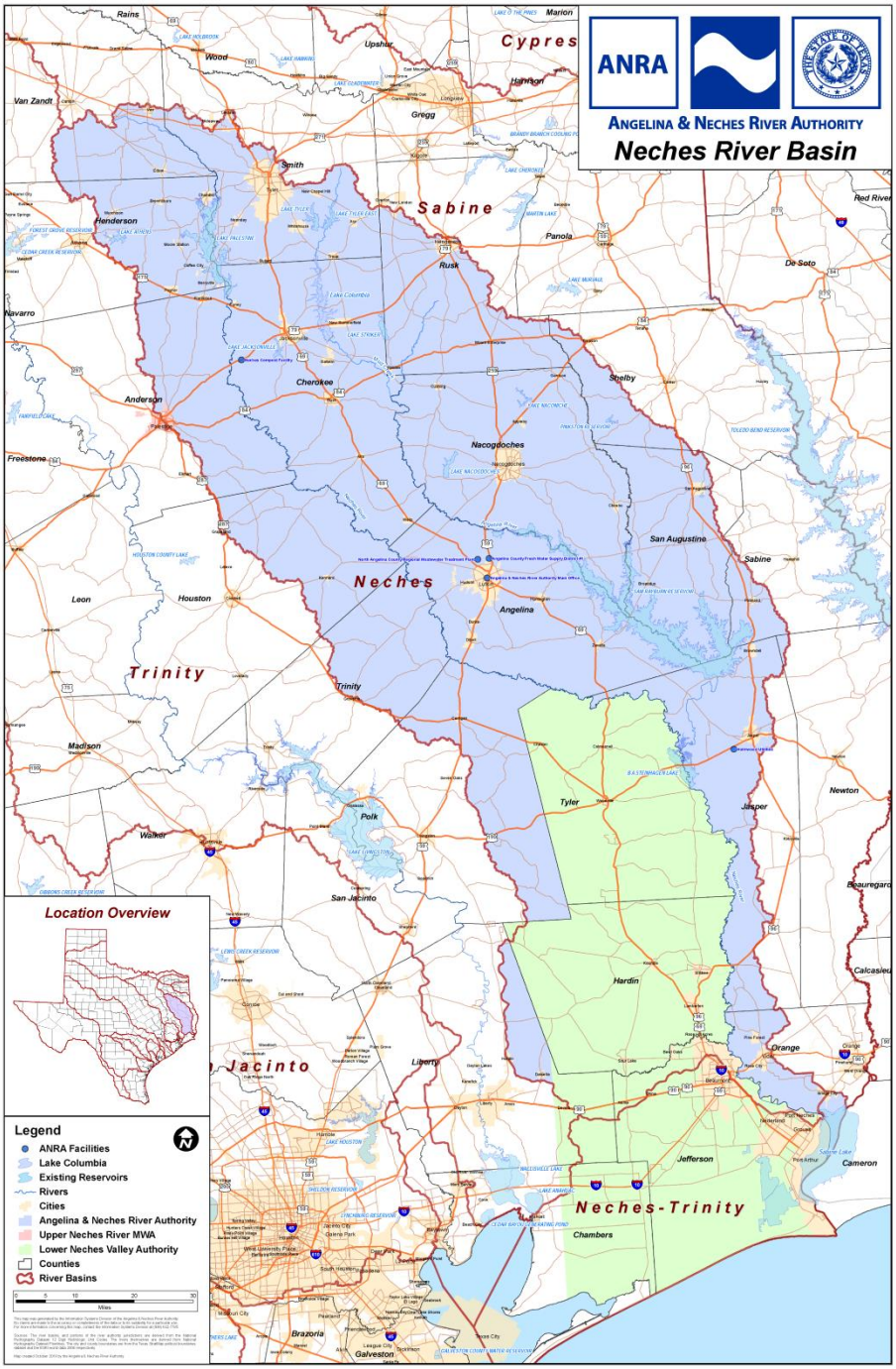
ANGELINA & NECHES RIVER AUTHORITY



Water Conservation Plan
for the
Angelina & Neches River Authority
Effective: May 1, 2018

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1.0 Overview

The Angelina & Neches River Authority (ANRA) is a government entity created by the state legislature under Article 16, Section 59 of the Texas State Constitution. Acting under the broad authority of the Texas State Constitution and Chapter 8501, Special District and Local Laws Code, ANRA, as a conservation and reclamation district, has the same power of control and regulation over the waters of the Neches River and its tributaries that the state has, subject to the constitution and statutes of this state. It is recognized as an independent governmental entity authorized to construct, maintain, and operate any and all works necessary for the purpose of controlling, storing, and preserving water resources in the 17 county jurisdiction in the Neches River Basin. ANRA's territorial jurisdiction consists of 8,500 square miles that lie wholly or in part of the following counties: Van Zandt, Smith, Henderson, Newton, Cherokee, Anderson, Rusk, Houston, Nacogdoches, San Augustine, Shelby, Angelina, Trinity, Sabine, Polk, Jasper, and Orange. ANRA is governed by a nine member Board of Directors appointed by the Governor of Texas to six year terms.

The major functions of ANRA are water quality management, water resource development, and conservation of water resources. ANRA administers several water quality related environmental programs including the Middle and Upper Neches basin surface water quality monitoring programs, permit compliance monitoring programs, wholesale and retail water and wastewater service and a water/wastewater sample collection and testing program. ANRA's central office is located in Lufkin, Angelina County, Texas.

2.0 Purpose and Evaluation

This Water Conservation Plan (the Plan) sets forth measures currently in place and to be taken by ANRA to ensure compliance with applicable state law and to promote water conservation. This plan was developed in accordance with Title 30, Texas Administrative Code, Chapter 288 and Texas Water Development Board's guidance checklist (TWDB-1968). A utility profile, in accordance with Texas Water Development Board's TWDB Form No. 1965, was created and utilized in the development of the Plan. The utility profile is located in Appendix A.

The Plan describes ANRA's approach to promote efficient water use and to effectively manage its water resources. The plan has been developed with the overall goal of increasing the effective and efficient use of water while maintaining an environment acceptable to the citizens of the Neches Basin. The specific objectives are to:

1. Develop a conservation plan to extend the period of time before an additional long-term water supply source will be needed; and
2. Identify and evaluate supplemental water supply sources.

For ANRA to achieve these goals, it will be necessary that all economically efficient water conservation measures be pursued and reliable cost-effective long and short-term alternative

water supply sources be identified. Since ANRA is involved in supplying water on wholesale and retail levels, both types of water treatment and transmission systems must be addressed.

ANRA will employ the use of water meters, leak detection programs, escalating rate structures, education, and enforcement activities as part of its implementation strategy.

3.0 Utility Profile

In the early 1970's ANRA began to provide water and wastewater utility operational assistance to cities, industry, school districts and other government agencies in the region. ANRA continues to provide these services and today owns or operates water and wastewater utilities in Angelina and Jasper counties.

In 2002, ANRA began operations of the North Angelina County Regional Wastewater Facility (TPDES Permit No. WQ0011620-001). The project consolidated three permitted wastewater treatment facilities into one upgraded facility. The plant is owned and operated by ANRA. Wholesale regional services for sewer are provided to participants in the regional wastewater treatment facility.

Holmwood Utility was originally built in the early 1960's and during the early 90's, as regulatory requirements increased, the original owner began searching for an entity to assume control of the utility. The owner worked out an agreement with ANRA to purchase the Utility and all of its assets. In October 1996, ANRA closed on the sale of Holmwood Utilities.

A utility profile, in accordance with Texas Water Development Board's TWDB Form No. 1965, was created and utilized in the development of the Plan. The utility profile is located in Appendix A.

4.0 Wholesale Water Supply

Wholesale water customer delivery and withdrawals are governed by volume and velocity rates established in each respective contract by water supply. Every wholesale water supply contract entered into or renewed after the official adoption of this water conservation plan, including any contract extensions, shall require that each successive wholesale customer develop and implement a water conservation plan and/or water conservation measures using the applicable elements of this chapter. In addition, the provisions of this section of the Plan shall be extended and applied to wholesale contracts for the purpose of reselling water. The wholesale water supply contract between the initial wholesale purchaser and any and all resale customers, if applicable, must include water conservation provisions that meet the requirements of 30 TAC, Chapter 288.

5.0 Record Management System

As part of the ANRA's record management system, RVS Mosaics Utility Billing System by RVS Software is used for the ANRA's retail water/wastewater utility billing. ANRA conducts retail billing for Holmwood Utilities and the Angelina County Fresh Water Supply District No. 1 (the District). This system is capable of reporting classifications and detailed water use data. The classifications of uses utilized by the ANRA for water services are residential (single family) and commercial. Data generated monthly in RVS is compared to water operations data for water accountability purposes.

6.0 Water Conservation Goals

Specific, quantified five-year and ten-year targets for water savings have been developed. These include goals for wholesale and retail customers in terms of system losses and in gallons per capita (per person) per day (gpcd). The goals established in this section are not directly enforceable.

Wholesale Water Supply
System Water Loss Goals are:

5 year	10% reduction	Reduce water loss to less than 15% of production
10 year	5% reduction	Reduce water loss to less than 5% of production

Gallons per capita per day (gpcd) goals:

5 year	15% reduction	Reduce consumption to no greater than 15% of the approved Regional Water Plan average per capita consumption
10 year	10% reduction	Reduce consumption to no greater than 10% of the approved Regional Water Plan average per capita consumption

Retail Water Supply
System Water Loss Goals are:

5 year	10% reduction	Reduce water loss to less than 15% of production
10 year	5% reduction	Reduce water loss to less than 5% of production

Gallons per capita per day (gpcd) goals:

5 year	5% reduction	Reduce consumption from 127 gpcd to 121 gpcd
10 year	5% reduction	Reduce consumption from 121 gpcd to 114 gpcd

7.0 Metering Devices and Universal Metering

ANRA meters all delivery points unless circumstances dictate that delivery not be metered, in such cases, standardized assumptions will be used. All aspects of the water metering program contribute to the ANRA's comprehensive water conservation effort.

The water pumped (by well pumps) or diverted, depending on the water source, to ANRA's Water Treatment Plant is metered through a master meter located at the plant before it enters into the distribution system. ANRA reads the master meter on the days the plant is operated. A monthly operating report is generated by ANRA documenting daily and monthly water usage.

All water users receiving water from the treated water system are metered at their respective point of entry. The majority of retail customer meters within ANRA's system have a meter size of 5/8" x 3/4" and the remaining retail customer meters are 1". Metering provides an accurate accounting of water used in the system and is essential for establishing conservation oriented rate structures. ANRA will utilize metering device(s), within an accuracy of plus or minus 5.0%, in order to measure and account for the amount of water diverted from the source of supply. ANRA maintains ownership and control over the water meters. An acceptable accuracy level for all meters is plus or minus two percent.

ANRA maintains a program of replacing water meters on a regular basis. ANRA replaces meters that are nearing 1,000,000 gallons of usage, under report usage, or that have stopped metering water usage.

Meter testing is typically conducted at the request of the customer or if ANRA determines that a meter may no longer be working or there may a water leak. Two-inch through four-inch meters are tested annually and as needed. Master meters and meters that are larger than four inches will be tested at six month intervals. ANRA estimates that regular testing of water meters which are smaller than one and one-half inches in diameter is uneconomical. However, the accuracy of all water meters is tracked by consumption reports in ANRA's water utility database. If consumption changes significantly, analysis and corrective action will be taken.

ANRA replaces meters as soon as a problem is detected. Meters which are larger than one and one-half inches are repaired as needed.

8.0 Measures to Determine and Control Water Loss

ANRA meters each water connection at the point of entry for each water customer. Each retail water meter is read on a monthly basis at a minimum, with wholesale master meter and other flow recording devices read on a more frequent basis based on the type of meter and usage. Data from all master meters and flow measuring devices are compiled on an ongoing basis for accounting and auditing purposes. Water consumption data is reported to each retail and

wholesale customer on a monthly basis. In the case of wholesale and industrial customers, water consumption data is reported more frequently during periods of water shortages.

Water operations and billing system data are evaluated monthly and annually to reconcile the amount of water pumped with the amount of water used by ANRA customers and in the routine operations of ANRA (i.e. monthly flushing, etc.). The gallons of water flushed from dead end water mains are documented by the water operator performing monthly flushing. This overall process enables ANRA to monitor and better control water loss.

To control the level of unaccounted-for water, ANRA maintains a constant watch for leaks in the distribution system by maintaining a 24 hour, 365 day dispatching service to assist the general public in reporting any item that pertains to the water system. This type of reporting has been extremely productive in locating leaks that are not directly visible by ANRA personnel or other unaccounted uses of water.

ANRA is staffed to address immediate concerns, i.e. leaks in the system and to initiate permanent solutions to the infrastructure. Repair crews are on call 24 hours per day, seven days per week, to respond to reports of leaks on mains and services.

The water distribution systems are under routine visual observation for leaks by ANRA to control water loss. Any problems or leaks detected will be addressed/repaired as they are identified to minimize water loss. ANRA requires all new water facilities to be built to strict specifications based upon Local, State, and Federal standards.

9.0 Water Conservation Education

ANRA maintains a public education and information program. Various types of water conservation information and educational materials, such as indoor/outdoor water saving activities, are made available to ANRA customers at ANRA's business office and on ANRA's website to promote water conservation. In addition, the Plan is available to the public on ANRA's website at www.anra.org. Public awareness is the first step to demand side management.

Water conservation information and educational materials published by the Texas Commission on Environmental Quality, Texas Water Development Board, and other sources concerning water conserving landscaping and other indoor/outdoor water saving activities will be utilized by ANRA.

10.0 Water Rate Structure

In general, each customer is charged for the volume of water used and each customer is billed on a monthly basis at a minimum. The base rate increases with the size of the customer's meter and the consumptive rate per thousand gallons increase as the volume increases. Wholesale and retail water customer rate structures are cost based and because they are an escalating structure, they promote water conservation. For specific rate structures, see Appendix B.

11.0 Enforcement

The adoption of this plan is authorized by ANRA's Board of Directors by Resolution. A copy of this resolution is in Appendix C. ANRA has authority under Chapter 8501 of the Special District Local Law to implement and enforce this conservation plan. Specifically, Section 8501.158, Powers Relating to Domestic, Commercial, or Industrial Use of Water, states that ANRA may conserve the water of the Neches River and its tributaries essential for the domestic uses of the people of the authority, including all necessary water supplies for cities and towns. The adoption of this plan extends to all wholesale and retail customers by ANRA.

12.0 Coordination with Regional Water Planning Groups

The territorial jurisdiction of ANRA resides solely within the boundaries of Region I (East Texas) Regional Water Planning Area. A copy of this water conservation plan has been provided to the Texas Water Development Board and Region I Regional Water Planning Group. A letter documenting that a copy of the Water Conservation Plan was sent to the Chair of the Region I Water Planning Group is attached in Appendix D.

13.0 Implementation and Monitoring

ANRA will utilize escalating rate structures, public education and awareness programs, leak detection and monitoring programs as well as data reporting to assist in achieving water conservation goals. As part of the ongoing data collection process, ANRA will adhere to the following schedule to achieve the targets and goals expressed for water conservation:

- Water meters will continue to be monitored for accuracy annually and replaced on a one million gallon cycle at a minimum
- Water audits are conducted annually
- Real water losses are identified and corrected
- Real water losses are minimized by replacement of deteriorating water mains and appurtenances, as is conducted by ANRA on an on-going basis
- ANRA will make materials developed by staff or obtained from the Texas Water Development Board, Texas Commission on Environmental Quality, and other sources available to customers at a minimum semi-annually (once in the spring and once in the summer). These materials will be available to ANRA's customers by means of internet, at ANRA's business office, or direct mailing to customers.

ANRA will track targets and goals annually by utilizing the following procedures:

- Logs and/or work orders shall be maintained for meter testing and meter replacement programs

- Annual water audits shall be documented and kept in the Operation Division files
- Staff shall keep a record of the materials provided to customers
- Rates are tracked by means of resolutions adopted
- Logs and/or work orders shall be maintained for the utility's Leak Detection Program, including but not limited to: inspections of water distribution system, including flush valves, fire hydrants, water valves, meter boxes, documentation of leaks detected and other associated problems identified, and documentation of leak repairs and how problems identified were addressed.

14.0 Plan Review and Update

This plan will be reviewed and revised, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The plan will be reviewed and the next revision updated every five years to coincide with the regional water planning group.

15.0 Reporting

The General Manager or his/her designee will be responsible for preparing annual reports, if applicable, associated with the Water Conservation Plan as specified in 31 Texas Administrative Code §363.15(g) and 30 Texas Administrative Code §288.30.

Appendix A
Utility Profile

Texas Water Development Board

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

Fill out this form as completely as possible.
If a field does not apply to your entity, leave it blank.

CONTACT INFORMATION

Name of Utility: North Angelina County Regional Wastewater Treatment Facility

Public Water Supply Identification Number (PWS ID): Not Applicable

Certificate of Convenience and Necessity (CCN) Number: Not Applicable

Surface Water Right ID Number: Not Applicable

Wastewater ID Number: TPDES Permit No. WQ0011620-001

Completed By: Christopher D. Key Title: Operations Division Manager

Address: P.O. Box 387 City: Lufkin Zip Code: 75902

Email: ckey@anra.org Telephone Number: (936) 632-7795

Date: 5/3/2018

Regional Water Planning Group: I Map

Groundwater Conservation District: 68 Map

Check all that apply:

- ☐ Received financial assistance of $500,000 or more from TWDB
- ☐ Have a surface water right with TCEQ

Texas Water Development Board

Section I: Utility Data

A. Population and Service Area Data

1. Current service area size in square miles: 3
(Attach or email a copy of the service area map.)

2. Provide projected and historical service area population below.

Year	Historical Population Served By Wholesale Water Service		Year	Projected Population Served By Wholesale Water Service
2013			2020	
2014			2030	
2015			2040	
2016			2050	
2017			2060	

4. Describe the source(s)/method(s) for estimating current and projected populations.

Texas Water Development Board

B. System Input

Provide system input data for the previous five years.

Total System Input = Self-supplied + Imported

Year	Self-supplied Water in Gallons	Purchased/Imported Water in Gallons	Total System Input	Total gal/day
2013			0	0
2014			0	0
2015			0	0
2016			0	0
2017			0	0
Historic 5-year Average	0	0	0	0

C. Water Supply System (Attach description of water system)

1. Designed daily capacity of system _____ **gallons** per day.
2. Storage Capacity:
   Elevated _____ **gallons**
   Ground _____ **gallons**

3. List all current water supply sources in gallons.

Water Supply Source	Source Type*	Total Gallons
	Choose One	
	Choose One	
	Choose One	
	Choose One	
	Choose One	
	Choose One	

*Select one of the following source types: *Surface water, Groundwater, or Contract*

4. If surface water is a source type, do you recycle backwash to the head of the plant?
   ◯ Yes _____ estimated **gallons** per day
   ◯ No

Texas Water Development Board

D. Projected Demands

1. Estimate the water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demands (gallons)

2. Describe sources of data and how projected water demands were determined. Attach additional sheets if necessary.

E. High Volume Customers

1. If applicable, list the annual water use for the five highest volume customers. Select one of the following water use categories to describe the customer; choose Municipal, Industrial, Commercial, Institutional, or Agricultural.

Customer	Water Use Category*	Annual Water Use	Treated or Raw
	Choose One		Choose One
	Choose One		Choose One
	Choose One		Choose One
	Choose One		Choose One
	Choose One		Choose One

*For definitions on recommended customer categories for classifying customer water use, refer to the online Guidance and Methodology for Reporting on Water Conservation and Water Use.

F. Utility Data Comment Section

Provide additional comments about utility data below.

Texas Water Development Board

Section II: System Data

A. Wholesale Connections

1. List the active wholesale connections by major water use category.

Water Use Category*	Active Wholesale Connections		
	Metered	Unmetered	Total Connections
Municipal			0
Industrial			0
Commercial			0
Institutional			0
Agricultural			0
TOTAL	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the online Guidance and Methodology for Reporting on Water Conservation and Water Use.

2. List the net number of new wholesale connections by water use category for the previous five years.

Water Use Category*	Net Number of New Wholesale Connections				
	2013	2014	2015	2016	2017
Municipal					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL	0	0	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

B. Wholesale Water Accounting Data - Water Use Categories

For the previous five years, enter the number of gallons of WHOLESALE water exported (*sold or transferred*) to each major water use category.

Customer Category*	Total Gallons of Wholesale Water				
	2013	2014	2015	2016	2017
Municipal					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL	0	0	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the online Guidance and Methodology for Reporting on Water Conservation and Water Use.

Texas Water Development Board

C. Wholesale Water Accounting Data - Annual and Seasonal Use

For the previous five years, enter the number of gallons exported (*sold or transferred*) to WHOLESALE customers.

Month	Total Gallons of Treated Water				
	2013	2014	2015	2016	2017
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL	0	0	0	0	0

Month	Total Gallons of Raw Water				
	2013	2014	2015	2016	2017
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL	0	0	0	0	0

WHOLESALE	2013	2014	2015	2016	2017	**Average in Gallons**
Summer Wholesale (Treated + Raw)	0	0	0	0	0	0 _____ 5yr Average
TOTAL Wholesale (Treated + Raw)	0	0	0	0	0	0 _____ 5yr Average

D. Water Loss

Provide Water Loss Data for the previous five years.

Water Loss GPCD = [Total Water Loss in Gallons ÷ Permanent Population Served] ÷ 365

Water Loss Percentage = [Total Water Loss ÷ Total System Input] x 100

Year	Total Water Loss in Gallons	Water Loss per day	Water Loss as a Percentage
2013			0%
2014			0%
2015			0%
2016			0%
2017			0%
5-year average	0	0	0%

E. Peak Day Use

Provide the Average Daily Use and Peak Day Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (Peak/Avg)
2013			
2014			
2015			
2016			
2017			

F. Summary of Historic Water Use

Water Use Category	Historic 5-year Average	Percent of Water Use
Municipal	0	0%
Industrial	0	0%
Commercial	0	0%
Institutional	0	0%
Agricultural	0	0%

G. Wholesale System Data Comment Section

Provide additional comments about wholesale system data below.

Texas Water Development Board

Section III: Wastewater System Data

If you do not provide wastewater system services then you have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the Water Conservation Plan Checklist to complete your Water Conservation Plan.

A. Wastewater System Data (Attach a description of your wastewater system)

1. Design capacity of wastewater treatment plant(s): 370,000 **gallons** per day.

2. List the active wastewater connections by major water use category.

Water Use Category*	Active Wastewater Connections			
	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	2		2	50%
Industrial			0	0%
Commercial			0	0%
Institutional	2		2	50%
Agricultural			0	0%
TOTAL	4	0	4	

*For definitions on recommended customer categories for classifying customer water use, refer to the online Guidance and Methodology for Reporting on Water Conservation and Water Use.

2. What percent of water is serviced by the wastewater system? 0 %

3. For the previous five years, enter the number of gallons of wastewater that was treated by the utility.

Month	Total Gallons of Treated Water				
	2013	2014	2015	2016	2017
January	5,640,300	6,541,633	4,636,800	4,679,900	3,602,233
February	4,505,700	6,177,833	2,789,867	4,249,300	2,689,800
March	4,382,600	7,134,333	5,454,733	5,908,800	2,849,300
April	4,396,500	6,922,900	4,378,100	5,218,400	3,114,600
May	3,754,167	9,473,567	7,982,300	5,635,600	3,435,500
June	3,665,033	8,637,933	4,337,800	4,980,700	2,907,033
July	3,375,100	8,508,400	3,105,500	4,535,800	3,212,167
August	3,777,300	8,373,800	3,086,500	5,537,000	5,971,100
September	4,414,400	4,682,500	3,437,600	3,786,367	3,940,433
October	6,983,200	3,167,800	5,053,533	2,501,333	4,385,667
November	6,956,133	3,130,900	5,158,867	2,833,700	3,903,600
December	6,744,967	3,322,300	5,162,800	3,316,067	5,142,098
TOTAL	58,595,400	76,073,899	54,584,400	53,182,967	45,153,531

4. Could treated wastewater be substituted for potable water?

○ Yes ◉ No

B. Reuse Data

1. Provide data on the types of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Discharge to surface water	21,676,267
Evaporation pond	
Other	
TOTAL	21,676,267

C. Wastewater System Data Comment

Provide additional comments about wastewater system data below.

The North Angelina County Regional Wastewater Treatment Facility (NACRWF) is a wholesale wastewater service provider that serves 4 customers. There are 2 Institutional customers (Central Independent School District and the Lufkin State Supported Living Center) and 2 retail sewer providers (Idlewood WCID and Angelina County Fresh Water Supply District No. 1). Idlewood WCID has 500 sewer connections, which is a population of 1,385. Angelina County Fresh has 216 sewer connections, which is a population of 598. (Population is estimated based on the 2015 US Census data of 2.77 persons per household.)

The total amount of reuse water discharging to surface water is reported from January 2018 through March 2018.

You have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the Water Conservation Plan Checklist to complete your Water Conservation Plan.

ANGELINA & NECHES RIVER AUTHORITY

North Angelina County Regional Wastewater Treatment Facility
Description of Wastewater System

This water quality project represents the Angelina & Neches River Authority's (ANRA) initial step toward providing wholesale regional services for both water and wastewater in the Angelina and Neches River Basin. The North Angelina County Regional Wastewater Treatment Facility (the Facility) was originally conceived in the early 1990's in an effort to address water quality issues in the Angelina River.

ANRA developed this wastewater treatment facility as a regional system. Originally there were 3 entities, Idlewood WCID, Central ISD, and Department of Aging and Disability Services Lufkin State Supported Living Center (DADS), that participated in the Facility under an agreement for cost effective wholesale wastewater service. Angelina County Fresh Water Supply District No. 1 was added as an additional contributor to the system under a separate contract in 2013.

In October 2001, the ANRA Board of Directors approved a $3,100,000 loan agreement with the Texas Water Development Board for the purchase and upgrade of the newly constructed Idlewood WCID treatment plant and installation of a transmission line linking Central ISD & DADS back to the treatment facility located behind the Idlewood Subdivision. Both Central ISD and DADS have been able to close down their older & less effective treatment facilities.

In December 2015, the ANRA Board of Directors approved a loan agreement with the Texas Water Development Board for upgrades to the treatment plant and the installation of a new collection system to provide first-time sewer service to the Angelina County Fresh Water Supply District No. 1 and the Redland Estates communities. The project is anticipated to be complete by July 2018. The overall cost of the project totaled to $7,070,000.

ANRA began operations of the Facility in 2002 (Permit No. WQ0011620-001). The plant is owned and operated by ANRA, with wholesale regional services for sewer provided to the facility's participants. ANRA is authorized to treat and discharge wastes from the Facility in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the permit. The daily average flow of effluent shall not exceed 0.37 million gallons per day (MGD).

ANRA

Angelina & Neches River Authority

North Angelina County Regional Wastewater Treatment Facility Service Area

Central ISD

Central ISD

Lufkin State Supported Living Center

Angelina County Fresh Water Supply District No 1

Idlewood & Briar Village Subdivisions

Lift Station

Treatment Plant

NAC Service Area

0 0.25 0.5 1 Miles

This map was generated by the Information Systems Division of the Angelina & Neches River Authority. No claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information concerning this map, contact the Information Systems Division at (936) 632-7795.

Map created May 2018 by the Angelina & Neches River Authority.

Texas Water Development Board

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

CONTACT INFORMATION

Name of Utility: Holmwood Angelina & Neches RA

Public Water Supply Identification Number (PWS ID): TX1210020

Certificate of Convenience and Necessity (CCN) Number: 12303

Surface Water Right ID Number: 4228-B

Wastewater ID Number: 20820

Contact: First Name: Christopher Last Name: Key

Title: Operations Division Manager

Address: P.O. Box 387 City: Lufkin State: TX

Zip Code: 75902 Zip+4: 387 Email: ckey@anra.org

Telephone Number: 9366327795 Date: 5/2/2018

Is this person the designated Conservation Coordinator? (•) Yes ( ) No

Regional Water Planning Group: I

Groundwater Conservation District:

Our records indicate that you:

☑ Received financial assistance of $500,000 or more from TWDB

☐ Have 3,300 or more retail connections

☑ Have a surface water right with TCEQ

A. Population and Service Area Data

1. Current service area size in square miles: 1

Attached file(s):

File Name	File Description
Holmwood Service Area 11x17 with roads.pdf	Service Area Map

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. Historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Water Service
2017	444	0	465
2016	467	0	414
2015	439	0	411
2014	504	0	416
2013	387	0	406

3. Projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Water Service
2020	459	0	473
2030	482	0	496
2040	507	0	521
2050	533	0	550
2060	561	0	578

4. Described source(s)/method(s) for estimating current and projected populations.

Based on historical data, water and sewer services increase by approximately 0.5% annually. This information was used to project future water and sewer connections. According to the 2015 US Census, there are 2.83 persons per household for Jasper County. Therefore population estimates were determined by multiplying the service connection quantities by 2.83.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. System Input

System input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Water Produced in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2017	11,732,760	0	0	11,732,760	72
2016	12,415,626	0	0	12,415,626	72
2015	12,707,255	0	0	12,707,255	79
2014	13,119,494	0	0	13,119,494	71
2013	14,048,713	0	0	14,048,713	99
Historic 5-year Average	12,804,770	0	0	12,804,770	79

C. Water Supply System

Attached file(s):

File Name	File Description
Attachment 2 System Description.pdf	System Description

1. Designed daily capacity of system in gallons: 71,795

2. Storage Capacity

   2a. Elevated storage in gallons:

   2b. Ground storage in gallons: 66,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Projected Demands

1. The estimated water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demand (gallons)
2019	456	11,753,000
2020	459	11,826,000
2021	462	11,899,000
2022	465	11,972,000
2023	465	11,972,000
2024	467	12,045,000
2025	470	12,118,000
2026	473	12,191,000
2027	476	12,264,000
2028	476	12,264,000

2. Description of source data and how projected water demands were determined.

The estimated minimum water demands are based on estimated population (calculated in Part A of this Utility Profile), an estimated 200 gallons per day per connection, and normal weather conditions.

E. High Volume Customers

1. The annual water use for the five highest volume **RETAIL customers.**

Customer	Water Use Category	Annual Water Use	Treated or Raw
20184	Residential	294,872	Treated
20176	Residential	185,322	Treated
20141	Residential	131,768	Treated
20147	Residential	131,353	Treated
20079	Residential	114,978	Treated

2. The annual water use for the five highest volume **WHOLESALE customers.**

Customer	Water Use Category	Annual Water Use	Treated or Raw

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

F. Utility Data Comment Section

Additional comments about utility data.

Section II: System Data

A. Retail Water Supplier Connections

1. List of active retail connections by major water use category.

Water Use Category Type	Total Retail Connections (Active + Inactive)	Percent of Total Connections
Residential - Single Family	157	98.74 %
Residential - Multi-Family	0	0.00 %
Industrial	0	0.00 %
Commercial	2	1.26 %
Institutional	0	0.00 %
Agricultural	0	0.00 %
Total	159	100.00 %

2. Net number of new retail connections by water use category for the previous five years.

	Net Number of New Retail Connections						
Year	**Residential - Single Family**	**Residential - Multi-Family**	**Industrial**	**Commercial**	**Institutional**	**Agricultural**	**Total**
2017							
2016	3						3
2015							
2014	1						1
2013							

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Accounting Data

The previous five years' gallons of RETAIL water provided in each major water use category.

Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2017	9,923,164	0	0	138,882	0	0	10,062,046
2016	10,704,000	0	0	77,000	0	0	10,781,000
2015	10,334,000	0	0	57,000	0	0	10,391,000
2014	10,748,000			223,000			10,971,000
2013	12,102,000						12,102,000

C. Residential Water Use

The previous five years residential GPCD for single family and multi-family units.

Year	Residential - Single Family	Residential - Multi-Family	Total Residential
2017	61	0	61
2016	63	0	63
2015	62	0	62
2014	58	0	58
2013	86	0	86
Historic Average	66	0	66

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Annual and Seasonal Water Use

1. The previous five years' gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Water				
	2017	2016	2015	2014	2013
January	705,000	824,000	892,000	936,000	829,000
February	807,000	752,000	504,000	612,000	691,000
March	715,000	623,000	674,000	656,000	737,000
April	876,000	893,000	843,000	695,000	911,000
May	841,000	720,000	696,000	1,146,000	909,000
June	776,000	859,000	907,000	1,386,000	1,039,000
July	904,000	1,293,000	895,000	948,000	1,544,000
August	978,818	1,277,000	1,589,000	1,155,000	1,362,000
September	813,533	855,000	960,000	1,049,000	1,914,000
October	1,000,654	1,123,000	1,203,000	916,000	801,000
November	958,313	865,000	555,000	722,000	738,000
December	686,728	697,000	673,000	750,000	627,000
Total	10,062,046	10,781,000	10,391,000	10,971,000	12,102,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. The previous five years' gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Water				
	2017	2016	2015	2014	2013
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

3. Summary of seasonal and annual water use.

	Summer RETAIL (Treated + Raw)	Total RETAIL (Treated + Raw)
2017	2,658,818	10,062,046
2016	3,429,000	10,781,000
2015	3,391,000	10,391,000
2014	3,489,000	10,971,000
2013	3,945,000	12,102,000
Average in Gallons	161,074.46	905,117.43

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

E. Water Loss

Water Loss data for the previous five years.

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2017	1,549,227	10	13.20 %
2016	1,510,893	9	12.17 %
2015	2,185,564	14	17.20 %
2014	1,984,500	11	15.13 %
2013	1,847,323	13	12.76 %
Average	1,815,501	11	14.09 %

F. Peak Day Use

Average Daily Water Use and Peak Day Water Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2013	33,156	42880	1.2933
2014	30,057	37923	1.2617
2015	28,468	36858	1.2947
2016	29,536	37271	1.2619
2017	27,567	28900	1.0484

G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	10,762,232	98.74 %	99.09 %
Residential - Multi-Family	0	0.00 %	0.00 %
Industrial	0	0.00 %	0.00 %
Commercial	99,176	1.26 %	0.91 %
Institutional	0	0.00 %	0.00 %
Agricultural	0	0.00 %	0.00 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

H. System Data Comment Section

Section III: Wastewater System Data

A. Wastewater System Data

Attached file(s):

File Name	File Description
Attachment 2 System Description.pdf	System Description

1. Design capacity of wastewater treatment plant(s) in gallons per day:

2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal			0	0.00 %
Industrial		163	163	100.00 %
Commercial			0	0.00 %
Institutional			0	0.00 %
Agricultural			0	0.00 %
Total		163	163	100.00 %

3. Percentage of water serviced by the wastewater system: %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

4. Number of gallons of wastewater that was treated by the utility for the previous five years.

Month	Total Gallons of Treated Water				
	2017	2016	2015	2014	2013
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

5. Could treated wastewater be substituted for potable water?

○ Yes ◉ No

B. Reuse Data

1. Data by type of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site Irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (park,golf courses)	
Agricultural	
Discharge to surface water	
Evaporation Pond	
Other	
Total	

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

C. Wastewater System Data Comment

Additional comments and files to support or explain wastewater system data listed below.

ANRA

ANGELINA & NECHES RIVER AUTHORITY

Holmwood Utilities

Holmwood Utilities was originally built in the early 1960's and during the early 1990's, as regulatory requirements increased, the original owner began searching for an entity to assume control of the utility. The owner worked out an agreement with the Angelina & Neches River Authority (ANRA) to purchase the Utility and all of its assets. In October 1996, ANRA closed on the sale of Holmwood Utilities.

1. Description of Water System

Holmwood Utilities obtains water from one water well designated as Well No. 3. The well is drilled in the Gulf Coast Aquifer. The treatment facility is a hydro pneumatic system with turner controls, a visa probe level controller and remote online monitoring capabilities. The production and storage facilities at well #3 were constructed and placed into service in May 1998. Upgrades to the treatment facility were completed in 2009. The facility currently includes:

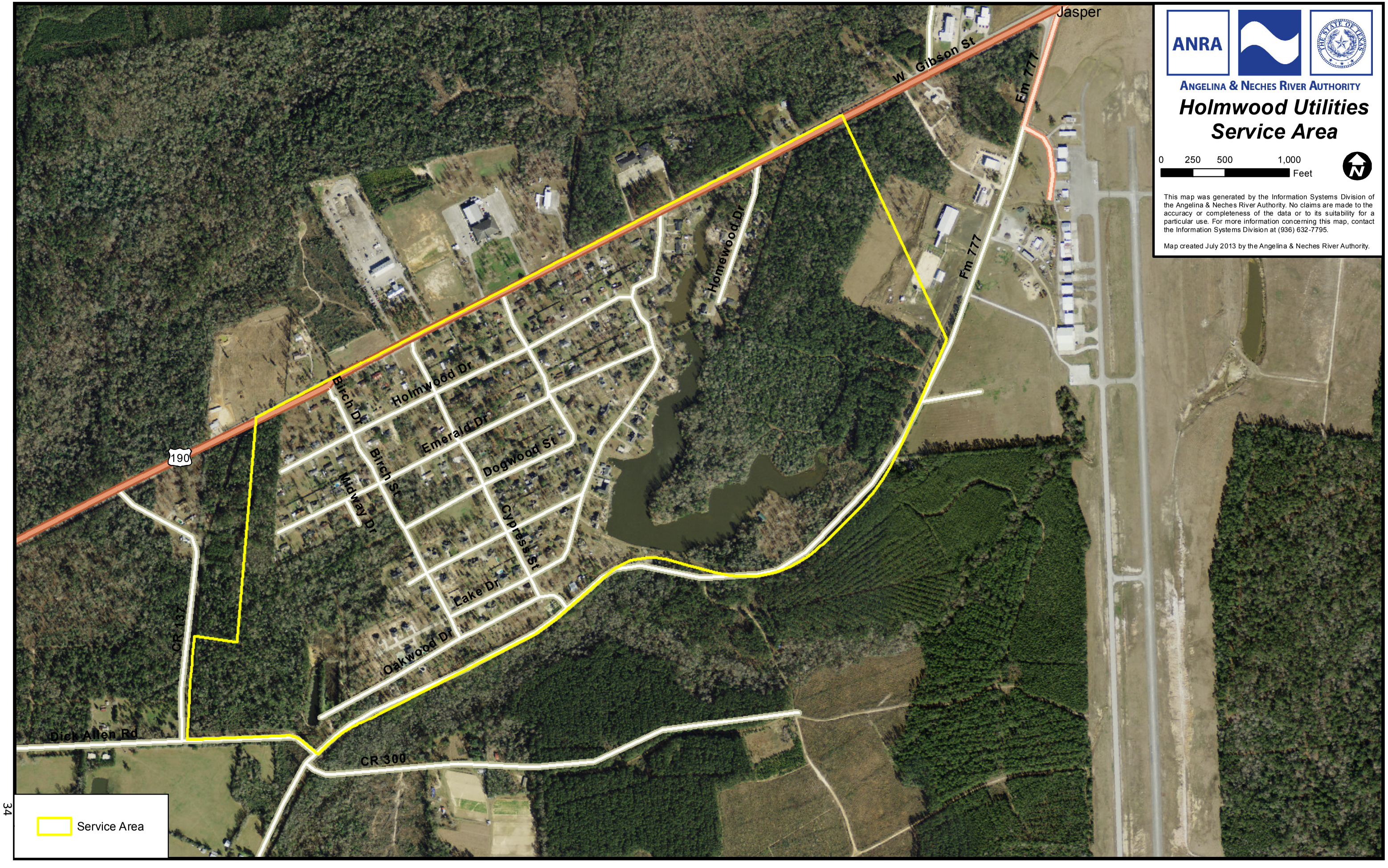
- Well capacity of 195 gallons per minute (gpm);
- Ground storage capacity of 66,000 gallons;
- Pressure tank capacity of 5,000 gallons;
- Two booster pumps with a combined capacity of 600 gpm;
- Aeration tower with a capacity of 250 gpm.

The ground storage equipment consists of two 33,000 gallons storage tanks. Distribution pressures are maintained through the use of a Williams Visa Probe Level Indicator and a Turner Control Unit. The storage system also consists of two booster pumps, Peerless 20 horse power, 300 gpm pumps. The piping system is routed through the pressure tank so that the tank itself can absorb the water hammer of the larger pumps capacity.

The water quality is generally good, with iron, carbon dioxide and pH levels requiring treatment. The raw water requires four phases of treatment: aeration, pH adjustment, iron equestration, and disinfection.

2. Description of Wastewater Collection System

Holmwood Utilities existing sewer collection system is located in the subdivision and eventually ties into the City of Jasper's sewer collection system.



ANRA

ANGELINA & NECHES RIVER AUTHORITY

Holmwood Utilities Service Area

0 250 500 1,000 Feet

This map was generated by the Information Systems Division of the Angelina & Neches River Authority. No claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information concerning this map, contact the Information Systems Division at (936) 632-7795.

Map created July 2013 by the Angelina & Neches River Authority.

Appendix B
Retail Rate Structures

Holmwood Utilities
Retail Rate Structure

	New Rate	
	Meter Size	
Description	5/8” x 3/4"	1”
In-Certificated Area Water		
Base Rate with 3,000 gallons	$ 45.31	$ 50.31
Variable Rate (per 1,000) 3,001 – 10,000 gallons	$ 2.24	$ 2.24
Variable Rate (per 1,000) 10,001 gallons and above	$ 3.00	$ 3.00
Out-of-Certificated Area Water		
Rates for services outside the Certificated Area will be on a case by case basis depending on actual costs.		
In-Certificated Area Sewer		
Base Rate with 3,000 gallons	$ 44.79	$ 49.79
Variable Rate (per 1,000) 3,001 – 10,000 gallons	$ 3.58	$ 3.58
Variable Rate (per 1,000) 10,001 gallons and above	$ 4.00	$ 4.00
Out-of- Certificated Area Sewer		
Rates for services outside the Certificated Area will be on a case by case basis depending on actual costs.		

Appendix C
Authorizing Resolution

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ANGELINA & NECHES RIVER AUTHORITY ADOPTING A WATER CONSERVATION PLAN

WHEREAS, the Angelina & Neches River Authority has among its duties and responsibilities the preservation and conservation of the water within the Neches River Basin; and,

WHEREAS, in order to carry out its duties and responsibilities the Angelina & Neches River Authority has developed a Water Conservation Plan, a copy of which is attached to this Resolution; and,

WHEREAS, the Board of Directors of the Angelina & Neches River Authority has reviewed the Water Conservation Plan and has determined that it promotes efficient water use and effective management of water resources while maintaining an environment acceptable to the citizens of the Neches River Basin; and,

WHEREAS, as authorized under law, and in the best interests of the customers of the Angelina & Neches River Authority, the Board deems that the Water Conservation Plan promotes efficient water use and effective management of water resources.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE ANGELINA & NECHES RIVER AUTHORITY:

SECTION 1. That the Plan attached hereto as Exhibit "A" and made part hereof for all purposes be, and the same is hereby, adopted as the official policy of the Angelina & Neches River Authority.

SECTION 2. That the General Manager, employees, and representatives of the Angelina & Neches River Authority are hereby directed to implement, administer, and enforce the Water Conservation Plan.

SECTION 3. That all resolutions that are in conflict with the provisions of this resolution be, and the same are hereby, repealed and all other resolutions of the Angelina & Neches River Authority not in conflict with the provisions of this resolution shall remain in full force and effect.

SECTION 4. Should any paragraph, sentence, subdivision, clause, phrase, or section of this resolution be adjudged or held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this resolution as a whole or any part or provision thereof, other than the part so declared to be invalid, illegal or unconstitutional.

SECTION 5. This resolution shall take effect immediately upon its passage.

DULY PASSED AND APPROVED BY THE BOARD OF DIRECTORS OF THE ANGELINA & NECHES RIVER AUTHORITY, on this 1st day of May, 2018.

Jody Anderson
President

ATTEST:

Patricia Dickey
Secretary/Treasurer

Seal

Appendix D
Regional Water Planning Group Notification

ANRA

ANGELINA & NECHES RIVER AUTHORITY

May 3, 2018

Mr. Kelley Holcomb
c/o Stacy Corley
East Texas (Region I) Regional Water Planning Group
P.O. Box 635030
Nacogdoches, Texas 75963-5030

Re: Water Conservation and Drought Contingency Plans

Dear Mr. Holcomb:

The Angelina & Neches River Authority (ANRA) Board of Directors adopted, by Resolution, the Water Conservation and Drought Contingency Plans on May 1, 2018. These plans replace the Water Conservation and Drought Contingency Plan amended on December 10, 2014. Please find attached a copy of the plans.

The Water Conservation Plan sets forth measures currently in place and to be taken by ANRA to ensure compliance with applicable state law and to promote water conservation. The goal of the Drought Contingency Plan is to balance the competing needs for water and minimize the adverse effects of water shortages during periods of drought and other emergency water shortages.

Please contact me at (936) 633-7544 if you have any questions or need any additional information.

Respectfully,

Christopher D. Key, P.E.
Operations Division Manager

Enclosure(s): Water Conservation and Drought Contingency Plans