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**MEMORANDUM**

**To:** Mr. Edie Sims  
City Secretary  
City of Blue Ridge

**From:** Justin R. Ivy, P.E.

**Date:** November 6, 2019

**Subject:** 2019 Water and Wastewater Impact Fee – Impact Fee Schedule

Below is the suggested schedule for Actions, Meetings and Public Notices for the City of Blue Ridge's 2019 Water and Wastewater Impact Fee Adoption process.

Advisory Committee (P&Z) Meetings	City Council Meeting	City Staff / Consulting Engineer	Meeting/Action	Agenda and Action Required
		Nov. 6, 2019	Consultant	Submit <b>System Wide</b> CIP (Future & Past Projects) to City Staff
	Dec. 3, 2019		City Council	<b>I. Public Hearings:</b> Set public hearing date of Jan. 7, 2020 for <b>System Wide</b> Land Use Assumptions & CIP. <b>II. Resolutions Establishing:</b> Impact Fee Advisory Committee.
		Dec. 6, 2019	Public Notice	Public Notice in local newspaper for public hearing on Jan. 7, 2020 for public hearing on Land Use Assumptions and CIP.
Dec. 30, 2019			Advisory Committee	a) Review Land Use Assumptions & CIP b) Written recommendation to Council for Land Use Assumptions & CIP
	Jan. 7, 2020		City Council Public Hearing	<b>I. Public Hearing:</b> Land Use Assumptions & CIP <b>II. Resolutions Adopting:</b> Land Use Assumptions & CIP; or table until no later than Feb. 30 <sup>th</sup> <b>III. Public Hearings:</b> Set date of March 3, 2020 for Water & Wastewater Impact Fees
		Jan. 31, 2020	Public Notice	Public Notice in local newspaper for public hearing on March 3, 2020 for adoption of Water & Wastewater Impact Fees

Advisory Committee (P&Z) Meetings	City Council Meeting	City Staff / Consulting Engineer	Meeting/Action	Agenda and Action Required
		Feb. 7, 2020	Consultant	Submit final Water & Wastewater Impact Fee report
Feb. 25, 2020			Advisory Committee	a) Review Water & Wastewater Impact Fees b) Written recommendation to Council for Water & Wastewater Impact Fees
	March 3, 2020		City Council Public Hearing	<b>I. Public Hearings:</b> Water & Wastewater Impact Fees <b>II. Resolutions Adopting:</b> Water & Wastewater Impact Fees

**WATER AND WASTEWATER  
IMPACT FEE STUDY**

*2019 to 2029*

*Submitted To*



*Submitted By*

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
**PROFESSIONAL ENGINEERS – Texas Firm F526**  
**DALLAS, TEXAS**

*November 2019*

**CITY OF BLUE RIDGE, TEXAS  
WATER AND WASTEWATER IMPACT FEE STUDY  
2019 TO 2029**

**TABLE OF CONTENTS**

	<u>Page No.</u>
A. Introduction .....	1
B. Land Use Assumptions Summary .....	3
C. Definition of a Service Unit – Water and Wastewater .....	4
D. Calculation of Water & Wastewater – Living Unit Equivalents .....	5
E. Water Supply and Water Distribution System	
1) Water Supply .....	7
2) Pump Stations .....	7
3) Ground Storage Reservoirs .....	8
4) Elevated Storage Tanks .....	8
5) Water Distribution System Capital Improvement Projects .....	9
6) Cost of Existing and Proposed Facilities .....	10
7) Utilized Capacity .....	11
F. Wastewater Collection System	
1) Wastewater Service Area .....	13
2) Existing Wastewater Treatment Plant .....	13
3) Capital Improvement Program .....	13
4) Utilized Capacity .....	15
G. Calculation of Maximum Impact Fees – Water & Wastewater System .....	16
Appendix A .....	18
Appendix B .....	21

THESE DOCUMENTS ARE FOR INTERIM  
REVIEW AND ARE NOT INTENDED FOR  
CONSTRUCTION, BIDDING, OR PERMIT  
PURPOSES.

Justin R. Ivy  
Texas P.E. No.133022  
Date: November 2019

## **CITY OF BLUE RIDGE 2019 WATER AND WASTEWATER IMPACT FEE STUDY**

### **A. INTRODUCTION**

Chapter 395, of the Local Government Code is an act that provides guidelines for financing capital improvements required by new development in municipalities, counties, and certain other local governments. Under Chapter 395, political subdivisions receive authorization to enact or impose impact fees on land that is located within their political subdivision's corporate boundaries or extraterritorial jurisdictions. No governmental entity or political subdivision can enact or impose an impact fee unless they receive specific authorization by state law or by Chapter 395.

An "Impact Fee" is a charge or assessment imposed by a political subdivision for new development within its service area in order to generate revenue for funding or recouping the costs of capital improvements of facility expansions necessitated by and attributable to the new development.<sup>1</sup> The City of Blue Ridge Water Service Area is all land within the current water Certificate of Convenient and Necessity CCN (Certificate No. 13123). The City of Blue Ridge Wastewater Service Area is all land within the current sewer CCN (Certificate No. 21009) and extending to the Extra Territorial Jurisdiction (ETJ).

The first step in determining an impact fee is preparation of land use and growth assumptions for the service area for the next ten years. Lacking information unique to the City of Blue Ridge, populations were projected over the next ten years based on growth rates of neighboring communities and verified by the City. The populations were then converted to connections in order to calculate utilized capacity over the impact fee period.

Next, a Capital Improvements Plan must be created to describe the water and wastewater infrastructure that will be necessary to serve the anticipated land uses and growth. The following items can be included in the impact fee calculation:

- 1) The portion of the cost of the new infrastructure that is to be paid by the City, including engineering, property acquisition and construction cost.
- 2) Existing excess capacity in lines and facilities that will serve future growth and which were paid for in whole or part by the City and part by the Developer.
- 3) Interest and other finance charges on bonds issued by the City to cover its portion of the cost.

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<sup>1</sup> P. 831, Texas Local Government Code, West's Texas Statutes and Codes, 1998 Edition.

The maximum allowable impact fee per service unit may not exceed fifty percent of the calculated maximum amount of the total utilized capital improvement cost divided by the total number of new standard service units. This maximum allowable impact fee recovers a portion of the City's costs to construct facilities to serve the new developments and growth. However, the City may recover the maximum fee by crediting the portion of utility service revenue generated by new service units during the 10-year program period.

Chapter 395 requires that an update of the land use assumptions, capital improvements plan, and impact fees be performed every five years, unless it is determined by the political subdivision after a review that such an update is not necessary.

This document constitutes the City's water and wastewater portion of the Capital Improvements Plan, and the resulting maximum allowable impact fees. As required by state law, the study period is a ten-year period with 2019 as the base year. The engineering analysis of the water and wastewater systems is based on existing and proposed system wide infrastructure improvements from 2019 to 2029.

## **B. LAND USE ASSUMPTIONS SUMMARY**

Under Chapter 395, of the Local Government Code, “Land Use Assumptions” includes a description of service area and projections of changes in land uses, densities, intensities, and population in the service area for a minimum of a 10-year period. In order to impose an impact fee, the City must adopt an order, ordinance, or resolution that establishes a public hearing date to consider the land use assumptions within the designated service area. After the public hearing on the land use assumptions, the City makes a determination of adoption or rejection of the ordinance, order or resolution approving the land use assumptions that will be utilized to develop the capital improvement plan.

The Land Use Assumptions used in this study were assumed to follow the City’s historical growth patterns and Economic Development Strategic Plan (July 2012) prepared by the Texas Engineering Extension Service. Therefore, single family residential development was assumed to be the typical land use for the City of Blue Ridge during the planning period. The existing and 10-year population projections are shown below in **Table No. 1** and include the calculated number of connections. The calculated number of connections assumes a population density of 3.1 people per connection consistent with single family residential land use.

**TABLE NO. 1**  
**CITY OF BLUE RIDGE, TEXAS**  
**2019 IMPACT FEE STUDY**  
**10-YEAR POPULATION PROJECTIONS**

<b>Year</b>	<b>Population</b>	<b>System Connections</b>
<b>2019</b>	903 <sup>(1)</sup>	499
<b>2029</b>	2,580 <sup>(2)</sup>	832 <sup>(3)</sup>

**Notes:**

(1) United States Census Bureau 2018 Population Estimate (2019 Not Available)

(2) Based On City of Anna Estimated Growth Rate Per NCTCOG (10.5%/yr.)

(3) Assumes 3.1 People per Connection

### C. DEFINITION OF A SERVICE UNIT – WATER AND WASTEWATER

Chapter 395 of the Local Government Code requires that impact fees be based on a defined service unit. A “service unit” means a standardized measure of consumption, use generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards. The City of Blue Ridge has defined a water and wastewater service unit to be a 5/8”x 3/4” water meter. The service unit is based on the continuous duty capacity of a 5/8” x 3/4” inch water meter. This is the typical meter used for a single family detached dwelling, and therefore is considered to be equivalent to one “living unit”. Other meter sizes can be compared to the 5/8” x 3/4” meter through a ratio of water flows as published by the American Water Works Association as shown in **Table No. 2** below. This same ratio is then used to determine the proportional water and sewer impact fee amount for each water meter size.

**TABLE NO. 2**  
**LIVING UNIT EQUIVALENCIES**  
**FOR VARIOUS TYPES AND SIZES OF WATER METERS**

Meter Type	Meter Size	Continuous Duty Maximum Rate (mgd) <sup>(a)</sup>	Living Unit Per Meter Size
Simple	5/8” x 3/4”	10	1.0
Simple	1”	25	2.5
Simple	1½”	50	5.0
Simple	2”	80	8.0
Compound	2”	80	8.0
Turbine	2”	100	10.0
Compound	3”	160	16.0
Turbine	3”	240	24.0
Compound	4”	250	25.0
Turbine	4”	420	42.0
Compound	6”	500	50.0
Turbine	6”	920	92.0
Compound	8”	800	80.0
Turbine	8”	1,600	160.0
Compound	10”	1,150	115.0
Turbine	10”	2,500	250.0
Turbine	12”	3,300	330.0

<sup>(a)</sup> Source: AWWA Standard C700 (1995) - C703 (1996)

**D. CALCULATION OF WATER & WASTEWATER LIVING UNIT EQUIVALENTS**

The City of Blue Ridge provided the existing water meter count by size category as of April 2019. In total, there are 499 water meters serving the existing population of 903 residents and businesses in the Water Service Area. **Table No. 3** shows the number of existing meters, the living unit equivalent factor, and the total number of living unit equivalents (LUE's) for water accounts.

Similarly, the City has provided the number of wastewater accounts as of April 2019. Serving the 903 residents and businesses in the Sewer Service Area, there are 401 accounts. **Table No. 4** illustrates the existing Sewer accounts, their Living Unit Equivalency Factor and LUE's.

**TABLE NO. 3**  
**WATER LIVING UNIT EQUIVALENTS BY METER SIZE**

Meter Size	2019			2029			New Living Units During Impact Fee Period
	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	
5/8"x 3/4"	495	1.0	495	825	1.0	825	330
1"	0	2.5	0	5	2.5	13	13
1½"	0	5.0	0	12	5.0	60	60
2"	4	10.0	40	7	10.0	70	30
3"	0	24.0	0	0	24.0	0	0
4"	0	42.0	0	0	42.0	0	0
6"	0	92.0	0	0	92.0	0	0
8"	0	160.0	0	0	160.0	0	0
12"	0	330.0	0	0	330.0	0	0
<b>Totals</b>	<b>499</b>		<b>535</b>	<b>849</b>		<b>968</b>	<b>433</b>

**TABLE NO. 4**  
**WASTEWATER LIVING UNIT EQUIVALENTS BY METER SIZE**

Meter Size	2019			2029			New Living Units During Impact Fee Period
	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	
5/8" x 3/4"	397	1.0	397	627	1.0	627	230
1"	0	2.5	0	5	2.5	13	13
1½"	0	5.0	0	12	5.0	60	60
2"	4	10.0	40	7	10.0	70	30
3"	0	24.0	0	0	24.0	0	0
4"	0	42.0	0	0	42.0	0	0
6"	0	92.0	0	0	92.0	0	0
8"	0	160.0	0	0	160.0	0	0
12"	0	330.0	0	0	330.0	0	0
<b>Totals</b>	<b>401</b>		<b>437</b>	<b>651</b>		<b>770</b>	<b>333</b>

## E. WATER SUPPLY AND WATER DISTRIBUTION SYSTEM

At the time of this study, data was not available to accurately estimate or model the existing water distribution lines to determine utilized capacity. The water distribution system was analyzed on a system wide basis and only considered water distribution facilities based on required storage and demand per connection with the exception of a pump station supply line connecting it to the system. These facilities include water well supply, pump stations, ground storage reservoirs and elevated storage tanks.

### 1) Water Supply

The City's water supply currently relies exclusively on groundwater pumped from three existing groundwater wells which are capable of delivering a total supply of 0.90 MGD (623 gpm). For the purpose of this study, the existing groundwater wells were considered to be high service pump stations with the largest capacity well (Well No. 4) out of service. **Table No. 5** below summarizes the water supply requirements for the City within the planning period. Additional water supply was assumed to be from surface water supplied by the North Texas Municipal Water District (NTMWD).

**TABLE NO. 5**  
**WATER SUPPLY REQUIREMENTS**

	Water Well #	Capacity (gpm)	Capacity (MGD)
2019	1	0	0.00
	2	132	0.19
	3	214	0.31
	4	277	0.40
<b>Total Exist. Cap.:</b>		<b>623</b>	<b>0.90</b>
2029	2	132	0.19
	3	214	0.31
	New Supply	350	0.50
<b>*Total Available Cap.:</b>		<b>696</b>	<b>1.00</b>

**Notes:**

\*Assumes largest well (well #4) is out of service

### 2) Pump Stations

High service pump stations must be included in the system wide analysis in order to provide pumping capacity for future surface water supply. The City currently operates three groundwater wells for supplying water to customers. As reported by the City, the existing water wells have the following capacities:

- a. Well # 1 – 0 gpm (Abandoned in 1975)
- b. Well # 2 – 132 gpm

- c. Well # 3 – 214 gpm
- d. Well # 4 – 277 gpm

Treating the groundwater supply wells as high service pump stations with the largest well out of service provides a firm pumping capacity of 0.5 MGD (346 gpm) and necessitates the addition of a new 0.5 MGD (350 gpm) pump station. The utilized capacity calculations are shown in **Table No. 9** and are generally in line with water supply.

### 3) **Ground Storage Reservoirs**

The City's existing water distribution system utilizes a 0.092 MG standpipe for ground storage. However, for the purpose of this study the standpipe was assumed to be abandoned in the future and replaced with a ground storage reservoir at the proposed high service pump station.

The Texas Commission on Environmental Quality (TCEQ) requires public water systems to provide a total available ground storage of 100 gallons per connection to meet maximum daily demands. Establishing the total number of connections for the existing and 10-year periods allows for the calculation of the required ground storage and utilized capacity within the planning period. **Table No. 10** summarizes the calculations.

### 4) **Elevated Storage Tanks**

Elevated storage is provided by the City's 0.1 MG City Hall Elevated Storage Tank. The TCEQ requires public water systems to provide 100 gallons of elevated storage per connection to meet maximum hourly demands and to provide adequate pressures for firefighting capability.

Based on the City's 10-year projected growth rate, population and total elevated storage, the City's water system will have adequate elevated storage through the planning period and no additional elevated storage will be required. The utilized capacity calculations for the City's existing elevated storage tank are shown in **Table No. 11**. For the purpose of determining impact fees, these calculations are only relevant to determine the utilized capacity of the existing facility to serve new development.

## 5) Water Distribution System Capital Improvement Projects

In order to meet the demands of the anticipated growth over the next 10-years, certain water distribution system improvements are required. **Table No. 6** itemizes each project and the project cost. These recommended improvements form the basis for the Water System Impact Fee Calculation and totals \$2,025,000. Adding the cost of financing brings the total 10-year Water System Capital Improvement cost to \$3,088,125.

**TABLE NO. 6**  
**10-YEAR CAPITAL IMPROVEMENT PLAN**

### SUPPLY, PUMPING & STORAGE FACILITIES

Project No.	Project	Capacity	Opinion of Project Cost <sup>(1)</sup>	Debt Service <sup>(2)</sup>	Total Project Cost
1	NTMWD Delivery Point #1 & Meter	0.50 MGD	\$1,200,000	\$630,000	\$ 1,830,000
2	High Service Pump Station #1	0.50 MGD	\$ 600,000	\$315,000	\$ 915,000
3	High Service Pump Station #1 Ground Storage Reservoir	0.125 MG	\$ 225,000	\$ 118,125	\$ 343,125
<b>Subtotal, Supply, Pumping and Storage Facilities:</b>			<b>\$2,025,000</b>	<b>\$1063,125</b>	<b>\$ 3,088,125</b>

### PLANNING EXPENSES

Project No.	Project	Opinion of Cost (1)(b)	Debt Service <sup>(2)</sup>	Total Project Cost
	Water Impact Fee	\$ 2,500	\$ -	\$ 2,500
<b>Subtotal, Planning Expenses:</b>		<b>\$ 2,500</b>	<b>\$ -</b>	<b>\$ 2,500</b>
<b>Water Distribution System CIP Grand Total:</b>		<b>\$2,027,500</b>	<b>\$ 1,063,125</b>	<b>\$ 3,090,625</b>

**Notes:**

- (1) Opinion of Project Cost includes:
  - a) Engineer's Opinion of Construction Cost
  - b) Professional Services Fees (Survey, Engineering, Testing, Legal)
  - c) Cost of Easement or Land Acquisitions
- (2) Debt Service based on 20-year simple interest bonds at 5%

## 6) Cost of Existing and Proposed Facilities

Actual capital costs were not available at the time of this study. Therefore, an average cost in 2019 dollars has been calculated based on a limited survey of projects, which bid recently, plus an estimated cost for professional services. **Table No. 7** summarizes the cost and the utilized capacity of the proposed pump stations, ground storage reservoirs and elevated storage facilities included, and the capital recovered in the impact fee period. **Table No. 7** also summarizes the cost and the utilized capacity for the existing pump stations, ground storage reservoirs and elevated storage facilities included, and the capital recovered in the impact fee period.

**TABLE NO. 7**  
**SUMMARY OF ELIGIBLE CAPITAL COST & UTILIZATION**

<b>Water System</b>	<b>Total Capital Cost (\$)</b>	<b>Total 20-Year Project Cost (\$)</b>	<b>Utilized Capacity During Fee Period (\$)</b>
Existing Water Facilities	\$ 2,050,000	\$ 3,126,250	\$ 769,919
<b>Existing Water System Subtotal:</b>	<b>\$ 2,050,000</b>	<b>\$ 3,126,250</b>	<b>\$ 769,919</b>
Proposed Water Facilities	\$ 2,025,000	\$ 3,206,250	\$ 2,200,392
Impact Fee Study Expenses	\$ 2,500	\$ 2,500	\$ 2,500
<b>Proposed Water System Subtotal:</b>	<b>\$ 2,027,500</b>	<b>\$ 3,208,750</b>	<b>\$ 2,202,892</b>
<b>TOTAL:</b>	<b>\$ 4,077,500</b>	<b>\$ 6,335,000</b>	<b>\$ 2,972,811</b>

## 7) Utilized Capacity

The total number of connections to the water distribution system were calculated based on projected growth and population during the 10-year planning period using a population distribution factor of 3.1 people per connection for the year 2029. The utilized capacity of facilities was determined based on an established flow rate of 0.6 gallons per connection for water supply and 100 gallons per connection for ground and elevated storage as required by TCEQ. The utilized capacity for each facility was then divided by the available capacity for years 2019 and 2029 to calculate the percent utilized during each year. **Tables 8 through 11** below summarize the calculations.

**TABLE NO. 8**  
**WATER SUPPLY UTILIZED CAPACITY**

Year	# Connections	Capacity Utilized (gpm) <sup>(1)</sup>	Available Capacity (gpm)	Utilized Capacity (%)
2019	499	300	623	48.15%
2029	832	500	696	71.84%

**Notes:**

(1) Assumes 0.6 gpm/connection

**TABLE NO. 9**  
**HIGH SERVICE PUMP STATION UTILIZED CAPACITY**  
**(Based On Surface Water Supply)**

Year	Required Pumping (gpm)	New Pump Capacity (gpm)	Available Pumping (gpm)	Utilized Capacity (%)
2019	300	-----	623	48.15%
2029	500	350	696	71.84%

**TABLE NO. 10**  
**GROUND STORAGE RESERVOIR UTILIZATION**  
**(Based On Total Number Of Connections)**

Year	Required Ground Storage (gal)	New Ground Storage (gal)	Available Ground Storage (gal)	Utilized Capacity (%)
2019	49,900	-----	92,000	54.24%
2029	83,200	125,000	125,000	66.56%

**TABLE NO. 11**  
**ELEVATED STORAGE TANK UTILIZATION**  
**(Based On Total Number Of Connections)**

<b>Year</b>	<b>Required Elevated Storage (gal)</b>	<b>Available Elevated Storage (gal)</b>	<b>Utilized Capacity (%)</b>
<b>2019</b>	49,900	100,000	49.90%
<b>2029</b>	83,200	100,000	83.20%

**Notes:**

No Additional Elevated Storage Required During Planning Period

The utilized capacity during the Impact Fee period is the difference between the year 2019 percent utilized and the year 2029 percent utilized. The utilized capacity for each water distribution facility, both existing and proposed, is presented in detail in the Impact Fee Capacity Calculation Tables located in **Appendix A**.

## **F. WASTEWATER COLLECTION SYSTEM**

At the time of this study, data was not available to accurately estimate or model the existing wastewater collection lines to determine utilized capacity. The wastewater collection system was analyzed on a system wide basis and only considered wastewater treatment facilities for the wastewater impact fee calculation.

### **1) Wastewater Service Area**

This study considered all real property within the City's corporate limits, Certificate of Convenience and Necessity (CCN) and Extraterritorial Jurisdiction (ETJ). The City's ETJ was determined to generally encompass the City limits and the CCN and was therefore identified as the City's wastewater service area.

### **2) Existing Wastewater Treatment Plant**

The City of Blue Ridge is currently the sole provider of wastewater collection and wastewater treatment. The rated capacity of the existing wastewater treatment plant was reported to be 0.28 MGD on an annual average basis.

The average daily flow was determined to be in the range of 0.09 MGD for 2017 - 2019, or approximately 100 gallons per person per day, based on average monthly flow data provided by the City.

### **3) Capital Improvement Program**

#### **a) Proposed**

In order to meet the demands of the anticipated growth over the next 10-years, an expansion of the existing wastewater treatment plant will be required. Based on the City's 2029 population projection, the average wastewater treatment plant flows are expected to be approximately 0.258 MGD, or approximately 92% of the treatment plants current capacity. **Table No. 12** shows the estimated cost of the wastewater treatment plant expansion included in the Impact Fee calculation.

#### **b) Existing**

Actual capital costs for the construction of the existing wastewater treatment plant was not available at the time of this study. Therefore, an average estimated cost in 2019 dollars has been calculated based on a limited survey of projects, which bid recently, plus an estimated cost for professional services. **Table No. 13** summarizes the cost and the utilized capacity of the proposed wastewater treatment plant expansion, and the capital recovered in the impact fee period. **Table No. 13** also summarizes the cost and the utilized capacity for the existing wastewater treatment plant, and the capital recovered in the impact fee period.

**TABLE NO. 12**  
**10-YEAR CAPITAL IMPROVEMENT PLAN**

**WASTEWATER TREATMENT**

Project No.	Project	Capacity	Opinion of Project Cost <sup>(1)</sup>	Debt Service <sup>(2)</sup>	Total Project Cost
1	Existing Wastewater Treatment Plant Expansion	0.5 MGD	\$ 3,960,000	\$ 2,079,000	\$ 6,039,000
<b>Subtotal, Wastewater Treatment Facilities:</b>			<b>\$ 3,960,000</b>	<b>\$ 2,079,000</b>	<b>\$ 6,039,000</b>

**PLANNING EXPENSES**

Project No.	Project	Opinion of Cost (1)(b)	Debt Service <sup>(2)</sup>	Total Project Cost
	Wastewater Impact Fee	\$ 2,500	\$ -	\$ 2,500
	<b>Subtotal, Planning Expenses:</b>	<b>\$ 2,500</b>	<b>\$ -</b>	<b>\$ 2,500</b>
<b>Wastewater Collection System CIP Grand Total:</b>		<b>\$ 3,962,500</b>	<b>\$ 2,079,000</b>	<b>\$ 6,041,500</b>

**Notes:**

- (1) Opinion of Project Cost includes:
- a) Engineer's Opinion of Construction Cost
  - b) Professional Services Fees (Survey, Engineering, Testing, Legal)
- (2) Debt Service based on 20-year simple interest bonds at 5%

**TABLE NO. 13**  
**SUMMARY OF ELIGIBLE CAPITAL COST & UTILIZATION**

Wastewater Collection System	Total Capital Cost (\$)	Total 20-Year Project Cost (\$)	Utilized Capacity During Fee Period (\$)
Existing Wastewater Facilities	\$ 3,360,000.00	\$ 5,124,000.00	\$ 978,684.00
<b>Existing Wastewater System Subtotal:</b>	<b>\$ 3,360,000.00</b>	<b>\$ 5,124,000.00</b>	<b>\$ 978,684.00</b>
Proposed Wastewater Facilities	\$ -	\$ -	\$ -
Impact Fee Study Expenses	\$ 2,500	\$ 2,500	\$ 2,500
<b>TOTAL</b>	<b>\$ 3,362,500</b>	<b>\$ 5,126,500</b>	<b>\$ 981,184</b>

#### 4) Utilized Capacity

The total number of connections to the wastewater collection system were calculated based on projected growth and population during the 10-year planning period using a population distribution factor of 3.1 people per connection for the year 2029. The utilized capacity of facilities was determined utilizing an estimated flow rate of 100 gallons per person per day (gpcd) based on average monthly wastewater treatment plant flows provided by the City. The utilized capacity for the wastewater treatment plant was then divided by the available capacity for years 2019 and 2029 to calculate the percent utilized during each year. **Table No. 14** below summarize the calculations.

**TABLE NO. 14**  
**WASTEWATER TREATMENT PLANT UTILIZATION**  
**(Based On Total Number Of Connections)**

Year	Utilized Capacity (gpd)	New Treatment Capacity (gpd)	Treatment Capacity (gpd)	Utilized Capacity (%)
2019	91000	-----	280,000	32.50%
2029	258,000	220,000	500,000	51.60%

**Notes:**

Utilized capacity based on flow rate of 100 gpcd

The percent-utilized capacity was calculated for the design flow of each study year based on the existing and 10-year wastewater treatment plant capacities. The utilized capacity during the Impact Fee period is the difference between the year 2019 capacity and the year 2029 capacity. **Table No. 15** below summarizes the project cost and utilized cost over the impact fee period of 2019 – 2029 for each element of the wastewater system. The utilized capacity for each existing and proposed wastewater facility and collection line is presented in detail in Impact Fee Capacity Calculation Tables.

**TABLE NO. 15**  
**SUMMARY OF ELIGIBLE CAPITAL COST & UTILIZED CAPACITY COST**

Wastewater Collection System	Total Capital Cost (\$)	Total 20-Year Project Cost (\$)	Utilized Capacity During Fee Period (\$)
Existing Wastewater Facilities	\$ 3,360,000.00	\$ 5,124,000.00	\$ 978,684.00
<b>Existing Wastewater System Subtotal:</b>	<b>\$ 3,360,000.00</b>	<b>\$ 5,124,000.00</b>	<b>\$ 978,684.00</b>
Proposed Wastewater Facilities	\$ 3,960,000.00	\$ 6,039,000.00	\$ ,153,500.00
Impact Fee Study Expenses	\$ 2,500.00	\$ ,500.00	\$ 2,500.00
<b>TOTAL</b>	<b>\$ 3,362,500.00</b>	<b>\$ 5,126,500.00</b>	<b>\$ 981,184.00</b>

## G. CALCULATION OF MAXIMUM IMPACT FEES - WATER & WASTEWATER SYSTEM

The maximum impact fees for the water and wastewater systems are calculated separately by dividing the cost of the capital improvements or facility expansions necessitated and attributable to new development in the service area within the ten year period by the number of living units anticipated to be added to The City within the study year period as shown on **Table No. 3** and **No. 4**. The calculations are shown below:

Maximum Water Impact Fee	=	$\frac{\text{Eligible Existing Utilized Cost} + \text{Eligible Proposed Utilized Cost}}{\text{Number of New Living Unit Equivalent over the Next 10 Years}}$	
	=	$\frac{\$769,919 + \$2,202,892}{433}$	$\frac{\$2,972,811}{433}$
Maximum Impact Fee	=	<u>\$6,866</u>	
Allowable Maximum Water Impact Fee: (Max Impact Fee x 50%)*	=	<u>\$3,433</u>	
* Maximum allowable impact fee is 50% of the maximum calculated impact fee per Chapter 395 LGC			

Maximum Wastewater Impact Fee	=	<u>Eligible Existing Utilized Cost + Eligible Proposed Utilized Cost</u>		
		Number of New Living Unit Equivalent over the Next 10 Years		
	=	<u>\$981,184</u>	<u>+ \$1,153,500</u>	<u>\$2,134,684</u>
		333		333
Maximum Impact Fee	=	<u>\$6,410</u>		
Allowable Maximum Wastewater Impact Fee: (Max Impact Fee x 50% )*	=	<u>\$3,205</u>		
* Maximum allowable impact fee is 50% of the maximum calculated impact fee per Chapter 395 LGC				

Based on the Maximum Impact Fee Calculation for Water and Wastewater, **Table No. 16** calculates the maximum impact fee for the various sizes of water meters.

**TABLE NO. 16**  
**ALLOWABLE MAXIMUM FEE PER LIVING UNIT EQUIVALENT**  
**AND**  
**PER METER SIZE AND TYPE**

50% Max . Water Impact fee /LUE \_\_\_\_\_ \$ 3,433  
 50% Max . Wastewater Impact fee /LUE \_\_\_\_\_ \$ 3,205

Typical Land Use	Meter Type	Meter Size	LUE	Maximum Impact Fee		Total
				Water	Wastewater	
Single Family Residential	Simple	5/8" x3/4"	1.0	\$ 3,433	\$ 3,205	\$ 6,638
Single Family Residential	Simple	1"	2.5	\$ 8,582	\$ 8,013	\$ 16,595
Single Family Residential	Simple	1-1/2"	5.0	\$ 17,164	\$ 16,026	\$ 33,190
Single Family Residential	Simple	2"	8	\$ 27,462	\$ 25,642	\$ 53,104
Commercial/Retail	Compound	2"	8	\$ 27,462	\$ 25,642	\$ 53,104
Commercial/Retail	Turbine	2"	10	\$ 34,328	\$ 32,052	\$ 66,380
Commercial/Retail/Multi Family	Compound	3"	16	\$ 54,925	\$ 51,284	\$ 106,209
Commercial/Retail/Multi Family	Turbine	3"	24	\$ 82,387	\$ 76,926	\$ 159,313
Commercial/Retail/Multi Family	Compound	4"	25	\$ 85,820	\$ 80,131	\$ 165,951
Commercial/Retail/Multi Family	Turbine	4"	42	\$ 144,178	\$ 134,620	\$ 278,798
Industrial	Compound	6"	50	\$ 171,640	\$ 160,262	\$ 331,902
Industrial	Turbine	6"	92	\$ 315,818	\$ 294,881	\$ 610,700
Industrial	Compound	8"	80	\$ 274,625	\$ 256,418	\$ 531,043
Industrial	Turbine	8"	160	\$ 549,249	\$ 512,837	\$ 1,062,086
Industrial	Compound	10"	115	\$ 394,773	\$ 368,602	\$ 763,374
Industrial	Turbine	10"	250	\$ 858,202	\$ 801,308	\$ 1,659,510
Industrial	Turbine	12"	330	\$ 1,132,826	\$ 1,057,726	\$ 2,190,553

**APPENDIX A**

***EXISTING WATER & WASTEWATER  
IMPACT FEE TABLES***

**TABLE NO. 16**  
**CITY OF BLUE RIDGE, TEXAS**  
**WATER DISTRIBUTION IMPACT FEE STUDY**  
**EXISTING WATER SUPPLY, TREATMENT, PUMPING AND STORAGE FACILITIES**

Pump Station Improvements		Year Const.	Capacity	Pump Station Cost (\$)			Capacity Utilized (%)			Capacity Utilized (\$)		In The CRF Period
				Net Cost to City of Blue Ridge (2019 Dollars)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost \$	2019	2029	In The CRF Period	2019	
Groundwater Supply												
Max Day Demand	Groundwater Well No. 1	1975	150 gpm	\$500,000	5%	\$262,500	\$762,500	48%	72%	\$367,144	\$547,780	\$180,636
	Groundwater Well No. 2	1913	350 gpm	\$750,000	5%	\$393,750	\$1,143,750	48%	72%	\$550,716	\$821,670	\$270,954
	Groundwater Well No. 3	1913	210 gpm	\$600,000	5%	\$315,000	\$915,000	48%	72%	\$440,573	\$657,336	\$216,764
	Groundwater Supply Subtotal			\$1,850,000		\$971,250	\$2,821,250			\$1,358,432	\$2,026,786	\$668,354
Elevated Storage Tanks												
Max Hour Demand	City Hall Elevated Storage Tank	1987	0.1 MG	\$200,000	5%	\$105,000	\$305,000	50%	83%	\$152,195	\$253,760	\$101,565
	Subtotal Elevated Storage Tanks			\$200,000		\$105,000	\$305,000			\$152,195	\$253,760	\$101,565
Existing Facilities Total				\$2,050,000.00		\$1,076,250.00	\$3,126,250.00			\$1,510,626.88	\$2,280,546.00	\$769,919.13

**TABLE NO. 17**  
**CITY OF BLUE RIDGE, TEXAS**  
**WASTEWATER COLLECTION SYSTEM IMPACT FEE STUDY**  
**EXISTING WASTEWATER FACILITIES**

	Year Const.	Capacity (MGD)	Facility Cost (\$)			Capacity Utilized (%)			Capacity Utilized (\$)		In The CRF Period
			Construction Cost (2019 Dollars)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest*	Total 20 Yr. Project Cost \$	2019	2029	2019	2029	
Pump Station Improvements											
Existing Wastewater Facilities											
Existing Wastewater Treatment Plant	1954	0.28	\$3,360,000.00	5%	\$1,764,000	\$5,124,000	33%	52%	\$1,665,300	\$2,643,984	\$978,684
Existing Facilities Total			\$3,360,000.00		\$1,764,000	\$5,124,000			\$1,665,300	\$2,643,984	\$978,684

**APPENDIX B**

***PROPOSED WATER & WASTEWATER  
IMPACT FEE TABLES***

**TABLE NO. 18**  
**CITY OF BLUE RIDGE, TEXAS**  
**WATER DISTRIBUTION IMPACT FEE STUDY**  
**PROPOSED WATER FACILITIES**

				Water Facilities Cost (\$)				Capacity Utilized (%)		Capacity Utilized (\$)		
	Facility Improvements	Year Const.	Projected Capacity	Construction Cost (\$)	Engineering, Testing and Property Acquisition 20% (\$)	Opinion of Project Total Cost (\$)	20 Year Debt Service Utilizing Simple Interest (\$)	Total 20 Yr. Project Cost (\$)	2019	2029	In The CRF Period	In The CRF Period
Max Day Demand	Water Supply											
	1 NTMWD Delivery Point #1 & Meter	2022	0.50 MGD	\$ 1,000,000	\$ 200,000	\$ 1,200,000	\$ 630,000	\$ 1,830,000	\$ -	\$ 1,314,672	\$	\$ 1,314,672
	Water Supply Subtotal:			\$ 1,000,000	\$ 200,000	\$ 1,200,000	\$ 630,000	\$ 1,830,000	\$	\$ 1,314,672	\$	\$ 1,314,672
Proposed Pump Stations, Ground Storage, and Elevated Storage Facilities												
Max Day Demand	1 High Service Pump Station #1	2022	0.50 MGD	\$ 500,000	\$ 100,000	\$ 600,000	\$ 315,000	\$ 915,000	\$ -	\$ 657,336	\$	\$ 657,336
	2 High Service Pump Station #1 Ground Storage Reservoir	2022	0.125 MG	\$ 187,500	\$ 37,500	\$ 225,000	\$ 118,125	\$ 343,125	\$ -	\$ 228,384	\$	\$ 228,384
	Facility Subtotal:			\$ 687,500	\$ 137,500	\$ 825,000	\$ 551,250	\$ 1,376,250		\$ 885,720	\$	\$ 885,720
Proposed Facility Total				\$ 1,687,500	\$ 337,500	\$ 2,025,000	\$ 1,181,250	\$ 3,206,250		\$ 2,200,392	\$	\$ 2,200,392

**TABLE NO. 19**  
**CITY OF BLUE RIDGE, TEXAS**  
**WASTEWATER COLLECTION SYSTEM IMPACT FEE STUDY**  
**PROPOSED WASTEWATER FACILITIES**

Facility Improvements	Year Const.	Expansion (MGD)	Total Capacity (MGD)	Sewer Facilities Cost (\$)				Capacity Utilized (MGD)			Capacity Utilized (%)			Capacity Utilized (\$)			
				Construction Cost (\$)	Engineering, Testing and Property Acquisition 20% (\$)	Opinion of Project Total Cost (\$)	20 Year Debt Service Utilizing Simple Interest (\$)	Total 20 Yr. Project Cost (\$)	2019	2029	In The CRF Period	2019	2029	In The CRF Period	2019	2029	
Proposed Facility Improvements																	
1 Existing Wastewater Treatment Plant Expansion	2024	0.22	0.50	\$ 3,300,000	\$ 660,000	\$ 3,960,000	\$ 2,079,000	\$ 6,039,000	0.33	0.52	0.19	33%	52%	19%	\$1,962,675.00	\$ 3,116,124	\$ 1,153,449
Facility Subtotal:				\$ 3,300,000	\$ 660,000	\$ 3,960,000	\$ 2,079,000	\$ 6,039,000							\$ 3,116,124	\$ 1,153,449	
Proposed Facility Total				\$ 3,300,000	\$ 660,000	\$ 3,960,000	\$ 2,079,000	\$ 6,039,000							\$ 3,116,200	\$ 1,153,500	

CITY OF BLUE RIDGE  
RESOLUTION 2019-1203-001

**A201**

**RESOLUTION AUTHORIZING SIGNATORIES**

**A RESOLUTION BY THE CITY COUNCIL OF CITY OF BLUE RIDGE DESIGNATING AUTHORIZED SIGNATORIES FOR CONTRACTUAL DOCUMENTS AND DOCUMENTS FOR REQUESTING FUNDS PERTAINING TO THE TEXAS COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM (TXCDBG) CONTRACT NUMBER 7219014.**

**WHEREAS**, the City of Blue Ridge has received a Texas Community Development Block Grant award to provide Planning Studies; and

**WHEREAS**, it is necessary to appoint persons to execute contractual documents and documents requesting funds from the Texas Department of Agriculture, and;

**WHEREAS**, an original signed copy of the TxCDBG Depository/Authorized Signatories Designation Form (Form A202) is to be submitted with a copy of this Resolution, and;

**WHEREAS**, the City of Blue Ridge acknowledges that in the event that an authorized signatory of the City changes (elections, illness, resignations, etc.) the City must provide TxCDBG with the following:

- a resolution stating who the new authorized signatory is (not required if this original resolution names only the title and not the name of the signatory); and
- a revised TxCDBG *Depository/Authorized Signatories Designation Form (Form A202)*.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF BLUE RIDGE, TEXAS, AS FOLLOWS:**

The Mayor and City Secretary are authorized to execute contractual and environmental review documents between the Texas Department of Agriculture and the City for the Texas Community Development Block Grant Program

The Mayor, Mayor Pro-Tem and City Secretary are authorized to execute the *State of Texas Purchase Voucher and Request for Payment Form* documents required for requesting funds approved in the Texas Community Development Block Grant Program

**PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF BLUE RIDGE, TEXAS,**  
on \_\_\_\_\_, 2019.

**APPROVED:**

\_\_\_\_\_  
Mayor

**ATTEST:**

\_\_\_\_\_  
City Secretary