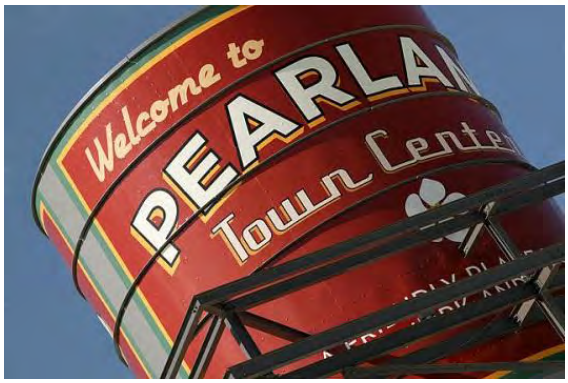
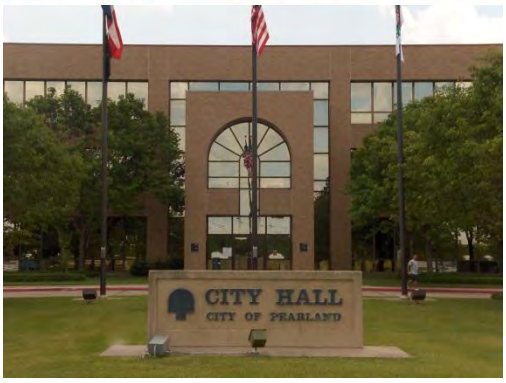
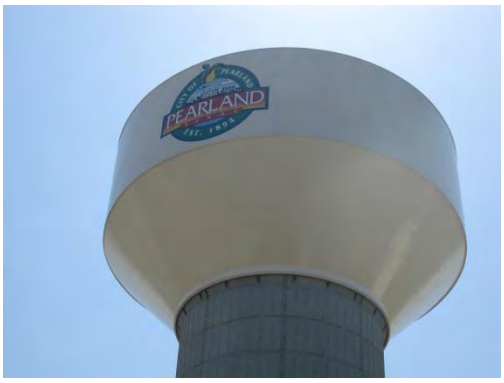
FREESE AND NICHOLS

Innovative approaches
Practical results
Outstanding service




**DRAFT**

# Water & Wastewater Impact Fee Report

February 2013 Update

Prepared for:

## City of Pearland

Prepared by:

**FREESE AND NICHOLS, INC.**
11200 Broadway Street
Offices West, Suite 2332
Pearland, Texas 77584
(832) 456-4700

# DRAFT
# Water & Wastewater Impact Fee Report
# February 2013 Update

| DRAFT |
| --- |
| THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF RICHARD WEATHERLY, P.E., TEXAS NO. 100211 ON FEBRUARY 13, 2013. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. FREESE AND NICHOLS, INC. TEXAS REGISTERED ENGINEERING FIRM F- 2144 |

**CITY OF PEARLAND**
3519 Liberty Dr.
Pearland, TX 77581

**FREESE AND NICHOLS, INC.**
11200 Broadway Street
Offices West, Suite 2332
Pearland, Texas 77584
FNI Project Number: PRL12291

## TABLE OF CONTENTS

## LIST OF TABLES



## LIST OF FIGURES



## LIST OF APPENDICES

## 1.0 BACKGROUND

Chapter 395 of the Texas Local Government Code requires an impact fee analysis before impact fees can be created and assessed. Chapter 395 defines an impact fee as "a charge or assessment imposed by a political subdivision against new development 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." In September 2001, Senate Bill 243 amended Chapter 395 thus creating the current procedure for implementing impact fees.

In June 2012, the City of Pearland, Texas, authorized Freese and Nichols, Inc. (FNI) to update the 2007 Impact Fee Study for the City's water and wastewater systems. The purpose of this report is to address the methodology used in the development and calculation of water and wastewater impact fees for the City of Pearland. Also presented in this report are individual water and wastewater capital improvements identified by the City of Pearland that will be required to meet the 10-year demand. A study of existing and future land use assumptions is described in the report. The methodology used herein satisfies the requirements of the Texas Local Government Code Chapter 395 for the establishment of water and wastewater impact fees, as seen in **Appendix A**.

**Table 1.1** provides a list of abbreviations used in this report.

**Table 1.1 List of Abbreviations**

| Abbreviation | Full Nomenclature |
|---|---|
| AWWA | American Water Works Association |
| CIP | Capital Improvements Plan |
| ESFC | Equivalent Single Family Connection |
| FNI | Freese and Nichols, Inc. |
| gpcd | Gallons per Capita per Day |
| gpd | Gallons per Day |
| gpm | Gallons per Minute |
| MGD | Million Gallons per Day |
| TCEQ | Texas Commission on Environmental Quality |

# 2.0 LAND USE ASSUMPTIONS

Population and land use are important elements in the analysis of water and wastewater systems. Water demands and wastewater flows depend on the residential population and commercial development served by the systems and determines the sizing and location of system infrastructure. A thorough analysis of historical and projected populations, along with land use, provides the basis for projecting future water demands and wastewater flows.

## 2.1 Service Area

The service area for Pearland's water and wastewater systems is defined as the area bounded by the existing city limits. There are two exceptions to this definition:

- Brazoria County MUD 1 is within the city limits but is outside the City of Pearland impact fee service area. The estimated population is 4,288.
- Brazoria County MUD 4 was annexed into the city effective January 1, 2013. The MUD was outside the city limits but inside the City of Pearland impact fee service area in 2012. The estimated population is 3,045.
- Brazoria County MUD 16 is outside the city limits but is inside the City of Pearland impact fee service area. The estimated population is 878.

Pearland's city limits encompass approximately 47.56 square miles or 30,438 acres.

## 2.2 Historical & Projected Population

Population growth projections were established based on information from the 2012 Market Study Update prepared by the City's Planning Department as seen in **Appendix B**, as well as information on upcoming developments. The City estimated a 2015 population of 109,400 and an annual growth rate of approximately 3,100 people every year beyond 2015. For the 2000 - 2005 period, the estimated City population was increased by the MUD 16 population. For the 2006 - 2032 period, the estimated City populations were reduced by the MUD 1 population and increased by the MUD 16 population. Historical census data as well as future population projections and the impact fee eligible population are shown in **Table 2.1.**

**Table 2.1 Historical and Future Population Projections**

| Year | Total Population | Average Annual Population Growth | Average Annual Population Growth (%) | Total Impact Fee Eligible Population[2] |
|---|---|---|---|---|
| **2000**[1] | 37,640 | - | - | 38,518 |
| **2001** | 39,612 | 1,972 | 5.2% | 40,490 |
| **2002** | 42,772 | 3,160 | 8.0% | 43,650 |
| **2003** | 46,013 | 3,241 | 7.6% | 46,891 |
| **2004** | 50,553 | 4,540 | 9.9% | 51,431 |
| **2005** | 58,379 | 7,826 | 15.5% | 59,257 |
| **2006** | 68,835 | 10,456 | 17.9% | 65,425 |
| **2007** | 77,425 | 8,590 | 12.5% | 74,015 |
| **2008** | 83,363 | 5,938 | 7.7% | 79,953 |
| **2009** | 87,939 | 4,576 | 5.5% | 84,529 |
| **2010**[1] | 91,252 | 3,313 | 3.8% | 87,842 |
| **2012** | 98,511 | 3,630 | 4.0% | 95,101 |
| **2017** | 115,626 | 3,113 | 2.8% | 112,216 |
| **2022** | 131,165 | 3,100 | 2.5% | 127,755 |
| **2027** | 146,665 | 3,100 | 2.2% | 143,255 |
| **2032** | 162,165 | 3,100 | 2.0% | 158,755 |

(1) US Census – City of Pearland

(2) Total Impact Fee Eligible Population is the Total Population reduced by MUD 1 and increased by MUD 16. MUD 4 is included in the Total Population.

## 2.3 Land Use

The City provided an existing and buildout acreage distribution by land use type. According to information received from the City, growth is expected to continue in the next 10 years. This growth is expected to be centered in the Shadow Creek development and other developments with vacant lot inventory. The City is expected to need approximately 4,668 acres for developmental purposes during the next 10 years, with approximately 1,373 acres (approximately 30%) required for commercial/industrial use. Residential uses will require approximately 3,271 acres (approximately 70%) with the vast majority of this development allocated for single family usage. **Table 2.2** presents the land use acreage by planning year for the water and wastewater service area broken up by land use type. **Figure 2.1** shows the growth projections throughout the City (including Shadow Creek Ranch).

**Table 2.2 Existing and Future Land Use Projections**

| Land Use | 2012 | 2017 | | 2022 | | 2027 | |
|---|---|---|---|---|---|---|---|
| | Total Acres | New Acres | Total Acres | New Acres | Total Acres | New Acres | Total Acres |
| Single Family | 9,718 | 1,692 | 11,410 | 1,565 | 12,975 | 1,565 | 14,540 |
| Multi-Family | 339 | 18 | 357 | 20 | 377 | 22 | 399 |
| ***Subtotal*** | ***10,057*** | ***1,710*** | ***11,767*** | ***1,585*** | ***13,352*** | ***1,587*** | ***14,939*** |
| Commercial/Industrial | 4,779 | 827 | 5,606 | 546 | 6,152 | 546 | 6,698 |
| **Total** | **14,836** | **2,537** | **17,373** | **2,131** | **19,504** | **2,133** | **21,637** |

FIGURE 2.1

# CITY OF PEARLAND

## FUTURE LAND USE AND PROJECTED GROWTH

### LEGEND

*Year (1 Dot = 500 people)*

- 2015
- 2020
- 2025
- 2030
- Outside City Limit but Inside Service Area
- Within City Limit but Outside Service Area
- Area for Potential Annexation

- Street
- Railroad
- Stream
- Lake
- City Limit
- County Boundary

### LAND USE

- Single Family (Small Lot)
- Single Family (Large Lot)
- Residential
- Duplex
- Mobile Home
- Townhome
- Apartment
- Public
- Cemetery
- Church
- Detention
- Educational
- Commercial
- Office
- Light Industrial
- Heavy Industrial
- Public Park
- Private Park
- Undeveloped

FREESE AND NICHOLS

0 2,500 5,000

SCALE IN FEET

Created By: Freese and Nichols, Inc.
Job No.: PRL12231
Location: H:\W_WW_PLANNING\DELIVERABLES\01_Existing_Systems\[Figure-2.1]-Future_Land_Use_w_Projected_Growth.mxd
Updated: Wednesday, January 30, 2013 8:38:24 AM

## 2.4 Current and Projected Service Units

The maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements required by the total number of service units attributed to new development during the impact fee eligibility period. A water service unit is defined as the service equivalent to a water connection for a single-family residence. This is also known as an equivalent single family connection (ESFC). The City of Pearland does not directly meter wastewater flows and bills for wastewater services based on the customer's three-month winter average water consumption. Therefore, a wastewater service unit is defined as the wastewater service provided to a customer with a water connection for a single-family residence.

The service associated with public, commercial, and industrial connections is converted into equivalent service units. The City of Pearland currently uses an impact fee assessment based on land use type.

**Table 2.3** provides equivalent service unit factors for different types of developments which occur in Pearland. This table will allow conversion of different developments to an equivalent single-family connection (ESFC). All developments not matching one of the development types below will be evaluated individually based on data submitted by the developer.

Future population projections as well as projected future land use growth percentages were used to calculate the projected ten year growth in service units. **Table 2.4** shows the current and projected connections for the years 2012 and 2022 by land use type as provided by the 2012 Market Study Update.

## Table 2.3 City of Pearland Service Unit Factors

| No. | Development Type | Unit of Measure | S.U.E. | Remarks |
|---|---|---|---|---|
| 1 | Bakery | Square Foot | 0.000700 | |
| 2 | Barber Shop | Chair | 0.470000 | |
| 3 | Beauty Shop | Chair | 0.470000 | |
| 4 | Bowling Alley | Lane | 0.635000 | Does not include restaurant |
| 5 | Car Repair | Square Foot | 0.000160 | Does not include carwash |
| 6 | Carwash, Tunnel Self Service | Lane | 6.350000 | |
| 7 | Carwash, Wand Type Self Service | Bay | 1.220000 | |
| 8 | Carwash, Tunnel With Attendants | Lane | 31.430000 | Does not include reclamation |
| 9 | Church, Administration | Occupant | 0.047000 | Occupancy Loads established by the adopted building codes |
| 10 | Church, Auditorium | Seat | 0.003200 | |
| 11 | Church, Classroom | Seat | 0.004700 | |
| 12 | Club/Tavern/Lounge | Seat | 0.031000 | |
| 13 | Convenience Store | Square Foot | 0.000220 | |
| 14 | Country Club | Occupant | 0.390000 | Occupancy Loads established by the adopted building codes |
| 15 | Day Care Center | Occupant | 0.031700 | Occupancy Loads established by the adopted building codes |
| 16 | Dormitory | Bed | 0.286000 | |
| 17 | Driving Range | Tee | 0.210000 | |
| 18 | Fire Station | Employee | 0.286000 | |
| 19 | Funeral Home | Embalming Station | 2.140000 | |
| 20 | Gas Station, Self-Service | Island | 0.800000 | Island is defined as 1 pumping station - Does not include carwash |
| 21 | Gas Station, Full-Service | Island | 0.860000 | Island is defined as 1 pumping station - Does not include carwash |
| 22 | Grocery Store | Square Foot | 0.000260 | Does not include restaurant |
| 23 | Health Club | Occupant | 0.016000 | Occupancy Loads established by the adopted building codes |
| 24 | Health Club w/ Whirpool or Swimming Pool | Occupant | 0.032000 | Occupancy Loads established by the adopted building codes |
| 25 | Hospital | Bed | 0.635000 | Patient Care Area - Does not include designated office areas |
| 26 | Hotel/Motel | Room | 0.251000 | Does not include restaurant |
| 27 | Hotel/Motel with Kitchenettes | Room | 0.430000 | |
| 28 | Ice Cream Parlor with Seating | Seat | 0.047000 | |
| 29 | Indoor Entertainment/Amusement w/o Restaurant | Occupant | 0.031000 | Occupancy Loads established by the adopted building codes |
| 30 | Industrial Laundry | 50 lbs | 0.950000 | |
| 31 | Manufacturing | Square Foot | 0.000160 | Average: Each development must be individually evaluated |
| 32 | Nursing Home | Bed | 0.286000 | |
| 33 | Office Building | Square Foot | 0.000335 | |
| 34 | Photo Store, 1-Hour Processing | Store | 4.000000 | |
| 35 | Post Office, Excluding Dock | Square Foot | 0.000254 | |
| 36 | Raquetball Club | Court | 0.510000 | |
| 37 | Recreational Vehicle Park | Space | 0.238100 | |
| 38 | Resident, Apartment | Dwelling Unit | 0.700000 | Basic Service Unit |
| 39 | Resident, Condominium | Dwelling Unit | 1.000000 | |
| 40 | Resident, Duplex | Dwelling Unit | 1.000000 | |
| 41 | Resident, Mobile Home | Dwelling Unit | 0.700000 | |
| 42 | Resident, Single Family | Dwelling Unit | 1.000000 | |
| 43 | Resident, Town House | Dwelling Unit | 1.000000 | |
| 44 | Restaurant, Full-Service, General | Seat | 0.110000 | |
| 45 | Restaurant, Fast Food with Seating | Seat | 0.047000 | |
| 46 | Restaurant, Fast Food without Seating | Square Foot | 0.002300 | |
| 47 | Restaurant, Buffet with Seating* | Seat | 0.110000 | *Non-disposable Dinnerware and Flatware |
| 48 | Restaurant, Buffet with Seating** | Seat | 0.070500 | **Disposable Dinnerware and Flatware |
| 49 | Retail Store | Square Foot | 0.000223 | |
| 50 | School, High | Seat | 0.047600 | Does not include resident dormitory |
| 51 | School, Other | Seat | 0.031700 | Does not include resident dormitory |
| 52 | Skating Rink | Occupant | 0.016000 | Occupancy Loads established by the adopted building codes |
| 53 | Swimming Pool | Occupant | 0.016000 | Occupancy Loads established by the adopted building codes |
| 54 | Stadium | Seat | 0.010000 | |
| 55 | Theatre, Drive-in | Space | 0.016000 | |
| 56 | Theatre, Indoor | Seat | 0.016000 | |
| 57 | Toilet (non-specific) | Toilet | 0.254000 | |
| 58 | Transportation Terminal without Restaurant | Passenger | 0.016000 | |
| 59 | Warehouse | Square Foot | 0.000100 | |
| 60 | Washateria | Machine | 1.580000 | |

**Table 2.4 Service Unit Projection**

| Land Use | 2012 | | | 2022 | | | Growth in Service Units |
|---|---|---|---|---|---|---|---|
| | Impact Fee Eligible Connections[1] | S.U.E.s | Service Units | Impact Fee Eligible Connections | S.U.E.s | Service Units | |
| Single Family | 26,359 | 1.0 | 26,359 | 36,399 | 1.0 | 36,399 | 8,107 |
| Multi-Family[2] | 4,504 | 0.7 | 3,153 | 7,212 | 0.7 | 5,048 | 3,301 |
| *Total Residential* | ***30,863*** | | ***29,512*** | ***43,611*** | | ***41,447*** | ***11,408*** |
| **Commercial /Industrial** | 1,954 | 4.0 | 7,816 | 4,273 | 4.0 | 17,092 | 9,276 |
| Assisted Living[3] | 569 | 0.286 | 163 | 625 | 0.286 | 179 | 16 |
| Hospital[3] | 0 | 0.635 | 0 | 300 | 0.635 | 191 | *191* |
| **Total** | **33,386** | | **37,491** | **48,809** | | **58,909** | **21,418** |

[1] Connections were reduced by MUD 1 and increased by MUD 16 connections.
[2] Apartment Units are substituted for connections.
[3] Beds are substituted for connections.

## 2.5 Construction Trends

Historical construction data by type, beginning in 2007, are presented in **Table 2.5**. As shown, a total of 5,125 residential and 289 commercial/industrial building permits have been granted between 2007 and 2011. Based on recent growth data, the City anticipates continued development in the next ten years.

**Table 2.5 Construction Permits Granted**

| Land Use | 2007 | 2008 | 2009 | 2010 | 2011 | 5-Yr Total |
|---|---|---|---|---|---|---|
| Residential | 1,606 | 1,242 | 829 | 727 | 721 | 5,125 |
| Commercial | 77 | 52 | 78 | 40 | 42 | 289 |
| **Total** | **1,683** | **1,294** | **907** | **767** | **763** | **5,414** |

Existing major subdivisions in the City with vacant lot inventory include the following: Southern Trails, Southgate, Cambridge Lakes, Lakes of Highland Glenn, Cabot Cove, Shadow Creek Ranch, Pearland Farms, Park at Walnut Bend, Stonebridge, La Paloma, Bellavita, Pearland Park Estates, Village at Mary's Creek, Canterberry Park, Twin Lakes, Village Grove, Cypress Village, Avalon Terrace, Oakbrook Estates and Emerald Stone.

# 3.0 WATER SYSTEM CAPITAL IMPROVEMENTS PLAN

Water system impact fee capital improvements were provided by the City of Pearland. The recommended improvements will provide the required capacity and reliability to meet projected water demands through year 2022.

## 3.1 Existing System

Currently, Pearland provides potable water from eleven wells plus three surface water plants. The current surface water contract for the Shadow Creek Water Plant is take-or-pay 40 million gallons per month (1,333,333 gpd) with a maximum day capacity of 6 million gallons per day (MGD). The current surface water contract for the Alice Water Plant is pay-as-you-go 10 MGD. **Table 3.1** presents the existing water supply facilities, including their pumping and storage capacities.

**Table 3.1 Existing Water Supply Facilities**

| | Water Source | | Booster Pumps | | Ground Storage (gal) | Elevated Storage (gal) |
|---|---|---|---|---|---|---|
| **Water Plant** | Surface (gpd) | Well (gpm) | No. | Capacity (gpm) | | |
| McLean | - | 600 | 3 | 600 | 427,000 | 500,000 |
| Mary's Creek | - | 747 | 3 | 600 | 460,000 | - |
| Old City Hall | - | 535 | 2 | 500 | 327,000 | - |
| Alice | 10,000,000 | - | 3 | 3,500 | 5,000,000 | 500,000 |
| Liberty | - | 1,330 | 3 | 1,000 | 460,000 | 500,000 |
| Magnolia | - | 1,000 | 3 | 900 | 460,000 | - |
| Garden | - | 1,448 | 3 | 800 | 460,000 | - |
| Southeast | - | 1,800 | 3 | 2,100 | 1,000,000 | 1,000,000 |
| Cullen | - | 1,400 | 3 | 2,100 | 600,000 | 1,000,000 |
| Kirby | - | 2,200 | 3 | 1,800 | 1,000,000 | 1,000,000 |
| Southdown | - | 1,250 | 3 | 1,000 | 500,000 | - |
| Country Place | - | 1,050 | 2<br>1 | 1,000<br>650 | 500,000 | |
| Shadow Creek | 1,333,333 | - | 5 | 2,000 | 3,200,000 | - |
| Green Tee | 100,000 | - | 2 | 500 | 210,000 | - |
| Total | **11,433,333** | **13,360** | **42** | **19,050** | **14,604,000** | **4,500,000** |

**Table 3.2** presents the average water production for the city over the past six years. The average daily usage over the past five years has been 11.02 MGD. The average gallons per capita per day (gpcd) has ranged from a low of 100 gpcd to a high of 147 gpcd during the 2011 drought. Public consumption includes all metered irrigation systems.

**Table 3.2 Water Production in Million Gallons (2007 – 2012)**

| Month | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| January | 180 | 210 | 239 | 236 | 257 | 298 |
| February | 178 | 214 | 226 | 225 | 251 | 255 |
| March | 235 | 238 | 278 | 263 | 354 | 291 |
| April | 228 | 267 | 270 | 316 | 454 | 325 |
| May | 240 | 346 | 339 | 419 | 515 | 397 |
| June | 246 | 336 | 436 | 386 | 535 | 400 |
| July | 203 | 371 | 438 | 323 | 503 | 337 |
| August | 255 | 312 | 385 | 408 | 527 | 456 |
| September | 241 | 289 | 321 | 329 | 473 | 409 |
| October | 241 | 298 | 277 | 407 | 397 | 410 |
| November | 245 | 248 | 276 | 288 | 318 | 385 |
| December | 216 | 240 | 243 | 270 | 273 | 330 |
| **Total** | **2707** | **3370** | **3728** | **3868** | **4857** | **4292** |
| Daily Average | 7.42 | 9.23 | 10.21 | 10.60 | 13.31 | 11.76 |
| Impact Fee Eligible Population | 74,015 | 79,953 | 84,529 | 87,842 | 90,690 | 95,101 |
| Average Demand (gpcd) | 100 | 115 | 121 | 121 | 147 | 124 |

## 3.2 Future Planned System

The City of Pearland anticipates decommissioning the Green Tee and Old City Hall Water Plants in the next 5 years. In addition, the City anticipates infrastructure improvements that will allow them to receive 6 MGD surface water (the amount of their current contract) at the Shadow Creek Water Plant in 2015. **Table 3.3** presents the future planned water supply facilities, including their pumping and storage capacities.

**Table 3.3 Future Planned Water Supply Facilities**

| Water Plant | Water Source | | Booster Pumps | | Ground Storage (gal) | Elevated Storage (gal) |
|---|---|---|---|---|---|---|
| | Surface (gpd) | Well (gpm) | No. | Capacity (gpm) | | |
| McLean | - | 600 | 3 | 600 | 427,000 | 500,000 |
| Mary's Creek | - | 747 | 3 | 600 | 460,000 | - |
| Alice | 10,000,000 | - | 3 | 3,500 | 5,000,000 | 500,000 |
| Liberty | - | 1,330 | 3 | 1,000 | 460,000 | 500,000 |
| Magnolia | - | 1,000 | 3 | 900 | 460,000 | - |
| Garden | - | 1,448 | 3 | 800 | 460,000 | - |
| Southeast | - | 1,800 | 3 | 2,100 | 1,000,000 | 1,000,000 |
| Cullen | - | 1,400 | 3 | 2,100 | 600,000 | 1,000,000 |
| Kirby | - | 2,200 | 3 | 1,800 | 1,000,000 | 1,000,000 |
| Southdown | - | 1,250 | 3 | 1,000 | 500,000 | - |
| Country Place | - | 1,050 | 2<br>1 | 1,000<br>650 | 500,000 | |
| Shadow Creek | 6,000,000 | - | 5 | 2,000 | 3,200,000 | - |
| Total | **16,000,000** | **12,825** | **38** | **17,400** | **14,067,000** | **4,500,000** |

## 3.3 Water System Projections

The population and land use data was used to develop future water demands based on the average day per connection usage history and Texas Commission on Environmental Quality (TCEQ) requirements. **Table 3.4** presents the City's existing and projected water demands.

Currently, the City has a 10 MGD surface water supply pay-as-you-go contract with the City of Houston, in addition to 1.333 MGD take-or-pay contract and the eleven water wells with a total capacity of 19.24 MGD (13,360 gpm) for a total system capacity of 30.67 MGD. According to TCEQ's criteria of 0.6 gpm per connection, the required current supply should be 28.85 MGD (94% of actual supply). However, based on a maximum day demand of 18,354,300 gallons on July 29, 2008, the City applied for and received an Alternative Capacity Requirement variance from TCEQ for 0.47 gpm per connection. Therefore, according to the TCEQ variance, the required current supply is 22.60 MGD and the City currently has an excess water supply of 8.08 MGD.

**Table 3.4 System Capacity and Projected Water Demands**

| | Required Capacity (gallons) | | | Current Capacity | Future Capacity[7] | Excess or (Deficient) Capacity | | |
|---|---|---|---|---|---|---|---|---|
| | 2012 | 2017 | 2022 | 2012 | Planned | 2012 | 2017 | 2022 |
| Impact Fee Eligible Population[1] | 95,101 | 112,216 | 127,755 | - | - | - | - | - |
| Impact Fee Eligible Connections[1] | 33,386 | 42,270 | 48,809 | - | - | - | - | - |
| Impact Fee Eligible Equivalent Service Units[2] | 37,491 | 49,974 | 58,909 | - | - | - | - | - |
| Water Production (gpd) (Current Variance)[3] | 22,595,645 | 28,608,336 | 33,033,931 | 30,671,733 | 34,468,000 | 8,076,088 | 5,859,664 | 1,434,069 |
| **Water Production (gpd) (Projected Variance)[4]** | **26,727,725** | **33,839,961** | **39,074,868** | **30,671,733** | **34,468,000** | **3,944,008** | **628,039** | **(4,606,868)** |
| Water Production (gpd) (TCEQ Standard)[5] | 28,845,504 | 36,521,280 | 42,170,976 | 30,671,733 | 34,468,000 | 1,826,229 | (2,053,280) | (7,702,976) |
| Ground Storage (gal) | 1,936,388 | 2,451,660 | 2,830,922 | 14,604,000 | 14,067,000 | 12,667,612 | 12,152,340 | 11,236,078 |
| Elevated Storage (gal) | 3,338,600 | 4,227,000 | 4,880,900 | 4,500,000 | 4,500,000 | 1,161,400 | 273,000 | (380,900) |
| **Total Storage[6] (gal)** | **5,274,988** | **6,678,660** | **7,711,822** | **19,104,000** | **18,567,000** | **13,829,012** | **12,425,340** | **10,855,178** |

[1] Total estimate reduced by MUD 1 and increased by MUD 16 populations/connections.
[2] Based on factors developed in the 2007 Impact Fee Report Service Unit Equivalents (S.U.E.).
[3] Based on Alternative Capacity Requirement variance granted by TCEQ of 0.47 gpm/connection.
[4] FNI recommends 0.556 gpm/connection based on the 2011 maximum day demand.
[5] Based on standard TCEQ requirement of 0.60 gpm.
[6] Based on Alternative Capacity Requirement variance granted by TCEQ of 158 gallons/connection.
[7] Future Capacity accounts for the decommissioning of the Green Tee (0.10 MGD) and Old City Hall (535 gpm) Water Plants and the expansion of the Shadow Creek Water Plant from 1.33 MGD to 6.00 MGD.

According to TCEQ, the alternative capacity requirement variance granted will be based on 115% of the maximum day demand over the previous three years. FNI recommends a projected variance of 0.556 gpm/connection based on a July 4, 2011 maximum day demand. Based on the equivalent service unit projections and the projected updated TCEQ variance, the water supply need for the year 2022 will increase to 39.07 MGD. The supply need for 2022 will be at 127% of current production and surface water contracts; therefore, it is necessary to add additional water sources for the upcoming 10-year period. The capacity analysis for the water system can be found in **Appendix C.**

The City has the option to purchase an additional 5 MGD from the Southeast Water Purification Plant to be delivered to the Alice Water Plant. However, based on results from the City's water model, the future water demands will be primarily on the west side of the City. The Alice Water Plant will be unable to provide the sufficient pressure to serve these future water demands. In anticipation of these future water demands, the City has acquired land and completed sand pit stabilization for a new surface water treatment plant on the west side of the City. Therefore, it is recommended that the City pursue the construction of a new 10 MGD surface water treatment plant on the west side of the City in the next ten years.

The existing eleven water wells, with a capacity of 13,360 gpm, are a major source of water for the City of Pearland. No new wells are proposed to be added to the City's system. However, if new wells are drilled, TCEQ requires a minimum of two booster pumps (three pumps recommended) with a minimum capacity of 1,000 gpm each (1,500 gpm is recommended).

To meet current state requirements, a minimum of two booster pumps with a total capacity of 1,000 gpm and the ability to meet peak hourly demands with the largest pump out of service, are required at each booster pump station. With the exception of the Green Tee and Old City Hall water plants, the booster pumps at every other water plant meet this requirement. An additional booster pump is required at the Green Tee and Old City Hall Water Plants to meet this requirement but the City plans to close the Green Tee and Old City Hall water plants.

The existing ground storage tanks, with a total capacity of 14,604,000 gallons, and five elevated storage tanks, with a total capacity of 4,500,000 gallons, meet the current TCEQ storage requirement. Based on a maximum day demand of 18,354,300 gallons on July 29, 2008, the City applied for and received an Alternative Capacity Requirement variance from TCEQ for 158 gallons of total storage per connection. According to the TCEQ variance, for the year 2022, the total required storage (ground and elevated) will be 7.71 million gallons. The City will have 18.57 million gallons of total storage in 2022. Therefore, the total storage requirement is met for the upcoming 10- year period. The required elevated storage for the year 2022 will be 4.88 million gallons; however, the City currently has 4.5 million gallons of elevated storage. Therefore, it is recommended that a minimum of 1.0 million gallons of elevated storage be constructed in the 10-year time period.

## 3.4 Water Capital Improvements Plan

A summary of the costs for each of the projects required for the 10-year growth period used in the impact fee analysis for the water system is shown in **Table 3.5**. The costs listed for the existing projects are based on actual design and construction costs provided by the City. **Table 3.5** shows the 2012 percent utilization as the portion of a project's capacity required to serve existing development. This portion of the project cost is not eligible to be included in the impact fee analysis. The 2022 percent utilization is the portion of the project's capacity that will be required to serve the City of Pearland in 2022. The 2012-2022 percent utilization is the portion of the project's capacity required to serve development from 2012 to 2022. The portion of a project's total cost that is used to serve development projected to occur from 2012 through 2022 is calculated as the total actual cost multiplied by the 2012-2022 percent utilization. Only this portion of the cost is used in the impact fee analysis. The proposed 10-year water system projects are shown on **Figure 3.1**. Individual descriptions and cost tables for each project can be found in **Appendix D**.

**Table 3.5**
**Existing and Proposed Water System Improvements 2012-2022**
**City of Pearland**

| No. | Description of Project | Percent Utilization[1] | | | Cost Based on 2012 Dollars | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2012 | 2022 | 2012-2022 | Project Cost | Current Development | 10-Year (2012-2022) | Beyond 2022[2] | Impact Fee Eligible Cost |
| **EXISTING PROJECTS** | | | | | | | | | |
| **A** | Old Alvin Road 20" Water Line | | | | $ 2,556,718 | $ - | $ 2,244,194 | $ 312,524 | $ 1,122,097 |
| **B** | McHard Road 16" Water Line | | | | $ 7,090,901 | $ - | $ 4,621,910 | $ 2,468,991 | $ 2,310,955 |
| **C** | Houston 30" Interconnect Transmission Line | | | | $ 19,599,542 | $ - | $ 15,693,432 | $ 3,906,110 | $ 7,846,716 |
| **D** | Magnolia Rd 12" Water Line | | | | $ 716,750 | $ - | $ 529,293 | $ 187,457 | $ 264,647 |
| **E** | Bailey Rd 24" & 30" Water Transmission Lines | | | | $ 360,145 | $ - | $ 360,145 | $ - | $ 180,073 |
| **F** | BW 8 / SH 288 12" Water Line | | | | $ 743,257 | $ - | $ 743,257 | $ - | $ 371,629 |
| **G** | SH 35 Water 16" Water Line - South of Magnolia Road | | | | $ 338,936 | $ - | $ 338,936 | $ - | $ 169,468 |
| **H** | Kirby Water Plant & 1.0 MGD EST | | | | $ 6,665,484 | $ - | $ 4,952,628 | $ 1,712,856 | $ 2,476,314 |
| **I** | Proposed WTP Property Acquisition & Sand Pit Stabilization | | | | $ 4,675,947 | $ - | $ 4,016,041 | $ 659,906 | $ 2,008,021 |
| **J** | SH 35 16" Water Line - FM 518 to Clear Creek | | | | $ 1,399,492 | $ - | $ 618,061 | $ 781,431 | $ 309,031 |
| **K** | Dixie Farm Rd 16" Water Line | | | | $ 2,066,461 | $ - | $ 1,278,247 | $ 788,214 | $ 639,124 |
| **L** | Impact Fee Study | | | | $ 37,050 | $ - | $ 37,050 | $ - | $ 18,525 |
| **M** | Purchase 10 MGD from City of Houston | | | | $ 26,809,000 | $ - | $ 18,589,402 | $ 8,219,598 | $ 9,294,701 |
| **N** | McHard Surface Water Connection & Line | | | | $ 406,281 | $ - | $ 166,716 | $ 239,565 | $ 83,358 |
| **O** | Far Northwest Water Plant (Phase 1) | | | | $ 1,664,480 | $ - | $ 681,442 | $ 983,038 | $ 340,721 |
| **P** | Far Northwest Water Plant Expansion (Phase 2) | | | | $ 2,158,024 | $ - | $ 2,158,024 | $ - | $ 1,079,012 |
| **Q** | Kingsley 20" Water Line - Broadway to Trinity Bay | | | | $ 198,750 | $ - | $ - | $ - | $ - |
| **R** | Hawk Road 12" Water Line | | | | $ 63,624 | $ - | $ 63,624 | $ - | $ 31,812 |
| **S** | Pearland Pkwy 12" Water Line Extension | | | | $ 502,100 | $ - | $ 502,100 | $ - | $ 251,050 |
| **Existing Project Sub-Total** | | | | | **$ 78,052,942** | **$ -** | **$ 57,594,502** | **$ 20,259,690** | **$ 28,797,251** |
| **PROPOSED 10-YEAR PROJECTS** | | | | | | | | | |
| **1** | SH 35 16" Water Line - FM 518 to Magnolia[3] | 0% | 100% | 100% | $ 2,042,000 | $ - | $ 2,042,000 | $ - | $ 1,021,000 |
| **2** | Veterans Drive 12" Water Line | 0% | 100% | 100% | $ 460,200 | $ - | $ 460,200 | $ - | $ 230,100 |
| **3** | 1.0 MG Elevated Storage Tank at Riley Rd & Kirby Dr. | 0% | 100% | 100% | $ 3,856,500 | $ - | $ 3,856,500 | $ - | $ 1,928,250 |
| **4** | CR 94 12" Water Line[3] | 0% | 100% | 100% | $ 859,200 | $ - | $ 859,200 | $ - | $ 429,600 |
| **5** | FM 521 16" Water Line[3] | 0% | 100% | 100% | $ 1,596,200 | $ - | $ 1,596,200 | $ - | $ 798,100 |
| **6** | Fellows Rd. 12" Water Line[3] | 0% | 100% | 100% | $ 2,711,500 | $ - | $ 2,711,500 | $ - | $ 1,355,750 |
| **7** | 10 MGD Surface Water Treatment Plant (Phase 1)[3] | 0% | 46% | 46% | $ 68,237,400 | $ - | $ 31,436,067 | $ 36,801,333 | $ 15,718,033 |
| **8** | FM 1128 16" Water Line[3] | 0% | 100% | 100% | $ 1,191,400 | $ - | $ 1,191,400 | $ - | $ 595,700 |
| **9** | CR 100 16" Water Line(3) | 0% | 100% | 100% | $ 2,816,400 | $ - | $ 2,816,400 | $ - | $ 1,408,200 |
| **10** | Harkey Rd. & CR 128 12" Water Lines[3] | 0% | 100% | 100% | $ 2,179,900 | $ - | $ 2,179,900 | $ - | $ 1,089,950 |
| **11** | Veterans Dr. 16" Water Line - Bailey Rd to CR 128[3] | 0% | 100% | 100% | $ 2,523,800 | $ - | $ 2,523,800 | $ - | $ 1,261,900 |
| **12** | CR 48 North 30" & 20" Water Line | 0% | 100% | 100% | $ 4,286,700 | $ - | $ 4,286,700 | $ - | $ 2,143,350 |
| **13** | CR 59 20" Water Line | 0% | 100% | 100% | $ 3,088,400 | $ - | $ 3,088,400 | $ - | $ 1,544,200 |
| **14** | Far Northwest Water Plant Expansion (Phase 3) | 0% | 100% | 100% | $ 2,400,700 | $ - | $ 2,400,700 | $ - | $ 1,200,350 |
| **Proposed 10-Year Project Sub-Total** | | | | | **$ 98,250,300** | **$ -** | **$ 61,448,967** | **$ 36,801,333** | **$ 30,724,483** |

[1] Utilization in 2012 on Proposed Projects incudes a portion of the project that will be used to address deficiencies within the existing system, and therefore are not eligible for impact fee cost recovery for future growth.

[2] For existing projects, the project cost may be distributed over a 20-year or longer period by the issuance of bonds to support the projects. When that is the case, the amount of the actual distribution of bond indebtedness is used in the impact fee calculations. For proposed 10-year projects, no debt issuance is assumed.

[3] Project is in the City of Pearland FY 2013 - 2017 CIP.

**Table 3.5**
**Existing and Proposed Water System Improvements 2012-2022**
**City of Pearland**

| No. | Description of Project | Percent Utilization[1] | | | Cost Based on 2012 Dollars | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2012 | 2022 | 2012-2022 | Project Cost | Current Development | 10-Year (2012-2022) | Beyond 2022[2] | Impact Fee Eligible Cost |
| **PROPOSED PROJECTS BEYOND 10-YEAR PERIOD** | | | | | | | | | |
| **15** | Purchase 5 MGD from City of Houston | | | | $ 22,000,000 | $ - | $ - | $ 22,000,000 | $ - |
| **16** | 0.5 MG Elevated Storage Tank at Garden Road Water Plant | | | | $ 1,645,000 | $ - | $ - | $ 1,645,000 | $ - |
| **17** | Bailey Road 24" Water Line - Veterans Drive to FM 1128 | | | | $ 5,142,900 | $ - | $ - | $ 5,142,900 | $ - |
| **18** | Bailey Road 24" Water Line - FM 1128 to CR 48 | | | | $ 9,691,000 | $ - | $ - | $ 9,691,000 | $ - |
| **19** | State Highway 35 12" Water Line | | | | $ 1,297,800 | $ - | $ - | $ 1,297,800 | $ - |
| **20** | Hughes Ranch & Stone Road 12" Water Line | | | | $ 1,265,900 | $ - | $ - | $ 1,265,900 | $ - |
| **21** | Broadway (FM 518) 16" Water Line | | | | $ 2,824,500 | $ - | $ - | $ 2,824,500 | $ - |
| **22** | Far East Water Plant, Elevated Storage & 12" Water Lines | | | | $ 12,116,500 | $ - | $ - | $ 12,116,500 | $ - |
| **23** | Alice Water Plant Expansion (Phase 2) | | | | $ 3,266,300 | $ - | $ - | $ 3,266,300 | $ - |
| **24** | Roy Road 12" Water Line | | | | $ 1,434,800 | $ - | $ - | $ 1,434,800 | $ - |
| **25** | FM 521 & Riley Road 12" Water Lines | | | | $ 2,209,400 | $ - | $ - | $ 2,209,400 | $ - |
| **26** | CR 129 & CR 127 12" Water Lines | | | | $ 1,981,700 | $ - | $ - | $ 1,981,700 | $ - |
| **27** | Hastings Cannon Road (CR 128) 12" Water Line | | | | $ 2,166,300 | $ - | $ - | $ 2,166,300 | $ - |
| **28** | Hastings Field Road 16" Water Line | | | | $ 2,262,300 | $ - | $ - | $ 2,262,300 | $ - |
| **29** | CR 59 & CR 564 12" & 16" Water Lines | | | | $ 2,598,000 | $ - | $ - | $ 2,598,000 | $ - |
| **30** | CR 564 12" Water Line - CR 59 to Broadway | | | | $ 929,200 | $ - | $ - | $ 929,200 | $ - |
| **31** | 1.0 MG Elevated Storage Tank at Dixie Farm & FM 518 | | | | $ 2,935,800 | $ - | $ - | $ 2,935,800 | $ - |
| **Proposed Projects Beyond 10-Year Period Sub-Total** | | | | | $ 53,767,400 | $ - | $ - | $ 53,767,400 | $ - |
| **Total Cost** | | | | | **$ 230,070,642** | **$ -** | **$ 119,043,469** | **$ 110,828,423** | **$ 59,521,734** |

DRAFT FIGURE 3.1

# CITY OF PEARLAND

## CAPITAL IMPROVEMENTS PLAN FOR WATER IMPACT FEE, FEBRUARY 2013

### LEGEND

- 2022 Water Plant Improvement
- 2022 Ground Storage Tank Improvement
- 2022 Elevated Storage Tank Improvement
- 2032 Well Improvement
- 2032 Water Plant Improvement
- 2032 Ground Storage Tank Improvement
- 2032 Elevated Storage Tank Improvement
- Water Plant
- Ground Storage Tank
- Elevated Storage Tank
- Existing/In Design Impact Fee Eligible Water Line
- 2022 Water Line Improvement
- 2032 Water Line Improvement
- 8" and Smaller Water Line
- 10" and Larger Water Line
- Street
- Railroad
- Stream
- Lake
- Parcel
- Outside City Limit but Inside Service Area
- Within City Limit but Outside Service Area
- City Limit
- County Boundary

**Shadow Creek Water Plant**
3.20 MG Ground Storage Tank
(5) - 2,000 GPM Booster Pumps
Proposed Expansion

**Proposed 1.0 MG Elevated Storage Tank**

**Country Place Water Plant**
0.50 MG Ground Storage Tank
(2) - 1,000 GPM Booster Pumps
(1) - 650 GPM Booster Pump

**Southdown Water Plant**
0.50 MG Ground Storage Tank
(3) - 1,000 GPM Booster Pumps

**Cullen Blvd. Water Plant**
1.00 MG Elevated Storage Tank
0.60 MG Ground Storage Tank
(3) - 2,100 GPM Booster Pumps

**Kirby Water Plant**
1.0 MG Elevated Storage Tank
1.0 MG Ground Storage Tank
(3) - 1,800 GM Booster Pumps
Expansion Complete

**Proposed**
**Water Treatment Plant**
Property Acquisition and Sand Pit Stabilization

**Garden Road Water Plant**
0.46 MG Ground Storage Tank
(3) - 800 GPM Booster Pumps
Proposed 0.5 MG Elevated Storage Tank

**Old City Hall Water Plant**
0.33 MG Ground Storage Tank
(2) - 500 GPM Booster Pumps

**McLean Water Plant**
0.50 MG Elevated Storage Tank
0.43 MG Ground Storage Tank
(3) - 600 GPM Booster Pumps

**Magnolia Water Plant**
0.46 MG Ground Storage Tank
(3) - 900 GPM Booster Pumps

**Alice Water Plant**
0.50 MG Elevated Storage Tank
5.0 MG Ground Storage Tank
(3) - 3,500 GPM Booster Pumps
Proposed Expansion (2032)

**Green Tee Water Plant**
0.21 MG Ground Storage Tank
(2) - 500 GPM Booster Pumps

**Liberty Road Water Plant**
0.5 MG Elevated Storage Tank
0.46 MG Ground Storage Tank
(3) - 1,000 GPM Booster Pumps

**Mary's Creek Water Plant**
0.46 MG Ground Storage Tank
(3) - 600 GPM Booster Pumps
Proposed 1.0 MG Elevated Storage Tank

**Proposed Far East Water Plant and Elevated Storage Tank**

**Southeast Water Plant**
1.0 MG Elevated Storage Tank
1.0 MG Ground Storage Tank
(3) - 2,100 GPM Booster Pumps

0 2,500 5,000
SCALE IN FEET

Created By: Freese and Nichols, Inc.
Job No.: PRL12231
Location: H:\W_WW_PLANNING\GIS LIVERABLES\02_Impact_Fee_CIP\v3\Figure-3.1)-Water_IF_CIP.mxd
Updated: Monday, January 28, 2013 9:32:48 AM

# 4.0 WASTEWATER SYSTEM CAPITAL IMPROVEMENTS PLAN

Wastewater system impact fee capital improvements were provided by the City of Pearland. These recommended improvements will ensure that the City of Pearland can handle projected wastewater flows resulting from residential and commercial growth through the year 2022 while maintaining high quality service.

## 4.1 Existing System

There are currently five wastewater treatment plants in the City of Pearland: JHEC, Longwood, Barry Rose, Far Northwest & Southdown. The location of each wastewater treatment plant can be seen on **Figure 4.1** and the current permitted capacity is shown in **Table 4.1**. The current total capacity of the plants is 11.55 million gallons per day.

**Table 4.1 Existing Wastewater Treatment Facilities**

| Wastewater Plant | Permitted Plant Capacity (MGD) |
|---|---|
| Barry Rose | 3.1 |
| Longwood | 2.5 |
| JHEC | 4.0 |
| Southdown | 0.95 |
| Far Northwest | 2.0 |
| **Total** | **11.55** |

**Table 4.2** details the monthly wastewater flows seen at each of the five wastewater treatment plants since 2008.

**Table 4.2 Wastewater Flow to each WWTP in Million Gallons (2007 – 2011)**

| | JHEC WWTP | | | | | Longwood WWTP | | | | | Barry Rose WWTP | | | | | Far Northwest WWTP | | | | | Southdown WWTP | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Month** | **2008** | **2009** | **2010** | **2011** | **2012** | **2008** | **2009** | **2010** | **2011** | **2012** | **2008** | **2009** | **2010** | **2011** | **2012** | **2008** | **2009** | **2010** | **2011** | **2012** | **2008** | **2009** | **2010** | **2011** | **2012** |
| January | 47 | 38 | 73 | 57 | 60 | 65 | 44 | 52 | 47 | 39 | 74 | 43 | 39 | 53 | 34 | 19 | 18 | 26 | 36 | 41 | 17 | 15 | 16 | 15 | 12 |
| February | 41 | 32 | 75 | 41 | 76 | 57 | 44 | 54 | 36 | 44 | 57 | 39 | 43 | 37 | 31 | 17 | 17 | 27 | 31 | 42 | 16 | 13 | 16 | 11 | 16 |
| March | 38 | 36 | 59 | 43 | 80 | 64 | 43 | 47 | 36 | 45 | 63 | 43 | 33 | 38 | 41 | 16 | 20 | 27 | 35 | 46 | 19 | 14 | 15 | 12 | 16 |
| April | 40 | 97 | 53 | 43 | 65 | 48 | 74 | 41 | 38 | 35 | 40 | 59 | 26 | 36 | 30 | 16 | 23 | 24 | 34 | 43 | 14 | 18 | 15 | 12 | 14 |
| May | 42 | 79 | 55 | 43 | 68 | 50 | 51 | 44 | 38 | 42 | 42 | 34 | 27 | 35 | 31 | 17 | 23 | 25 | 35 | 45 | 14 | 14 | 15 | 13 | 16 |
| June | 43 | 36 | 56 | 53 | 49 | 56 | 49 | 45 | 36 | 46 | 47 | 39 | 26 | 22 | 28 | 18 | 21 | 25 | 37 | 43 | 14 | 13 | 15 | 11 | 13 |
| July | 42 | 39 | 81 | 56 | 58 | 51 | 50 | 69 | 36 | 72 | 39 | 40 | 57 | 22 | 53 | 17 | 23 | 33 | 37 | 50 | 14 | 14 | 18 | 12 | 15 |
| August | 45 | 51 | 46 | 57 | 48 | 57 | 44 | 40 | 33 | 60 | 55 | 45 | 34 | 22 | 43 | 19 | 25 | 28 | 37 | 40 | 15 | 14 | 14 | 14 | 13 |
| September | 45 | 44 | 52 | 53 | 49 | 56 | 41 | 44 | 30 | 59 | 34 | 38 | 37 | 21 | 40 | 20 | 25 | 33 | 34 | 43 | 15 | 14 | 14 | 12 | 14 |
| October | 42 | 64 | 47 | 58 | 48 | 43 | 64 | 35 | 33 | 56 | 48 | 58 | 29 | 27 | 37 | 21 | 31 | 33 | 38 | 42 | 14 | 16 | 13 | 13 | 13 |
| November | 42 | 50 | 51 | 54 | 45 | 48 | 44 | 41 | 31 | 54 | 54 | 39 | 35 | 26 | 36 | 20 | 25 | 34 | 35 | 39 | 15 | 14 | 12 | 13 | 13 |
| December | 39 | 88 | 54 | 63 | 51 | 45 | 68 | 43 | 39 | 67 | 46 | 64 | 40 | 33 | 45 | 20 | 29 | 34 | 40 | 46 | 15 | 17 | 13 | 13 | 14 |
| **Total** | **506** | **654** | **704** | **622** | **698** | **640** | **615** | **555** | **432** | **617** | **598** | **541** | **426** | **372** | **445** | **220** | **280** | **347** | **428** | **520** | **179** | **173** | **175** | **153** | **170** |
| Daily Average | 1.39 | 1.79 | 1.93 | 1.70 | 1.91 | 1.75 | 1.69 | 1.52 | 1.18 | 1.69 | 1.64 | 1.48 | 1.17 | 1.02 | 1.22 | 0.60 | 0.77 | 0.95 | 1.17 | 1.42 | 0.49 | 0.47 | 0.48 | 0.42 | 0.47 |
| Permitted Capacity | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| 3-mo Avg Permitted Capacity | 37% | 44% | 40% | **47%** | **61%** | 83% | 78% | 70% | **53%** | **84%** | 70% | 58% | 46% | **46%** | **48%** | 34% | 47% | 56% | **63%** | **77%** | 60% | 54% | 55% | **47%** | **54%** |

The TCEQ provides design criteria to be used as minimum guidelines for wastewater collection, treatment, and disposal systems. As part of the permitting requirements, whenever flow measurement for any wastewater treatment plant reaches 75% of the permitted average flow for three consecutive months, design for expansion or upgrading the facility should be initiated. TCEQ recommends that the expansion be under construction when the plant reaches 90% of permitted average flow. The Far Northwest and the Longwood plants exceeded the threshold of 75% of permitted average flow in 2012 and it is recommended to begin design for expansion or diversion of those facilities.

**Table 4.3** summarizes the 2007 to 2012 total wastewater flows to all treatment plants. The flows shown include some infiltration and inflow (I & I) entering the collection system.

**Table 4.3 Total Wastewater Flow in Million Gallons (2007 – 2011)**

| Month | Wastewater Flow (MG) | | | | | |
|---|---|---|---|---|---|---|
| | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** |
| January | 232 | 222 | 159 | 205 | 207 | 186 |
| February | 154 | 188 | 144 | 216 | 156 | 210 |
| March | 202 | 201 | 156 | 181 | 165 | 227 |
| April | 183 | 156 | 271 | 159 | 163 | 186 |
| May | 191 | 165 | 200 | 166 | 164 | 201 |
| June | 183 | 177 | 159 | 167 | 158 | 179 |
| July | 268 | 162 | 166 | 258 | 164 | 248 |
| August | 183 | 191 | 179 | 162 | 162 | 204 |
| September | 181 | 169 | 161 | 179 | 151 | 204 |
| October | 160 | 168 | 233 | 156 | 169 | 196 |
| November | 169 | 179 | 170 | 173 | 159 | 186 |
| December | 156 | 164 | 265 | 185 | 189 | 178 |
| **Total** | **2,262** | **2,142** | **2,263** | **2,207** | **2,007** | **2,405** |
| Daily Average | 6.20 | 5.87 | 6.20 | 6.05 | 5.50 | 6.59 |
| Impact Fee Eligible Population[(1)] | 73,937 | 79,875 | 84,451 | 87,764 | 90,612 | 95,023 |
| Average Flow (gpcd) | 84 | 73 | 73 | 69 | 61 | 69 |

(1) Total population estimate reduced by MUD 1 and increased by MUD 16 populations. MUD 16 has 31 fewer wastewater connections than water connections.

Based on the average flows shown in **Table 4.3** and an estimated impact fee eligible population of 95,023 in 2012, the per capita wastewater flow is 69 gallons per capita per day (gpcd). This average flow has ranged from 61 to 84 gpcd.

## 4.2 Wastewater System Projections

The population and land use data was used to develop future wastewater flows based on the average day per connection flow history and TCEQ requirements. A per capita of 100 gpcd was used to project future wastewater flows. **Table 4.4** presents the existing and projected wastewater flows for the City versus system capacity.

**Table 4.4 System Capacity and Projected Wastewater Flows**

| | Required Capacity (gallons) | | | Current Capacity | Excess or (Deficient) Capacity | | |
|---|---|---|---|---|---|---|---|
| | 2012 | 2017 | 2022 | 2012 | 2012 | 2017 | 2022 |
| Impact Fee Eligible Population[1,2] | **95,023** | **112,138** | **127,677** | - | - | - | - |
| Impact Fee Eligible Connections[2] | 33,355 | 42,239 | 48,778 | - | - | - | - |
| Impact Fee Eligible Equivalent Service Units[3] | 37,460 | 49,943 | 58,878 | - | - | - | - |
| Equivalent Persons/ Service Unit[4] | 2.5 | 2.4 | 2.3 | | | | |
| Wastewater Flow Rate Per Person Per Day (gpcd) | 100 | 100 | 100 | | | | |
| Wastewater Flow Rate Per Service Unit Per Day | 250 | 240 | 230 | | | | |
| **Total Wastewater Flow (MGD)** | **9.36** | **11.99** | **13.54** | **11.55** | **2.19** | **(0.44)** | **(1.99)** |

(1) Total estimate reduced by MUD 1 and increased by MUD 16 populations/connections.
(2) MUD 16 has 31 fewer wastewater connections than water connections.
(3) Based on factors developed in the 2007 Impact Fee Report Service Unit Equivalents (S.U.E.).
(4) The equivalent persons/service unit decreases due to the large projected increase in commercial connections. The equivalent persons/service unit was reduced by 0.1 every 5 years.

## 4.3 Wastewater Capital Improvements Plan

A summary of the costs for each of the projects required for the 10-year growth period used in the impact fee analysis for the wastewater system is shown in **Table 4.5**. The costs listed for the existing projects are based on actual design and construction costs provided by the City. **Table 4.5** shows the 2012 percent utilization as the portion of a project's capacity required to serve existing development. This portion of the project cost is not included in the impact fee analysis. The 2022 percent utilization is the portion of the project's capacity that will be required to serve the City of Pearland in 2022. The 2012-2022 percent utilization is the portion of the project's capacity required to serve development from 2012 to 2022. The portion of a project's total cost that is used to serve development projected to occur from 2012 through 2022 is calculated as the total actual cost multiplied by the 2012-2022 percent utilization. Only this portion of the cost is used in the impact fee analysis. The proposed 10-year wastewater system projects are shown on **Figure 4.1**. Individual descriptions and cost tables for each project can be found in **Appendix E**.

**Table 4.5**
**Existing and Proposed Wastewater System Improvements 2012-2022**
**City of Pearland**

| No. | Description of Project | Percent Utilization[1] | | | Cost Based on 2012 Dollars | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2012 | 2022 | 2012-2022 | Project Cost | Current Development | 10-Year (2012-2022) | Beyond 2022[2] | Impact Fee Eligible Cost |
| **EXISTING PROJECTS** | | | | | | | | | |
| **A** | JHEC WWTP 1.65 MGD Expansion | | | | $ 19,940,189 | $ - | $ 21,576,337 | $ - | $ 10,788,169 |
| **B** | Magnolia Corridor Trunk Sewer | | | | $ 3,542,778 | $ - | $ 2,894,933 | $ 647,845 | $ 1,447,467 |
| **C** | SH 35 30" Trunk Sewer | | | | $ 4,935,371 | $ - | $ 3,265,208 | $ 1,670,163 | $ 1,632,604 |
| **D** | BW 8 / SH 288 12" FM and Sanitary Sewer Line | | | | $ 1,884,600 | $ - | $ 1,884,600 | $ - | $ 942,300 |
| **E** | SH 35 18" Sewer - Broadway to Clear Creek | | | | $ 3,783,813 | $ - | $ 10,084,807 | $ - | $ 5,042,404 |
| **F** | Veterans Dr 27" Sewer - Wells to Bailey Rd | | | | $ 530,470 | $ - | $ 530,470 | $ - | $ 265,235 |
| **G** | Shadow Creek Parkway Trunk Sewer (Phase 1) | | | | $ 1,040,282 | $ - | $ 609,620 | $ 430,662 | $ 304,810 |
| **H** | Far Northwest WWTP (Phase 1) | | | | $ 10,000,000 | $ - | $ 11,200,625 | $ - | $ 5,600,313 |
| **I** | Shadow Creek Parkway Trunk Sewer (Phase 2) | | | | $ 980,718 | $ - | $ 584,219 | $ 396,499 | $ 292,110 |
| **J** | Barry Rose WWTP Expansion | | | | $ 609,914 | $ - | $ 365,772 | $ 244,142 | $ 182,886 |
| **K** | Longwood WWTP Expansion | | | | $ 1,879,431 | $ - | $ 1,137,956 | $ 741,475 | $ 568,978 |
| **L** | Impact Fee Study | | | | $ 37,050 | $ - | $ 37,050 | $ - | $ 18,525 |
| **Existing Project Sub-Total** | | | | | **$ 49,164,616** | **$ -** | **$ 54,171,597** | **$ 4,130,786** | **$ 27,085,799** |
| **PROPOSED 10-YEAR PROJECTS** | | | | | | | | | |
| **1** | Broadway 12" Sanitary Sewer - Liberty to Pirate's Cove[3] | 0% | 100% | 100% | $ 181,000 | $ - | $ 181,000 | $ - | $ 90,500 |
| **2** | Barry Rose WWTP 1.4 MGD Expansion[3] | 0% | 32% | 32% | $ 14,166,700 | $ - | $ 4,535,048 | $ 9,631,652 | $ 2,267,524 |
| **3** | Riverstone Ranch Lift Station & Sanitary Sewer | 0% | 100% | 100% | $ 749,400 | $ - | $ 749,400 | $ - | $ 374,700 |
| **4** | Roy/Max/Garden Roads Basin Sewage System[3] | 0% | 100% | 100% | $ 2,445,700 | $ - | $ 2,445,700 | $ - | $ 1,222,850 |
| **5** | Southdown WWTP Expansion or Diversion[3] | 55%[4] | 75% | 20% | $ 12,592,500 | $ 6,925,875 | $ 2,508,249 | $ 3,158,376 | $ 1,254,125 |
| **6** | Veterans Drive Lift Station Service Area[3] | 0% | 50% | 50% | $ 7,764,200 | $ - | $ 3,882,100 | $ 3,882,100 | $ 1,941,050 |
| **7** | Far Northwest WWTP Expansion [ Cost Sharing] | 0% | 45% | 45% | $ 25,185,000 | $ - | $ 11,287,121 | $ 13,897,879 | $ 5,643,560 |
| **8** | McHard Road Trunk Sewer[3] | 0% | 100% | 100% | $ 1,661,700 | $ - | $ 1,661,700 | $ - | $ 830,850 |
| **9** | Cullen to WWTP Trunk Sewer | 0% | 100% | 100% | $ 2,715,200 | $ - | $ 2,715,200 | $ - | $ 1,357,600 |
| **10** | JHEC WWTP 2.0 MGD Expansion (Phase 3)[3] | 0% | 22% | 22% | $ 25,185,000 | $ - | $ 5,643,560 | $ 19,541,440 | $ 2,821,780 |
| **Proposed 10-Year Project Sub-Total** | | | | | **$ 92,646,400** | **$ 6,925,875** | **$ 35,609,078** | **$ 50,111,447** | **$ 17,804,539** |
| **PROPOSED PROJECTS BEYOND 10-YEAR PERIOD** | | | | | | | | | |
| **11** | Harkey Road Trunk Sewer South of Ravenwood | | | | $ 10,308,300 | $ - | $ - | $ 10,308,300 | $ - |
| **12** | Dixie Farm - SH 35 Trunk Sewer | | | | $ 3,895,200 | $ - | $ - | $ 3,895,200 | $ - |
| **13** | Miller Ranch Road Lift Station & Collection System | | | | $ 2,817,500 | $ - | $ - | $ 2,817,500 | $ - |
| **14** | Far Northwest WWTP Expansion (Phase 3) | | | | $ 25,185,000 | $ - | $ - | $ 25,185,000 | $ - |
| **Proposed Projects Beyond 10-Year Period Sub-Total** | | | | | | **$ -** | **$ -** | **$ 42,206,000** | **$ -** |
| **Total Cost** | | | | | | **$ 6,925,875** | **$ 89,780,675** | **$ 96,448,233** | **$ 44,890,338** |

[1] Utilization in 2012 on Proposed Projects includes a portion of the project that will be used to address deficiencies within the existing system, and therefore are not eligible for impact fee cost recovery for future growth.

[2] For existing projects, the project cost may be distributed over a 20-year or longer period by the issuance of bonds to support the projects. When that is the case, the amount of the actual distribution of bond indebtedness is used in the impact fee calculations. For proposed 10-year projects, no debt issuance is assumed.

[3] Project is in the City of Pearland FY 2013 - 2017 CIP.

[4] A portion (55%) of the Southdown WWTP Expansion or Diversion will address existing deficencies in the system and is not impact fee eligible.

DRAFT FIGURE 4.1

# CITY OF PEARLAND

## CAPITAL IMPROVEMENTS PLAN FOR WASTEWATER IMPACT FEE, FEBRUARY 2013

**Beltway 8 and State Highway 288**
Sewer Improvements

**Far Northwest WWTP**
Permitted Capacity = 2.0 MGD
Proposed 2.0 MG Expansion (2022)
Proposed 2.0 MG Expansion (2032)

**Southdown WWTP**
Permitted Capacity = 0.95 MGD
Proposed 1.0 MGD Expansion and Replacement (2022)

**Barry Rose WWTP**
Permitted Capacity = 3.1 MGD
Proposed 1.4 MGD Expansion (2022)

**State Highway 35 & Industrial**
Sanitary Sewer and Lift Station Improvements

**JHEC WWTP**
Permitted Capacity = 4.0 MGD
Expansion from 4.0 MGD to 6.0 MGD
Proposed 2.0 MGD Expansion (2022)

**Longwood WWTP**
Permitted Capacity = 2.5 MGD

### LEGEND

- Wastewater Treatment Plant
- Existing Impact Fee Eligible Lift Station
- 2022 Wastewater Treatment Plant Improvement
- 2022 Lift Station Improvement
- 2032 Wastewater Treatment Plant Improvement
- 2032 Lift Station Improvement
- Existing Lift Station
- Existing/In Design Impact Fee Eligible Wastewater Line
- Existing/In Design Impact Fee Eligible Force Main
- 2022 Wastewater Line Improvement
- 2032 Wastewater Line Improvement
- 2032 Force Main Improvement
- Existing Force Main
- Existing 8" and Smaller Wastewater Line
- Existing 10" and Larger Wastewater Line
- Street
- Railroad
- Stream
- Index Contour (25 ft)
- Intermediate Contour (5 ft)
- Lake
- Parcel
- Outside City Limit but Inside Service Area
- Within City Limit but Outside Service Area
- City Limit
- County Boundary

### SERVICE AREAS

- Barry Rose
- Barry Rose & JHEC
- Far Northwest
- Longwood
- MUD 1
- Southdown
- JHEC

0 2,500 5,000
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: PRL12291
Location: H:\W_WW_PLANNING\DELIVERABLES\02_Impact_Fee_CIP\v7\Figure 4.1) Wastewater_IF_CIP.mxd
Updated: Monday, January 28, 2013 9:42:04 AM

# 5.0 IMPACT FEE ANALYSIS

The impact fee analysis involves determining the utilization of existing and proposed projects required as defined by the capital improvement plan to serve new development over the next 10-year time period. For existing or proposed projects, the impact fee is calculated as a percentage of the project cost, based upon the percentage of the project's capacity required to serve development projected to occur between 2012 and 2022. Capacity serving existing development and development projected for more than 10 years in the future cannot be charged to impact fees.

## 5.1 Maximum Impact Fee Determination

Chapter 395 of the Texas Local Government Code states that the maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements required by the total number of service units attributed to new development during the impact fee eligibility period.

Chapter 395 also requires that the impact fee, actually charged, be either discounted 50% from the computed maximum fee or establish a reimbursement method for ad valorem tax and utility service revenues generated and take a credit for any debt payment included in the CIP.

The City of Pearland has historically used the 50% credit option due to the complexity of tracking impact fees and the implementation of the required reimbursement method. For these reasons, the 50% credit option was used for this study.

The City of Pearland has previously separated the impact fees for the City and the Shadow Creek development. Because the Shadow Creek and City systems have become so interconnected, the City opted to combine the impact fee for this 2012 update.

The total projected costs include the projected capital improvement costs to serve 10-year development, the projected finance cost for the capital improvements, and the consultant cost for preparing and updating the Capital Improvements Plan. **Table 5.1** summarizes the water and wastewater impact fee calculation.

**Table 5.1 Water & Wastewater Impact Fee Calculation**

| | |
|---|---|
| **Water Impact Fee** | |
| Total Eligible Capital Improvement Costs | $119,043,469 |
| Total Eligible Costs with Credit[(1)] | $59,521,734 |
| Growth in Service Units | 21,418 |
| **Maximum Water Impact Fee per Service Unit[(2)]:** | **$2,779** |
| | |
| **Wastewater Impact Fee** | |
| Total Eligible Capital Improvement Costs | $89,780,675 |
| Total Eligible Costs with Credit[(1)] | $44,890,338 |
| Growth in Service Units | 21,418 |
| **Maximum Wastewater Impact Fee per Service Unit[(2)]:** | **$2,096** |
| | |
| **Total Water & Wastewater Impact Fee:** | **$4,875** |

[(1)] 50% of Total Capital Improvement Costs
[(2)] Total Eligible Costs/Growth in Service Units

# APPENDIX A:
# Chapter 395, Texas Local Government Code

# CHAPTER 395. FINANCING CAPITAL IMPROVEMENTS REQUIRED BY NEW DEVELOPMENT IN MUNICIPALITIES, COUNTIES, AND CERTAIN OTHER LOCAL GOVERNMENTS

## SUBCHAPTER A. GENERAL PROVISIONS

### § 395.001. Definitions

In this chapter:

(1) "Capital improvement" means any of the following facilities that have a life expectancy of three or more years and are owned and operated by or on behalf of a political subdivision:

(A) water supply, treatment, and distribution facilities; wastewater collection and treatment facilities; and storm water, drainage, and flood control facilities; whether or not they are located within the service area; and

(B) roadway facilities.

(2) "Capital improvements plan" means a plan required by this chapter that identifies capital improvements or facility expansions for which impact fees may be assessed.

(3) "Facility expansion" means the expansion of the capacity of an existing facility that serves the same function as an otherwise necessary new capital improvement, in order that the existing facility may serve new development. The term does not include the repair, maintenance, modernization, or expansion of an existing facility to better serve existing development.

(4) "Impact fee" means a charge or assessment imposed by a political subdivision against new development 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. The term includes amortized charges, lump-sum charges, capital recovery fees, contributions in aid of construction, and any other fee that functions as described by this definition. The term does not include:

(A) dedication of land for public parks or payment in lieu of the dedication to serve park needs;

(B) dedication of rights-of-way or easements or construction or dedication of on-site or off-site water distribution, wastewater collection or drainage facilities, or streets, sidewalks, or curbs if the dedication or construction is required by a valid ordinance and is necessitated by and attributable to the new development;

(C) lot or acreage fees to be placed in trust funds for the purpose of reimbursing developers for oversizing or constructing water or sewer mains or lines; or

(D) other pro rata fees for reimbursement of water or sewer mains or lines extended by the political subdivision.

However, an item included in the capital improvements plan may not be required to be constructed except in accordance with Section 395.019(2), and an owner may not be required to construct or dedicate facilities and to pay impact fees for those facilities.

(5) "Land use assumptions" includes a description of the service area and projections of changes in land uses, densities, intensities, and population in the service area over at least a 10-year period.

(6) "New development" means the subdivision of land; the construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure; or any use or extension of the use of land; any of which increases the number of service units.

(7) "Political subdivision" means a municipality, a district or authority created under Article III, Section 52, or Article XVI, Section 59, of the Texas Constitution, or, for the purposes set forth by Section 395.079, certain counties described by that section.

(8) "Roadway facilities" means arterial or collector streets or roads that have been designated on an officially adopted roadway plan of the political subdivision, together with all necessary appurtenances. The term includes the political subdivision's share of costs for roadways and associated improvements designated on the federal or Texas highway system, including local matching funds and costs related to utility line relocation and the establishment of curbs, gutters, sidewalks, drainage appurtenances, and rights-of-way.

(9) "Service area" means the area within the corporate boundaries or extraterritorial jurisdiction, as determined under Chapter 42, of the political subdivision to be served by the capital improvements or facilities expansions specified in the capital improvements plan, except roadway facilities and storm water, drainage, and flood control facilities. The service area, for the purposes of this chapter, may include all or part of the land within the political subdivision or its extraterritorial jurisdiction, except for roadway facilities and storm water, drainage, and flood control facilities. For roadway facilities, the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six miles. For storm water, drainage, and flood control facilities, the service area may include all or part of the land within the political subdivision or its extraterritorial jurisdiction, but shall not exceed the area actually served by the storm water, drainage, and flood control facilities designated in the capital improvements plan and shall not extend across watershed boundaries.

(10) "Service unit" means a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards 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.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989. Amended by Acts 1989, 71st Leg., ch. 566, § 1(e), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 1, eff. Sept. 1, 2001.

## SUBCHAPTER B. AUTHORIZATION OF IMPACT FEE

### § 395.011. Authorization of Fee

(a) Unless otherwise specifically authorized by state law or this chapter, a governmental entity or political subdivision may not enact or impose an impact fee.

(b) Political subdivisions may enact or impose impact fees on land within their corporate boundaries or extraterritorial jurisdictions only by complying with this chapter, except that impact fees may not be enacted or imposed in the extraterritorial jurisdiction for roadway facilities.

(c) A municipality may contract to provide capital improvements, except roadway facilities, to an area outside its corporate boundaries and extraterritorial jurisdiction and may charge an impact fee under the contract, but if an impact fee is charged in that area, the municipality must comply with this chapter.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

### § 395.012. Items Payable by Fee

(a) An impact fee may be imposed only to pay the costs of constructing capital improvements or facility expansions, including and limited to the:

(1) construction contract price;

(2) surveying and engineering fees;

(3) land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and

(4) fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the capital improvements plan who is not an employee of the political subdivision.

(b) Projected interest charges and other finance costs may be included in determining the amount of impact fees only if the impact fees are used for the payment of principal and interest on bonds, notes, or other obligations issued by or on behalf of the political subdivision to finance the capital improvements or facility expansions identified in the capital improvements plan and are not used to reimburse bond funds expended for facilities that are not identified in the capital improvements plan.

(c) Notwithstanding any other provision of this chapter, the Edwards Underground Water District or a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may use impact fees to pay a staff engineer who prepares or updates a capital improvements plan under this chapter.

(d) A municipality may pledge an impact fee as security for the payment of debt service on a bond, note, or other obligation issued to finance a capital improvement or public facility expansion if:

(1) the improvement or expansion is identified in a capital improvements plan; and

(2) at the time of the pledge, the governing body of the municipality certifies in a written order, ordinance, or resolution that none of the impact fee will be used or expended for an improvement or expansion not identified in the plan.

(e) A certification under Subsection (d)(2) is sufficient evidence that an impact fee pledged will not be used or expended for an improvement or expansion that is not identified in the capital improvements plan.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989. Amended by Acts 1995, 74th Leg., ch. 90, § 1, eff. May 16, 1995.

**§ 395.013. Items Not Payable by Fee**

Impact fees may not be adopted or used to pay for:

(1) construction, acquisition, or expansion of public facilities or assets other than capital improvements or facility expansions identified in the capital improvements plan;

(2) repair, operation, or maintenance of existing or new capital improvements or facility expansions;

(3) upgrading, updating, expanding, or replacing existing capital improvements to serve existing development in order to meet stricter safety, efficiency, environmental, or regulatory standards;

(4) upgrading, updating, expanding, or replacing existing capital improvements to provide better service to existing development;

(5) administrative and operating costs of the political subdivision, except the Edwards Underground Water District or a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may use impact fees to pay its administrative and operating costs;

(6) principal payments and interest or other finance charges on bonds or other indebtedness, except as allowed by Section 395.012.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.014. Capital Improvements Plan**

(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 the 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 the 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 the 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 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 units 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 projected cost of implementing the capital improvements plan.

(b) The analysis required by Subsection (a)(3) may be prepared on a systemwide basis within the service area for each major category of capital improvement or facility expansion for the designated service area.

(c) The governing body of the political subdivision is responsible for supervising the implementation of the capital improvements plan in a timely manner.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 2, eff. Sept. 1, 2001.

**§ 395.015. Maximum Fee Per Service Unit**

(a) The impact fee per service unit may not exceed the amount determined by subtracting the amount in Section 395.014(a)(7) from the costs of the capital improvements described by Section 395.014(a)(3) and dividing that amount by the total number of projected service units described by Section 395.014(a)(5).

(b) If the number of new service units projected over a reasonable period of time is less than the total number of new service units shown by the approved land use assumptions at full development of the service area, the maximum impact fee per service unit shall be calculated by dividing the costs of the part of the capital improvements necessitated by and attributable to projected new service units described by Section 395.014(a)(6) by the projected new service units described in that section.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 3, eff. Sept. 1, 2001.

**§ 395.016. Time for Assessment and Collection of Fee**

(a) This subsection applies only to impact fees adopted and land platted before June 20, 1987. For land that has been platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision before June 20, 1987, or land on which new development occurs or is proposed without platting, the political subdivision may assess the impact fees at any time during the development approval and building process. Except as provided by Section 395.019, the political subdivision may collect the fees at either the time of recordation of the subdivision plat or connection to the political subdivision's water or sewer system or at the time the political subdivision issues either the building permit or the certificate of occupancy.

(b) This subsection applies only to impact fees adopted before June 20, 1987, and land platted after that date. For new development which is platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision after June 20, 1987, the political subdivision may assess the impact fees before or at the time of recordation. Except as provided by Section 395.019, the political subdivision may collect the fees at either the time of recordation of the subdivision plat or connection to the political subdivision's water or sewer system or at the time the political subdivision issues either the building permit or the certificate of occupancy.

(c) This subsection applies only to impact fees adopted after June 20, 1987. For new development which is platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision before the adoption of an impact fee, an impact fee may not be collected on any service unit for which a valid building permit is issued within one year after the date of adoption of the impact fee.

(d) This subsection applies only to land platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision after adoption of an impact fee adopted after June 20, 1987. The political subdivision shall assess the impact fees before or at the time of recordation of a subdivision plat or other plat under Subchapter A, Chapter 212, or the subdivision or platting ordinance or procedures of any political subdivision in the official records of the county clerk of the county in which the tract is located. Except as provided by Section 395.019, if the political subdivision has water and wastewater capacity available:

(1) the political subdivision shall collect the fees at the time the political subdivision issues a building permit;

(2) for land platted outside the corporate boundaries of a municipality, the municipality shall collect the fees at the time an application for an individual meter connection to the municipality's water or wastewater system is filed; or

(3) a political subdivision that lacks authority to issue building permits in the area where the impact fee applies shall collect the fees at the time an application is filed for an individual meter connection to the political subdivision's water or wastewater system.

(e) For land on which new development occurs or is proposed to occur without platting, the political subdivision may assess the impact fees at any time during the development and building process and may collect the fees at either the time of recordation of the subdivision plat or connection to the political subdivision's water or sewer system or at the time the political subdivision issues either the building permit or the certificate of occupancy.

(f) An "assessment" means a determination of the amount of the impact fee in effect on the date or occurrence provided in this section and is the maximum amount that can be charged per service unit of such development. No specific act by the political subdivision is required.

(g) Notwithstanding Subsections (a)-(e) and Section 395.017, the political subdivision may reduce or waive an impact fee for any service unit that would qualify as affordable housing under 42 U.S.C. Section 12745, as amended, once the service unit is constructed. If affordable housing as defined by 42 U.S.C. Section 12745, as amended, is not constructed, the political subdivision may reverse its decision to waive or reduce the impact fee, and the political subdivision may assess an impact fee at any time during the development approval or building process or after the building process if an impact fee was not already assessed.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989. Amended by Acts 1997, 75th Leg., ch. 980, § 52, eff. Sept. 1, 1997.

Amended by Acts 2001, 77th Leg., ch. 345, § 4, eff. Sept. 1, 2001.

**§ 395.017. Additional Fee Prohibited; Exception**

After assessment of the impact fees attributable to the new development or execution of an agreement for payment of impact fees, additional impact fees or increases in fees may not be assessed against the tract for any reason unless the number of service units to be developed on the tract increases. In the event of the increase in the number of service units, the impact fees to be imposed are limited to the amount attributable to the additional service units.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.018. Agreement With Owner Regarding Payment**

A political subdivision is authorized to enter into an agreement with the owner of a tract of land for which the plat has been recorded providing for the time and method of payment of the impact fees.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.019. Collection of Fees if Services Not Available**

Except for roadway facilities, impact fees may be assessed but may not be collected in areas where services are not currently available unless:

(1) the collection is made to pay for a capital improvement or facility expansion that has been identified in the capital improvements plan and the political subdivision commits to commence construction within two years, under duly awarded and executed contracts or commitments of staff time covering substantially all of the work required to provide service, and to have the service available within a reasonable period of time considering the type of capital improvement or facility expansion to be constructed, but in no event longer than five years;

(2) the political subdivision agrees that the owner of a new development may construct or finance the capital improvements or facility expansions and agrees that the costs incurred or funds advanced will be credited against the impact fees otherwise due from the new development or agrees to reimburse the owner for such costs from impact fees paid from other new developments that will use such capital improvements or facility expansions, which fees shall be collected and reimbursed to the owner at the time the other new development records its plat; or

(3) an owner voluntarily requests the political subdivision to reserve capacity to serve future development, and the political subdivision and owner enter into a valid written agreement.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.020. Entitlement to Services**

Any new development for which an impact fee has been paid is entitled to the permanent use and benefit of the services for which the fee was exacted and is entitled to receive immediate service from any existing facilities with actual capacity to serve the new service units, subject to compliance with other valid regulations.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.021. Authority of Political Subdivisions to Spend Funds to Reduce Fees**

Political subdivisions may spend funds from any lawful source to pay for all or a part of the capital improvements or facility expansions to reduce the amount of impact fees.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.022. Authority of Political Subdivision to Pay Fees**

Political subdivisions and other governmental entities may pay impact fees imposed under this chapter.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.023. Credits Against Roadway Facilities Fees**

Any construction of, contributions to, or dedications of off-site roadway facilities agreed to or required by a political subdivision as a condition of development approval shall be credited against roadway facilities impact fees otherwise due from the development.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.024. Accounting For Fees and Interest**

(a) The order, ordinance, or resolution levying an impact fee must provide that all funds collected through the adoption of an impact fee shall be deposited in interest-bearing accounts clearly identifying the category of capital improvements or facility expansions within the service area for which the fee was adopted.

(b) Interest earned on impact fees is considered funds of the account on which it is earned and is subject to all restrictions placed on use of impact fees under this chapter.

(c) Impact fee funds may be spent only for the purposes for which the impact fee was imposed as shown by the capital improvements plan and as authorized by this chapter.

(d) The records of the accounts into which impact fees are deposited shall be open for public inspection and copying during ordinary business hours.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.025. Refunds**

(a) On the request of an owner of the property on which an impact fee has been paid, the political subdivision shall refund the impact fee if existing facilities are available and service is denied or the political subdivision has, after collecting the fee when service was not available, failed to commence construction within two years or service is not available within a reasonable period considering the type of capital improvement or facility expansion to be constructed, but in no event later than five years from the date of payment under Section 395.019(1).

(b) Repealed by Acts 2001, 77th Leg., ch. 345, § 9, eff. Sept. 1, 2001.

(c) The political subdivision shall refund any impact fee or part of it that is not spent as authorized by this chapter within 10 years after the date of payment.

(d) Any refund shall bear interest calculated from the date of collection to the date of refund at the statutory rate as set forth in Section 302.002, Finance Code, or its successor statute.

(e) All refunds shall be made to the record owner of the property at the time the refund is paid. However, if the impact fees were paid by another political subdivision or governmental entity, payment shall be made to the political subdivision or governmental entity.

(f) The owner of the property on which an impact fee has been paid or another political subdivision or governmental entity that paid the impact fee has standing to sue for a refund under this section.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989. Amended by Acts 1997, 75th Leg., ch. 1396, § 37, eff. Sept. 1, 1997.

Amended by Acts 1999, 76th Leg., ch. 62, § 7.82, eff. Sept. 1, 1999; Acts 2001, 77th Leg., ch. 345, § 9, eff. Sept. 1, 2001.

## SUBCHAPTER C. PROCEDURES FOR ADOPTION OF IMPACT FEE

### § 395.041. Compliance With Procedures Required

Except as otherwise provided by this chapter, a political subdivision must comply with this subchapter to levy an impact fee.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

### § 395.0411. Capital Improvements Plan

The political subdivision shall provide for a capital improvements plan to be developed by qualified professionals using generally accepted engineering and planning practices in accordance with Section 395.014.

Added by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

### § 395.042. Hearing on Land Use Assumptions and Capital Improvements Plan

To impose an impact fee, a political subdivision must adopt an order, ordinance, or resolution establishing a public hearing date to consider the land use assumptions and capital improvements plan for the designated service area.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

### § 395.043. Information About Land Use Assumptions and Capital Improvements Plan Available to Public

On or before the date of the first publication of the notice of the hearing on the land use assumptions and capital improvements plan, the political subdivision shall make available to the public its land use assumptions, the time period of the projections, and a description of the capital improvement facilities that may be proposed.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.044. Notice of Hearing on Land Use Assumptions and Capital Improvements Plan**

(a) Before the 30th day before the date of the hearing on the land use assumptions and capital improvements plan, the political subdivision shall send a notice of the hearing by certified mail to any person who has given written notice by certified or registered mail to the municipal secretary or other designated official of the political subdivision requesting notice of the hearing within two years preceding the date of adoption of the order, ordinance, or resolution setting the public hearing.

(b) The political subdivision shall publish notice of the hearing before the 30th day before the date set for the hearing, in one or more newspapers of general circulation in each county in which the political subdivision lies. However, a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may publish the required newspaper notice only in each county in which the service area lies.

(c) The notice must contain:

(1) a headline to read as follows:

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

(2) the time, date, and location of the hearing;

(3) a statement that the purpose of the hearing is to consider the land use assumptions and capital improvements plan under which an impact fee may be imposed; and

(4) a statement that any member of the public has the right to appear at the hearing and present evidence for or against the land use assumptions and capital improvements plan.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.045. Approval of Land Use Assumptions and Capital Improvements Plan Required**

(a) After the public hearing on the land use assumptions and capital improvements plan, the political subdivision shall determine whether to adopt or reject an ordinance, order, or resolution approving the land use assumptions and capital improvements plan.

(b) The political subdivision, within 30 days after the date of the public hearing, shall approve or disapprove the land use assumptions and capital improvements plan.

(c) An ordinance, order, or resolution approving the land use assumptions and capital improvements plan may not be adopted as an emergency measure.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.0455. Systemwide Land Use Assumptions**

(a) In lieu of adopting land use assumptions for each service area, a political subdivision may, except for storm water, drainage, flood control, and roadway facilities, adopt systemwide land use assumptions, which cover all of the area subject to the jurisdiction of the political subdivision for the purpose of imposing impact fees under this chapter.

(b) Prior to adopting systemwide land use assumptions, a political subdivision shall follow the public notice, hearing, and other requirements for adopting land use assumptions.

(c) After adoption of systemwide land use assumptions, a political subdivision is not required to adopt additional land use assumptions for a service area for water supply, treatment, and distribution facilities or wastewater collection and treatment facilities as a prerequisite to the adoption of a capital improvements plan or impact fee, provided the capital improvements plan and impact fee are consistent with the systemwide land use assumptions.

Added by Acts 1989, 71st Leg., ch. 566, § 1(b), eff. Aug. 28, 1989.

**§ 395.047. Hearing on Impact Fee**

On adoption of the land use assumptions and capital improvements plan, the governing body shall adopt an order or resolution setting a public hearing to discuss the imposition of the impact fee. The public hearing must be held by the governing body of the political subdivision to discuss the proposed ordinance, order, or resolution imposing an impact fee.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.049. Notice of Hearing on Impact Fee**

(a) Before the 30th day before the date of the hearing on the imposition of an impact fee, the political subdivision shall send a notice of the hearing by certified mail to any person who has given written notice by certified or registered mail to the municipal secretary or other designated official of the political subdivision requesting notice of the hearing within two years preceding the date of adoption of the order or resolution setting the public hearing.

(b) The political subdivision shall publish notice of the hearing before the 30th day before the date set for the hearing, in one or more newspapers of general circulation in each county in which the political subdivision lies. However, a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may publish the required newspaper notice only in each county in which the service area lies.

(c) The notice must contain the following:

(1) a headline to read as follows:

"NOTICE OF PUBLIC HEARING ON ADOPTION OF IMPACT FEES"

(2) the time, date, and location of the hearing;

(3) a statement that the purpose of the hearing is to consider the adoption of an impact fee;

(4) the amount of the proposed impact fee per service unit; and

(5) a statement that any member of the public has the right to appear at the hearing and present evidence for or against the plan and proposed fee.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.050. Advisory Committee Comments on Impact Fees**

The advisory committee created under Section 395.058 shall file its written comments on the proposed impact fees before the fifth business day before the date of the public hearing on the imposition of the fees.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.051. Approval of Impact Fee Required**

(a) The political subdivision, within 30 days after the date of the public hearing on the imposition of an impact fee, shall approve or disapprove the imposition of an impact fee.

(b) An ordinance, order, or resolution approving the imposition of an impact fee may not be adopted as an emergency measure.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 5, eff. Sept. 1, 2001.

**§ 395.052. Periodic Update of Land Use Assumptions and Capital Improvements Plan Required**

(a) A political subdivision imposing an impact fee shall update the land use assumptions and capital improvements plan at least every five years. The initial five-year period begins on the day the capital improvements plan is adopted.

(b) The political subdivision shall review and evaluate its current land use assumptions and shall cause an update of the capital improvements plan to be prepared in accordance with Subchapter B.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 6, eff. Sept. 1, 2001.

**§ 395.053. Hearing on Updated Land Use Assumptions and Capital Improvements Plan**

The governing body of the political subdivision shall, within 60 days after the date it receives the update of the land use assumptions and the capital improvements plan, adopt an order setting a public hearing to discuss and review the update and shall determine whether to amend the plan.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.054. Hearing on Amendments to Land Use Assumptions, Capital Improvements Plan, or Impact Fee**

A public hearing must be held by the governing body of the political subdivision to discuss the proposed ordinance, order, or resolution amending land use assumptions, the capital improvements plan, or the impact fee. On or before the date of the first publication of the notice of the hearing on the amendments, the land use assumptions and the capital improvements plan, including the amount of any proposed amended impact fee per service unit, shall be made available to the public.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.055. Notice of Hearing on Amendments to Land Use Assumptions, Capital Improvements Plan, or Impact Fee**

(a) The notice and hearing procedures prescribed by Sections 395.044(a) and (b) apply to a hearing on the amendment of land use assumptions, a capital improvements plan, or an impact fee.

(b) The notice of a hearing under this section must contain the following:

(1) a headline to read as follows:

"NOTICE OF PUBLIC HEARING ON AMENDMENT OF IMPACT FEES"

(2) the time, date, and location of the hearing;

(3) a statement that the purpose of the hearing is to consider the amendment of land use assumptions and a capital improvements plan and the imposition of an impact fee; and

(4) a statement that any member of the public has the right to appear at the hearing and present evidence for or against the update.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, § 7, eff. Sept. 1, 2001.

**§ 395.056. Advisory Committee Comments on Amendments**

The advisory committee created under Section 395.058 shall file its written comments on the proposed amendments to the land use assumptions, capital improvements plan, and impact fee before the fifth business day before the date of the public hearing on the amendments.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.057. Approval of Amendments Required**

(a) The political subdivision, within 30 days after the date of the public hearing on the amendments, shall approve or disapprove the amendments of the land use assumptions and the capital improvements plan and modification of an impact fee.

(b) An ordinance, order, or resolution approving the amendments to the land use assumptions, the capital improvements plan, and imposition of an impact fee may not be adopted as an emergency measure.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.0575. Determination That No Update of Land Use Assumptions, Capital Improvements Plan or Impact Fees is Needed**

(a) If, at the time an update under Section 395.052 is required, the governing body determines that no change to the land use assumptions, capital improvements plan, or impact fee is needed, it may, as an alternative to the updating requirements of Sections 395.052-395.057, do the following:

(1) The governing body of the political subdivision shall, upon determining that an update is unnecessary and 60 days before publishing the final notice under this section, send notice of its determination not to update the land use assumptions, capital improvements plan, and impact fee by certified mail to any person who has, within two years preceding the date that the final notice of this matter is to be published, give written notice by certified or registered mail to the municipal secretary or other designated official of the political subdivision requesting notice of hearings related to impact fees. The notice must contain the information in Subsections (b)(2)-(5).

(2) The political subdivision shall publish notice of its determination once a week for three consecutive weeks in one or more newspapers with general circulation in each county in which the political subdivision lies. However, a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may publish the required newspaper notice only in each county in which the service area lies. The notice of public hearing may not be in the part of the paper in which legal notices and classified ads appear and may not be smaller than one-quarter page of a standard-size or tabloid-size newspaper, and the headline on the notice must be in 18-point or larger type.

(b) The notice must contain the following:

(1) a headline to read as follows:

"NOTICE OF DETERMINATION NOT TO UPDATE

LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENTS

PLAN, OR IMPACT FEES";

(2) a statement that the governing body of the political subdivision has determined that no change to the land use assumptions, capital improvements plan, or impact fee is necessary;

(3) an easily understandable description and a map of the service area in which the updating has been determined to be unnecessary;

(4) a statement that if, within a specified date, which date shall be at least 60 days after publication of the first notice, a person makes a written request to the designated official of the political subdivision requesting that the land use assumptions, capital improvements plan, or impact fee be updated, the governing body must comply with the request by following the requirements of Sections 395.052-395.057; and

(5) a statement identifying the name and mailing address of the official of the political subdivision to whom a request for an update should be sent.

(c) The advisory committee shall file its written comments on the need for updating the land use assumptions, capital improvements plans, and impact fee before the fifth business day before the earliest notice of the government's decision that no update is necessary is mailed or published.

(d) If, by the date specified in Subsection (b)(4), a person requests in writing that the land use assumptions, capital improvements plan, or impact fee be updated, the governing body shall cause an update of the land use assumptions and capital improvements plan to be prepared in accordance with Sections 395.052-395.057.

(e) An ordinance, order, or resolution determining the need for updating land use assumptions, a capital improvements plan, or an impact fee may not be adopted as an emergency measure.

Added by Acts 1989, 71st Leg., ch. 566, § 1(d), eff. Aug. 28, 1989.

**§ 395.058. Advisory Committee**

(a) On or before the date on which the order, ordinance, or resolution is adopted under Section 395.042, the political subdivision shall appoint a capital improvements advisory committee.

(b) The advisory committee is composed of not less than five members who shall be appointed by a majority vote of the governing body of the political subdivision. Not less than 40 percent of the membership of the advisory committee must be representatives of the real estate, development, or building industries who are not employees or officials of a political subdivision or governmental entity.

If the political subdivision has a planning and zoning commission, the commission may act as the advisory committee if the commission includes at least one representative of the real estate, development, or building industry who is not an employee or official of a political subdivision or governmental entity. If no such representative is a member of the planning and zoning commission, the commission may still act as the advisory committee if at least one such representative is appointed by the political subdivision as an ad hoc voting member of the planning and zoning commission when it acts as the advisory committee. If the impact fee is to be applied in the extraterritorial jurisdiction of the political subdivision, the membership must include a representative from that area.

(c) The advisory committee serves in an advisory capacity and is established to:

(1) advise and assist the political subdivision in adopting land use assumptions;

(2) review the capital improvements plan and file written comments;

(3) monitor and evaluate implementation of the capital improvements plan;

(4) file semiannual reports with respect to the progress of the capital improvements plan and report to the political subdivision any perceived inequities in implementing the plan or imposing the impact fee; and

(5) advise the political subdivision of the need to update or revise the land use assumptions, capital improvements plan, and impact fee.

(d) The political subdivision shall make available to the advisory committee any professional reports with respect to developing and implementing the capital improvements plan.

(e) The governing body of the political subdivision shall adopt procedural rules for the advisory committee to follow in carrying out its duties.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

## SUBCHAPTER D. OTHER PROVISIONS

### § 395.071. Duties to be Performed Within Time Limits

If the governing body of the political subdivision does not perform a duty imposed under this chapter within the prescribed period, a person who has paid an impact fee or an owner of land on which an impact fee has been paid has the right to present a written request to the governing body of the political subdivision stating the nature of the unperformed duty and requesting that it be performed within 60 days after the date of the request. If the governing body of the political subdivision finds that the duty is required under this chapter and is late in being performed, it shall cause the duty to commence within 60 days after the date of the request and continue until completion.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.072. Records of Hearings**

A record must be made of any public hearing provided for by this chapter. The record shall be maintained and be made available for public inspection by the political subdivision for at least 10 years after the date of the hearing.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.073. Cumulative Effect of State and Local Restrictions**

Any state or local restrictions that apply to the imposition of an impact fee in a political subdivision where an impact fee is proposed are cumulative with the restrictions in this chapter.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.074. Prior Impact Fees Replaced by Fees Under This Chapter**

An impact fee that is in place on June 20, 1987, must be replaced by an impact fee made under this chapter on or before June 20, 1990. However, any political subdivision having an impact fee that has not been replaced under this chapter on or before June 20, 1988, is liable to any party who, after June 20, 1988, pays an impact fee that exceeds the maximum permitted under Subchapter B by more than 10 percent for an amount equal to two times the difference between the maximum impact fee allowed and the actual impact fee imposed, plus reasonable attorney's fees and court costs.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.075. No Effect on Taxes or Other Charges**

This chapter does not prohibit, affect, or regulate any tax, fee, charge, or assessment specifically authorized by state law.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.076. Moratorium on Development Prohibited**

A moratorium may not be placed on new development for the purpose of awaiting the completion of all or any part of the process necessary to develop, adopt, or update land use assumptions, a capital improvements plan, or an impact fee.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 441, § 2, eff. Sept. 1, 2001.

**§ 395.077. Appeals**

(a) A person who has exhausted all administrative remedies within the political subdivision and who is aggrieved by a final decision is entitled to trial de novo under this chapter.

(b) A suit to contest an impact fee must be filed within 90 days after the date of adoption of the ordinance, order, or resolution establishing the impact fee.

(c) Except for roadway facilities, a person who has paid an impact fee or an owner of property on which an impact fee has been paid is entitled to specific performance of the services by the political subdivision for which the fee was paid.

(d) This section does not require construction of a specific facility to provide the services.

(e) Any suit must be filed in the county in which the major part of the land area of the political subdivision is located. A successful litigant shall be entitled to recover reasonable attorney's fees and court costs.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.078. Substantial Compliance With Notice Requirements**

An impact fee may not be held invalid because the public notice requirements were not complied with if compliance was substantial and in good faith.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

**§ 395.079. Impact Fee for Storm Water, Drainage, and Flood Control in Populous County**

(a) Any county that has a population of 3.3 million or more or that borders a county with a population of 3.3 million or more, and any district or authority created under Article XVI, Section 59, of the Texas Constitution within any such county that is authorized to provide storm water, drainage, and flood control facilities, is authorized to impose impact fees to provide storm water, drainage, and flood control improvements necessary to accommodate new development.

(b) The imposition of impact fees authorized by Subsection (a) is exempt from the requirements of Sections 395.025, 395.052-395.057, and 395.074 unless the political subdivision proposes to increase the impact fee.

(c) Any political subdivision described by Subsection (a) is authorized to pledge or otherwise contractually obligate all or part of the impact fees to the payment of principal and interest on bonds, notes, or other obligations issued or incurred by or on behalf of the political subdivision and to the payment of any other contractual obligations.

(d) An impact fee adopted by a political subdivision under Subsection (a) may not be reduced if:

(1) the political subdivision has pledged or otherwise contractually obligated all or part of the impact fees to the payment of principal and interest on bonds, notes, or other obligations issued by or on behalf of the political subdivision; and

(2) the political subdivision agrees in the pledge or contract not to reduce the impact fees during the term of the bonds, notes, or other contractual obligations.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 669, § 107, eff. Sept. 1, 2001.

**§ 395.080. Chapter Not Applicable to Certain Water-Related Special Districts**

(a) This chapter does not apply to impact fees, charges, fees, assessments, or contributions:

(1) paid by or charged to a district created under Article XVI, Section 59, of the Texas Constitution to another district created under that constitutional provision if both districts are required by law to obtain approval of their bonds by the Texas Natural Resource Conservation Commission; or

(2) charged by an entity if the impact fees, charges, fees, assessments, or contributions are approved by the Texas Natural Resource Conservation Commission.

(b) Any district created under Article XVI, Section 59, or Article III, Section 52, of the Texas Constitution may petition the Texas Natural Resource Conservation Commission for approval of any proposed impact fees, charges, fees, assessments, or contributions. The commission shall adopt rules for reviewing the petition and may charge the petitioner fees adequate to cover the cost of processing and considering the petition. The rules shall require notice substantially the same as that required by this chapter for the adoption of impact fees and shall afford opportunity for all affected parties to participate.

Added by Acts 1989, 71st Leg., ch. 1, § 82(a), eff. Aug. 28, 1989. Amended by Acts 1995, 74th Leg., ch. 76, § 11.257, eff. Sept. 1, 1995.

**§ 395.081. Fees for Adjoining Landowners in Certain Municipalities**

(a) This section applies only to a municipality with a population of 105,000 or less that constitutes more than three-fourths of the population of the county in which the majority of the area of the municipality is located.

(b) A municipality that has not adopted an impact fee under this chapter that is constructing a capital improvement, including sewer or waterline or drainage or roadway facilities, from the municipality to a development located within or outside the municipality's boundaries, in its discretion, may allow a landowner whose land adjoins the capital improvement or is within a specified distance from the capital improvement, as determined by the governing body of the municipality, to connect to the capital improvement if:

(1) the governing body of the municipality has adopted a finding under Subsection (c); and

(2) the landowner agrees to pay a proportional share of the cost of the capital improvement as determined by the governing body of the municipality and agreed to by the landowner.

(c) Before a municipality may allow a landowner to connect to a capital improvement under Subsection (b), the municipality shall adopt a finding that the municipality will benefit from allowing the landowner to connect to the capital improvement. The finding shall describe the benefit to be received by the municipality.

(d) A determination of the governing body of a municipality, or its officers or employees, under this section is a discretionary function of the municipality and the municipality and its officers or employees are not liable for a determination made under this section.

Added by Acts 1997, 75th Leg., ch. 1150, § 1, eff. June 19, 1997.

**§ 395.082. Certification of Compliance Required**

(a) A political subdivision that imposes an impact fee shall submit a written certification verifying compliance with this chapter to the attorney general each year not later than the last day of the political subdivision's fiscal year.

(b) The certification must be signed by the presiding officer of the governing body of a political subdivision and include a statement that reads substantially similar to the following: "This statement certifies compliance with Chapter 395, Local Government Code."

(c) A political subdivision that fails to submit a certification as required by this section is liable to the state for a civil penalty in an amount equal to 10 percent of the amount of the impact fees erroneously charged. The attorney general shall collect the civil penalty and deposit the amount collected to the credit of the housing trust fund.

Added by Acts 2001, 77th Leg., ch. 345, § 8, eff. Sept. 1, 2001.

# APPENDIX B:
# City of Pearland 2012 Market Study Update

Table 1
Population Trends
Pearland and Selected Areas
1970-2030

| | Census | | | | | End of Year Estimates and Projections | | | |
|---|---|---|---|---|---|---|---|---|---|
| Area | 1970 | 1980 | 1990 | 2000 | 2010 | 2015 | 2020 | 2025 | 2030 |
| Houston-Sugar Land-Baytown M.S.A* | 2,169,100 | 2,735,766 | 3,322,025 | 4,715,407 | 5,966,839 | 6,765,666 | 7,675,842 | 8,707,403 | 9,870,332 |
| Brazoria County | 108,300 | 169,588 | 191,707 | 241,767 | 287,681 | 311,763 | 335,893 | 359,900 | 383,526 |
| % of Houston-Sugar Land-Baytown M.S.A. | 5.00% | 6.20% | 5.80% | 5.10% | 4.82% | 4.61% | 4.38% | 4.13% | 3.89% |
| City of Pearland W/O SCR | 6,400 | 13,200 | 18,697 | 37,640 | 70,551 | 74,449 | 90,014 | 105,514 | 121,014 |
| City of Pearland W/SCR | 6,400 | 13,200 | 18,697 | 37,640 | 91,252 | 109,400 | 124,965 | 140,465 | 155,965 |
| % of Brazoria County | 5.90% | 7.80% | 9.80% | 15.60% | 31.72% | 35.09% | 37.20% | 39.03% | 40.67% |

* 10 County Metropolitan Statistical Area includes:
Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, San Jacinto, Waller.

Sources: Texas State Data Center 2008 Population and Projections for Counties, and U.S. Census of Population and Housing 1970, 1980, 1990, and 2000.

Table 2
Pearland-Selected Demographics
2000-2010

| Characteristic | Pearland 2000 | | Pearland 2010 | | Change | |
|---|---|---|---|---|---|---|
| **Age** | **Number** | **Percentage** | **Number** | **Percentage** | **# Change** | **% Increase or Decrease** |
| **Under 5** | 2,996 | 8.0% | 8,287 | 9.1% | 5,291 | 1.1% |
| **5 to 9** | 3,035 | 8.1% | 7,715 | 8.5% | 4,680 | 0.4% |
| **10 to 14** | 2,996 | 8.0% | 7,070 | 7.7% | 4,074 | -0.2% |
| **15 to 19** | 2823 | 7.5% | 5,761 | 6.3% | 2,938 | -1.2% |
| **20 to 24** | 1,767 | 4.7% | 4,359 | 4.8% | 2,592 | 0.1% |
| **25 to 34** | 5,681 | 15.1% | 13,945 | 15.3% | 8,264 | 0.2% |
| **35 to 44** | 7,205 | 19.1% | 15,775 | 17.3% | 8,570 | -1.9% |
| **45 to 54** | 5,164 | 13.7% | 12,763 | 14.0% | 7,599 | 0.3% |
| **55 to 59** | 1,626 | 4.3% | 4,839 | 5.3% | 3,213 | 1.0% |
| **60 to 64** | 1,188 | 3.2% | 3,701 | 4.1% | 2,513 | 0.9% |
| **65 to 74** | 1,893 | 5.0% | 4,225 | 4.6% | 2,332 | -0.4% |
| **75 to 84** | 987 | 2.6% | 2,098 | 2.3% | 1,111 | -0.3% |
| **85+** | 279 | 0.7% | 714 | 0.8% | 435 | 0.0% |
| **Total** | **37,640** | | **91,252** | | **53,612** | |
| **Average Age** | **34.2** | | **34.1** | | - | - |
| **Education** | **Number** | **Percentage** | **Number** | **Percentage** | **# Change** | **% Increase or Decrease** |
| Less than 12th grade (no diploma) | 2,938 | 12.1% | 4,322 | 7.8% | 1,384 | -4.2% |
| High School Graduate (includes equivalency) | 5,537 | 22.7% | 8,947 | 16.2% | 3,410 | -6.5% |
| Some College (no degree) | 7,081 | 29.1% | 11,670 | 21.1% | 4,589 | -7.9% |
| Associates Degree | 1,710 | 7.0% | 4,471 | 8.1% | 2,761 | 1.1% |
| Bachelor Degree | 5,337 | 21.9% | 15,470 | 28.0% | 10,133 | 6.1% |
| Graduate Degree | 1,751 | 7.2% | 10,328 | 18.7% | 8,577 | 11.5% |
| Percent Bachelors or Higher | - | 29.1% | - | 46.7% | - | 17.6% |
| **Household Income** | **Number** | **Percentage** | **Number** | **Percentage** | **# Change** | **% Increase or Decrease** |
| Less than $10,000 | 252 | 2.3% | 847 | 3.6% | 595 | 1.2% |
| $10,000 - $14,999 | 158 | 1.5% | 448 | 1.9% | 290 | 0.4% |
| $15,000 - $24,999 | 717 | 6.6% | 805 | 3.4% | 88 | -3.2% |
| $25,000 - $34,999 | 663 | 6.1% | 995 | 4.2% | 332 | -1.9% |
| $35,000 - $49,999 | 1,510 | 13.9% | 1,721 | 7.3% | 211 | -6.7% |
| $50,000 - $74,999 | 2,476 | 22.8% | 3,756 | 15.8% | 1280 | -7.0% |
| $75,000 - $99,999 | 2,242 | 20.7% | 3,644 | 15.4% | 1402 | -5.3% |
| $100,000 - $149,999 | 2059 | 19.0% | 6101 | 25.7% | 4042 | 6.7% |
| $150,000 - $199,999 | 509 | 4.7% | 2926 | 12.3% | 2417 | 7.6% |
| $200,000 or more | 252 | 2.3% | 2481 | 10.5% | 2229 | 8.1% |
| Total | **10,838** | - | **23,724** | - | 12,886 | - |
| Median Household | $70,748 | - | $97,392 | - | $26,644 | - |
| Per Capita Income | $26,306 | - | $34,205 | - | $7,899 | - |

Source: 2000 U.S. Census Summary File 3, Selected Economic and Social Char. and 2010 American Community Survey, Selected Economic and Social Char.

Table 3
Pearland Projected School Enrollment 1990-2020

| Pearland ISD - Enrollment and Projections | | |
|---|---|---|
| Year | Enrollment | Projected School |
| 1990 | 6,440 | Actual School Enrollment |
| 2000 | 10,185 | |
| 2002 | 11,800 | |
| 2006 | 15,434 | |
| 2010 | 18,726 | |
| 2015 | 20,918 | Projected School Enrollment |
| 2019 | 22,417 | |
| 2020 | 22,806* | |

Sources: Pearland ISD Population and Survey Analysts – Demographics and Mini Update – June 2010, 2007 City of Pearland Market Study.

* 2020 Population estimated from the Series I Projection from the Pearland ISD Study based on averaged growth from 2014-2019.

Table 4
Employment Statistics
City of Pearland and Brazoria County
1990-2010

| **City of Pearland Employment: 1990-2010** | | | | | |
|---|---|---|---|---|---|
| | 1990 | 1995 | 2000 | 2005 | 2010 |
| Labor Force | 11,084 | 11,835 | 12,010 | 29,600 | 49,460 |
| Employment | 10,772 | 11,297 | 11,556 | 28,385 | 46,387 |
| Unemployment | 312 | 538 | 454 | 1,215 | 3,073 |
| Unemployment Rate | 2.8% | 4.5% | 3.8% | 4.1% | 4.8% |

| **Brazoria County Employment: 1990-2010** | | | | | |
|---|---|---|---|---|---|
| | 1990 | 1995 | 2000 | 2005 | 2010 |
| Labor Force | 98,079 | 105,798 | 106,312 | 135,442 | 155,319 |
| Employment | 93,554 | 97,945 | 99,685 | 127,709 | 143,049 |
| Unemployment | 4,527 | 7,853 | 6,627 | 7,733 | 11,863 |
| Unemployment Rate | 4.6% | 7.4% | 6.2% | 5.7% | 5.0% |

**Sources**: Bureau of Labor Statistics, Texas Workforce Commission, CDS Market Research and the 2010 U.S. Census American Community Survey, 1-Year Estimates, Selected Economic Characteristics.

Table 5
Employment by Industry
2000 to 2010

| City of Pearland Employment By Industry: 2000 to 2010 | | | | | | |
|---|---|---|---|---|---|---|
| | # Employed | | | % Employment | | |
| **Industry** | **2010** | **# Change** | **2000** | **2010** | **% Change** | **2000** |
| Agriculture, forestry, fishing and hunting, and mining | 1,182 | 801 | 381 | 2.50% | 0.50% | 2.00% |
| Construction | 1,940 | 505 | 1,435 | 4.20% | -3.20% | 7.40% |
| Manufacturing | 3,839 | 1,009 | 2,830 | 8.30% | -6.20% | 14.50% |
| Wholesale trade | 1,889 | 847 | 1,042 | 4.10% | -1.30% | 5.40% |
| Retail trade | 4,330 | 2,461 | 1,869 | 9.30% | -0.30% | 9.60% |
| Transportation and warehousing, and utilities | 2,691 | 1,500 | 1,191 | 5.80% | -0.30% | 6.10% |
| Information | 1,183 | 677 | 506 | 2.60% | 0.00% | 2.60% |
| Finance and insurance, and real estate and rental and leasing | 2,002 | 514 | 1,488 | 4.30% | -3.30% | 7.60% |
| Professional, scientific, and management, and administrative and waste management services | 6,283 | 4,310 | 1,973 | 13.50% | 3.40% | 10.10% |
| Educational services, and health care and social assistance | 14,351 | 10,550 | 3,801 | 30.90% | 11.40% | 19.50% |
| Arts, entertainment, and recreation, and accommodation and food services | 3,283 | 2,322 | 961 | 7.10% | 2.20% | 4.90% |
| Other services, except public administration | 1,699 | 823 | 876 | 3.70% | -0.80% | 4.50% |
| Public administration | 1,715 | 602 | 1,113 | 3.70% | -2.00% | 5.70% |
| **Total Employment** | 46,387 | 26,921 | 19,466 | | | |

| Brazoria County Employment By Industry: 2000 to 2010 | | | | | | |
|---|---|---|---|---|---|---|
| | # Employed | | | % Employment | | |
| Industry | 2010 | # Change | 2000 | 2010 | % Change | 2000 |
| Agriculture, forestry, fishing and hunting, and mining | 3,314 | 963 | 2,351 | 2.30% | 0.10% | 2.20% |
| Construction | 13,758 | 1,494 | 12,264 | 9.60% | -1.90% | 11.50% |
| Manufacturing | 18,032 | -1,138 | 19,170 | 12.60% | -5.40% | 18.00% |
| Wholesale trade | 4,932 | 1,288 | 3,644 | 3.40% | 0.00% | 3.40% |
| Retail trade | 14,743 | 3,786 | 10,957 | 10.30% | 0.00% | 10.30% |
| Transportation and warehousing, and utilities | 8,227 | 2,223 | 6,004 | 5.80% | 0.20% | 5.60% |
| Information | 2,308 | 394 | 1,914 | 1.60% | -0.20% | 1.80% |
| Finance and insurance, and real estate and rental and leasing | 6,733 | 1,081 | 5,652 | 4.70% | -0.60% | 5.30% |
| Professional, scientific, and management, and administrative and waste management services | 15,364 | 6,706 | 8,658 | 10.70% | 2.60% | 8.10% |
| Educational services, and health care and social assistance | 34,735 | 15,394 | 19,341 | 24.30% | 6.20% | 18.10% |
| Arts, entertainment, and recreation, and accommodation and food services | 8,339 | 2,228 | 6,111 | 5.80% | 0.10% | 5.70% |
| Other services, except public administration | 6,193 | 1,230 | 4,963 | 4.30% | -0.40% | 4.70% |
| Public administration | 6,371 | 738 | 5,633 | 4.50% | -0.80% | 5.30% |
| **Total Employment** | 143,049 | 36,387 | 106,662 | | | |

Table 6
Pearland Major Private Employers 2012

| Company Name | Local Employees |
|---|---|
| Kemlon Products | 358 |
| Davis Lynch | 275 |
| Bredero Shaw | 150 |
| TurboCare | 150 |
| Profax | 135 |
| Texas Honing, Inc. | 132 |
| Packaging Service Co., Inc. | 130 |
| Aggreko | 125 |
| Allied Fire Protection | 95 |
| Third Coast Terminals | 91 |
| CPI Group, Inc. | 85 |
| Amerlux Exterior | 65 |
| Baker Hughes | 63 |
| Weatherford | 55 |
| Gate Precast Company | 50 |
| Traffic Control Devices, Inc. | 50 |
| Solvchem | 196 |

Table 7
Residential Construction Permits Issued
1990-2011
(Entire City)

| Year | Single Family Units | Multi-family Units* | Total Units |
|---|---|---|---|
| 1990 | 403 | 2 | 405 |
| 1991 | 381 | **4** | 385 |
| 1992 | 402 | 160 | 562 |
| 1993 | 481 | 0 | 481 |
| 1994 | 362 | 0 | 362 |
| 1995 | 340 | 0 | 340 |
| 1996 | 479 | 2 | 481 |
| 1997 | 415 | 79 | 494 |
| 1998 | 516 | 245 | 761 |
| 1999 | 536 | 496 | 1,032 |
| **Subtotal 1990-1999** | **4,315** | **988** | **5,303** |
| 2000 | 818 | 0 | 818 |
| 2001 | 1,243 | 0 | 1,243 |
| 2002 | 1,430 | 0 | 1,430 |
| 2003 | 1,684 | 12 | 1,696 |
| 2004 | 2,102 | 0 | 2,102 |
| 2005 | 2,610 | 0 | 2,610 |
| 2006 | 2,072 | 286 | 2,358 |
| 2007 | 1585 | 21 | 1606 |
| 2008 | 1240 | 2 | 1242 |
| 2009 | 776 | 53 | 829 |
| 2010 | 723 | 4 | 727 |
| **Subtotal 2000-2010** | **16,283** | **378** | **16,661** |
| 2011 | 691 | 30 | 721 |
| | | | |
| **Total** | **21,289** | **1,396** | **22,685** |
| | | | |

* Includes duplexes and apartments.

Sources: City of Pearland, Permit Division, and CDS Market Research

Table 8
Pearland Surveyed Apartments
(Entire City)

| Year Built/ Renovated | Name | Units | Occupancy | Average Rent / Unit | Average Rent / Sq. Ft. | Average Sq. Ft./ Unit |
|---|---|---|---|---|---|---|
| 1983 | Strawbridge Apts | 171 | 98.0% | $674 | $0.88 | 802 |
| 1972 | Royal Oaks Apts | 298 | 96.0% | $623 | $0.84 | 813 |
| 1972/1992 | Salem Village Apts | 141 | 100.0% | $644 | $0.75 | 934 |
| 1976/1994 | Silver Maple Apts | 152 | 99.0% | $640 | $0.74 | 909 |
| 1979/1989 | Pearland Village Apts | 130 | 100.0% | $561 | $0.81 | 701 |
| 1970 | Park Place Apts | 99 | 97.0% | $597 | $0.77 | 802 |
| 1985 | Whispering Winds Apts | 286 | 95.0% | $770 | $0.86 | 923 |
| 1993 | Remington Apts | 352 | 97.0% | $849 | $0.91 | 975 |
| 1999 | Enclave at Mary's Creek | 240 | 93.0% | $850 | $0.93 | 959 |
| 2000 | Westlake Apts | 256 | 96.0% | $856 | $0.84 | 1,021 |
| 2003 | Oakbridge Apts | 158 | 99.4% | $700 | $1.00 | 696 |
| 2005 | Waterford Place Apts | 296 | 94% | $829 | $1.20 | 691 |
| 2006 | Villas at Shadow Creek Ranch | 264 | -- | -- | -- | -- |
| **Total / Average** | | **2,843** | **97%** | **$7[1]6** | **$0.87** | **852** |

-- Could not obtain information

Sources: City of Pearland, Permits Division, and CDS Market Research

Table 9
Commercial Construction Permits Issued
(Entire City)

| Year | Value of Construction * | Number of Buildings ** | Average Building Value |
|---|---|---|---|
| 1990 | $1,197,840 | 8 | $149,730 |
| 1991 | $2,501,000 | 11 | $277,364 |
| 1992 | $6,849,000 | 16 | $428,063 |
| 1993 | $6,475,570 | 15 | $431,705 |
| 1994 | $2,997,021 | 12 | $249,752 |
| 1995 | $3,762,900 | 13 | $289,454 |
| 1996 | $5,189,850 | 19 | $273,150 |
| 1997 | $10,785,050 | 30 | $359,502 |
| 1998 | $12,696,415 | 23 | $552,018 |
| 1999 | $127,661,680 | 22 | $5,802,804 |
| **Subtotal 1990-1999** | **$180,116,326** | **169** | **$1,065,777** |
| 2000 | $49,776,147 | 17 | $2,928,009 |
| 2001 | $10,773,000 | 20 | $538,650 |
| 2002 | $32,924,097 | 28 | $1,175,861 |
| 2003 | $41,504,192 | 49 | $847,024 |
| 2004 | $39,220,592 | 43 | $912,107 |
| 2005 | $40,675,200 | 51 | $797,553 |
| 2006 | $173,299,982 | 66 | $2,625,757 |
| 2007 | $264,425,944 | 77 | $3,434,103 |
| 2008 | $100,205,092 | 52 | $1,927,021 |
| 2009 | $95,164,827 | 78 | $1,220,061 |
| 2010 | $24,585,663 | 40 | $614,641 |
| **Subtotal 2000-2010** | **$872,554,736** | **521** | **$17,020,788** |
| 2011 | $23,492,992 | 42 | $559,356 |
| | | | |
| **Total** | **$1,076,164,054** | **732** | **$1,199,713** |
| | | | |

Notes

* Not adjusted for inflation

** Includes industrial, office and retail buildings.

Sources: City of Pearland, Permits Division and CDS Market Research

**Table 10**
**Pearland Total Utility Connections By Type**
**12/2000-12/2026**
**(Excluding SCR)**

| Type | Dec-00 | Dec-06 | 12/2011 Total | *12/2016 Total | * 12/2021 Total | * 12/2026 Total |
|---|---|---|---|---|---|---|
| Single Family | 10,458 | 20,627 | 21,786 | 25,054 | 28,812 | 33,134 |
| Multi-Family | 2,027 | 2,525 | 2,843 | 3,127 | 3,440 | 3,784 |
| Total Residential | 12,485 | 23,152 | 24,629 | 28,181 | 32,252 | 36,918 |
| | | | | | | |
| Industrial ** | N/A | N/A | N/A | N/A | N/A | N/A |
| Commercial | 516 | 601 | 1,575 | 2,550 | 3,525 | 4,500 |
| Assisted Living (beds) | 0 | 0 | 343 | 360 | 370 | 400 |
| Hospital (beds) | 0 | 0 | 0 | 50 | 50 | 50 |
| Grand Total | 13,001 | 23,753 | 26,547 | 31,141 | 36,197 | 41,868 |
| | | | | | | |

* Estimates of utility connections - From 2011, assumes 3% growth rate for single family residential and 2% for multi family residential. Estimates for other categories is based on the zoning map, Future Land Use Map, current entitlements, and average annual increase from 2006 – 2011.

** City of Pearland Utility does not have a separate category for industrial, and therefore the numbers have been added into commercial.

Sources: Utility Division City of Pearland, City of Pearland Planning Division, CDS Market Research.

**Table 11**
**Pearland Land Use Figures**
**2000-2006**
**(Excluding SCR)**

| Type | 2000 Census | | | 2006 | | | Total Acreage |
|---|---|---|---|---|---|---|---|
| | Unit | Units/Acre | Total Acreage | New Units | Units/Acre | New Acreage | |
| Single Family | 11,165 | 2.5 | 4,466 | 4,791 | 3.2 | 1,497 | 5,963 |
| Multi-Family | 2,027 | 15 | 135 | 440 | 16 | 28 | 163 |
| Subtotal | 13,192 | N/A | 4,601 | 5,231 | N/A | 1,525 | 6,126 |
| | | | | | | | |
| Commercial* | 500 | 0.42 | 1,190 | 229 | 0.42 | 545 | 1,735 |
| Industrial** | 80 | 0.133 | 598 | 268 | 0.133 | 2,015 | 2,613 |
| Total | 13,772 | N/A | 6,389 | 5,728 | N/A | 4,085 | 10,474 |

| Type | 2011 | | | |
|---|---|---|---|---|
| | New Units | Units/Acre | New | **Total Acreage** |
| Single Family | 5,015 | 3.2 | 1,567 | **7,530** |
| Multi-Family | 318 | 16 | 20 | **183** |
| Subtotal | 5,333 | N/A | 1,587 | **7,713** |
| | | | | |
| Commercial* (includes industrial) | 289 | 0.42 | 121 | **4,469** |
| | | | | |
| Total | 5,414 | N/A | 1,695 | **12,169** |

Contd:

Acreage based on:

| 2000 | 2006 | 2011 |
|---|---|---|
| 2.5 Single family Units per acre | 3.2 Single family Units per acre | 3.2 Single family Units per acre |
| 15 Multi-family Units per acre | 16 Multi-family Units per acre | 16 Multi-family Units per acre |
| 2.4 Acres per Commercial Connection | 2.4 Acres per Commercial Connection | 2.4 Acres per Commercial Connection |
| 7.5 Acres per Industrial Connection | 7.5 Acres per Industrial Connection | Industrial combined with Commercial |

* Commercial acreage includes: Retail, Office, Service Centers, Warehouse, etc.

** Industrial acreage includes industrial projects in city limits, combined with commercial in 2011 calculations

Estimate on commercial and industrial units based on acreage of land

Sources: City of Pearland Permits Division, City of Pearland Planning Division, CDS Market Research.

**Table 12**
**Pearland Land Use Projections**
**2006-2026**
**(Excluding SCR)**

| Type | 2006 | 2011 | | 2016 | | 2021 | | 2026 | |
|---|---|---|---|---|---|---|---|---|---|
| | Acreage | New Acres | Total | New Acres | Total | New Acres | Total | New Acres | Total. |
| Single Family | 5,963 | 1,567 | 7,530 | 1,565 | 9,095 | 1,565 | 10,660 | 1,565 | 12,225 |
| Multi-Family | 163 | 20 | 183 | 18 | 201 | 20 | 221 | 22 | 243 |
| Subtotal | 6,126 | 1,587 | 7,713 | 1,583 | 9,296 | 1,585 | 10,881 | 1,587 | 12,468 |
| | | | | | 0 | | 0 | | 0 |
| Commercial* | 1,735 | 121 | 4,469 | 546 | 5,015 | 546 | 5,561 | 546 | 6,107 |
| Industrial** | 2,613 | -- | -- | -- | | -- | | -- | |
| Total | 10,474 | 1,708 | 12,182 | 2,129 | 14,311 | 2,131 | 16,442 | 2,133 | 18,575 |

Based on: 3.2 Single Family Units per acre, dropping to 2.2 units per acre for last 3,991 acres (zoning adjustment).
16 Multi-Family Units per acre
2.4 acres per commercial connection

* Commercial acreage includes: Retail, Office, Service centers, Warehouse, from Table 11, as well as new light industrial projects.

**Industrial combined with commercial in 2011.

Sources: City of Pearland Planning Division and CDS Market Research

**Table 13**
**Shadow Creek Ranch Utility Connection**
**Estimates and Projections**

| | Dec-00 | Dec-06 | Dec-11 | Dec-16 | Dec-21 | Dec-26 |
|---|---|---|---|---|---|---|
| Single Family | 0 | 3,000 | 5,937 | 8,874 | 8,951 | 8,951 |
| Multi-Family | 0 | 300 | 1,661 | 2,381 | 3,772 | 3,772 |
| Subtotal | 0 | 3300 | 7598 | 11255 | 12723 | 12723 |
| | | | | | | |
| Commercial | 0 | 10 | 379 | 748 | 748 | 748 |
| Industrial | 0 | 0 | 0 | 0 | 0 | 0 |
| Assisted Living (beds) | 0 | 0 | 226 | 240 | 255 | 270 |
| Hospital (beds) | 0 | 0 | 0 | 250 | 250 | 250 |

Estimates based on average annual increase from 2006 – 2011, while assuming Shadow Creek Ranch Build out by 2016.

Sources: Shadow Creek Ranch and City of Pearland Planning Department

**Table 14**
**Shadow Creek Ranch Land Use**
**Estimates and Projections**

| | 2003 (acre) | 2004 (acre) | 2005 (acre) | 2006 (acre) | 2011 (acre) | 2016 (acre) | 2021 (acre) | 2026 (acre) |
|---|---|---|---|---|---|---|---|---|
| Single Family | 110 | 297 | 641 | 938 | 2,188 | 2,315 | 2,315 | 2,315 |
| Multi-Family | 0 | 0 | 0 | 19 | 156 | 156 | 156 | 156 |
| Subtotal | 110 | 297 | 641 | 957 | 2,344 | 2,471 | 2,471 | 2,471 |
| | | | | | | | | |
| Commercial | 12 | 15 | 19 | 24 | 260 | 521 | 521 | 521 |
| Industrial | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assisted Living | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 |
| Hospital | | | | | 50 | 50 | 50 | 50 |
| Grand Total | 122 | 312 | 660 | 981 | 2,654 | 3,062 | 3,062 | 3,062 |

Note: Parks and other public use acreages are not accounted for.

Estimated acreages are based on:
3.2 Single Family Units per acre, 16 multi-family units per acre.

2.4 acres per commercial connection, dropping to 1.6 acres past 2012. 7.5 acres per industrial connection.

# APPENDIX C:
# Water Facilities Capacity Criteria

# TEXAS COMMISION ON ENVIRONMENTAL QUALITY
# PUBLIC WATER SYSTEM RULES & REGULATIONS
# ALTERNATIVE CAPACITY REQUIREMENTS

## Water Distribution

| | |
|---|---|
| Pressure | Distribution system shall provide a minimum of 20 psi under peak conditions and a minimum of 35 psi during normal operating conditions (1.5 gpm per connection). |

## Water Storage

| | |
|---|---|
| Capacity | 158 gallons of total storage capacity per connection of which 100 gallon/connection must be from elevated tanks. |

## Wells

| | |
|---|---|
| Capacity | Provide at least 0.47 gpm per connection in 2012 and 0.556 gpm per connection by 2022. |
| Booster Pumps | Each pump station shall have two or more pumps that have a total capacity of 1.6 gpm per connection OR that have a total capacity of at least 1,000 gpm and the ability to meet peak flow hourly demands with the largest pump out of service, whichever is less. |
| Auxiliary Power | Provide 0.35 gpm per connection in case of power outages, if system does not meet the elevated storage requirement. |

# CALCULATION OF EXISTING AND FUTURE DEMAND VERSUS EXISTING CAPACITY

1. Current Conditions: Impact Fee Eligible Population = 95,101 persons

   Impact Fee Eligible Equivalent Service Units = 37,491 units

Water Supply Capacity:

33,386 connections x 0.47 gpm/connection

= 15,691 gpm or 22,595,645 gpd required

21,300 gpm treated water supply currently available

11.433 MGD surface water contracts, or 7,940 gpm equivalent flow, plus 13,360 gpm from wells is available. The City's required demand is approximately 74% of contracted supply and well production amount.

Booster Pumps:

Criteria 1:

33,386 connections x 1.6 gpm/connection

= 53,418 gpm required

57,850 gpm available

Criteria 2:

With the exception of the booster pumps at the Old City Hall and Green Tee Water Plants, the existing booster pumps meet the requirement of 1,000 gpm minimum capacity with the largest pump out of service at each station. If they are not decommissioned, FNI recommends that the booster pumps at these Water Plants be upgraded to 1,000 gpm pumps or add an additional pump.

Auxiliary Power:

System meets the elevated storage requirement, therefore, auxiliary power criteria is met.

Storage Capacity:

Total Ground and Elevated Storage

33,386 connections x 158 gal/connection

= 5,274,988 gal total required (or 28% of available storage)

19,104,000 gal total available

Elevated Storage:

33,386 connections x 100 gal/connection

= 3,338,600 gal total required (or 74% of available storage)

4,500,000 gal available

Distribution Pressure:

Capacity, as defined by maintaining minimum pressures during normal and peak conditions, cannot be determined without a detailed system analysis which is beyond the scope of this study.

2. Year 2022 Conditions: Impact Fee Eligible Population = 131,165 persons

Impact Fee Eligible Equivalent Service Units = 58,909 units

Water Supply Capacity:

48,809 connections x 0.556 gpm/connection

= 27,138 gpm or 39,078,438 gpd required

23,936 gpm treated water supply available in 2022

16.0 MGD surface water contracts, or 11,111 gpm equivalent flow, plus 12,825 gpm from wells is available. The City's required demand is approximately 113% of contracted supply and well production amount. FNI recommends that the City obtain a minimum of 5 MGD additional water supply in the next ten year time period.

Booster Pumps:

Criteria 1:

48,809 connections x 1.6 gpm/connection

= 78,094 gpm required

56,200 gpm available

Criteria 2:

With the exception of the booster pumps at the Old City Hall and Green Tee Water Plants, the existing booster pumps meet the requirement of 1,000 gpm minimum capacity with the largest pump out of service at each station. If they are not decommissioned, FNI recommends that the booster pumps at these Water Plants be upgraded to 1,000 gpm pumps or add an additional pump.

Auxiliary Power:

When the system meets the elevated storage requirement, auxiliary power criteria will be met.

Storage Capacity:

Total Ground and Elevated Storage

48,809 connections x 158 gal/connection

= 7,711,822 gal total required (or 42% of available storage)

18,567,000 gal total available

Elevated Storage:

48,809 connections x 100 gal/connection

= 4,880,900 gal total required (or 108% of available storage)

4,500,000 gal available

FNI recommends that the City construct a minimum of 1 MGD additional elevated storage tank in the next ten year time period.

# APPENDIX D:
# Water System 10-Year CIP Project Descriptions and Cost Tables

# Appendix D: Water System 10-Year CIP Project Descriptions

## 1. *SH 35 16" Water Line – FM 518 to John Lizer*

Install approximately 9,800 feet of 16-inch water transmission line along SH 35 from FM 518 to Magnolia/John Lizer. This line completes Pearland's major north-south line.

## 2. *Veterans Drive 12" Water Line*

Install approximately 1,900 feet of 12-inch water line on Veterans Drive south of Walnut. The water line, in addition to providing water service to the area, will complete a water line loop.

## 3. *1.0 MG Elevated Storage Tank at Riley Rd. & Kirby Dr.*

A 1.0 million gallon composite elevated storage tank at Riley Rd. & Kirby Dr. This elevated tank will provide the required elevated storage needed for the first 10-year period.

## 4. *CR 94 12" Water Line*

Install approximately 5,300 feet of 12-inch water line from Hughes Ranch Rd/CR 403 to just north of FM 518/Broadway. The water line will provide water service to new developments in the area.

## 5. *FM 521 16" Water Line*

Install approximately 7,500 feet of 16-inch water transmission line along Almeda Rd/FM 521 from Broadway to Mooring Pointer Dr. The water line, in addition to providing water service to the area, will complete a water line loop.

### 6. *Fellows Loop 12" Water Line*

Install approximately 14,400 feet of 12" water line to loop from the termination of the existing waterline along the feeder road of BW 8 along Fellows to Cullen and terminating at Hawk Rd. The water line, in addition to providing water service to the area, will complete a water line loop.

### 7. *Surface Water Treatment Plant (Phase 1)*

Design and construction of a 10 MGD surface water treatment plant with room to expand to 20 MGD.

### 8. *FM 1128 16" Water Line*

Install approximately 5,300 feet of 16-inch water line along FM 1128 (Manvel Rd) from Bailey Rd to CR 100. The water line, in addition to providing water service to new developments in the area, will complete a water line loop.

### 9. *CR 100 16" Water Line*

Install approximately 13,200 feet of 16-inch water line along CR100 from Veterans Dr. to FM 1128 (Manvel Rd). The water line, in addition to providing water service to new developments in the area, will complete a water line loop.

### 10. *Harkey Rd. & CR 128 12" Water Line*

Install approximately 13,300 feet of 12-inch water line from Harkey Rd/CR 100 south to CR 128 then east to Veterans Dr. The water line, in addition to providing water service to new developments in the area, will complete a water line loop.

### 11. *Veterans Dr. 16" Water Line – Bailey Rd to CR 128*

Install approximately 13,200 feet of 16-inch water line along CR100 from Veterans Dr. to FM 1128 (Manvel Rd). The water line, in addition to providing water service to new developments in the area, will complete a water line loop.

### *12. CR 48 North 30" & 20" Water Lines*

Approximately 8,000 feet of 30-inch water line and approximately 5,000 feet of 20-inch water line along CR 48 from the future water treatment plant to Broadway.

### *13. CR 59 20" Water Line*

Approximately 10,800 feet of 20-inch water transmission line along CR 59 from CR 94 to CR 48 and approximately 800 feet of 12-inch water on Kirby Drive, north of CR 59.

### *14. Far Northwest Water Plant Expansions (Phase 3)*

Installation of a third 1.66 million gallon ground storage tank, a second 15,000 gallon pressure tank, and related piping and controls. This expansion will be for future developments outside of Shadow Creek Ranch.

### *15. Purchase 5 MGD from City of Houston*

The existing Alice water plant will be expanded to accept an additional 5 MGD from the City of Houston's Southwest Plant.

### *16. 0.5 MG Elevated Storage Tank at Garden Road Water Plant*

A 500,000-gallon elevated storage tank at the Garden Road Water Plant. This elevated tank will provide the required elevated storage needed for future developments.

### *17. Bailey Road 24' Water Line – Veterans Drive to FM 1128*

Approximately 14,100 feet of 24-inch water line along Bailey Road from Veterans Drive to FM 1128, 1,100 feet of 16-inch water line along Harkey Road, and 1,100 feet of 12-inch water line along McClean Road.

### *18. Bailey Road 24" water Line – FM 1128 to CR 48*

Approximately 30,500 of 24-inch water line along Bailey Road extending from FM 1128 to CR 48. This line will be the major transmission line from the future water treatment plant to the east.

### *19. State Highway 35 12" Water Line*

Approximately 8,000 feet of 12-inch water line on State Highway 35 extending from Dixie Farm Road to the south. This water line will provide water for future developments south of Dixie Farm Road.

### *20. Hughes Ranch – Stone Road 12" Water Line*

Approximately 7,400 feet of 12-inch water line along Stone Road from Brookside Road to Hughes Ranch Road and Hughes Ranch Road from Stone Road to Cullen Blvd.

### *21. Broadway (FM 518) 16" Water Line*

Approximately 14,000 feet of 16-inch water line extending from Harkey Road to Texas.

### *22. Far East Water Plant, Elevated Storage & 12" Water Lines*

A new water plant with a water well, 1 million gallon ground storage and 1 million gallon elevated storage tanks, booster pumps, electrical, and piping, etc. In addition, approximately 11,600 feet of 12-inch and 1,000 feet of 16-inch water transmission lines along CR 127 from Dixie Farm Road to CR 130 and CR 130 from CR 131 to CR 127.

### *23. Alice Water Plant Expansion (Phase 2)*

A new 5 million gallon ground storage tank with additional 2 new booster pumps, controls, and piping.

### *24. Roy Road 12" Water Line*

Approximately 8,500 feet of 12-inch water line along Roy Road from FM 518 to Brookside Road. This line will provide water for areas along Roy Road.

### *25. FM 521 & Riley Road 12" Water Lines*

Approximately 13,500 feet of 12-inch water line along Riley Road from Kirby Drive to Almeda Road (FM 521) and Almeda Road (FM 521) from Riley Road to the Shadow Creek Ranch connection.

### *26. CR 129 & CR 127 12" Water Lines*

Approximately 11,600 feet of 12-inch water line along CR 127 from CR 130 to CR 129 and CR 129 from CR 127 to State Highway.

### *27. Hastings Cannon Road (CR 128) 12" Water Line*

Approximately 13,100 feet of 12-inch water line extending from State Highway 35 to Pearland Sites Road (CR 143) along Hastings Cannon Road (CR 128).

### *28. Hastings Field Road 16" Water Line*

Approximately 10,200 feet of 16-inch water transmission line along Hastings Field Road from State Highway 35 to Pearland Sites Road (CR 143).

### *29. CR 59 & CR 564 12" & 16" Water Lines*

Approximately 5,400 feet of 16-inch and 8,200 feet of 12-inch water line along CR 59 from CR 48 to Wood Street. In addition, a 12-inch line, approximately 5,400 feet long, will extend from CR 564 B to CR 59 along CR 564.

### *30. CR 564 212" Water Line – CR 59 to Broadway*

Approximately 5,400 feet of 126-inch along CR 564 from CR 59 to Broadway.

### *31. 1.0 MG Elevated Storage Tank at Dixie Farm & FM 518*

A 1 million gallon composite elevated storage tank at Dixie Farm & FM 518. This elevated tank will provide the required elevated storage needed for the first 10-year period.

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 1

**Project Description**

SH 35 Water Transmission Line - FM 518 to Magnolia

**Detailed Description**

**Install approximately 9,800 feet of 16-inch water line along State Highway 35 from FM 518 to just south of Magnolia/John Lizer.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 9,600 | LF | $105 | 1,008,000 |
| 2 | Fire Hydrant | 20 | EA | $3,200 | 64,000 |
| 3 | 16" Gate Valve with Box | 3 | EA | $10,000 | 30,000 |
| 4 | 6" Gate Valve with Box | 20 | EA | $900 | 18,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 6 | Trench Safety | 9,600 | LF | $2 | 19,200 |
| 7 | Ductile Iron Fittings | 20 | TN | $4,500 | 90,000 |
| 8 | 16" WL Creek Crossing | 200 | LF | $190 | 38,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,297,200 |
| ENG/SURVEY | 15% | $194,600 |
| SUBTOTAL: | | $1,491,800 |
| CONSTRUCTION MGMT | 9.5% | $141,800 |
| SUBTOTAL: | | $1,633,600 |
| CONTINGENCY | 25% | $408,400 |
| SUBTOTAL: | | $2,042,000 |

**PROJECT TOTAL** **$2,042,000**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 2

**Project Description**

Veterans Drive 12" Water Line

**Detailed Description**

**Install approximately 1,900 feet of 12" water line south of Walnut on Veterans Drive.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 1,900 | LF | $80 | 152,000 |
| 2 | Fire Hydrant | 4 | EA | $3,200 | 12,800 |
| 3 | 16" Gate Valve with Box | 4 | EA | $10,000 | 40,000 |
| 4 | 12" Gate Valve with Box | 2 | EA | $2,000 | 4,000 |
| 5 | 6" Gate Valve with Box | 4 | EA | $900 | 3,600 |
| 6 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 7 | Trench Safety | 1,900 | LF | $2 | 3,800 |
| 8 | Ductile Iron Fittings | 4 | TN | $4,500 | 18,000 |
| 9 | 12" WL Creek Crossing | 200 | LF | $140 | 28,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $292,200 |
| ENG/SURVEY | 15% | $43,900 |
| SUBTOTAL: | | $336,100 |
| CONSTRUCTION MGMT | 9.5% | $32,000 |
| SUBTOTAL: | | $368,100 |
| CONTINGENCY | 25% | $92,100 |
| SUBTOTAL: | | $460,200 |

**PROJECT TOTAL** **$460,200**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 3

**Project Description**

1.0 MG Elevated Storage Tank at Riley Rd. & Kirby Dr.

**Detailed Description**

**A 1 million gallon composite elevated storage tank at Riley Rd. & Kirby Dr.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 1.0 MG EST (Composite Tank) | 1 | LS | $2,000,000 | 2,000,000 |
| 2 | Foundation | 1 | LS | $200,000 | 200,000 |
| 3 | Site Work | 1 | LS | $100,000 | 100,000 |
| 4 | Piping | 1 | LS | $100,000 | 100,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $50,000 | 50,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $2,450,000 |
| ENG/SURVEY | 15% | $367,500 |
| SUBTOTAL: | | $2,817,500 |
| CONSTRUCTION MGMT | 9.5% | $267,700 |
| SUBTOTAL: | | $3,085,200 |
| CONTINGENCY | 25% | $771,300 |
| SUBTOTAL: | | $3,856,500 |

**PROJECT TOTAL** **$3,856,500**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 4

**Project Description**

CR 94 12" Water Line

**Detailed Description**

**Install approximately 5,300 feet of 12-inch water line from Hughes Ranch Rd/CR403 to just north of FM 518/Broadway.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 5,300 | LF | $80 | 424,000 |
| 2 | Fire Hydrant | 11 | EA | $3,200 | 35,200 |
| 3 | 12" Gate Valve with Box | 5 | EA | $2,000 | 10,000 |
| 4 | 6" Gate Valve with Box | 11 | EA | $900 | 9,900 |
| 5 | Site Clearing & Restoration | 1 | LS | $20,000 | 20,000 |
| 6 | Trench Safety | 5,300 | LF | $2 | 10,600 |
| 7 | Ductile Iron Fittings | 8 | TN | $4,500 | 36,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | SUBTOTAL: | | | | $545,700 |
| | ENG/SURVEY | 15% | | | $81,900 |
| | SUBTOTAL: | | | | $627,600 |
| | CONSTRUCTION MGMT | 9.5% | | | $59,700 |
| | SUBTOTAL: | | | | $687,300 |
| | CONTINGENCY | 25% | | | $171,900 |
| | SUBTOTAL: | | | | $859,200 |

**PROJECT TOTAL** **$859,200**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 5

**Project Description**

FM 521 16" Water Line

**Detailed Description**

**Install approximately 7,500 feet of 16-inch water line along Almeda Rd/FM 521 from Broadway to Mooring Pointer Dr.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 7,300 | LF | $105 | 766,500 |
| 2 | Fire Hydrant | 14 | EA | $3,200 | 44,800 |
| 3 | 16" Gate Valve with Box | 4 | EA | $10,000 | 40,000 |
| 4 | 6" Gate Valve with Box | 14 | EA | $900 | 12,600 |
| 5 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 6 | Trench Safety | 7,300 | LF | $2 | 14,600 |
| 7 | Ductile Iron Fittings | 15 | TN | $4,500 | 67,500 |
| 8 | 16" WL Creek Crossing | 200 | LF | $190 | 38,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,014,000 |
| ENG/SURVEY | 15% | $152,100 |
| SUBTOTAL: | | $1,166,100 |
| CONSTRUCTION MGMT | 9.5% | $110,800 |
| SUBTOTAL: | | $1,276,900 |
| CONTINGENCY | 25% | $319,300 |
| SUBTOTAL: | | $1,596,200 |

**PROJECT TOTAL** **$1,596,200**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 6

**Project Description**

Fellows Loop 12" Water Line

**Detailed Description**

**Install approximately 14,400 feet of 12-inch water line to loop from the termination of the existing waterline along the feeder road of BW 8 along Fellows to Cullen and terminating at Hawk Rd.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 13,300 | LF | $80 | 1,064,000 |
| 2 | Fire Hydrant | 30 | EA | $3,200 | 96,000 |
| 3 | 12" Gate Valve with Box | 12 | EA | $2,000 | 24,000 |
| 4 | 6" Gate Valve with Box | 30 | EA | $900 | 27,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $100,000 | 100,000 |
| 6 | Trench Safety | 13,300 | LF | $2 | 26,600 |
| 7 | Ductile Iron Fittings | 30 | TN | $4,500 | 135,000 |
| 8 | 12" Boring and Casing | 600 | LF | $300 | 180,000 |
| 9 | 12" WL Creek Crossing | 500 | LF | $140 | 70,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,722,600 |
| ENG/SURVEY | 15% | $258,400 |
| SUBTOTAL: | | $1,981,000 |
| CONSTRUCTION MGMT | 9.5% | $188,200 |
| SUBTOTAL: | | $2,169,200 |
| CONTINGENCY | 25% | $542,300 |
| SUBTOTAL: | | $2,711,500 |

**PROJECT TOTAL** **$2,711,500**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 7

**Project Description**

Surface Water Treatment Plant (Phase 1)

**Detailed Description**

**Design and construction of a 10 MGD surface water treatment plant with room to expand to 20 MGD.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | Site Civil | 1 | LS | $2,007,000 | 2,007,000 |
| 2 | Raw Water Intake Structure | 1 | LS | $2,529,000 | 2,529,000 |
| 3 | Raw Water Pump Station | 1 | LS | $1,109,000 | 1,109,000 |
| 4 | Raw Water Pipeline | 1 | LS | $159,000 | 159,000 |
| 5 | Conventional Treatment Processes | 1 | LS | $2,463,000 | 2,463,000 |
| 6 | GAC Filters | 1 | LS | $2,121,000 | 2,121,000 |
| 7 | Microfiltration Membrance Unit | 1 | LS | $7,823,000 | 7,823,000 |
| 8 | Ozone System | 1 | LS | $3,394,000 | 3,394,000 |
| 9 | Chemical Feed System | 1 | LS | $2,796,000 | 2,796,000 |
| 10 | Backwash Waste Water Lagoon & Pump Station | 1 | LS | $3,564,000 | 3,564,000 |
| 11 | High Service Pump Station | 1 | LS | $1,070,000 | 1,070,000 |
| 12 | Clearwell | 1 | LS | $1,749,000 | 1,749,000 |
| 13 | Electrical and Instrumentation & Control | 1 | LS | $6,912,000 | 6,912,000 |
| 14 | Yard Piping | 1 | LS | $5,655,000 | 5,655,000 |
| | | | | | |
| | SUBTOTAL: | | | | $43,351,000 |
| | ENG/SURVEY | 15% | | | $6,502,700 |
| | SUBTOTAL: | | | | $49,853,700 |
| | CONSTRUCTION MGMT | 9.5% | | | $4,736,200 |
| | SUBTOTAL: | | | | $54,589,900 |
| | CONTINGENCY | 25% | | | $13,647,500 |
| | SUBTOTAL: | | | | $68,237,400 |

**PROJECT TOTAL** **$68,237,400**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 8

**Project Description**

FM 1128 16" Water Line

**Detailed Description**

**Install approximately 5,300 feet of 16-inch water line along FM 1128 (Manvel Rd) from Bailey Rd to CR 100.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 5,100 | LF | $105 | 535,500 |
| 2 | 16" Boring and Casing | 100 | LF | $350 | 35,000 |
| 3 | Fire Hydrant | 11 | EA | $3,200 | 35,200 |
| 4 | 16" Gate Valve with Box | 3 | EA | $10,000 | 30,000 |
| 5 | 6" Gate Valve with Box | 11 | EA | $900 | 9,900 |
| 6 | Site Clearing & Restoration | 1 | LS | $22,500 | 22,500 |
| 7 | Trench Safety | 5,100 | LF | $2 | 10,200 |
| 8 | Ductile Iron Fittings | 9 | TN | $4,500 | 40,500 |
| 9 | 16" WL Creek Crossing | 200 | LF | $190 | 38,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $756,800 |
| ENG/SURVEY | 15% | $113,600 |
| SUBTOTAL: | | $870,400 |
| CONSTRUCTION MGMT | 9.5% | $82,700 |
| SUBTOTAL: | | $953,100 |
| CONTINGENCY | 25% | $238,300 |
| SUBTOTAL: | | $1,191,400 |

**PROJECT TOTAL** **$1,191,400**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 9

**Project Description**

CR 100 16" Water Line

**Detailed Description**

**Install approximately 13,200 feet of 16-inch water line along CR100 from Veterans Dr. to FM 1128 (Manvel Rd).**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 13,000 | LF | $105 | 1,365,000 |
| 2 | Fire Hydrant | 27 | EA | $3,200 | 86,400 |
| 3 | 16" Gate Valve with Box | 9 | EA | $10,000 | 90,000 |
| 4 | 6" Gate Valve with Box | 27 | EA | $900 | 24,300 |
| 5 | Site Clearing & Restoration | 1 | LS | $56,000 | 56,000 |
| 6 | Trench Safety | 13,000 | LF | $2 | 26,000 |
| 7 | Ductile Iron Fittings | 23 | TN | $4,500 | 103,500 |
| 8 | 16" WL Creek Crossing | 200 | LF | $190 | 38,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,789,200 |
| ENG/SURVEY | 15% | $268,400 |
| SUBTOTAL: | | $2,057,600 |
| CONSTRUCTION MGMT | 9.5% | $195,500 |
| SUBTOTAL: | | $2,253,100 |
| CONTINGENCY | 25% | $563,300 |
| SUBTOTAL: | | $2,816,400 |

**PROJECT TOTAL** **$2,816,400**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 10

**Project Description**

Harkey Rd & CR 128 12" Water Lines

**Detailed Description**

**Install approximately 13,300 feet of 12-inch water line from Harkey Rd/CR 100 south to CR 128 then east to Veterans Dr.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 13,300 | LF | $80 | 1,064,000 |
| 2 | Fire Hydrant | 27 | EA | $3,200 | 86,400 |
| 3 | 12" Gate Valve with Box | 12 | EA | $2,000 | 24,000 |
| 4 | 6" Gate Valve with Box | 27 | EA | $900 | 24,300 |
| 5 | Site Clearing & Restoration | 1 | LS | $56,000 | 56,000 |
| 6 | Trench Safety | 13,300 | LF | $2 | 26,600 |
| 7 | Ductile Iron Fittings | 23 | TN | $4,500 | 103,500 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | SUBTOTAL: | | | | $1,384,800 |
| | ENG/SURVEY | 15% | | | $207,800 |
| | SUBTOTAL: | | | | $1,592,600 |
| | CONSTRUCTION MGMT | 9.5% | | | $151,300 |
| | SUBTOTAL: | | | | $1,743,900 |
| | CONTINGENCY | 25% | | | $436,000 |
| | SUBTOTAL: | | | | $2,179,900 |

**PROJECT TOTAL** **$2,179,900**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 11

**Project Description**

Veterans Drive 12" & 16" Water Line - Bailey Rd to CR 128

**Detailed Description**

**Install approximately 5,300 feet of 16-inch water line on Veterans Dr. from Bailey Rd., south to CR 100 and continue an additional 5,300 feet of 12-inch water line on Veterans Dr. from CR 100 south to CR 128.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 5,100 | LF | $105 | 535,500 |
| 2 | 16" Boring and Casing | 100 | LF | $350 | 35,000 |
| 3 | 12" WL & Appurtenances | 5,200 | LF | $80 | 416,000 |
| 4 | Fire Hydrant | 22 | EA | $3,200 | 70,400 |
| 5 | Site Clearing & Restoration | 6 | EA | $56,000 | 336,000 |
| 6 | 12" Gate Valve with Box | 6 | EA | $2,000 | 12,000 |
| 7 | 6" Gate Valve with Box | 22 | EA | $900 | 19,800 |
| 8 | Site Clearing & Restoration | 1 | LS | $44,000 | 44,000 |
| 9 | Trench Safety | 10,300 | LF | $2 | 20,600 |
| 10 | Ductile Iron Fittings | 18 | TN | $4,500 | 81,000 |
| 11 | 16" WL Creek Crossing | 100 | LF | $190 | 19,000 |
| 12 | 12" WL Creek Crossing | 100 | LF | $140 | 14,000 |
| | | | | | |
| | | SUBTOTAL: | | | $1,603,300 |
| | | ENG/SURVEY | 15% | | $240,500 |
| | | SUBTOTAL: | | | $1,843,800 |
| | | CONSTRUCTION MGMT | 9.5% | | $175,200 |
| | | SUBTOTAL: | | | $2,019,000 |
| | | CONTINGENCY | 25% | | $504,800 |
| | | SUBTOTAL: | | | $2,523,800 |

**PROJECT TOTAL** **$2,523,800**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 12

**Project Description**

CR 48 North 30" & 20" Water Lines

**Detailed Description**

**Approximately 8,000 feet of 30-inch water line and approximately 5,000 feet of 20-inch water line along CR 48 from the future water treatment plant to Broadway.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 30" WL & Appurtenances | 7,900 | LF | $195 | 1,540,500 |
| 2 | 20" WL & Appurtenances | 4,900 | LF | $130 | 637,000 |
| 3 | Fire Hydrant | 26 | EA | $3,200 | 83,200 |
| 4 | 30" Butterfly valve with Box | 3 | EA | $22,000 | 66,000 |
| 5 | 20" Butterfly Valve with Box | 2 | EA | $15,000 | 30,000 |
| 6 | 6" Gate Valve with Box | 26 | EA | $900 | 23,400 |
| 7 | Site Clearing & Restoration | 1 | LS | $55,000 | 55,000 |
| 8 | Trench Safety | 12,800 | LF | $2 | 25,600 |
| 9 | Ductile Iron Fittings | 45 | TN | $4,500 | 202,500 |
| 10 | 20" WL Creek Crossing | 100 | LF | $240 | 24,000 |
| 11 | 30" WL Creek Crossing | 100 | LF | $360 | 36,000 |
| | | | | | |
| | | | SUBTOTAL: | | $2,723,200 |
| | | | ENG/SURVEY | 15% | $408,500 |
| | | | SUBTOTAL: | | $3,131,700 |
| | | | CONSTRUCTION MGMT | 9.5% | $297,600 |
| | | | SUBTOTAL: | | $3,429,300 |
| | | | CONTINGENCY | 25% | $857,400 |
| | | | SUBTOTAL: | | $4,286,700 |

**PROJECT TOTAL** **$4,286,700**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 13

**Project Description**

CR 59 20" Water Line

**Detailed Description**

**Approximately 10,800 feet of 20-inch water transmission line along CR 59 form CR 94 to CR 48 and approximately 800 feet of 12-inch water line on Kirby Drive, north of CR 59.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 20" WL & Appurtenances | 10,500 | LF | $130 | 1,365,000 |
| 2 | 12" WL & Appurtenances | 800 | LF | $80 | 64,000 |
| 3 | 20" Boring and Casing | 300 | LF | $400 | 120,000 |
| 4 | Fire Hydrant | 24 | EA | $3,200 | 76,800 |
| 5 | 20" Butterfly Valve with Box | 7 | EA | $15,000 | 105,000 |
| 6 | 12" Gate Valve with Box | 2 | EA | $2,000 | 4,000 |
| 7 | 6" Gate Valve with Box | 24 | EA | $900 | 21,600 |
| 8 | Site Clearing & Restoration | 1 | LS | $48,000 | 48,000 |
| 9 | Trench Safety | 11,300 | LF | $2 | 22,600 |
| 10 | Ductile Iron Fittings | 30 | TN | $4,500 | 135,000 |
| | | | | | |
| | | | | | |
| | | SUBTOTAL: | | | $1,962,000 |
| | | ENG/SURVEY | | 15% | $294,300 |
| | | SUBTOTAL: | | | $2,256,300 |
| | | CONSTRUCTION MGMT | | 9.5% | $214,400 |
| | | SUBTOTAL: | | | $2,470,700 |
| | | CONTINGENCY | | 25% | $617,700 |
| | | SUBTOTAL: | | | $3,088,400 |

**PROJECT TOTAL** **$3,088,400**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 14

**Project Description**

Far Northwest Water Plant Expansions (Phase 3)

**Detailed Description**

**Installation of a third 1.66 million gallon ground storage tank, a second 15,000 gallon pressure tank, and related piping and controls.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 1.66 Million Gallon GST | 1 | LS | $1,250,000 | 1,250,000 |
| 2 | 15,000 Gallon Pressure Tank | 1 | LS | $50,000 | 50,000 |
| 3 | Yard Piping | 1 | LS | $75,000 | 75,000 |
| 4 | Electrical Controls | 1 | LS | $50,000 | 50,000 |
| 5 | Site Work | 1 | LS | $100,000 | 100,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,525,000 |
| ENG/SURVEY | 15% | $228,800 |
| SUBTOTAL: | | $1,753,800 |
| CONSTRUCTION MGMT | 9.5% | $166,700 |
| SUBTOTAL: | | $1,920,500 |
| CONTINGENCY | 25% | $480,200 |
| SUBTOTAL: | | $2,400,700 |

**PROJECT TOTAL** **$2,400,700**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 15

**Project Description**

Purchase 5 MGD from City of Houston

**Detailed Description**

**Purchase 5 MGD from City of Houston's Southwest Plant.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | Purchase 5 MGD from City of Houston | 1 | LS | $20,000,000 | 20,000,000 |

| | | | |
|---|---|---|---|
| SUBTOTAL: | | | $20,000,000 |
| ENG/SURVEY | Included | | $0 |
| SUBTOTAL: | | | $20,000,000 |
| CONSTRUCTION MGMT | Included | | $0 |
| SUBTOTAL: | | | $20,000,000 |
| CONTINGENCY | 10% | | $2,000,000 |
| SUBTOTAL: | | | $22,000,000 |

**PROJECT TOTAL** **$22,000,000**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 16

**Project Description**

0.5 MG Elevated Storage Tank at Garden Road Water Plant

**Detailed Description**

**A 500,000-gallon elevated storage tank at the Garden Road Water Plant.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 500,000 Gallon Elev. Storage | 1 | LS | $875,000 | 875,000 |
| 2 | Foundation | 1 | LS | $100,000 | 100,000 |
| 3 | Site Work | 1 | LS | $25,000 | 25,000 |
| 4 | Piping | 1 | LS | $25,000 | 25,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $20,000 | 20,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,045,000 |
| ENG/SURVEY | 15% | $156,800 |
| SUBTOTAL: | | $1,201,800 |
| CONSTRUCTION MGMT | 9.5% | $114,200 |
| SUBTOTAL: | | $1,316,000 |
| CONTINGENCY | 25% | $329,000 |
| SUBTOTAL: | | $1,645,000 |

**PROJECT TOTAL** **$1,645,000**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 17

**Project Description**

Bailey Road 24" Water Line - Veterans Drive to FM 1128

**Detailed Description**

**Approximately 14,100 feet of 24-inch water line along Bailey Road from Veterans Drive to FM 1128, 1,100 feet of 16-inch water line along Harkey Road, and 1,100 feet of 12-inch water line along McClean Road.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 24" WL & Appurtenances | 14,000 | LF | $160 | 2,240,000 |
| 2 | 16" WL & Appurtenances | 1,100 | LF | $105 | 115,500 |
| 3 | 12" WL & Appurtenances | 1,100 | LF | $80 | 88,000 |
| 4 | 24" Boring and Casing | 100 | LF | $450 | 45,000 |
| 5 | 24" Butterfly Valve with Box | 10 | EA | $18,000 | 180,000 |
| 6 | Fire Hydrant | 33 | EA | $3,200 | 105,600 |
| 7 | 6" Gate Valve with Box | 33 | EA | $900 | 29,700 |
| 8 | 12" Gate Valve with Box | 2 | EA | $2,000 | 4,000 |
| 9 | 16" Gate Valve with Box | 2 | EA | $10,000 | 20,000 |
| 10 | 16" T.S. & Valve | 1 | EA | $17,000 | 17,000 |
| 11 | Site Clearing & Restoration | 1 | LS | $75,000 | 75,000 |
| 12 | Trench Safety | 16,200 | LF | $2 | 32,400 |
| 13 | Ductile Iron Fittings | 70 | EA | $4,500 | 315,000 |
| | | | | | |
| | | SUBTOTAL: | | | $3,267,200 |
| | | ENG/SURVEY | | 15% | $490,100 |
| | | SUBTOTAL: | | | $3,757,300 |
| | | CONSTRUCTION MGMT | | 9.5% | $357,000 |
| | | SUBTOTAL: | | | $4,114,300 |
| | | CONTINGENCY | | 25% | $1,028,600 |
| | | SUBTOTAL: | | | $5,142,900 |

**PROJECT TOTAL** **$5,142,900**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 18

**Project Description**

Bailey Road 24" Water Line - FM 1128 to CR 48

**Detailed Description**

**Approximately 30,500 feet of 24-inch water line along Bailey Road extending from FM 1128 to CR 48.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 24" WL & Appurtenances | 29,500 | LF | $160 | 4,720,000 |
| 2 | 24" Boring and Casing | 500 | LF | $450 | 225,000 |
| 3 | Fire Hydrant | 61 | EA | $3,200 | 195,200 |
| 4 | 6" Gate Valve with Box | 61 | EA | $900 | 54,900 |
| 5 | 24" Butterfly Valve with Box | 15 | EA | $18,000 | 270,000 |
| 6 | Site Clearing & Restoration | 1 | LS | $150,000 | 150,000 |
| 7 | Trench Safety | 29,500 | LF | $2 | 59,000 |
| 8 | Ductile Iron Fittings | 75 | TN | $4,500 | 337,500 |
| 9 | 24" WL Creek Crossing | 500 | LF | $290 | 145,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $6,156,600 |
| ENG/SURVEY | 15% | $923,500 |
| SUBTOTAL: | | $7,080,100 |
| CONSTRUCTION MGMT | 9.5% | $672,700 |
| SUBTOTAL: | | $7,752,800 |
| CONTINGENCY | 25% | $1,938,200 |
| SUBTOTAL: | | $9,691,000 |

**PROJECT TOTAL** **$9,691,000**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 19

**Project Description**

State Highway 35 12" Water Line

**Detailed Description**

**Approximately 8,000 feet of 12-inch water line on State Highway 35 extending from dixie Farm Road to the South. This water line will provide water for future developoments south of Dixie Farm Road.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 7,900 | LF | $80 | 632,000 |
| 2 | Fire Hydrant | 16 | EA | $3,200 | 51,200 |
| 3 | 6" Gate Valve with Box | 16 | EA | $900 | 14,400 |
| 4 | 12" Gate Valve with Box | 4 | EA | $2,000 | 8,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $35,000 | 35,000 |
| 6 | Trench Safety | 7,900 | LF | $2 | 15,800 |
| 7 | Ductile Iron Fittings | 12 | TN | $4,500 | 54,000 |
| 8 | 12" WL Creek Crossing | 100 | LF | $140 | 14,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $824,400 |
| ENG/SURVEY | 15% | $123,700 |
| SUBTOTAL: | | $948,100 |
| CONSTRUCTION MGMT | 9.5% | $90,100 |
| SUBTOTAL: | | $1,038,200 |
| CONTINGENCY | 25% | $259,600 |
| SUBTOTAL: | | $1,297,800 |

**PROJECT TOTAL** **$1,297,800**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 20

**Project Description**

Hughes Ranch & Stone Road 12" Water Line

**Detailed Description**

**Approximately 7,400 feet of 12-inch water line along Stone Road from Brookside Road to Hughes Ranch Road and Hughes Ranch Road from Stone Road to Cullen Blvd.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 7,300 | LF | $80 | 584,000 |
| 2 | 12" Boring and Casing | 100 | LF | $300 | 30,000 |
| 3 | Fire Hydrant | 15 | EA | $3,200 | 48,000 |
| 4 | 12" Gate Valve with Box | 6 | EA | $2,000 | 12,000 |
| 5 | 6" Gate Valve with Box | 15 | EA | $900 | 13,500 |
| 6 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 7 | Trench Safety | 7,300 | LF | $2 | 14,600 |
| 8 | Ductile Iron Fittings | 16 | TN | $4,500 | 72,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $804,100 |
| ENG/SURVEY | 15% | $120,700 |
| SUBTOTAL: | | $924,800 |
| CONSTRUCTION MGMT | 9.5% | $87,900 |
| SUBTOTAL: | | $1,012,700 |
| CONTINGENCY | 25% | $253,200 |
| SUBTOTAL: | | $1,265,900 |

**PROJECT TOTAL** **$1,265,900**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 21

**Project Description**

Broadway (FM 518) Transmission Line

**Detailed Description**

**Approximately 14,000 feet of 16-inch water line extending from Harkey Road to Texas.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 14,000 | LF | $105 | 1,470,000 |
| 2 | Fire Hydrant | 28 | EA | $3,200 | 89,600 |
| 3 | 16" Gate Valve with Box | 7 | EA | $10,000 | 70,000 |
| 4 | 6" Gate Valve with Box | 28 | EA | $900 | 25,200 |
| 5 | Site Clearing & Restoration | 1 | LS | $35,000 | 35,000 |
| 6 | Trench Safety | 14,000 | LF | $2 | 28,000 |
| 7 | Ductile Iron Fittings | 17 | TN | $4,500 | 76,500 |

| | | | |
|---|---|---|---|
| SUBTOTAL: | | | $1,794,300 |
| ENG/SURVEY | 15% | | $269,200 |
| SUBTOTAL: | | | $2,063,500 |
| CONSTRUCTION MGMT | 9.5% | | $196,100 |
| SUBTOTAL: | | | $2,259,600 |
| CONTINGENCY | 25% | | $564,900 |
| SUBTOTAL: | | | $2,824,500 |

**PROJECT TOTAL** **$2,824,500**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 22

**Project Description**

Far East Water Plant, Elevated Storage & 12" Water Lines

**Detailed Description**

**A new water plant with a water well, 1 million gallon ground storage and 1 million gallon elevated storage tanks, booster pumps, electrical, and piping, etc.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | Water Well | 1 | LS | $1,500,000 | 1,500,000 |
| 2 | 1 Million Gallon GST | 1 | LS | $1,000,000 | 1,000,000 |
| 3 | 1 Million Gallon EST | 1 | LS | $1,800,000 | 1,800,000 |
| 4 | Booster Pumps, Electrical & Piping | 1 | LS | $2,000,000 | 2,000,000 |
| 5 | 16" WL & Appurtenances | 1,000 | LF | $105 | 105,000 |
| 6 | 12" WL & Appurtenances | 11,600 | LF | $80 | 928,000 |
| 7 | 16" Gate Valve with Box | 3 | EA | $10,000 | 30,000 |
| 8 | 12" Gate Valve with Box | 10 | EA | $2,000 | 20,000 |
| 9 | 6" Gate Valve with Box | 23 | EA | $900 | 20,700 |
| 10 | Fire Hydrant | 23 | EA | $3,200 | 73,600 |
| 11 | Site Clearing & Restoration | 1 | LS | $60,000 | 60,000 |
| 12 | Trench Safety | 12,600 | LF | $2 | 25,200 |
| 13 | Ductile Iron Fittings | 30 | EA | $4,500 | 135,000 |
| | | | | | |
| | | SUBTOTAL: | | | $7,697,500 |
| | | ENG/SURVEY | | 15% | $1,154,700 |
| | | SUBTOTAL: | | | $8,852,200 |
| | | CONSTRUCTION MGMT | | 9.5% | $841,000 |
| | | SUBTOTAL: | | | $9,693,200 |
| | | CONTINGENCY | | 25% | $2,423,300 |
| | | SUBTOTAL: | | | $12,116,500 |

**PROJECT TOTAL** **$12,116,500**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 23

**Project Description**

Alice Water Plant Expansion

**Detailed Description**

**A new 5 million gallon ground storage tank with additional 2 new booster pumps, controls, and piping.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 5 Million Gallon GST | 1 | LS | $1,800,000 | 1,800,000 |
| 2 | Additional 2 Booster Pumps | 1 | LS | $50,000 | 50,000 |
| 3 | Yard Piping | 1 | LS | $75,000 | 75,000 |
| 4 | Electrical Controls | 1 | LS | $50,000 | 50,000 |
| 5 | Site Work | 1 | LS | $100,000 | 100,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $2,075,000 |
| ENG/SURVEY | 15% | $311,300 |
| SUBTOTAL: | | $2,386,300 |
| CONSTRUCTION MGMT | 9.5% | $226,700 |
| SUBTOTAL: | | $2,613,000 |
| CONTINGENCY | 25% | $653,300 |
| SUBTOTAL: | | $3,266,300 |

**PROJECT TOTAL** **$3,266,300**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 24

**Project Description**

Roy Road 12" Water Line

**Detailed Description**

**Approximately 8,500 feet of 12-inch water line along roy Road from FM 518 to Brookside road. This line will provide water for areas along Roy Road.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 8,100 | LF | $80 | 648,000 |
| 2 | 12" Boring and Casing | 100 | LF | $300 | 30,000 |
| 3 | Fire Hydrant | 17 | EA | $3,200 | 54,400 |
| 4 | 12" Gate Valve with Box | 4 | EA | $2,000 | 8,000 |
| 5 | 6" Gate Valve with Box | 17 | EA | $900 | 15,300 |
| 6 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 7 | Trench Safety | 8,100 | LF | $2 | 16,200 |
| 8 | Ductile Iron Fittings | 15 | EA | $4,500 | 67,500 |
| 9 | 12" WL Creek Crossing | 300 | LF | $140 | 42,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $911,400 |
| ENG/SURVEY | 15% | $136,800 |
| SUBTOTAL: | | $1,048,200 |
| CONSTRUCTION MGMT | 9.5% | $99,600 |
| SUBTOTAL: | | $1,147,800 |
| CONTINGENCY | 25% | $287,000 |
| SUBTOTAL: | | $1,434,800 |

**PROJECT TOTAL** **$1,434,800**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST

February 2013

## Construction Project Number 25

**Project Description**

FM 521 & Riley Road Water Lines

**Detailed Description**

**Approximately 13,500 feet of 12-inch water line along Riley Road from Kirby Drive to Almeda road (FM 521) and Almeda Road (FM 521) from Riley road to the Shadow Creek Ranch connection.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 13,400 | LF | $80 | 1,072,000 |
| 2 | 12" Boring and Casing | 100 | LF | $300 | 30,000 |
| 3 | Fire Hydrant | 27 | EA | $3,200 | 86,400 |
| 4 | 6" Gate Valve with Box | 27 | EA | $900 | 24,300 |
| 5 | 12" Gate Valve with Box | 9 | EA | $2,000 | 18,000 |
| 6 | Site Clearing & Restoration | 1 | LS | $56,000 | 56,000 |
| 7 | Trench Safety | 13,400 | LF | $2 | 26,800 |
| 8 | Ductile Iron Fittings | 20 | TN | $4,500 | 90,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,403,500 |
| ENG/SURVEY | 15% | $210,600 |
| SUBTOTAL: | | $1,614,100 |
| CONSTRUCTION MGMT | 9.5% | $153,400 |
| SUBTOTAL: | | $1,767,500 |
| CONTINGENCY | 25% | $441,900 |
| SUBTOTAL: | | $2,209,400 |

**PROJECT TOTAL** **$2,209,400**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 26

**Project Description**

CR 129 & CR 127 Water Lines

**Detailed Description**

**Approximately 11,600 feet of 12-inch water line along CR 127 from CR 130 to CR 129 and CR 129 from CR 127 to State Highway.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 11,200 | LF | $80 | 896,000 |
| 2 | 12" Boring and Casing | 200 | LF | $300 | 60,000 |
| 3 | Fire Hydrant | 24 | EA | $3,200 | 76,800 |
| 4 | 12" Gate Valve with Box | 8 | EA | $2,000 | 16,000 |
| 5 | 6" Gate Valve with Box | 24 | EA | $900 | 21,600 |
| 6 | Site Clearing & Restoration | 1 | LS | $48,000 | 48,000 |
| 7 | Trench Safety | 11,200 | LF | $2 | 22,400 |
| 8 | Ductile Iron Fittings | 20 | TN | $4,500 | 90,000 |
| 9 | 12" WL Creek Crossing | 200 | LF | $140 | 28,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,258,800 |
| ENG/SURVEY | 15% | $188,900 |
| SUBTOTAL: | | $1,447,700 |
| CONSTRUCTION MGMT | 9.5% | $137,600 |
| SUBTOTAL: | | $1,585,300 |
| CONTINGENCY | 25% | $396,400 |
| SUBTOTAL: | | $1,981,700 |

**PROJECT TOTAL** **$1,981,700**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 27

**Project Description**

Hastings Cannon road (CR 128) Water Line

**Detailed Description**

**Approximately 13,100 feet of 12-inch water line extending from State Highway 35 to Pearland Sites Road (CR 143) along Hastings Cannon Road (CR 128).**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 12,700 | LF | $80 | 1,016,000 |
| 2 | 12" Boring and Casing | 200 | LF | $300 | 60,000 |
| 3 | Fire Hydrant | 27 | EA | $3,200 | 86,400 |
| 4 | 12" Gate Valve with Box | 8 | EA | $2,000 | 16,000 |
| 5 | 6" Gate Valve with Box | 27 | EA | $900 | 24,300 |
| 6 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 7 | Trench Safety | 12,700 | LF | $2 | 25,400 |
| 8 | Ductile Iron Fittings | 20 | TN | $4,500 | 90,000 |
| 9 | 12" WL Creek Crossing | 200 | LF | $140 | 28,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,376,100 |
| ENG/SURVEY | 15% | $206,500 |
| SUBTOTAL: | | $1,582,600 |
| CONSTRUCTION MGMT | 9.5% | $150,400 |
| SUBTOTAL: | | $1,733,000 |
| CONTINGENCY | 25% | $433,300 |
| SUBTOTAL: | | $2,166,300 |

**PROJECT TOTAL** **$2,166,300**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 28

**Project Description**

Hastings Field Road Water Transmission Line

**Detailed Description**

**Appriximately 10,200 feet of 16-inch water transmission line along Hastings Field Road from State highway 35 to Pearland Sites Road (CR 143).**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 10,000 | LF | $105 | 1,050,000 |
| 2 | 16" Boring and Casing | 200 | LF | $350 | 70,000 |
| 3 | Fire Hydrant | 21 | EA | $3,200 | 67,200 |
| 4 | 16" Gate Valve with Box | 7 | EA | $10,000 | 70,000 |
| 5 | 6" Gate Valve with Box | 21 | EA | $900 | 18,900 |
| 6 | Site Clearing & Restoration | 1 | LS | $42,000 | 42,000 |
| 7 | Trench Safety | 10,000 | LF | $2 | 20,000 |
| 8 | Ductile Iron Fittings | 22 | TN | $4,500 | 99,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,437,100 |
| ENG/SURVEY | 15% | $215,600 |
| SUBTOTAL: | | $1,652,700 |
| CONSTRUCTION MGMT | 9.5% | $157,100 |
| SUBTOTAL: | | $1,809,800 |
| CONTINGENCY | 25% | $452,500 |
| SUBTOTAL: | | $2,262,300 |

**PROJECT TOTAL** **$2,262,300**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 29

**Project Description**

CR 59 & CR 564 Water Transmission Lines

**Detailed Description**

**Approximately 5,400 feet of 16-inch and 8,200 feet of 12-inich water line along CR 59 from CR 48 to Wood Street. In addition, a 12-inch line, approximately 5.400 feet long, will extend from CR 564 B to CR 59 along CR 564.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 16" WL & Appurtenances | 5,300 | LF | $105 | 556,500 |
| 2 | 12" WL & Appurtenances | 8,000 | LF | $80 | 640,000 |
| 3 | 16" Boring and Casing | 100 | LF | $350 | 35,000 |
| 4 | 12" Boring and Casing | 100 | LF | $300 | 30,000 |
| 5 | Fire Hydrant | 28 | EA | $3,200 | 89,600 |
| 6 | 6" Gate Valve with Box | 28 | EA | $900 | 25,200 |
| 7 | 12" Gate Valve with Box | 7 | EA | $2,000 | 14,000 |
| 8 | 16" Gate Valve with Box | 5 | EA | $10,000 | 50,000 |
| 9 | Site Clearing & Restoration | 1 | LS | $57,000 | 57,000 |
| 10 | Trench Safety | 13,300 | LF | $2 | 26,600 |
| 11 | Ductile Iron Fittings | 25 | TN | $4,500 | 112,500 |
| 12 | 12" WL Creek Crossing | 100 | LF | $140 | 14,000 |
| | | | | | |
| | | SUBTOTAL: | | | $1,650,400 |
| | | ENG/SURVEY | 15% | | $247,600 |
| | | SUBTOTAL: | | | $1,898,000 |
| | | CONSTRUCTION MGMT | 9.5% | | $180,400 |
| | | SUBTOTAL: | | | $2,078,400 |
| | | CONTINGENCY | 25% | | $519,600 |
| | | SUBTOTAL: | | | $2,598,000 |

**PROJECT TOTAL** **$2,598,000**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST

February 2013

## Construction Project Number 30

**Project Description**

CR 564 12" Water Line - CR 59 to Broadway

**Detailed Description**

**Approximately 5,400 feet of 126-inch along CR 564 from CR 59 to Broadway.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" WL & Appurtenances | 5,300 | LF | $80 | 424,000 |
| 2 | 12" Boring and Casing | 100 | LF | $300 | 30,000 |
| 3 | Fire Hydrant | 11 | EA | $3,200 | 35,200 |
| 4 | 12" Gate Valve with Box | 5 | EA | $2,000 | 10,000 |
| 5 | 6" Gate Valve with Box | 11 | EA | $900 | 9,900 |
| 6 | Site Clearing & Restoration | 1 | LS | $30,000 | 30,000 |
| 7 | Trench Safety | 5,300 | LF | $2 | 10,600 |
| 8 | Ductile Iron Fittings | 9 | TN | $4,500 | 40,500 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $590,200 |
| ENG/SURVEY | 15% | $88,600 |
| SUBTOTAL: | | $678,800 |
| CONSTRUCTION MGMT | 9.5% | $64,500 |
| SUBTOTAL: | | $743,300 |
| CONTINGENCY | 25% | $185,900 |
| SUBTOTAL: | | $929,200 |

**PROJECT TOTAL** **$929,200**

# City of Pearland

## Water 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 31

**Project Description**

1.0 MG Elevated Storage Tank at Dixie Farm & FM 518

**Detailed Description**

**A 1 million gallon composite elevated storage tank at Dixie Farm & FM 518.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 1.0 MG EST (Composite Tank) | 1 | LS | $1,500,000 | 1,500,000 |
| 2 | Foundation | 1 | LS | $200,000 | 200,000 |
| 3 | Site Work | 1 | LS | $100,000 | 100,000 |
| 4 | Piping | 1 | LS | $40,000 | 40,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $25,000 | 25,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,865,000 |
| ENG/SURVEY | 15% | $279,800 |
| SUBTOTAL: | | $2,144,800 |
| CONSTRUCTION MGMT | 9.5% | $203,800 |
| SUBTOTAL: | | $2,348,600 |
| CONTINGENCY | 25% | $587,200 |
| SUBTOTAL: | | $2,935,800 |

**PROJECT TOTAL** **$2,935,800**

# APPENDIX E:
# Wastewater System 10-Year CIP Project Descriptions and Cost Tables

# Appendix E: Wastewater System 10-Year CIP Project Descriptions

## 1. *Broadway 12" Trunk Sewer Extension*

This project consists of approximately 1,165 feet of 12-inch sanitary sewer line along Broadway from Country Club Dr. to Regal Oaks Ln. This line will provide gravity sewer to vacant lots north and south of Broadway east of Liberty/Country Club as well as serve properties that aren't currently served.

## 2. *Barry Rose WWTP 1.4 MGD Expansion*

Expansion of the existing 3.1 MGD Barry Rose WWTP to 4.5 MGD to serve the growing population in this area.

## 3. *Riverstone Ranch Lift Station & Sanitary Sewer*

The City's cost to upsize and provide deeper lines and larger capacity lift station in a proposed subdivision. The upsizing will allow future developments to connect to the system.

## 4. *Roy/Max/Garden Roads Basin Sewage System*

This project proposed approximately 5,000 feet of 18-inch trunk sewer along Broadway St. from Food Town's Lift Station to O'Day Rd, approximately 1,300 feet of 15-inch trunk sewer along Garden Rd from Broadway to the lift station and 1,200 feet of 12-inch sewer line along Roy/May Rd from Broadway to Hickory Slough. These trunk sewers will serve the areas along the four roadway corridors and will eliminate old lift stations to provide better service.

## 5. *Southdown WWTP Expansion or Diversion*

A 1.0 MGD plant expansion of the Southdown WWTP, which currently serves Brazoria County MUD's No. 4 and 5, to serve future developments in this basin. An alternative to this expansion would be diversion of the flows to the Far Northwest WWTP.

### *6. Veterans Drive Lift Station Service Area*

This project defines the extension of the trunk sewer south along Veterans Dr. as far as Dare Rd. with gravity sewer service as follows: approximately 1,600 feet of 12-inch, 16,300 feet of 18-inch and 8,000 feet of 24-inch sanitary sewer line. It is anticipated that this project will be developer driven and the City's cost would be for oversizing and deepening of the lines.

### *7. Far Northwest WWTP Expansion [Cost Sharing] (Phase 2)*

The City's share of a 2.0 MGD wastewater treatment plant expansion serving the area west of S.H. 288. The City's share is to serve areas outside of the Shadow Creek Ranch development.

### *8. McHard Rd Trunk Sewer*

Install, along McHard Rd, approximately 4,500 feet of 24-inch trunk sewer from Cullen to Southdown WWTP. This project will provide gravity sewer to areas not currently served by the City.

### *9. Cullen to WWTP Trunk Sewer*

Approximately 8,300 feet of 24-inch trunk sewer along Cullen Blvd. and the projection of McHard Road, west of Cullen Blvd., to a new WWTP. This line will serve the areas in this sector.

### *10. JHEC WWTP 2.0 MGD Expansion (Phase 3)*

A 2.0 MGD expansion to the existing 4.0 MGD John Hargrove Environmental Center WWTP is proposed to increase the wastewater treatment plant capacity to 6.0 MGD to help this plant meet the wastewater treatment need for the future development.

### *11. Harkey Road Trunk Sewer South of Ravenwood (Oversizing)*

Approximately 31,800 feet of 18-inch, 24-inch, 30-inch, and 36-inch trunk sewers along Harkey Road, Bailey Road (CR 101), CR 100, and Amie Lane. These trunk sewers will serve the areas along the four roadway corridors. It is anticipated that this project will be developer driven and the City's cost would be for oversizing and deepening of the lines.

### *12. Dixie Farm – State Highway 35 Trunk Sewer*

Approximately 4,620 feet of 12-inch along Dixie Farm Road, 8,000 feet of 18-inch and 2,000 feet of 24-inch trunk sewer along State Highway 35. This project will also include a triplex lift station and approximately 300 feet of 10-inch force main along Dixie Farm Road.

### *13. Miller Ranch Road Lift Station & Collection System*

Approximately 13,445 feet of 10-inch, 12-inch, 15-inch, and 18-inch sanitary sewer lines along Hughes Ranch Road and Miller Ranch Roads. These sanitary sewer lines will serve future developments in this area and eliminate old lift stations to provide better service.

### *14. Far Northwest WWTP Expansion (Phase 3)*

A 2.0 MGD expansion of this plant to increase capacity to 6.0 MGD to serve areas outside of Shadow Creek Ranch.

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 1

**Project Description**

Broadway Sanitary Sewer

**Detailed Description**

**Approximately 1,165 feet of 12-inch sanitary sewer line along Broadway from Country Club Dr. to Regal Oaks Ln.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" Sanitary Sewer | 1,165 | LF | $80 | 93,200 |
| 2 | 48" Diameter Manhole | 2 | EA | $3,500 | 7,000 |
| 3 | Well Pointing | 200 | LF | $25 | 5,000 |
| 4 | Trench Safety | 1,165 | LF | $4 | 4,660 |
| 5 | Site Clearing & Restoration | 1 | LS | $5,000 | 5,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $114,900 |
| ENG/SURVEY | 15% | $17,300 |
| SUBTOTAL: | | $132,200 |
| CONSTRUCTION MGMT | 9.5% | $12,559 |
| SUBTOTAL: | | $144,759 |
| CONTINGENCY | 25% | $36,200 |
| SUBTOTAL: | | $181,000 |

**PROJECT TOTAL** **$181,000**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 2

**Project Description**

Barry Rose WWTP 1.4 MGD Expansion

**Detailed Description**

**Expansion of the existing WWTP and headworks with all associated components from 3.1 MGD to 4.5 MGD.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | Lift Station Expansion with Associated Piping & Structural Improvem | 1 | LS | $9,000,000 | 9,000,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $9,000,000 |
| ENG/SURVEY | 15% | $1,350,000 |
| SUBTOTAL: | | $10,350,000 |
| CONSTRUCTION MGMT | 9.5% | $983,250 |
| SUBTOTAL: | | $11,333,250 |
| CONTINGENCY | 25% | $2,833,400 |
| SUBTOTAL: | | $14,166,700 |

**PROJECT TOTAL** **$14,166,700**

**IMPACT FEE ELIGIBLE PORTION** **$4,535,048**

NOTES:

The Impact Fee Eigible 10-yr capacity need is 0.45 MGD. Therefore, the impact fee eligible portion is $4,535,048.

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 3

**Project Description**

Riverstone Ranch Lift Station & Sanitary Sewer

**Detailed Description**

**The City's cost to upsize and provide deeper lines and a larger capacity lift station in a proposed subdivision.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | City's cost for upsizing sewer lines & lift station | 1 | LS | $476,000 | 476,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $476,000 |
| ENG/SURVEY | 15% | $71,400 |
| SUBTOTAL: | | $547,400 |
| CONSTRUCTION MGMT | 9.5% | $52,003 |
| SUBTOTAL: | | $599,403 |
| CONTINGENCY | 25% | $149,900 |
| SUBTOTAL: | | $749,400 |

**PROJECT TOTAL** **$749,400**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 4

**Project Description**

Roy/Max/Garden Roads Basin Sewage System

**Detailed Description**

**Approximately 5,000 feet of 18-inch trunk sewer along Broadway St. from Food Town's Lift Station to O'Day Rd, approximately 1,300 feet of 15-inch trunk sewer along Garden Rd from Broadway to the lift station and 1,200 feet of 12-inch sewer line along Roy/May Rd from Broadway to Hickory Slough.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" Sanitary Sewer | 5,135 | LF | $80 | 410,800 |
| 2 | 15" Sanitary Sewer | 1,300 | LF | $100 | 130,000 |
| 3 | 18" Sanitary Sewer | 4,840 | LF | $130 | 629,200 |
| 4 | 18" Boring and Casing | 100 | LF | $450 | 45,000 |
| 5 | 48" Diameter Manhole | 11 | EA | $3,500 | 38,500 |
| 6 | 60" Diameter Manhole | 16 | EA | $5,000 | 80,000 |
| 7 | Well Pointing | 5,000 | LF | $25 | 125,000 |
| 8 | Trench Safety | 11,275 | LF | $4 | 45,100 |
| 9 | Site Clearing & Restoration | 1 | LS | $50,000 | 50,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,553,600 |
| ENG/SURVEY | 15% | $233,100 |
| SUBTOTAL: | | $1,786,700 |
| CONSTRUCTION MGMT | 9.5% | $169,737 |
| SUBTOTAL: | | $1,956,437 |
| CONTINGENCY | 25% | $489,200 |
| SUBTOTAL: | | $2,445,700 |

**PROJECT TOTAL** **$2,445,700**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 5

**Project Description**

Southdown WWTP Expansion or Diversion

**Detailed Description**

**A 1.0 MGD plant expansion of the Southdown WWTP, which currently serves Brazoria County MUD's No. 4 and 5, to serve future developments in this basin. An alternative to this expansion would be diversion of the flows to the Far Northwest WWTP.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 1.0 MGD New WWTP | 1,000,000 | GAL | $8 | 8,000,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $8,000,000 |
| ENG/SURVEY | 15% | $1,200,000 |
| SUBTOTAL: | | $9,200,000 |
| CONSTRUCTION MGMT | 9.5% | $874,000 |
| SUBTOTAL: | | $10,074,000 |
| CONTINGENCY | 25% | $2,518,500 |
| SUBTOTAL: | | $12,592,500 |

**PROJECT TOTAL** **$12,592,500**

**IMPACT FEE ELIGIBLE PORTION** **$2,508,249**

NOTES:

The Impact Fee Eligible 10-yr capacity need is 0.20 MGD. Therefore, the impact fee eligible portion is $2,508,249.

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 6

**Project Description**

Veterans Drive Lift Station Service Area

**Detailed Description**

**Approximately 1,600 feet 12-inch, 16,300 feet 18-inch and 8,000 feet 24-inch sanitary sewer line.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 12" Sanitary Sewer | 1,420 | LF | $80 | 113,600 |
| 2 | 18" Sanitary Sewer | 15,480 | LF | $130 | 2,012,400 |
| 3 | 24" Sanitary Sewer | 7,560 | LF | $160 | 1,209,600 |
| 4 | 24" Boring and Casing | 400 | LF | $450 | 180,000 |
| 5 | 18" Boring and Casing | 800 | LF | $450 | 360,000 |
| 6 | 12" Boring and Casing | 200 | LF | $350 | 70,000 |
| 7 | 48" Diameter Manhole | 4 | EA | $3,500 | 14,000 |
| 8 | 60" Diameter Manhole | 46 | EA | $5,000 | 230,000 |
| 9 | Well Pointing | 20,000 | LF | $25 | 500,000 |
| 10 | Trench Safety | 23,220 | LF | $4 | 92,880 |
| 11 | Site Clearing & Restoration | 1 | LS | $150,000 | 150,000 |
| | | | | | |
| | | SUBTOTAL: | | | $4,932,500 |
| | | ENG/SURVEY | 15% | | $739,900 |
| | | SUBTOTAL: | | | $5,672,400 |
| | | CONSTRUCTION MGMT | 9.5% | | $538,878 |
| | | SUBTOTAL: | | | $6,211,278 |
| | | CONTINGENCY | 25% | | $1,552,900 |
| | | SUBTOTAL: | | | $7,764,200 |

**PROJECT TOTAL** **$7,764,200**

**IMPACT FEE ELIGIBLE PORTION** **$3,882,100**

NOTES:

There will be an oversizing agreement on this project. It is estimated that the City's share would be 50%. Therefore, the Impact Fee Eligible portion would be $3,252,950.

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

## OPINION OF PROBABLE COST — February 2013

## Construction Project Number 7

**Project Description**

Far Northwest WWTP Expansion (Phase 2)

**Detailed Description**

**A 2.0 MGD WWTP expansion serving the area west of S.H. 288.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 2.0 MGD WWTP Expansion | 2,000,000 | GAL | $8 | 16,000,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $16,000,000 |
| ENG/SURVEY | 15% | $2,400,000 |
| SUBTOTAL: | | $18,400,000 |
| CONSTRUCTION MGMT | 9.5% | $1,748,000 |
| SUBTOTAL: | | $20,148,000 |
| CONTINGENCY | 25% | $5,037,000 |
| SUBTOTAL: | | $25,185,000 |

**PROJECT TOTAL $25,185,000**

**IMPACT FEE ELIGIBLE PORTION $11,287,121**

NOTES:

The Impact Fee Eligible 10-yr capacity need is 0.90 MGD. Therefore, the impact fee eligible portion is $11,287,121.

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 8

**Project Description**

McHard Rd Trunk Sewer

**Detailed Description**

**Approximately 4,500 feet of 24-inch sewer from Cullen to Southdown WWTP.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 24" Sanitary Sewer | 4,500 | LF | $160 | 720,000 |
| 2 | 60" Diameter Manhole | 11 | EA | $5,000 | 55,000 |
| 3 | Well Pointing | 4,500 | EA | $25 | 112,500 |
| 4 | Trench Safety | 4,500 | LF | $4 | 18,000 |
| 5 | Site Clearing & Restoration | 1 | LS | $150,000 | 150,000 |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,055,500 |
| ENG/SURVEY | 15% | $158,400 |
| SUBTOTAL: | | $1,213,900 |
| CONSTRUCTION MGMT | 9.5% | $115,321 |
| SUBTOTAL: | | $1,329,221 |
| CONTINGENCY | 25% | $332,400 |
| SUBTOTAL: | | $1,661,700 |

**PROJECT TOTAL** **$1,661,700**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 9

**Project Description**

Cullen to WWTP Trunk Sewer

**Detailed Description**

**Approximately 8,300 feet of 24-inch trunk sewer along Cullen Blvd. and the projection of McHard Road, west of Cullen Blvd., to a new WWTP.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 24" Sanitary Sewer | 8,200 | LF | $160 | 1,312,000 |
| 2 | 24" Boring and Casing | 100 | LF | $450 | 45,000 |
| 3 | 60" Diameter Manhole | 18 | EA | $5,000 | 90,000 |
| 4 | Well Pointing | 8,200 | LF | $25 | 205,000 |
| 5 | Trench Safety | 8,200 | LF | $4 | 32,800 |
| 6 | Site Clearing & Restoration | 1 | LS | $40,000 | 40,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,724,800 |
| ENG/SURVEY | 15% | $258,800 |
| SUBTOTAL: | | $1,983,600 |
| CONSTRUCTION MGMT | 9.5% | $188,442 |
| SUBTOTAL: | | $2,172,042 |
| CONTINGENCY | 25% | $543,100 |
| SUBTOTAL: | | $2,715,200 |

**PROJECT TOTAL** **$2,715,200**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 10

**Project Description**

JHEC WWTP Expansion (Phase 3)

**Detailed Description**

**A 2.0 MGD plant expansion is proposed to increase capacity to 6.0 MGD to help this plant meet the wastewater treatment need for the future development.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 2.0 MGD WWTP Expansion | 2,000,000 | GAL | $8 | 16,000,000 |

| | | |
|---|---|---|
| SUBTOTAL: | | $16,000,000 |
| ENG/SURVEY | 15% | $2,400,000 |
| SUBTOTAL: | | $18,400,000 |
| CONSTRUCTION MGMT | 9.5% | $1,748,000 |
| SUBTOTAL: | | $20,148,000 |
| CONTINGENCY | 25% | $5,037,000 |
| SUBTOTAL: | | $25,185,000 |

**PROJECT TOTAL** **$25,185,000**

**IMPACT FEE ELIGIBLE PORTION** **$5,643,560**

NOTES:

The 10-yr capacity need is 0.45 MGD. Therefore, the impact fee eligible portion is $5,643,560.

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 11

**Project Description**

Harkey Road Trunk Sewer South of Ravenwood (Oversizing)

**Detailed Description**

**Approximately 31,800 feet of 18-inch, 24-inch, 30-inch, and 36-inch trunk sewers along Harkey Road, Bailey Road (CR101), and Amie Lane.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 18" Sanitary Sewer | 10,050 | LF | $130 | 1,306,500 |
| 2 | 24" Sanitary Sewer | 11,500 | LF | $160 | 1,840,000 |
| 3 | 30" Sanitary Sewer | 4,000 | LF | $200 | 800,000 |
| 4 | 36" Sanitary Sewer | 6,250 | LF | $252 | 1,575,000 |
| 5 | 60" Diameter Manhole | 75 | EA | $5,000 | 375,000 |
| 6 | Well Pointing | 15,000 | LF | $25 | 375,000 |
| 7 | Trench Safety | 31,800 | LF | $4 | 127,200 |
| 8 | Site Clearing & Restoration | 1 | LS | $150,000 | 150,000 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $6,548,700 |
| ENG/SURVEY | 15% | $982,400 |
| SUBTOTAL: | | $7,531,100 |
| CONSTRUCTION MGMT | 9.5% | $715,455 |
| SUBTOTAL: | | $8,246,555 |
| CONTINGENCY | 25% | $2,061,700 |
| SUBTOTAL: | | $10,308,300 |

**PROJECT TOTAL** **$10,308,300**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 12

**Project Description**

Dixie Farm-State Highway 35 Trunk Sewer

**Detailed Description**

**Approximately 4,620 feet of 12-inch sewer along Dixie Farm road, 8,000 feet of 18-inch and 2,000 feet of 24-inch trunk sewer along State Highway 35.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | Lift Station (Triplex) | 1 | LS | $300,000 | 300,000 |
| 2 | 12" Sanitary Sewer | 4,500 | LF | $80 | 360,000 |
| 3 | 18" Sanitary Sewer | 8,000 | LF | $130 | 1,040,000 |
| 4 | 24" Sanitary Sewer | 2,000 | LF | $160 | 320,000 |
| 5 | 12" Boring and Casing | 120 | LF | $350 | 42,000 |
| 6 | 48" Diameter Manhole | 9 | EA | $3,500 | 31,500 |
| 7 | 60" Diameter Manhole | 26 | EA | $5,000 | 130,000 |
| 8 | 10" Force Main | 300 | LF | $60 | 18,000 |
| 9 | Well Pointing | 5,000 | LF | $25 | 125,000 |
| 10 | Trench Safety | 14,500 | LF | $4 | 58,000 |
| 11 | Site Clearing & Restoration | 1 | LS | $50,000 | 50,000 |
| | | | | | |
| | | | SUBTOTAL: | | $2,474,500 |
| | | | ENG/SURVEY | 15% | $371,200 |
| | | | SUBTOTAL: | | $2,845,700 |
| | | | CONSTRUCTION MGMT | 9.5% | $270,342 |
| | | | SUBTOTAL: | | $3,116,042 |
| | | | CONTINGENCY | 25% | $779,100 |
| | | | SUBTOTAL: | | $3,895,200 |

**PROJECT TOTAL** **$3,895,200**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 13

**Project Description**

Miller Ranch Road Lift Station & Collection System

**Detailed Description**

**Approximately 13,445 feet of 10-inch, 12-inch, 15-inch, and 18-inch sanitary sewer lines along Hughes Ranch Road and Miller Ranch Roads.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 10" Sanitary Sewer | 1,570 | LF | $70 | 109,900 |
| 2 | 12" Sanitary Sewer | 4,015 | LF | $80 | 321,200 |
| 3 | 15" Sanitary Sewer | 3,460 | LF | $100 | 346,000 |
| 4 | 18" Sanitary Sewer | 4,400 | LF | $130 | 572,000 |
| 5 | 48" Diameter Manhole | 12 | EA | $3,500 | 42,000 |
| 6 | 60" Diameter Manhole | 22 | EA | $5,000 | 110,000 |
| 7 | Well Pointing | 7,000 | EA | $25 | 175,000 |
| 8 | Trench Safety | 13,445 | LF | $4 | 53,780 |
| 9 | Site Clearing & Restoration | 1 | LS | $60,000 | 60,000 |
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| SUBTOTAL: | | $1,789,900 |
| ENG/SURVEY | 15% | $268,500 |
| SUBTOTAL: | | $2,058,400 |
| CONSTRUCTION MGMT | 9.5% | $195,548 |
| SUBTOTAL: | | $2,253,948 |
| CONTINGENCY | 25% | $563,500 |
| SUBTOTAL: | | $2,817,500 |

**PROJECT TOTAL** **$2,817,500**

# City of Pearland

## Wastewater 2012 Impact Fee CIP

FREESE AND NICHOLS

**OPINION OF PROBABLE COST** — **February 2013**

## Construction Project Number 14

**Project Description**

Far Northwest WWTP Expansion (Phase 3)

**Detailed Description**

**A 2.0 MGD expansion of this plant to increase capacity to 6.0 MGD to serve areas outside of Shadow Creek Ranch.**

| ITEM | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|
| 1 | 2.0 MGD WWTP Expansion (CIP # 16) | 2,000,000 | GAL | $8 | 16,000,000 |

| | | |
|---|---|---|
| SUBTOTAL: | | $16,000,000 |
| ENG/SURVEY | 15% | $2,400,000 |
| SUBTOTAL: | | $18,400,000 |
| CONSTRUCTION MGMT | 9.5% | $1,748,000 |
| SUBTOTAL: | | $20,148,000 |
| CONTINGENCY | 25% | $5,037,000 |
| SUBTOTAL: | | $25,185,000 |

**PROJECT TOTAL** **$25,185,000**

# APPENDIX F:
# Analysis of Water and Wastewater Plants Reserve Capacity

# ANALYSIS OF WTP CAPACITY

# REQUIREMENTS TO MEET YEAR 2022 DEMAND

| | |
|---|---|
| 5 MGD Surface Water Contract | $22,000,000 |
| New 10 MGD Surface Water Treatment Plant | $68,237,400 |

| | |
|---|---|
| Existing Service Units: | 37,491 SUEs |
| 10-year Projected Increase: | 21,418 SUEs |
| 2012 Water Demand: | 33,386 connections x 0.47 gpm/connection = 15,691 gpm |
| 10-year Projection: | 48,809 connections x 0.556 gpm/connection = 27,138 gpm |

| | |
|---|---|
| Total Water Demand by 2022: | 27,138 gpm |
| Available Capacity: | 23,936 gpm |
| Additional Capacity Required by 2022: | 3,202 gpm |

In order to increase the current supply to provide the additional 3,202 gpm (4.61 MGD), an additional 5 MGD surface water contract could be negotiated with the City of Houston. However, it is still necessary to pursue the construction of a new surface water treatment plant to provide required water production capacity to the west side of the City.

Therefore, the 10-yr eligible costs for the impact fee are:

10-yr portion of 5 MGD Contract = $22,000,000 x 0% = $0

10-yr portion of New 10 MGD Surface Water Treatment Plant

= $68,237,400 x 4.606868/10.0 = $31,436,067

# ANALYSIS OF COMPLETED WATER PROJECTS

## DEBT SERVICE ALLOCATIONS

Completed Water Lines:

| | |
|---|---|
| Old Alvin Road 20" Water Line | $ 2,556,718 |
| McHard Road 16" Water Line | $ 7,090,901 |
| Houston 30" Interconnect Transmission Line | $ 19,599,542 |
| Magnolia Rd 12" Water Line (FM1128) | $ 716,750 |
| Bailey Rd 24" & 30" Water Transmission Lines | $ 360,145 |
| BW 8 / SH 288 12" Water Line | $ 743,257 |
| SH 35 Water 16" Water Line - South of Magnolia | $ 338,936 |
| SH 35 16" Water Line - FM 518 to Clear Creek | $ 1,399,492 |
| Dixie Farm Rd 16" Water Line | $ 2,066,461 |
| McHard Surface Water Connection & Line | $ 406,281 |
| Kingsley 20" Water Line - Broadway to Trinity Bay | $ 198,750 |
| Hawk Road 12" Water Line | $ 63,624 |
| Pearland Pkwy 12" Water Line Extension | $ 502,100 |
| | **$ 36,042,957** |

Debt Service Allocations Are As Follows:

| Water Line Projects | Project Cost | Paid Cash | 10 Year Debt Service Allocation | 10 Year Total Cost (2012 - 2022) |
|---|---|---|---|---|
| Old Alvin Road 20" Water Line | $2,556,718 | $1,556,718 | $687,476 | $2,244,194 |
| McHard Road 16" Water Line | $7,090,901 | $629,857 | $3,992,053 | $4,621,910 |
| Houston 30" Interconnect Transmission Line | $19,599,542 | $3,331,235 | $12,362,197 | $15,693,432 |
| Magnolia Rd 12" Water Line (FM1128) | $716,750 | $116,750 | $412,543 | $529,293 |
| Bailey Rd 24" & 30" Water Transmission Lines | $360,145 | $360,145 | $0 | $360,145 |
| BW 8 / SH 288 12" Water Line | $743,257 | $743,257 | $0 | $743,257 |
| SH 35 Water 16" Water Line - South of Magnolia Road | $338,936 | $338,936 | $0 | $338,936 |
| SH 35 16" Water Line - FM 518 to Clear Creek | $1,399,492 | $74,492 | $543,569 | $618,061 |
| Dixie Farm Rd 16" Water Line | $2,066,461 | $0 | $1,278,247 | $1,278,247 |
| McHard Surface Water Connection & Line | $406,281 | $0 | $166,716 | $166,716 |
| Kingsley 20" Water Line - Broadway to Trinity Bay | $198,750 | $0 | $0 | $0 |
| Hawk Road 12" Water Line | $63,624 | $63,624 | $0 | $63,624 |
| Pearland Pkwy 12" Water Line Extension | $502,100 | $502,100 | $0 | $502,100 |
| | | | **Total:** | **$27,159,915** |

# ANALYSIS OF WWTP CAPACITY EXPANSIONS

## DEBT SERVICE ALLOCATIONS

Completed Expansions:

| | | |
|---|---|---|
| JHEC WWTP Expansion – Phase 2 | (1.65 MGD) | $ 19,940,189 |
| Far Northwest Expansion – Phase 1 | (2.00 MGD) | $10,000,000 |
| Barry Rose WWTP Expansion | (0.85 MGD) | 609,914 |
| Longwood WWTP Expansion | (0.75 MGD) | 1,879,431 |
| **Total Completed Expansions** | **(5.25 MGD)** | **$ 32,429,534** |

Debt Service Allocations Are As Follows:

| WWTP Expansion | Project Cost | Paid Cash | 10 Year Debt Service Allocation | 10 Year Total Cost (2012 - 2022) |
|---|---|---|---|---|
| SWEC | $19,940,189 | $3,122,793 | $18,453,544 | $21,576,337 |
| Far Northwest | $10,000,000 | $0 | $11,200,625 | $11,200,625 |
| Barry Rose | $609,914 | $0 | $365,772 | $365,772 |
| Longwood | $1,879,431 | $0 | $1,137,956 | $1,137,956 |
| | | | **Total:** | **$34,280,690** |

Since entire 5.25 MGD expansion is needed to meet current and 10-yr period demand, the total allocation is impact fee eligible.

# ANALYSIS OF WWTP CAPACITY

# REQUIREMENTS TO MEET YEAR 2022 DEMAND

Existing Service Units: 37,460 SUEs

10-year Projected Increase: 21,418 SUEs

2012 Wastewater Flow: 6.60 MGD

10-year Projection: (58,878 SUEs)(2.3 persons/SUE)(100 gal/person) = 13.54 MGD

Available Capacity: 11.55 MGD

Additional Capacity Required by 2022: 1.99 MGD

Projected Wastewater Flows by Service Area were determined using the Future Land Use and Projected Growth map (Figure 2.1):

| WWTP Service Area | Projected 10 Year Population Growth | Wastewater Flow Rate (gpcd) | Projected Wastewater Flow Increase (MGD) | Eligible Projected Wastewater Flow Increase (MGD) |
|---|---|---|---|---|
| SWEC | 4,500 | 100 | 0.45 | 0.45 |
| Far Northwest | 9,000 | 100 | 0.90 | 0.89 |
| Barry Rose | 4,500 | 100 | 0.45 | 0.45 |
| Southdown | 2,000 | 100 | 0.20 | 0.20 |
| | | **Total:** | **2.00** | **1.99** |

Impact Fee Eligible WWTP Expansion costs were determined using the Eligible Projected Wastewater Flow Increases:

| WWTP Expansion | Expansion (MGD) | Eligible Projected Wastewater Flow Increase (MGD) | Percent of Expansion Impact Fee Eligible | Expansion Cost Estimate | Impact Fee Eligible Expansion Cost Estimate |
|---|---|---|---|---|---|
| SWEC | 2.00 | 0.45 | 22% | $25,185,000 | $5,540,700 |
| Far Northwest | 2.00 | 0.89 | 44% | $25,185,000 | $11,081,400 |
| Barry Rose | 1.40 | 0.45 | 32% | $14,166,700 | $4,533,344 |
| Southdown | 1.00 | 0.20 | 20% | $12,592,500 | $2,518,500 |
| **Total:** | **6.40** | **1.99** | | **$77,129,200** | **$23,673,944** |

# ANALYSIS OF COMPLETED SEWER PROJECTS

## DEBT SERVICE ALLOCATIONS

Completed Sewers:

| | |
|---|---|
| Magnolia Corridor Trunk Sewer | $3,542,778 |
| SH 35 30" Trunk Sewer | $4,935,371 |
| BW 8 / SH 288 12" FM and Sanitary Sewer Line | $1,884,600 |
| SH 35 18" Sewer - Broadway to Clear Creek | $3,783,813 |
| Veterans Dr 27" Sewer - Wells to Bailey Rd | $530,470 |
| Shadow Creek Parkway Trunk Sewer (Phase 1) | $1,040,282 |
| Shadow Creek Parkway Trunk Sewer (Phase 2) | $980,718 |
| | **$16,698,032** |

Debt Service Allocations Are As Follows:

| Sewer Line Projects | Project Cost | Paid Cash | 10 Year Debt Service Allocation | 10 Year Total Cost (2012 - 2022) |
|---|---|---|---|---|
| Magnolia Corridor Trunk Sewer | $3,542,778 | $1,807,778 | $1,087,155 | $2,894,933 |
| SH 35 30" Trunk Sewer | $4,935,371 | $2,200,000 | $1,065,208 | $3,265,208 |
| BW 8 / SH 288 12" FM and Sanitary Sewer Line | $1,884,600 | $1,884,600 | $0 | $1,884,600 |
| SH 35 18" Sewer - Broadway to Clear Creek | $3,783,813 | $88,813 | $9,995,994 | $10,084,807 |
| Veterans Dr 27" Sewer - Wells to Bailey Rd | $530,470 | $0 | $0 | $0 |
| Shadow Creek Parkway Trunk Sewer (Phase 1) | $1,040,282 | $0 | $609,620 | $609,620 |
| Shadow Creek Parkway Trunk Sewer (Phase 2) | $980,718 | $0 | $584,219 | $584,219 |
| | | | **Total:** | **$19,323,387** |