

**WATER AND WASTEWATER  
IMPACT FEE UPDATE  
2012 TO 2022**

*Submitted To*



*Submitted By*

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**CITY OF EULESS, TEXAS**  
**WATER AND WASTEWATER**  
**IMPACT FEE UPDATE (2012 – 2022)**

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Impact Fee Data

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*Matthew Hickey*  
2/11/13

## CITY OF EULESS, TEXAS

### 2012-2022 WATER & WASTEWATER IMPACT FEE REVIEW AND UPDATE

#### INTRODUCTION

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 or facility expansions necessitated by and attributable to the new development.<sup>1</sup> Because part of the Dallas/Fort Worth International Airport, which provides its own water and wastewater services, lies within the boundaries of the City of Euless, the water and wastewater service area of the City is all land within the city limits, excluding land under D/FW Airport’s jurisdiction. The first step in determining an impact fee is to prepare land use and growth assumptions for the service area for the next ten years. 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
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
3. Interest and other finance charges on bonds issued by the City to cover its portion of the cost
4. Cost of the Impact Fee Review and Analysis

These items are summed, and the total cost is divided by a standard service unit (such as a 5/8” water meter) to determine the maximum impact fee that could be charged per new service unit in order to recover the City’s portion of the cost of the lines and facilities that were installed to serve new developments. The maximum impact fee is then multiplied by fifty percent arrive at the Allowable Maximum Impact Fee.

The attached document constitutes the 2012 update of the City’s land use assumptions, water Capital Improvements Plan, and the resulting revision of the maximum allowable water impact fee. As required by state law, the study period is a ten-year period with 2012 as the base year. The engineering analysis of the water and wastewater systems is based on established land use in the year 2012, projected land use patterns through the year 2022, and on the existing and proposed infrastructure.

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<sup>1</sup> Chapter 395, Texas Local Government Code

## **PART I - LAND USE ASSUMPTIONS**

The City of Euless adopted a revised Comprehensive Land Development Plan on February 11, 1997. Subsequently, the City was divided into sectors, and properties within each sector were rezoned to reflect the Comprehensive Plan. This rezoning was completed in late 1998.

The land use assumptions utilized in this update were prepared by the City of Euless Planning Department. The City's land use assumptions projected an ultimate residential population of approximately 57,150 within the City of Euless existing City limits. This is a lower ultimate population than projected in the City's 1999 Water and Wastewater Impact Fee Update, which estimated a residential population of 62,376, a decrease of 5,226 people.

Over the 10-year Impact Fee Capital Improvement period (2012 – 2022), the residential population is anticipated to increase by approximately 3,717 persons from 51,500 to 55,217. The following table provides a historical residential population from 1960 through 2010 along with estimated residential populations for 2012, 2022 and buildout.

<b>Year</b>	<b>Estimated Population</b>
*1960	4,263
*1970	19,316
*1980	24,002
*1990	38,149
*2000	46,088
*2010	51,277
**2012	51,500
**2022	55,217
**2027	Buildout 57,150

\* Actual Census Data

\*\* City of Euless Projections

## **PART II - WATER DISTRIBUTION SYSTEM**

The City of Euless is part of the Trinity River Authority (TRA) Tarrant County Water Supply Project, which supplies the City's water system with treated water. The City's water system includes the following components:

<b><u>Facilities</u></b>	<b><u>Operated and Maintained By</u></b>
Raw Water Pump Station	TRA
Raw Water Supply Lines	TRA
Water Treatment Plant	TRA
Treated Water Supply Lines	TRA
High Service Pump Stations	TRA
Elevated Storage Tanks	Euless
Treated Water Distribution Lines	Euless
Reuse Distribution and Pumps	Euless

### **A. TRA Infrastructure**

As a member of the TRA Tarrant County Water Supply Project, Euless shares in the costs of supply (raw water), raw water pump stations and supply lines, treatment facilities, distribution lines and high service pump stations and storage with other member cities. In recent years, Euless' share of the TRA Project has been in the range of 19.5% to 30%. The TRA added 15 million gallons per day (mgd) capacity in 1999 and again in 2005. In 2008, the TRA expanded the System's pump station capacities. These additions created excess capacity that is available for future growth. Euless' share of the excess capacity is included in the impact fee calculation.

### **B. City of Euless Elevated Storage Tanks**

Excess capacity in elevated storage tanks is calculated based on the difference in the maximum hourly demand and the maximum daily demand.

The City of Euless currently owns and operates three elevated water storage tanks, two located on North Main Street and one west of Cullum Drive in Heritage Park. On North Main, one tank has a capacity of one million gallons and the second a capacity of two million gallons. The Heritage Park tank is two million gallons.

**C. City of Euless Treated Water Distribution Lines**

Treated water distribution lines vary in size from 5/8-inch service lines to 30-inch transmission lines. Costs associated with water lines which can be included in the impact fee calculation include construction, appurtenances (water valves, fire hydrants, taps), utility relocations, purchase of easements and professional engineering fees. Developer initiated water line projects which are 12-inches or smaller in diameter are not included in this impact fee calculation, since according to City policy, the costs of these lines are the responsibility of the developer. Costs of oversizing these lines at the request of the City, where applicable, have been included in the impact fee calculation. Water lines over 12 inches in diameter are considered by policy to be the responsibility of the City, and are therefore included in the impact fee calculation. The computer models showed the treated water distribution system does not require further capacity improvements to meet projected buildout demands. Existing treated water distribution lines with excess capacity for new development are summarized in Appendix A.

**D. City of Euless Water Reuse Distribution Lines and Pump Station**

A review of the City's multifamily water use records revealed multifamily domestic and irrigation water use has increased since the 1999 Water Distribution System Master Plan. In order to offset the increased multifamily water use, the City of Euless is currently investing in the construction of a water reuse system for irrigation of selected existing multifamily developments and anticipated new multifamily or high density mixed use developments.

Approximately 360-acres of existing multifamily or high density developments that will be served by the reuse system are generally located north of Harwood Road, west of State Highway 360, south of Mid-Cities Boulevard and east of Fuller Wisser Road. The City of Euless Texas Star Golf Course, the Parks at Texas Star and Softball World will also utilize the water reuse system. The portion of the reuse system intended for these existing developments is not eligible for the impact fee and is not included in the impact fee calculation.

A portion of the planned reuse system capacity is available for new development. The proposed mixed use high density development located in the area generally bounded by Harwood Road, State Highway 360, State Highway 183 and Fuller-Wisser Road will utilize the water reuse system. This portion of the reuse system for new development that will be paid for by the City is eligible for the impact fee calculation and is included in the Water Impact Fee 10-Year Capital Improvement Plan (**Table 1**). Utilized capacities of these facilities are summarized in Appendix A, "Proposed Re-Use System Distribution Lines and Pump Station".

**TABLE NO. 1**  
**WATER IMPACT FEE 10-YEAR CAPITAL IMPROVEMENT PLAN**

Pipe Number	Length (Ft.)	Diameter (Inches)	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)
<b>REUSE - BEAR CREEK N</b>				
2005 *	860	12	\$156	\$134,160
2009 *	1023	12	\$156	\$159,588
<b>Subtotal:</b>	<b>1,883</b>			<b>\$293,748</b>
Engineering & Testing			15%	\$44,062
Cost of Debt Service:				\$189,465
<b>Project Total:</b>				<b>\$527,275.00</b>
<b>REUSE - BEAR CREEK S</b>				
2062 *	625	12	\$156	\$97,500
2073	298	6	\$123	\$36,654
2074 *	299	6	\$123	\$36,777
<b>Subtotal:</b>	<b>1,222</b>			<b>\$170,931.00</b>
Engineering & Testing			15%	\$25,640
Cost of Debt Service:				\$110,249.00
<b>Project Total:</b>				<b>\$306,820.00</b>
<b>REUSE - MIDWAY DR</b>				
2063 *	696	8	\$157	\$109,272
2070 *	926	6	\$123	\$113,898
<b>Subtotal:</b>	<b>1,622</b>			<b>\$223,170</b>
Engineering & Testing			15%	\$33,476
Cost of Debt Service:				\$143,943
<b>Project Total:</b>				<b>\$400,589.00</b>
<b>REUSE - MINTERS CHAPEL RD</b>				
2059 *	1,058	8	\$157	\$166,106
2061	860	6	\$123	\$105,780
<b>Subtotal:</b>				<b>\$271,886</b>
Engineering & Testing			15%	\$40,783
Cost of Debt Service:				\$107,137
<b>Project Total:</b>				<b>\$419,806.00</b>
<b>REUSE - PUMP STATION</b>				
2 Variable Speed VTP				\$850,000
<b>Subtotal:</b>				<b>\$850,000</b>
Engineering & Testing			15%	\$127,500
Cost of Debt Service:				\$548,243
<b>Project Total:</b>				<b>\$1,525,743.00</b>
<b>TRA SYSTEM IMPROVEMENTS</b>				
87 to 102 - MGD Sys Expansion				\$11,077,549
<b>Project Total:</b>				<b>\$11,077,549.00</b>
<b>TOTAL:</b>				<b>\$14,257,782.00</b>

*Note: Cost of Debt Service is Calculated Assuming 20 Year Bonds Financed at 6% Annual Percentage Rate, Paid on an Annual Basis. 15% for Engineering.*

*Note: Per Alan Plummer Euless Water Reuse Feasibility Study, No Easement Cost for 12" Diameter Pipe. \$21/ft for 8" and 6" Diameter Pipe Was Added to the Average Unit Cost.*

**E. Excess Capacity**

Excess capacity for the water distribution system was calculated by comparing the flow in each pipe in 2012 and 2022 to the flow in these lines at build-out. The comparison generates the percent utilized capacity for each pipe in 2012 and 2022. The percent difference between 2012 and 2022 is the excess capacity available for future growth in the period. The amount of capacity utilized during the ten year period in the impact fee study is only a fraction of the actual available capacity, as indicated by cost in **Table No. 2** below. (See Appendix “A” for a listing of components.) The capital costs of the TRA improvements are based on information provided by the TRA. Opinion of costs of future reuse projects are based on similar unit costs presented in the City of Euless Water Reuse Feasibility Study. These opinions of cost include the cost of engineering, easement acquisition, and construction.

The map on the following page shows the components within the system that were included in the impact fee calculation because they have excess capacity that is expected to be utilized by future development.

**TABLE NO. 2**  
**WATER DISTRIBUTION SYSTEM EXCESS CAPACITY COST SUMMARY**

Water System Facility**	Total Capital Cost in Dollars	Excess Capacity Utilized in the *CRF Period in Dollars
TRA System Components (Euless Share of 1999 <sup>+</sup> , 2005, 2008 Expansions and Future 2019 Expansion)	\$183,769,783	\$2,252,081
Elevated Storage Tanks <sup>+</sup>	\$5,976,230	\$297,917
Existing Treated Water Distribution Lines	\$6,824,675	\$350,352
Proposed Reuse Distribution Lines & Pump Station <sup>+</sup>	\$3,180,233	\$1,702,338
Impact Fee Study Cost		\$32,000
<b>Total</b>	<b>\$199,750,921</b>	<b>\$4,634,688</b>

\* CRF = Capital Recovery Fee

\*\* Refer to Appendix “A” for a detailed listing of components

+ Includes debt service calculation

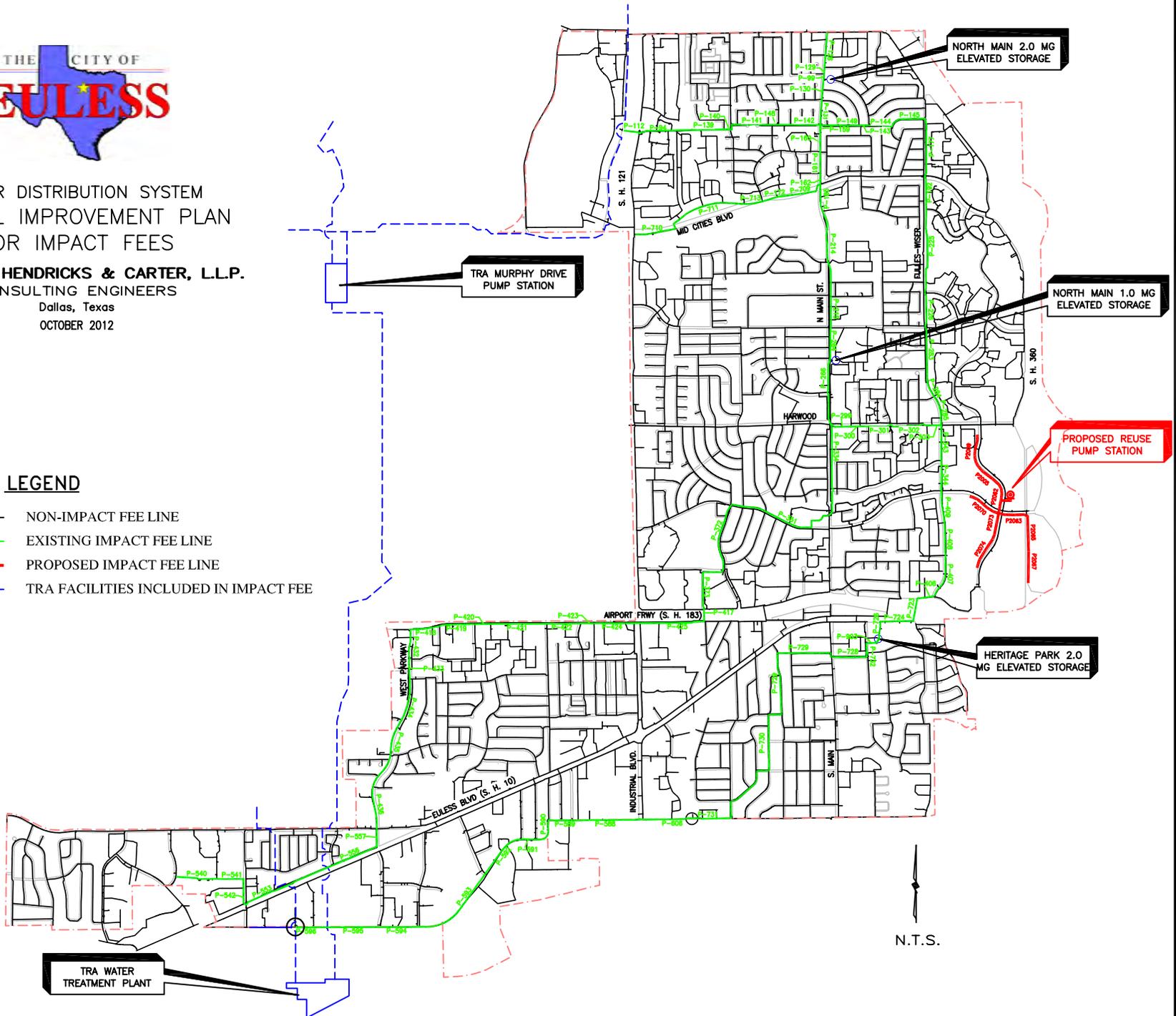


WATER DISTRIBUTION SYSTEM  
CAPITAL IMPROVEMENT PLAN  
FOR IMPACT FEES

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OCTOBER 2012

**LEGEND**

- NON-IMPACT FEE LINE
- EXISTING IMPACT FEE LINE
- PROPOSED IMPACT FEE LINE
- - - TRA FACILITIES INCLUDED IN IMPACT FEE



### **PART III - WASTEWATER COLLECTION SYSTEM**

The City of Euless is a member of the TRA Central Regional System. The TRA system conveys wastewater flows from Euless and other member cities to its treatment plant facility.

A number of TRA trunk mains pass through Euless, so the City's collection system consists of relatively small sewer collection lines. The TRA trunk mains include meters at the points where they enter and exit the City. The flow difference between these meters represents Euless' share of the TRA Central System.

The City of Euless wastewater system includes the following:

<b><u>Facilities</u></b>	<b><u>Operated &amp; Maintained By</u></b>
Wastewater Treatment Plant	TRA
Interceptor Mains and Meters	TRA
Lift Station and Force Mains	TRA
Collection Lines Connected to TRA	Euless

#### **A. TRA Infrastructure**

Facilities in the impact fee analysis include TRA interceptor lines, lift stations, force mains, metering stations and treatment facilities.

The TRA Central Regional system was expanded from 115 million gallons per day (mgd) to 135 mgd in the early 1990's. The central plant is currently permitted for 162-MGD and will be expanded to 189-MGD in 2013 with improvements to aeration basins, solids handling and on-site storage improvements. In 2012 the 162-MGD plant capacity was utilized at an average flow rate of 140-MGD. In 2012, the City of Euless contributed 4.3-MGD average day flow, roughly 3.07% of the 140-MGD average system flow.

#### **B. City of Euless Collection Lines**

Previous wastewater impact fee analysis included a review of all basins within the planning area. In those studies, each sub-basin within the City was reviewed to determine the location and length of sewer lines 12 inches in diameter or larger and to determine if excess capacity existed. The previous reviews showed that none of the basins in the City's planning area included lines larger than 12 inches. No additional improvements to City owned collections lines for additional capacity are planned at this time.

### C. Excess Capacity

Calculations of excess capacity in the TRA Central Regional System are based on the current average day capacity of the TRA Central System versus the actual average day use in the system. The difference between these values is the excess capacity in the system.

The current TRA Central Regional System has 22-MGD (162-MGD – 2012 Avg. Flow of 140-MGD) excess capacity. The TRA expects the Central Regional System will be expanded to 189-MGD in 2013. This will increase excess capacity to 49-MGD (189-MGD – 140-MGD). Applying the City of Euless 3.07% contribution to the system, results in 1.5-MGD (3.07% X 49-MGD) of the excess capacity available for future growth in the City of Euless.

During the Capital Recovery Period (2012-2022) the City of Euless is expected to grow by 3,717 people. This is 66% (3,717-persons/5,650-persons) of the projected growth until buildout. Applying 66% of the projected growth from 2012 to 2022 to the 1.5-MGD excess capacity, results in 0.99-MGD (66% X 1.5-MGD) of the projected excess capacity being utilized during this Capital Recovery Period.

The amount of capacity utilized during the ten years in the impact fee study period is summarized in **Table No. 3** below. (See Appendix “B” for a detailed listing of components.)

**TABLE NO. 3**  
**WASTEWATER COLLECTION SYSTEM UTILIZED COST SUMMARY**

Wastewater Collection System Facility	Estimated Total Capital Cost in Dollars	Utilized Capacity in the *CRF Period in Dollars
TRA Central System Expansion	\$77,946,000	\$1,579,342
<b>Total</b>	<b>\$77,946,000</b>	<b>\$1,579,342</b>

\*CRF = Capital Recovery Fee      \*\* Refer to Appendix “B” for a detailed listing of components.

## **PART IV - LIVING UNIT EQUIVALENCY CALCULATION**

The smallest meter size available in the City of Euless is the 5/8” meter. (This was reported in previous impact fee reports as a 3/4” meter because it is functionally compatible with 3/4” taps.) This is the typical meter used for a single family detached dwelling, and so it can be considered to be equivalent to one “living unit”. Single family and multi-family uses utilize simple or compound meters. Commercial and industrial uses were assigned turbine meters to calculate an equivalency. Other meter sizes can be compared to the 5/8” meter through a ratio of water flows as published by the American Water Works Association (See Table 4). This same ratio is then used to determine the proportional impact fee amount for each water meter size and associated wastewater account.

**TABLE 4**  
**LIVING UNIT EQUIVALENCIES**  
**FOR**  
**VARIOUS TYPES AND SIZES OF WATER METERS**

<b>Meter Type</b>	<b>Meter Size</b>	<b>Continuous Duty Maximum Rate (gpm) <sup>(a)</sup></b>	<b>Living Unit Per Meter Size</b>
Simple	5/8” or 3/4”	10	1.0
Simple	1”	25	2.5
Simple	1-1/2”	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 (2009) - C703 (1996)

The City of Euless provided the existing water meter count by size category as of September 2012. In total, there are 13,933 domestic water and irrigation meters serving an existing population of 51,500 residents and business. **Table No. 5** shows the number of existing water meters, the living unit equivalent factor and the total number of living unit equivalents for each sized water meter.

The number of wastewater accounts was determined by subtracting the number of irrigation meters from the number of domestic water meters. The City of Euless reported 563 irrigation meters. This equates to 13,370 (13,933-563) wastewater accounts or 96% of the total water meters also have a wastewater account.

The residential population growth between year 2022 and 2012 is projected by the City as 3,717 persons (55,217-51,500). Per TCEQ definitions, the number of future services can be calculated as population divided by 3. In Euless this equates to approximately 1,239 new services during the 10-year period. 96.6% of the new services were applied to 5/8" meters and 3.4% of these services were applied to 1" meters. For 1-1/2" through 6" meters a 3.0% growth rate was applied to the existing meter counts to represent growth in non-residential services. The 3% growth rate did not increase 4" and 6" meters by a whole meter and these meter sizes remain unchanged over the 10-year period. Living unit equivalents were then applied to the water meters for 2012 and 2022, resulting in a total number of living units. The difference in the total number of 2012 and 2022 living units results in the new living unit equivalents during the impact fee period. The calculation of water living unit equivalents is summarized in **Table No. 5**.

**TABLE NO. 5**  
**Water Living Unit Equivalents 2012 - 2022**

Meter Size	2012			2022			New Living Unit Equivalents 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" or 3/4"	12,390	1.0	12,390	13,587	1.0	13,587	1,197
1"	434	2.5	1,085	476	2.5	1,190	105
1-1/2"	345	5.0	1,725	355	5.0	1,775	50
2"	690	8.0	5,520	711	8.0	5,688	168
3"	62	24.0	1,488	64	24.0	1,536	48
4"	7	42.0	294	7	42.0	294	0
6"	5	92.0	460	5	92.0	460	0
8"	0	160.0	0	0	160.0	0	0
<b>Totals</b>	<b>13,933</b>		<b>22,962</b>	<b>15,205</b>		<b>24,530</b>	<b>1,568</b>

**The sewer Living Unit Equivalency is 96% of the water LUE, which calculates to be 1,505.**

## **PART V - CALCULATION OF MAXIMUM IMPACT FEES**

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 City within the ten year period. **Table No. 6** summarizes the Maximum Water and Wastewater Impact Fee by meter size. To simplify collection, we recommend the fee remain fixed throughout the impact fee period, unless changed by Council.

The **Water System** impact fee for a 5/8" meter is calculated as follows:

$$\begin{aligned} \text{Maximum Impact Fee} &= \frac{\text{Eligible Existing Facility Cost} + \text{Eligible Proposed Facility Cost}}{\text{Number of New Living Unit Equivalent over the Next 10-Years}} \\ &= \frac{\$2,301,222 + \$2,333,466}{1,568} = \frac{\$4,634,688}{1,568} \end{aligned}$$

Calculated Water Maximum Impact Fee = \$2,955.80\*

\* Maximum Allowable Water Impact Fee is 50% of the Calculated Maximum Impact Fee

**Maximum Allowable Water Impact Fee = \$2,955.80 x 50% = \$1,477.90**

The **Wastewater System** impact fee for a 5/8" meter is calculated as follows:

$$\begin{aligned} \text{Maximum Impact Fee} &= \frac{\text{Eligible Existing Facility Cost} + \text{Eligible Proposed Facility Cost}}{\text{Number of New Living Unit Equivalent over the Next 10-Years}} \\ &= \frac{\$1,579,342 + \$0}{(1,568) (96\%)} = \frac{\$1,579,342}{1,505} \end{aligned}$$

Calculated Wastewater Maximum Impact Fee = \$1,049.40\*

\* Maximum Allowable Wastewater Impact Fee is 50% of the Calculated Maximum Impact Fee

**Maximum Allowable Wastewater Impact Fee = \$1,049.40 x 50% = \$524.70**

**TABLE 6**  
**MAXIMUM IMPACT FEE BY METER SIZE**

<b>Meter Size</b>	<b>Living Unit Equivalent</b>	<b>Maximum Water Impact Fee</b>	<b>Maximum Wastewater Impact Fee</b>	<b>Total Water + Wastewater</b>
5/8" or 3/4"	1.0	\$ 1,477.90	\$ 524.70	\$ 2,002.60
1"	2.5	\$ 3,694.75	\$ 1,311.75	\$ 5,006.50
1-1/2"	5.0	\$ 7,389.50	\$ 2,623.50	\$ 10,013.00
2"	8.0 - 10.0	\$ 11,823.20	\$ 4,197.60	\$ 16,020.80
3"	16.0 - 24.0	\$ 35,469.60	\$ 12,592.80	\$ 48,062.40
4"	25.0 - 42.0	\$ 62,071.80	\$ 22,037.40	\$ 84,109.20
6"	50.0 - 92.0	\$ 135,966.80	\$ 48,272.40	\$ 184,239.20
8"	80.0 - 160.0	\$ 236,464.00	\$ 83,952.00	\$ 320,416.00

Note: Living Unit Equivalent for Turbine Meters utilized for Meter Sizes 3-inches and larger

***APPENDIX “A”***

***WATER DISTRIBUTION SYSTEM***

**APPENDIX "A"**  
**CITY OF EULESS**  
**WATER IMPACT FEE STUDY**  
**T.R.A. PROJECTS**

Project	Year Constructed	Total Capital Cost	(\$) Euless Capacity (1)	(% Utilized Capacity)			(\$ Utilized Capacity)		
				2012	2022	During Fee Period	2012	2022	During Fee Period
<b>EXISTING TRA SYSTEM</b>									
System Expansion: 57 MGD to 72 MGD	1999	(2) \$48,589,093.00	\$10,451,418.63						
System Expansion 72 MGD to 87 MGD	2005	(3) \$40,888,511.00	\$8,795,038.54						
System Expansion - Pump Stations	2008	(3) \$42,792,179.00	\$9,204,513.80						
<b>EXISTING TRA SYSTEM TOTAL</b>		<b>\$132,269,783.00</b>	<b>\$28,450,970.97</b>	84.1%	89.8%	5.7%	<b>\$23,938,237</b>	<b>\$25,559,190</b>	<b>\$1,620,953</b>
<b>PROPOSED TRA SYSTEM</b>									
Proposed System Expansion 87 MGD to 102 MGD	2019	(4) \$51,500,000.00	\$11,077,549.02						
<b>PROPOSED TRA SYSTEM TOTAL</b>		<b>\$51,500,000.00</b>	<b>\$11,077,549.02</b>	84.1%	89.8%	5.7%	<b>\$ 9,320,490</b>	<b>\$ 9,951,618</b>	<b>\$ 631,128</b>
<b>TOTAL TRA SYSTEM (EXISTING + PROPOSED)</b>		<b>\$183,769,783.00</b>	<b>\$39,528,519.99</b>				<b>\$ 33,258,727</b>	<b>\$ 35,510,808</b>	<b>\$ 2,252,081</b>

System includes: Raw Water Pump Station, Raw Water Supply Lines, Water Treatment Plant, Treated Water Supply Lines and High Service Pump Stations.

- (1) Euluss Max Day at buildout is projected at 21.94-MGD, which is 21.50% of existing TRA 87-MGD capacity and Future 102 MGD Capacity.
- (2) Based on Previous Impact Fee Information, Interest is calculated at 8% over 20-years.
- (3) Interest is not included for the 2005 and 2008 Expansions
- (4) Capital Cost in 2005 Dollars, Based on TRA Master Plan

**APPENDIX "A"**

**CITY OF EULESS, TEXAS**

**WATER IMPACT FEE STUDY**

**ELEVATED STORAGE TANKS**

Elevated Storage	Year Const.	Storage (MGD)	Capital Cost (\$)				Utilized Capacity (%)			Utilized Capacity (\$)			
			Construction	Engineering	Cost of Debt Service (2)	Total	Year 2012	Year 2022	In The CRF Period	Year 2012	Year 2022	In The CRF Period	
<b>EXISTING TANKS</b>													
North Main 1 MG	(1)	1977	1.0	\$800,000	\$52,000	\$172,336.00	\$1,024,336	90.7%	94.3%	3.6%	\$928,967	\$966,055	\$37,088
Far North Main 2 MG	(1)	1978	2.0	\$1,800,000	\$117,000	\$387,756.00	\$2,304,756	94.8%	100.0%	5.2%	\$2,184,222	\$2,304,756	\$120,534
Heritage Park 2MG	(3)	2001	2.0	\$2,111,779	\$90,000	\$445,359.00	\$2,647,138	85.8%	91.1%	5.3%	\$2,270,558	\$2,410,852	\$140,295
<b>Totals</b>			<b>5.0</b>	<b>\$4,711,779</b>	<b>\$259,000</b>	<b>\$1,005,451</b>	<b>\$5,976,230</b>				<b>\$5,383,746</b>	<b>\$5,681,663</b>	<b>\$297,917.00</b>

(1) Estimated Cost

(2) Assumes 20 Year Bonds Financed at 2.03% Annual Percentage Rate, Paid on an Annual Basis

(3) Actual Construction & Engineering Cost

## APPENDIX "A"

### CITY OF EULESS, TEXAS WATER IMPACT FEE STUDY

#### EXISTING WATER LINES

Note: No Debt Service is Included for Existing Water Lines

1 = City Initiated Pipe Number	Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(%) Utilized Capacity			(\$) Utilized Capacity			
						2012	2022	During The Fee Period	2012	2022	During Fee Period	
<b>PRIEST/WESTOVER</b>												
1	94 *	890	30	N/A	\$104	\$92,560	77.00%	83.00%	6.00%	\$71,271	\$76,825	\$5,554
1	112 *	448	30	N/A	\$104	\$46,592	77.00%	82.00%	5.00%	\$35,876	\$38,205	\$2,330
1	139 *	1,438	30	N/A	\$104	\$149,552	77.00%	82.00%	5.00%	\$115,155	\$122,633	\$7,478
1	140 *	515	30	N/A	\$104	\$53,560	77.00%	82.00%	5.00%	\$41,241	\$43,919	\$2,678
1	141 *	949	30	N/A	\$104	\$98,696	77.00%	82.00%	5.00%	\$75,996	\$80,931	\$4,935
1	142 *	1,133	30	N/A	\$104	\$117,832	76.00%	82.00%	6.00%	\$89,552	\$96,622	\$7,070
1	148 *	175	30	N/A	\$104	\$18,200	77.00%	82.00%	5.00%	\$14,014	\$14,924	\$910
<b>Subtotal:</b>		<b>5,548</b>				<b>\$576,992</b>				<b>\$443,105</b>	<b>\$474,059</b>	<b>\$30,955</b>
<b>NORTH MAIN</b>												
1	99 *	148	16	Assumed 1986	\$61	\$9,028	94.00%	98.00%	4.00%	\$8,486	\$8,847	\$361
1	128 *	950	16	Assumed 1986	\$61	\$57,950	93.00%	98.00%	5.00%	\$53,894	\$56,791	\$2,898
1	129 *	177	16	Assumed 1986	\$61	\$10,797	93.00%	98.00%	5.00%	\$10,041	\$10,581	\$540
1	130 *	549	24	Assumed 1986	\$86	\$47,214	100.00%	100.00%	0.00%	\$47,214	\$47,214	\$0
1	131 *	692	24	Assumed 1986	\$86	\$59,512	100.00%	100.00%	0.00%	\$59,512	\$59,512	\$0
1	159 *	245	24	Assumed 1986	\$86	\$21,070	90.00%	93.00%	3.00%	\$18,963	\$19,595	\$632
1	160 *	483	16	Assumed 1986	\$61	\$29,463	90.00%	93.00%	3.00%	\$26,517	\$27,401	\$884
1	161 *	576	16	Assumed 1971	\$61	\$35,136	90.00%	92.00%	2.00%	\$31,622	\$32,325	\$703
1	162 *	370	16	Assumed 1971	\$61	\$22,570	87.00%	89.00%	2.00%	\$19,636	\$20,087	\$451
1	185 *	672	16	Assumed 1971	\$61	\$40,992	84.00%	84.00%	0.00%	\$34,433	\$34,433	\$0
1	214 *	1,422	16	Assumed 1971	\$61	\$86,742	100.00%	100.00%	0.00%	\$86,742	\$86,742	\$0
1	215 *	1,768	16	Assumed 1971	\$61	\$107,848	100.00%	100.00%	0.00%	\$107,848	\$107,848	\$0
1	264 *	925	16	Assumed 1971	\$61	\$56,425	94.00%	97.00%	3.00%	\$53,040	\$54,732	\$1,693
1	266 *	1,754	16	Assumed 1971	\$61	\$106,994	88.00%	93.00%	5.00%	\$94,155	\$99,504	\$5,350
1	334 *	2,485	24	N/A	\$86	\$213,710	100.00%	100.00%	0.00%	\$213,710	\$213,710	\$0
<b>Subtotal:</b>		<b>13,216</b>				<b>\$905,451</b>				<b>\$865,813</b>	<b>\$879,322</b>	<b>\$13,512</b>

\* Indicates actual construction cost plus 15% for engineering and easements.

1 = City Initiated		Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)		
Pipe Number							2012	2022	During The Fee Period	2012	2022	During Fee Period
<b>CINNAMON/ANICE</b>												
143 *	204	24	N/A	\$86	\$17,544	84.00%	89.00%	5.00%	\$14,737	\$15,614	\$877	
144 *	625	24	N/A	\$86	\$53,750	84.00%	89.00%	5.00%	\$45,150	\$47,838	\$2,688	
145 *	1,013	24	N/A	\$86	\$87,118	84.00%	88.00%	4.00%	\$73,179	\$76,664	\$3,485	
149 *	1,114	24	N/A	\$86	\$95,804	85.00%	89.00%	4.00%	\$81,433	\$85,266	\$3,832	
<b>Subtotal:</b>	<b>2,956</b>				<b>\$254,216</b>				<b>\$214,499</b>	<b>\$225,382</b>	<b>\$10,882</b>	
<b>FULLER/WISER</b>												
177 *	1,558	24	N/A	\$86	\$133,988	87.00%	93.00%	6.00%	\$116,570	\$124,609	\$8,039	
192 *	912	24	N/A	\$86	\$78,432	87.00%	93.00%	6.00%	\$68,236	\$72,942	\$4,706	
225 *	2,285	24	N/A	\$86	\$196,510	86.00%	93.00%	7.00%	\$168,999	\$182,754	\$13,756	
226 *	933	24	N/A	\$86	\$80,238	85.00%	93.00%	8.00%	\$68,202	\$74,621	\$6,419	
283 *	1,474	24	N/A	\$86	\$126,764	83.00%	93.00%	10.00%	\$105,214	\$117,891	\$12,676	
284 *	479	24	N/A	\$86	\$41,194	82.00%	92.00%	10.00%	\$33,779	\$37,898	\$4,119	
285 *	814	24	N/A	\$86	\$70,004	80.00%	92.00%	12.00%	\$56,003	\$64,404	\$8,400	
343 *	967	16	N/A	\$61	\$58,987	62.00%	65.00%	3.00%	\$36,572	\$38,342	\$1,770	
344 *	822	16	N/A	\$61	\$50,142	86.00%	100.00%	14.00%	\$43,122	\$50,142	\$7,020	
406 *	256	16	N/A	\$61	\$15,616	74.00%	92.00%	18.00%	\$11,556	\$14,367	\$2,811	
407 *	1,174	16	N/A	\$61	\$71,614	100.00%	100.00%	0.00%	\$71,614	\$71,614	\$0	
408 *	846	16	N/A	\$61	\$51,606	100.00%	100.00%	0.00%	\$51,606	\$51,606	\$0	
409 *	924	16	N/A	\$61	\$56,364	100.00%	100.00%	0.00%	\$56,364	\$56,364	\$0	
<b>Subtotal:</b>	<b>13,444</b>				<b>\$1,031,459</b>				<b>\$887,837</b>	<b>\$957,554</b>	<b>\$69,716</b>	
<b>HARWOOD</b>												
1	299 *	611	24	Assumed 1994	\$86	\$52,546	80.00%	87.00%	7.00%	\$42,037	\$45,715	\$3,678
1	300	453	24	Assumed 1994	\$0	\$0	80.00%	87.00%	7.00%	\$0	\$0	\$0
1	301	608	24	Assumed 1994	\$0	\$0	79.00%	87.00%	8.00%	\$0	\$0	\$0
1	302	862	24	Assumed 1994	\$29	\$24,998	79.00%	87.00%	8.00%	\$19,748	\$21,748	\$2,000
1	303 *	490	24	Assumed 1994	\$86	\$42,140	79.00%	87.00%	8.00%	\$33,291	\$36,662	\$3,371
<b>Subtotal:</b>	<b>3,024</b>				<b>\$119,684</b>				<b>\$95,076</b>	<b>\$104,125</b>	<b>\$9,049</b>	
<b>MIDWAY/NECTOR</b>												
1	351 *	3,090	24	Assumed 1974	\$86	\$265,740	81.00%	87.00%	6.00%	\$215,249	\$231,194	\$15,944
1	372 *	2,425	24	Assumed 1974	\$86	\$208,550	82.00%	87.00%	5.00%	\$171,011	\$181,439	\$10,428
1	373 *	1,000	24	Assumed 1974	\$86	\$86,000	82.00%	87.00%	5.00%	\$70,520	\$74,820	\$4,300
1	417 *	334	24	Assumed 1974	\$86	\$28,724	82.00%	87.00%	5.00%	\$23,554	\$24,990	\$1,436
<b>Subtotal:</b>	<b>6,849</b>				<b>\$589,014</b>				<b>\$480,334</b>	<b>\$512,443</b>	<b>\$32,108</b>	

\* Indicates actual construction cost plus 15% for engineering and easements.

1 = City Initiated		Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)		
Pipe Number							2012	2022	During The Fee Period	2012	2022	During Fee Period
<b>S.H. 183</b>												
1	418 *	1,014	24	Assumed 1974	\$128.44	\$130,238	81.00%	86.00%	5.00%	\$105,493	\$112,005	\$6,512
1	419 *	955	24	Assumed 1974	\$128.44	\$122,660	81.00%	86.00%	5.00%	\$99,355	\$105,488	\$6,133
1	420 *	443	24	Assumed 1974	\$128.44	\$56,899	81.00%	87.00%	6.00%	\$46,088	\$49,502	\$3,414
1	421 *	1,516	24	Assumed 1974	\$128.44	\$194,715	81.00%	87.00%	6.00%	\$157,719	\$169,402	\$11,683
1	422 *	911	24	Assumed 1974	\$128.44	\$117,009	81.00%	87.00%	6.00%	\$94,777	\$101,798	\$7,021
1	423 *	376	24	Assumed 1974	\$128.44	\$48,293	81.00%	87.00%	6.00%	\$39,118	\$42,015	\$2,898
1	424 *	855	24	Assumed 1974	\$128.44	\$109,816	82.00%	87.00%	5.00%	\$90,049	\$95,540	\$5,491
1	425 *	2,155	24	Assumed 1974	\$128.44	\$276,788	82.00%	87.00%	5.00%	\$226,966	\$240,806	\$13,839
<b>Subtotal:</b>		<b>8,225</b>				<b>\$1,056,419</b>				<b>\$859,565</b>	<b>\$916,556</b>	<b>\$56,991</b>
<b>WEST PARKWAY</b>												
1	432 *	573	24	Assumed 1974	\$86	\$49,278	81.00%	86.00%	5.00%	\$39,915	\$42,379	\$2,464
1	433 *	542	24	Assumed 1974	\$86	\$46,612	81.00%	86.00%	5.00%	\$37,756	\$40,086	\$2,331
1	434 *	1,427	24	Assumed 1974	\$86	\$122,722	81.00%	86.00%	5.00%	\$99,405	\$105,541	\$6,136
1	435 *	792	24	Assumed 1974	\$86	\$68,112	81.00%	86.00%	5.00%	\$55,171	\$58,576	\$3,406
1	436 *	2,153	24	Assumed 1974	\$86	\$185,158	81.00%	86.00%	5.00%	\$149,978	\$159,236	\$9,258
1	557 *	470	24	Assumed 1974	\$86	\$40,420	79.00%	85.00%	6.00%	\$31,932	\$34,357	\$2,425
<b>Subtotal:</b>		<b>5,957</b>				<b>\$512,302</b>				<b>\$414,157</b>	<b>\$440,175</b>	<b>\$26,020</b>
<b>S.H. 10</b>												
	540	1,068	16	N/A	\$4	\$4,272	94.00%	96.00%	2.00%	\$4,016	\$4,101	\$85
	541	1,025	16	N/A	\$4	\$4,100	92.00%	94.00%	2.00%	\$3,772	\$3,854	\$82
	542	495	16	N/A	\$4	\$1,980	92.00%	95.00%	3.00%	\$1,822	\$1,881	\$59
	553	1,405	16	N/A	\$4	\$5,620	71.00%	77.00%	6.00%	\$3,990	\$4,327	\$337
1	555 *	1,230	24	1974	\$86	\$105,780	79.00%	85.00%	6.00%	\$83,566	\$89,913	\$6,347
1	556 *	1,274	24	1974	\$86	\$109,564	79.00%	85.00%	6.00%	\$86,556	\$93,129	\$6,574
<b>Subtotal:</b>		<b>6,497</b>				<b>\$231,316</b>				<b>\$183,722</b>	<b>\$197,205</b>	<b>\$13,484</b>

\* Indicates actual construction cost plus 15% for engineering and easements.

1 = City Initiated		Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)		
Pipe Number							2012	2022	During The Fee Period	2012	2022	During Fee Period
<b>PIPELINE ROAD</b>												
	588	1,719	16	Assumed 1986	\$4	\$6,876	85.00%	89.00%	4.00%	\$5,845	\$6,120	\$275
	589	798	16	Assumed 1986	\$4	\$3,192	85.00%	89.00%	4.00%	\$2,713	\$2,841	\$128
	590	794	16	Assumed 1986	\$4	\$3,176	86.00%	90.00%	4.00%	\$2,731	\$2,858	\$127
	591	399	16	Assumed 1986	\$4	\$1,596	87.00%	91.00%	4.00%	\$1,389	\$1,452	\$64
1	592 *	1,387	16	Assumed 1986	\$61	\$84,607	88.00%	91.00%	3.00%	\$74,454	\$76,992	\$2,538
1	593 *	2,447	16	Assumed 1986	\$61	\$149,267	90.00%	93.00%	3.00%	\$134,340	\$138,818	\$4,478
1	594 *	1,066	16	Assumed 1986	\$61	\$65,026	91.00%	93.00%	2.00%	\$59,174	\$60,474	\$1,301
1	595 *	1,797	16	Assumed 1986	\$61	\$109,617	94.00%	95.00%	1.00%	\$103,040	\$104,136	\$1,096
1	596 *	508	16	Assumed 1986	\$61	\$30,988	98.00%	99.00%	1.00%	\$30,368	\$30,678	\$310
1	606 *	1,418	16	Assumed 1986	\$61	\$86,498	83.00%	88.00%	5.00%	\$71,793	\$76,118	\$4,325
1	745 *	386	16	Assumed 1986	\$61	\$23,546	90.00%	93.00%	3.00%	\$21,191	\$21,898	\$706
1	746 *	435	16	Assumed 1986	\$61	\$26,535	88.00%	92.00%	4.00%	\$23,351	\$24,412	\$1,061
1	747 *	233	16	Assumed 1986	\$61	\$14,213	85.00%	89.00%	4.00%	\$12,081	\$12,650	\$569
<b>Subtotal:</b>		<b>13,387</b>				<b>\$605,137</b>				<b>\$542,470</b>	<b>\$559,447</b>	<b>\$16,978</b>
<b>SOUTHSIDE WATER LINE</b>												
1	723 *	625	16	2003	\$61	\$38,146	74.00%	92.00%	18.00%	\$28,228	\$35,095	\$6,866
1	724 *	900	16	2003	\$61	\$54,920	73.00%	91.00%	18.00%	\$40,092	\$49,977	\$9,886
1	726 *	611	16	2003	\$61	\$37,265	73.00%	91.00%	18.00%	\$27,203	\$33,911	\$6,708
1	728 *	990	16	2003	\$61	\$60,407	93.00%	100.00%	7.00%	\$56,179	\$60,407	\$4,228
1	729 *	3,834	16	2003	\$61	\$233,860	82.00%	87.00%	5.00%	\$191,765	\$203,458	\$11,693
1	730	3,794	16	2003	\$61	\$231,457	82.00%	88.00%	6.00%	\$189,795	\$203,682	\$13,887
1	731	1,091	16	2003	\$61	\$66,546	83.00%	88.00%	5.00%	\$55,233	\$58,561	\$3,327
1	732	298	16	2003	\$61	\$18,204	92.00%	100.00%	8.00%	\$16,748	\$18,204	\$1,456
1	903 *	299	24	2003	\$61	\$18,269	92.00%	100.00%	8.00%	\$16,807	\$18,269	\$1,462
<b>Subtotal:</b>		<b>12,444</b>				<b>\$759,075</b>				<b>\$622,051</b>	<b>\$681,565</b>	<b>\$59,513</b>

\* Indicates actual construction cost plus 15% for engineering and easements.

1 = City Initiated		Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)		
Pipe Number							2012	2022	During The Fee Period	2012	2022	During Fee Period
<b>MID-CITIES BLVD</b>												
1	172 *	778	8	2000	\$35	\$27,230	100.00%	100.00%	0.00%	\$27,230	\$27,230	\$0
1	709 *	847	8	2000	\$35	\$29,645	100.00%	100.00%	0.00%	\$29,645	\$29,645	\$0
1	710 *	1,138	8	2000	\$35	\$39,830	100.00%	100.00%	0.00%	\$39,830	\$39,830	\$0
1	711 *	1,670	8	2000	\$35	\$58,450	78.00%	81.00%	3.00%	\$45,591	\$47,345	\$1,754
1	713 *	813	8	2000	\$35	\$28,455	39.00%	72.00%	33.00%	\$11,097	\$20,488	\$9,390
<b>Subtotal:</b>		<b>5,246</b>				<b>\$183,610</b>				<b>\$153,393</b>	<b>\$164,537</b>	<b>\$11,144</b>
<b>TOTAL EXISTING IMPACT FEE WATERLINE</b>										<b>\$5,762,022</b>	<b>\$6,112,370</b>	<b>\$350,352</b>
	<b>79,103</b>					<b>\$6,824,675</b>						

\* Indicates actual construction cost plus 15% for engineering and easements.

## APPENDIX "A"

### CITY OF EULESS, TEXAS WATER IMPACT FEE STUDY

#### PROPOSED REUSE DISTRIBUTION LINES AND PUMP STATION

Note: Cost of Debt Service is Calculated Assuming 20 Year Bonds Financed at 6% Annual Percentage Rate, Paid on an Annual Basis. 15% for Engineering

Note: Per Alan Plummer Eules Water Reuse Feasibility Study, No Easement Cost for 12" Diameter Pipe and \$21/ft for 8" and 6" Diameter Pipe Was added to Unit Cost

1 = City Initiated		Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(%) Utilized Capacity			(\$) Utilized Capacity		
Pipe Number							2012	2022	During The Fee Period	2012	2022	During Fee Period
<b>REUSE - BEAR CREEK N</b>												
1	2005	860	12		\$156	\$134,160	93%	100%	7%	\$124,769	\$134,160	\$9,391
1	2009	1023	12		\$156	\$159,588	97%	100%	3%	\$154,800	\$159,588	\$4,788
<b>Subtotal:</b>		<b>1,883</b>				<b>\$293,748</b>				<b>\$279,569</b>	<b>\$293,748</b>	<b>\$14,179</b>
Engineering & Testing					15%	\$44,062	95%	100%	5%	\$41,859	\$44,062	\$2,203
Cost of Debt Service:						\$189,465	95%	100%	5%	\$179,992	\$189,465	\$9,473
<b>Project Subtotal:</b>						<b>\$527,275</b>				<b>\$501,420</b>	<b>\$527,275</b>	<b>\$25,855</b>
<b>REUSE - BEAR CREEK S</b>												
1	2062	625	12		\$156	\$97,500	0%	100%	100%	\$0	\$97,500	\$97,500
	2073	298	6		\$123	\$36,654	0%	100%	100%	\$0	\$36,654	\$36,654
1	2074	299	6		\$123	\$36,777	0%	100%	100%	\$0	\$36,777	\$36,777
<b>Subtotal:</b>		<b>1,222</b>				<b>\$170,931</b>				<b>\$0</b>	<b>\$170,931</b>	<b>\$170,931</b>
Engineering & Testing					15%	\$25,640	0%	100%	100%	\$0	\$25,640	\$25,640
Cost of Debt Service:						\$110,249	0%	100%	100%	\$0	\$110,249	\$110,249
<b>Project Subtotal:</b>						<b>\$306,820</b>				<b>\$0</b>	<b>\$306,820</b>	<b>\$306,820</b>

1 = City Initiated Pipe Number	Length (Ft.)	Diameter (Inches)	Year Completed	Average Unit Cost (\$/Ft.)	Total Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)			
						2012	2022	During The Fee Period	2012	2022	During Fee Period	
<b>REUSE - MIDWAY DR</b>												
1 P 2063	696	8		\$157	\$109,272	0%	100%	100%	\$0	\$109,272	\$109,272	
1 P 2070	926	6		\$123	\$113,898	0%	100%	100%	\$0	\$113,898	\$113,898	
<b>Subtotal:</b>	<b>1,622</b>				<b>\$223,170</b>				<b>\$0</b>	<b>\$223,170</b>	<b>\$223,170</b>	
Engineering & Testing				15%	\$33,476	0%	100%	100%	\$0	\$33,476	\$33,476	
Cost of Debt Service:					\$143,943	0%	100%	100%	\$0	\$143,943	\$143,943	
<b>Project Subtotal:</b>					<b>\$400,589</b>				<b>\$0</b>	<b>\$400,589</b>	<b>\$400,589</b>	
<b>RESUE - MINTERS CHAPEL RD</b>												
1 2059	1,058	8		\$157	\$166,106	0%	100%	100%	\$0	\$166,106	\$166,106	
2061	860	6		\$123	\$105,780	0%	100%	100%	\$0	\$105,780	\$105,780	
<b>Subtotal:</b>					<b>\$271,886</b>				<b>\$0</b>	<b>\$271,886</b>	<b>\$271,886</b>	
Engineering & Testing				15%	\$40,783	0%	100%	100%	\$0	\$40,783	\$40,783	
Cost of Debt Service:					\$107,137	0%	100%	100%	\$0	\$107,137	\$107,137	
<b>Project Subtotal:</b>					<b>\$419,806</b>				<b>\$0</b>	<b>\$419,806</b>	<b>\$419,806</b>	
<b>RESUE - PUMP STATION</b>												
2 Variable Speed VTP					\$850,000	64%	100%	36%	\$544,000	\$850,000	\$306,000	
<b>Subtotal:</b>					<b>\$850,000</b>				<b>\$544,000</b>	<b>\$850,000</b>	<b>\$306,000</b>	
Engineering & Testing				15%	\$127,500	64%	100%	36%	\$81,600	\$127,500	\$45,900	
Cost of Debt Service:					\$548,243	64%	100%	36%	\$350,876	\$548,243	\$197,367	
<b>Project Subtotal:</b>					<b>\$1,525,743</b>				<b>\$976,476</b>	<b>\$1,525,743</b>	<b>\$549,267</b>	
<b>PROPOSED WATER SYSTEM TOTAL:</b>												
	<b>5,785</b>				<b>\$3,180,233</b>				<b>\$1,477,895</b>	<b>\$3,180,233</b>	<b>\$1,702,338</b>	
<b>EXISTING WATER DISTRIBUTION SYSTEM LINE TOTAL:</b>												
	<b>79,103</b>				<b>\$6,824,675</b>				<b>\$5,762,022</b>	<b>\$6,112,370</b>	<b>\$350,352</b>	
<b>TOTAL: WATER DISTRIBUTION SYSTEM (PROPOSED + EXISTING)</b>												
	<b>84,888</b>				<b>\$10,004,908</b>				<b>\$7,239,917</b>	<b>\$9,292,603</b>	<b>\$2,052,690</b>	

***APPENDIX “B”***

***WASTEWATER COLLECTION SYSTEM***

**APPENDIX “B”**  
**CITY OF EULESS**  
**WASTEWATER IMPACT FEE STUDY**  
**T.R.A. PROJECTS**

Project	Year Constructed	Total Capital Cost	(\$) Euless Capacity	(% Utilized Capacity)			(\$ Utilized Capacity)		
				2012	2022	During Fee Period	2012	2022	During Fee Period
<b>TRA SYSTEM IMPROVEMENTS - 162-MGD TO 189 MGD CAPACITY</b>									
Aeration Basin Improvements	2008	(1) \$21,193,000.00	\$650,625						
Solids Improvements	2010	(1) \$14,326,000.00	\$439,808						
On-Site Storage	2012	(1) \$42,427,000.00	\$1,302,509						
<b>TRA SYSTEM TOTAL</b>		<b>\$77,946,000.00</b>	<b>\$2,392,942</b>	0.0%	66.0%	66.0%	<b>\$0</b>	<b>\$1,579,342</b>	<b>\$1,579,342</b>

System includes: Interceptor Lines, Lift Stations, Force Mains, Metering Stations and Treatment Facilities

(1) 189-MGD Expansion Will Result in 49-MGD Excess Capacity (189-MGD - 2012 Avg. Flow of 140-MGD). Euless Contribution is 3.07%. 3.07% of 49-MGD = 1.5-MGD Available to Euless for Growth. Based on Land Use Assumptions, Population Growth will Require 0.99-MGD between 2012 and 2022, Equating to 66% (0.99-MGD/1.5-MGD) of 1.5-MGD Utilized from 2012 to 2022.



**WATER AND WASTEWATER IMPACT FEE UPDATE  
2012 TO 2022**

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
**PROFESSIONAL ENGINEERS**  
**DALLAS, TEXAS**