

## RESOLUTION 2016-13

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OAK RIDGE NORTH, TEXAS ADOPTING IMPACT FEES FOR WATER AND WASTEWATER IMPROVEMENTS THAT ARE ATTRIBUTABLE TO NEW DEVELOPMENT IN THE CITY'S PROPOSED WATER AND WASTEWATER IMPACT FEE SERVICE AREAS; PROVIDING FOR IMPACT FEE COLLECTION AND ACCOUNTING FOR FEES AND INTEREST; PROVIDING FOR IMPACT FEE WAIVERS; PROVIDING FOR SEMI-ANNUAL REVIEW OF IMPACT FEES BY CAPITAL IMPROVEMENT ADVISORY COMMITTEE; PROVIDING FOR SEVERABILITY; AND DECLARING AN EFFECTIVE DATE.**

**WHEREAS**, Tex. Loc. Gov't Code Section 395.045 states that to impose water and wastewater impact fees, the City Council must, after holding a public hearing, approve land use assumptions and a capital improvements plan for the City's proposed water and wastewater impact fee service areas; and

**WHEREAS**, Jones & Carter prepared for the City a professional engineering report (the "Water and Wastewater Impact Fees Analysis") on land use assumptions and a capital improvements plan for the implementation of impact fees for water and wastewater improvements attributable to new development in the City's proposed water and wastewater impact fee service areas (the "Wastewater Impact Fee Capital Improvement Plan"); and

**WHEREAS**, the City Council finds and determines that the City has complied with the requirements in Tex. Loc. Gov't Code Sections 395.042 and 395.043 for publicizing the Water and Wastewater Impact Fees Analysis and Capital Improvement Plan prior to holding public hearings; and

**WHEREAS**, pursuant to Tex. Loc. Gov't Code Section 395.044, the City Secretary of the City of Oak Ridge North timely published on May 26, 2016, the notice of public hearing (attached as Exhibit "A") in the City of Oak Ridge North's official newspaper of general circulation concerning the public hearing to consider approval of the land use assumptions and capital improvements plan associated with the imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, the Capital Improvements Advisory Committee met on June 6, 2016, and recommended that the City Council approve the Water and Wastewater Impact Fee Analysis and Water Impact Fee Capital Improvement Plan which is memorialized in written Comment 2016-01 which was timely filed with the City Secretary on or about June 16, 2016; and

**WHEREAS**, the City Council held a public hearing on June 27, 2016, to consider the land use assumptions and capital improvement plan associated with the Water and

Wastewater Impact Fee Analysis and Capital Improvement Plan for the possible imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, the Capital Improvement Advisory Committee ratified written Comment 2016-01 after the public hearing held on June 27, 2016, and recommended to City Council approval of the land use assumptions and capital improvement plan recommended by the preliminary Water and Wastewater Impact Fee Analysis and Capital Improvement Plan for the possible imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, the City Council approved Resolution 2016-10 after the June 27, 2016 public hearing and adopted and approved the land use assumptions and capital improvement plan recommended by the preliminary Water and Wastewater Impact Fee Analysis and Capital Improvement Plan for the possible imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, pursuant to Tex. Loc. Gov't Code Section 395.049, the City Secretary of the City of Oak Ridge North timely published on July 5, 2016, the notice of public hearing (attached as Exhibit "B") in the City of Oak Ridge North's official newspaper of general circulation concerning the possible imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, the City Secretary of the City of Oak Ridge North published on July 14, 2016, a corrected notice of public hearing (attached as Exhibit "C") in the City of Oak Ridge North's official newspaper of general circulation, so as to strictly comply with the notice requirements of Tex. Loc. Gov't Code Section 395.049, concerning the possible imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, the Capital Improvements Advisory Committee met on July 27, 2016, considered Jones & Carter's amended Water and Wastewater Impact Fee Analysis report reflecting revisions to the recommended Equivalent Single Family Connection (ESFC) service units and recommended impact fees per ESFC service unit, and approved the modified ESFC service units and impact fees per ESFC as recommended; and

**WHEREAS**, the Capital Improvements Advisory Committee directed the preparation and filing of its written Comment 2016-02 recommending that the City Council approve the imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas pursuant to the final Water and Wastewater Impact Fee Analysis Report; and

**WHEREAS**, the Capital Improvement Advisory Committee and the City Council convened at a duly noticed open meeting where it held a public hearing on August 8, 2016, to consider the adoption of impact fees on water and wastewater improvements attributable to new development in the impact fee service areas; and

**WHEREAS**, the Capital Improvement Advisory Committee ratified its written Comment 2016-02 after the public hearing held on August 8, 2016, and recommended to City Council approval of the adoption and imposition of impact fees for water and wastewater improvements attributable to new development in the impact fee service areas in accordance with the final Water and Wastewater Impact Fee Analysis report.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF OAK RIDGE NORTH, TEXAS:**

**SECTION 1.** The facts and recitations found in the preamble of this Resolution are true and correct and incorporated herein for all purposes.

**SECTION 2. Impact Fees Approved.** The impact fees recommended by the final Water and Wastewater Impact Fee Analysis dated August 1, 2016 (a copy of which is attached to this Resolution as Exhibit "D" and incorporated into this Resolution for all purposes) are approved, levied and imposed as to the City's water and wastewater impact fee service areas.

**SECTION 3. Impact Fee Collection.** The City may collect the impact fees herein imposed or as may be later amended beginning one year after the date this Resolution imposing impact fees is adopted. The impact fees herein imposed or as may be later amended may be collected from on any service unit located in an impact fee service area for which a valid building permit is issued or as otherwise allowed by Texas Local Government Code Chapter 395.

**SECTION 4. Accounting for Fees and Interest.** The City shall deposit all funds collected for the water and wastewater impact fees in interest-bearing accounts clearly identifying the category of capital improvements or facility expansions within the water and wastewater impact fee services areas.

**SECTION 5. Impact Fee Waivers.** The City may waive the collection of the impact fees imposed herein or as may be later amended pursuant to Texas Local Government Code Chapter 395.

**SECTION 6. Semi-Annual Review.** The Capital Improvement Advisory Committee shall monitor and evaluate implementation of the capital improvements plan; file semiannual reports with respect to the progress of the capital improvements plan and report to the City Council any perceived inequities in implementing the plan or imposing the impact fee; and advise the City Council of the need to update or revise the land use assumptions, capital improvements plan, and impact fees imposed by this Resolution adopting impact fees.

**SECTION 7. Periodic Update.** The City shall update the land use assumptions and capital improvements plan associated with these impact fees for water and wastewater development no later than five (5) years from the adoption of Resolution 2016-10, which occurred on June 27, 2016.

**SECTION 8. Severability.** In the event any clause, phrase, provision, sentence or part of this Resolution or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Resolution as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Oak Ridge, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

**SECTION 9. Effective Date.** This Resolution is in full force and effect immediately upon its adoption.

**PASSED, APPROVED, AND ADOPTED** on this the 8<sup>th</sup> day of August, 2016.

  
Jim Kuykendall, Mayor

ATTEST:

  
Laura Calcote, City Secretary



**EXHIBIT “A”**

(Proof of Publication – May 26, 2016)



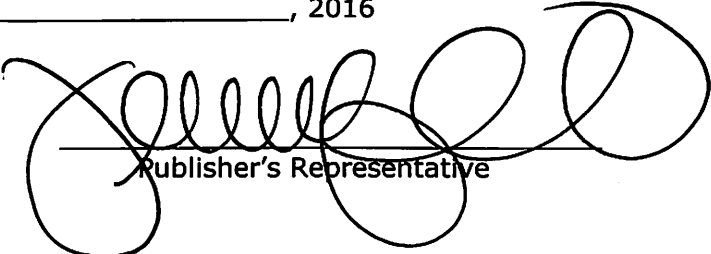
HOUSTON COMMUNITY  
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& MEDIA GROUP

## AFFIDAVIT OF PUBLICATION

### STATE OF TEXAS COUNTY OF MONTGOMERY

Personally appeared before the undersigned, a Notary Public within and for said County and State, Jennifer Underferth, Representative for Jason Joseph, General Manager and Publisher of The Courier, a newspaper of general circulation in the County of Montgomery, State of Texas. Who being duly sworn, states under oath that the report of Legal Notices, a true copy of which is hereto annexed was published in said newspaper in its issue(s) of the

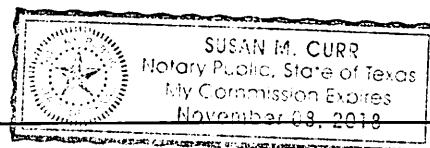
26th day of May, 2016  
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\_\_\_\_ day of \_\_\_\_\_, 2016  
\_\_\_\_ day of \_\_\_\_\_, 2016

  
\_\_\_\_\_  
Publisher's Representative

Sworn to and subscribed before me this 26 day of May, 2016

Susan M. Curr  
\_\_\_\_\_  
Notary Public

My commission expires on(stamp) \_\_\_\_\_



**NOTICE OF PUBLIC HEARING ON LAND USE ASSUMPTIONS AND  
CAPITAL IMPROVEMENTS PLAN RELATING TO POSSIBLE  
ADOPTION OF IMPACT FEES**

The City of Oak Ridge North will hold a Public Hearing before the City Council and the Capital Improvement Advisory Committee. The public hearing will be held on the 27th day of June, 2016 at 6:00 o'clock p.m. at City Hall, 27424 Robinson Road, Oak Ridge North, Texas, 77385 involving the proposed land use assumptions and the capital improvement plan under which an impact fee may be imposed. Any member of the public may appear and be heard and has the right to appear at the public hearing and present evidence for or against the land use assumptions and capital improvements plan.

If you have any questions concerning this public hearing, please contact City Secretary Laura Calcote at 281-292-4649, ext. 303.

CC Publish Date: Thursday, May 26, 2016

**EXHIBIT “B”**

(Proof of Publication – July 5, 2016)





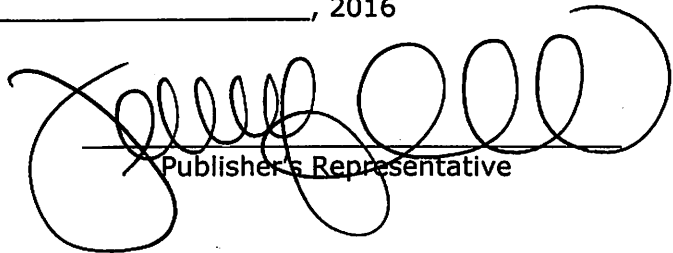
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## AFFIDAVIT OF PUBLICATION

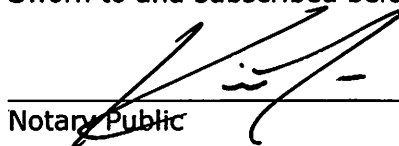
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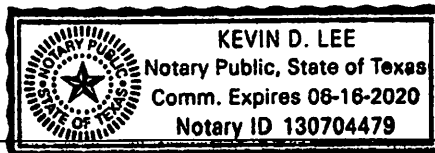
\_\_\_\_\_ 5<sup>th</sup> day of July, 2016  
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\_\_\_\_\_ day of \_\_\_\_\_, 2016  
\_\_\_\_\_ day of \_\_\_\_\_, 2016

  
\_\_\_\_\_  
Publisher's Representative

Sworn to and subscribed before me this 5<sup>th</sup> day of July, 2016

  
\_\_\_\_\_  
Notary Public

My commission expires on(stamp) \_\_\_\_\_



#### **NOTICE OF PUBLIC HEARING ON ADOPTION OF IMPACT FEES**

The City of Oak Ridge North will hold a Public Hearing before the City Council. The public hearing will be held on the 8th day of August, 2016 at 6:00 o'clock p.m. at City Hall, 27424 Robinson Road, Oak Ridge North, Texas, 77385 to discuss the adoption of an impact fee for water and wastewater infrastructure necessary to serve new development. The proposed impact fee for water is \$1,396.00 per equivalent single family connection (ESFC) and the proposed impact fee for wastewater is \$1,839.00 per equivalent single family connection (ESFC). An equivalent single family connection (ESFC) is defined as a 5/8" meter size. Any member of the public may appear and be heard and has the right to appear at the public hearing and present evidence for or against the land use assumptions and capital improvements plan.

If you have any questions concerning this joint public hearing, please contact City Secretary Laura Calcote at 281-292-4649, ext. 303.

CC Publish Date: Tuesday, July 5, 2016

**EXHIBIT “C”**

(Proof of Publication – July 14, 2016)



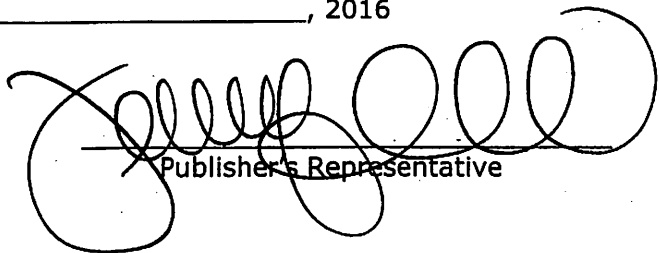
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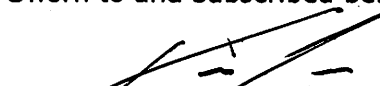
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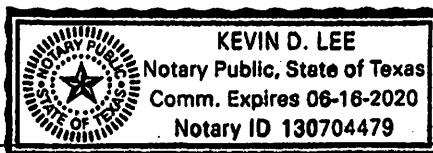
14<sup>th</sup> day of July, 2016  
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 Publisher's Representative

Sworn to and subscribed before me this 14<sup>th</sup> day of July, 2016

  
 \_\_\_\_\_  
 Notary Public

My commission expires on(stamp) \_\_\_\_\_



**NOTICE OF PUBLIC HEARING ON ADOPTION OF IMPACT FEES  
(CORRECTION)**

The City of Oak Ridge North will hold a Public Hearing before the City Council. The public hearing will be held on the 8th day of August, 2016 at 6:00 o'clock p.m. at City Hall, 27424 Robinson Road, Oak Ridge North, Texas, 77385 to discuss the adoption of an impact fee for water and wastewater infrastructure necessary to serve new development. The proposed impact fee for water is \$1,396.00 per equivalent single family connection (ESFC) and the proposed impact fee for wastewater is \$1,839.00 per equivalent single family connection (ESFC). An equivalent single family connection (ESFC) is defined as a 5/8" meter size. Any member of the public may appear and be heard and has the right to appear at the public hearing and present evidence for or against the plan and proposed fee.

This notice is a correction to the notice previously published on July 5, 2016. The corrected language is underlined.

If you have any questions concerning this joint public hearing, please contact City Secretary Laura Calcote at 281-292-4649, ext. 303.

CC Publish Date: Tuesday, July 14, 2016

**EXHIBIT “D”**

(Final Water & Wastewater Impact Fee Analysis Report)

**Oak Ridge North, Texas  
Water and Wastewater Impact Fee Analysis**



**Prepared by:**

Jones | Carter  
8701 New Trails Drive, Suite 200  
The Woodlands, Texas 77381  
281.363.4039  
Firm Registration No. F-439

**August 1, 2016**



*[Handwritten signature]*  
8/1/16

## EXECUTIVE SUMMARY

This study was performed to create the City of Oak Ridge North's Water and Wastewater System Impact Fees. Water and wastewater system analysis and the Water and Wastewater System Master Plan are important tools for facilitating orderly growth of the water and wastewater systems and for providing adequate facilities that promote economic development in the City of Oak Ridge North and its Extra-Territorial Jurisdiction (ETJ). The implementation of impact fees shifts the financial burden of new infrastructure to the developers/new users and away from the existing customer.

Elements of the water and wastewater systems, including storage facilities, pumping facilities, treatment facilities, and the distribution and collection network itself, were evaluated against industry standards as outlined in the Design Criteria section of this report.

Water and wastewater system improvements necessary to serve the 10-year (2025) build out and ultimate system needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. For example, the projected cost to serve the ultimate water and wastewater system needs is \$10,770,000. Of this, \$9,711,260 is projected to be eligible for recovery through impact fees within the next 10 years. A portion of the remainder can be assessed as the planning window extends beyond 2025 and as the impact fees are updated in the future.

The impact fee law defines a service unit as follows, "'Service Unit' means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the City of Oak Ridge North defines a *service unit* as an Equivalent Single Family Connection (ESFC) that consumes the amount of water requiring a standard 5/8" meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8" meter. The equivalency factor and associated impact fee by meter size is shown in **Table 1.1**.

Based on the City's 10-year growth projections and the associated demand (consumption) values, **1,473** additional service units will need water and wastewater by the year 2025. Based on the additional service units and the recoverable capital improvements plans, the City may assess a maximum of **\$3,297** per ESFC. In the event that all areas described below are not able to be served by the City of Oak Ridge North, refer to Appendices 3 – 8 to determine the projected demand and associated impact fee.



**Table 1.1 Maximum Assessable Impact Fee for Commonly Used Meters – For All Areas Inclusive of ETJ & TIRZ No. 1 Boundary (Not Presently served by others)**

<b>Meter Size</b>	<b>Maximum Flow (GPM)</b>	<b>Equivalent Single Family Connection (ESFC)</b>	<b>Maximum Assessable Water Fee (\$/ESFC)</b>	<b>Maximum Assessable Wastewater Fee (\$/ESFC)</b>	<b>Maximum Assessable Fee (\$/ESFC)</b>
5/8"	15	1.00	\$ 1,424.00	\$ 1,873.00	\$ 3,297.00
3/4"	25	1.67	\$ 2,377.00	\$ 3,128.00	\$ 5,505.00
1"	40	2.67	\$ 3,801.00	\$ 5,001.00	\$ 8,802.00
1 1/2"	120	8.00	\$ 11,388.00	\$ 14,983.00	\$ 26,371.00
2"	170	11.33	\$ 16,129.00	\$ 21,220.00	\$ 37,349.00
3"	350	23.33	\$ 33,211.00	\$ 43,694.00	\$ 76,905.00
4"	600	40.00	\$ 56,942.00	\$ 74,915.00	\$ 131,857.00
6"	1,200	80.00	\$ 113,884.00	\$ 149,830.00	\$ 263,714.00
8"	1,800	120.00	\$ 170,825.00	\$ 224,745.00	\$ 395,570.00

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## 1. INTRODUCTION

The City of Oak Ridge North retained the services of Jones|Carter for the purpose of analyzing and creating the impact fees for the water and wastewater system improvements required to serve new development. These fees are to be developed in accordance with Chapter 395 of the *Local Government Code* (impact fees), which requires a city imposing impact fees to update the land-use assumptions and capital improvements plan upon which the fees are calculated.

The purpose of this report is to satisfy the requirements of the law and provide the City with an impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

- (a) *The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:*
- (1) *a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
  - (2) *an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
  - (3) *a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;*
  - (4) *a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;*
  - (5) *the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
  - (6) *the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*

- (7) *a plan for awarding:*
- (A) *a credit for the portion of ad valorem tax and utility service revenues generated by new service unit during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or*
  - (B) *in the alternative, a credit equal to 50 percent of the total project cost of implementing the capital improvements plan.*

The study process was comprised of four tasks:

**A. LAND USE ASSUMPTIONS**

This task involved reviewing the City's current growth, land planning in the City's Corporate Limits and the ETJ and projecting development and the associated utility demand for the next 10 years.

**B. EVALUATION OF THE WATER AND WASTEWATER SYSTEM MASTER PLAN**

This task involved reviewing the current water and wastewater systems and the growth projection. The demand projections were then used to determine the additional service units.

**C. IMPACT FEE CAPITAL IMPROVEMENTS PLAN**

This task involved evaluation of the water and wastewater capital improvement projects depicted in the master plan and discussion with City staff to identify projects that will be built in the 10-year planning window and meet the design criteria.

**D. IMPACT FEE ANALYSIS AND REPORT**

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

## **2. WATER SYSTEM DESIGN CRITERIA**

### **A. WATER TRANSMISSION LINES**

Water transmission lines shall be sized to maintain the following pressure requirements:

- Peak hour demand with a minimum pressure of 35 psi;
- Peak day demand plus fire flow with a minimum pressure of 20 psi.

### **B. STORAGE TANKS**

The Texas Commission on Environmental Quality (TCEQ) and the State Board of Insurance (SBI) have established criteria for ground and elevated storage. These criteria address volume and height requirements only. The layout of the distribution system, location of the storage facilities, and the interaction with the high service and booster pumps affect the amount of storage necessary for the most efficient and reliable operation of the system.

#### **i. GROUND STORAGE**

Ground storage serves two functions:

- Equalization for differing feed rates between the water supply and pumping to the system; and
- Emergency capacity in the event of temporary loss of water supply.

Generally, ground storage facilities are located at water supply points or at each pump station within the water distribution system. Suggested storage capacities are established based on several criteria. There are specific requirements of the TCEQ. These criteria are detailed later in this section. Although ground and elevated storage facilities perform separate functions within the system, both are aimed at decreasing the impact of demand fluctuations. Their capacities are established based on knowledge of how demand varies seasonally and daily.

#### **ii. ELEVATED STORAGE**

Elevated storage serves three purposes:

- Functionally, elevated storage equalizes the pumping rate to compensate for daily variations in demand and to maintain a fairly constant pumping rate (usually referred to as operational storage), or a pumping rate that conforms to the requirements of the electrical rate structure.
- Provides pressure maintenance and protection against surges created by instantaneous demand, such as fire flow and main breaks, and instantaneous change in supply, such as pumps turning on and off.

- Maintains a reserve capacity for fire protection and pressure maintenance in case of power failure to one or more pump stations. Sufficient storage should be maintained to provide four hours of fire flow demand during a loss of power to the pump station.

Suggested storage capacities are established by the TCEQ. Adequate operational storage is established by determining the required volume to equalize the daily fluctuations in flow during the maximum day demand, plus the reserve volume required for fire protection.

The minimum requirements for storage, according to Chapter 290 of the Texas Administrative Code, are as follows:

- Total Storage - Equal to 200 gallons per connection.
- Elevated Storage - Equal to 100 gallons per connection; or
- Elevated Storage – Equal to 200 gallons per connection for a firm pumping capacity reduction from 2.0 gallons per connection to 0.6 gallons per connection.

### C. PUMP STATIONS

Pumping capacities must provide the maximum demand or the peak hour demand required by the water system or the suggested capacities established by the TCEQ. Pumping capacity should supply the maximum demand with sufficient redundancy to allow for the largest pump at the pump station to be out of service. This is known as firm pumping capacity.

Each pump station or pressure plane must have two or more pumps that have a total capacity of 2.0 gallons per minute per connection, or have a total capacity of at least 1,000 gallons per minute and the ability to meet peak hour demand with the largest pump out of service, whichever is less. If the system provides elevated storage capacity of 200 gallons per connection, two service pumps with a minimum combined capacity of 0.6 gpm per connection are required.

### D. WATER DEMAND

The criteria used for projecting the water demands for the water system were derived from the 2013 Feasibility Report. **Table 1.2** shows the projected average day demand by land use type.

**Table 1.2 Water Demand by Land Use Type**

Land Use Type	Demand gpd/ac	Demand gpd/dwelling unit
Single Family Residential	1,500	360
Commercial	3,000	N/A
Multi-family	3,500	N/A

### 3. WASTEWATER SYSTEM DESIGN CRITERIA

#### A. WASTEWATER COLLECTION LINES

Wastewater collection lines shall be sized to maintain the following requirements:

- Capacity for four times the Average Daily Flow (ADF);
- Minimum velocity of 2.0 feet per second.

#### B. LIFT STATIONS

The Texas Commission on Environmental Quality (TCEQ) has established criteria for the design of lift stations. These criteria address location, volume, controls, flood protection, and ventilation. In addition to meeting the capacity requirements, lift stations will be designed with a six-hour run time.

#### C. FORCE MAINS

Force main lines shall be sized to maintain the following requirements:

- Capacity for maximum pumping capacity of the lift station;
- Maintain velocity between 2.0 and 6.0 feet per second.

#### D. WASTEWATER TREATMENT PLANTS (WWTPs)

The criteria used for designing WWTPs is stated in TCEQ Chapter 217. The wastewater demands for the system were derived from the 2013 Feasibility Report. **Table 1.3** shows the projected average day demand by land use type.

**Table 1.3 Wastewater Demand by Land Use Type**

Land Use Type	Demand gpd/ac	Demand gpd/dwelling unit
Single Family Residential	1,200	300
Commercial	2,500	N/A
Multi-family	3,000	N/A

## 4. WATER IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The City of Oak Ridge North commissioned Jones|Carter to create their Water Master Plan utilizing Bentley WaterGEMS (v8) in 2011. The purpose of the water master plan is to provide the City with a logical strategy for upgrading and expanding its water distribution system to accommodate future growth and for addressing existing system deficiencies.

Seven (7) projects are determined eligible for recoverable cost through impact fee over the next 10 years. The total cost of these projects is \$5,252,500. The projected total recoverable cost through impact fees is \$4,193,760. After the credit calculation is completed, **\$2,096,880** is recoverable through impact fees serving the 10-year system needs.

### A. PROJECT DESCRIPTIONS

#### 1. IMPACT FEE STUDY (1/2)

Jones|Carter will update the impact fees and provide a report and plan to the City.

**Project Cost** **\$22,500**

#### 2. WATERLINE UPSIZING

In order to provide the required capacity in newly developed portions of the City, existing facilities will be upsized.

**Project Cost** **\$493,000**

#### 3. OAK RIDGE COMMERCE PARK WATERLINE EXTENSION (SOUTH)

The waterline extension project includes approximately 350 feet of eight-inch (8") waterline. The waterline will require casing within the Union Pacific Railroad right-of-way, fire hydrant(s), and air relief manhole(s).

**Project Cost** **\$150,000**

#### 4. I-45 WATERLINE EXTENSION (PHASE 2)

The I-45 Waterline Extension Project includes approximately 400 feet of eight-inch (8") waterline. The waterline will require casing in certain locations, fire hydrant(s), and air relief manhole(s).

**Project Cost** **\$214,000**

#### 5. WATER WELL No. 4

Water Well No. 4 includes the drilling of a new well and a system of controls and monitoring equipment for the well operation.

**Project Cost** **\$1,852,000**





**6. OAK RIDGE COMMERCE PARK WATERLINE EXTENSION (NORTH)**

The waterline extension project includes approximately 630 feet of 12-inch (12") waterline. The waterline will require casing within the Union Pacific Railroad right-of-way, fire hydrant(s), and air relief manhole(s).

**Project Cost**

**\$250,000**

**7. WATER PLANT No. 2**

Water Plant No. 2 includes adding two ground storage tanks, pumps, a system of controls and monitoring equipment for the well operation, and a building to house the equipment.

**Project Cost**

**\$2,271,000**

## 5. WASTEWATER IMPACT FEE CAPITAL IMPROVEMENTS PLAN

Based on city staff's knowledge of the system and the Utility and Economic Feasibility Report completed by Jones|Carter in 2013, Five (5) wastewater projects are determined eligible for recoverable cost through impact fee over the next 10 years. The total cost of these projects is \$5,517,500. The projected total recoverable cost through impact fees is \$5,517,500. After the credit calculation is completed, **\$2,758,750** is recoverable through impact fees serving the 10-year system needs.

### A. PROJECT DESCRIPTIONS

#### 1. IMPACT FEE STUDY (1/2)

Jones|Carter will update the impact fees and provide a report and plan to the City.

<b>Project Cost</b>	<b>\$22,500</b>
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#### 2. WASTEWATER TREATMENT PLANT CAPACITY PURCHASE

The City will purchase capacity from a neighboring utility district.

<b>Project Cost</b>	<b>\$3,000,000</b>
---------------------	--------------------

#### 3. GRAVITY SEWER TRUNKLINE UPSIZE

The Gravity Sewer Trunkline upsizing includes approximately 4,000 feet of gravity sewer ranging in sizes from 8" to 21" and manholes for access.

<b>Project Cost</b>	<b>\$950,000</b>
---------------------	------------------

#### 4. ROBINSON ROAD LIFT STATION

The Robinson Road Lift Station project includes purchasing the land and construction of the lift station, installation of controls, and installation of a generator.

<b>Project Cost</b>	<b>\$1,000,000</b>
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#### 5. ROBINSON ROAD FORCE MAIN

The Robinson Road Force Main project includes approximately 13,500 feet of force main, casing within the Union Pacific Railroad Right of Way, air relief manholes, and easement purchases

<b>Project Cost</b>	<b>\$545,000</b>
---------------------	------------------

## 6. WATER IMPACT FEE CALCULATIONS

Chapter 395 of the Local Government Code defines a service unit as follows, “Service Unit” means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.” Therefore, the City of Oak Ridge North defines a *service unit* as an Equivalent Single Family Connection (ESFC) that consumes the amount of water requiring a standard 5/8” meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8” meter. The equivalency factor and associated impact fee by meter size is shown in **Table 1.1** earlier in this report.

### Additional Service Units and Water Impact Fee Calculation

Based on the City’s 10-year growth projections and the resulting water demand projections, water service will be required for an additional 1,473 service units. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 360 gallons per day (GPD), is an equivalent single family connection that uses a 5/8” meter. **Table 1.4** outlines the future water demand projections and its relationship to the additional service units projected for the next 10-years.

**Table 1.4 10-year Additional Service Units Calculation**

Year	Average Day Demand (Gallons)	Service Unit Demand (GPD)	Equivalent Single Family Connections (ESFC)
2015	436,000	372	1,171
2020	608,000	369	1,632
2025	976,000	365	2,644
<b>10-year Additional ESFC’s</b>			<b>1,473</b>

The City has divided the service area into Area 1, which includes the City Limits and the areas of the Extraterritorial Jurisdiction (ETJ) not in the Tax Increment Reinvestment Zone (TIRZ) and not currently served by other entities; Area 2, which includes the limits of TIRZ within both the City Limits and ETJ, not currently served by other entities; Area 3, which includes Southern Montgomery County Municipal Utility District (SMCMUD), Area 4, which includes Chateau Woods MUD CCN; and Area 5, which includes Eastwood Hills Subdivision CCN. None of the proposed improvements are due to development in Area 1 and Area 3 therefore the impact fee inside Areas 1 and 3 is \$0.

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the City chooses not to do a financial analysis to determine the credit value, they are required by law to reduce the recoverable cost by 50 percent. The City has chosen not to perform a financial analysis. The maximum recoverable cost for impact fee is shown below.

**Table 1.5 Maximum Recoverable Cost**

Project	Project Cost (\$)	Allowed Recoverable (%)	Allowed Recoverable (\$)
Impact Fee Study (1/2)	\$ 22,500.00	100%	\$ 22,500.00
Waterline Upsizing	\$ 493,000.00	100%	\$ 493,000.00
ORN Business Park Waterline	\$ 150,000.00	100%	\$ 150,000.00
I-45 Waterline Extension Ph. 2	\$ 214,000.00	100%	\$ 214,000.00
Well No. 4	\$ 1,852,000.00	60%	\$ 1,111,200.00
Commerce Park Waterline	\$ 250,000.00	100%	\$ 250,000.00
Water Plant No. 2 (GST & BP)	\$ 2,271,000.00	86%	\$ 1,953,060.00
<b>Total</b>	<b>\$ 5,252,500.00</b>		<b>\$ 4,193,760.00</b>

A calculation of the 10-year recoverable costs and the associated impact fee per service unit for Area 2 is as follows:

$$\begin{aligned}
 \text{Impact fee per service unit} &= \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}} = \frac{\$4,193,760}{1,473} \\
 50\% \text{ Reduction} &50\% \times \$2,847 = \$1,424
 \end{aligned}$$

Therefore, the maximum assessable impact fee per service unit is \$1,396.

For a development that requires a different size meter, an equivalent single family connection (ESFC) is established at a multiplier based on its capacity with respect to the 5/8" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on **Table 1.6**, ESFC Table for Commonly Used Meters (Water).

**Table 1.6 ESFC Table for Commonly Used Meters (Water)**

Meter Size	Maximum Continuous Operating Capacity (GPM)	ESFC	Maximum Assessable Water Fee (\$/ESFC)
5/8"	15	1.00	\$ 1,424.00
3/4"	25	1.67	\$ 2,377.00
1"	40	2.67	\$ 3,801.00
1 1/2"	120	8.00	\$ 11,388.00
2"	170	11.33	\$ 16,129.00
3"	350	23.33	\$ 33,211.00
4"	600	40.00	\$ 56,942.00
6"	1,200	80.00	\$ 113,884.00
8"	1,800	120.00	\$ 170,825.00

## 7. WASTEWATER IMPACT FEE CALCULATIONS

Based on the City's 10-year growth projections and the resulting water demand projections, wastewater service will be required for an additional 1,473 service units. For simplicity, the average daily flow for wastewater is compared to the meter size. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 300 gallons per day (GPD), is an equivalent single family connection that uses a 5/8" meter. **Table 1.7** outlines the future wastewater demand projections and its relationship to the additional service units projected for the next 10-years.

**Table 1.7 10-year Additional Service Units Calculation**

Year	Average Day Demand (Gallons)	Service Unit Demand (GPD)	Equivalent Single Family Connections (ESFC)
2015	300,000	256	1,172
2020	444,000	269	1,625
2025	750,000	281	2,645
<b>10-year Additional ESFC's</b>			<b>1,473</b>

The City has divided the service area into Area 1, which includes the City Limits and the areas of the Extraterritorial Jurisdiction (ETJ) not in the Tax Increment Reinvestment Zone (TIRZ) and not currently served by other entities; Area 2, which includes the limits of TIRZ within both the City Limits and ETJ, not currently served by other entities; Area 3, which includes Southern Montgomery County Municipal Utility District (SMCMUD), Area 4, which includes Chateau Woods MUD CCN; and Area 5, which includes Eastwood Hills Subdivision CCN. None of the proposed improvements are due to development in Area 1 and Area 3 therefore the impact fee inside Areas 1 and 3 is \$0.

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the City chooses not to do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The City has chosen not to perform a financial analysis. The maximum recoverable cost for impact fee is shown below.

**Table 1.8 Maximum Recoverable Cost**

Project	Project Cost (\$)	Allowed Recoverable (%)	Allowed Recoverable (\$)
Impact Fee Study (1/2)	\$ 22,500.00	100%	\$ 22,500.00
WWTP Capacity Purchase	\$ 3,000,000.00	100%	\$ 3,000,000.00
Gravity Sewer Trunkline	\$ 950,000.00	100%	\$ 950,000.00
R.R. Lift Station	\$ 1,000,000.00	100%	\$ 1,000,000.00
Robinson Rd. LS FM	\$ 545,000.00	100%	\$ 545,000.00
<b>Total</b>	<b>\$ 5,517,500.00</b>		<b>\$ 5,517,500.00</b>

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit for Area 2 is as follows:

$$\begin{aligned}
 \text{Impact fee per service unit} &= \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}} = \frac{\$5,517,500}{1,473} \\
 50\% \text{ Reduction} &= 50\% \times \$3,746 = \$1,873
 \end{aligned}$$

Therefore, the maximum assessable impact fee per service unit is \$1,839.

As stated above, the wastewater demand is compared to meter sizes. For a development that requires a different size meter, an equivalent single family connection (ESFC) is established at a multiplier based on its capacity with respect to the 5/8" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on **Table 1.9**, ESFC Table for Commonly Used Meters (Wastewater).

**Table 1.9 ESFC Table for Commonly Used Meters (Wastewater)**

Meter Size	Maximum Continuous Operating Capacity (GPM)	ESFC	Maximum Assessable Wastewater Fee (\$/ESFC)
5/8"	15	1.00	\$ 1,873.00
3/4"	25	1.67	\$ 3,128.00
1"	40	2.67	\$ 5,001.00
1 1/2"	120	8.00	\$ 14,983.00
2"	170	11.33	\$ 21,220.00
3"	350	23.33	\$ 43,694.00
4"	600	40.00	\$ 74,915.00
6"	1,200	80.00	\$ 149,830.00
8"	1,800	120.00	\$ 224,745.00

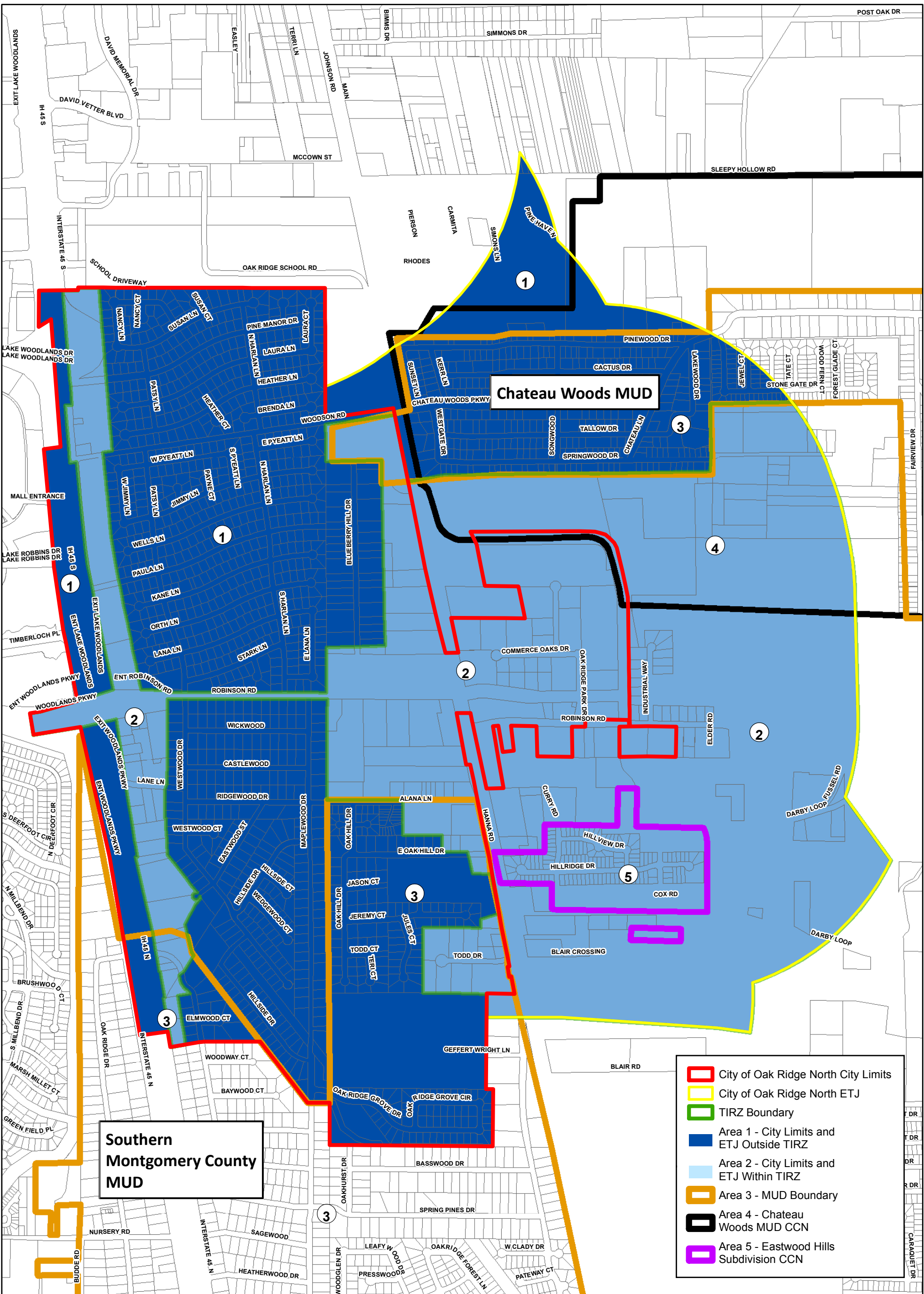
## LIST OF EXHIBITS

1. Area Exhibit
2. Water Project Exhibit
3. Wastewater Project Exhibit
4. Land Use Assumption Map

## LIST OF APPENDICIES

1. Water Impact Fee Calculations
  - a. Waterline Upsizing
  - b. Commerce Park Waterline South
  - c. I-45 Waterline Extension Phase II
  - d. Water Well No. 4
  - e. Commerce Park Waterline North
  - f. Water Plant No. 2
2. Wastewater Impact Fee Calculations
  - a. Gravity Sewer Trunkline Upsizing
  - b. Robinson Road Lift Station Force Main
  - c. Robinson Road Lift Station
3. Water Impact Fee Calculations – Areas 2 & 5
4. Wastewater Impact Fee Calculations – Areas 2 & 5
5. Water Impact Fee Calculations – Areas 2 & 4
6. Wastewater Impact Fee Calculations – Areas 2 & 4
7. Water Impact Fee Calculations – Area 2 Only
8. Wastewater Impact Fee Calculations – Area 2 Only
9. Capital Improvement Plan (FY 2015 – FY 2019)





W  
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S

1 inch equals 1,000 feet

0 500 1,000

Disclaimer:

This product is offered for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property, governmental and/or political boundaries or related facilities to said boundary. No express warranties are made by Jones & Carter, Inc. concerning the accuracy completeness, reliability, or usability of the information included within this exhibit.

Coordinate System: NAD 83 TX CENTRAL 4203 FEET  
Vertical Datum: NAVD 1988 - 2001 Adjustment

JC

JONES & CARTER

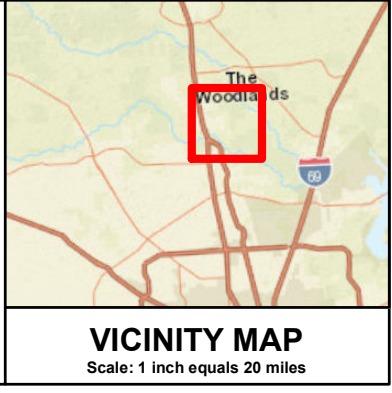
Texas Board of Professional Engineers Registration No. F-439



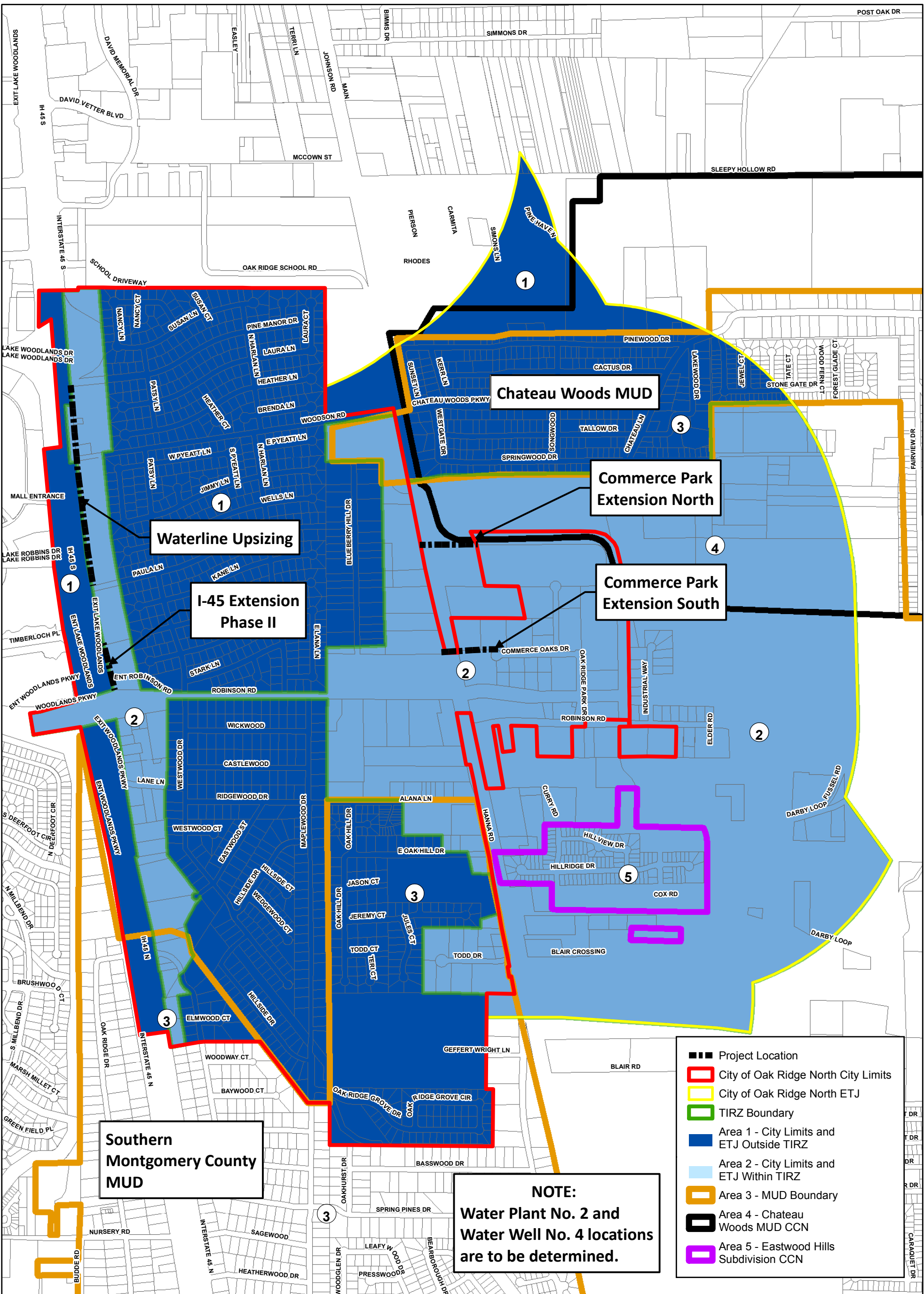
# AREA EXHIBIT

## CITY OF OAK RIDGE NORTH

### MONTGOMERY COUNTY, TEXAS







W

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1 inch equals 1,000 feet

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1,000

Disclaimer:

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Coordinate System: NAD 83 TX CENTRAL 4203 FEET  
Vertical Datum: NAVD 1988 - 2001 Adjustment

JONES

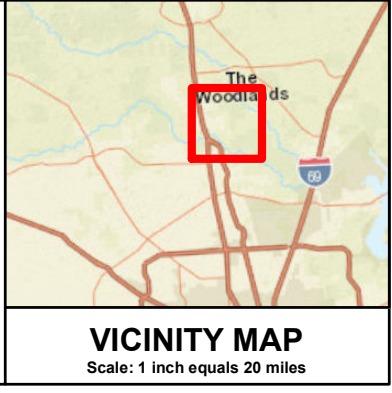
CARTER

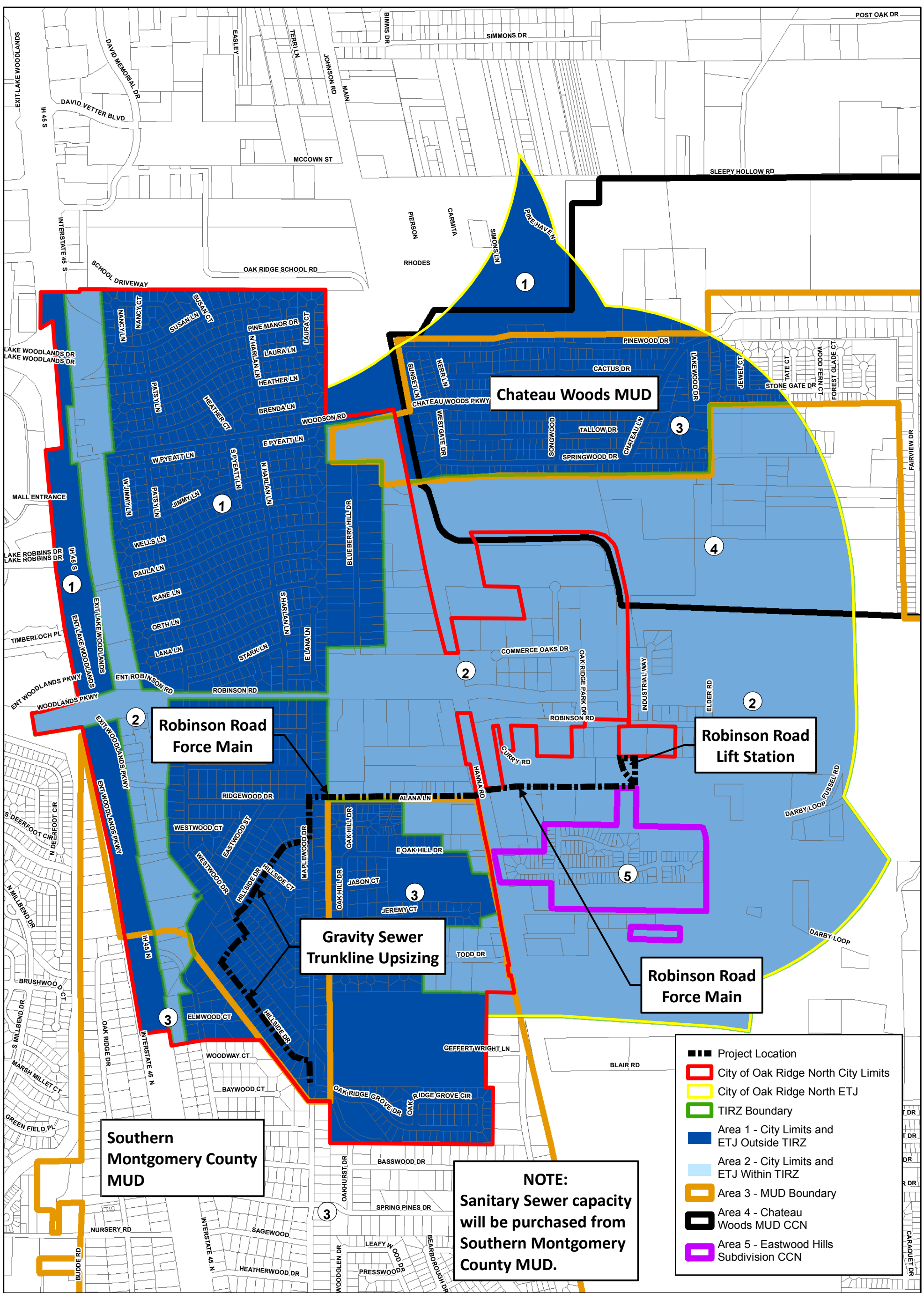
Texas Board of Professional Engineers Registration No. F-439



# WATER PROJECTS EXHIBIT

CITY OF OAK RIDGE NORTH  
MONTGOMERY COUNTY, TEXAS





**1 inch equals 1,000 feet**

0 500 1,000

**Disclaimer:**  
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Coordinate System: NAD 83 TX CENTRAL 4203 FEET  
Vertical Datum: NAVD 1988 - 2001 Adjustment

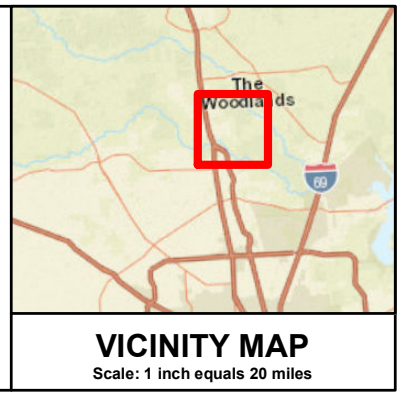
**JC JONES & CARTER**  
Texas Board of Professional Engineers Registration No. F-439



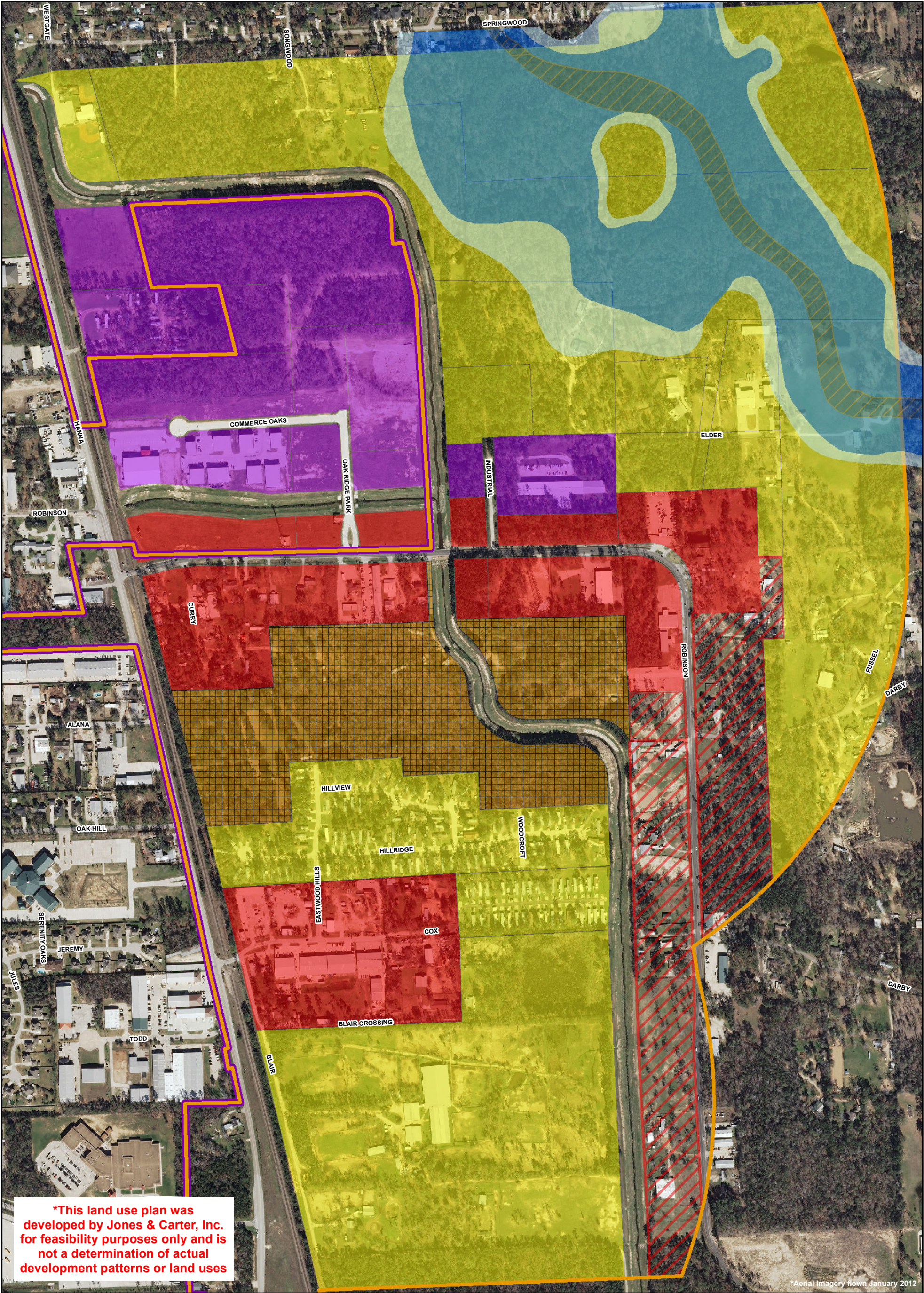
# WASTEWATER PROJECTS EXHIBIT

## CITY OF OAK RIDGE NORTH

### MONTGOMERY COUNTY, TEXAS







W

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1 inch equals 500 feet

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Feet

Disclaimer:

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Coordinate System: NAD 83 TX S CENTRAL 4204 FEET

Vertical Datum: NAVD 1988

JONES & CARTER, INC.

ENGINEERS • PLANNERS • SURVEYORS

Texas Board of Professional Engineers Registration No. F-439

6335 Guffin Dr., Suite 100 Houston, Texas 77061 (713) 777-5337

EXHIBIT D

POTENTIAL LAND USES ULTIMATE PHASE

OAK RIDGE NORTH, MONTGOMERY COUNTY, TEXAS

LEGEND

Commercial (67.0 ac)

Mixed Use (32.0 ac)

Light Manf. (72.6 ac)

S.F. 9,000 SF Min. (228.2 ac)

TND (46.2 ac)

City Limits

City ETJ

Existing Floodzones

Shaded Zone X

Zone AE

Floodway

45

VICINITY MAP

Scale: 1 inch equals 10 miles

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**APPENDIX 1 - All Areas inclusive of ETJ & TIRZ (Not Presently Served by Others)**

**City of Oak Ridge North**

**Water Impact Fee Analysis**

Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	436,000	1,171	436,000	1,171	436,000	1,171
<b>Demand Area 2, 4, &amp; 5</b>	0	0	172,000	478	530,280	1,473
<b>Total Demand for City</b>	436,000	1,171	608,000	1,649	966,280	2,644
368.758003				365.461422		

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
Well A1	1,170,000	3,250	1,170,000	3,250	1,170,000	3,250
Storage A1	630,000	1,750	630,000	1,750	630,000	1,750
Well A2	900,000	2,500	900,000	2,500	900,000	2,500
Storage A2	427,000	1,186	630,000	1,750	630,000	1,750

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
Waterline Upsizing		493,000				493,000	0	100
ORN Commerce Park South	150,000					150,000	0	100
I-45 Waterline Extension Ph. 2		214,000				214,000	0	100
Well No. 4			1,852,000			1,852,000	0	60
ORN Commerce Park North		250,000				250,000	0	100
Water Plant No. 2 (GST & BP)		2,271,000				2,271,000	0	86
<b>Summation</b>	<b>\$172,500</b>	<b>\$3,228,000</b>	<b>\$1,852,000</b>			<b>\$5,252,500</b>	<b>\$0</b>	<b>\$4,193,760</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2, 4, &amp; 5</b>	\$7.91	\$2,847.09	\$3.95	\$1,423.54

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$1,424
3/4"	25	1.67	\$2,377
1"	40	2.67	\$3,801
1 1/2"	120	8.00	\$11,388
2"	170	11.33	\$16,129
3"	350	23.33	\$33,211
4"	600	40.00	\$56,942
6"	1,200	80.00	\$113,884
8"	1,800	120.00	\$170,825

**OAK RIDGE NORTH WATER IMPACT FEE ANALYSIS**  
**APPENDIX 1A**  
**COST ESTIMATE**  
**WATERLINE UPSIZING**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$17,400	\$17,400
2	8 to 12" Waterline Pipe Burst	LF	2,800	88	246,400
3	Site Restoration	LS	1	15,000	15,000
4	Valve Replacement	EA	4	2,500	10,000
5	Fire Hydrant Connections	EA	8	1,150	9,200
6	Wet Connection to Existing WL	EA	2	5,000	10,000
7	SWPPP	LS	1	5,000	5,000
8	Traffic Control	LS	1	10,000	10,000
9	Easement Purchase	LS	1	50,000	50,000
Subtotal					\$373,000
Contingencies 15%					\$56,000
Engineering 15%					\$64,000
<b>TOTAL</b>					<b>\$493,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**OAK RIDGE NORTH WATER IMPACT FEE ANALYSIS**  
**APPENDIX 1B**  
**COST ESTIMATE**  
**COMMERCE PARK WATERLINE SOUTH**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$4,800	\$4,800
2	8" Waterline	LF	350	70	24,500
3	8" Restrained Joint Waterline	LF	50	160	8,000
4	16" Steel Casing (Trenchless)	LF	150	275	41,300
5	Wet Connection to Existing	LF	2	2,000	4,000
6	Trench Safety	LF	200	2	400
7	Railroad Permit	LS	1	15,000	15,000
8	SWPPP	LS	1	5,000	5,000
9	Traffic Control	LS	1	10,000	10,000
Subtotal					\$113,000
Contingencies 15%					\$17,000
Engineering 15%					\$20,000
<b>TOTAL</b>					<b>\$150,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**OAK RIDGE NORTH WATER IMPACT FEE ANALYSIS**  
**APPENDIX 1C**  
**COST ESTIMATE**  
**I-45 WATERLINE EXTENSION PHASE II**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$7,400	\$7,400
2	12" Waterline	LF	335	90	30,200
3	12" Restrained Joint Waterline	LF	50	180	9,000
4	20" Steel Casing (Trenchless)	LF	150	300	45,000
5	Wet Connection to Existing	LF	1	5,000	5,000
6	Trench Safety	LF	185	2	400
7	SWPPP	LS	1	5,000	5,000
8	Traffic Control	LS	1	10,000	10,000
9	Easement Purchase	LS	1	50,000	50,000
Subtotal					\$162,000
Contingencies 15%					\$24,000
Engineering 15%					\$28,000
<b>TOTAL</b>					<b>\$214,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**OAK RIDGE NORTH WATER IMPACT FEE ANALYSIS**  
**APPENDIX 1D**  
**COST ESTIMATE**  
**WATER WELL No. 4**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$150,000	\$150,000
2	1,500 GPM Water Well	LS	1	950,000	\$950,000
3	Electrical, Scada	LS	1	300,000	300,000
Subtotal					\$1,400,000
Contingencies 15%					\$210,000
Engineering 15%					\$242,000
<b>TOTAL</b>					<b>\$1,852,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.



**OAK RIDGE NORTH WATER IMPACT FEE ANALYSIS**  
**APPENDIX 1E**  
**COST ESTIMATE**  
**COMMERCE PARK WATERLINE NORTH**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$12,100	\$12,100
2	12" Waterline	LF	600	90	54,000
3	12" Restrained Joint Waterline	LF	150	180	27,000
4	20" Steel Casing (Trenchless)	LF	150	300	45,000
5	Wet Connection to Existing	LF	1	5,000	5,000
6	Vacuum/Air Relief Valve Manhole	LF	1	10,000	10,000
7	Railroad Permit	LS	1	15,000	15,000
8	Trench Safety	LF	450	2	900
9	SWPPP	LS	1	5,000	5,000
10	Traffic Control	LS	1	15,000	15,000
Subtotal					\$189,000
Contingencies 15%					\$28,000
Engineering 15%					\$33,000
<b>TOTAL</b>					<b>\$250,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**OAK RIDGE NORTH WATER IMPACT FEE ANALYSIS**  
**APPENDIX 1F**  
**COST ESTIMATE**  
**WATER PLANT No. 2**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$82,000	\$82,000
2	Ground Storage Tank w/ found.	LS	2	250,000	500,000
3	Controls, Control Bldg, Scada, Electrical	LS	1	400,000	400,000
4	Hydropneumatic tank (utilize existing), Pumps, Generator	LS	1	450,000	450,000
5	Disinfection System	LS	1	15,000	15,000
6	Fencing	LS	1	20,000	20,000
7	Sitework & Piping	LS	1	100,000	100,000
8	Land Purchase	LS	1	150,000	150,000
Subtotal					\$1,717,000
Contingencies 15%					\$258,000
Engineering 15%					\$296,000
<b>TOTAL</b>					<b>\$2,271,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**APPENDIX 2 - All Areas inclusive of ETJ & TIRZ (Not Presently Served by Others)**

**City of Oak Ridge North**

**Sewer Impact Fee Analysis**

Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	300,000	1,172	300,000	1,172	300,000	1,172
<b>Demand Area 2, 4, &amp; 5</b>	0	0	143,400	478	441,900	1,473
<b>Total Demand for City</b>	300,000	1,172	443,400	1,650	741,900	2,645

268.727273

280.491493

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
WWTP Capacity A1	300,000	1,000	300,000	1,000	300,000	1,000
WWTP Capacity A2	0	0	441,900	1,473	441,900	1,473
Gravity Sewer Trunkline A2	0	0	441,900	1,473	441,900	1,473
Lift Station A2	0	0	441,900	1,473	441,900	1,473

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
WWTP Capacity Purchase		3,000,000				3,000,000	0	100
Gravity Sewer Trunkline		950,000				950,000	0	100
R.R. Lift Station			1,000,000			1,000,000	0	100
Robinson Rd. LS FM			545,000			545,000	0	100
<b>Summation</b>	<b>\$22,500</b>	<b>\$3,950,000</b>	<b>\$1,545,000</b>			<b>\$5,517,500</b>	<b>\$0</b>	<b>\$5,517,500</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2, 4, &amp; 5</b>	\$12.49	\$3,745.76	\$6.24	\$1,872.88

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$1,873
3/4"	25	1.67	\$3,128
1"	40	2.67	\$5,001
1 1/2"	120	8.00	\$14,983
2"	170	11.33	\$21,220
3"	350	23.33	\$43,694
4"	600	40.00	\$74,915
6"	1200	80.00	\$149,830
8"	1,800	120.00	\$224,745

**OAK RIDGE NORTH SEWER IMPACT FEE ANALYSIS**  
**APPENDIX 2A**  
**DETAILED COST ESTIMATE**  
**GRAVITY SEWER TRUNKLINE UPSIZE**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$30,600	\$30,600
2	8" to 12" Pipe Burst	LF	1,925	55	105,900
3	18" to 21" Pipe Burst	LF	1,275	185	235,900
4	21" to 24" Pipe Burst	LF	825	225	185,600
5	Sanitary Sewer Manhole Rehabilitation	EA	12	3,500	42,000
6	Service Connections	EA	78	1,000	78,000
7	By-Pass Pumping	LS	1	25,000	25,000
8	SWPPP	LS	1	5,000	5,000
9	Traffic Control	LS	1	10,000	10,000
Subtotal					\$718,000
Contingencies 15%					\$108,000
Engineering 15%					\$124,000
<b>TOTAL</b>					<b>\$950,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**OAK RIDGE NORTH SEWER IMPACT FEE ANALYSIS**  
**APPENDIX 2B**  
**COST ESTIMATE**  
**ROBINSON ROAD LIFT STATION FORCE MAIN**  
**August 1, 2016**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
1	Move-in and Start-up	LS	1	\$20,000	\$20,000
2	Force Main	LF	3,000	65	195,000
3	Restrained Joint Force Main	LF	200	130	26,000
4	Additional Cost for Trenchless Construction	LF	200	150	30,000
5	16" Steel Casing (Trenchless)	LF	150	275	41,300
6	Trench Safety	LF	2,650	2	5,300
7	Easement Purchase	LS	1	50,000	50,000
8	Railroad Permit	LS	1	15,000	15,000
9	SWPPP	LS	1	15,000	15,000
10	Traffic Control	LS	1	15,000	15,000
Subtotal					\$412,600
Contingencies 15%					\$61,400
Engineering 15%					\$71,000
<b>TOTAL</b>					<b>\$545,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**OAK RIDGE NORTH SEWER IMPACT FEE ANALYSIS**  
**APPENDIX 2C**  
**COST ESTIMATE**  
**ROBINSON ROAD LIFT STATION**  
**August 1, 2016**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1	Move-in and Start-up	LS	1	\$36,000	\$36,000
2	Lift Station and Generator	LS	1	650,000	650,000
3	Land Purchase	LS	1	50,000	50,000
4	SWPPP	LS	1	15,000	15,000
5	Traffic Control	LS	1	5,000	5,000
Subtotal					\$756,000
Contingencies 15%					\$113,000
Engineering 15%					\$131,000
<b>TOTAL</b>					<b>\$1,000,000</b>

Notes:

<sup>(1)</sup> This estimate represents my best judgment as a design professional familiar with the construction industry. Jones & Carter, Inc. has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this estimate.

**APPENDIX 3 - Areas 2 and 5**

**City of Oak Ridge North**

**Water Impact Fee Analysis**

Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	436,000	1,171	436,000	1,171	436,000	1,171
<b>Demand Area 2 &amp; 5</b>	0	0	172,000	478	432,780	1,202
<b>Total Demand for City</b>	436,000	1,171	608,000	1,649	868,780	2,373
	368.758003			366.084697		

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
Well A1	1,170,000	3,250	1,170,000	3,250	1,170,000	3,250
Storage A1	630,000	1,750	630,000	1,750	630,000	1,750
Well A2	900,000	2,500	900,000	2,500	900,000	2,500
Storage A2	427,000	1,186	630,000	1,750	630,000	1,750

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
Waterline Upsizing		493,000				493,000	0	100
ORN Commerce Park South	150,000					150,000	0	100
I-45 Waterline Extension Ph. 2		214,000				214,000	0	100
Well No. 4			1,852,000			1,852,000	0	48
ORN Commerce Park North		250,000				250,000	0	100
Water Plant No. 2 (GST & BP)		2,271,000				2,271,000	0	69
<b>Summation</b>	<b>\$172,500</b>	<b>\$3,228,000</b>	<b>\$1,852,000</b>			<b>\$5,252,500</b>	<b>\$0</b>	<b>\$3,580,134</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2 &amp; 5</b>	\$8.27	\$2,978.07	\$4.14	\$1,489.03

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$1,489
3/4"	25	1.67	\$2,487
1"	40	2.67	\$3,976
1 1/2"	120	8.00	\$11,912
2"	170	11.33	\$16,871
3"	350	23.33	\$34,739
4"	600	40.00	\$59,561
6"	1,200	80.00	\$119,123
8"	1,800	120.00	\$178,684

**APPENDIX 4 - Areas 2 and 5**

**City of Oak Ridge North**

**Sewer Impact Fee Analysis**

Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	300,000	1,172	300,000	1,172	300,000	1,172
<b>Demand Area 2 &amp; 5</b>	0	0	143,400	478	361,500	1,205
<b>Total Demand for City</b>	300,000	1,172	443,400	1,650	661,500	2,377

268.727273

278.291965

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
WWTP Capacity A1	300,000	1,000	300,000	1,000	300,000	1,000
WWTP Capacity A2	0	0	441,900	1,473	441,900	1,473
Gravity Sewer Trunkline A2	0	0	441,900	1,473	441,900	1,473
Lift Station A2	0	0	441,900	1,473	441,900	1,473

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
WWTP Capacity Purchase		3,000,000				3,000,000	0	81.80583842
Gravity Sewer Trunkline		950,000				950,000	0	81.80583842
R.R. Lift Station			1,000,000			1,000,000	0	81.80583842
Robinson Rd. LS FM			545,000			545,000	0	81.80583842
<b>Summation</b>	<b>\$22,500</b>	<b>\$3,950,000</b>	<b>\$1,545,000</b>			<b>\$5,517,500</b>	<b>\$0</b>	<b>\$4,517,731</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2 &amp; 5</b>	\$12.50	\$3,749.15	\$6.25	\$1,874.58

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$1,875
3/4"	25	1.67	\$3,131
1"	40	2.67	\$5,005
1 1/2"	120	8.00	\$14,997
2"	170	11.33	\$21,239
3"	350	23.33	\$43,734
4"	600	40.00	\$74,983
6"	1200	80.00	\$149,966
8"	1,800	120.00	\$224,949



**APPENDIX 5 - Areas 2 and 4**

**City of Oak Ridge North**

**Water Impact Fee Analysis**

Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	436,000	1,171	436,000	1,171	436,000	1,171
<b>Demand Area 2 &amp; 4</b>	0	0	172,000	478	460,644	1,280
<b>Total Demand for City</b>	436,000	1,171	608,000	1,649	896,644	2,451
	368.758003			365.892515		

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
Well A1	1,170,000	3,250	1,170,000	3,250	1,170,000	3,250
Storage A1	630,000	1,750	630,000	1,750	630,000	1,750
Well A2	900,000	2,500	900,000	2,500	900,000	2,500
Storage A2	427,000	1,186	630,000	1,750	630,000	1,750

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
Waterline Upsizing		493,000				493,000	0	100
ORN Commerce Park South	150,000					150,000	0	100
I-45 Waterline Extension Ph. 2		214,000				214,000	0	100
Well No. 4			1,852,000			1,852,000	0	51
ORN Commerce Park North		250,000				250,000	0	100
Water Plant No. 2 (GST & BP)		2,271,000				2,271,000	0	73
<b>Summation</b>	<b>\$172,500</b>	<b>\$3,228,000</b>	<b>\$1,852,000</b>			<b>\$5,252,500</b>	<b>\$0</b>	<b>\$3,737,915</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2 &amp; 4</b>	\$8.11	\$2,921.23	\$4.06	\$1,460.62

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$1,461
3/4"	25	1.67	\$2,439
1"	40	2.67	\$3,900
1 1/2"	120	8.00	\$11,685
2"	170	11.33	\$16,549
3"	350	23.33	\$34,076
4"	600	40.00	\$58,425
6"	1,200	80.00	\$116,849
8"	1,800	120.00	\$175,274

**APPENDIX 6 - Areas 2 and 4**

**City of Oak Ridge North**

**Sewer Impact Fee Analysis**

Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	300,000	1,172	300,000	1,172	300,000	1,172
<b>Demand Area 2 &amp; 4</b>	0	0	143,400	478	385,680	1,286
<b>Total Demand for City</b>	300,000	1,172	443,400	1,650	685,680	2,458

268.727273

279.003906

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
WWTP Capacity A1	300,000	1,000	300,000	1,000	300,000	1,000
WWTP Capacity A2	0	0	385,680	1,286	385,680	1,286
Gravity Sewer Trunkline A2	0	0	385,680	1,286	385,680	1,286
Lift Station A2	0	0	385,680	1,286	385,680	1,286

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
WWTP Capacity Purchase		3,000,000				3,000,000	0	100
Gravity Sewer Trunkline		950,000				950,000	0	100
R.R. Lift Station			1,000,000			1,000,000	0	100
Robinson Rd. LS FM			545,000			545,000	0	100
<b>Summation</b>	<b>\$22,500</b>	<b>\$3,950,000</b>	<b>\$1,545,000</b>			<b>\$5,517,500</b>	<b>\$0</b>	<b>\$5,517,500</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2 &amp; 4</b>	\$14.31	\$4,291.77	\$7.15	\$2,145.89

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$2,146
3/4"	25	1.67	\$3,584
1"	40	2.67	\$5,730
1 1/2"	120	8.00	\$17,167
2"	170	11.33	\$24,313
3"	350	23.33	\$50,064
4"	600	40.00	\$85,835
6"	1200	80.00	\$171,671
8"	1,800	120.00	\$257,506

APPENDIX 7 - Area 2  
City of Oak Ridge North  
Water Impact Fee Analysis  
Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
Demand Area 1 & 3	436,000	1,171	436,000	1,171	436,000	1,171
Demand Area 2	0	0	172,000	478	363,144	1,009
Total Demand for City	436,000	1,171	608,000	1,649	799,144	2,180
	368.758003			366.624664		

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
Capacities						
Well A1	1,170,000	3,250	1,170,000	3,250	1,170,000	3,250
Storage A1	630,000	1,750	630,000	1,750	630,000	1,750
Well A2	900,000	2,500	900,000	2,500	900,000	2,500
Storage A2	427,000	1,186	630,000	1,750	630,000	1,750

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
Waterline Upsizing		493,000				493,000	0	100
ORN Commerce Park South	150,000					150,000	0	100
I-45 Waterline Extension Ph. 2		214,000				214,000	0	100
Well No. 4			1,852,000			1,852,000	0	40
ORN Commerce Park North		250,000				250,000	0	100
Water Plant No. 2 (GST & BP)		2,271,000				2,271,000	0	58
Summation	\$172,500	\$3,228,000	\$1,852,000			\$5,252,500	\$0	\$3,185,817

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
Area 1 & 3	\$0.00	\$0.00	\$0.00	\$0.00
Area 2	\$8.77	\$3,158.24	\$4.39	\$1,579.12

ESFC Table

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$1,579
3/4"	25	1.67	\$2,637
1"	40	2.67	\$4,216
1 1/2"	120	8.00	\$12,633
2"	170	11.33	\$17,891
3"	350	23.33	\$36,841
4"	600	40.00	\$63,165
6"	1,200	80.00	\$126,329
8"	1,800	120.00	\$189,494

**APPENDIX 8 - Area 2**  
**City of Oak Ridge North**  
**Sewer Impact Fee Analysis**  
Updated: 8/1/16

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Demand Area 1 &amp; 3</b>	300,000	1,172	300,000	1,172	300,000	1,172
<b>Demand Area 2</b>	0	0	143,400	478	307,680	1,026
<b>Total Demand for City</b>	300,000	1,172	443,400	1,650	607,680	2,198

268.727273

276.51984

	2015		2020		2025	
	ADF	ESFC	ADF	ESFC	ADF	ESFC
<b>Capacities</b>						
WWTP Capacity A1	300,000	1,000	300,000	1,000	300,000	1,000
WWTP Capacity A2	0	0	307,680	1,026	307,680	1,026
Gravity Sewer Trunkline A2	0	0	307,680	1,026	307,680	1,026
Lift Station A2	0	0	307,680	1,026	307,680	1,026

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	% Allowed A1	% Allowed A2
Impact Fee Study (1/2)	22,500					22,500	0	100
WWTP Capacity Purchase		3,000,000				3,000,000	0	100
Gravity Sewer Trunkline		950,000				950,000	0	100
R.R. Lift Station			1,000,000			1,000,000	0	100
Robinson Rd. LS FM			545,000			545,000	0	100
<b>Summation</b>	<b>\$22,500</b>	<b>\$3,950,000</b>	<b>\$1,545,000</b>			<b>\$5,517,500</b>	<b>\$0</b>	<b>\$5,517,500</b>

	w/o Reduction		w/ 50% Reduction	
Impact Fee Calc.	\$/Gal ADF	\$/ESFC ADF	\$/Gal ADF	\$/ESFC ADF
<b>Area 1 &amp; 3</b>	\$0.00	\$0.00	\$0.00	\$0.00
<b>Area 2</b>	\$17.93	\$5,379.78	\$8.97	\$2,689.89

**ESFC Table**

Water Meter Size	Max Flow	ESFC	\$/ESFC
5/8"	15	1.00	\$2,690
3/4"	25	1.67	\$4,492
1"	40	2.67	\$7,182
1 1/2"	120	8.00	\$21,519
2"	170	11.33	\$30,476
3"	350	23.33	\$62,755
4"	600	40.00	\$107,596
6"	1200	80.00	\$215,191
8"	1,800	120.00	\$322,787

**Capital Improvement Plan  
FY 2015 - FY 2019**

**FY 2016 Budget - August 31, 2015**

		<b>FY 2015 Budget</b>	<b>FY 2015 Est.</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Total</b>
(1)	<b>Beg. Balance - Capital Improvement Fund</b>		2,345,848	2,320,869	780,304	566,600	716,522	
(2)	2012 C.O.s (Restricted)		712,355	646,863	-	-	-	
(3)	2013 TAN		1,082,430	-	-	-	-	
(4)	New Issuance* (restricted)		-	-	2,300,000	-	-	
(5)	EDC Funds		981,539	676,539	304,539	429,539	554,539	
(6)	SJRA Contributions (restricted)		484,508	-	-	-	-	
	<b>Incoming Funds</b>							
	Estimated Transfers from General Fund		1,067,936	400,000	400,000	400,000	400,000	
	Estimated Transfers from W/S Fund		810,527	575,000	575,000	575,000	575,000	
	Estimated Transfers from W/S Fund - Depreciation		-	-	-	-	-	
	Estimated Transfers for Impact Fees		-	10,000	10,000	10,000	10,000	
	Transfers from Park Revenues		-	25,000	50,000	25,000	-	
	Reimbursement from County for Engineering Fees		-	-	370,000	-	-	
	<b>Total</b>		<b>7,485,143</b>	<b>4,654,272</b>	<b>4,789,843</b>	<b>2,006,139</b>	<b>2,256,061</b>	
	<b>Water/Sewer System Projects</b>							
(1)	Impact Fee Study	25,000	25,000	-	-	-	-	25,000
(1)(2)	Water Plant	550,000	550,000	-	-	-	-	550,000
(2)	Water Line Replacement	-	-	426,863				426,863
(1)(5)	ORN Business Park (EDC)	250,000	250,000	-	-	-	-	250,000
(1)(5)	I-45 Waterline Extension (Phase I)	-	4,500	-	-	-	-	4,500
(1)(5)	I-45 Waterline Extension (Phase II - to Paula) (EDC)	135,000	-	147,000	-	-	-	147,000
(4)	Well #2 Replacement*	-	-	-	2,300,000	-	-	2,300,000
(1)(2)(5)	Commerce Park Waterline Loop	180,000	180,000	220,000	-	-	-	400,000
(1)(5)	Water Distribution Site (Booster Pumps) (East of Hanna)	66,000	-	66,000	-	-	-	66,000
(1)	SMCMUD Capital Costs	125,000	5,319	125,000	125,000	125,000	125,000	505,319
(1)	Water/Wastewater Line Annual Replacement Program	50,000	25,000	50,000	50,000	50,000	50,000	225,000
(1)(5)	Master Meter Commercial Replacement Program	60,000	60,000	60,000	60,000	-	-	180,000

**Capital Improvement Plan  
FY 2015 - FY 2019**

**FY 2016 Budget - August 31, 2015**

		<b>FY 2015 Budget</b>	<b>FY 2015 Est.</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Total</b>
	<b>Drainage Projects</b>							
(1)(5)	Regional Detention (EDC)	-	-	250,000	-	-	-	250,000
(1)	Storm Drain Improvements (South of Robinson)	-	-	220,000	50,000	50,000	50,000	370,000
(1)	Channel Improvements (10 year program)	-	-	100,000	100,000	100,000	100,000	400,000
(1)	Master Drainage Plan	300,000	300,000	-	-	-	-	300,000
	<b>Streets, Sidewalks, Parks Projects</b>							
(3)	Street Overlay	1,324,876	1,324,876	-	-	-	-	1,324,876
(1)	Robinson Road Engineering	590,000	142,500	-	447,500	-	-	590,000
(1)	Intersection/Street Annual Improvement Program	223,000	223,000	50,000	50,000	50,000	50,000	423,000
(1)	Thoroughfare Plan	-	-	25,000	-	-	-	25,000
(1)	Speed Cushions	15,000	15,000	-	-	-	-	15,000
(1)	Teddy Bear Park Improvements	-	-	40,000	-	-	-	40,000
(1)(5)	M E Park Renovations & Improvements	-	-	100,000	-	-	-	100,000
(1)(5)	Woodson Rd Sidewalks	165,000	34,000	181,000	-	-	-	215,000
	<b>Equipment Purchases</b>							
(1)	Equipment Replacement	-	-	25,000	25,000	25,000	25,000	100,000
(1)	Police Department Vehicles & Equipment **	68,000	61,272	130,000	80,000	80,000	80,000	431,272
(1)	Public Works Vehicles & Equipment ***	41,100	34,818	109,300	50,000	50,000	50,000	294,118
(1)	City Hall Phone System	-	-	23,908	-	-	-	23,908

## Capital Improvement Plan FY 2015 - FY 2019

FY 2016 Budget - August 31, 2015

		FY 2015 Budget	FY 2015 Est.	FY 2016	FY 2017	FY 2018	FY 2019	Total
	<b>Construction Projects</b>							
(1)	Parking Lot behind City Hall	15,000	15,000	-	-	-	-	15,000
(1)	Public Works Building on new property	-	-	-	330,000	-	-	330,000
	<b>Miscellaneous</b>							
(1)	Contingency	160,000	-	250,000	250,000	250,000	250,000	1,000,000
(1)	City Website	25,000	29,280	-	-	-	-	29,280
(5)	Land Purchases	500,000	600,000	700,000	-	-	-	1,300,000
(1)(5)	City Branding	300,000	32,000	318,000	-	-	-	350,000
(1)	Transfer to W/S Fund - Dir. Of PW, Eng. Tech	58,524	54,306	67,357	68,704	70,078	71,480	331,925
	<b>TOTAL CAPITAL EXPENDITURES</b>	<b>5,226,500</b>	<b>3,965,871</b>	<b>3,684,428</b>	<b>3,986,204</b>	<b>850,078</b>	<b>851,480</b>	
	<b>Ending Balance - Capital Improvement Fund</b>		<b>2,320,869</b>	<b>780,304</b>	<b>566,600</b>	<b>716,522</b>	<b>840,042</b>	
	<b>Ending Balance - All Funding Sources</b>		<b>3,519,272</b>	<b>969,843</b>	<b>803,639</b>	<b>1,156,061</b>	<b>1,404,581</b>	

\*reviewed every year to see if project is needed, otherwise it is pushed back further

\*\*PD 2016 vehicles & equipment:

3x 2015 Ford Interceptor, fully loaded (replacement vehicles)

\*\*\*PW 2016 vehicles & equipment:

Kubota RTV X900 (replacement equipment)  
Tire changing machine  
Vehicle brake lathe  
2015 Ford F150 (replacement vehicle)  
2015 Ford F550 (replacement vehicle)

### Capital Projects and Items Under Consideration:

Teddy Bear Park MUD Building Renovations

TWDB Funds: The City currently has \$495,000 in unused TWDB C.O. funds.

These funds may be used for a TWDB approved project or used to buy down the City's TWDB debt.