March					
April					
May					
June					
July					

August					
September					
October					
November					
December					
Totals					

V. ADDITIONAL REQUIRED INFORMATION

In addition to the description of the wholesaler's service area (profile from above), a water conservation plan for a wholesale public water supplier must include, at a minimum, additional information as required by Title 30, Texas Administrative Code, Chapter 288.5. Note: If the water conservation plan does not provide information for each requirement an explanation must be included as to why the requirement is not applicable.

A. Specific, Quantified 5 & 10-Year Targets

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals. Note that the goals established by wholesale water suppliers under this subparagraph are not enforceable.

B. Metering Devices

The water conservation plan must include a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply.

C. Record Management Program

The water conservation plan must include a monitoring and record management program for determining water deliveries, sales, and losses.

D. Metering/Leak-Detection and Repair Program

The water conservation plan must include a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system.

E. Reservoir Systems Operations Plan

The water conservation plan must include a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin. The reservoir systems operations plan shall include optimization of water supplies as one of the significant goals of the plan.

F. Contract Requirements for Successive Customer Conservation

The water conservation plan must include a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water

conservation plan or water conservation measures using the applicable elements of Title 30 TAC Chapter 288. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

G. Enforcement Procedure and Official Adoption

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

H. Coordination with the Regional Water Planning Group(s)

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

Example statement to be included within the water conservation plan:

The service area of the _____ (name of water supplier) is located within the _____ (name of regional water planning area or areas) and _____ (name of water supplier) has provided a copy of this water conservation plan to the _____ (name of regional water planning group or groups).

I. Plan Review and Update

A wholesale water supplier shall review and update its water conservation plan, as appropriate based on an assessment of previous five-year and ten-year targets and any other new or updated information. A wholesale water supplier shall review and update the next revision of its water conservation plan no later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

J. Additional Conservation Strategies

Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of this chapter, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. Conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;
2. A program to assist agricultural customers in the development of conservation, pollution prevention and abatement plans;
3. A program for reuse and/or recycling of wastewater and/or graywater;
4. A cost-share program;
5. A technical assistance and outreach program;
6. A program for purchase and direct distribution of water conservation equipment; and
7. Any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

San Jacinto River Authority – Lake Conroe Division

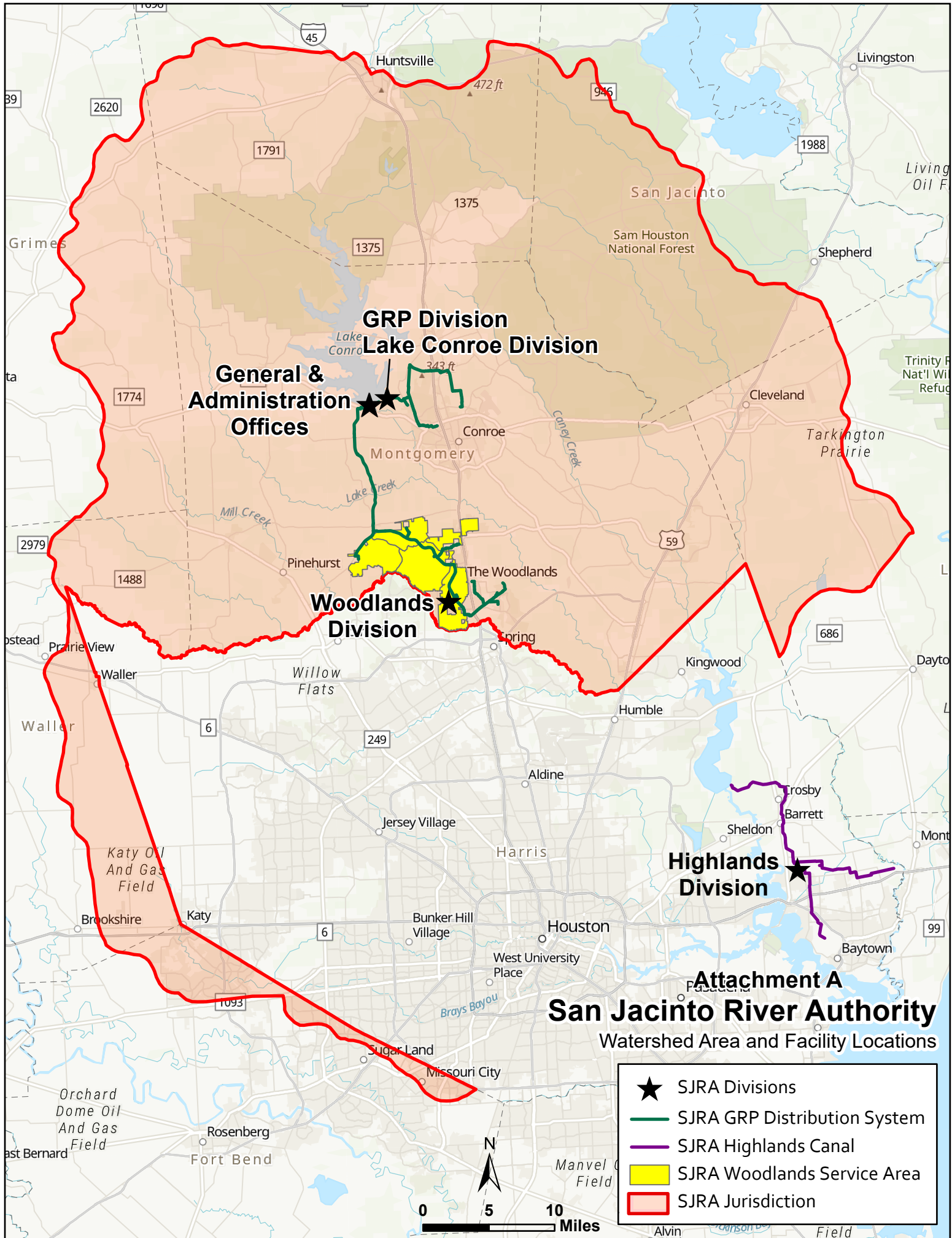
**Attachments to TCEQ Form
20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.

Attachment A

SJRA Service Area

This page intentionally left blank.

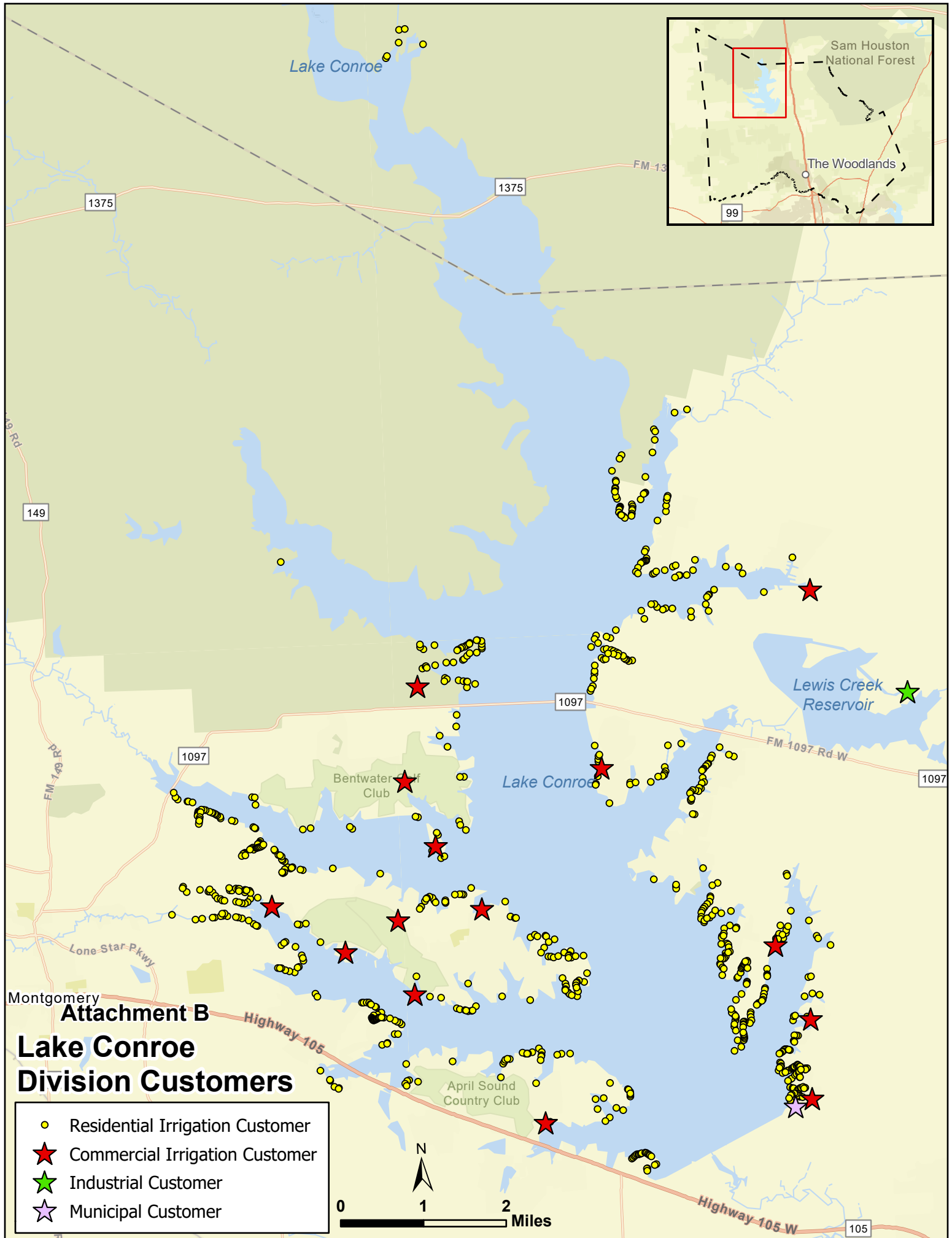


This page intentionally left blank.

Attachment B

Lake Conroe Division Customers

This page intentionally left blank.



This page intentionally left blank.

San Jacinto River Authority – Lake Conroe Division

TCEQ Form 10213: Industrial/Mining Water Conservation Plan

This page intentionally left blank.



Texas Commission on Environmental Quality

INDUSTRIAL/MINING WATER CONSERVATION PLAN

This form is provided to assist entities in conservation plan development for industrial/mining water use. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority – Lake Conroe Division
Address: P.O. Box 329 Conroe, TX 77305
Telephone Number: (936) 588-1111 Fax: (936) 588-1114
Form Completed by: Bret Raley
Title: Lake Conroe Division Manager

Signature: _____ Date: / /

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

I. BACKGROUND DATA

A. Water Use

1. Annual diversion appropriated or requested (in acre-feet): 7,841 (Contracted)
2. Maximum diversion rate (cfs): 27

B. Water Sources

1. Please indicate the maximum or average annual amounts of water currently used and anticipated to be used (in acre-feet) for industrial/mining purposes:

<i>Source</i>	<i>Water Right No.(s)</i>	<i>Current Use</i>	<i>Anticipated Use</i>
Surface Water	<u>10-4963</u>	<u>5,727</u>	<u>7,841 (contracted)</u>
Groundwater	<u> </u>	<u> </u>	<u> </u>
Purchased	<u> </u>	<u> </u>	<u> </u>
Total	<u> </u>	<u> </u>	<u> </u>

2. How was the surface water data and/or groundwater data provided above (B1) obtained?
Master meter _____; Customer meter X; Estimated _____; Other _____
3. Was purchased water raw or treated?
If both, % raw X; % treated _____ and Supplier(s): _____

C. Industrial/Mining Information

1. Major product(s) or service(s) produced by applicant: Electric Power Generation Plant
2. North American Industry Classification System (NAICS):
2211 _____

II. WATER USE AND CONSERVATION PRACTICES

A. Water Use in Industrial or Mining Processes

<i>Production Use</i>	<i>% Groundwater</i>	<i>% Surface Water</i>	<i>% Saline Water</i>	<i>% Treated Water</i>	<i>*Water Use (in acre-ft)</i>
Cooling, condensing, & refrigeration	_____	100	_____	_____	5,727
Processing, washing, transport	_____	_____	_____	_____	_____
Boiler feed	_____	_____	_____	_____	_____
Incorporated into product	_____	_____	_____	_____	_____
Other	_____	_____	_____	_____	_____

<i>Facility Use</i>	<i>% Groundwater</i>	<i>% Surface Water</i>	<i>% Saline Water</i>	<i>% Treated Water</i>	<i>*Water Use (in acre-ft)</i>
Cooling tower(s)	0	100	0	0	
Pond(s)	0	100	0	0	
Once through	0	100	0	0	
Sanitary & drinking water	100	0	0	0	
Irrigation & dust control					

**Data regarding water use for specific industrial processes is not available. Results in table reflect the information available to SJRA at this time.*

1. Was fresh water recirculated at this facility? ☒ Yes ☐ No

2. Provide a detailed description of how the water will be utilized in the industrial or mining process.

Industrial power generator. Stores water in permanent reservoir for use in power generation process and all captured water is returned to reservoir. Water level in reservoir is maintained with surface water that is purchased from SJRA. It is apparent that a significant amount of water is recirculated through this process each day and less than 1,000 af/yr of groundwater used at the facility.

3. Estimate the quantity of water consumed in production and mining processes and is therefore unavailable for reuse, discharge or other means of disposal.

7,841 acre-feet (contracted)

4. Monthly water demand for previous year (in acre-feet).

<i>Month</i>	<i>Diversion Amount</i>	<i>% of Water Returned (If Any)</i>	<i>Monthly Demand</i>
January	169	0	666
February	533	0	602
March	322	0	666
April	222	0	644
May	201	0	666
June	445	0	644
July	986	0	666
August	635	0	666
September	698	0	644

October	552	0	666
November	224	0	644
December	740	0	666
Totals	5,727	0	7,841 (Contracted)

5. Projected monthly water demand for next year (in acre-feet).

<i>Month</i>	<i>Diversion Amount</i>	<i>% of Water Returned</i>	<i>Monthly Demand</i>
January	169	0	666
February	533	0	602
March	322	0	666
April	222	0	644
May	201	0	666
June	445	0	644
July	986	0	666
August	635	0	666
September	698	0	644
October	552	0	666
November	224	0	644
December	740	0	666
Totals	5,727	0	7,841 (Contracted)

B. Specific and Quantified Conservation Goal

Water conservation goals for the industrial and mining sector are generally established either for (1) the amount of water recycled, (2) the amount of water reused, or (3) the amount of water not lost or consumed, and therefore is available for return flow.

1. Water conservation goal (water use efficiency measure)

Type of goal(s):

N/A % reused water

N/A % of water not consumed and therefore returned

_____ Other (specify)

2. Provide specific and quantified five-year and ten-year targets for water savings and the basis for development of such goals for this water use/facility.

The SJRA Lake Conroe Division is to achieve a reduction in water demand, for municipal, surfacewater, customers only of 2.5% over a 5-year period and 5% over a 10-year period. Target goals are 70.4 gpcd by the end of 2024 and 68.6 gpcd by the end of 2029.

3. Describe the methods and/or device(s) within an accuracy of plus or minus 5% used to measure and account for the amount of water diverted from the supply source.
Metered intake system. Calibrated at a minimum of once/year, to meet a threshold of 2% or less accuracy.
4. Provide a description of the leak-detection and repair, and water-loss accounting measures used.
Water is taken directly from Lake Conroe.
5. Equipment and/or process modifications used to improve water use efficiency.
SJRA is present for all calibrations and verifies the results of the customer's provided data with our own equipment.
6. Other water conservation techniques used.
Contractually all industrial customers have a take or pay contract, however, SJRA always encourages water conservation through education of water conservation, water rate increases, and communicating with the customer throughout the year to keep track of their usage.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

This page intentionally left blank.

San Jacinto River Authority – Lake Conroe Division

**TCEQ Form 10244: System Inventory and Water Conservation Plan for
Agricultural Water Suppliers Providing Water to More than One User**

This page intentionally left blank.



Texas Commission on Environmental Quality

SYSTEM INVENTORY AND WATER CONSERVATION PLAN FOR AGRICULTURAL WATER SUPPLIERS PROVIDING WATER TO MORE THAN ONE USER

This form is provided to assist entities in conservation plan development for agricultural water suppliers providing water to more than one user. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority – Lake Conroe Division
Address: P.O. Box 329 Conroe, TX 77305
Telephone Number: (936) -5881111 Fax: (936) -5881114
Form Completed by: Bret Raley
Title: Lake Conroe Division Manager

Signature: _____ Date: / /

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

I. BACKGROUND DATA

A. Structural Facilities

1. Description of service area:

Irrigation use for golf courses and residential properties around Lake Conroe.

2. Total miles of main canals and pipelines: **0**
3. Total miles of lateral canals and pipelines: **0**
4. Description of canal construction:
- a. Miles of unlined canals N/A
 - b. Miles of lined canals N/A
 - c. Miles of enclosed pipelines N/A
 - d. Other _____

5. Description of canal conditions and recent or planned improvements:
N/A
6. Reservoir capacity, if applicable: **412,200 ac/ft (customers divert directly from Lake Conroe)**
7. Description of pumps and pumping stations:
The Lake Conroe Division doesn't operate any pumps or pumping stations to serve its customers.
8. Description of meters and/or measuring devices:
Equipment installed/maintained by customer, as required by contract, at the point of delivery (Lake Conroe intake locations) or at such location at customer's plant as to allow for accurate metering of the quantity of water delivered at point of delivery. For residential irrigation use the division estimates usage using a method developed by Texas A&M Water Management Department which generates a water budget using a crop specific coefficient for standard turf and incorporates irrigatable area and environmental climate data.
9. Description of customer gates and measuring devices:
See item No. 8 above.
10. Description of any other structural facilities not covered above:
N/A - no other facilities.

B. Management Practices

1. Total water available to district (in acre-feet/year): **33,333**
 - a. Maximum water rights allocation to district: 33,333 ac-ft/yr
 - b. Water rights number(s): 10-4963
 - c. Other water contracted to be delivered by district: 66,667 ac-ft/yr contracted reservation with the City of Houston for GRP Division.

2. Average annual water diverted by district (in acre-feet/year): **25,858**
3. Average annual water delivered to customers (in acre-feet/year): **25,858**
4. Delivery efficiency (percentage): **100**

5. Historical diversion and deliveries for the previous three years (**in acre-feet/year**):

<i>Year</i>	<i>Total Water Diverted Annually</i>	<i>Irrigation Water Delivered Annually</i>	<i>Municipal Water Delivered Annually</i>	<i>Total Water Delivered Annually</i>	<i>Estimated Delivery Efficiency (%)</i>
2016	28,876	873	19,990	28,876	100
2017	27,374	1,020	19,469	27,374	100
2018	21,325	959	14,639	21,325	100
Average	25,858	951	18,033	25,858	100

6. Practices and/or devices used to account for water deliveries:
Customer water meters.
7. Water pricing policy:
\$0.465 per 1,000 gallons as of January 1, 2019 for irrigation customers. Short-term contract rates may be up to four times the raw water rate.
8. Operating rules and policies which encourage water conservation:
Water pricing policy.

9. Provide specific, quantified five-year and ten-year targets for water savings in the spaces below, including maximum allowable losses for the storage and distribution system. Water savings may be represented in acre-feet or in water use efficiency. If necessary, please provide an explanation in the space provided.

Goal of reduction in demand is 2.5% over a 5-year period, and 5% over a 10-year period across all SJRA divisions. Maintain efficient delivery system that controls conveyance losses to a practical level. Encourage best management practices that reduce the unnecessary loss of water. Continue methods of public information, education, and awareness.

Quantified five-year and ten-year targets for water savings:

- a. 5-year goal:
Savings in acre-feet or system efficiency as a percentage 2.5 %
- b. 10-year goal:
Savings in acre-feet or system efficiency as a percentage 5 %

(Examples of Typical Efficiencies for Various Types of Irrigation Systems –
Surface: 50-80%; Sprinkler: 70-85%; LEPA: 80-90%; Micro-irrigation: 85-95%)

10. Describe the practice(s) and/or device(s) which will be utilized to measure and account for the amount of water diverted from the source(s) of supply:
Customer's meter.

11. Describe the monitoring and record management program for water deliveries, sales, and losses:
Customer's self report and records are kept of customer's monthly water diversions.

12. Describe any methods that will be used for water loss control, leak detection, and repair:
Note - Lake Conroe division customers divert directly from Lake Conroe.
Maintain efficient delivery system that controls conveyance losses to a practical level. Perform other routine maintenance, such as clearance of vegetation, to minimize conveyance losses.

13. Describe any program for customer assistance in the development of on-farm water conservation and pollution prevention measures:
N/A - Customers are non-farm.

14. Describe any other water conservation practice, method, or technique which the supplier shows to be appropriate for achieving conservation (if applicable):

Encourage best management practices that reduce the unnecessary loss of water, through contracts with irrigation users. SJRA includes language that requires water conservation techniques such as laser leveling, irrigation system design and other field delivery methods are encouraged.

C. User profile

1. Total number of acres or square miles in service area: **18 hole golf courses/residential properties surrounding the lake.**
2. Average number of acres irrigated annually: **Varies**
3. Projected number of acres to be irrigated in 10 years: **Varies**
4. Number of active irrigation customers: **764 (residential/commercial)**
5. Total irrigation water delivered annually (in acre-feet): **959**
6. Types of crops grown by customers:
N/A - golf courses and lawns.
7. Types of irrigation systems used by customers:
Mechanical pumps
8. Types of drainage systems used by customers:
Gravity/sheet flow
9. Further description of irrigation customers:
18 hole golf courses and residential properties

10. List of municipal customers and number of acre-feet allocated annually:
SJRA GRP Division/18,033 ac-ft (3 year average)
11. List of industrial and other large customers and number of acre-feet allocated annually:
Entergy/6,875 ac-ft (3 year average)

D. Additional Requirements

1. A requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in 30 TAC chapter 288; if the customer intends to resell the water, then the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with applicable provisions of this chapter. Provide a detailed description of how the water will be utilized in the production process including how the water is diverted and transported from the supply source(s).
2. Evidence of official adoption of the water conservation plan and goals, by ordinance, rule, resolution, or tariff, indicating that the plan reflects official policy of the supplier.
3. Documentation of coordination with the Regional Water Planning Groups in order to insure consistency with the appropriate approved regional water plans.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

Appendix B

Resolutions Passed by SJRA Transmittal Letter to Region H RWPG

This page intentionally left blank.

Appendix C

Lake Conroe Division TCEQ Form 20645 - Water Conservation Implementation Report Form and Summary of Updates/Revisions to Water Conservation Plan

This page intentionally left blank.



WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

- 1. Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
- 2. Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019**. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: _____
2. Water Right Permit or Certificate Nos. _____

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

- _____ Municipal Water Use by Public Water Supplier
_____ Wholesale Public Water Supplier
_____ Industrial Use
_____ Mining Use
_____ Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

- _____ Individually-Operated Irrigation System
_____ Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes _____ No _____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.
- Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288.
http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
 - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserves.html

*Call 512-239-4691 or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

Yes_____ No_____

If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?

Yes_____ No_____

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

9. Form Completed by (Point of Contact): _____
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: _____

Contact Address: _____

Contact Phone Number: _____ Contact Email Address: _____

Signature: _____

Date: _____

Drought Contingency Plan

for

**San Jacinto River Authority
Lake Conroe Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-1
Section 3. Drought Contingency Plan	3-1
3.1 Drought Contingency Plan – Lake Conroe Division.....	3-1
3.2 Trigger Conditions – Initiation and Termination	3-1
3.3 Notification of Initiation and Termination	3-3
3.4 Drought Response Stages	3-4
3.5 Pro Rata Water Allocation.....	3-6
3.6 Compliance Metrics.....	3-6
3.7 Public Involvement.....	3-6
3.8 Procedures for Granting Variances.....	3-7
3.9 Implementation and Enforcement	3-7
3.10 Coordination with Regional Water Planning Group	3-8
3.11 Updating of the Plan	3-8

Tables

Table 2-1. 2018 Surface Water Diversion.....	2-3
--	-----

Figures

Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. Lake Conroe Division Customers.....	2-2

Appendices

Appendix A – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG	
--	--

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, and Liberty Counties (Figure 1-1). The SJRA also serves customers in the Houston area and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management Divisions. The following is provided as the Drought Contingency Plan (including utility description, service area description, and drought measures) for the Lake Conroe System Division (the Division). The Division’s Water Conservation Plan is provided under separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

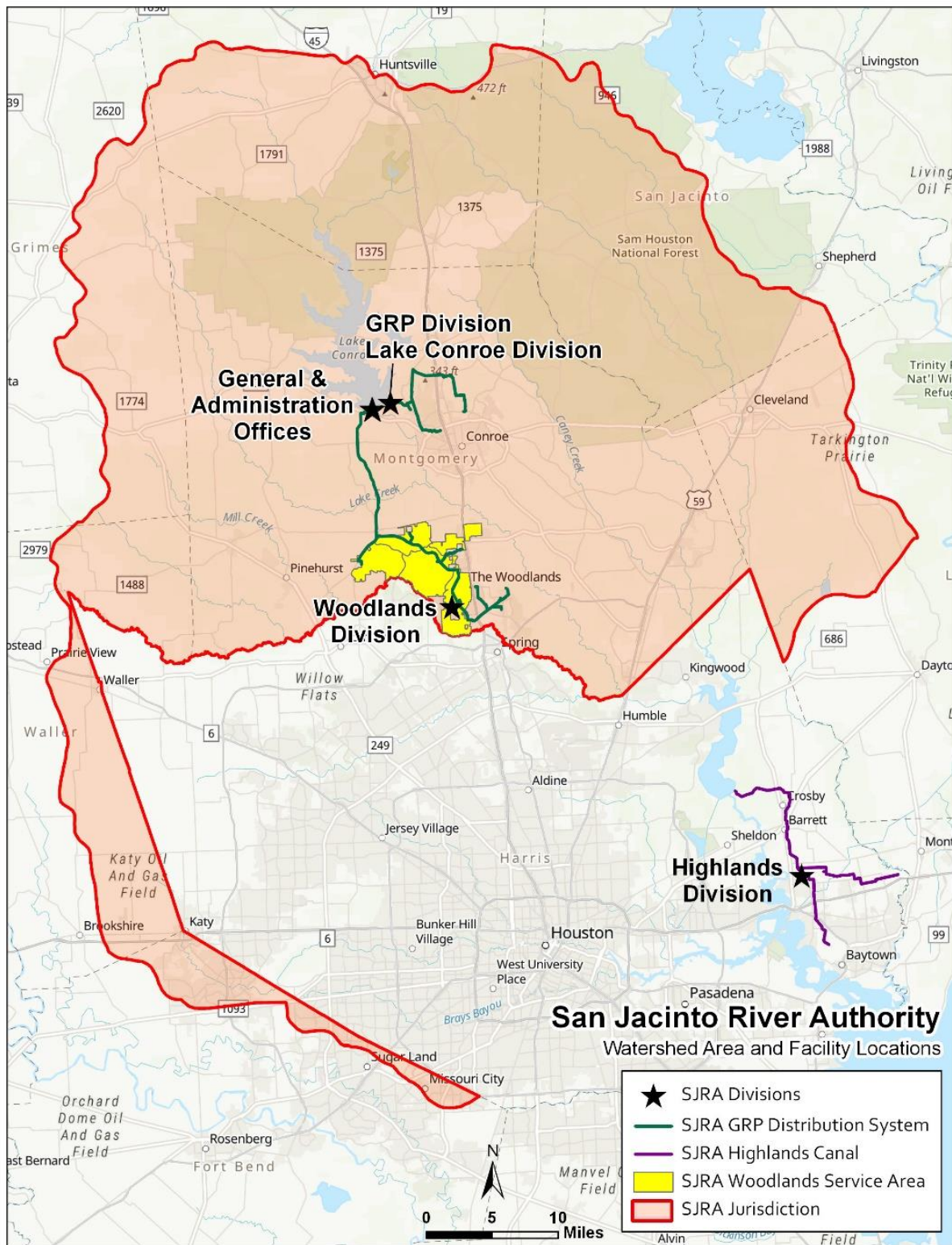


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/year) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. Lake Houston is owned by the City of Houston and the water rights for yield from the reservoir are shared by the City of Houston and SJRA. SJRA also holds an option contract for the purchase of the Houston portion of water in Lake Conroe.

The Lake Conroe water right is used by SJRA to meet the needs of its customers, some of whom are in close proximity to the Lake. In addition to raw water customers in the immediate vicinity of Lake Conroe, the reservoir also serves as the source of water for the participating members of the GRP Division. The GRP began delivering water to its customers in June 2015. The SJRA's water right for Lake Conroe (33,333 ac-ft/yr) is permitted for multiple uses.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. A map of Lake Conroe, showing the location of the surrounding golf courses and power generating facility served by SJRA, is provided below (Figure 2-1). These customers take their water directly from Lake Conroe. In 2018, there were approximately 21,325 ac-ft diverted from Lake Conroe (Table 2-1). The Division does not own or operate wastewater infrastructure.

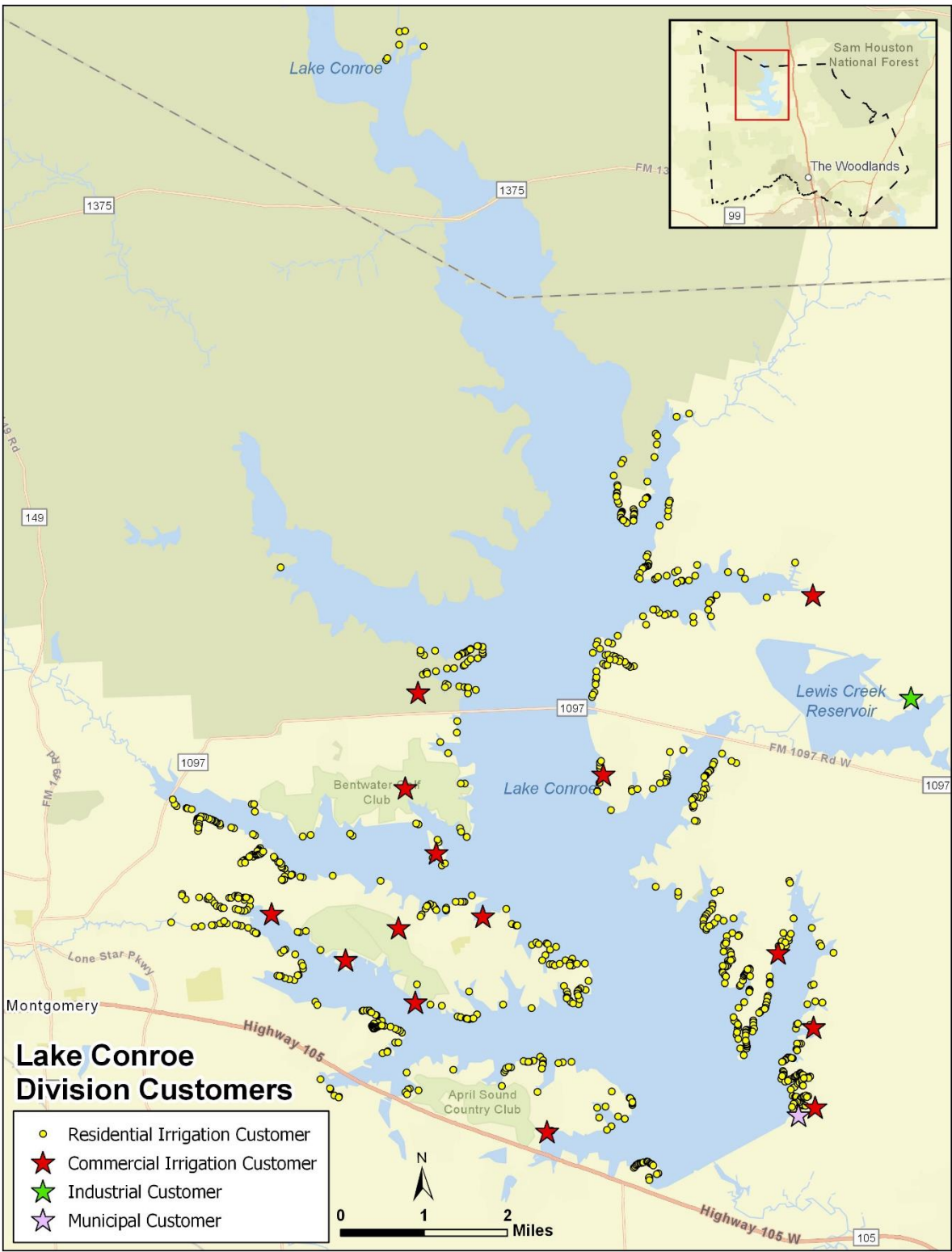


Figure 2-1. Lake Conroe Division Customers

Table 2-1. 2018 Surface Water Diversion

Municipal	14,639 ac-ft
Industrial	5,727 ac-ft
Irrigation	959 ac-ft
Total	21,325 ac-ft

The Division serves a power generating facility that uses surface water primarily for cooling purposes. In 2018, there were 5,727 ac-ft diverted from Lake Conroe to provide wholesale water to the power generating facility.

The SJRA maintains 16 small commercial irrigation contracts, which allow nearby golf courses, resorts, and lakeside communities to pump water directly from Lake Conroe for landscape irrigation purposes. The acreage irrigated by these users varies but is estimated at 1,000 total acres. In 2018, there was 495 ac-ft diverted for commercial irrigation uses. There are also a small number of private individual property owners who pump raw water directly from Lake Conroe for landscape irrigation of their lakeside property through use of short-term contracts. The Division estimates usage for these customers by applying an approach developed by Texas A&M's Water Management Department which generates water budgets using a crop-specific coefficient for standard turf and incorporates irrigable area and environmental climate data. In 2018, the Division contracted with 751 households and delivered an estimated 464 ac-ft of water for private irrigation use.

Use of Lake Conroe as a municipal supply for the GRP Division began in June 2015. Most of the GRP Participant's population continues to be served by groundwater, but some of the larger users receive surface water. Therefore, part of the GRP Participant's population is served by a combination of treated surface water and treated groundwater, while other GRP Participants use groundwater exclusively. The GRP Participant's population currently served by SJRA from Lake Conroe as of 2018 was 246,626.

A full description of the Lake Conroe Division's raw water customer information can be found under separate cover in the Lake Conroe Division's Water Conservation Plan.

This page intentionally left blank.

Section 3. Drought Contingency Plan

Drought, or a number of other uncontrollable circumstances, can disrupt the normal availability of water supply. Even though an area may have an adequate water supply, the supply can become contaminated, or a disaster can disrupt or destroy the supply. During drought periods, consumer demand is often significantly higher than normal. The failure or inadequacy of raw water delivery system also can present a utility with an emergency demand management situation.

It is important to distinguish between drought contingency planning and water conservation planning. As detailed in the Division's Water Conservation Plan, water conservation involves implementing permanent water use efficiencies or reuse practices. Drought contingency planning establishes temporary methods or techniques to be used only if drought and/or emergency conditions persist.

The SJRA has developed a drought contingency plan with regard to the wholesale supply of water from Lake Conroe to its customers.

3.1 Drought Contingency Plan – Lake Conroe Division

SJRA provides raw surface water from Lake Conroe to its raw water customers in the vicinity of the lake and supplies treated water to the GRP Division. In order to conserve the available water supply and/or protect the integrity of water supply facilities during water supply shortages or other supply emergency conditions that can have adverse effects on its customers, SJRA has developed the following drought contingency plan elements.

3.2 Trigger Conditions – Initiation and Termination

As discussed in Section 2 of this drought contingency plan, the Lake Conroe water right is used by SJRA to meet the needs of its customers, some of whom are in close proximity to the Lake. In addition to these customers, the reservoir also serves as the source of water for the participating members of the GRP Division.

The General Manager of the SJRA or a designated representative will monitor water supply and/or demand conditions on a monthly basis or more frequently as conditions warrant and will determine when conditions warrant initiation or termination of each drought stage. Because SJRA utilizes supplies from Lake Conroe, initiation of drought stages for the Division is based on the water surface elevation in Lake Conroe³. The trigger points listed below have been selected through a hydrologic modeling process to work conjunctively with the measures identified in Section 3.4 to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and

³ Vertical datum NGVD 1929

economic standpoint across customer classes. If deemed appropriate by the General Manager or a designated representative, termination of a drought stage is followed by initiation of a lower drought stage. An Emergency Water Supply Condition may be initiated or terminated without subsequent enactment of other stages. The various drought contingency stages may be initiated or terminated at the discretion of the General Manager or a designated representative. Otherwise, initiation and termination of the stages shall be as follows:

Stage 1: Voluntary Reduction

Initiation:

- Lake Conroe is below an elevation of 198 feet; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary.

Termination:

- Lake Conroe is above an elevation of 198 feet for seven consecutive days; or
- Termination of Stage 1 due to indications from monitoring of water demands/weather forecasts.

Stage 2: Moderate Conditions

Initiation:

- Lake Conroe is below an elevation of 196 feet; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary.

Termination:

- Lake Conroe is above an elevation of 196 feet for seven consecutive days; or
- Termination of Stage 2 due to indications from monitoring of water demands/weather forecasts.

Stage 3: Advanced Conditions

Initiation:

- Lake Conroe is below an elevation of 193 feet; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or

- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary.

Termination:

- Lake Conroe is above an elevation of 193 feet for seven consecutive days; or
- Termination of Stage 3 due to indications from monitoring of water demands/weather forecasts.

Stage 4: Severe Conditions

Initiation:

- Lake Conroe is below an elevation of 190 feet; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary.

Termination:

- Lake Conroe is above an elevation of 190 feet for seven consecutive days; or
- Termination of Stage 4 due to indications from monitoring of water demands/weather forecasts.

Emergency Water Supply Condition

Initiation:

- Anticipation of a drought condition beyond historical level of severity; or
- System failure in the Lake Conroe system; or
- Contamination of the water supply has occurred; or
- Enactment of Emergency Water Supply Condition initiation due to other factors at the discretion of the General Manager or a designated representative.

Termination:

- Restoration of the Lake Conroe system to operational status; or
- Containment or elimination of water supply contamination
- Termination of Emergency Water Supply Condition due to due to other factors at the discretion of the General Manager or a designated representative.

Each stage may also be initiated or terminated at the discretion of the General Manager or a designated representative.

3.3 Notification of Initiation and Termination

The General Manager of the SJRA or a designated representative will notify its wholesale customer representatives in writing by electronic mail when a trigger condition has been met. When the trigger

conditions that initiated the drought measures have subsided, the General Manager or a designated representative will inform the wholesale customer representatives in writing by electronic mail. Additionally, TCEQ will be notified within five business days of initiation or termination of drought stages beyond Stage 1. Notification of drought stage initiation or termination will also be posted on the SJRA website.

3.4 Drought Response Stages

The General Manager or a designated representative will monitor water supply and demand conditions and, in accordance with the triggering criteria set forth in Section 3.2, will determine that a water shortage exists or when an emergency condition exists. The reductions listed below have been selected through a hydrologic modeling process to work conjunctively with the trigger points identified in Section 3.2 to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. The following actions will be taken when a drought stage or Emergency Water Supply Condition is initiated:

Stage 1: Voluntary Reduction

Target: Achieve a voluntary 5% reduction in use.

- Contact municipal wholesale, industrial, and commercial landscape irrigation raw water customers of Lake Conroe to discuss situation.
- Request that municipal wholesale, industrial, and commercial landscape irrigation raw water customers of Lake Conroe initiate voluntary measures to reduce water use.
- Request that private irrigation raw water customers of Lake Conroe voluntarily reduce water use.

Stage 2: Moderate Conditions

Target: Achieve a 5 % reduction in non-industrial use (October through March)

Achieve a 10% reduction in non-industrial use (April through September)

- Contact municipal wholesale, industrial, and commercial landscape irrigation raw water customers of Lake Conroe to discuss situation.
- Notify private landscape irrigation raw water customers of Lake Conroe that no further private irrigation contracts will be issued until Stage 2 is terminated.
- Require that municipal wholesale and commercial irrigation raw water customers of Lake Conroe initiate mandatory measures to reduce monthly water use by a seasonal 5% or 10%.

Stage 3: Advanced Conditions

Target: Achieve a 10 % reduction in non-industrial use (October through March)

Achieve a 20% reduction in non-industrial use (April through September)

Achieve a 1% reduction in industrial use

- Contact municipal wholesale, industrial, and commercial landscape irrigation raw water customers of Lake Conroe to discuss situation and continue to do so on a weekly basis until termination.
- Notify commercial landscape irrigation raw water customers of Lake Conroe that no further commercial landscape irrigation contracts will be issued until Stage 3 is terminated.
- Require that municipal wholesale and commercial landscape irrigation raw water customers of Lake Conroe initiate mandatory measures to reduce monthly water use by a seasonal 10% or 20%.
- Require that industrial raw water customers of Lake Conroe initiate mandatory measures to reduce monthly water use by 1%.

Stage 4: Severe Conditions

Target: Achieve a 15 % reduction in non-industrial use (October through March)

Achieve a 30% reduction in non-industrial use (April through September)

Achieve a 5% reduction in industrial use

- Contact municipal wholesale, industrial, and commercial landscape irrigation raw water customers of Lake Conroe to discuss situation and continue to do so on a weekly basis until termination.
- Require that municipal wholesale and commercial landscape irrigation raw water customers of Lake Conroe initiate mandatory measures to reduce monthly water use by a seasonal 15% or 30%.
- Require that industrial raw water customers of Lake Conroe initiate mandatory measures to reduce monthly water use by 5%.

Emergency Water Supply Condition

Target: Subject to scope and nature of emergency

- If appropriate, notify city, county, and/or state emergency response officials for assistance.
- Assess the severity of the problem and identify actions needed and time required to solve the problem.
- Notify TCEQ within five days of initiation or termination of emergency conditions.

- Inform raw water customers of Lake Conroe and discuss possible actions, including but not limited to initiation of actions available under Stages 1 through 4.
- If deemed necessary by the General Manager or a designated representative, impose mandatory water rationing per Texas Water Code (TWC) §11.039 to reduce water demand to a level determined by the General Manager or a designated representative and notify TCEQ.
- Undertake necessary actions, such as repair or cleanup, to resolve issue.

3.5 Pro Rata Water Allocation

If deemed necessary by the General Manager or a designated representative due to a drought or Emergency Water Supply condition, SJRA will initiate allocation of water supplies on a pro rata basis in accordance with TWC §11.039 and the force majeure clause and other relevant terms of the contract in place with each raw water customer. TWC §11.039 directs that if a shortage occurs due to drought, accident, or other cause in a water supply covered by a TWDB-approved Water Conservation Plan, the entity controlling the supply shall divide the water to be distributed pro rata among all customers.

3.6 Compliance Metrics

The target of Stages 1 through 4 (and in some circumstances an Emergency Water Supply Condition) is to reduce water use by a certain percentage. Because water demands for SJRA customers change over time and may be impacted by weather conditions or application of drought response measures, a standard approach to defining a customer's demand must be applied. For the purposes of this drought contingency plan, each customer's demand shall be determined as that customer's water use for the preceding two years, averaged for each month. These demand values will be provided to customers at the beginning of each year. Customer requests for variances to the provided demand values will be considered at an administrative level through an appeal process as described in Section 3.8.

3.7 Public Involvement

Public involvement measures associated with this drought contingency plan shall include the following:

- Making proposed documents available to the public prior to adoption.
- Posting of notice of an SJRA Board of Directors meeting to include consideration of the plan for adoption.
- Consideration and adoption of the plan by the SJRA Board of Directors at a meeting to be open to the public.

Upon adoption of the plan, the completed drought contingency plan with relevant documentation reflecting adoption will be posted on the SJRA website.

3.8 Procedures for Granting Variances

The General Manager or a designated representative may grant a temporary variance to mandatory measures to reduce water use, to calculated customer demand as discussed in Section 3.6, or to pro rata water allocation policies if one or more of the following conditions are met:

- Failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety.
- Compliance with this plan cannot be technically accomplished during the duration of the water supply shortage or other conditions for which the plan is in effect.
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

The decision to grant or deny such a variance is at the discretion of the General Manager or a designated representative. Persons or entities requesting an exemption from the provisions of this plan shall file a written petition for variance with the General Manager or a designated representative within five business days after the mandatory measures to reduce water use or the pro rata allocation has been invoked. Once received, the General Manager or a designated representative will have five business days to respond, in writing, to a petition for variance.

3.9 Implementation and Enforcement

The SJRA General Manager or a designated representative will be responsible for implementation and enforcement of the drought contingency plan. During any period when pro rata allocation of available water supplies is in effect, the General Manager or a designated representative has the authority to discontinue service to any customer who fails to comply with the conditions of the allocation, declaring the customer in breach of contract. Prior to discontinuance of service, the General Manager or a designated representative will issue a warning to the wholesale customer, and work with the customer to ensure that they are complying with the restrictions. In the event the customer fails to voluntarily comply, a court injunction will be obtained for violation of the Texas Water Code and for breach of contract.

Once notified of initiation of a drought stage with mandatory demand reduction, SJRA's Lake Conroe raw water customers are required to reduce their water use in accordance with the appropriate stage as described above. In order to promote compliance with the drought contingency plan, the General Manager or a designated representative may enact a special temporary drought contingency rate structure with certain non-promotional rates for each drought stage. Customers failing to comply with mandatory demand

reductions may also be subject to disincentive fees and be required to reimburse SJRA for any costs, fines, or penalties incurred by SJRA as a result of the customer's noncompliance. Enforcement actions, including penalties, will not be put into place until 30 calendar days after a drought stage is initiated.

3.10 Coordination with Regional Water Planning Group

SJRA is located within the Region H Regional Water Planning Area. In accordance with TCEQ rules, SJRA has provided a copy of the Lake Conroe Division drought contingency plan to the Region H Regional Water Planning Group. A copy of the transmittal letter is included in Appendix A.

3.11 Updating of the Plan

Every five years, SJRA will examine the Division operations to determine if trigger conditions need to be re-established. Updates may also be considered earlier than each five years in the case of any changes to operations that would warrant a re-examination of the trigger conditions. Any updates will result in a revised drought contingency plan.

The drought contingency plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix A.

Appendix A
Resolutions Passed by SJRA
Transmittal Letter to Region H RWPG

This page intentionally left blank.

Water Conservation Plan

for

**San Jacinto River Authority
GRP Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Water Conservation Plan	1
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-2
Section 3. Water Conservation Plan	3-1
3.1 GRP Division 5- and 10-year Water Conservation Target Goals	3-1
3.2 Water Conservation Methods	3-2
3.2.1 Metering and Record Management	3-2
3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses	3-2
3.2.3 Recycling and Reuse	3-3
3.2.4 Rate Structure	3-3
3.2.5 Contractual Requirements for Customer Water Conservation Plans	3-3
3.2.6 Customer Conservation Plan Guidance.....	3-4
3.2.7 Customer Reporting Requirements	3-5
3.2.8 Public Information and Education.....	3-5
3.2.9 Encouraging Customer Conservation Practices	3-6
3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan	3-6

Tables

Table 2-1. 2018 GRP Participant Water Production	2-3
--	-----

Figures

Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. GRP Division Customers.....	2-2

Appendices

Appendix A – GRP Participant Summary
Appendix B – Water Utility Profiles
Appendix C – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG
Appendix D – TCEQ Form 20645

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA watershed includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend, and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Water Conservation Plan (including utility description, service area description, and customer data) for the GRP Division (the Division). The Division’s Drought Contingency Plan is provided under a separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

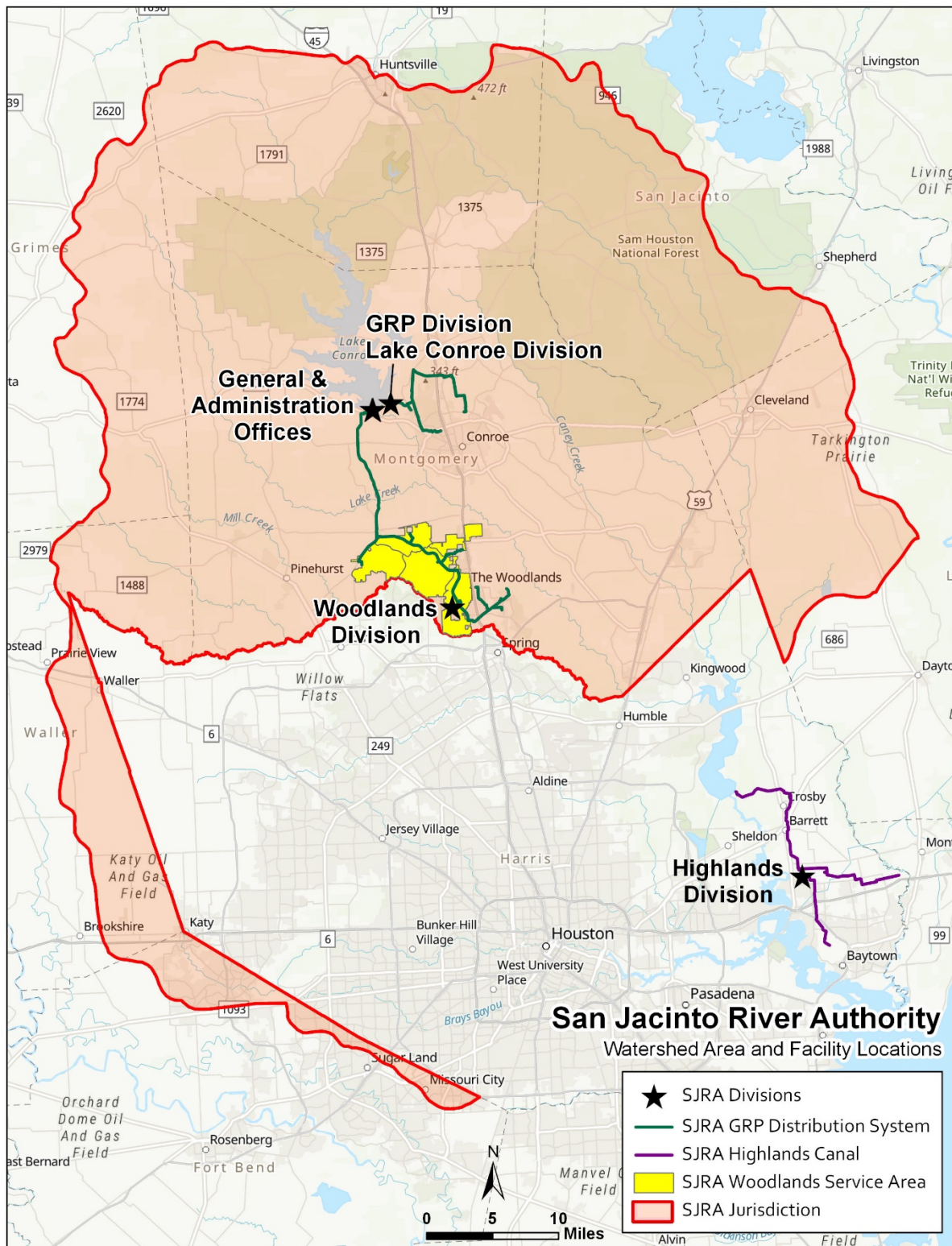


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

The Division's goal is to provide treated surface water to its GRP Participants in such a way that allows the GRP Participants to meet the groundwater reduction requirements mandated by Phase II (B) of the Lone Star Groundwater Conservation District (LSGCD) District Regulatory Plan (DRP). Through their research and permitting efforts, LSGCD determined that groundwater production in Montgomery County exceeded the sustainable recharge rate and in response established certain requirements to reduce groundwater use. Phase I of the LSGCD DRP, which was adopted in 2006, established a target for sustainable production. DRP Phase II (A) was adopted in 2008 and required entities or groups of entities permitted to produce 10 million gallons per year of groundwater (Large Volume Groundwater Users, or LVGUs) to assess future water needs and potential alternative supplies. Phase II (B) of the DRP required that all LVGUs either individually or in conjunction with others reduce their groundwater production to not more than 70% of their year 2009 permitted production (Total Qualifying Demand) no later than January 2016.

In order to achieve this goal, the Division treats and distributes water to over-convert certain selected GRP Participants to surface water in order to achieve the overall target reduction for the GRP service area while other GRP Participants continue to utilize groundwater to meet the entirety of their water needs. This approach ensures the most cost-effective solution to the problem of groundwater reduction. Infrastructure required to serve selected GRP Participants, including a surface water treatment plant and distribution pipeline system, has been developed. The Division began to actively provide surface water on a wholesale basis in September 2015 in order to meet LSGCD requirements. Although not all GRP Participants receive surface water from the Division, this water conservation plan will be applied equally to all GRP Participants.

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft./yr.) and the City of Houston owns two-thirds (66,667 ac-ft./yr.) of the total 100,000 ac-ft./yr. of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin.

SJRA's portion of the Lake Conroe water right plus a long-term water supply contract with the City of Houston for its water in Lake Conroe will be used by the Division to meet the needs of its GRP Participants. The SJRA's water right for Lake Conroe (33,333 ac-ft./yr.) is permitted for multiple uses. The Division serves municipal customers by supplying wholesale surface water.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. However, the GRP Participants are located in Montgomery County (approximately 1,077 square miles). A map of the Division, showing the location of the Participants, is provided below (Figure 2-1). Prior to the LSGCD conversion deadline of January 1, 2016, the Division began to supply select GRP Participants with water from Lake Conroe, with additional GRP Participants served with Lake Conroe supplies for subsequent conversion phases of implementation. Other GRP Participants will continue to utilize their current groundwater sources. Some GRP Participants may potentially also utilize other alternative water sources (Catahoula Formation groundwater, reuse, etc.) in conjunction with existing groundwater supplies or treated surface water. The Division does not own or operate wastewater infrastructure.

Prior to the surface water conversion, SJRA did not actively provide treated surface water to GRP Participants. Table 2-1 summarizes GRP Participant water use by source for 2018. It is anticipated that total GRP Participant water demand was 53.51 MGD, of which 12.74 MGD was met by SJRA treated surface water.

The Division's service area is distributed across an extensive portion of Montgomery County, encompassing a large number of the communities south and east of Lake Conroe. The Division's infrastructure reaches GRP Participants through a phased development process, with the first phase of water distribution pipelines installed and operational prior to the LSGCD conversion deadline of January 1, 2016. The first phase provides treated Lake Conroe water supplies to the City of Conroe, The Woodlands, and several adjacent entities. Additional GRP Participants will be served in future phases by expansion of the transmission system. As of 2018, the Division included 151 GRP Participants. The largest Participants are The Woodlands and the City of Conroe.

The Woodlands is a master-planned community located in southern Montgomery County, Texas on IH-45 just north of the Harris County line. The Woodlands is made up of eleven individual Municipal Utility Districts (MUDs) ("The Woodlands Districts"), ten of which are operated and managed through The Woodlands Joint Powers Agency (WJPA), along with Harris-Montgomery County MUD No. 386 which is not part of the WJPA. The WJPA provides retail water and wastewater services to The Woodlands community. The Woodlands Districts purchases wholesale groundwater and wastewater treatment services from SJRA through the SJRA Woodlands Division. While The Woodlands started receiving treated surface water from the GRP Division by the LSGCD conversion deadline of 2016, The Woodlands MUDs have continued to be wholesale groundwater customers of the SJRA Woodlands Division.

The City of Conroe is the county Seat of Montgomery County and is located southeast of Lake

Conroe near the intersection of IH-45 and Hwy 105. Conroe has grown rapidly in recent years, increasing in population from 56,207 in Year 2010 to an estimated 72,901 in 2018. Other GRP Participants include the cities of Cut and Shoot, Magnolia, Oak Ridge North, Splendora, Willis, and Woodbranch, as well as numerous MUDs, water utilities, and communities.

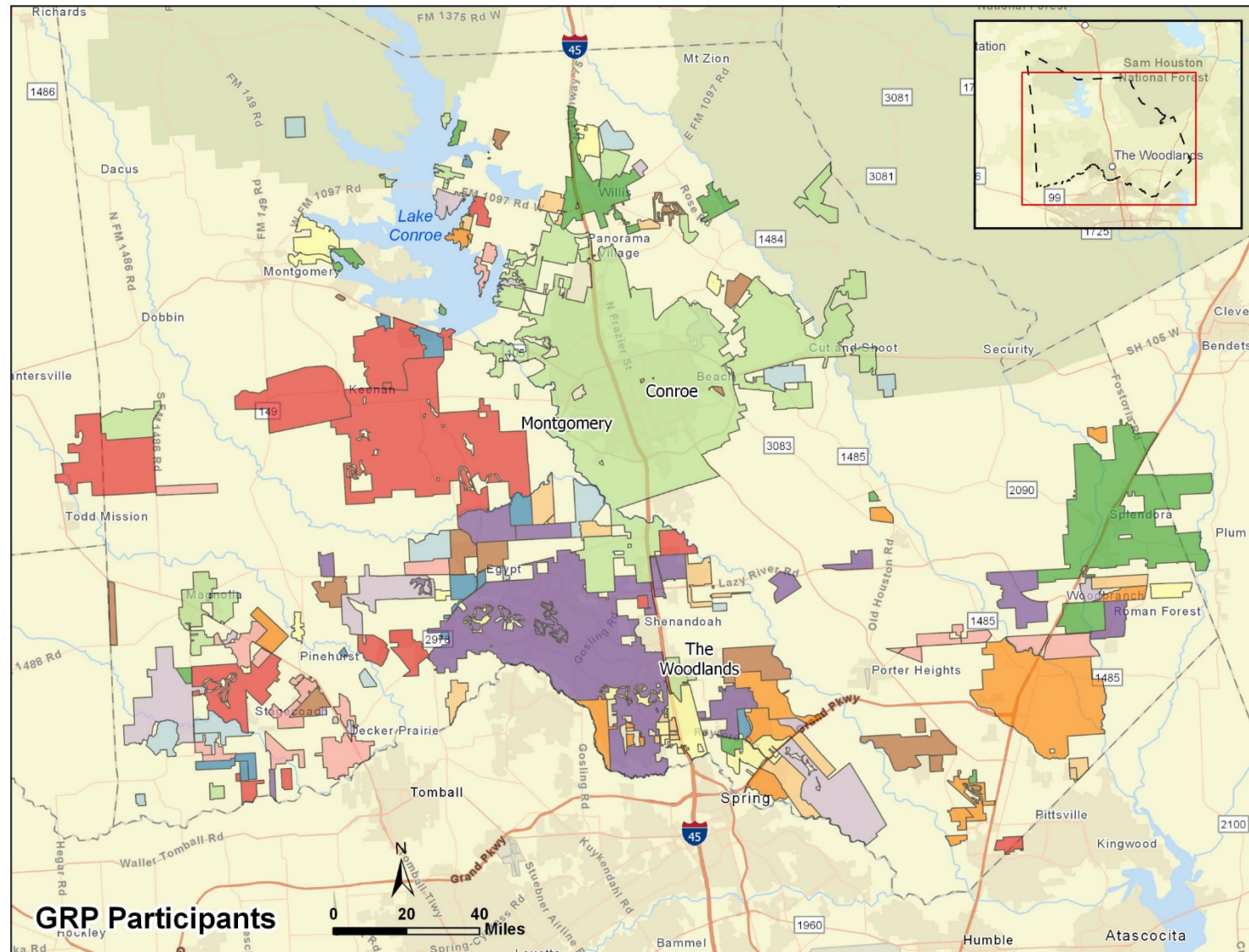


Figure 2-1. GRP Division Customers

Table 2-1. 2018 GRP Participant Water Production

Use Type	Treated Surface Water (MGD)	Groundwater (MGD)	Brackish Groundwater (MGD)	Reuse (MGD)	Total
Municipal	12.74	38.87	1.38	0.51	53.51
Industrial	0.00	0.00	0.00	0.00	0.00
Agricultural	0.00	0.00	0.00	0.00	0.00
Total	12.74	38.87	1.38	0.51	53.51

A full description of the Division's customer information can be found in Appendix A, (GRP Participant Summary) and Appendix B (Water Utility Profile).

This page intentionally left blank.

Section 3. Water Conservation Plan

In the Texas Water Code, water conservation is defined as follows:

“(A) The development of water resources; and,

“(B) Those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.”³

Based upon these concepts of water conservation, the Division’s objective is to develop a water conservation plan that increases water use efficiency, thereby reducing water demands, without adversely affecting population and the economic growth potential of its customers.

The goals of this Plan are to encourage GRP Participants to reduce water consumption, limit water loss, and extend the capacity of both existing and future water supplies. The potential results of a successfully implemented policy are reduced demands, prolonged capacity of existing facilities, delayed need for new facilities, and potential reduction, or downsizing of treatment and distribution facilities, which could result in economic benefits to the Division and its GRP Participants. The greatest obstacle to implementing any water conservation strategy is the implementation cost relative to the cost of existing water supplies. As the cost of compliance with existing regulations increases, the incentive to conserve water will increase.

3.1 GRP Division 5- and 10-year Water Conservation Target Goals

As a wholesale water provider, the Division is not involved in the day-to-day operations of its GRP Participants and therefore does not have direct control over the demands that it serves; however, it is working closely with the GRP Participants to encourage water-use reduction. Additionally, the Division is empowered through the GRP contracts to take certain enforcement measures to promote compliance with GRP requirements. The water conservation measures described below include those under the direct control of, and being implemented by, the Division as well as goals supported and encouraged by the Division for implementation by its customers. The SJRA GRP Division is to achieve a reduction in water demand, for municipal customers only, of 2.5% over a 5-year period, and 5% over a 10-year period. A baseline was calculated using 2016 through 2018 surface water delivered quantities. The average gallons per-capita day (gpcd) for 2016 through 2018 is 72.185 gpcd. It is the goal of the GRP Division to reduce

³ TWC, Section 17.001 (23) (A) and (B).

municipal per-capita water demand to 70.380 gpcd by the end of 2023 and to 68.575 gpcd by the end of 2028, and water loss less than 10%.

3.2 Water Conservation Methods

The Division's water conservation plan includes the following water conservation methods. Each method is described in greater detail in the following subsections.

- Metering and Record Management;
- Leak Detection, Repair, and Minimization of Conveyance Losses;
- Recycling and Reuse;
- Rate Structure;
- Contractual Requirements for Customer Water Conservation Plans;
- Customer Conservation Plan Guidance;
- Customer Reporting Requirements;
- Public Information and Education;
- Encouraging Customer Conservation Practices; and
- Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan.

There are two reservoirs (Lake Conroe and Lake Houston) in the San Jacinto River system however, they are operated by separate entity's therefore the GRP Division does not have a reservoir system operations plan.

3.2.1 Metering and Record Management

The GRP contracts executed with Division customers provide extensive requirements for metering of flows. Water delivered to selected GRP Participants from Lake Conroe supplies are to be monitored using meters installed and maintained by SJRA and the Division, with testing for meter accuracy at least once every twelve months. Meters must register flows between 97 and 102% of the correct value.

The GRP Participants are responsible for meter installation and maintenance for groundwater withdrawals from their own wells or water imported from other entities who are not Participants in the SJRA GRP. GRP Participants must test meters for accuracy at least once every twelve months. Meters must register flows between 97 and 102% of the correct value.

The data collected from the metering of the GRP Participants allows the Division and SJRA to maintain a detailed record management system of water deliveries.

3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses

The Division will maintain its transmission infrastructure supplying treated surface water to GRP

Participant receiving facilities. Potential leaks identified through accounting, inspection, or customer reporting will be repaired promptly to minimize conveyance losses. Those components of the GRP Participant's retail system used to distribute water from the receiving facilities into each of the selected GRP Participant's system are owned and maintained by the GRP Participant. The Division encourages its customers to engage in leak detection and repair in their own systems. The Division encourages its GRP Participants to take measures to reduce water loss to prevent waste and facilitate achievement of the Water Conservation Plan demand reduction goals as specified above.

3.2.3 Recycling and Reuse

The Division encourages continued once-through reuse of water supply by GRP Participants. While Lake Conroe will serve as the supply source of raw surface water for the Division, the benefits of ongoing reuse efforts by GRP Participants are recognized by the Division as important contributors to meeting future needs. As part of the GRP process, draft policy has been adopted regarding reuse by GRP Participants. This draft policy includes elements to evaluate potential reuse projects, promote reuse to reduce groundwater production, prohibit unauthorized resale of SJRA-supplied non-potable water, protect other supplies, and maintain legal and regulatory compliance. SJRA and the Division will continue to consider and evaluate opportunities for reuse as they develop.

3.2.4 Rate Structure

SJRA utilizes a non-promotional rate structure for wholesale contracts with its GRP Participants; these rates are periodically reviewed and adjusted as necessary. SJRA also encourages its GRP Participants to establish rate structures promoting conservation for sales to their wholesale and retail customers.

3.2.5 Contractual Requirements for Customer Water Conservation Plans

Through the Division, SJRA requires in its contracts that GRP Participants adopt and enforce water conservation and drought contingency plans meeting or exceeding the requirements to Title 30, Texas Administrative Code, Chapter 288. Customer water conservation plans should be consistent with the conservation goals of the Division and must be at least as stringent as the Division's Plan. Further, these plans must be submitted to the GRP Administrator. The specific contract language is as follows:

Section 3.05: Water Conservation; Drought Contingency. Participant agrees to adopt and enforce a water conservation plan meeting the applicable minimum requirements of the Conservation District and the TCEQ (30 T.A.C. §§ 288.1-288.7, or any successor rules), as well as a drought contingency plan meeting the applicable minimum requirements of the Conservation District and the TCEQ (30 T.A.C. §§ 288.20-288.22, or any successor

rules). Participant may, but shall not be obligated, to include provisions in such plans that exceed or are more stringent than the minimum requirements described in the preceding sentence. Such plans must be completed and filed with the GRP Administrator at such times as may be reasonably required by the GRP Administrator, without regard to whether Participant will connect to the Project. In addition, after review by the Review Committee, the Authority may require Participant to adopt and enforce minimum requirements adopted by the Authority for such water conservation plans and drought contingency plans but only if: (i) such minimum requirements apply on an equal and uniform basis to all Participants and to all entities located in whole or in part in Montgomery County to which the Authority supplies wholesale groundwater or Water; and (ii) the Authority has the legal right to impose such minimum requirements on all such entities to which the Authority supplies wholesale groundwater or Water.

SJRA will include in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan a requirement that customers develop and implement water conservation a plans as required by Title 30, Texas Administrative Code, Chapter 288 30 TAC §288). Per 30 TAC §288, any future contract, renewal, or amendment will also require that successive sales from SJRA customers to others include a contractual stipulation for water conservation requirements. At a minimum, customer conservation plans must comply with the requirements of 30 TAC §288. Customers should submit to SJRA on an annual basis a summary of water conservation and drought contingency plan implementation.

SJRA may periodically update these criteria, as well as the Water Conservation and Drought Contingency Plans for the Division to meet legal requirements or address changing conditions; subsequent to such revisions, customers of the Division are requested to update their water conservation and drought contingency plans as applicable.

3.2.6 Customer Conservation Plan Guidance

SJRA will provide to GRP Participants upon request, model water conservation plans as developed by TCEQ, meeting the contractual requirements described in Section 3.2.5 above for each customer type. Additionally, SJRA will at request of its GRP Participants review draft water conservation and drought contingency plans for consistency with contractual requirements and the Division's Water Conservation and Drought Contingency Plans. Customers can contact the Division for information regarding the Division's Plans and contractual requirements.

3.2.7 Customer Reporting Requirements

In 2011, the 82nd Texas Legislature passed Senate Bill (SB) 181, which addressed the need for consistency in water use reporting by municipalities, water utilities, and others. Subsequently, TWDB and TCEQ developed detailed guidance and procedures for calculating and reporting water use, water loss, and other factors.

While SJRA is not directly impacted by these requirements as a wholesale provider, the Division and other divisions provide contracted water supply to a number of entities which are impacted by SB181. The broad range of water uses served by SJRA and the requirements of multiple State reporting programs creates a need for the consistent reporting. As such, SJRA will require GRP Participant water usage reports, including any values for per-capita water demand, to follow the procedures established by TWDB and TCEQ.⁴ Water use reports should include data at the sector level (single-family residential, multi-family residential, industrial, commercial, agricultural, etc.) and should additionally include estimated population served and calculated water loss. Further, SJRA may request that GRP Participants annually submit to SJRA a copy of all conservation plan-reporting forms, if required by TCEQ, that are submitted to the TCEQ.

3.2.8 Public Information and Education

SJRA has the option to utilize a plethora of water conservation resources that the TWDB, American Water Works Association, and American Public Works Association originally created as components of their own public education campaigns. Individual pamphlets and educational messages provided from these entities would be selected for specialized water conservation needs as they arise. SJRA also provides and constantly updates conservation information and efficient water use on the Authority website at <http://www.sjra.net>.

SJRA will provide, as needed and/or requested, water conservation literature to the customers of the Division. The Division is committed to promoting improvements in industrial, municipal, and agricultural/irrigation processes to achieve conservation with its customers.

SJRA, across all divisions, will make information available through its public information and education program for plumbers and customers to use when purchasing and installing plumbing fixtures, water-using appliances, and watering equipment. Information regarding retrofit devices, such as low-flow showerheads or toilet dams that reduce water use by replacing or modifying existing fixtures or appliances, will also be provided.

Other public information approaches which SJRA has utilized in the past and may implement in the future include public tours of various facilities across all divisions, participation in local environmental

⁴ TWDB et al. 2012. Guidance and Methodology for Reporting on Water Conservation and Water Use

events, classroom water conservation educational programs, and joint operation of a mobile teaching lab.

3.2.9 Encouraging Customer Conservation Practices

SJRA and the Division encourages all of its GRP Participants to consider implementing rules, measures, and emerging technologies that promote water conservation and efficient use. Recommended measures include, but are not limited to, the following:

- Prohibitions on wasting water;
- Time-of-day watering restrictions;
- Water conservation pricing structures;
- Landscape irrigation conservation, including integrating rainfall/freeze sensors into irrigation systems;
- Water reuse
- Rainwater harvesting
- Public education programs

Additional information on conservation practices for a wide range of water uses can be found at the TWDB website (<http://www.twdb.texas.gov>).

3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan

The GRP Division Manager and/or designees will act as the administrator(s) of the Water Conservation Plan for the GRP Division. The administrator(s) will oversee the execution and implementation of all elements of the program and monitor the progress of the plan. Additionally, the administrator(s) will be responsible for submission of an annual report to the TCEQ and TWDB on the progress, and any changes to, the Water Conservation Plan. SJRA is responsible for maintaining adequate records for program verification.

SJRA will enforce the terms of contracts with GRP Participants related to water conservation measures and Water Conservation Plan requirements.

The Division is located within the Region H Regional Water Planning Area. In accordance with the TCEQ rules, the Division provides a copy of its water conservation plan to the Region H Regional Water Planning Group. A copy of the transmittal letter is included in Appendix C.

Every five years, SJRA will examine the Division's Water Conservation Plan and revise as necessary. The Water Conservation Plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix C.

Appendix A

GRP Participant Summary

This page intentionally left blank.

San Jacinto River Authority Joint GRP
2019 Production Schedule
September 14, 2018

Large Volume Groundwater User (LVGU)	LoneStar TQD (GPY)	ICO Adjusted TQD (GPY)	2019 Projected Demands	Projected Surface Water (GPY)	Projected Reuse (GPY)	Projected AWS Wells (GPY)	2019 Groundwater Allocation
Aqua Texas, Inc. (Brushy Creek)	18,132,000	12,692,400	17,994,500				17,994,500
Aqua Texas, Inc. (Carriage Hills)	94,574,000	66,201,800	93,805,000				93,805,000
Aqua Texas, Inc. (Cimarron Country)	38,403,000	26,882,100	45,004,500				45,004,500
Aqua Texas, Inc. (Clear Creek Forest)	55,363,000	38,754,100	55,000,000				55,000,000
Aqua Texas, Inc. (Crystal Forest)	17,800,000	12,460,000	18,980,000				18,980,000
Aqua Texas, Inc. (Decker Woods)	27,820,000	19,474,000	35,003,500				35,003,500
Aqua Texas, Inc. (Deerwood Sub.)	42,108,000	29,475,600	38,982,000				38,982,000
Aqua Texas, Inc. (Dogwood Hills)	39,522,000	27,665,400	31,974,000				31,974,000
Aqua Texas, Inc. (Frontier Arrowhead)	28,000,000	19,600,000	35,003,500				35,003,500
Aqua Texas, Inc. (Greenfield Forest)	8,697,000	10,000,000	44,895,000				44,895,000
Aqua Texas, Inc. (Hidden Forest)	10,000,000	10,000,000	17,994,500				17,994,500
Aqua Texas, Inc. (Huntington Est.)	16,216,000	11,351,200	15,987,000				15,987,000
Aqua Texas, Inc. (Indigo Ranch)	25,000,000	17,500,000	25,002,500				25,002,500
Aqua Texas, Inc. (Lake Conroe Forest & Tejas Creek)	37,725,500	26,407,850	37,011,000				37,011,000
Aqua Texas, Inc. (Lake Conroe Village)	13,197,000	10,000,000	27,010,000				27,010,000
Aqua Texas, Inc. (Lake Creek Forest)	35,497,000	24,847,900	36,865,000				36,865,000
Aqua Texas, Inc. (Legends Ranch Estates)	47,000,000	32,900,000	46,720,000				46,720,000
Aqua Texas, Inc. (Shadow Bay)	25,000,000	17,500,000	26,280,000				26,280,000
Aqua Texas, Inc. (Timberloch Estates)	19,230,000	13,461,000	25,000,000				25,000,000
Aqua Texas, Inc. (Turtle Creek)	21,451,000	15,015,700	16,790,000				16,790,000
Aqua Texas, Inc. (Walnut Springs)	24,900,000	17,430,000	20,075,000				20,075,000
Aqua Texas, Inc. (West Lane)	-	10,000,000	16,425,000				16,425,000
Aqua Texas, Inc. (Westwood 1&2/Old Egypt)	108,645,000	76,051,500	239,075,000				239,075,000
Aqua Texas, Inc. (Woodlands Parkway)	-	10,000,000	38,325,000				38,325,000
Archdiocese of Galveston - Houston Circle Lake Retreat Center	15,000,000	10,500,000	18,000,000				18,000,000
Blaketree MUD No. 1	55,000,000	38,500,000	171,550,000				171,550,000
C & R Water Supply, Inc. (Bridgepoint Water System)	12,500,000	10,000,000	15,000,000				15,000,000
C & R Water Supply, Inc. (Clear Water Cove)	19,855,000	13,898,500	25,000,000				25,000,000
C & R Water Supply, Inc. (Creekside Acres)	5,485,200	10,000,000	12,500,000				12,500,000
C & R Water Supply, Inc. (Emerson Estates)	33,151,000	23,205,700	45,000,000				45,000,000
C & R Water Supply, Inc. (Rogers Road WS)	20,486,000	14,340,200	20,203,000				20,203,000
C & R Water Supply, Inc. (Timberline Estates)	22,000,000	15,400,000	23,527,900				23,527,900
Cape Malibu Water Supply Inc.	14,962,300	10,473,610	10,000,000				10,000,000
City of Conroe	3,403,950,000	2,382,765,000	3,978,206,530	1,296,895,329			2,681,311,201
City of Cut and Shoot	110,000,000	77,000,000	145,000,000				145,000,000
City of Magnolia	213,267,000	149,286,900	219,000,000				219,000,000
City of Oak Ridge North	180,000,000	126,000,000	160,886,300	52,448,934			108,437,366
City of Splendor	298,127,500	208,689,250	298,127,500				298,127,500
City of Willis	299,192,200	209,434,540	337,500,000			307,500,000	30,000,000
City of Woodbranch Village	51,084,000	35,758,800	51,000,000				51,000,000
Clover Creek MUD	31,000,000	21,700,000	23,375,000				23,375,000
Conroe ISD (Moorehead Jr. High/Caney Creek High)	12,738,100	10,000,000	20,999,000				20,999,000
Conroe Resort Utilities, LLC	104,196,800	72,937,760	65,700,000				65,700,000
Consumers Water Inc. (Porter Terrace)	10,329,000	10,000,000	10,502,100				10,502,100
Consumers Water Inc. (Spring Forest)	35,000,000	24,500,000	35,000,000				35,000,000
Corinthian Point MUD No.2	53,009,300	37,106,510	94,900,500			47,450,253	47,450,247
CWE Utilities L.L.C.	25,000,000	17,500,000	25,000,000				25,000,000
Del Lago Estates	29,420,000	20,594,000	29,420,000				29,420,000
Diamondhead Water & Sewer	22,772,000	15,940,400	22,772,000				22,772,000
Domestic Water Company	41,775,700	29,242,990	49,000,000				49,000,000
East Montgomery County MUD No. 3	30,000,000	21,000,000	16,050,000				16,050,000
East Montgomery County MUD No. 5	-	10,000,000	73,000,000				73,000,000
Everett Square, Inc. (Shady Oaks)	25,000,000	17,500,000	14,000,000				14,000,000
Everett Square, Inc. (Windcrest Est., Honea Egypt, Part of 1488 System)	14,600,000	10,220,000	16,488,100				16,488,100
Far Hills Utility District	64,679,000	45,275,300	65,000,000			60,000,000	5,000,000
HMW Special Utility District (Allenwood)	17,800,000	12,460,000	12,341,600				12,341,600
HMW Special Utility District (Armadillo Woods)	17,300,000	12,110,000	16,219,860				16,219,860
HMW Special Utility District (Coe Country)	70,911,000	49,637,700	52,448,800				52,448,800
HMW Special Utility District (Hunters Retreat)	40,064,000	28,044,800	33,635,600				33,635,600

San Jacinto River Authority Joint GRP
2019 Production Schedule
September 14, 2018

Large Volume Groundwater User (LVGU)	LoneStar TQD (GPY)	ICO Adjusted TQD (GPY)	2019 Projected Demands	Projected Surface Water (GPY)	Projected Reuse (GPY)	Projected AWS Wells (GPY)	2019 Groundwater Allocation
HMW Special Utility District (Kipling Oaks 1)	37,500,000	26,250,000	28,083,500				28,083,500
HMW Special Utility District (Kipling Oaks 2)	75,911,000	53,137,700	43,176,900				43,176,900
HMW Special Utility District (Pleasant Forest)	6,266,000	10,000,000	10,000,000				10,000,000
HMW Special Utility District (Sendera)	32,765,000	22,935,500	15,877,700				15,877,700
HMW Special Utility District (Towering Oaks)	39,406,000	27,584,200	67,070,400				67,070,400
Johnston's Utilities, Inc.	151,729,000	106,210,300	165,000,000				165,000,000
Keenan Water Supply Corp.	25,182,500	17,627,750	30,000,000				30,000,000
Kings Manor MUD	155,100,000	108,570,000	136,000,000				136,000,000
Lake Bonanza Water Supply Corp.	57,606,900	40,324,830	47,000,000				47,000,000
Lake Conroe Hills MUD	56,062,000	39,243,400	56,062,000				56,062,000
Lake South Water Supply	26,000,000	18,200,000	26,725,400				26,725,400
Lakeland Section 4 Civic Club	21,000,000	14,700,000	12,281,000				12,281,000
Lazy River Improvement District	49,559,000	34,691,300	39,000,000				39,000,000
Maverick Tube Corporation - Tenaris	22,018,002	15,412,601	15,000,000				15,000,000
Monarch Utilities, Inc. (Decker Hills/Park Place)	90,000,000	63,000,000	118,700,000				118,700,000
Monarch Utilities, Inc. (Hulon Lake/Woodcreek Valley)	26,731,000	18,711,700	20,200,000				20,200,000
Monarch Utilities, Inc. (Serenity Woods, Pine)	15,317,000	10,721,900	13,500,000				13,500,000
Montgomery County Fresh Water Supply (Dist #6)	11,098,000	10,000,000	16,000,000				16,000,000
Montgomery County MUD No. 105	-	10,000,000	89,060,000				89,060,000
Montgomery County MUD No. 112	50,000,000	35,000,000	195,000,000				195,000,000
Montgomery County MUD No. 119	80,465,000	56,325,500	406,000,000				406,000,000
Montgomery County MUD No. 137	-	10,000,000	43,800,000				43,800,000
Montgomery County MUD No. 139	-	10,000,000	64,142,000				64,142,000
Montgomery County MUD No. 15	124,360,000	87,052,000	325,250,000				325,250,000
Montgomery County MUD No. 16	21,428,000	14,999,600	19,537,000				19,537,000
Montgomery County MUD No. 19	220,000,000	154,000,000	199,000,000				199,000,000
Montgomery County MUD No. 24	27,000,000	18,900,000	28,525,500				28,525,500
Montgomery County MUD No. 83 (Also MUD No. 84)	200,504,000	140,352,800	250,000,000				250,000,000
Montgomery County MUD No. 89 (Also MUD No. 88)	359,000,000	251,300,000	430,095,900				430,095,900
Montgomery County MUD No. 94	180,000,000	126,000,000	307,000,000				307,000,000
Montgomery County MUD No. 96	-	10,000,000	40,000,000				40,000,000
Montgomery County MUD No. 99 (Also MUD No. 115 & No. MUD No. 127)	82,090,000	57,463,000	478,150,000	155,876,900			322,273,100
Montgomery County UD No. 2	160,010,000	112,007,000	177,828,000				177,828,000
Montgomery County WCID No. 1	185,886,000	130,120,200	297,951,000				297,951,000
MSEC Enterprises (Crown Ranch)	22,000,000	15,400,000	35,000,000				35,000,000
MSEC Enterprises (Montgomery Trace/Crown Oaks/HR/LF/SL)	258,711,200	181,097,840	1,436,183,385	468,195,784			967,987,601
Nerro Supply Investors, L.L.P. (Hazy Hallow East Estates)	52,649,700	36,854,790	55,000,000				55,000,000
Nerro Supply Investors, L.L.P. (River Club/River Ridge)	11,500,000	10,000,000	10,000,000				10,000,000
Nerro Supply Investors, L.L.P. (White Oak Valley)	17,257,400	12,080,180	15,000,000				15,000,000
New Caney MUD	384,818,900	269,373,230	485,000,000				485,000,000
North Woods Water Supply Corp.	14,000,000	10,000,000	19,000,000				19,000,000
Patton Village (East)	21,000,000	14,700,000	21,000,000				21,000,000
Patton Village (West)	19,000,000	13,300,000	19,000,000				19,000,000
Pinedale Mobile Home Park (AKA Richard Clark Enterprises)	17,333,597	12,133,518	15,000,000				15,000,000
Pinehurst Decker Prairie WSC	39,889,464	27,922,625	41,905,400				41,905,400
Piney Shores Utility	23,334,000	16,333,800	21,000,000				21,000,000
Point Aquarius MUD	180,000,000	126,000,000	138,481,000			134,326,570	4,154,430
Quadvest, LP. (Benders Landing)	270,136,000	189,095,200	561,037,300				561,037,300
Quadvest, LP. (Caddo Village)	40,000,000	28,000,000	43,709,100				43,709,100
Quadvest, LP. (Creekside Village)	66,000,000	46,200,000	72,120,000				72,120,000
Quadvest, LP. (Decker Oaks Utility)	58,683,800	41,078,660	91,379,900				91,379,900
Quadvest, LP. (Indigo Lakes)	133,864,000	93,704,800	208,437,900				208,437,900
Quadvest, LP. (Lake Windcrest WS)	203,091,000	142,163,700	337,064,700				337,064,700
Quadvest, LP. (Lakes of Magnolia)	20,000,000	14,000,000	22,500,000				22,500,000
Quadvest, LP. (Lonestar Ranch)	65,114,000	45,579,800	79,893,600				79,893,600
Quadvest, LP. (McCall Sound/Sonoma Ridge)	6,000,000	10,000,000	12,364,200				12,364,200
Quadvest, LP. (Mostyn Manor)	35,000,000	24,500,000	82,522,000				82,522,000
Quadvest, LP. (Northcrest Ranch 1,2 &3)	50,000,000	35,000,000	78,464,300				78,464,300
Quadvest, LP. (Red Oak Ranch WS)	26,897,000	18,827,900	56,821,800				56,821,800

San Jacinto River Authority Joint GRP
2019 Production Schedule
September 14, 2018

Large Volume Groundwater User (LVGU)	LoneStar TQD (GPY)	ICO Adjusted TQD (GPY)	2019 Projected Demands	Projected Surface Water (GPY)	Projected Reuse (GPY)	Projected AWS Wells (GPY)	2019 Groundwater Allocation
Quadvest, LP. (Sendera Ranch)	61,271,000	42,889,700	94,782,200				94,782,200
Quadvest, LP. (Stonecrest Ranch)	13,806,000	10,000,000	19,350,600				19,350,600
Rayford Road MUD	502,426,000	351,698,200	534,999,900	174,409,967			360,589,933
Roman Forest Consolidated MUD	100,837,000	70,585,900	103,275,500				103,275,500
San Jacinto River Authority (The Woodlands)	6,515,191,000	4,560,633,700	6,416,574,000	2,091,803,124	126,000,000		4,198,770,876
San Jo Utilities	11,082,000	10,000,000	17,000,000				17,000,000
Sequoia Golf Woodlands LLC (Lake Windcrest)	65,000,000	45,500,000	41,275,000				41,275,000
Sequoia Golf Woodlands LLC (Palmer)	128,802,000	90,161,400	81,789,300				81,789,300
Sequoia Golf Woodlands LLC (Panther Trails)	33,253,606	23,277,524	21,363,900		6,195,000		15,168,900
Sequoia Golf Woodlands LLC (Player)	60,123,500	42,086,450	38,178,400				38,178,400
Sequoia Golf Woodlands LLC (TPC)	112,540,000	78,778,000	71,462,900				71,462,900
Southern Montgomery County MUD	480,000,000	336,000,000	552,840,000	143,570,400	112,440,000		296,829,600
Spring Creek UD	195,000,000	136,500,000	237,036,800				237,036,800
T & W Water Services (Deer Run)	12,800,000	10,000,000	10,000,000				10,000,000
T & W Water Services (Grand Harbor/Gemstone)	108,000,000	75,600,000	110,000,000				110,000,000
T & W Water Services (Harborside)	25,000,000	17,500,000	18,000,000				18,000,000
T & W Water Services (Hidden Springs Ranch)	10,049,000	10,000,000	30,000,000				30,000,000
T & W Water Services (Miller's Crossing)	7,227,000	10,000,000	10,000,000				10,000,000
T & W Water Services (Old Mill Lake)	34,000,000	23,800,000	27,000,000				27,000,000
T & W Water Services (Rio Vista)	-	10,000,000	15,000,000				15,000,000
T & W Water Services (Riverwalk)	61,408,000	42,985,600	90,000,000				90,000,000
T & W Water Services (Sunrise Ranch)	5,844,000	10,000,000	12,000,000				12,000,000
T & W Water Services (Thousand Oaks)	69,811,000	48,867,700	65,000,000				65,000,000
Texaba Water System	24,809,000	17,366,300	10,950,000				10,950,000
Texas National MUD	60,000,000	42,000,000	50,000,000				50,000,000
Walnut Cove Water Supply Corp.	40,000,000	28,000,000	32,000,000				32,000,000
Washington County Railroad	21,000,000	14,700,000	18,274,700				18,274,700
Westwood North Water Supply	103,000,000	72,100,000	120,000,000				120,000,000
White Oak Utilities, Inc. (AKA Aqua Pure Ranch Utilities)	75,000,000	52,500,000	73,000,000				73,000,000
White Oak Water Supply Corporation	48,000,000	33,600,000	49,000,000				49,000,000
Wood Trace MUD No. 1	1,000,000	10,000,000	114,407,200				114,407,200
Woodland Oaks Utility Co. Inc.	79,011,000	55,307,700	166,075,000				166,075,000
Totals (GPY)	19,845,501,169	14,033,318,008	24,631,092,075	4,383,200,437	244,635,000	549,276,823	19,453,979,815
MGD	54.37	38.45	67.48	12.01	0.67	1.50	53.30

This page intentionally left blank.

Appendix B

Water Utility Profiles

This page intentionally left blank.

San Jacinto River Authority – GRP Division

**TCEQ Form 20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.



Texas Commission on Environmental Quality

PROFILE AND WATER CONSERVATION PLAN REQUIREMENTS FOR WHOLESALE PUBLIC WATER SUPPLIERS

This form is provided to assist wholesale public water suppliers in water conservation plan development. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority (GRP Division)

Address: 11998 Pine Valley Drive, Conroe, Texas 77304

Telephone Number: (936) 588-1662 Fax: ()

Water Right No.(s): COA 10-4963

Regional Water Planning Group: Region H

Form Completed by: Matt Corley

Title: Compliance & Administrative Manager

Person responsible for implementing conservation program: Matt Corley Phone: (936) 588-1662

Signature: _____ Date: / /

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

PROFILE

I. WHOLESALE SERVICE AREA POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Service area size (in square miles): 1,042 (Montgomery County)
(Please attach a copy of service-area map) – **See Attachment A to TCEQ Form 20162**
2. Current population of service area: 570,934 (Montgomery County) (*census.gov*)

3. Current population served for:
 - a. Water 246,626 - (*Population includes GRP Participants who receive surface water*).
 - b. Wastewater N/A

4. Population served for previous five years:
5. Projected population for service area in the following decades:

Year	Population	Year	Population
<u>2014*</u>	<u>0</u>	<u>2020</u>	<u>429,342</u>
<u>2015</u>	<u>349,138</u>	<u>2030</u>	<u>574,880</u>
<u>2016</u>	<u>365,178</u>	<u>2040</u>	<u>710,018</u>
<u>2017</u>	<u>381,219</u>	<u>2050**</u>	<u>NO DATA</u>
<u>2018</u>	<u>397,260</u>	<u>2060**</u>	<u>NO DATA</u>

*Conversion process did not start until 2016 with some entities starting in 2015

The above population data includes all GRP Participants, including those who do not receive surface water. See Attachment A for GRP Participant Map.

6. List source or method for the calculation of current and projected population size.

***Population projection above were developed from data included in SJRA's Groundwater Reduction Plan (GRP). The population data above includes all GRP Participants within SJRA's Joint GRP.*

B. Customers Data

List (or attach) the names of all wholesale customers, amount of annual contract, and amount of annual use for each customer for the previous year:

	Wholesale Customer	Contracted Amount (acre-feet)	Previous Year Amount of Water Delivered (acre-feet)
1.	<u>The Woodlands</u>	<u>N/A *</u>	<u>7,442.35</u>
2.	<u>City of Conroe</u>	<u>N/A *</u>	<u>4,275.99</u>
3.	<u>MSEC Enterprises</u>	<u>N/A *</u>	<u>887.49</u>
4.	<u>Southern MC MUD</u>	<u>N/A *</u>	<u>441.68</u>
5.	<u>Rayford Road MUD</u>	<u>N/A *</u>	<u>531.79</u>
6.	<u>City of Oak Ridge North</u>	<u>N/A *</u>	<u>183.44</u>
	<u>Montgomery County</u>		
7.	<u>MUD No. 99</u>	<u>N/A*</u>	<u>513.27</u>

*The GRP does not have contracted amounts with its GRP Participants. The GRP determines the amount of surface water that is distributed.

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amounts for the previous five years (in acre feet):

Year	Treated Water	Raw Water
2014	0	0
2015	3,324.39	0
2016	19,773.20	0
2017	19,134.84	0
2018	13,373.46	0
Totals	55,605.89	0

B. Water Accounting Data

1. Total amount of water diverted at the point of diversion(s) for the previous five years (in acre-feet) for all water uses:

Year	2014	2015	2016	2017	2018
<i>Month</i>					
January	0	0	1,234.92	1,310.11	902.55
February	0	0	1,425.51	1,257.95	780.63
March	0	0	1,451.21	1,765.79	923.01
April	0	0	1,526.24	1,876.29	968.84
May	0	0	1,510.07	1,952.73	1,384.20
June	0	0	1,597.35	1,904.40	1,768.92
July	0	0	2,125.51	2,016.05	1,790.24
August	0	0	2,019.64	1,778.72	1,786.05
September	0	290.18	1,984.00	1,679.77	1,157.15
October	0	695.76	1,930.02	1,545.83	1,077.29
November	0	1,083.90	1,613.98	1,103.67	866.81
December	0	1,254.55	1,354.73	943.52	870.32
Totals	0	3,324.39	19,773.20	19,134.84	14,276.01

2. Wholesale population served and total amount of water diverted for **municipal use** for the previous five years (in acre-feet):

Year	Total Population Served	Total Annual Water Diverted for Municipal Use
2014	0	0
2015	176,390	3,324.39
2016	199,802	19,773.20
2017	223,214	19,134.84
2018	246,626	13,373.46

Population data includes those Participants who are receiving surface water only.

C. Projected Water Demands

If applicable, project and attach water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

Projected municipal demands are shown in the table below. These values were developed from data included in the SJRA Groundwater Reduction Plan (GRP), the SJRAGRP Pumpage Rate Study, and the Harris-Galveston Subsidence District Regional Groundwater Update. Please note that some GRP participants will remain on self-supplied groundwater, while others will be converted to surface water provided by the SJRA GRP Division.

Year	Projected GRP Participant Demand - Total		Projected GRP Participant Demand - Surface Water	
	MGD	ac-ft	MGD	ac-ft
2019	60.44	67,705.74	24.00	26,883.42
2020	62.03	69,481.25	24.00	26,883.42
2021	63.61	71,256.76	28.00	31,363.99
2022	65.20	73,032.26	28.00	31,363.99
2023	66.78	74,807.77	28.00	31,363.99
2024	68.37	76,583.27	28.00	31,363.99
2025	69.95	78,358.78	28.00	31,363.99
2026	72.84	81,594.17	28.00	31,363.99
2027	75.73	84,829.57	28.00	31,363.99
2028	78.62	88,064.96	28.00	31,363.99

The projected surface water demands are derived from the GRP's Phase II Trigger Study.

III. WATER SUPPLY SYSTEM DATA

A. Projected Water Demands

List all current water supply sources and the amounts authorized (in acre feet) with each.

Water Type	Source	Amount Authorized
Surface Water	Lake Conroe (10-4963)	33,333 acre-feet
	Lake Conroe Contract w/Houston	66,667 acre-feet
Groundwater	N/A	0
Other	N/A	0

B. Treatment and Distribution System (if providing treated water)

1. Design daily capacity of system (MGD): 30 MGD
2. Storage capacity (MGD):
 - c. Elevated 0
 - d. Ground 10 Million Gallons
3. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks.

The GRP began delivering treated surface water in June of 2015. The surface water facilities at Lake Conroe include an intake and high-service pump station as well as two ground storage tanks and a water treatment plant. Treated surface water is conveyed through a network of approximately 55 miles of pipeline to selected GRP Participants. The additional infrastructure for customers to distribute it to their retail systems, is the responsibility of the customers. The system layout is shown in Attachment B to TCEQ Form 20162.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable) N/A *

*** The Division does not provide wastewater service.**

1. Design capacity of wastewater treatment plant(s) (MGD): 0 MGD
2. Briefly describe the wastewater system(s) of the area serviced by the wholesale public water supplier. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 0 %
2. Monthly volume treated for previous five years (in 1,000 gallons):

<i>Year</i>	2014	2015	2016	2017	2018
<i>Month</i>					
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Totals	00	00	00	00	00

V. ADDITIONAL REQUIRED INFORMATION

In addition to the description of the wholesaler's service area (profile from above), a water conservation plan for a wholesale public water supplier must include, at a minimum, additional information as required by Title 30, Texas Administrative Code, Chapter 288.5. Note: If the water conservation plan does not provide information for each requirement an explanation must be included as to why the requirement is not applicable.

A. Specific, Quantified 5 & 10-Year Targets

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals. Note that the goals established by wholesale water suppliers under this subparagraph are not enforceable.

B. Metering Devices

The water conservation plan must include a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply.

C. Record Management Program

The water conservation plan must include a monitoring and record management program for determining water deliveries, sales, and losses.

D. Metering/Leak-Detection and Repair Program

The water conservation plan must include a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system.

E. Reservoir Systems Operations Plan

The water conservation plan must include a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin. The reservoir systems operations plan shall include optimization of water supplies as one of the significant goals of the plan.

F. Contract Requirements for Successive Customer Conservation

The water conservation plan must include a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of Title 30 TAC Chapter 288. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

G. Enforcement Procedure and Official Adoption

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

H. Coordination with the Regional Water Planning Group(s)

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

Example statement to be included within the water conservation plan:

The service area of the _____ (name of water supplier) is located within the _____ (name of regional water planning area or areas) and _____ (name of water supplier) has provided a copy of this water conservation plan to the _____ (name of regional water planning group or groups).

I. Plan Review and Update

A wholesale water supplier shall review and update its water conservation plan, as appropriate based on an assessment of previous five-year and ten-year targets and any other new or updated information. A wholesale water supplier shall review and update the next revision of its water conservation plan no later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

J. Additional Conservation Strategies

Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of this chapter, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. Conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;
2. A program to assist agricultural customers in the development of conservation, pollution prevention and abatement plans;
3. A program for reuse and/or recycling of wastewater and/or graywater;
4. A cost-share program;
5. A technical assistance and outreach program;
6. A program for purchase and direct distribution of water conservation equipment; and
7. Any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

San Jacinto River Authority – GRP Division

Attachments to TCEQ Form

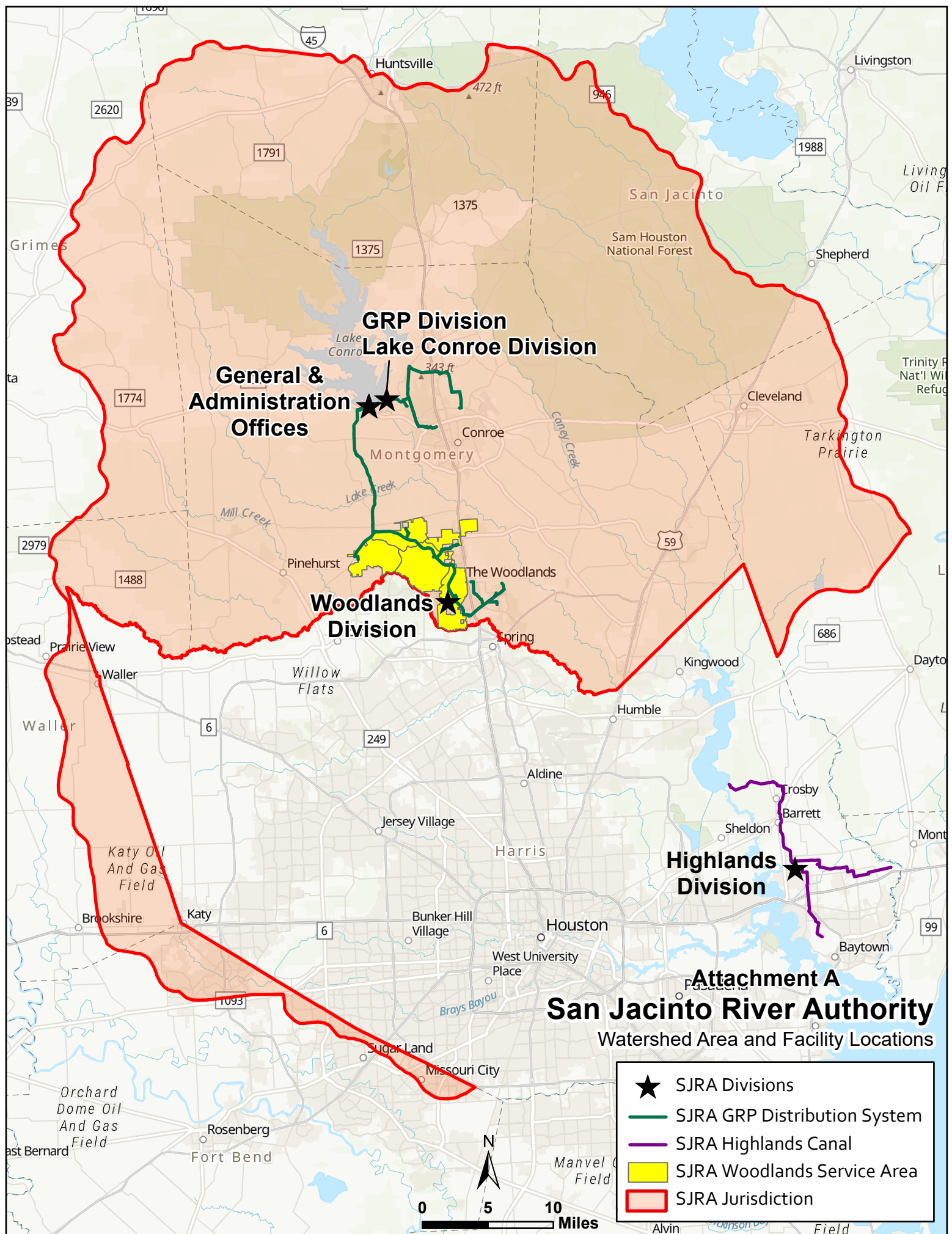
**20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

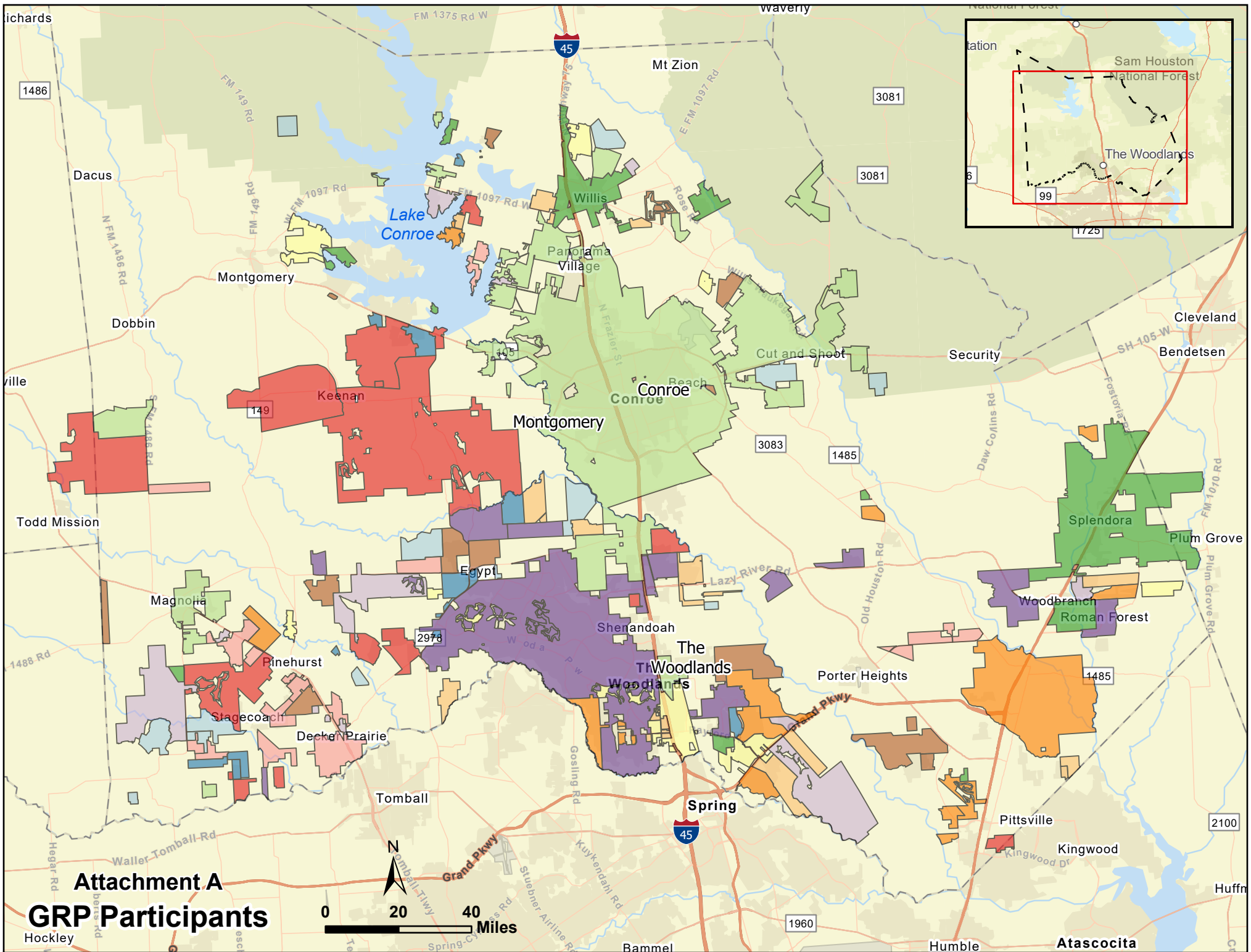
This page intentionally left blank.

Attachment A

SJRA Service Area & GRP Participants Map

This page intentionally left blank.





Attachment A
GRP Participants

Attachment B

GRP System Infrastructure Map

This page intentionally left blank.

This page intentionally left blank.

Appendix C

Resolutions Passed by SJRA Transmittal Letter to Region H RWPG

This page intentionally left blank.

Appendix D

**GRP Division TCEQ Form 20645 - Water Conservation Implementation
Report Form and Summary of Updates/Revisions to Water Conservation Plan**

This page intentionally left blank.



WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

- 1. Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
- 2. Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019**. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: _____
2. Water Right Permit or Certificate Nos. _____

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

- _____ Municipal Water Use by Public Water Supplier
_____ Wholesale Public Water Supplier
_____ Industrial Use
_____ Mining Use
_____ Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

- _____ Individually-Operated Irrigation System
_____ Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes _____ No _____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.
- Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288.
http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
 - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserves.html

*Call 512-239-4691 or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

Yes_____ No_____

If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?

Yes_____ No_____

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

9. Form Completed by (Point of Contact): _____
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: _____

Contact Address: _____

Contact Phone Number: _____ Contact Email Address: _____

Signature: _____

Date: _____

Drought Contingency Plan

for

**San Jacinto River Authority
GRP Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-2
Section 3. Drought Contingency Plan	3-1
3.1 Drought Contingency Plan – GRP Division.....	3-1
3.2 Trigger Conditions – Initiation and Termination	3-1
3.3 Notification of Initiation and Termination	3-4
3.4 Drought Response Stages	3-5
3.5 Pro Rata Water Allocation.....	3-6
3.6 Compliance Metrics.....	3-6
3.7 Public Involvement.....	3-7
3.8 Procedures for Granting Variances.....	3-7
3.9 Implementation and Enforcement	3-7
3.10 Coordination with Regional Water Planning Group	3-8
3.11 Updating of the Plan	3-8

Tables

Table 2-1. 2018 GRP Participant Water Production	2-3
--	-----

Figures

Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. GRP Division Customers.....	2-5
Figure 2-2. GRP Division Infrastructure	2-7

Appendices

Appendix A – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG
--

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA watershed includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend, and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Drought Contingency Plan (including utility description, service area description, and drought measures) for the GRP Division (the Division). The Division’s Water Conservation Plan is provided under separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

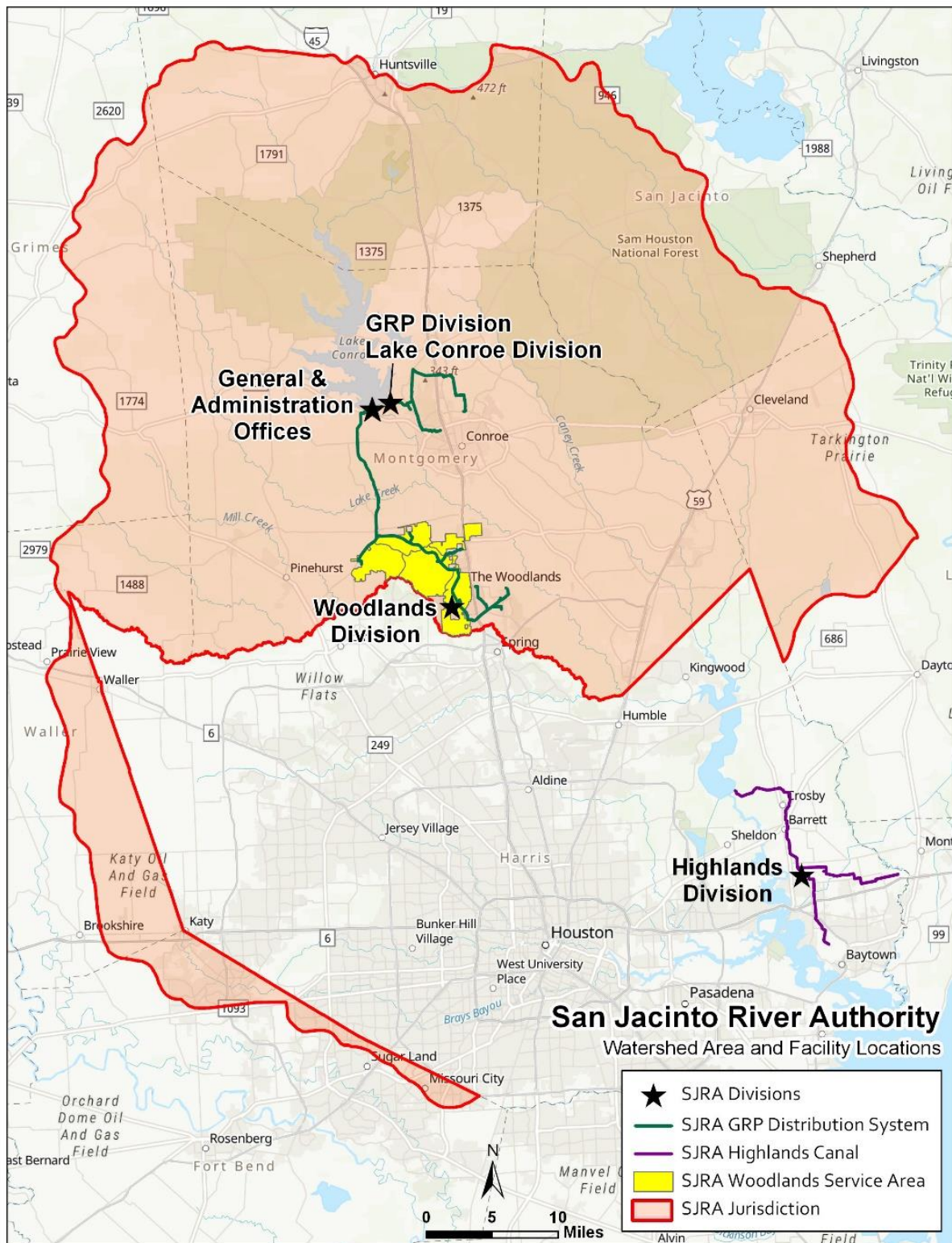


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

The Division's goal is to provide treated surface water to its GRP Participants in such a way that allows the GRP Participants to meet the groundwater reduction requirements mandated by Phase II(B) of the Lone Star Groundwater Conservation District (LSGCD) District Regulatory Plan (DRP). Through their research and permitting efforts, LSGCD determined that groundwater production in Montgomery County exceeded the sustainable recharge rate and in response established certain requirements to reduce groundwater use. Phase I of the LSGCD DRP, which was adopted in 2006, established a target for sustainable production. DRP Phase II(A) was adopted in 2008 and required entities or groups of entities permitted to produce 10 million gallons per year of groundwater (Large Volume Groundwater Users, or LVGUs) to assess future water needs and potential alternative supplies. Phase II(B) of the DRP required that all LVGUs either individually or in conjunction with others reduce their groundwater production to not more than 70% of their year 2009 permitted production (Total Qualifying Demand) no later than January 2016.

In order to achieve this goal, the Division treats and distributes water to over-convert certain selected GRP Participants to surface water in order to achieve the overall target reduction for the GRP service area while other GRP Participants continue to utilize groundwater to meet the entirety of their water needs. This approach ensures the most cost-effective solution to the problem of groundwater reduction. Infrastructure required to serve selected GRP Participants, including a surface water treatment plant and distribution pipeline system, has been developed. The Division began to actively provide surface water on a wholesale basis in September 2015 in order to meet LSGCD requirements. Although not all GRP Participants receive surface water from the Division, this water conservation plan will be applied equally to all GRP Participants.

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/yr) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin.

SJRA's portion of the Lake Conroe water right plus a long-term water supply contract with the City of Houston for its water in Lake Conroe will be used by the Division to meet the needs of its GRP Participants. The SJRA's water right for Lake Conroe (33,333 ac-ft/yr) is permitted for multiple uses. The Division serves municipal customers by supplying wholesale surface water.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. However, the GRP Participants are located in Montgomery County (approximately 1,077 square miles). A map of the Division, showing the location of the Participants, is provided below (Figure 2-1). Prior to the LSGCD conversion deadline of January 1, 2016, the Division began to supply select GRP Participants with water from Lake Conroe, with additional GRP Participants served with Lake Conroe supplies for subsequent conversion phases of implementation. Other GRP Participants will continue to utilize their current groundwater sources. Some GRP Participants may potentially also utilize other alternative water sources (Catahoula Formation groundwater, reuse, etc.) in conjunction with existing groundwater supplies or treated surface water. The Division does not own or operate wastewater infrastructure.

Prior to the surface water conversion, SJRA did not actively provide treated surface water to GRP Participants. Table 2-1 summarizes GRP Participant water use by source for 2018. It is anticipated that total GRP Participant water demand was 53.51 MGD, of which 12.74 MGD was met by SJRA treated surface water.

The Division's service area is distributed across an extensive portion of Montgomery County, encompassing a large number of the communities south and east of Lake Conroe. The Division's infrastructure reaches GRP Participants through a phased development process, with the first phase of water distribution pipelines installed and operational prior to the LSGCD conversion deadline of January 1, 2016. The first phase provides treated Lake Conroe water supplies to the City of Conroe, The Woodlands, and several adjacent entities. A map of the Division's existing infrastructure is provided below (Figure 2-2). Additional GRP Participants will be served in future phases by expansion of the transmission system. As of 2018, the Division included 151 GRP Participants. The largest Participants are The Woodlands and the City of Conroe.

The Woodlands is a master-planned community located in southern Montgomery County, Texas on IH-45 just north of the Harris County line. The Woodlands is made up of eleven individual Municipal Utility Districts (MUDs) ("The Woodlands Districts"), ten of which are operated and managed through The Woodlands Joint Powers Agency (WJPA), along with Harris-Montgomery County MUD No. 386 which is not part of the WJPA. The WJPA provides retail water and wastewater services to The Woodlands community. The Woodlands Districts purchases wholesale groundwater and wastewater treatment services from SJRA through the SJRA Woodlands Division. While The Woodlands started receiving treated surface water from the GRP Division by the LSGCD conversion deadline of 2016 and The Woodlands MUDs have continued to be wholesale groundwater customers of the SJRA Woodlands Division.

The City of Conroe is the county Seat of Montgomery County and is located southeast of Lake Conroe near the intersection of IH-45 and Hwy 105. Conroe has grown rapidly in recent years, increasing in population from 36,811 in Year 2000 to 56,207 by Year 2010. Other GRP Participants include the cities of Cut and Shoot, Magnolia, Oak Ridge North, Splendora, Willis, and Woodbranch, as well as numerous MUDs, water utilities, and communities.

Table 2-1. 2018 GRP Participant Water Production

Use Type	Treated Surface Water (MGD)	Groundwater (MGD)	Brackish Groundwater (MGD)	Reuse (MGD)	Total
Municipal	12.74	38.87	1.38	0.51	53.51
Industrial	0.00	0.00	0.00	0.00	0.00
Agricultural	0.00	0.00	0.00	0.00	0.00
Total	12.74	38.87	1.38	0.51	53.51

A full description of the Division's customer information can be found under separate cover in the Division's Water Conservation Plan.

This page intentionally left blank.

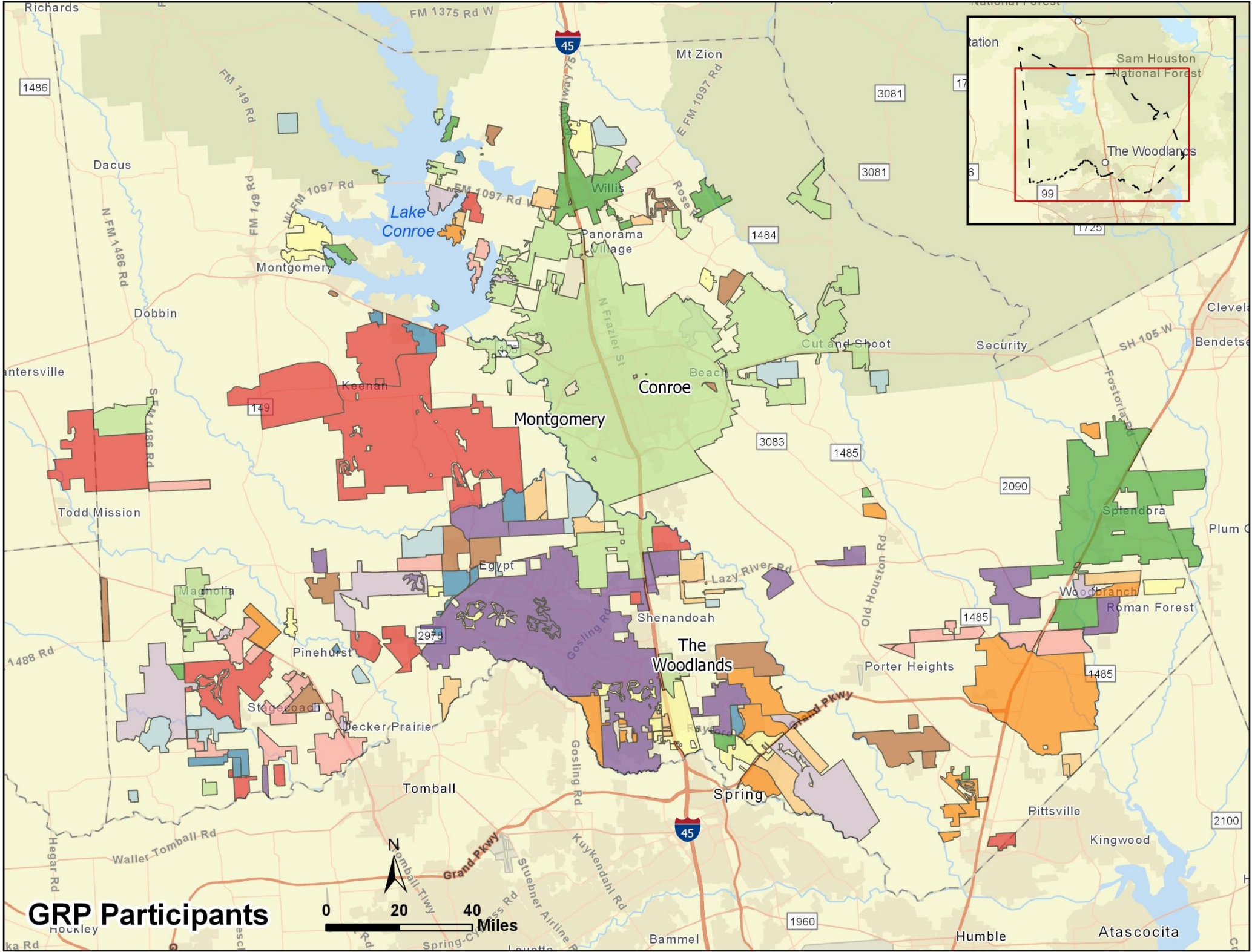
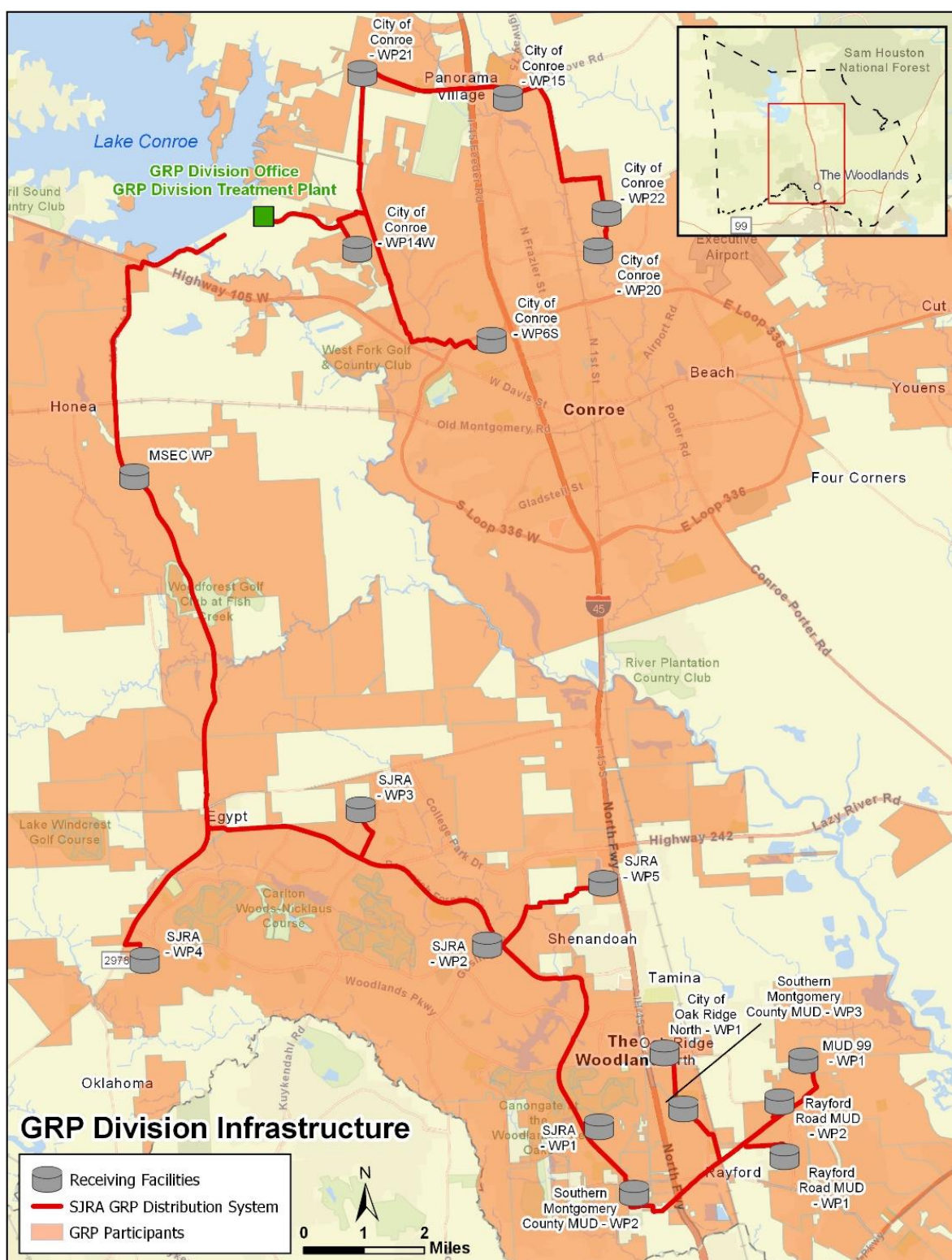


Figure 2-1. GRP Division Customers

This page intentionally left blank.



This page intentionally left blank.

Section 3. Drought Contingency Plan

Drought, or a number of other uncontrollable circumstances, can disrupt the normal availability of water supply. Even though an area may have an adequate water supply, the supply can become contaminated, or a disaster can disrupt or destroy the supply. During drought periods, consumer demand is often significantly higher than normal. The failure or inadequacy of the treated water delivery system also can present a utility with an emergency demand management situation.

It is important to distinguish between drought contingency planning and water conservation planning. As detailed in the Division's Water Conservation Plan, water conservation involves implementing permanent water use efficiencies or reuse practices. Drought contingency planning establishes temporary methods or techniques to be used only as drought and/or emergency conditions persist.

The SJRA has developed a drought contingency plan with regard to the wholesaling of treated surface water from Lake Conroe to the Participants of the GRP Division, as well as groundwater, reuse supplies, and any other supplies used by GRP Participants. The provisions and requirements of this plan apply to all GRP Participants, whether or not the Participants make direct use of the surface water provided from Lake Conroe.

3.1 Drought Contingency Plan – GRP Division

In order to conserve the available water supply and/or protect the integrity of water supply facilities during water supply shortages or other supply emergency conditions that can have adverse effects on its GRP Participants, SJRA has developed the following drought contingency plan elements.

3.2 Trigger Conditions – Initiation and Termination

SJRA provides treated surface water from Lake Conroe to Participants of the GRP Division. For this plan, the drought stage of the SJRA Lake Conroe Division is the indicator of drought conditions in the Division and will be used as the basis for initiating and terminating drought stages. Participants that are not receiving water from Lake Conroe will also abide by these drought triggers in order to continue to meet the groundwater reduction goals.

As discussed in Section 2 of this drought contingency plan, the Division uses SJRA's portion of the Lake Conroe water right plus a long-term water supply contract with the City of Houston for its water in Lake Conroe to meet the needs of its GRP Participants.

The General Manager of the SJRA or a designated representative will monitor water supply and/or demand conditions on a monthly basis or more frequently as conditions warrant and will determine when conditions warrant initiation or termination of each drought stage. Because SJRA utilizes supplies from

Lake Conroe, initiation of drought stages for the Division is based on the initiation of drought stages by the SJRA Lake Conroe Division, which is based on the water surface elevation of Lake Conroe. The trigger points utilized in the Lake Conroe Division Drought Contingency Plan and in turn by the GRP Division have been selected through a hydrologic modeling process to work conjunctively with the measures identified in Section 3.4 below to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. If deemed appropriate by the General Manager or a designated representative, termination of a drought stage is followed by initiation of a lower drought stage. An Emergency Water Supply Condition may be initiated or terminated without subsequent enactment of other stages. The various drought contingency stages may be initiated or terminated at the discretion of the General Manager or a designated representative. Otherwise, initiation and termination of the stages shall be as follows:

Stage 1: Voluntary Reduction

Initiation:

- The SJRA Lake Conroe Division initiates Stage 1 of its Drought Contingency Plan; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 1; or
- Monitoring of water demands/weather forecasts indicates that earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- The SJRA Lake Conroe Division terminates Stage 1 of its Drought Contingency Plan; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 1 due to indications from monitoring of water demands/weather forecasts.

Stage 2: Moderate Conditions

Initiation:

- The SJRA Lake Conroe Division initiates Stage 2 of its Drought Contingency Plan; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 2; or

- Monitoring of water demands/weather forecasts indicates earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- The SJRA Lake Conroe Division terminates Stage 2 of its Drought Contingency Plan; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 2 due to indications from monitoring of water demands/weather forecasts.

Stage 3: Advanced Conditions

Initiation:

- The SJRA Lake Conroe Division initiates Stage 3 of its Drought Contingency Plan; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 3; or
- Monitoring of water demands/weather forecasts indicates earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- The SJRA Lake Conroe Division terminates Stage 3 of its Drought Contingency Plan; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 3 due to indications from monitoring of water demands/weather forecasts.

Stage 4: Severe Conditions

Initiation:

- The SJRA Lake Conroe Division initiates Stage 4 of its Drought Contingency Plan; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 4; or
- Monitoring of water demands/weather forecasts indicates earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- The SJRA Lake Conroe Division terminates Stage 4 of its Drought Contingency Plan; or
- Resolution of equipment, pipeline, or sample failure conditions; or

- Termination of Stage 4 due to indications from monitoring of water demands/weather forecasts.

Emergency Water Supply Condition

Initiation:

- The SJRA Lake Conroe Division initiates an Emergency Water Supply Condition under its Drought Contingency Plan; or
- Anticipation of a drought condition beyond historical level of severity; or
- System failure in the GRP Division system; or
- Contamination of the water supply has occurred; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting an Emergency Water Supply Condition; or
- Enactment of Emergency Water Supply Condition initiation due to other factors at the discretion of the General Manager or a designated representative.

Termination:

- The SJRA Lake Conroe Division terminates an Emergency Water Supply Condition under its Drought Contingency Plan; or
- Restoration of the GRP Division system to operational status; or
- Containment or elimination of water supply contamination; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Emergency Water Supply Condition due to other factors at the discretion of the General Manager or a designated representative.

Each stage may also be initiated or terminated at the discretion of the General Manager or a designated representative.

3.3 Notification of Initiation and Termination

The General Manager of the SJRA or a designated representative will notify the GRP Participants in writing by electronic mail when a trigger condition has been met. When the trigger conditions that initiated the drought measures have subsided, the General Manager or a designated representative will inform the GRP Participants in writing by electronic mail. Additionally, TCEQ will be notified within five business days of initiation or termination of drought stages beyond Stage 1. Notification of drought stage initiation or termination will also be posted on the SJRA website.

3.4 Drought Response Stages

The General Manager or a designated representative will monitor water supply and demand conditions, and in accordance with the triggering criteria set forth in Section 3.2 will determine that a water shortage exists, or when an emergency condition exists. The reductions listed below have been selected through a hydrologic modeling process to work conjunctively with the trigger points identified in Section 3.2 above to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. The following actions will be taken when a drought stage or Emergency Water Supply Condition is initiated:

Stage 1: Voluntary Reduction

Target: Achieve a voluntary 5% reduction in use

- Contact GRP Participants to discuss situation.
- Request that GRP Participants initiate voluntary measures to reduce water use.

Stage 2: Moderate Conditions

Target: Achieve a 5% reduction in use (October through March)

Achieve a 10% reduction in use (April through September)

- Contact GRP Participants to discuss situation.
- Require GRP Participants initiate mandatory measures to reduce water use by a seasonal 5% or 10%.

Stage 3: Advanced Conditions

Target: Achieve a 10% reduction in use (October through March)

Achieve a 20% reduction in use (April through September)

- Contact GRP Participants to discuss situation and continue to do so on a weekly basis until termination.
- Require GRP Participants initiate mandatory measures to reduce water use by a seasonal 10% or 20%.

Stage 4: Severe Conditions

Target: Achieve a 15% reduction in use (October through March)

Achieve a 30% reduction in use (April through September)

- Contact GRP Participants to discuss situation and continue to do so on a weekly basis until

termination.

- Require GRP Participants initiate mandatory measures to reduce water use by a seasonal 15% or 30%.

Emergency Water Supply Condition

Target: Subject to scope and nature of emergency

- If appropriate, notify city, county, and/or state emergency response officials for assistance.
- Assess the severity of the problem and identify actions needed and time required to solve the problem.
- Notify TCEQ within five days of initiation or termination of emergency conditions.
- Inform GRP Participants and discuss possible actions, including but not limited to initiation of actions available under Stages 1 through 4.
- If deemed necessary by the General Manager or a designated representative, impose mandatory water rationing per Texas Water Code (TWC) §11.039 to reduce water demand to a level determined by the General Manager or a designated representative and notify TCEQ.
- Undertake necessary actions, such as repair or cleanup, to resolve issue.

3.5 Pro Rata Water Allocation

If deemed necessary by the General Manager or a designated representative due to a drought or Emergency Water Supply condition, SJRA will initiate allocation of water supplies on a pro rata basis in accordance with TWC §11.039 and the force majeure clause and other relevant terms of the contract in place with each GRP Participant. TWC §11.039 directs that if a shortage occurs due to drought, accident, or other cause in a water supply covered by a TWDB-approved Water Conservation Plan, the entity controlling the supply shall divide the water to be distributed pro rata among all customers.

3.6 Compliance Metrics

The target of Stages 1 through 4 (and in some circumstances an Emergency Water Supply Condition) is to reduce water use by a certain percentage. Because water demands for GRP Participants change over time and may be impacted by weather conditions or application of drought response measures, a standard approach to defining a Participant's demand must be applied. For the purposes of this drought contingency plan, each Participant's demand shall be determined as that Participant's water use for the preceding two years, averaged for each month. These demand values will be provided to Participants at the beginning of each year. Participant requests for variances to the provided demand values will be considered at an

administrative level through an appeal process as described in Section 3.8.

3.7 Public Involvement

Public involvement measures associated with this drought contingency plan shall include the following:

- Making proposed documents available to the public prior to adoption.
- Posting of notice of an SJRA Board of Directors meeting to include consideration of the plan for adoption.
- Consideration and adoption of the plan by the SJRA Board of Directors at a meeting to be open to the public.

Upon adoption of the plan, the completed drought contingency plan with relevant documentation reflecting adoption will be posted on the SJRA website.

3.8 Procedures for Granting Variances

The General Manager or a designated representative may grant a temporary variance to mandatory measures to reduce water use, to calculated GRP Participant demand as discussed in Section 3.6, or to pro rata water allocation policies if one or more of the following conditions are met:

- Failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety.
- Compliance with this plan cannot be technically accomplished during the duration of the water supply shortage or other conditions for which the plan is in effect.
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

The decision to grant or deny such a variance is at the discretion of the General Manager or a designated representative. Persons or entities requesting an exemption from the provisions of this plan shall file a written petition for variance with the General Manager within five business days after the mandatory measures to reduce water use or the pro rata allocation has been invoked. Once received, the General Manager or a designated representative will have five business days to respond, in writing, to a petition for variance.

3.9 Implementation and Enforcement

The SJRA General Manager or a designated representative will be responsible for implementation and enforcement of the drought contingency plan. During any period when pro rata allocation of available water supplies is in effect, the General Manager or a designated representative has the authority to discontinue service to any GRP Participant who fails to comply with the conditions of the allocation,

declaring the customer in breach of contract. Prior to discontinuance of service, the General Manager or a designated representative will issue a warning to the GRP customer, and work with the Participant to ensure that they are complying with the restrictions. In the event the GRP customer fails to voluntarily comply, a court injunction will be obtained for violation of the Texas Water Code and for breach of contract.

Once notified of initiation of a drought stage with mandatory demand reduction, GRP Participants are required to reduce their water use in accordance with the appropriate stage as described above. In order to promote compliance with the drought contingency plan, the General Manager or a designated representative may enact a special temporary drought contingency rate structure with certain non-promotional rates for each drought stage. GRP Participants failing to comply with mandatory demand reductions may also be subject to disincentive fees and be required to reimburse SJRA for any costs, fines, or penalties incurred by SJRA as a result of the Participant's noncompliance. This includes, but is not limited to, penalties incurred due to failure to meet LSGCD groundwater reduction requirements caused by customer noncompliance with drought restrictions. Enforcement actions, including penalties, will not be put into place until 30 calendar days after a drought stage is initiated.

3.10 Coordination with Regional Water Planning Group

The GRP Division is located within the Region H Regional Water Planning Area. In accordance with TCEQ rules, SJRA has provided a copy of the GRP Division drought contingency plan to the Region H Regional Water Planning Group. A copy of the transmittal letter is included in Appendix A.

3.11 Updating of the Plan

Every five years, SJRA will examine the Division operations to determine if trigger conditions need to be re-established. Updates may also be considered earlier than each five years in the case of any changes to operations that would warrant a re-examination of the trigger conditions. Any updates will result in a revised drought contingency plan.

The drought contingency plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix A.

Appendix A
Resolutions Passed by SJRA
Transmittal Letter to Region H RWPG

This page intentionally left blank.

Water Conservation Plan

for

**San Jacinto River Authority
Woodlands Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-2
Section 3. Water Conservation Plan	3-1
3.1 Woodlands Division 5- and 10-year Water Conservation Target Goals	3-1
3.2 Water Conservation Methods	3-1
3.2.1 Metering and Record Management	3-2
3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses	3-2
3.2.3 Recycling and Reuse	3-2
3.2.4 Rate Structure	3-3
3.2.5 Contractual Requirements for Customer Water Conservation Plans	3-3
3.2.6 Customer Conservation Plan Guidance;.....	3-3
3.2.7 Customer Reporting Requirements	3-4
3.2.8 Public Information and Education.....	3-4
3.2.9 Encouraging Customer Conservation Practices	3-4
3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan	3-5

Tables

Table 2-1. 2018 Groundwater Production	2-3
Table 2-2. 2018 Reuse Production.....	2-3

Figures

Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. Woodlands MUDs	2-6
Figure 2-2. Woodlands Division Water Distribution System.....	2-8
Figure 2-3. Woodlands Division Wastewater Infrastructure.....	2-10

Appendices

Appendix A – Water Utility Profiles
Appendix B – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG
Appendix C – TCEQ Form 20645

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Water Conservation Plan (including utility description, service area description, and customer data) for the Woodlands Division (the Division). The Division’s Drought Contingency Plan is provided under a separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

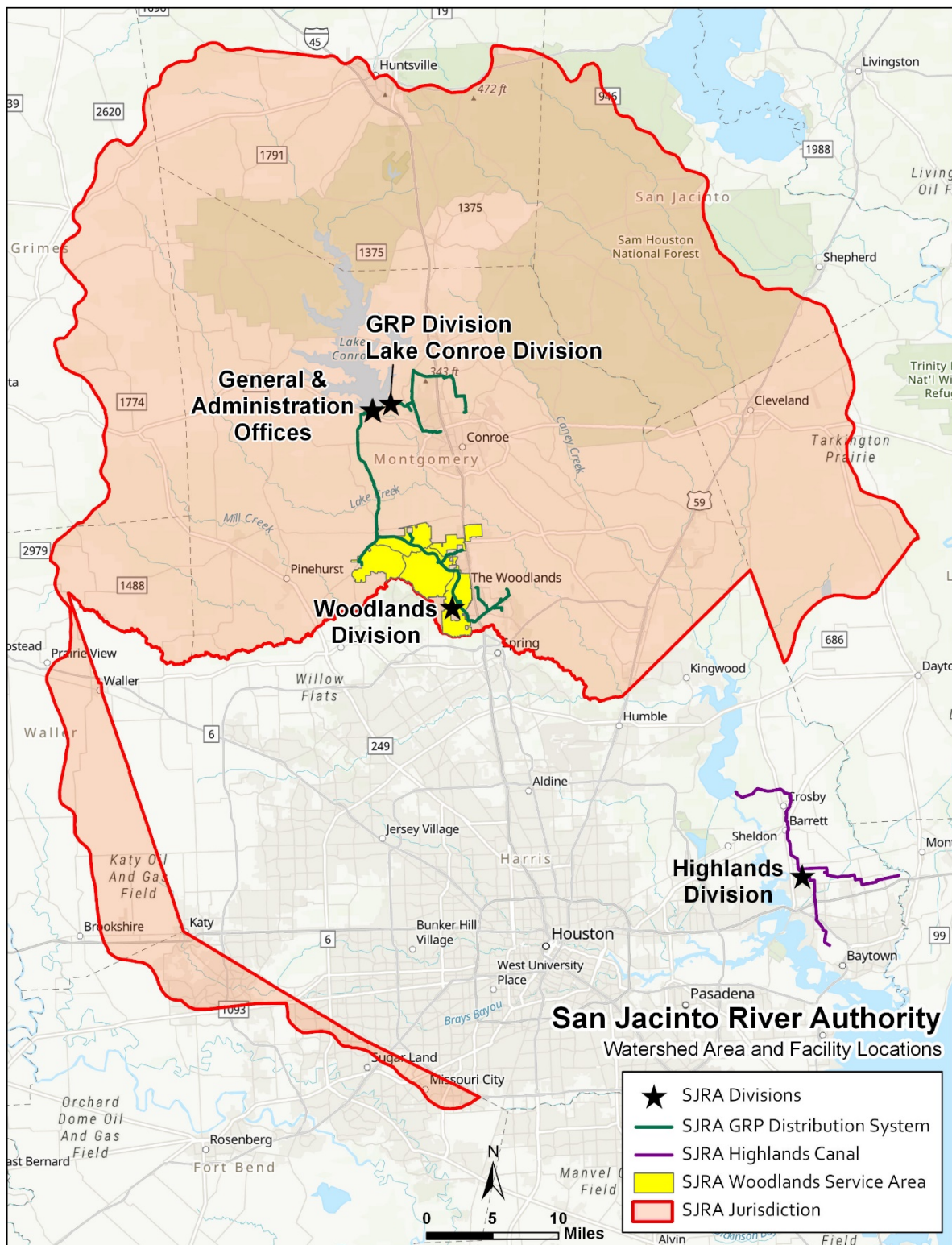


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

The Division currently provides its customers with water on a wholesale basis from a blend of water generated by 38 groundwater wells within the Evangeline and Jasper formations of the Gulf Coast Aquifer and surface water from Lake Conroe. SJRA is currently authorized by Lone Star Groundwater Conservation District (LSGCD) to produce up to 20,479 acre-feet per year (ac-ft/yr) from these wells. Water is disinfected at five water treatment plants and conveyed to customers through a series of potable distribution pipelines. The Division also provides wholesale wastewater service to customers through a wastewater collection system and three wastewater treatment plants.

In 2004 SJRA was granted 14,944 ac-ft/yr of water rights associated with groundwater based effluent return flows from its three wastewater treatment plants in The Woodlands, within the San Jacinto River Basin (Permit 5809). A portion of this return flow is utilized by SJRA to serve its customers in southeast Harris County. Customers of the Division also utilize indirect reuse through Permit 3960 (held by The Woodlands Land Development Company and Sequoia Golf Woodlands, LLC).

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/year) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. The SJRA's water right is permitted for multiple uses. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin. SJRA also holds an option contract for the purchase of the Houston portion of raw water in Lake Conroe which it plans to utilize in coming years.

The Woodlands Division is a GRP Participant in the SJRA Joint Groundwater Reduction Plan, which specifies measures to meet the requirements of Phase II(B) of the LSGCD District Regulatory Plan (DRP) to reduce future groundwater use within Montgomery County. Through their research and permitting efforts, LSGCD determined that groundwater production in Montgomery County exceeded the sustainable recharge rate and in response established certain requirements to reduce groundwater use. Phase I of the LSGCD DRP, which was adopted in 2006, established a target for sustainable production. DRP Phase II(A) was adopted in 2008 and required entities or groups of entities permitted to produce 10 million gallons per year of groundwater (Large Volume Groundwater Users, or LVGUs) to assess future water needs and potential alternative supplies. Phase II(B) of the DRP requires that all LVGUs either individually or in conjunction with others reduce their groundwater production to not more than 70% of their year 2009 permitted production (Total Qualifying Demand) no later than January 2016.

The Joint GRP specifies multiple strategies to meet Participant needs, including surface water

supplies, conservation, groundwater use from multiple formations, and wastewater reuse. As one of the selected GRP Participants partially converting to treated surface water, the Division is utilizing treated surface water originating from Lake Conroe to partially supply The Woodlands. Since conversion, the Division receives a base amount of treated surface water and will meet remaining demand with groundwater. The Water Conservation and Drought Contingency Plans for SJRA's GRP Division have been developed separately. The objectives and methods specified in this Water Conservation Plan are consistent with the requirements of the GRP Water Conservation Plan in order to maintain compatibility with the overlying GRP and Lake Conroe Division plans.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. The Division covers approximately 36 square miles and is a wholesale provider of water and wastewater service to The Woodlands.

The Woodlands is a master-planned community located in southern Montgomery County, Texas on IH-45, just north of the Harris County line. The Woodlands is made up of eleven individual Municipal Utility Districts (MUDs) ("The Woodlands Districts"), ten of which are operated and managed through The Woodlands Joint Powers Agency (WJPA), along with Harris-Montgomery County MUD No. 386 which is not a part of the WJPA (Figure 2-1). The WJPA provides retail water and wastewater services to The Woodlands community. The Woodlands Districts purchase all of their wholesale water and wastewater treatment services from the Division.

In 2018, The Woodlands Division produced 16,661 acre-feet ($\approx 5,429,000,000$ gallons) of blended surface and groundwater, and 1,919 acre-feet of reuse water as shown in Tables 2-1 and 2-2. A map of the Division's service area, along with existing potable water treatment facilities and appurtenances, is provided below (Figure 2-2). Major wastewater infrastructure is shown in Figure 2-3.

Table 2-1. 2018 Blended Surface and Ground Water Production

Municipal – GW	9,231 ac-ft
Municipal - SW	7,431 ac-ft
Industrial	0 ac-ft
Irrigation	0 ac-ft
Total	16,661 ac-ft

Table 2-2. 2018 Reuse Production

Municipal*	1,919 ac-ft
Industrial	0 ac-ft
Irrigation	0 ac-ft
Total	1,919 ac-ft

*Includes approximately 65 ac-ft of indirect reuse for landscape irrigation and 1,855 ac-ft of direct reuse for WWTP process and wash-down water.

A full description of the Division's customer information can be found in Appendix A, the Water Utility Profile.

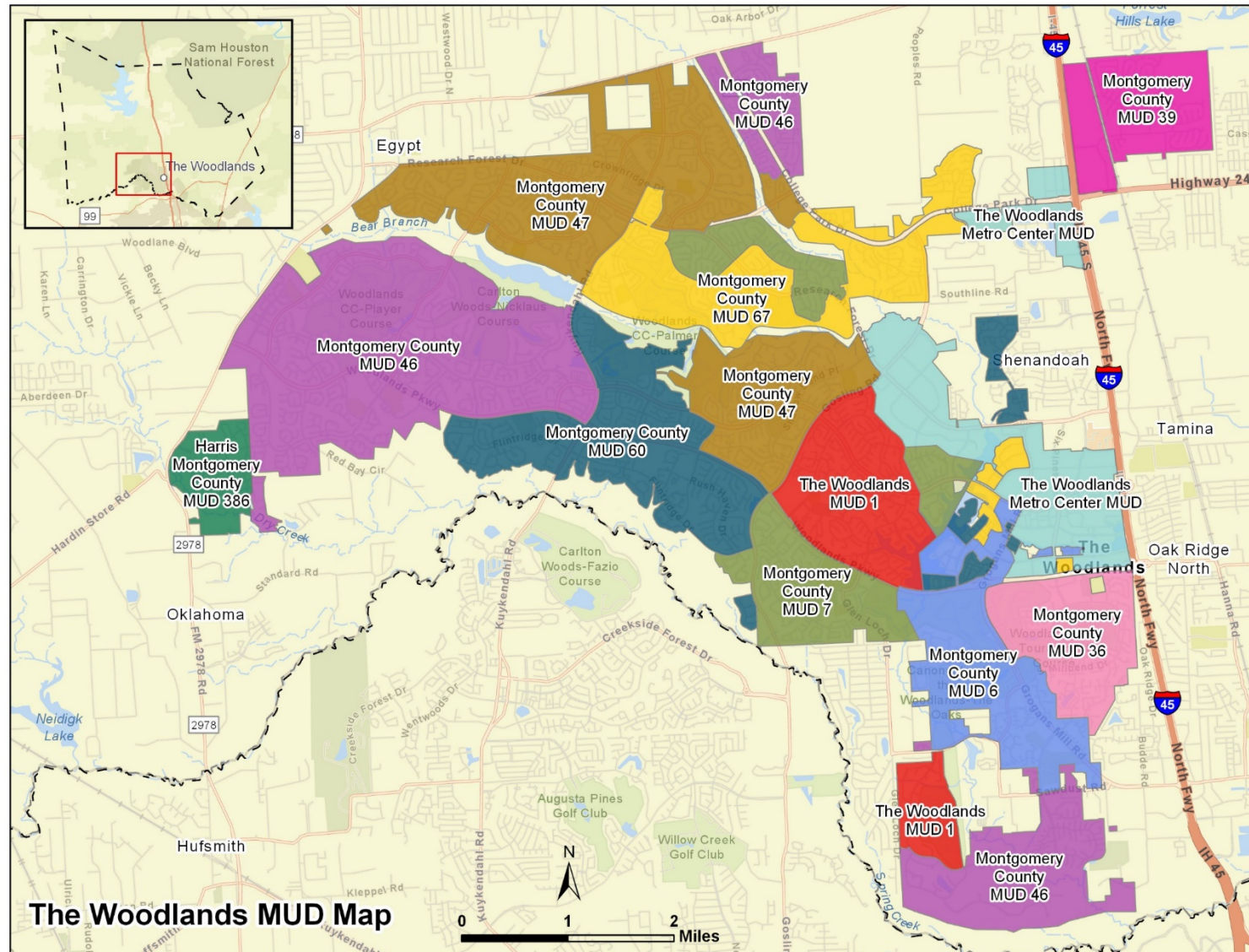


Figure 2-1. Woodlands MUDs

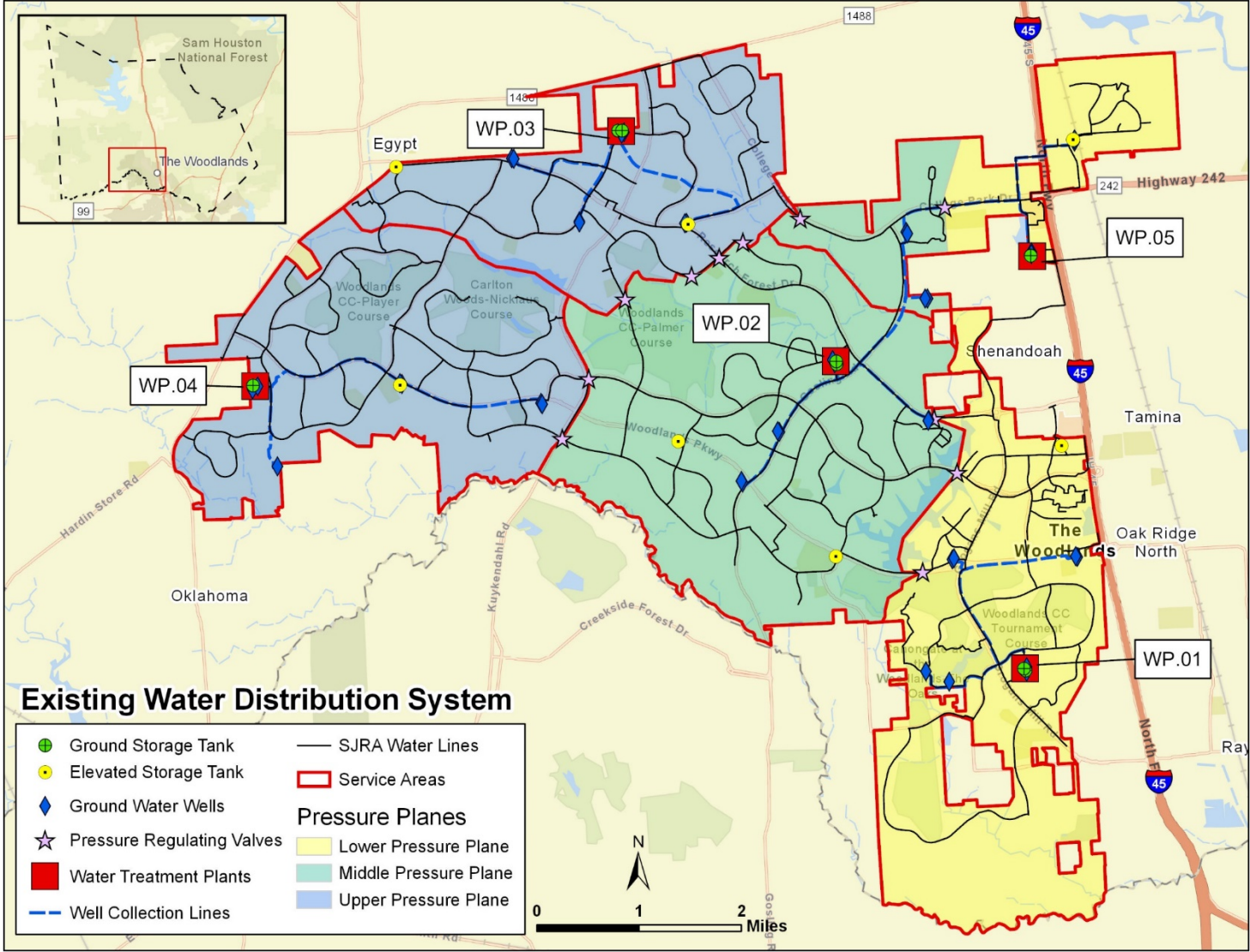


Figure 2-2. Woodlands Division Water Distribution System

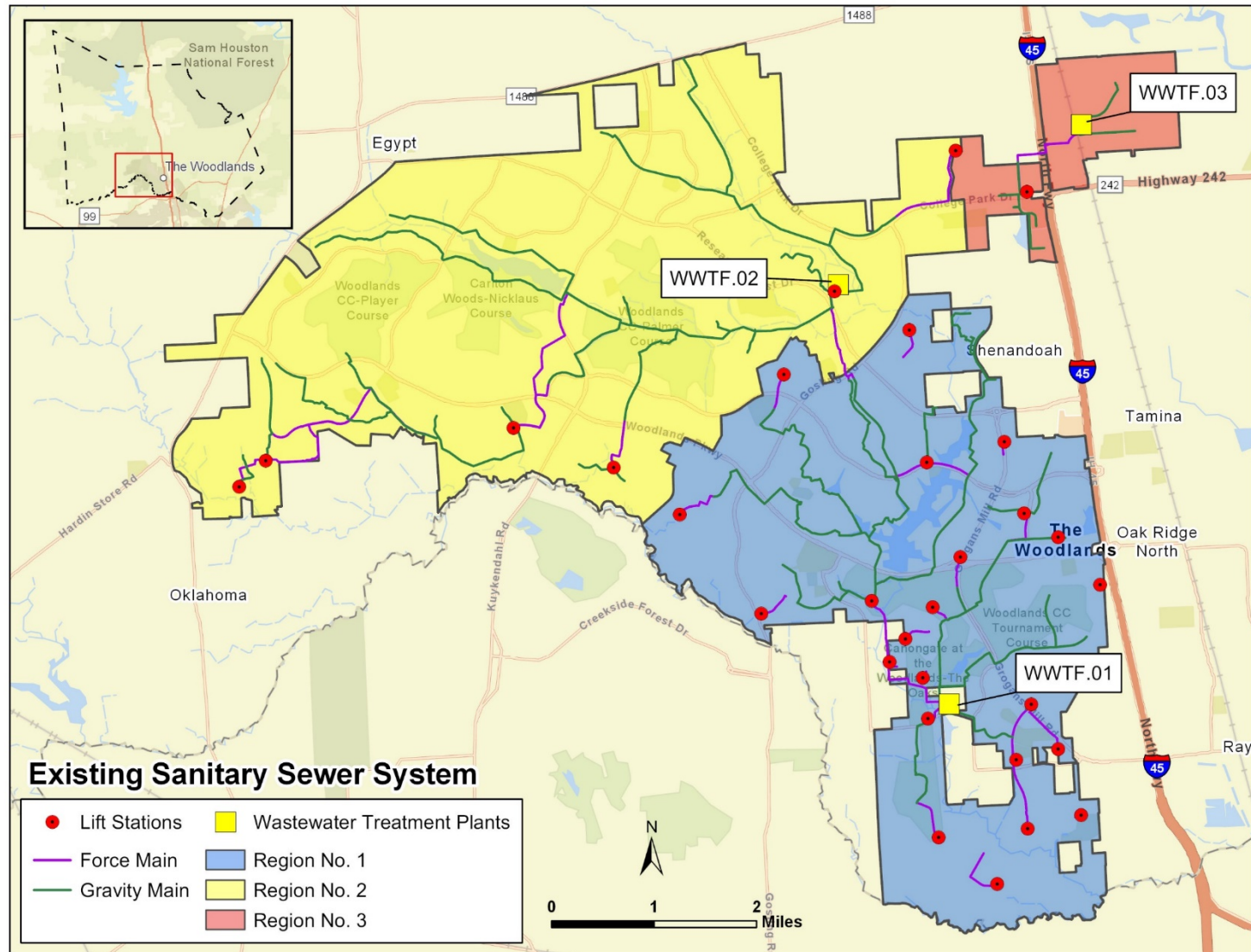


Figure 2-3. Woodlands Division Wastewater Infrastructure

Section 3. Water Conservation Plan

In the Texas Water Code, water conservation is defined as follows:

“(A) The development of water resources; and,

“(B) Those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.”³

Based upon these concepts of water conservation, the Division’s objective is to develop a water conservation plan that increases water use efficiency, thereby reducing water demands, without adversely affecting population and the economic growth potential of its customers.

3.1 Woodlands Division 5- and 10-year Water Conservation Target Goals

As a wholesale water provider, the Division is not involved in the day-to-day operations of its customers and therefore does not have direct control over the demands that it serves; however, it is working closely with the MUDs and the WJPA to encourage water-use reduction. The water conservation measures described below include those under the direct control of, and being implemented by, the Division as well as goals supported and encouraged by the Division for implementation by its customers. The SJRA Woodlands Division is to achieve a reduction in water demand of 2.5% over a 5-year period, and 5% over a 10-year period. Average per-capita municipal demand for the Division for 2014 through 2018 was 194.4 gallons per capita per day (gpcd). It is the goal of the Division to reduce municipal per-capita water demand to 189.5 gpcd by the end of 2023 and to 184.7 gpcd by the end of 2028 and water loss less than 10%, annually.

3.2 Water Conservation Methods

The Division’s water conservation plan includes the following water conservation methods. Each method is described in greater detail in the following subsections.

- Metering and Record Management;
- Leak Detection, Repair, and Minimization of Conveyance Losses;
- Recycling and Reuse;
- Rate Structure;
- Contractual Requirements for Customer Water Conservation Plans;

³ TWC, Section 17.001 (23) (A) and (B).

- Customer Conservation Plan Guidance;
- Customer Reporting Requirements;
- Public Information and Education;
- Encouraging Customer Conservation Practices; and
- Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan.

There are two reservoirs (Lake Conroe and Lake Houston) in the San Jacinto River system however, they are operated by separate entity's therefore the Woodlands Division does not have a reservoir system operations plan.

3.2.1 Metering and Record Management

The customers of the Division are responsible for metering their water use. The data collected from the metering of the customers allows the Division and SJRA to maintain a detailed record management system of water deliveries. Note that the Division's delivery to each customer MUD is not directly metered. However, all retail municipal and commercial water connections within the WJPA as well as some irrigation connections are metered. Customers of the Division are responsible for installing and maintaining meters at the points of retail delivery, including calibration to a level of accuracy compatible with the conservation goals of the Division. Access to these meters will be given to the Division by each customer for inspection purposes. The Division is responsible for metering and maintenance of meters at its production and treatment facilities.

3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses

The Division's wholesale distribution mains are maintained by the Division. The Division is responsible for lines 12-inches in diameter and larger. Potential leaks identified through accounting, inspection, or customer reporting are repaired promptly to minimize conveyance losses. Those components of the system used to take water from the mains into each wholesale customer's system are owned and maintained by the customer. The Division encourages its customers to engage in leak detection and repair in their own systems. SJRA and the Division encourage customers to take measures to reduce water loss to less than 10% in order to prevent waste and facilitate achievement of the Water Conservation Plan demand reduction goals as specified above.

3.2.3 Recycling and Reuse

The Division currently utilizes reuse supplies, including providing indirect reclaimed effluent to a golf course in the Woodlands through a long-term supply contract. The Division also implements direct

reuse by using WWTP effluent for maintenance and process water. As a part of conservation efforts, the Division will continue reuse.

3.2.4 Rate Structure

SJRA utilizes a non-promotional rate structure for wholesale contracts with its customers; these rates are periodically reviewed and adjusted as necessary. SJRA also encourages the Division's customers to establish rate structures promoting conservation for sales to their own wholesale and retail customers.

3.2.5 Contractual Requirements for Customer Water Conservation Plans

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements. Additionally, SJRA will include in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan a requirement that customers develop and implement water conservation plans as required by Title 30, Texas Administrative Code, Chapter 288 30 TAC §288). Per 30 TAC §288, any future contract, renewal, or amendment will also require that successive sales from SJRA customers to others include a contractual stipulation for water conservation requirements. At a minimum, customer conservation plans must comply with the requirements of 30 TAC §288.

SJRA requests that customer water conservation plans be consistent with the conservation goals of the Division, including a reduction in water demand in accordance with the per-capita goals referenced above, and should be at least as stringent as the Division's Plan. Customers should submit to SJRA on an annual basis a summary of water conservation and drought contingency plan implementation. SJRA will include these requests as requirements in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan.

SJRA may periodically update these criteria, as well as the Water Conservation and Drought Contingency Plans for the Division to meet legal requirements or address changing conditions; subsequent to such revisions, customers of the Division are requested to update their water conservation and drought contingency plans as applicable.

3.2.6 Customer Conservation Plan Guidance;

SJRA will provide to customers upon request, model water conservation plans as developed by TCEQ, meeting the contractual requirements described in Section 3.2.5 above for each customer type. Additionally, SJRA will at customer request review draft customer water conservation and drought contingency plans for consistency with contractual requirements and the Division's Water Conservation and Drought Contingency Plans. Customers can contact the Division for information regarding the Division's

Plans and contractual requirements.

3.2.7 Customer Reporting Requirements

In 2011, the 82nd Texas Legislature passed Senate Bill (SB) 181, which addressed the need for consistency in water use reporting by municipalities, water utilities, and others. Subsequently, TWDB and TCEQ developed detailed guidance and procedures for calculating and reporting water use, water loss, and other factors.

While SJRA is not directly impacted by these requirements as a wholesale provider, the Division and other divisions provide contractual water supply to a number of entities which are impacted by SB181. The broad range of water uses served by SJRA and the requirements of multiple State reporting programs creates a need for the consistent customer reporting. As such, SJRA will require customer water usage reports, including any values for per-capita water demand, to follow the procedures established by TWDB and TCEQ.⁴ Water use reports should include data at the sector level (single family residential, multi-family residential, industrial, commercial, agricultural, etc.) and should additionally include estimated population served and calculated water loss. Further, SJRA may request that customers annually submit to SJRA a copy of all conservation plan reporting forms, if required by TCEQ, that are submitted to TCEQ.

SJRA will also hold one or more workshops providing information to water supply customers on the reporting requirements discussed in this section.

3.2.8 Public Information and Education

SJRA has the option to utilize a plethora of water conservation resources that the TWDB, American Water Works Association, and American Public Works Association originally created as components of their own public education campaigns. Individual pamphlets and educational messages provided from these entities would be selected for specialized water conservation needs as they arise. SJRA also provides and constantly updates conservation information and efficient water use on the Authority website at <http://www.sjra.net/>.

SJRA will provide, as needed and/or requested, water conservation literature to the customers of the Division. The Division is committed to promoting improvements in industrial, municipal, and agricultural/irrigation processes to achieve conservation with its customers.

SJRA, across all divisions, will make information available through its public information and education program for plumbers and customers to use when purchasing and installing plumbing fixtures, water-using appliances, and watering equipment. Information regarding retrofit devices, such as low-flow

⁴ TWDB et al. 2012. Guidance and Methodology for Reporting on Water Conservation and Water Use

shower heads or toilet dams that reduce water use by replacing or modifying existing fixtures or appliances, will also be provided.

Other public information approaches which SJRA has utilized in the past and may implement in the future include public tours of various facilities across all divisions, participation in local environmental events, classroom water conservation educational programs, and joint operation of a mobile teaching lab.

3.2.9 Encouraging Customer Conservation Practices

SJRA and the Division will work with WJPA to consider implementing rules, measures, and emerging technologies that promote water conservation and efficient use. Recommended measures include, but are not limited to, the following:

- Prohibitions on wasting water;
- Time-of-day watering restrictions;
- Water conservation pricing structures;
- Landscape irrigation conservation, including integrating rainfall/freeze sensors into irrigation systems;
- Water reuse
- Rainwater harvesting
- Public education programs

Additional information on conservation practices for a wide range of water uses can be found at the TWDB website (<http://www.twdb.texas.gov/>).

3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan

The Woodlands Division Manager and/or designees will act as the administrator(s) of the Water Conservation Plan for the Woodlands Division. The administrator(s) will oversee the execution and implementation of all elements of the program and monitor the progress of the plan. Additionally, the administrator(s) will be responsible for submission of an annual report to the TCEQ and TWDB on the progress, and any changes to, the Water Conservation Plan. SJRA is responsible for maintaining adequate records for program verification.

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements.

The Division is located within the Region H Regional Water Planning Area. In accordance with the TCEQ rules, the Division provides a copy of its Water Conservation Plan to the Region H Regional Water Planning Group. A copy of the transmittal letter is included in Appendix B.

Every five years, SJRA will examine the Division's Water Conservation Plan and revise as

necessary. The Water Conservation Plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix B.

Appendix A

Water Utility Profiles

This page intentionally left blank.

San Jacinto River Authority – Woodlands Division

**TCEQ Form 20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.



Texas Commission on Environmental Quality

PROFILE AND WATER CONSERVATION PLAN REQUIREMENTS FOR WHOLESALE PUBLIC WATER SUPPLIERS

This form is provided to assist wholesale public water suppliers in water conservation plan development. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority – Woodlands Division

Address: 2436 Sawdust Road, The Woodlands, TX 77380

Telephone Number: (281) 367-9511 Fax: (281) 362-4385

Water Right No.(s): N/A

Regional Water Planning Group: H

Form Completed by: Chris Meeks

Title: Woodlands Division Manager

Person responsible for implementing conservation program: Chris Meeks Phone: (281) 367-9511

Signature: _____ Date: 2/28/2019

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

PROFILE

I. WHOLESALE SERVICE AREA POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Service area size (in square miles): 37.86
(Please attach a copy of service-area map) **See Attachment A**
2. Current population of service area: 105,087

3. Current population served for:

- a. Water 105,087
- b. Wastewater 105,087

4. Population served for previous five years:

Year	Population
2014	100,703
2015	101,795
2016	102,870
2017	103,892
2018	105,087

5. Projected population for service area in the following decades:

Year	Population
2020	106,329
2030	107,678
2040	108,755
2050	109,842
2060	110,941

6. List source or method for the calculation of current and projected population size.

Interfaith of The Woodlands was used for the estimated populations for the previous five years. Projected populations through 2030 were derived from the SJRA GRP Pumpage Rate Study and the Harris-Galveston Subsidence District Regional Groundwater Update study. Population increase from 2030 to 2060 were derived from population rate increase of 1% per decade from The Woodlands Township as 99% ultimate build-out in The Woodlands - Montgomery County will occur in 2028.

B. Customers Data

List (or attach) the names of all wholesale customers, amount of annual contract, and amount of annual use for each customer for the previous year:

Wholesale customer	Contracted amount (ac-ft/yr)*	Previous year amount of water delivered (acre-feet)
The Woodlands MUD 1	2766	1165
Montgomery County MUD 6	2899	840
Montgomery County MUD 7	3641	1133
Montgomery County MUD 36	2015	603
Montgomery County MUD 39	2022	581
Montgomery County MUD 46	8018	3995
Montgomery County MUD 47	7460	2908
Montgomery County MUD 60	4326	1864
Montgomery County MUD 67	4003	1445
Metro Center MUD	6115	1901
Harris-Montgomery MUD 386	938	321

**Estimated from projected Year 2018 single-family equivalent connections.*

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amounts for the previous five years (in acre feet):

Year	Treated Water	Raw Water
2014	18550	0
2015	17658	0
2016	18287	0
2017	18495	0
2018	16661	0
Totals	89651	0

B. Water Accounting Data

1. Total amount of water diverted at the point of diversion(s) for the previous five years (in acre-feet) for all water uses:

Year	2014	2015	2016	2017	2018
<i>Month</i>					
January	1012	899	971	968	955
February	855	849	1076	988	796
March	1030	922	1307	1319	1300
April	1682	1145	1314	1444	1434
May	2027	1192	1366	1987	1862
June	1802	1426	1430	1833	1943
July	1969	2185	2602	2180	1975
August	2511	2692	2042	1926	2074
September	1833	2220	1746	1747	1401
October	1653	2046	2012	1725	1111
November	1186	1108	1368	1357	915
December	989	973	1050	1021	896
Totals	18550	17658	18284	18495	16661

2. Wholesale population served and total amount of water diverted for **municipal use** for the previous five years (in acre-feet):

Year	Total Population Served	Total Annual Water Diverted for Municipal Use
2014	100,703	18,550
2015	101,795	17,658
2016	102,870	18,284
2017	103,892	18,495
2018	105,087	16,661

C. Projected Water Demands

If applicable, project and attach water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

III. WATER SUPPLY SYSTEM DATA

A. Projected Water Demands

List all current water supply sources and the amounts authorized (in acre feet) with each.

Water Type	Source	Amount Authorized
Surface Water	SJRA – GRP SWTP (Lake Conroe)	*
Groundwater	Evangeline and Jasper aquifers	20,479
Other	N/A	N/A

**Surface water is delivered to meet 40-65% of water demand*

B. Treatment and Distribution System (if providing treated water)

1. Design daily capacity of system (MGD): 63.95
2. Storage capacity (MGD):
 - c. Elevated 4.5
 - d. Ground 17

3. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks. **See Attachment B**

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s) (MGD): 14.7
2. Briefly describe the wastewater system(s) of the area serviced by the wholesale public water supplier. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

All SJRA WWTP's are versions of the activated sludge processes. System treatment diagrams are included in Attachment C.

- *TCEQ names and numbers:*
 - *WWTP No. 1 – WQ0011401001*
 - *WWTP No. 2 – WQ0012597001*
 - *WWTP No. 3 – WQ0011658001*
- *Owner / Operator: SJRA*
- *Receiving stream*
 - *WWTP No. 1 – Panther Branch (Segment No. 1008 of the San Jacinto River Basin)*
 - *WWTP No. 2 – Panther Branch (Segment No. 1008 of the San Jacinto River Basin)*
 - *WWTP No. 3 – unnamed tributary (Segment No. 1004 of the San Jacinto River Basin)*

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 100 %
2. Monthly volume treated for previous five years (in 1,000 gallons):

<i>Year</i>	2014	2015	2016	2017	2018
<i>Month</i>					
January	705	706	702	742	739
February	645	622	638	645	686
March	713	725	724	698	721
April	688	719	777	691	687
May	784	816	898	739	740
June	740	753	793	725	712
July	748	745	736	750	749
August	758	743	804	1030	749

September	751	702	718	734	737
October	733	726	700	717	719
November	674	701	667	697	715
December	690	715	703	719	775
Totals	8629	8673	8861	8888	8729

V. ADDITIONAL REQUIRED INFORMATION

In addition to the description of the wholesaler's service area (profile from above), a water conservation plan for a wholesale public water supplier must include, at a minimum, additional information as required by Title 30, Texas Administrative Code, Chapter 288.5. Note: If the water conservation plan does not provide information for each requirement an explanation must be included as to why the requirement is not applicable.

A. Specific, Quantified 5 & 10-Year Targets

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals. Note that the goals established by wholesale water suppliers under this subparagraph are not enforceable.

B. Metering Devices

The water conservation plan must include a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply.

C. Record Management Program

The water conservation plan must include a monitoring and record management program for determining water deliveries, sales, and losses.

D. Metering/Leak-Detection and Repair Program

The water conservation plan must include a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system.

E. Reservoir Systems Operations Plan

The water conservation plan must include a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin. The reservoir systems operations plan shall include optimization of water supplies as one of the significant goals of the plan.

F. Contract Requirements for Successive Customer Conservation

The water conservation plan must include a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of Title 30 TAC

Chapter 288. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

G. Enforcement Procedure and Official Adoption

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

H. Coordination with the Regional Water Planning Group(s)

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

Example statement to be included within the water conservation plan:

The service area of the _____ (name of water supplier) is located within the _____ (name of regional water planning area or areas) and _____ (name of water supplier) has provided a copy of this water conservation plan to the _____ (name of regional water planning group or groups).

I. Plan Review and Update

A wholesale water supplier shall review and update its water conservation plan, as appropriate based on an assessment of previous five-year and ten-year targets and any other new or updated information. A wholesale water supplier shall review and update the next revision of its water conservation plan no later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

J. Additional Conservation Strategies

Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of this chapter, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. Conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;
2. A program to assist agricultural customers in the development of conservation, pollution prevention and abatement plans;
3. A program for reuse and/or recycling of wastewater and/or graywater;
4. A cost-share program;
5. A technical assistance and outreach program;
6. A program for purchase and direct distribution of water conservation equipment; and
7. Any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

San Jacinto River Authority – Woodlands Division

Attachments to TCEQ Form

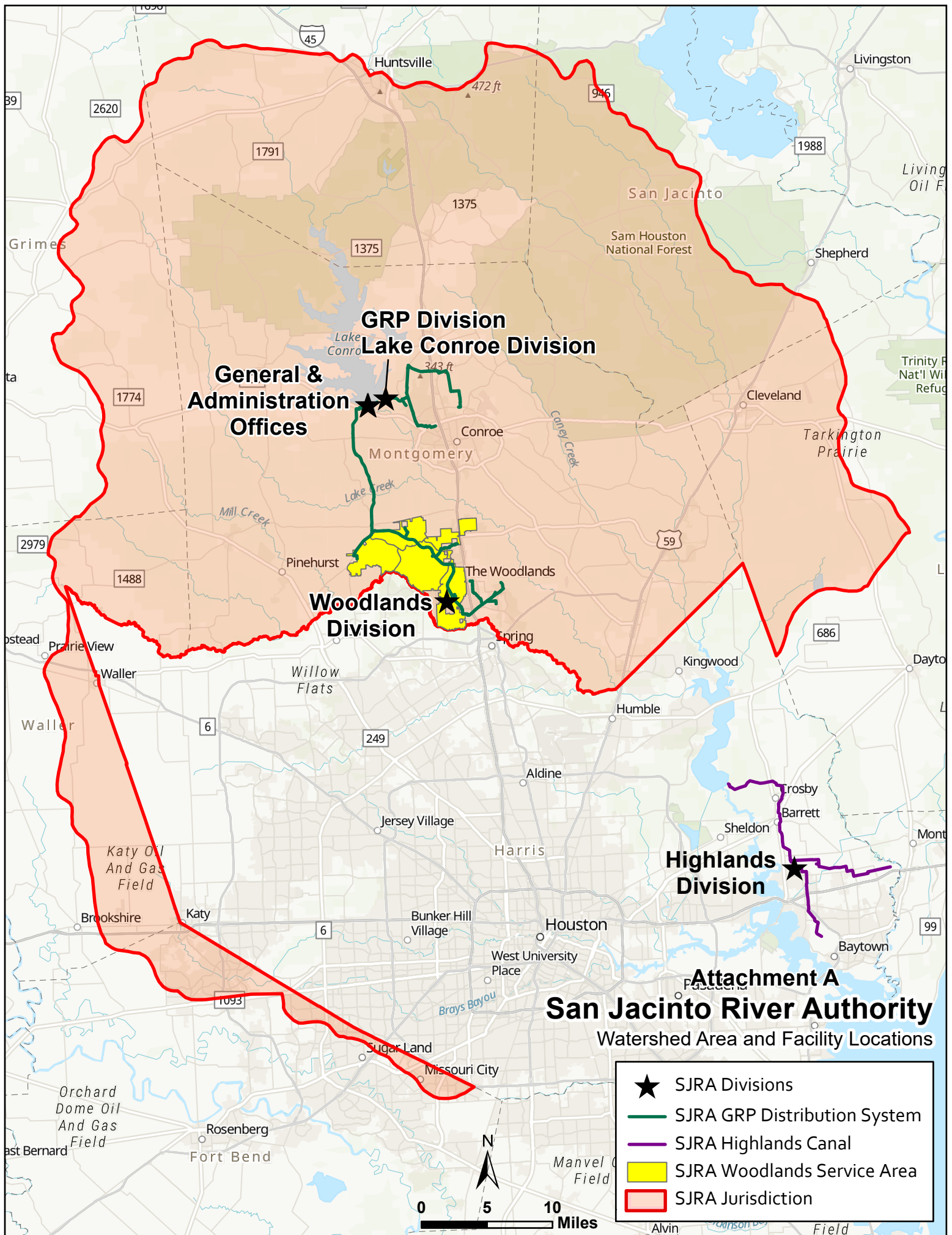
**20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

This page intentionally left blank.

Attachment A

SJRA Service Area

This page intentionally left blank.

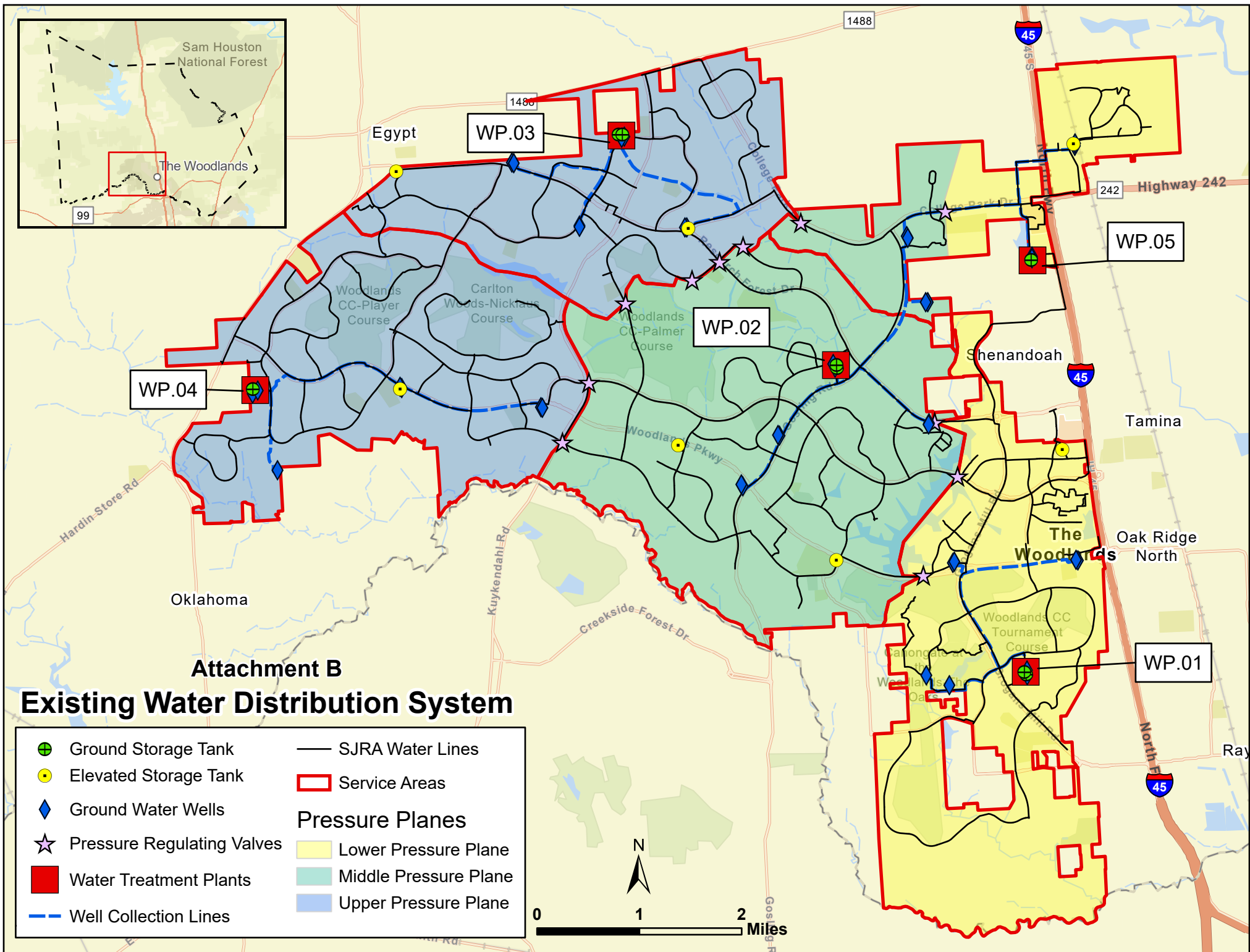
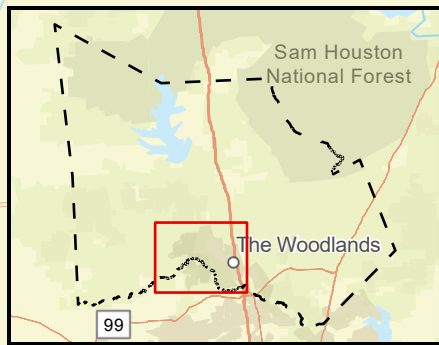


This page intentionally left blank.

Attachment B

Water Distribution System

This page intentionally left blank.

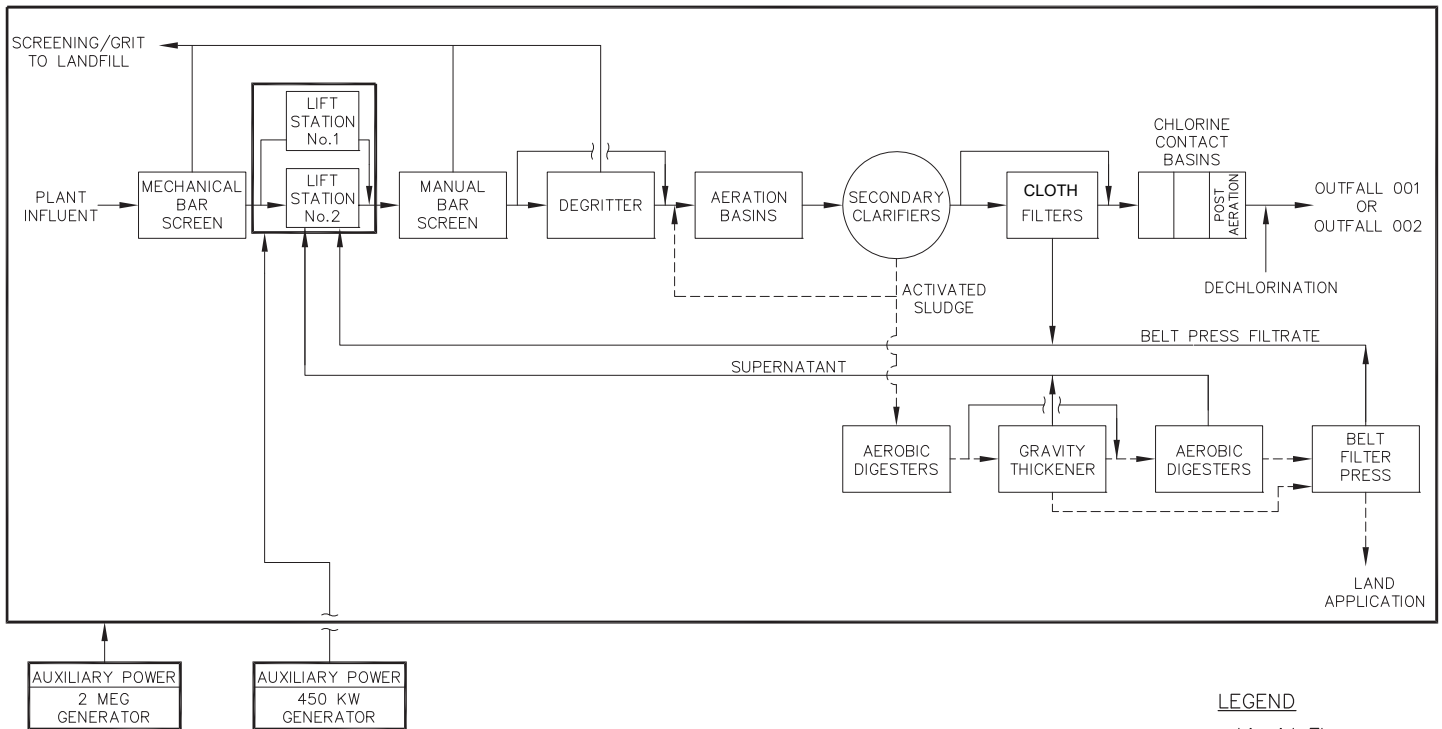


This page intentionally left blank.

Attachment C

Wastewater Distribution System and Treatment Plant Process Diagrams

This page intentionally left blank.



LEGEND

—> Liquid Flow

- - -> Solids Flow

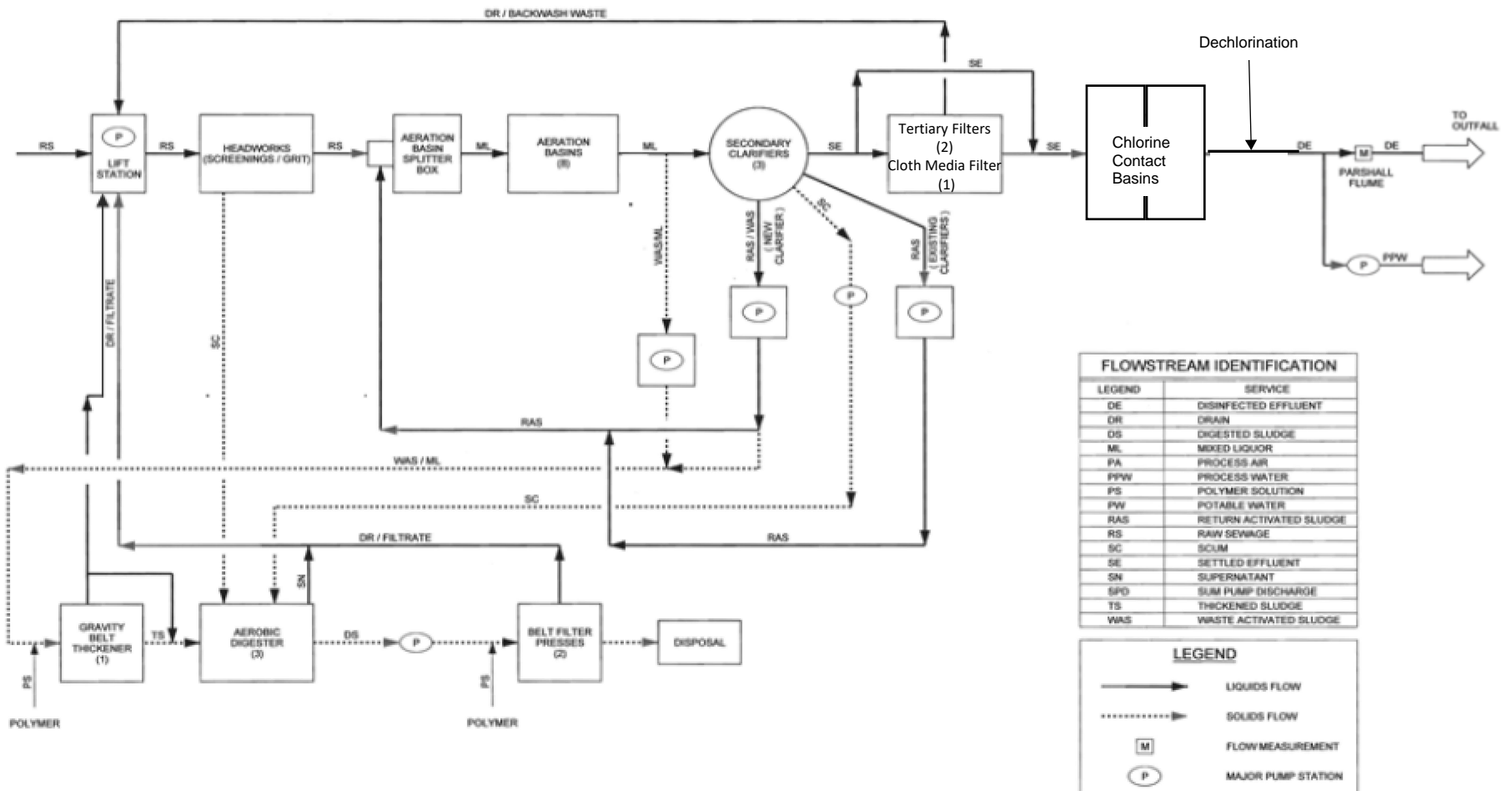
— Generator Service Area

ATTACHMENT C
 SAN JACINTO RIVER AUTHORITY
 WASTEWATER TREATMENT PLANT NO. 1
 TPDES PERMIT RENEWAL APPLICATION
 FLOW DIAGRAM

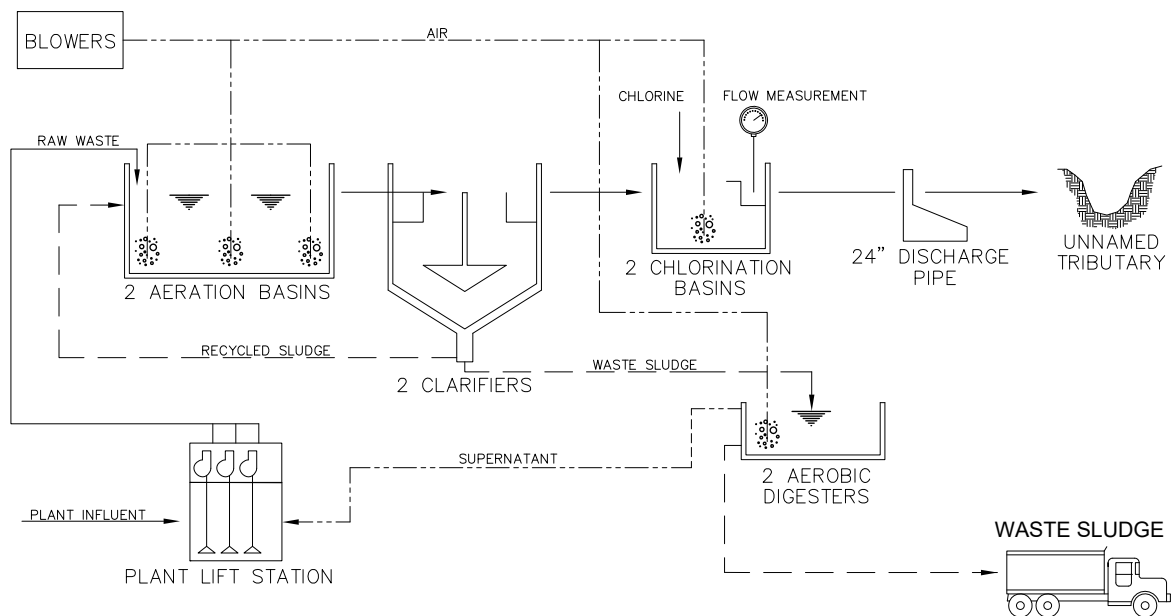
ATTACHMENT C

SAN JACINTO RIVER AUTHORITY WASTEWATER TREATMENT FACILITY NO. 2 PERMIT NO. WQ0012597001

EXISTING PROCESS FLOW DIAGRAM (6.0 MGD AAF AND 15.6 MGD P2HF)



MODE OF TREATMENT
SINGLE STAGE NITRIFICATION ACTIVATED SLUDGE



LEGEND
 ———> Liquid Flow
 - - - -> Solid Flow
 - - - -> Other Flow

ATTACHMENT C
 SAN JACINTO RIVER AUTHORITY
 WASTEWATER TREATMENT PLANT NO. 3
 TPDES PERMIT APPLICATION
 FLOW DIAGRAM – EXISTING/INTERIM I PHASE

Appendix B

Resolutions Passed by SJRA Transmittal Letter to Region H RWPG

This page intentionally left blank.

Appendix C

Woodlands Division TCEQ Form 20645 - Water Conservation Implementation Report Form and Summary of Updates/Revisions to Water Conservation Plan

This page intentionally left blank.



WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

- 1. Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
- 2. Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019**. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: _____
2. Water Right Permit or Certificate Nos. _____

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

- _____ Municipal Water Use by Public Water Supplier
_____ Wholesale Public Water Supplier
_____ Industrial Use
_____ Mining Use
_____ Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

- _____ Individually-Operated Irrigation System
_____ Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes _____ No _____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.
- Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288.
http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
 - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserves.html

*Call 512-239-4691 or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

Yes_____ No_____

If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?

Yes_____ No_____

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

9. Form Completed by (Point of Contact): _____
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: _____

Contact Address: _____

Contact Phone Number: _____ Contact Email Address: _____

Signature: _____

Date: _____

Drought Contingency Plan

for

**San Jacinto River Authority
Woodlands Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

This page intentionally left blank.

Table of Contents

<u>Section</u>	<u>Page</u>
Section 1. Introduction	1-1
Section 2. Utility and Service Area Description.....	2-1
2.1 Utility Description	2-1
2.2 Service Area Description.....	2-2
Section 3. Drought Contingency Plan	3-1
3.1 Drought Contingency Plan – Woodlands Division	3-1
3.2 Trigger Conditions – Initiation and Termination	3-1
3.3 Notification of Initiation and Termination	3-5
3.4 Drought Response Stages	3-5
3.5 Pro Rata Water Allocation.....	3-7
3.6 Compliance Metrics.....	3-7
3.7 Public Involvement.....	3-8
3.8 Procedures for Granting Variances.....	3-8
3.9 Implementation and Enforcement	3-8
3.10 Coordination with Regional Water Planning Group	3-9
3.11 Updating of the Plan	3-9
 <u>Tables</u>	
Table 2-1. 2018 Blended Surface and Ground Water Production.....	2-2
Table 2-2. 2018 Reuse Production.....	2-3
 <u>Figures</u>	
Figure 1-1. Watershed Area and Facility Locations.....	1-2
Figure 2-1. Woodlands MUDs	2-5
Figure 2-2. Woodlands Division Water Distribution System.....	2-6
Figure 2-3. Woodlands Division Wastewater Infrastructure.....	2-7
 <u>Appendices</u>	
Appendix A – Resolutions Passed by SJRA, Transmittal Letter to Region H RWPG	

This page intentionally left blank.

Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Drought Contingency Plan (including utility description, service area description, and drought measures) for the Woodlands Division (the Division). The Division’s Water Conservation Plan is provided under separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

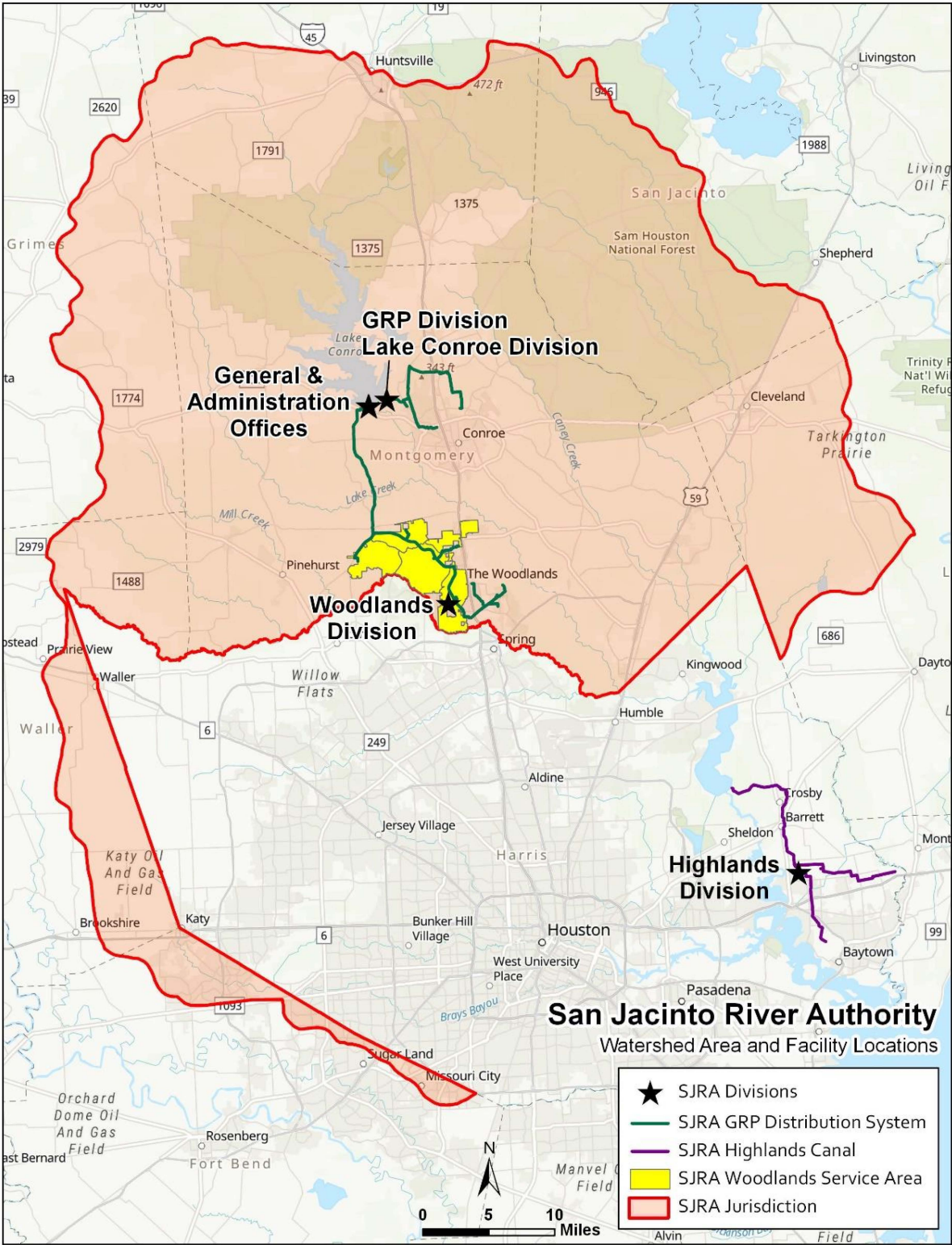


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

The Division currently provides its customers with water on a wholesale basis from a blend of water generated by 38 groundwater wells within the Evangeline and Jasper formations of the Gulf Coast Aquifer and surface water from Lake Conroe. SJRA is currently authorized by Lone Star Groundwater Conservation District (LSGCD) to produce up to 20,479 acre-feet per year (ac-ft/yr) from these wells. Water is disinfected at five water treatment plants and conveyed to customers through a series of potable distribution pipelines. The Division also provides wholesale wastewater service to customers through a wastewater collection system and three wastewater treatment plants.

In 2004 SJRA was granted 14,944 ac-ft/yr of water rights associated with groundwater based effluent return flows from its three wastewater treatment plants in The Woodlands, within the San Jacinto River Basin (Permit 5809). A portion of this return flow is utilized by SJRA to serve its customers in southeast Harris County. Customers of the Division also utilize indirect reuse through Permit 3960 (held by The Woodlands Land Development Company and Sequoia Golf Woodlands, LLC).

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/year) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. The SJRA's water right is permitted for multiple uses. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin. SJRA also holds an option contract for the purchase of the Houston portion of raw water in Lake Conroe which it plans to utilize in coming years.

The Woodlands Division is a GRP Participant in the SJRA Joint Groundwater Reduction Plan, which specifies measures to meet the requirements of Phase II(B) of the LSGCD District Regulatory Plan (DRP) to reduce future groundwater use within Montgomery County. Through their research and permitting efforts, LSGCD determined that groundwater production in Montgomery County exceeded the sustainable recharge rate and in response established certain requirements to reduce groundwater use. Phase I of the LSGCD DRP, which was adopted in 2006, established a target for sustainable production. DRP Phase II(A) was adopted in 2008 and required entities or groups of entities permitted to produce 10 million gallons per year of groundwater (Large Volume Groundwater Users, or LVGUs) to assess future water needs and potential alternative supplies. Phase II(B) of the DRP requires that all LVGUs either individually or in conjunction with others reduce their groundwater production to not more than 70% of their year 2009 permitted production (Total Qualifying Demand) no later than January 2016.

The Joint GRP specifies multiple strategies to meet Participant needs, including surface water

supplies, conservation, groundwater use from multiple formations, and wastewater reuse. As one of the selected GRP Participants partially converting to treated surface water, the Division is utilizing treated surface water originating from Lake Conroe to partially supply The Woodlands. Since conversion, the Division receives a base amount of treated surface water and will meet remaining demand with groundwater. The Water Conservation and Drought Contingency Plans for SJRA's GRP Division have been developed separately.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. The Division covers approximately 36 square miles and is a wholesale provider of water and wastewater service to The Woodlands.

The Woodlands is a master-planned community located in southern Montgomery County, Texas on IH-45, just north of the Harris County line. The Woodlands is made up of eleven individual Municipal Utility Districts (MUDs) ("The Woodlands Districts"), ten of which are operated and managed through The Woodlands Joint Powers Agency (WJPA), along with Harris-Montgomery County MUD No. 386 which is not a part of the WJPA (Figure 2-1). The WJPA provides retail water and wastewater services to The Woodlands community. The Woodlands Districts purchase all of their wholesale water and wastewater treatment services from the Division.

In 2018, The Woodlands Division produced 16,661 acre-feet ($\approx 5,429,000,000$ gallons) of blended surface and groundwater, and 1,919 acre-feet of reuse water as shown in Tables 2-1 and 2-2. A map of the Division's service area, along with existing potable water treatment facilities and appurtenances, is provided below (Figure 2-2). Major wastewater infrastructure is shown in Figure 2-3.

Table 2-1. 2018 Blended Surface and Ground Water Production

Municipal – GW	9,231 ac-ft
Municipal – SW	7,431 ac-ft
Industrial	0 ac-ft
Irrigation	0 ac-ft
Total	16,661 ac-ft

Table 2-2. 2018 Reuse Production

Municipal*	1,919 ac-ft
Industrial	0 ac-ft
Irrigation	0 ac-ft
Total	1,919 ac-ft

*Includes approximately 65 ac-ft of indirect reuse for landscape irrigation and 1,855 ac-ft of direct reuse for WWTP process and washdown water.

A full description of the Division's customer information can be found under separate cover in the Division's Water Conservation Plan.

This page intentionally left blank.

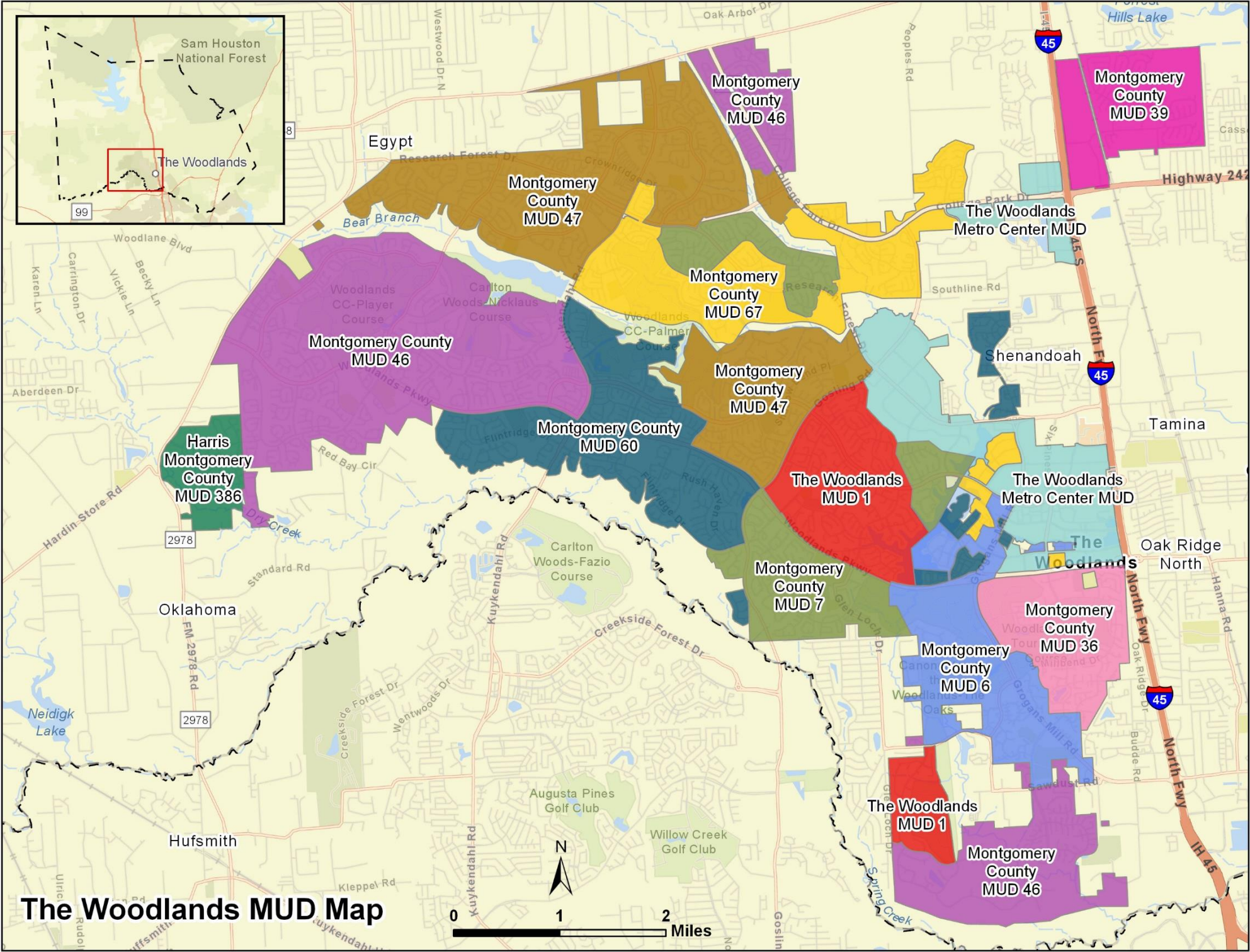


Figure 2-1. Woodlands MUDs

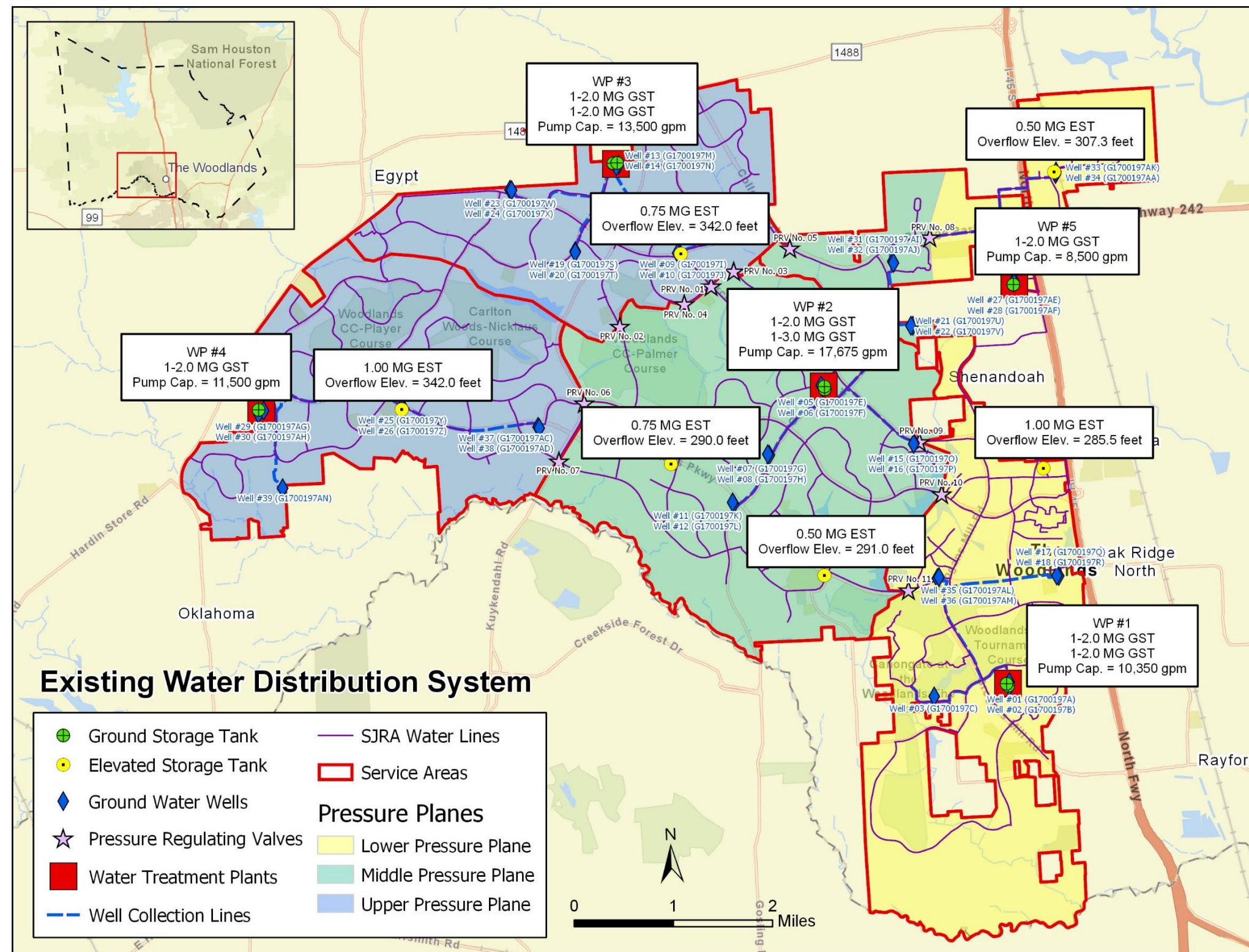


Figure 2-2. Woodlands Division Water Distribution System

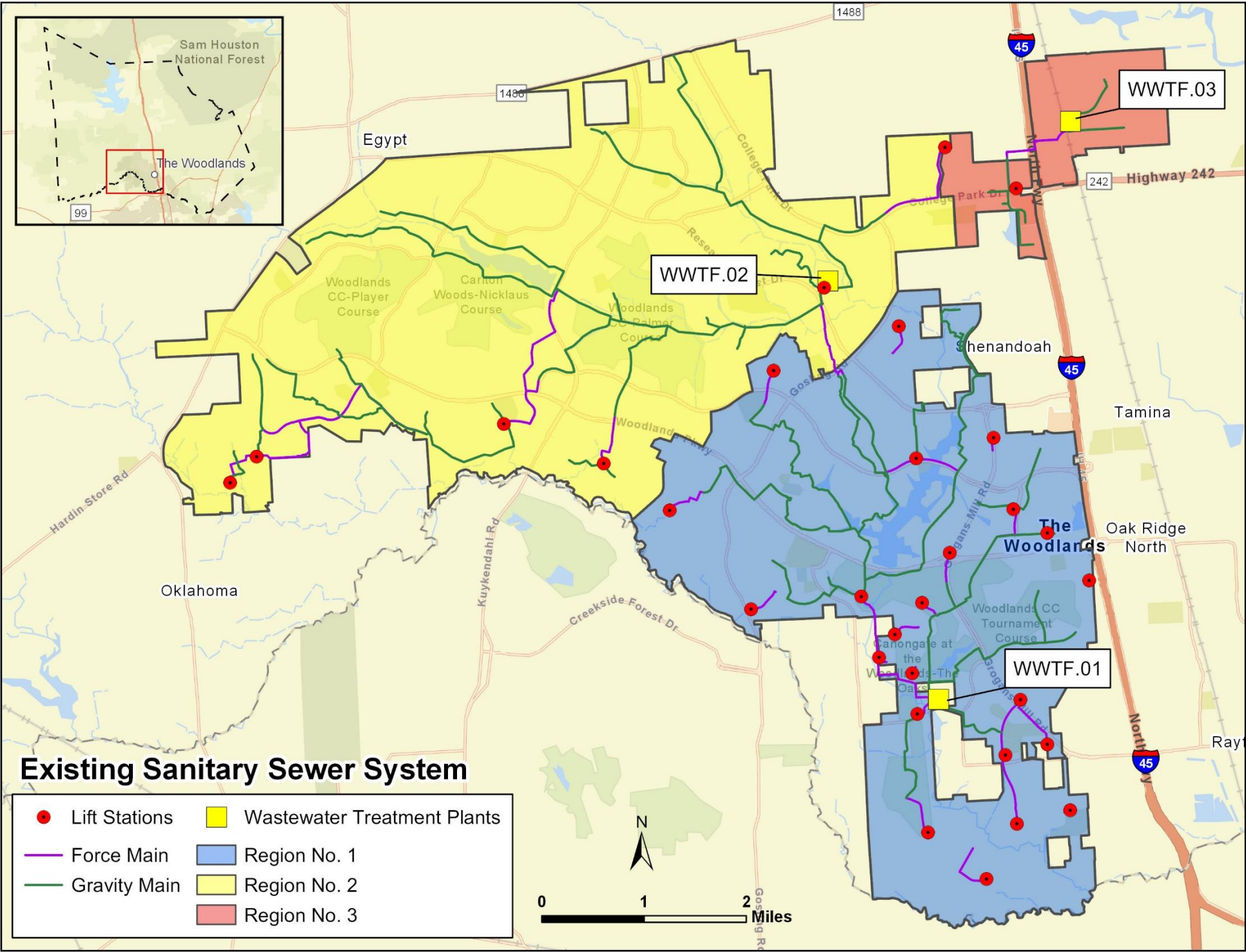


Figure 2-3. Woodlands Division Wastewater Infrastructure

This page intentionally left blank.

Section 3. Drought Contingency Plan

Drought, or a number of other uncontrollable circumstances, can disrupt the normal availability of water supply. Even though an area may have an adequate water supply, the supply can become contaminated, or a disaster can disrupt or destroy the supply. During drought periods, consumer demand is often significantly higher than normal. Failure of the treated water delivery system also can present a utility with an emergency demand management situation.

It is important to distinguish between drought contingency planning and water conservation planning. As detailed in the Division's Water Conservation Plan, water conservation involves implementing permanent water use efficiencies or reuse. Drought contingency planning establishes temporary methods or techniques to be used only as drought and/or emergency conditions persist.

The SJRA has developed a drought contingency plan with regard to the wholesaling of treated surface water from Lake Conroe to the Division as well as groundwater, reuse supplies, and any other supplies used by Division customers. The Woodlands Division is a GRP Participant in the SJRA Joint Groundwater Reduction Plan, which specifies measures to meet LSGCD requirements to reduce future groundwater use within Montgomery County. As one of the selected GRP Participants partially converting to treated surface water, the Division utilizes treated surface water originating from Lake Conroe to partially supply The Woodlands.

3.1 Drought Contingency Plan – Woodlands Division

The Division currently provides its customers with a blend of treated groundwater and surface water supplies and direct reclaimed effluent. In order to conserve the available water supply and/or protect the integrity of water supply facilities during water supply shortages or other supply emergency conditions that can have adverse effects on the customers of the Division, the SJRA has developed the following drought contingency plan elements.

3.2 Trigger Conditions – Initiation and Termination

SJRA GRP Division provides treated surface water from Lake Conroe to Participants of the SJRA GRP Division, including the SJRA Woodlands Division. For this plan, the drought stage of the SJRA GRP Division is the indicator of drought conditions in the Division and will be used as the basis for initiating and terminating drought stages.

The General Manager of the SJRA or a designated representative will monitor water supply and/or demand conditions on a monthly basis or more frequently as conditions warrant and will determine when conditions warrant initiation or termination of each drought stage. Because the Division is a GRP Participant

and is utilizing supplies from Lake Conroe, initiation of drought stages for the Division is in part based on the initiation of drought stages by the SJRA GRP Division. This in turn depends on the drought stage of the SJRA Lake Conroe Division, which is based on the water surface elevation of Lake Conroe. Triggering of drought stages for the Division also includes consideration for groundwater pumpage from the Division's water plants relative to their individual and/or combined capacities.

The trigger points listed below have been selected through hydrologic and operational modeling processes to work conjunctively with the measures identified in Section 3.4 to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. If deemed appropriate by the General Manager or a designated representative, termination of a drought stage is followed by initiation of a lower drought stage. An Emergency Water Supply Condition may be initiated or terminated without subsequent enactment of other stages. The various drought contingency stages may be initiated or terminated at the discretion of the General Manager or a designated representative. Otherwise, initiation and termination of the stages shall be as follows:

Stage 1: Voluntary Reduction

Initiation:

- The SJRA GRP Division initiates Stage 1 of its Drought Contingency Plan; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 1; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- The SJRA GRP Division terminates Stage 1 of its Drought Contingency Plan; or
- Passage of seven or more consecutive days following Stage 2 condition termination; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 1 due to indications from monitoring of water demands/weather forecasts.

Stage 2: Moderate Conditions

Initiation:

- The SJRA GRP Division initiates Stage 2 of its Drought Contingency Plan; or

- Combined pumpage from the supplying groundwater plants is in excess of 70% of current remaining production capacity of available groundwater wells for seven consecutive days; or
- Pumpage from one groundwater plant is in excess of 80% of current remaining production capacity of available groundwater wells serving the plant for seven consecutive days; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 2; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or a designated representative.

Termination:

- The SJRA GRP Division terminates Stage 2 of its Drought Contingency Plan; or
- Groundwater plant operational Stage 2 drought trigger events have ceased for seven consecutive days; or
- Passage of seven or more consecutive days following Stage 3 condition termination; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 2 due to indications from monitoring of water demands/weather forecasts.

Stage 3: Advanced Conditions

Initiation:

- The SJRA GRP Division initiates Stage 3 of its Drought Contingency Plan; or
- Combined pumpage from the supplying groundwater plants is in excess of 80% of current remaining production capacity of available groundwater wells for seven consecutive days; or
- Combined pumpage from the supplying groundwater plants is in excess of 85% of current remaining production capacity of available groundwater wells for three consecutive days; or
- Pumpage from one groundwater plant is in excess of 85% of current remaining production capacity of available groundwater wells serving the plant for seven consecutive days; or
- Termination of a more severe drought condition, if deemed appropriate by the General Manager or a designated representative; or

- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 3; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or a designated representative.

Termination:

- The SJRA GRP Division terminates Stage 3 of its Drought Contingency Plan; or
- Groundwater plant operational Stage 3 drought trigger events have ceased for seven consecutive days; or
- Passage of seven or more consecutive days following Stage 4 condition termination; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 3 due to indications from monitoring of water demands/weather forecasts.

Stage 4: Severe Conditions

Initiation:

- The SJRA GRP Division initiates Stage 4 of its Drought Contingency Plan; or
- Combined pumpage from the supplying groundwater plants is in excess of 90% of current remaining production capacity of available groundwater wells for two consecutive days; or
- Pumpage from one groundwater plant is in excess of 95% of current remaining production capacity of available groundwater wells serving the plant for three consecutive days; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting Stage 4; or
- Monitoring of water demands/weather forecasts indicate earlier initiation is necessary, as determined by the General Manager or designated representative.

Termination:

- The SJRA GRP Division terminates Stage 4 of its Drought Contingency Plan; or
- Groundwater plant operational Stage 4 drought trigger events have ceased for seven consecutive days; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Stage 4 due to indications from monitoring of water demands/weather forecasts.

Emergency Water Supply Condition

Initiation:

- The SJRA GRP Division initiates an Emergency Water Supply Condition under its Drought Contingency Plan; or
- Anticipation of a drought condition beyond historical level of severity; or
- System failure in the Woodlands Division system; or
- Contamination of the water supply has occurred; or
- Equipment, pipeline, or sample failure deemed by the General Manager or a designated representative to necessitate enacting an Emergency Water Supply Condition; or
- Enactment of Emergency Water Supply Condition initiation due to other factors at the discretion of the General Manager or a designated representative.

Termination:

- The SJRA GRP Division terminates an Emergency Water Supply Condition under its Drought Contingency Plan; or
- Restoration of the Woodlands Division system to operational status; or
- Containment or elimination of water supply contamination; or
- Resolution of equipment, pipeline, or sample failure conditions; or
- Termination of Emergency Water Supply Condition due to other factors at the discretion of the General Manager or a designated representative.

Each stage may also be initiated or terminated at the discretion of the General Manager or a designated representative.

3.3 Notification of Initiation and Termination

The General Manager of the SJRA or a designated representative will notify the wholesale customer representatives of the Division in writing by electronic mail when a trigger condition has been met. When the trigger conditions that initiated the drought measures have subsided, the General Manager or a designated representative will inform the wholesale customer representatives of the Division in writing by electronic mail. Additionally, TCEQ will be notified within five business days of initiation or termination of drought stages beyond Stage 1. Notification of drought stage initiation or termination will also be posted on the SJRA website.

3.4 Drought Response Stages

The General Manager or a designated representative will monitor water supply and demand

conditions, and in accordance with the triggering criteria set forth in Section 3.2 will determine that a water shortage exists, or when an emergency condition exists. The reductions listed below have been selected through hydrologic and operational modeling processes to work conjunctively with the trigger points identified in Section 3.2 to extend the availability of critical water supplies while simultaneously achieving the highest practicable level of efficiency in water use from a social and economic standpoint across customer classes. The following actions will be taken when a drought stage or Emergency Water Supply Condition is initiated:

Stage 1: Voluntary Reduction

Target: Achieve a voluntary 5% reduction in use

- Contact wholesale customers of the Division to discuss situation.
- Request that wholesale customers initiate voluntary measures to reduce water use.

Stage 2: Moderate Conditions

Target: Achieve a 5% reduction in use (October through March)

Achieve a 10% reduction in use (April through September)

- Contact wholesale customers of the Division to discuss situation.
- Require wholesale customers initiate mandatory measures to reduce water use by a seasonal 5% or 10%.

Stage 3: Advanced Conditions

Target: Achieve a 10% reduction in use (October through March)

Achieve a 20% reduction in use (April through September)

- Contact wholesale customers of the Division to discuss situation and continue to do so on a weekly basis until termination.
- Require wholesale customers initiate mandatory measures to reduce water use by a seasonal 10% or 20%.

Stage 4: Severe Conditions

Target: Achieve a 15% reduction in use (October through March)

Achieve a 30% reduction in use (April through September)

- Contact wholesale customers of the Division to discuss situation and continue to do so on a weekly basis until termination.
- Require wholesale customers initiate mandatory measures to reduce water use by a seasonal

15% or 30%.

Emergency Water Supply Condition

Target: Subject to scope and nature of emergency

- If appropriate, notify city, county, and/or state emergency response officials for assistance.
- Assess the severity of the problem and identify actions needed and time required to solve the problem.
- Notify TCEQ within five days of initiation or termination of emergency conditions.
- Inform wholesale customers and discuss possible actions, including but not limited to initiation of actions available under Stages 1 through 4.
- If deemed necessary by the General Manager or a designated representative, impose mandatory water rationing per Texas Water Code (TWC) §11.039 to reduce water demand to a level determined by the General Manager or a designated representative and notify TCEQ.
- Undertake necessary actions, such as repair or cleanup, to resolve issue.

3.5 Pro Rata Water Allocation

If deemed necessary by the General Manager or a designated representative due to a drought or Emergency Water Supply condition, SJRA will initiate allocation of water supplies on a pro rata basis in accordance with TWC §11.039 and the force majeure clause and other relevant terms of the contract in place with each raw water customer. TWC §11.039 directs that if a shortage occurs due to drought, accident, or other cause in a water supply covered by a TWDB-approved Water Conservation Plan, the entity controlling the supply shall divide the water to be distributed pro rata among all customers.

3.6 Compliance Metrics

The target of Stages 1 through 4 (and in some circumstances an Emergency Water Supply Condition) is to reduce water use by a certain percentage. Because water demands for Division customers change over time and may be impacted by weather conditions or application of drought response measures, a standard approach to defining a customer's demand must be applied. For the purposes of this drought contingency plan, each customer's demand shall be determined as that customer's water use for the preceding two years, averaged for each month. These demand values will be provided to customers at the beginning of each year. Customer requests for variances to the provided demand values will be considered at an administrative level through an appeal process as described in Section 3.8.

3.7 Public Involvement

Public involvement measures associated with this drought contingency plan shall include the following:

- Making proposed documents available to the public prior to adoption.
- Posting of notice of an SJRA Board of Directors meeting to include consideration of the plan for adoption.
- Consideration and adoption of the plan by the SJRA Board of Directors at a meeting to be open to the public.

Upon adoption of the plan, the completed drought contingency plan with relevant documentation reflecting adoption will be posted on the SJRA website.

3.8 Procedures for Granting Variances

The General Manager or a designated representative may grant a temporary variance to mandatory measures to reduce water use, to calculated customer demand as discussed in Section 3.6, or to pro rata water allocation policies if one or more of the following conditions are met:

- Failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety.
- Compliance with this plan cannot be technically accomplished during the duration of the water supply shortage or other conditions for which the plan is in effect.
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

The decision to grant or deny such a variance is at the discretion of the General Manager or a designated representative. Persons or entities requesting an exemption from the provisions of this plan shall file a written petition for variance with the General Manager or a designated representative within five business days after the mandatory measures to reduce water use or the pro rata allocation has been invoked. Once received, the General Manager or a designated representative will have five business days to respond, in writing, to a petition for variance.

3.9 Implementation and Enforcement

The SJRA General Manager or a designated representative will be responsible for implementation and enforcement of the drought contingency plan. During any period when pro rata allocation of available water supplies is in effect, the General Manager or a designated representative has the authority to discontinue service to any customer who fails to comply with the conditions of the allocation, declaring the customer in breach of contract. Prior to discontinuance of service, the General Manager or a designated

representative will issue a warning to the wholesale customer, and work with the customer to ensure that they are complying with the restrictions. In the event the customer fails to voluntarily comply, a court injunction will be obtained for violation of the Texas Water Code and for breach of contract.

Once notified of initiation of a drought stage with mandatory demand reduction, Division customers are required to reduce their water use in accordance with the appropriate stage as described above. In order to promote compliance with the drought contingency plan, the General Manager or a designated representative may enact a special temporary drought contingency rate structure with certain non-promotional rates for each drought stage. Customers failing to comply with mandatory demand reductions may also be subject to disincentive fees and be required to reimburse SJRA for any costs, fines, or penalties incurred by SJRA as a result of the customer's noncompliance. Enforcement actions, including penalties, will not be put into place until 30 calendar days after a drought stage is initiated.

3.10 Coordination with Regional Water Planning Group

The Woodlands Division is located within the Region H Regional Water Planning Area. In accordance with TCEQ rules, the Division has provided a copy of the Division drought contingency plan to the Region H Regional Water Planning Group. A copy of the transmittal letter is included in Appendix A.

3.11 Updating of the Plan

Every five years, SJRA will examine the Division operations to determine if trigger conditions need to be re-established. Updates may also be considered earlier than each five years in the case of any changes to operations that would warrant a re-examination of the trigger conditions. Any updates will result in a revised drought contingency plan.

The drought contingency plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix A.

This page intentionally left blank.

Appendix A
Resolutions Passed by SJRA
Transmittal Letter to Region H RWPG

This page intentionally left blank.

Exhibit B

RESOLUTION NO. 2019-R-04

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN JACINTO RIVER AUTHORITY BOARD OF DIRECTORS ADOPTING PREVAILING WAGE RATE SCALES FOR CONSTRUCTION PROJECTS.

WHEREAS, Chapter 2258, Texas Government Code ("Chapter 2258"), requires the San Jacinto River Authority (the "Authority") to determine the general prevailing rate of per diem wages for each craft or type of worker in the locality in which a construction project for the Authority is to be performed and the general prevailing rate of per diem wages for legal holiday and overtime work; and

WHEREAS, Chapter 2258 provides that a worker employed on a construction project by or on behalf of the Authority shall be paid not less than said general prevailing rates, as applicable; and

WHEREAS, Chapter 2258 provides that a contractor which is awarded a construction contract for the Authority, or a subcontractor of the contractor, shall pay not less than the rates determined as set forth above to a worker employed in the execution of such contract for a construction project; and

WHEREAS, the Board of Directors of the Authority (the "Board") has determined the general prevailing rate of per diem wages by using the prevailing wage rate as determined by the United States Department of Labor in accordance with the Davis-Bacon Act (40 U.S.C. Section 276a *et seq.*), as amended, and has determined to adopt a Prevailing Wage Rate Scale for Construction Projects for the Authority.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF SAN JACINTO RIVER AUTHORITY THAT:

Section 1: The Board has determined the general prevailing rate of per diem wages for each craft or type of worker in the locality in which a construction project for the Authority is to be performed and the general prevailing rate of per diem wages for legal holiday and overtime work by using the prevailing wage rate as determined by the United States Department of Labor in accordance with the Davis-Bacon Act (40 U.S.C. Section 276a *et seq.*), as amended, and further, the Board has determined that the wage rates in the Prevailing Wage Rate Scale for Construction Projects (comprised of one or more United States Department of Labor wage determination scales for each project type) attached hereto as Exhibit A are the general prevailing wage rates for construction projects by or on behalf of the Authority.

Section 2: The Authority hereby adopts the Prevailing Wage Rate Scale for Construction Projects attached hereto as Exhibit A, which establishes minimum rates for each project type that shall be used by all contractors and their subcontractors on construction projects by or on behalf of the Authority.

Section 3: A contractor or subcontractor on a construction project by or on behalf of the Authority shall maintain records as required by Chapter 2258 and shall be subject to the penalties, forfeitures, and withholding of money for failure to comply with this Resolution and/or pending a final determination of an alleged violation, as provided in Chapter 2258.

Section 4: The General Manager is hereby directed and authorized to specify the wage rates adopted hereunder for each project type in all specifications for bids and contracts for construction projects by or on behalf of the Authority.

Section 5: Any prior Resolution Adopting Prevailing Wage Rate Scale for Construction Projects previously adopted by the Board is hereby revoked.

APPROVED AND ADOPTED by the Board of Directors of the San Jacinto River Authority, at a regular meeting on the 28th day of February, 2019.

ATTEST:

SAN JACINTO RIVER AUTHORITY:


Secretary, Board of Directors


President, Board of Directors

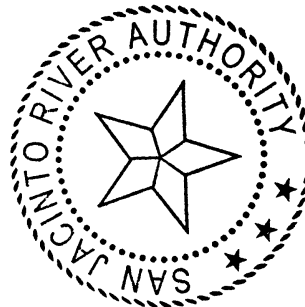


EXHIBIT “A”

United States Department of Labor

Wage Determination Scale TX 38

**Construction Type: Heavy Construction Projects (For
Paving Projects)**

**Counties: Brazoria, Chambers, Fort Bend,
Galveston, Harris, Liberty, Montgomery
and Waller**

General Decision Number: TX190038 01/04/2019 TX38

Superseded General Decision Number: TX20180056

State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

* SUTX2011-013 08/10/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures).....	\$ 12.98	
ELECTRICIAN.....	\$ 27.11	
FORM BUILDER/FORM SETTER Paving & Curb.....	\$ 12.34	
Structures.....	\$ 12.23	
LABORER Asphalt Raker.....	\$ 12.36	
Flagger.....	\$ 10.33	
Laborer, Common.....	\$ 11.02	
Laborer, Utility.....	\$ 11.73	
Pipelayer.....	\$ 12.12	
Work Zone Barricade Servicer.....	\$ 11.67	
PAINTER (Structures).....	\$ 18.62	
POWER EQUIPMENT OPERATOR: Asphalt Distributor.....	\$ 14.06	
Asphalt Paving Machine.....	\$ 14.32	
Broom or Sweeper.....	\$ 12.68	
Concrete Pavement Finishing Machine.....	\$ 13.07	
Concrete Paving, Curing, Float, Texturing Machine....	\$ 11.71	
Concrete Saw.....	\$ 13.99	
Crane, Hydraulic 80 Tons or less.....	\$ 13.86	
Crane, Lattice boom 80 tons or less.....	\$ 14.97	
Crane, Lattice boom over 80 Tons.....	\$ 15.80	
Crawler Tractor.....	\$ 13.68	
Excavator, 50,000 pounds or less.....	\$ 12.71	
Excavator, Over 50,000 pounds.....	\$ 14.53	
Foundation Drill, Crawler Mounted.....	\$ 17.43	
Foundation Drill, Truck Mounted.....	\$ 15.89	
Front End Loader 3 CY or Less.....	\$ 13.32	
Front End Loader, Over 3 CY.	\$ 13.17	
Loader/Backhoe.....	\$ 14.29	

Mechanic.....	\$ 16.96
Milling Machine.....	\$ 13.53
Motor Grader, Fine Grade....	\$ 15.69
Motor Grader, Rough.....	\$ 14.23
Off Road Hauler.....	\$ 14.60
Pavement Marking Machine....	\$ 11.18
Piledriver.....	\$ 14.95
Roller, Asphalt.....	\$ 11.95
Roller, Other.....	\$ 11.57
Scraper.....	\$ 13.47
Spreader Box.....	\$ 13.58
Servicer.....	\$ 13.97
Steel Worker	
Reinforcing Steel.....	\$ 15.15
Structural Steel Welder....	\$ 12.85
Structural Steel.....	\$ 14.39

TRUCK DRIVER

Low Boy Float.....	\$ 16.03
Single Axle.....	\$ 11.46
Single or Tandem Axle Dump..	\$ 11.48
Tandem Axle Tractor w/Semi	
Trailer.....	\$ 12.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

United States Department of Labor

Wage Determination Scale TX 38

Construction Type: Heavy Construction Projects (For Paving Projects)

Counties: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller

General Decision Number: TX190038 01/04/2019 TX38

Superseded General Decision Number: TX20180056

State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

* SUTX2011-013 08/10/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures).....	\$ 12.98	
ELECTRICIAN.....	\$ 27.11	
FORM BUILDER/FORM SETTER Paving & Curb.....	\$ 12.34	
Structures.....	\$ 12.23	
LABORER Asphalt Raker.....	\$ 12.36	
Flagger.....	\$ 10.33	
Laborer, Common.....	\$ 11.02	
Laborer, Utility.....	\$ 11.73	
Pipelayer.....	\$ 12.12	
Work Zone Barricade Servicer.....	\$ 11.67	
PAINTER (Structures).....	\$ 18.62	
POWER EQUIPMENT OPERATOR: Asphalt Distributor.....	\$ 14.06	
Asphalt Paving Machine.....	\$ 14.32	
Broom or Sweeper.....	\$ 12.68	
Concrete Pavement Finishing Machine.....	\$ 13.07	
Concrete Paving, Curing, Float, Texturing Machine....	\$ 11.71	
Concrete Saw.....	\$ 13.99	
Crane, Hydraulic 80 Tons or less.....	\$ 13.86	
Crane, Lattice boom 80 tons or less.....	\$ 14.97	
Crane, Lattice boom over 80 Tons.....	\$ 15.80	
Crawler Tractor.....	\$ 13.68	
Excavator, 50,000 pounds or less.....	\$ 12.71	
Excavator, Over 50,000 pounds.....	\$ 14.53	
Foundation Drill, Crawler Mounted.....	\$ 17.43	
Foundation Drill, Truck Mounted.....	\$ 15.89	
Front End Loader 3 CY or Less.....	\$ 13.32	
Front End Loader, Over 3 CY.	\$ 13.17	
Loader/Backhoe.....	\$ 14.29	

Mechanic.....	\$ 16.96
Milling Machine.....	\$ 13.53
Motor Grader, Fine Grade....	\$ 15.69
Motor Grader, Rough.....	\$ 14.23
Off Road Hauler.....	\$ 14.60
Pavement Marking Machine....	\$ 11.18
Piledriver.....	\$ 14.95
Roller, Asphalt.....	\$ 11.95
Roller, Other.....	\$ 11.57
Scraper.....	\$ 13.47
Spreader Box.....	\$ 13.58

Servicer.....\$ 13.97

Steel Worker

Reinforcing Steel.....	\$ 15.15
Structural Steel Welder....	\$ 12.85
Structural Steel.....	\$ 14.39

TRUCK DRIVER

Low Boy Float.....	\$ 16.03
Single Axle.....	\$ 11.46
Single or Tandem Axle Dump..	\$ 11.48
Tandem Axle Tractor w/Semi	
Trailer.....	\$ 12.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

United States Department of Labor

Wage Determination Scale TX 46

Construction Type: Heavy Construction Projects – Flood Control Only

Counties: Brazoria, Fort Bend, Galveston, Harris, Montgomery and Waller

General Decision Number: TX190046 01/04/2019 TX46

Superseded General Decision Number: TX20180067

State: Texas

Construction Type: Heavy

Counties: Brazoria, Fort Bend, Galveston, Harris, Matagorda, Montgomery, Waller and Wharton Counties in Texas.

FLOOD CONTROL PROJECTS ONLY, (Does not Include any Water & Sewer Line work; Sewage Collection and Disposal Lines; Sewers (Sanitary Storm, etc.), or Shoreline Maintenance Water Mains and Water Supply Lines).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

SUTX1998-009 03/26/1998

Rates

Fringes

ASPHALT DISTRIBUTOR.....	\$ 9.47
Asphalt Paving Machine.....	\$ 10.05
Asphalt Raker.....	\$ 8.28
Asphalt Shoveler.....	\$ 7.45
Batching Plant Weigher.....	\$ 11.11
Broom or Sweeper Operator.....	\$ 8.01
Bulldozer.....	\$ 9.91
CARPENTER.....	\$ 10.35
Concrete Curbing Mach.....	\$ 8.80
Concrete Finisher-Paving.....	\$ 9.87
Concrete Finisher-Structures.....	\$ 9.86
Concrete Finishing Machine.....	\$ 11.79
Concrete Joint Sealer.....	\$ 10.50
Concrete Paving Float.....	\$ 9.30
Concrete Paving Saw.....	\$ 10.01
Concrete Paving Spreader.....	\$ 9.32
Concrete Rubber.....	\$ 9.00
Crane, Clamshell, Backhoe, Derrick, Dragline, Shovel.....	\$ 11.35
Crusher or Screening Plant Operator.....	\$ 11.00
ELECTRICIAN.....	\$ 16.15
Flagger.....	\$ 7.25
Form Builder (Structures).....	\$ 9.96
Form Liner - Paving & Curb.....	\$ 9.03
Form Setter (PAVING/CURB).....	\$ 8.86
Form Setter-Structures.....	\$ 9.05

Foundation Drill Operator, Crawler Mounted.....	\$ 12.59
Foundation Drill Operator, Truck Mounted.....	\$ 12.73
Front End Loader.....	\$ 9.29
Labor Common.....	\$ 7.45
Laborer-Utility.....	\$ 8.53
Lineperson.....	\$ 7.50
MANHOLE BUILDER (Brick).....	\$ 8.49
MECHANIC.....	\$ 11.38
Milling Machine Operator.....	\$ 10.43
Mixer.....	\$ 7.94
Motor Grader	
FINE GRADE.....	\$ 11.11
Other.....	\$ 10.67
Oiler.....	\$ 9.56
Painter-Structures.....	\$ 14.00
Pavement Marking Machine.....	\$ 7.45
Piledriver.....	\$ 10.96
Pipe layer.....	\$ 8.49
Reinforcing Steel Setter	
Paving.....	\$ 12.50
Reinforcing Steel Setter	
Structures.....	\$ 12.47
Roller, Pneumatic, Self Propelled.....	\$ 7.96
Roller, Steel Wheel Other Flatwheel or Tamping.....	\$ 7.61
Roller, Steel Wheel Plant Mix Pavements.....	\$ 9.25

Scraper.....	\$ 8.69
Servicer.....	\$ 9.51
SIGN ERECTOR.....	\$ 10.06
Sign Installer.....	\$ 7.45
Slipform Machine Operator.....	\$ 9.20
Spreader Box Operator.....	\$ 9.08
Steelworker Structural.....	\$ 10.35
Tractor-Crawler Type.....	\$ 10.12
Tractor-Pneumatic.....	\$ 8.99
Traveling Mixer.....	\$ 9.35
Trenching Machine, Heavy.....	\$ 13.56
Trenching Machine, Light.....	\$ 10.50
Truck Driver Lowboy Float.....	\$ 11.29
Truck Driver Single Axle Heavy...	\$ 8.76
Truck Driver Single Axle, Light.....	\$ 8.15
Truck Driver Tandem Axle Semi-Trailer.....	\$ 8.00
Wagon Drill, Boring Machine.....	\$ 10.15
WELDER.....	\$ 10.43
Work Zone Barricade.....	\$ 7.45

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour

Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

United States Department of Labor

Wage Determination Scale TX 63

Construction Type: Heavy Construction Projects

Counties: Montgomery and Waller

General Decision Number: TX190063 01/04/2019 TX63

Superseded General Decision Number: TX20180095

State: Texas

Construction Type: Heavy

Counties: Montgomery and Waller Counties in Texas.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

* SFTX0669-001 04/01/2017

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 29.03	15.84

SUTX2005-024 06/14/2005		

	Rates	Fringes
Carpenter.....	\$ 14.38	
Ironworker, reinforcing:.....	\$ 11.29	
Laborers:		
Common - Montgomery County..	\$ 8.83	0.94
Common - Waller County.....	\$ 8.97	0.88
Landscape.....	\$ 7.35	
Mason Tender Cement.....	\$ 9.96	
Pipelayer - Montgomey		
County.....	\$ 10.04	
Pipelayer - Waller County...	\$ 10.07	
CEMENT MASON/CONCRETE FINISHER...	\$ 11.37	1.13
ELECTRICIAN.....	\$ 18.40	1.34
Formbuilder/Formsetter.....	\$ 13.35	1.17
PIPEFITTER.....	\$ 17.00	0.04
POWER EQUIPMENT OPERATOR:		
Backhoe.....	\$ 13.25	
Bulldozer - Montgomery		
County.....	\$ 13.12	
Bulldozer - Waller County...	\$ 12.46	
Crane.....	\$ 14.91	0.58
Excavator.....	\$ 16.74	
Front End Loader -		
Montgomery County.....	\$ 12.30	0.57
Front End Loader - Waller		
County.....	\$ 11.75	0.92
Grader.....	\$ 12.20	1.48
Tractor.....	\$ 12.38	1.51
TRUCK DRIVER		
Montgomery County.....	\$ 11.82	0.92
Waller County.....	\$ 12.28	0.98

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the

Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing

this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter

* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

United States Department of Labor

Wage Determination Scale TX 253

Construction Type: Building Construction Projects

County: Harris

General Decision Number: TX190253 01/04/2019 TX253

Superseded General Decision Number: TX20180303

State: Texas

Construction Type: Building

County: Harris County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

ASBE0022-009 06/01/2018

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR (Duct, Pipe and Mechanical System Insulation)....	\$ 24.15	13.29

BOIL0074-003 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 28.00	22.35

CARP0551-008 04/01/2016

	Rates	Fringes
CARPENTER (Excludes Acoustical Ceiling Installation, Drywall Hanging, Form Work and Metal Stud Installation).....	\$ 23.05	8.78

ELEC0716-005 08/28/2017

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring and Installation of Alarms).....	\$ 32.25	9.14

ELEV0031-003 01/01/2018

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 41.28	32.645+a+b

FOOTNOTES:

A. 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.

B. Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day; and Veterans Day.

ENGI0450-002 04/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR Cranes.....	\$ 34.85	9.85

IRON0084-001 06/01/2018

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 23.77	7.12

IRON0084-012 06/01/2017

	Rates	Fringes
GLAZIER.....	\$ 23.27	7.12
IRONWORKER, ORNAMENTAL.....	\$ 23.27	7.12

PLAS0079-004 01/01/2015

	Rates	Fringes
PLASTERER.....	\$ 19.92	1.00

PLUM0068-002 10/01/2018

	Rates	Fringes
PLUMBER.....	\$ 35.60	11.04

* PLUM0211-010 10/01/2018

	Rates	Fringes
PIPEFITTER (Including HVAC Pipe Installation).....	\$ 33.30	12.26

SFTX0669-002 04/01/2017

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 29.03	15.84

SHEE0054-006 07/01/2017

	Rates	Fringes
SHEET METAL WORKER Excludes HVAC Unit Installation.....	\$ 27.72	13.70
HVAC Duct Installation Only.	\$ 27.72	13.70

SUTX2014-029 07/21/2014

	Rates	Fringes
ACOUSTICAL CEILING MECHANIC.....	\$ 17.27	3.98
BRICKLAYER.....	\$ 18.87	0.00
CAULKER.....	\$ 15.36	0.00

CEMENT MASON/CONCRETE FINISHER...	\$ 13.93	0.00
DRYWALL FINISHER/TAPER.....	\$ 16.27	3.66
DRYWALL HANGER AND METAL STUD INSTALLER.....	\$ 17.44	3.93
ELECTRICIAN (Alarm Installation Only).....	\$ 17.97	3.37
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 18.00	1.68
FLOOR LAYER: Carpet.....	\$ 20.00	0.00
FORM WORKER.....	\$ 12.77	0.00
INSULATOR - BATT.....	\$ 14.87	0.73
IRONWORKER, REINFORCING.....	\$ 12.14	0.00
LABORER: Common or General.....	\$ 11.76	0.00
LABORER: Mason Tender - Brick...	\$ 13.47	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.48	0.00
LABORER: Pipelayer.....	\$ 12.94	0.00
LABORER: Roof Tearoff.....	\$ 11.28	0.00
LABORER: Landscape and Irrigation.....	\$ 9.52	0.00
LATHER.....	\$ 19.73	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 13.94	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93	0.00
OPERATOR: Bulldozer.....	\$ 22.75	0.00
OPERATOR: Drill.....	\$ 16.22	0.34
OPERATOR: Forklift.....	\$ 16.00	0.00
OPERATOR: Grader/Blade.....	\$ 13.37	0.00

OPERATOR: Loader.....	\$ 13.55	0.94
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03	0.00
OPERATOR: Roller.....	\$ 16.00	0.00
PAINTER (Brush, Roller and Spray), Excludes Drywall Finishing/Taping.....	\$ 17.24	4.41
ROOFER.....	\$ 15.40	0.00
SHEET METAL WORKER (HVAC Unit Installation Only).....	\$ 20.05	2.24
TILE FINISHER.....	\$ 12.00	0.00
TILE SETTER.....	\$ 16.17	0.00
TRUCK DRIVER: 1/Single Axle Truck.....	\$ 14.18	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.39	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00	4.11
WATERPROOFER.....	\$ 14.39	0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is

like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that

classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.)

and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

United States Department of Labor

Wage Determination Scale TX 262

Construction Type: Building Construction Projects

County: Montgomery

General Decision Number: TX190262 01/04/2019 TX262

Superseded General Decision Number: TX20180312

State: Texas

Construction Type: Building

County: Montgomery County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

ASBE0022-009 06/01/2018

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR (Duct, Pipe and Mechanical System Insulation)....	\$ 24.15	13.29

BOIL0074-003 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 28.00	22.35

ELEC0716-005 08/28/2017

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring and Installation of Alarms).....	\$ 32.25	9.14

ELEV0031-003 01/01/2018

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 41.28	32.645+a+b

FOOTNOTES:

A. 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.

B. Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day; and Veterans Day.

ENGI0450-002 04/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR Cranes.....	\$ 34.85	9.85

IRON0084-011 06/01/2018

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 23.77	7.12

PLAS0079-004 01/01/2015

	Rates	Fringes
PLASTERER.....	\$ 19.92	1.00

PLUM0068-002 10/01/2018

	Rates	Fringes
--	-------	---------

PLUMBER.....	\$ 35.60	11.04
--------------	----------	-------

* PLUM0211-002 10/01/2018

	Rates	Fringes
PIPEFITTER (HVAC Pipe Installation Only).....	\$ 33.30	12.26

SHEE0054-003 07/01/2017

	Rates	Fringes
SHEET METAL WORKER (Excludes HVAC Duct and Unit Installation).....	\$ 27.72	13.70

SUTX2014-038 07/21/2014

	Rates	Fringes
ACOUSTICAL CEILING MECHANIC.....	\$ 16.41	3.98
BRICKLAYER.....	\$ 19.86	0.00
CARPENTER (Batt Installation Only).....	\$ 14.87	0.73
CARPENTER, Excludes Acoustical Ceiling Installation, Batt Insulation, Drywall Hanging, Form Work, and Metal Stud Installation.....	\$ 18.81	2.10
CAULKER.....	\$ 15.36	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.37	0.00
DRYWALL FINISHER/TAPER.....	\$ 16.30	3.71
DRYWALL HANGER AND METAL STUD INSTALLER.....	\$ 17.45	3.96
ELECTRICIAN (Alarm Installation Only).....	\$ 17.97	3.37
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 18.00	1.68
FLOOR LAYER: Carpet.....	\$ 20.00	0.00

FORM WORKER.....	\$ 13.13	0.00
GLAZIER.....	\$ 19.12	4.41
IRONWORKER, REINFORCING.....	\$ 12.10	0.00
IRONWORKER, STRUCTURAL.....	\$ 27.15	5.66
LABORER: Common or General.....	\$ 10.20	0.00
LABORER: Mason Tender - Brick...	\$ 13.37	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.50	0.00
LABORER: Pipelayer.....	\$ 12.94	0.00
LABORER: Roof Tearoff.....	\$ 11.28	0.00
LABORER: Landscape and Irrigation.....	\$ 9.49	0.00
LATHER.....	\$ 19.73	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 16.17	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93	0.00
OPERATOR: Bulldozer.....	\$ 20.77	0.00
OPERATOR: Drill.....	\$ 16.22	0.34
OPERATOR: Forklift.....	\$ 15.64	0.00
OPERATOR: Grader/Blade.....	\$ 13.37	0.00
OPERATOR: Loader.....	\$ 13.55	0.94
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03	0.00
OPERATOR: Roller.....	\$ 16.00	0.00
PAINTER (Brush, Roller and Spray), Excludes Drywall Finishing/Taping.....	\$ 16.77	4.51

PIPEFITTER, Excludes HVAC Pipe Installation.....	\$ 26.73	11.13
ROOFER.....	\$ 15.40	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 20.17	4.77
SHEET METAL WORKER (HVAC Unit Installation Only).....	\$ 19.67	2.24
SPRINKLER FITTER (Fire Sprinklers).....	\$ 22.17	9.70
TILE FINISHER.....	\$ 12.00	0.00
TILE SETTER.....	\$ 16.17	0.00
TRUCK DRIVER: 1/Single Axle Truck.....	\$ 14.95	5.23
TRUCK DRIVER: Dump Truck.....	\$ 12.39	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00	4.11
WATERPROOFER.....	\$ 14.39	0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average

calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the

Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

Exhibit C

RESOLUTION NO. 2019-R-05

A RESOLUTION OF THE SAN JACINTO RIVER AUTHORITY BOARD OF DIRECTORS ADOPTING LIST OF QUALIFIED BROKERS AUTHORIZED TO ENGAGE IN INVESTMENT TRANSACTIONS WITH THE AUTHORITY.

WHEREAS, the San Jacinto River Authority (the "Authority") is a conservation and reclamation district and a governmental agency and political subdivision of the State of Texas, created and operating under the provisions of Chapter 426, Acts of the 45th Texas Legislature, Regular Session, 1937, enacted pursuant to Article XVI, Section 59 of the Constitution of Texas; and

WHEREAS, Chapter 2256, Texas Government Code, as amended (the "Investment Act"), requires that the Board of Directors of the Authority adopt a specific list of qualified brokers with whom the Authority is authorized to engage in investment transactions.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SAN JACINTO RIVER AUTHORITY THAT:

Section 1: The Authority shall be authorized to engage in investment transactions with the financial institutions, brokers and dealers listed in Exhibit "A" hereto.

Section 2: This Resolution shall be effective from and after its adoption and shall remain in force and effect until modified by further action of the Board of Directors. Any similar resolution heretofore adopted by the Board of Directors shall be and is hereby repealed, revoked and rescinded as of the effective date hereof.

APPROVED AND ADOPTED by the Board of Directors of the San Jacinto River Authority, at a regular meeting on the 28th day of February, 2019.

ATTEST:


Secretary, Board of Directors

SAN JACINTO RIVER AUTHORITY


President, Board of Directors



EXHIBIT "A"

LIST OF AUTHORIZED BROKERS

Allegiance Bank	Lone Star Investment Pool/First Public, LLC
Amegy Bank, N.A., a division of Zions Bancorporation N.A.	Lowery Bank, a division of Huntington State Bank
American Bank of Commerce (ABC Bank)	MidSouth Bank, N.A.
Austin Capital Bank SSB	Moody National Bank
BanCorpSouth Bank	Morgan Stanley
Bank of America N.A./Merrill Lynch	NewFirst National Bank
Bank of Texas, a division of BOKF, N.A.	Pioneer Bank
Bank OZK	PlainsCapital Bank
Bank of the West	Plains State Bank
BBVA – Compass Bank	Preferred Bank
Beal Bank SSB / Beal Bank USA	Prosperity Bank
Blackrock Investments, Inc.	Raymond James Financial, Inc.
BOK Financial Securities, Inc. / BOSCO, Inc.	R Bank
Branch Banking and Trust Company (BB&T)	RBC Capital Markets/RBC Investments
Business Bank of Texas, N.A.	Regions Bank
Cadence Bank, N.A.	Robert W. Baird & Company, Inc.
Capital Bank of Texas	Simmons Bank
Capital One, N.A.	Southside Bank
Central Bank	SouthStar Bank, SSB
Chasewood Bank	Spirit of Texas Bank SSB
Citibank N.A./Citigroup	State Street Bank & Trust Co.
Comerica Bank	Texan Bank
Commercial State Bank	Texas Capital Bank, N.A.
Community Bank of Texas	Texas Citizens Bank
East West Bank	Texas C.L.A.S.S.
Edward Jones	Texas Exchange Bank
Federated Investors Inc.	Texas First Bank
Fidelity Investments	Texas Gulf Bank, N.A.
First Citizens Bank	Texas Regional Bank
First Financial Bank, N.A.	TexPool/TexPool Prime
First National Bank Texas/First Convenience Bank	Tex Star Investment Pool
First Texas Bank	The Bank of New York Mellon
First United Bank	The Bank of New York Mellon Trust Company, N.A.
Frontier Bank of Texas	The First National Bank of Bastrop
Frost Bank	The Independent Bankers Bank (TIB)
FTN Financial	Third Coast Bank S.S.B.
Guaranty Bank & Trust, N.A.	Trustmark National Bank
Hancock Whitney Bank	UBS Financial Services, Inc.
Heritage Bank, N.A.	UBS Securities LLC.
Herring Bank	United Bank of El Paso del Norte
Management	United Texas Bank
HomeTown Bank, N.A.	Unity National Bank
IberiaBank	Vantage Bank
Independent Bank	Veritex Community Bank
International Bank of Commerce (IBC Bank)	Wallis Bank
J.P. Morgan Chase & Co./J.P. Morgan Securities/	Wells Fargo Advisors
JPMorgan Chase Bank, N.A.	Wells Fargo Bank, N.A.
Legacy Texas Bank	Wells Fargo Investments, LLC
Legg Mason, Inc.	Wells Fargo Securities, LLC
LOGIC (Local Gov't. Investment Cooperative)	WestStar Bank
Lone Star Bank	Woodforest National Bank