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# Water and Wastewater Impact Fees- 2018 Update

## Water and Wastewater Impact Fee Study

December 20, 2018

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December 20, 2018

Ms. Marcela Navarrete, CPA
Vice President Strategic, Financial, and Management Services
El Paso Water
1154 Hawkins Blvd
El Paso, Texas 79961-0001

**Subject: Water and Wastewater Impact Fee Draft Report**

Dear Ms. Navarrete,

Raftelis is pleased to provide this *Water and Wastewater Impact Fee Report (*Report*)* for the consideration by the El Paso Water Utilities-Public Service Board (EPWater) and the City of El Paso (City). Our draft Report documents the steps we took to develop the 2019 water and wastewater impact fees developed in compliance with Texas Statues, Chapter 395. This Report is subject to changed based on review and input from the City Council and City's Capital Improvement Advisory Committee (CIAC).

We want to especially thank Ms. Adriana Castillo, EPWater Engineering Division Manager, for her assistance throughout this project in developing the capital improvement plan.

It has been a pleasure working with you, and we thank you and your staff for the support provided during this study.

Sincerely,

**Richard D. Giardina, CPA**
*Executive Vice President*

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# Project Overview

## Background of the Study

EPWater engaged Raftelis to update the existing Water and Wastewater Impact Fees in compliance with State law- Texas Statutes, Local Government Code, Chapter 395 (State Impact Fee Statues). This report documents the 2019 update of the water and wastewater impact fees and replaces the previous Water and Wastewater Impact Fees- 2014 Update. During the last impact fee update process, it was determined that the approved 2009 impact fee amounts would not be updated; would not be changed.

Consistent with the 2014 update of impact fees, this update determined fees for the same three areas as the previous study (Northeast, Eastside, and Westside). Listed below are the designated service areas.

Northeast Area

- 01- Northeast Master Plan
- 05A- Northwest Fort Bliss A
- 05B- Northwest Fort Bliss B
- 05C- Northwest Fort Bliss C

Westside Area

- 02- Westside MP
- 03A- Northwest Vinton A
- 03E- I-10375 MP
- 04A- Northwest Artcraft A
- 04B- Northwest Artcraft B
- 04C- Northwest Artcraft C
- 04D- Northwest Artcraft D
- 04E- Canutillo
- 02B- Other

Eastside Area

- 08B- Eastside
- 12- South Montana
- 12B- South Montana B
- 08- East Battle

The calculated water and wastewater impact fees may only be charged to the aforementioned service areas. Any development outside of the service areas will not be charged an impact fee.

Maps displaying the EPWater service area are attached in Appendix A.

Calculations and results in this report are based on numerical analysis using rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places. Therefore, the sums and products generated may

not exactly equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to rounding).

# Impact Fee Methodology

The water and wastewater impact fee calculations are based on the incremental method. Under this method, new customers pay a fee representing their share of expansion related developmental costs of new facilities. The incremental method uses a 10-year capital improvement plan (CIP) that accounts for projects that will add future capacity. The impact fee is determined for the supply and treatment categories for water and treatment and collection categories for wastewater.

Each CIP project is allocated to its respective category: reservoirs to water distribution, force mains to wastewater collection, wastewater lines to wastewater collection, etc. The project's costs and service units are summed by category. The total categories' costs are then divided by the categories' total service units to arrive at a per unit cost. For example, the total costs of the distribution pumping equipment category are divided by the total capacity added by the distribution pumping equipment to arrive at per unit amount. This amount is added to the water distribution portion of the impact fee. A service unit represents the water and wastewater flows in gallons per day (gpd) for a single family residential unit.

# Land Use Assumptions and Service Unit Characteristics

Impact fees in Texas must meet the requirements set by the Texas Statutes, Local Government Code, Chapter 395. In compliance with Chapter 395 land use assumptions, see Attachment B, are used to arrive at the residential service units (SUs) and population per residential service as shown in table 1. The average persons per service unit used is 3.13 persons per household based on the County average as shown in the *2019 Land Use Assumptions Technical Report*. The Land Use Assumption Update uses data from master plans prepared by or on behalf of the City of El Paso, and from other sources used in projecting water and wastewater service demands.

### Table 1 - Land Use Assumptions

| Service Area | Total Residential Service Units (Build-Out) | Average Household Size Persons/SU | Population per Service Area |
|---|---|---|---|
| **Northeast** | | | |
| 01 | 18,365 | 3.13 | 57,482 |
| 05A | 16,418 | 3.13 | 51,387 |
| 05B | 13,054 | 3.13 | 40,860 |
| 05C | 9,881 | 3.13 | 30,927 |
| **Westside** | | | |
| 02 | 5,331 | 3.13 | 16,686 |
| 03A | 353 | 3.13 | 1,105 |
| 03E | 2,458 | 3.13 | 7,693 |
| 04A | 5,712 | 3.13 | 17,880 |
| 04B | 3,055 | 3.13 | 9,562 |
| 04C | 401 | 3.13 | 1,254 |
| 04D | 762 | 3.13 | 2,384 |
| 04E | 2,096 | 3.13 | 6,560 |
| 02B | 3,183 | 3.13 | 9,961 |
| **Eastside** | | | |
| 08B | 16,650 | 3.13 | 52,113 |
| 12 | 5,013 | 3.13 | 15,692 |
| 12B | 2,685 | 3.13 | 8,404 |
| 08 | 8,037 | 3.13 | 25,157 |

Table 1 shows the land use and demographic assumptions used to determine the residential service units and future capacity requirements. These assumptions go into calculating the water and wastewater flow rates that will be used throughout the analysis/model.

Using the Table 1 data and assumptions regarding commercial and industrial use, the water and wastewater flow rates are calculated in Table 2. In this study we use 3.5 persons per Service Unit to define the flow rates, this rate is higher than then the 3.13 persons per Service Unit in Table 1 due to the additional commercial and industrial usage that must be accounted for. These numbers have not changed since the 2014 update.

### Table 2 - Equivalent Service Unit Flows

| Description | Water | Wastewater |
|---|---|---|
| **Average Usage Capita (gallons per day-gpd)** | 115 | 70 |
| **Ratio of Maximum Day Demand to Average Day Demand** | 1.71[1] | 1.39 |
| **Maximum Day Demand per Capita (gpd)** | 197 | 98 |
| **Persons per Service Unit** | 3.50 | 3.50 |
| **Flows per Equivalent Service Unit (gpd)[2]** | 688 | 341 |

1. **Elevated water storage capacity is calculated based on 50% of Maximum Day Demand.**
2. **Equivalent service unit flows represent flow to a residential, commercial, or industrial user with a water meter size less than 1-inch.**

The flows per service unit are 688 gpd for water and 341 gpd for wastewater. These flow rates are used to calculate the number of facility service units in Attachments E and F.

# 10-Year Population and Service Unit Projections

It is difficult to forecast population growth and developmental growth accurately. The growth directly influences the timeline for when exactly the additional capacity must be realized. This assumption must be made when calculating an impact fee.

Table 3 displays the population and development units for the water and wastewater impact fee areas under consideration.

**Table 3 - 2029 Population and Service Units**

| Service Area | Developable Acres | Population | Residential Service Units | Non-Residential Service Unit Equivalents | Total Service Units |
|---|---|---|---|---|---|
| **Northeast** | 2,197 | 47,866 | 15,293 | 6,368 | 21,661 |
| **Westside** | 1,238 | 32,558 | 10,402 | 9,172 | 19,574 |
| **Eastside** | 3,579 | 56,056 | 17,909 | 6,995 | 24,904 |
| **Total** | 7,014 | 136,480 | 43,604 | 22,535 | 66,139 |

# Proposed Capital Improvement Facilities

In compliance with the State Impact Fee Statues, proposed capital improvements were prepared by Adriana Castillo, P.E., with the EPWater. The capital projects include facilities required by new development in the next ten years. Descriptions of the proposed capital improvement projects are included as Attachment C to this report. The list of CIP projects with estimated costs for each, are included in Attachment D. Attachment E to this report shows the CIP capital, financing costs, capacity, facility service units, unit cost of capacity, and weighted average cost of capacity for each service area used in the impact fee calculation.

# Maximum Impact Fee Calculation

The capital projects noted in the CIP plan add capacity for the 10-year period and beyond. To account for this growth Raftelis allocates the costs of the growth-related CIP to the projected development and to the total number

of new service units that may be served by the new capacity additions. The 10-year CIP is adding significant capacity, but this capacity will still not be sufficient to serve the projected ultimate built out capacity of the indicated service areas.

Raftelis used the capacities provided by EPWater to estimate capacity added by each capital project. This assumes that all units will be served by the additional capacity regardless of when the growth occurs.

The LUA Update projects new service units for the next ten years (Table 4) to be served by EPWater planned capacity additions as reported in the 10-year CIP. In compliance with the State Impact Fee Statutes, the maximum impact fee per service unit is calculated by dividing the costs of the portion of the CIP required by and attributable to projected new service units by the total projected new service units served by the CIP.

Attachment F provides a summary of the capital costs, capital service units, financing costs, percentage of CIP needed through 2029, and the maximum impact fee for each service area. The model assumes a 35% debt funding rate for all capital projects at an interest rate of 5% and a 20-year amortization or repayment period. The impact fee calculations include the net present value of the interest and transaction costs of the loans to arrive at a per unit impact fee value. Table 4 summarizes the maximum impact fee by service area.

**Table 4 - Maximum Impact Fee by Service Area**

| Service Area | Projected New Service Units (through 2029) | Maximum Impact Fee per Service Unit |
|---|---|---|
| **Northeast** | | |
| **Water** | 21,661 | $3,437 |
| **Wastewater** | 21,661 | 1,271 |
| **Total** | | $4,708 |
| **Westside** | | |
| **Water** | 19,574 | $1,272 |
| **Wastewater** | 19,574 | 929 |
| **Total** | | $2,201 |
| **Eastside** | | |
| **Water** | 24,904 | $4,473 |
| **Wastewater** | 24,904 | 2,286 |
| **Total** | | $6,758 |

# Impact Fee Credit Calculation

The State Impact Fee Statutes require the determination of an "impact fee credit" for the portion of utility service revenues or ad valorem taxes generated by the new service units during the 10-year period. There are two ways to calculate this credit:

- A credit against the impact fee 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 capital improvements, including the payment of debt, that are included in the capital improvements plan; or

- A credit equal to 50 percent of the total projected cost of implementing the capital improvements plan.

The City of El Paso does not use ad valorem taxes to assist in paying for utility projects, so the ad valorem language does not apply. A credit recognizing the utility service revenues generated by new service units during the capital program period that is used for the payment of capital improvements, including the payment of debt, that are included in the capital improvements plan is warranted and is what has been used since EPWater first adopted impact fees and is what has been used again in this update.

The calculated credit represents the approximation of the utility service revenue projected to be provided by the new service units that may be used to retire debt issued to fund the CIP upon which the impact fee is based. This rate credit to the impact fee prevents new service units from the potential of double counting or paying twice for utility capital improvements and related debt.

The impact fee credit was determined to be 12.8% for water and 17.0% for wastewater. Attachment G provides the detail for the calculation of the debt service credits. Table 5 illustrates the impact fee with the calculated credit. The credit is applied as percentage of the maximum Impact Fee.

**Table 5 - Impact Fee Credits per Service Unit Equivalent**

| | Water | | | Wastewater | | | Total |
|---|---|---|---|---|---|---|---|
| **Service Area** | **Maximum Impact Fee** | **Impact Fee Credit (12.8%)** | **Net Impact Fee** | **Maximum Impact Fee** | **Impact Fee Credit (17%)** | **Net Impact Fee** | **Net Impact Fee** |
| **Northeast** | **$3,437** | **($439)** | **$2,998** | **$1,271** | **($216)** | **$1,055** | **$4,053** |
| **Westside** | **$1,272** | **($163)** | **$1,109** | **$929** | **($158)** | **$771** | **$1,880** |
| **Eastside** | **$4,473** | **($572)** | **$3,901** | **$2,286** | **($389)** | **$1,897** | **$5,798** |

The impact fee credit is calculated at a system-wide level to account for the system-wide collection of revenues. The impact fee credits are then applied uniformly across all meter sizes.

# Impact Fee Assessment Schedule

The impact fee assessment schedule follows established guidelines in "scaling up" or assessing the impact fee to recognize the greater demands placed on the system from larger connections. As stated above, the incremental method is used to calculate the impact fee for a ¾ inch meter or for an equivalent residential unit. For meters ¾ inch and larger the American Water Works Association (AWWA) standard ratios are used. These guidelines define the ¾ inch meter as one unit, and all other meters as a multiple of the ¾ inch meter. These ratios are based on the maximum flow capacities for the various meters. Table 6 displays the Northeast service area impact fees calculated according to AWWA standards; the resulting "Meter Capacity Ratio".

### Table 6 - Northeast Water and Wastewater Impact Fee Assessment Schedule (Net Fee after Credit)

| Meter Size | Meter Capacity Ratio | Water | Wastewater | Total |
|---|---|---|---|---|
| **Less than 1-Inch** | 1.00 | $2,998 | $1,055 | $4,053 |
| **1-Inch** | 1.67 | 5,007 | 1,762 | 6,769 |
| **11/2-Inch** | 3.33 | 9,983 | 3,513 | 13,496 |
| **2-Inch** | 5.33 | 15,979 | 5,623 | 21,602 |
| **3-Inch** | 10.00 | 29,980 | 10,550 | 40,530 |
| **4-Inch** | 16.67 | 49,977 | 17,587 | 67,564 |
| **6-Inch** | 33.33 | 99,923 | 35,163 | 135,086 |
| **8-Inch** | 53.33 | 159,883 | 56,263 | 216,146 |

Attachment H provides a schedule for all impact fee service areas. Tables 7-9 compare the current and proposed water, wastewater, and total impact fees for each service area. It should be noted that the current fees are those adopted in 2009 by the El Paso City Council (these fees were not updated in the 2014 Update). This in and of itself is a material reason the proposed fees are so much greater than the current fees as shown in Tables 7-9.

### Table 7 - Northeast Impact Fee Comparison (Net Fee after Credit)

| Meter Size | Water | | Wastewater | | Total | | Change in Total Fee | |
|---|---|---|---|---|---|---|---|---|
| | Current | Proposed | Current | Proposed | Current | Proposed | $ | % |
| Less than 1-Inch | $1,178 | $2,998 | $291 | $1,055 | $1,469 | $4,053 | $2,584 | 176% |
| 1-Inch | $1,967 | 5,007 | $486 | 1,762 | $2,453 | 6,769 | $4,316 | 176% |
| $1_{1/2}$-Inch | $3,921 | 9,983 | $969 | 3,513 | $4,890 | 13,496 | $8,606 | 176% |
| 2-Inch | $6,276 | 15,979 | $1,551 | 5,623 | $7,827 | 21,602 | $13,775 | 176% |
| 3-Inch | $11,775 | 29,980 | $2,910 | 10,550 | $14,685 | 40,530 | $25,845 | 176% |
| 4-Inch | $19,629 | 49,977 | $4,851 | 17,587 | $24,480 | 67,564 | $43,084 | 176% |
| 6-Inch | $39,246 | 99,923 | $9,699 | 35,163 | $48,945 | 135,086 | $86,141 | 176% |
| 8-Inch | $62,796 | 159,883 | $15,519 | 56,263 | $78,315 | 216,146 | $137,831 | 176% |

### Table 8 - Westside Impact Fee Comparison Schedule (Net Fee after Credit)

| Meter Size | Water | | Wastewater | | Total | | Change in Total Fee | |
|---|---|---|---|---|---|---|---|---|
| | Current | Proposed | Current | Proposed | Current | Proposed | $ | % |
| Less than 1-Inch | $659 | $1,109 | $927 | $771 | $1,586 | $1,880 | $294 | 19% |
| 1-Inch | $1,101 | 1,852 | $1,548 | 1,288 | $2,649 | 3,140 | $491 | 19% |
| $1_{1/2}$-Inch | $2,195 | 3,693 | $3,087 | 2,567 | $5,282 | 6,260 | $978 | 19% |
| 2-Inch | $3,514 | 5,911 | $4,941 | 4,109 | $8,455 | 10,020 | $1,565 | 19% |
| 3-Inch | $6,593 | 11,090 | $9,270 | 7,710 | $15,863 | 18,800 | $2,937 | 19% |
| 4-Inch | $10,990 | 18,487 | $15,453 | 12,853 | $26,443 | 31,340 | $4,897 | 19% |
| 6-Inch | $21,973 | 36,963 | $30,897 | 25,697 | $52,870 | 62,660 | $9,790 | 19% |
| 8-Inch | $35,158 | 59,143 | $49,437 | 41,117 | $84,595 | 100,260 | $15,665 | 19% |

### Table 9 - East Impact Fee Comparison Schedule (Net Fee after Credit)

| Meter Size | Water | | Wastewater | | Total | | Change in Total Fee | |
|---|---|---|---|---|---|---|---|---|
| | Current | Proposed | Current | Proposed | Current | Proposed | $ | % |
| Less than 1-Inch | $697 | $3,901 | $920 | $1,897 | $1,617 | $5,798 | $4,181 | 259% |
| 1-Inch | $1,163 | 6,515 | $1,537 | 3,168 | $2,700 | 9,683 | $6,983 | 259% |
| $1_{1/2}$-Inch | $2,321 | 12,990 | $3,065 | 6,317 | $5,386 | 19,307 | $13,921 | 259% |
| 2-Inch | $3,714 | 20,792 | $4,905 | 10,111 | $8,619 | 30,903 | $22,284 | 259% |
| 3-Inch | $6,968 | 39,010 | $9,203 | 18,970 | $16,171 | 57,980 | $41,809 | 259% |
| 4-Inch | $11,615 | 65,030 | $15,341 | 31,623 | $26,956 | 96,653 | $69,697 | 259% |
| 6-Inch | $23,223 | 130,020 | $30,672 | 63,227 | $53,895 | 193,247 | $139,352 | 259% |
| 8-Inch | $37,158 | 208,040 | $49,077 | 101,167 | $86,235 | 309,207 | $222,972 | 259% |

Tables 10-12 provide a comparison of the proposed impact fees resulting from this effort, the impact fees that were proposed in the last update (2014) and the impact fees currently in place; the impact fees adopted in 2009. This comparison is acutely relevant due to the dramatic increase in costs since 2014 coupled with the fact that the current fees were adopted by City Council in 2009 and have not been revised since.

### Table 10 - Northeast Proposed versus 2014 Proposed versus Current

| Meter Size | Total | | |
|---|---|---|---|
| | Proposed | 2014 Proposed | Current |
| Less than 1-Inch | $4,053 | $3,574 | $1,469 |
| 1-Inch | $6,769 | $5,969 | $2,453 |
| $1_{1/2}$-Inch | $13,496 | $11,901 | $4,890 |
| 2-Inch | $21,602 | $19,049 | $7,827 |
| 3-Inch | $40,530 | $35,740 | $14,685 |
| 4-Inch | $67,564 | $59,579 | $24,480 |
| 6-Inch | $135,086 | $119,121 | $48,945 |
| 8-Inch | $216,146 | $190,601 | $78,315 |

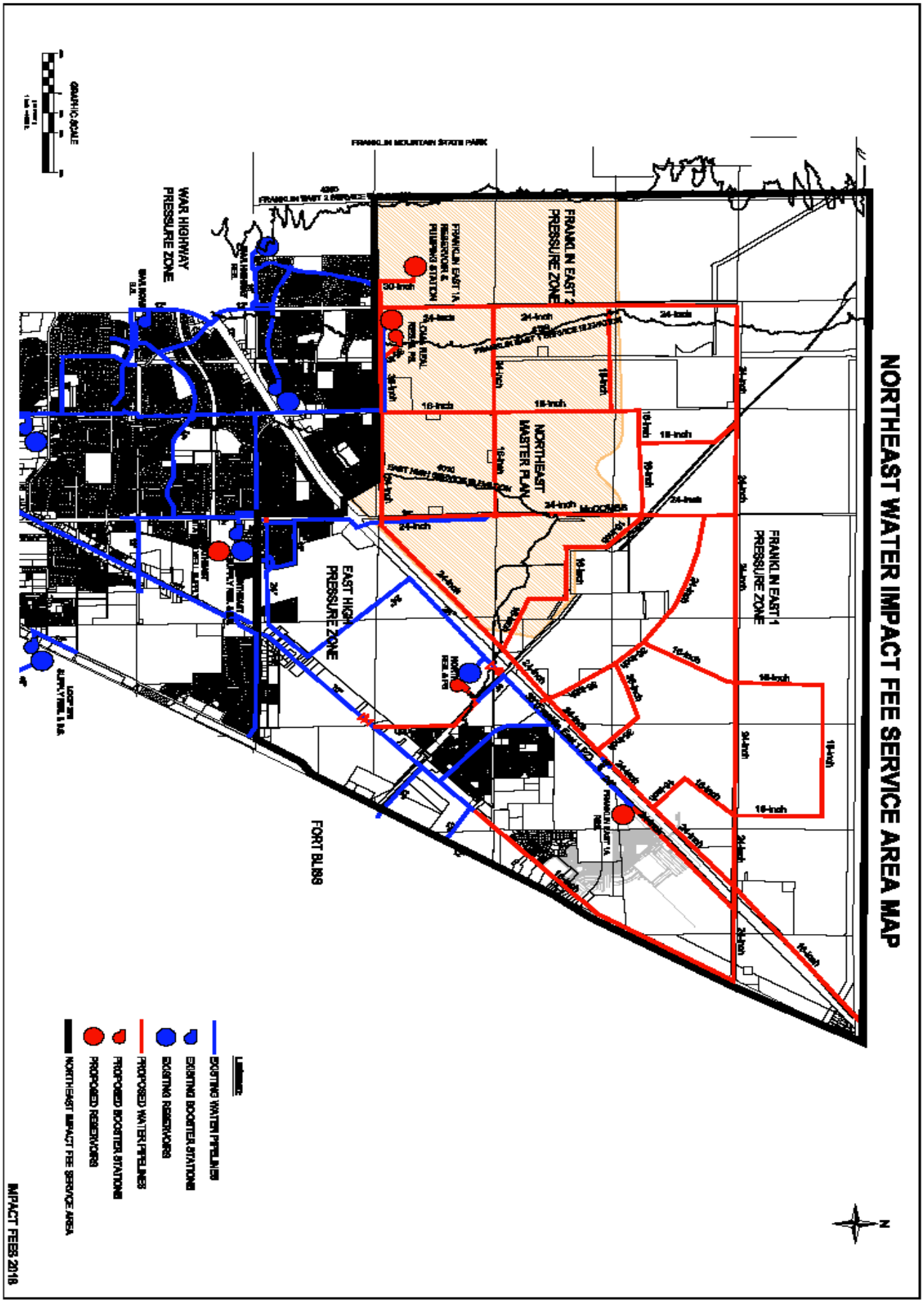
### Table 11 - West Proposed versus 2014 Proposed versus Current

| Meter Size | Total | | |
|---|---|---|---|
| | Proposed | 2014 Proposed | Current |
| Less than 1-Inch | $1,880 | $2,286 | $1,586 |
| 1-Inch | 3,140 | $3,818 | $2,649 |
| $1_{1/2}$-Inch | 6,260 | $7,612 | $5,282 |
| 2-Inch | 10,020 | $12,184 | $8,455 |
| 3-Inch | 18,800 | $22,860 | $15,863 |
| 4-Inch | 31,340 | $38,108 | $26,443 |
| 6-Inch | 62,660 | $76,192 | $52,870 |

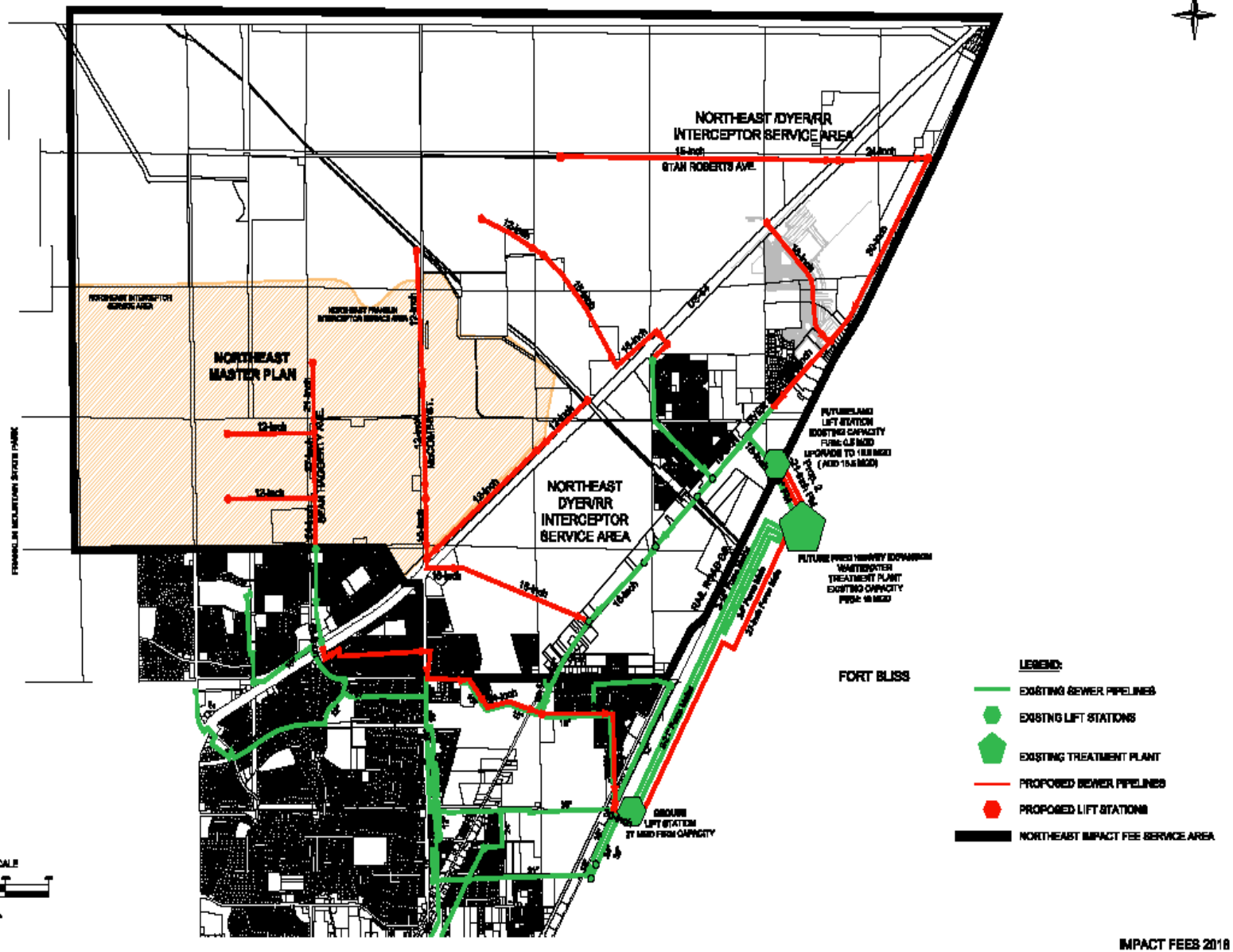
| | | | |
|---|---|---|---|
| 8-Inch | 100,260 | $121,912 | $84,595 |

### Table 12 - Eastside Proposed versus 2014 Proposed versus Current

| Meter Size | Total | | |
|---|---|---|---|
| | Proposed | 2014 Proposed | Current |
| Less than 1-Inch | $5,798 | $3,835 | $1,617 |
| 1-Inch | 9,683 | $6,404 | $2,700 |
| $1_{1/2}$-Inch | 19,307 | $12,771 | $5,386 |
| 2-Inch | 30,903 | $20,441 | $8,619 |
| 3-Inch | 57,980 | $38,350 | $16,171 |
| 4-Inch | 96,653 | $63,929 | $26,956 |
| 6-Inch | 193,247 | $127,821 | $53,895 |
| 8-Inch | 309,207 | $204,521 | $86,235 |

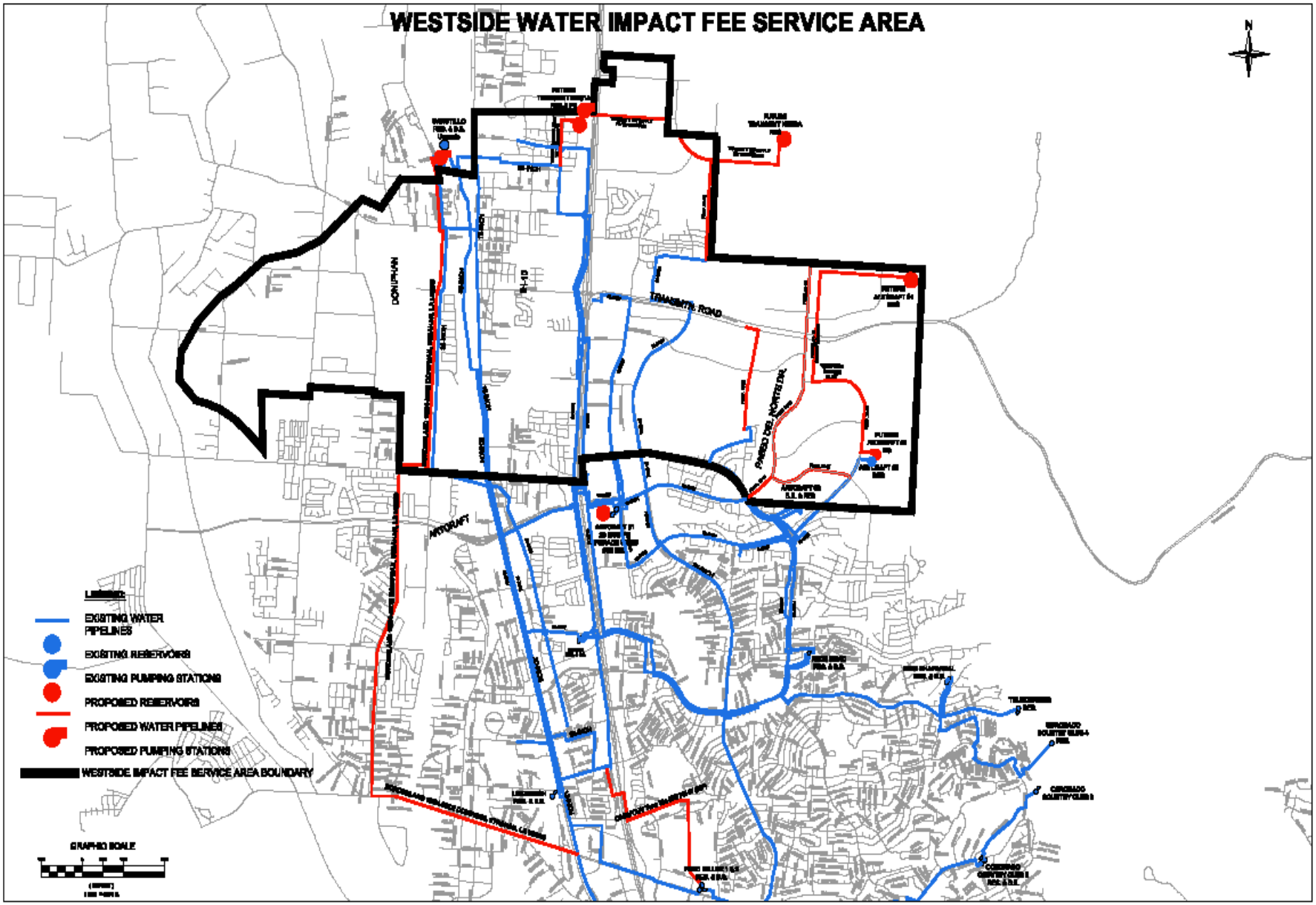

NORTHEAST WATER IMPACT FEE SERVICE AREA MAP
FRANKLIN EAST 1 PRESSURE ZONE
FRANKLIN EAST 2 PRESSURE ZONE
NORTHEAST MASTER PLAN
EAST HIGH PRESSURE ZONE
WAR HIGHWAY PRESSURE ZONE
FRANKLIN MOUNTAIN STATE PARK
FORT BLISS
McCOMBS
EXISTING WATER PIPELINES
EXISTING BOOSTER STATIONS
EXISTING RESERVOIRS
PROPOSED WATER PIPELINES
PROPOSED BOOSTER STATIONS
PROPOSED RESERVOIRS
NORTHEAST IMPACT FEE SERVICE AREA
IMPACT FEES 2018

# NORTHEAST SEWER IMPACT FEE SERVICE AREA MAP

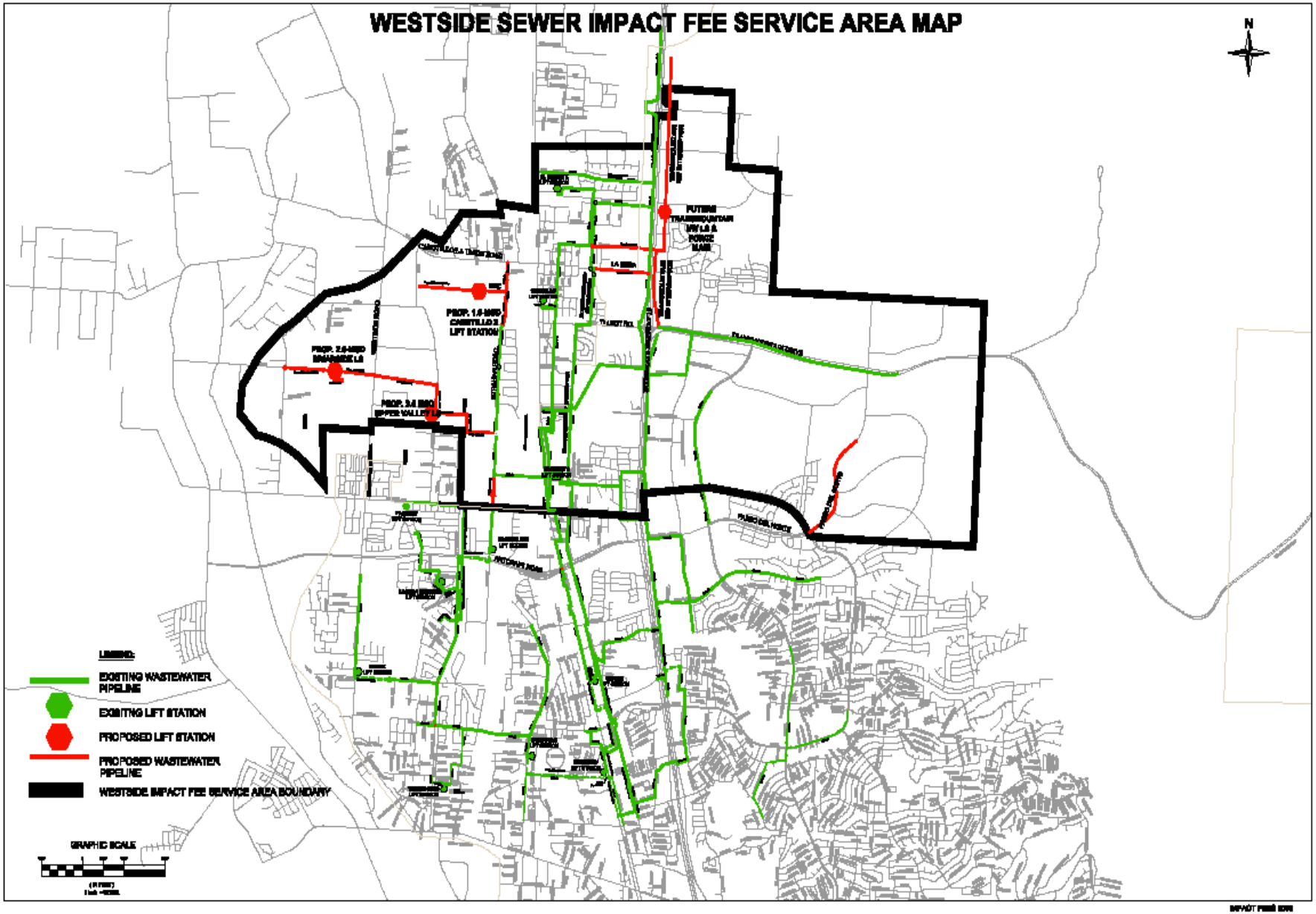



IMPACT FEES 2018

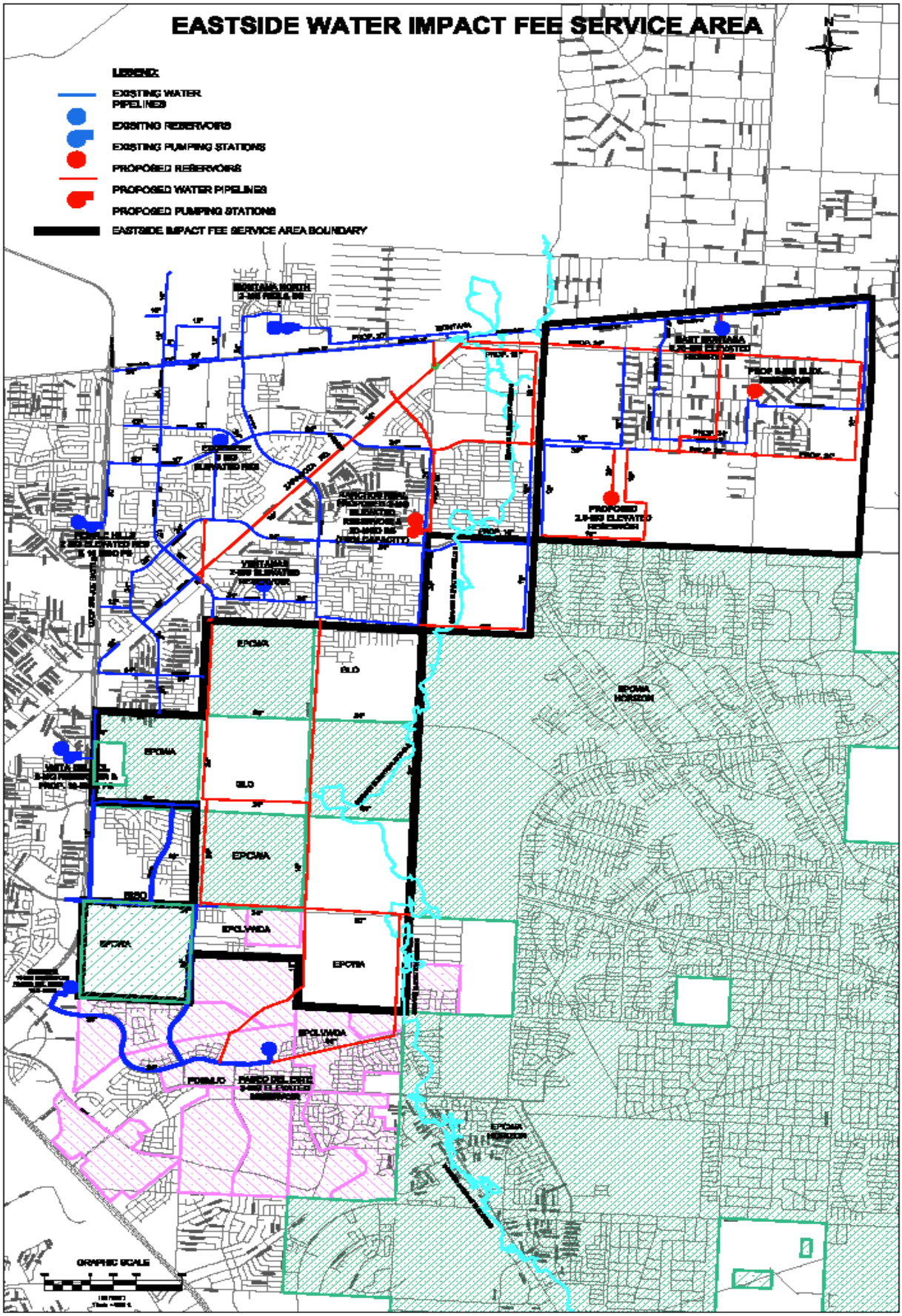
# WESTSIDE WATER IMPACT FEE SERVICE AREA



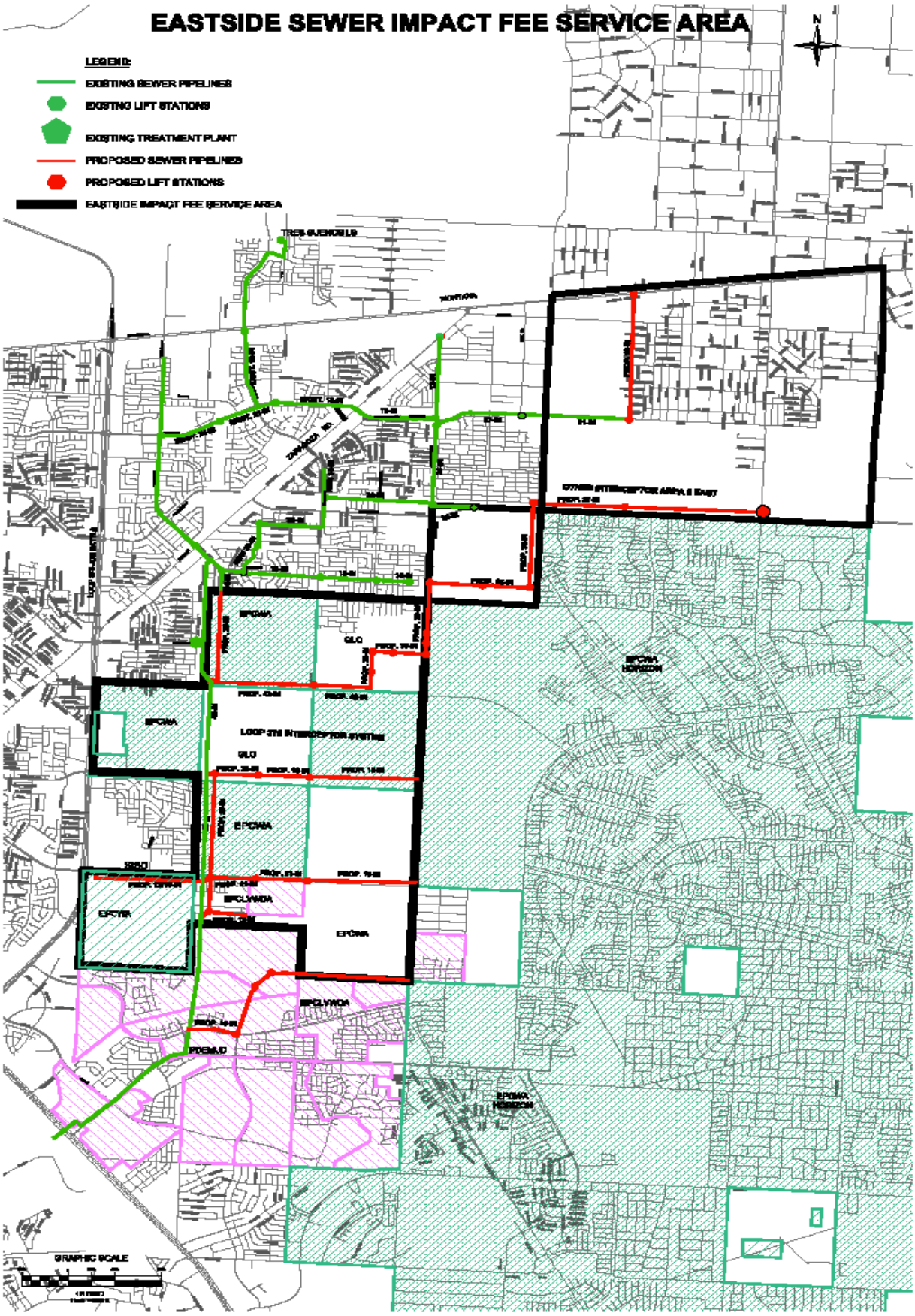
# WESTSIDE SEWER IMPACT FEE SERVICE AREA MAP



# EASTSIDE WATER IMPACT FEE SERVICE AREA



# EASTSIDE SEWER IMPACT FEE SERVICE AREA



# Attachment B: Land Use Assumptions

| Service Area | Total Acreage | Non-Residential | | | | | | | | | | | Conventional Residential | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transportation | Commercial | Industrial | Mixed Use | Parkland | Floodplain | Open | Agriculture | Undeveloped | Institutional/Utilities | | Low | Medium | Medium-High | High | Total |
| **Northeast** | | | | | | | | | | | | | | | | | |
| 01 Northeast MP | 4,835 | 343 | 88 | - | 209 | 258 | - | 754 | - | - | 132 | | - | - | - | - | - |
| 05A Northwest Fort Bliss A | 4,812 | 284 | 5 | - | 9 | 38 | - | 248 | - | - | 708 | | - | 2,992 | 229 | 51 | 3,273 |
| 05B Northwest Fort Bliss B | 4,929 | 583 | 286 | 1,370 | 277 | 98 | - | 346 | - | - | 33 | | - | 160 | 1,521 | 74 | 1,754 |
| 05C Northwest Fort Bliss C | 4,520 | 147 | | 317 | - | 23 | - | 51 | - | - | 1,788 | | - | 2,191 | - | 2 | 2,194 |
| **Northeast Subtotal** | **19,096** | **1,357** | **379** | **1,687** | **494** | **417** | **-** | **1,399** | **-** | **-** | **2,661** | | **-** | **5,344** | **1,750** | **127** | **7,220** |
| **Westside** | | | | | | | | | | | | | | | | | |
| 02 Westside MP | 1,589 | 91 | - | - | 302 | - | 238 | 591 | - | - | - | | - | - | - | - | - |
| 03A Northwest Vinton A | 294 | 23 | 143 | - | - | - | - | - | - | - | 50 | | - | 78 | - | - | 78 |
| 03E I-10375 MP | 1,132 | 165 | 252 | - | 99 | 25 | - | 22 | - | - | 61 | | - | 402 | - | - | 402 |
| 04A Northwest Artcraft A | 1,639 | 79 | 47 | - | - | 6 | 130 | 105 | - | 3 | 1 | | - | 1,264 | 4 | - | 1,268 |
| 04B Northwest Artcraft B | 807 | 41 | 37 | - | - | 12 | - | 22 | - | - | 16 | | - | 679 | - | - | 679 |
| 04C Northwest Artcraft C | 159 | 18 | 5 | 26 | - | 2 | - | - | - | 9 | 2 | | 17 | 77 | - | 2 | 96 |
| 04D Northwest Artcraft D | 218 | 25 | 11 | - | - | - | 23 | - | - | - | - | | - | 147 | - | 11 | 158 |
| 04E Canutillo | 801 | 135 | 131 | 28 | - | - | - | 11 | 1 | 14 | 53 | | 5 | 362 | 32 | 30 | 428 |
| Other | 2,348 | 365 | 802 | 304 | - | 63 | - | 11 | - | - | 173 | | - | 459 | 142 | 30 | 630 |
| **Westside Subtotal** | **8,987** | **942** | **1,428** | **358** | **401** | **108** | **391** | **763** | **1** | **26** | **356** | | **21** | **3,467** | **178** | **73** | **3,739** |
| **Eastside** | | | | | | | | | | | | | | | | | |
| 08B Eastside | 4,826 | 531 | 270 | 638 | - | 186 | - | 23 | - | 344 | 16 | | - | 195 | 2,610 | 13 | 2,817 |
| 12 South Montana | 2,919 | 355 | 230 | 140 | - | 2 | - | - | - | 237 | 137 | | 1,416 | 295 | 38 | 70 | 1,819 |
| 12B South Montana B | 785 | 149 | 19 | 99 | - | 20 | - | - | - | - | 44 | | - | 23 | 431 | - | 453 |
| 06 South Fort Bliss | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | N/A | N/A | N/A | N/A | N/A |
| 08 East Battle | 2,826 | 323 | 63 | 269 | - | 38 | - | - | - | 492 | 82 | | - | 875 | 684 | - | 1,558 |
| 10B South Fort Bliss B | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | N/A | N/A | N/A | N/A | N/A |
| **Eastside Subtotal** | **11,356** | **1,358** | **582** | **1,147** | **-** | **246** | **-** | **23** | **-** | **1,074** | **278** | | **1,416** | **1,387** | **3,762** | **82** | **6,647** |
| **Total** | **39,439** | **3,658** | **2,389** | **3,192** | **896** | **771** | **391** | **2,185** | **1** | **1,100** | **3,295** | | **1,438** | **10,198** | **5,690** | **282** | **17,607** |

# Attachment B: Land Use Cont.

| Service Area | Total Acreage | SmartCode Residential | | | | | Context Zones Residential | | | | RMU Residential | | | | | | GMU Residential | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | T-3 | T-4 | T-4O | T-5 | Total | C-3 | C-4 | C-5 | Total | Single Family | Duplex | Triplex | Quadraplex | Apartments | Total | Low | Low | Medium | High | Total |
| **Northeast** | | | | | | | | | | | | | | | | | | | | | |
| 01 Northeast MP | 4,835 | - | - | - | - | - | 81 | 81 | 15 | 177 | - | - | - | - | - | - | 521 | 1,663 | 403 | 289 | 2,875 |
| 05A Northwest Fort Bliss A | 4,812 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 123 | 118 | 5 | - | 246 |
| 05B Northwest Fort Bliss B | 4,929 | 54 | 93 | 9 | 27 | 183 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 05C Northwest Fort Bliss C | 4,520 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Northeast Subtotal** | **19,096** | **54** | **93** | **9** | **27** | **183** | **81** | **81** | **15** | **177** | | | | | | | **664** | **1,781** | **408** | **289** | **3,121** |
| **Westside** | | | | | | | | | | | | | | | | | | | | | |
| 02 Westside MP | 1,589 | 99 | 170 | 40 | 58 | 367 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 03A Northwest Vinton A | 294 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 03E I-10375 MP | 1,132 | - | - | - | - | - | - | - | - | - | 70 | 10 | 3 | 3 | 17 | 105 | - | - | - | - | - |
| 04A Northwest Artcraft A | 1,639 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 04B Northwest Artcraft B | 807 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 04C Northwest Artcraft C | 159 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 04D Northwest Artcraft D | 218 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 04E Canutillo | 801 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other | 2,348 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Westside Subtotal** | **8,987** | **99** | **170** | **40** | **58** | **367** | **-** | **-** | **-** | **-** | **70** | **10** | **3** | **-** | **17** | **105** | **-** | **-** | **-** | **-** | **-** |
| **Eastside** | | | | | | | | | | | | | | | | | | | | | |
| 08B Eastside | 4,826 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12 South Montana | 2,919 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12B South Montana B | 785 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 06 South Fort Bliss | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08 East Battle | 2,826 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10B South Fort Bliss B | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Eastside Subtotal** | **11,356** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Total** | **39,439** | **153** | **263** | **49** | **84** | **550** | **81** | **81** | **15** | **177** | **70** | **10** | **3** | **-** | **17** | **105** | **644** | **1,781** | **408** | **289** | **3,121** |

Attachment B: Land Use Cont.

| Residential Land Use Type | Residential Service Units per Acre |
|---|---|
| **Conventional Residential Zones** | |
| Low Density | 2.0 |
| Medium Density | 4.5 |
| Medium High Density | 6.0 |
| High Density | 9.0 |
| | |
| **SmarCode Zone[1]** | |
| T-3 Sub-Urban Zone | 6.0 |
| T-4 General Urban Zone | 15.0 |
| T-4O General Urban Zone - Open | 20.0 |
| T-5 Urban Center Zone | 24.0 |
| | |
| **Northeast Retirement General Mixed Use Zone[2]** | |
| Context Zone 3 | 3.6 |
| Context Zone 4 | 6.4 |
| Context Zone 5 | 15.0 |
| | |
| **Northeast General Mixed Use Zone[3]** | |
| Low Residential Density | 3.5 |
| Low' Residential Density | 5.5 |
| Medium Residential Density | 7.2 |
| High Residential Density | 12.0 |
| | |
| **Enchanted Hills Residential Mixed Use Zone[4]** | |
| Single Family | 4.0 |
| Duplex | 6.0 |
| Triplex | 8.0 |
| Quadruplex | 10.0 |
| Apartments | 14.0 |

[1]Applied to Northwest and Northeast properties zoned SmartCode.

[2]Applied to the Northeast master planned area intended to house a retirment community.

[3]Applied to remaining Northeast master planned area zoned General Mixed Use.

[4]Applied to the privately owned Enchanted Hills development zoned Residential Mixed Use.

## Attachment C: Capital Improvements Plan

el paso WATER

**Date:** December 13, 2018

**To:** Richard D. Giardina
Raftelis Financial Consultants, Inc.

**From:** Adriana L. Castillo, P.E.
Engineering Division Manager

**Copy:** Marcela Navarrete, C.P.A.
Vice President

**Re:** **Water and Wastewater Capital Improvements – 2019 Impact Fee update**

In preparation for the 2019 Impact Fee Update and in accordance with the Texas State Statues, Local Government Code, Chapter 395, attached please find a description of the proposed Capital Improvements for the El Paso Water Utilities.

**Attachment C** contains a description of the proposed 10-year capital improvements and facility expansions necessitated by and attributed to new development based on the service areas.

**Attachment D** contains a list of the proposed 10-year capital improvements and facility expansions, and costs necessitated by and attributed to new development based on the service areas.

**Maps** for water and wastewater facilities for the three (3) service areas

We trust that this information provides the capital improvements and costs required to complete the update Impact Fee Study and meet the letter and intent of the Texas State Statues.

Please feel free to contact me with any questions.

STATE OF TEXAS
ADRIANA L. CASTILLO
106516
LICENSED
PROFESSIONAL ENGINEER

12/13/18

Adriana L. Castillo

## Associated Water

### WATER SUPPLY AND TREATMENT SYSTEM

**ADVANCED WATER PURIFICATION FACILITY** – The efforts by EPWater to continue to diversify the City's water supply portfolio will allow growth demand in the eastside and northeast to be met by the Advanced Water Purification Facility producing 8.0 MGD. This facility will recycle water that was used for irrigation into drinking water.

**KBH EXPANSION Phase 1**–In order to meet growth demand in the eastside and northeast, the KBH desalination facility will be expanded to provide an additional 5.0 MGD to its service area. The expansion includes a new Reverse Osmosis skid, source wells and concentrate injection wells.

### RESERVOIRS

**LOMA REAL TANK** This project consists of constructing a 5.0 MG ground storage tank to meet demand on the East High Pressure Zone and provide suction for the Loma Real Pump Station that will pump water to the proposed Franklin East 1 B reservoir.

**FRANKLIN EAST #1B** - A 3.0 MG Reservoir and a 3.0 MG future reservoir to serve the Franklin East 1 Pressure Zone. The Reservoir is needed to meet future growth development of the lower reaches of the areas east of War Highway and to the State line.

**TRANSMOUNTAIN NORTHWEST #1A** – A 4.0 MG tank north of Transmountain on the Westside, at the same overflow elevation of Artcraft No. 1, to meet anticipated growth and provide suction storage for the proposed Transmountain Northwest 1 pump station.

**TRANSMOUNTAIN NORTHWEST #2A** – A proposed 3.0 MG tank north of Transmountain on the Westside, at the same overflow elevation of Artcraft No. 2, to meet anticipated growth.

**EASTSIDE PLANNED SERVICE AREA (PSA)** - New reservoir to serve areas east of Loop 375. Tierra Del Este (Ranchos Real) 3.0 MG elevated tank.

**ARTCRAFT NO. 4 RESERVOIR** – A 2.0 MG ground storage tank located on the west foothills of the Franklin Mountains to serve future development in the upper service areas east of IH-10 near Transmountain Road.

**NORTHEAST STATION WELL SUPPLY TANK (I.F.)** – A new 2.0 MG ground storage supply tank in Northeast El Paso, at the intersection of Sean Haggerty Drive and McCombs Blvd., adjacent to the Northeast Booster Station. This tank is needed to augment the existing storage capacity of the Northeast Well production system, and to accommodate future supply from the Sherman Well Field. This storage tank will also allow for additional pumping capacity to be installed at the Northeast Booster Station for pumping into the East High Pressure Zone and upper Franklin East Pressure Zone pumping, related future growth.

**MONTANA EAST** – A series of storage facilities have been conceptually planned to provide service on the Eastside north and south of the Montana Ave. corridor, extending about 8 miles east of Loop 375. EPWater's long-range plan projects a multi-year, multiphase approach to extend pipelines, construct elevated storage tanks (3 totaling 6.5 MG –and one pump station (15.0 MGD Phase I plus additional 10.0 MGD Phase 2) to supply these areas. This item includes two storage tanks, Vista Del Este (2.5 MG), and Homestead II (2.0 MG).

**DISTRIBUTION PUMPING EQUIPMENT**

**ARTCRAFT #1** – A 20.0 MGD pumping station located at Northwestern and Paseo Del Norte (Artcraft Rd) in Northwest El Paso, was completed in late 2002 and will supply Artcraft #2 Reservoir. An additional 5.0 MGD will be added under this project to meet future demands.

**NORTH 2 PUMP STATION** – Initial 11.8 MGD to future 22.3 MGD pump station at the North 2 Tank site to meet future summer peak-day demands in the Franklin East Pressure Zones #1

**TRANSMOUNTAIN NORTHWEST #1 PUMP STATION** - Proposed pump station north of Transmountain on the Westside, to pump from Transmountain #1 Reservoir to Transmountain #2 Reservoir to meet growth.

**ARTCRAFT #3 PUMP STATION** – A 3.0 MGD pumping station in Northwest El Paso will supply Artcraft #4 reservoir.

**LOMA REAL** Pump station with an initial 3.0 MGD capacity which will provide pumping to supply the Franklin East 1 B reservoir.

**MONTANA EAST (3.0 MGD – Ranchos Real)** - Pump Stations have been conceptually planned to provide service to the Eastside for development along north and south of the Montana Ave. corridor, extending about 8-miles east of Loop 375. EPWater's long-range plan projects a multi-year three- phase approach to extend pipelines, construct elevated storage tanks, and booster stations.

**ATTACHMENT C**
**Water and Wastewater Impact Fee Study**
**Description of Capital Improvement Facilities**

## DISTRIBUTION LINES

**CANUTILLO/UV TRANSMISSION MAIN - NORTHWEST PHASE IV** – Part of an existing major system of large diameter pipelines that extends and delivers water supply from the Canutillo Well Field and This item consists of Phase IV will consist of a 36-inch line extending from the Phase I – 48-inch line from Graphite & Mace to the Fred Miller Storage site.

**TRANSMOUNTAIN NW SUPPLY TO TRANSMOUNTAIN #1** - A proposed transmission main on the Westside, from the Canutillo Main to the Transmountain Reservoir #1 to meet growth.

**TRANSMOUNTAIN NW SUPPLY TO TRANSMOUNTAIN #2** - A proposed transmission main on the Westside, from the Transmountain Pumping Station #1 to the Transmountain Reservoir #2 to meet growth.

**BORDERLAND 16-inch/24-inch DONIPHAN, STRAHAN, LA UNION** – Part of the Northwest System upgrades to meet future growth on the west side. The project consists of the installation of a 36-inch transmission main. Also, there is an extension of a 16-inch or larger line from Galindo/Doniphan Dr., west along Borderland to Strahan Road.

**EASTSIDE PLANNED SERVICE AREA (PSA)** – Proposed transmission main lines necessary to serve areas east of Loop 375. Extensions of transmission mains associated with the construction of future new elevated tanks. This item provides the backbone for the water distribution to meet demand.

**NORTHWEST DISTRIBUTION MAINS** – Proposed transmission mains necessary to serve areas generally located north and south of Transmountain Road, east of IH-10, including the portions of the Northwest Regulating Plan within the Coronado Country Club 2 pressure zone.

**ARTCRAFT #3 BOOSTER STATION TO ARTCRAFT #4 RESERVOIR** - 24-inch pipe to connect the booster station to the reservoir.

**MONTANA EAST SUPPLY LINES**– Distribution facilities have been conceptually planned to provide service on the Eastside along north and south of the Montana Ave. corridor, extending about 8 miles east of Loop 375. EPWater's long-range plan projects a multi-year three-phase approach to extend pipelines, construct elevated storage tanks and a major pump station. This item considers the design and future construction of a backbone network of water transmission mains (16-inch to 24-inch) to supply these areas.

**ATTACHMENT C**
**Water and Wastewater Impact Fee Study**
**Description of Capital Improvement Facilities**

**MONTANA EAST 36-inch LINE**– - A proposed transmission main from the Ranchos Real Reservoir to the Montana East Reservoirs.

**DYER / RR WATER LINE** – A series of planned water mains to convey water to the far northeast part of the city. The proposed pipeline will tie into the NE Franklin Distribution Line near the intersection of Stan Roberts Dr. and US-54, and then will extend east along Stan Roberts to Dyer and then south along Dyer.

**NE FRANKLIN DISTRIBUTION LINE** – A network of water distribution mains, generally 16-inch to 24-inch, to be constructed within the Franklin East #1 Pressure Zones service areas (NE Master Planned areas) in response to and in step with emerging developments.

**FRANKLIN EAST 1 DISTRIBUTION LINE** – Water distribution main parallel to US-54 from the Franklin East 1 A tank to Stan Roberts Dr.

## Associated Wastewater

### COLLECTION LINES

**NE DYER/RR INTERCEPTOR** - Series of gravity sewer lines extending from the New Mexico-Texas boundary near Stan Roberts Dr. and Dyer St. that convey wastewater flows to the Fred Hervey Reclamation Plant. This system will service future development in the Northeast including the existing Futureland Subdivision.

**OTHER EAST INTERCEPTORS (Area 8 East)** – Sewer trunk collectors related to development east of Zaragoza and Loop 375 for the area commonly known as Montana Vista and adjacent annexed areas requests for service by developers. Includes oversized collectors in which the EPWater participates.

**LOOP 375 EAST INTERCEPTOR SYSTEM** - These multi-phase, multi-year interceptors will serve the ETJ areas east of Loop 375, including GLO and proposed MUDS. A master plan study for this area was completed in 1997. It includes relieving Saul Kleinfield Interceptors and Playa Drain (Mesa Drain and Valley) Interceptors. All interceptors in this program will ultimately transport flow to the Roberto R. Bustamante Wastewater Treatment Plant via the Eastside Interceptor System already constructed.

**TRANSMOUNTAIN NORTHWEST INTERCEPTORS** – Proposed sewer interceptors necessary to serve areas north of Transmountain Road and east of IH-10 on the Westside to meet growth. Future projects scheduled for construction may depend on development progress.

**NE INTERCEPTOR SYSTEM** – Sanitary sewer pipelines designed to collect and convey wastewater flows from the Sandstone Ranch Subdivision and a portion of land in the Northeast area. The sanitary sewer pipeline will extend along the future Sean Haggerty Blvd (north of US-54), and south crossing the US-54 along the existing Sean Haggerty Blvd, to the existing Grouse Street Lift Station or to the future Northeast Lift Station, where the wastewater will ultimately be treated at the Fred Hervey Water Reclamation Plant. This is a multi-year, multi-phase project.

**NE FRANKLIN SERVICE AREA** –Pipeline designed to collect and convey wastewater flows from the proposed Northeast Service Area. Flows will be collected from near the Texas-New Mexico border, south crossing US-54 to be delivered to the existing Grouse Street Lift Station, where the wastewater will ultimately be treated at the Fred Hervey Water Reclamation Plant. This is a multi-year, multi-phase project.

**PASEO DEL NORTE EXTENSION** - Proposed sanitary sewer mains lines necessary to serve areas generally located south of Transmountain Rd., east of IH10. This item will collect the flows for portions of the Northwest Regulating Plan.

**LA MESA LINE** – Proposed sewer main along La Mesa Ave., east of IH-10 to convey flows from the properties east of IH-10 to the Mowad Interceptor System.

**STRAHAN INTERCEPTOR** - Proposed sewer main along Strahan Rd. to provide service to developments on the Upper Valley.

**PUMPING STATIONS AND FORCE MAINS**

**TRANSMOUNTAIN NORTH LIFT STATION & FORCE MAIN** – This proposed station to be constructed on the east side of IH-10 north of Transmountain Rd. in Northwest El Paso to provide service to future Transmountain North developments to meet growth.

**NE DYER/RAILROAD LIFT STATION** – Project consists of an initial phase to upgrade the existing 0.5 MGD Futureland Lift Station to 1.3 MGD service capacity. As part of the utility's ultimate facility wastewater plan for in-fill development areas in the vicinity of the Dyer St. to Railroad Drive Corridor between McCombs St. and the State Line, a 5 MGD expandable to a future 11.0 MGD wastewater lift station is proposed which will convey wastewater generated from this area to the Fred Hervey Water Reclamation Plant.

**UPPER VALLEY THREE LIFT STATIONS** – A series of lift stations (1.5, 2.5, 3.5 MGD) proposed for new developments north of Borderland Rd. along the Strahan Rd. corridor. These stations will ultimately discharge into the Strahan Interceptor that will extend and connect into the Easy Way II Lift Station.

**TREATMENT PLANT EXPANSION**

**BUSTAMANTE WWTP EXPANSION** – Multi-approach construction project to expand the loading and flow capacity of the Roberto Bustamante WWTP from 39.0 MGD to 54.0 MGD.

## Attachment D: Capital Improvement Plan Cost Projection

**ATTACHMENT D**
**Water and Wastewater Impact Fee Study**
**Proposed Capital Improvements and Costs**

| **Northeast Service Area - Water** | | | **Capital Cost** |
|---|---|---|---|
| Water Supply and Treatment System | | | |
| KBH Phase 1 | | $ | 9,700,000 |
| Advanced Water Purification Facility | | $ | 9,680,000 |
| | Subtotal: | $ | 19,380,000 |
| Water Distribution System | | | |
| Reservoirs | | | |
| Loma Real Tank- Ground (5MG) | | $ | 7,500,000 |
| Franklin East 1B (3 MG)- Ground | | $ | 3,000,000 |
| NE Station Well Supply Tank (2) | | $ | 6,650,000 |
| | Subtotal: | $ | 17,150,000 |
| Distribution Pumping Equipment | | | |
| North Two Pump Station (11.8 MGD) | | $ | 4,320,000 |
| Loma Real Pump Station (initial 3 MGD) | | $ | 1,235,000 |
| | Subtotal: | $ | 5,555,000 |
| Distribution Lines | | | |
| Dyer/RR Waterline | | $ | 4,500,000 |
| NE Franklin Distribution Line | | $ | 26,700,000 |
| Franklin East Distribution | | $ | 2,035,000 |
| | Subtotal: | $ | 33,235,000 |
| **Total Water CIP** | | **$** | **75,320,000** |

| **Northeast Service Area - Wastewater** | | | **Capital Cost** |
|---|---|---|---|
| Wastewater Treatment System | | | |
| No wastewater treatment CIP proposed | | $ | - |
| Collection System | | | |
| Lines | | | |
| NE Dyer/RR Interceptor | | $ | 10,920,000 |
| NE Interceptor System (EPWU-NEMP) | | $ | 11,400,000 |
| NE Franklin Service Area | | $ | 8,800,000 |
| | Subtotal: | $ | 31,120,000 |
| Pumping & Force Mains | | | |
| NE Dyer/RR Lift Station (5 MGD) | | $ | 6,000,000 |
| **Total Wastewater CIP** | | **$** | **37,120,000** |

**ATTACHMENT D (continued)**
**Water and Wastewater Impact Fee Study**
**Proposed Capital Improvements and Costs**

| **Westside Service Area - Water** | | | **Capital Cost** |
|---|---|---|---|
| Water Supply and Treatment System | | | |
| No water supply or treatment system CIP proposed | | $ | - |
| Water Distribution System | | | |
| Reservoirs | | | |
| TransMountain NW #1A (4) | | $ | 4,500,000 |
| TransMountain NW #2A (3) | | $ | 3,500,000 |
| Artcraft #4 Tank (2) | | $ | 3,800,000 |
| | Subtotal: | $ | 11,800,000 |
| Distribution Pumping Equipment | | | |
| Artcraft #1-NW-WFMP | | $ | 450,000 |
| TransMountain NW #1 Pump Station | | $ | 2,000,000 |
| Artcraft #3 Pump Station | | $ | 1,235,000 |
| | Subtotal: | $ | 3,685,000 |
| Distribution Lines | | | |
| Canut/UV Trns Mn-NW PH IV (36") | | $ | 5,000,000 |
| TransMtn NW Supply to TransMtn #1 | | $ | 1,750,000 |
| TransMtn NW Supply to TransMtn #2 | | $ | 3,500,000 |
| Borderland 16"/24" Doniphan, Strahan, La Union | | $ | 10,500,000 |
| Artcraft #3 to #4 Trans Mountain | | $ | 10,500,000 |
| NW Water Distribution Mains | | $ | 8,200,000 |
| | Subtotal: | $ | 39,450,000 |
| **Total Water CIP** | | **$** | **54,935,000** |

| **Westside Service Area - Wastewater** | | | **Capital Cost** |
|---|---|---|---|
| Wastewater Treatment System | | | |
| No wastewater treatment CIP proposed | | $ | - |
| Collection System | | | |
| Lines | | | |
| TransMountain NW Interceptors | | $ | 1,680,000 |
| La Mesa Line Interconnection | | $ | 400,000 |
| Paseo Del Norte | | $ | 1,635,000 |
| Strahan Interceptor | | $ | 1,500,000 |
| | Subtotal: | $ | 5,215,000 |
| Pumping & Force Mains | | | |
| TransMountain North LS & FM (0.344 MGD for development) | | $ | 600,000 |
| Upper Valley 3 LS (1.5+2.5+3.5 MGD) | | $ | 7,100,000 |
| | Subtotal: | $ | 7,700,000 |
| **Total Wastewater CIP** | | **$** | **12,915,000** |

**ATTACHMENT D (continued)**
**Water and Wastewater Impact Fee Study**
**Proposed Capital Improvements and Costs**

| **Eastside Service Area - Water** | | | **Capital Cost** |
|---|---|---|---|
| Water Supply and Treatment System | | | |
| KBH Phase 1 | | $ | 9,700,000 |
| Advanced Water Purification Facility | | $ | 32,670,000 |
| | Subtotal: | $ | 42,370,000 |
| Water Distribution System | | | |
| Reservoirs | | | |
| Montana East Reservoirs (2.5 + 2.0)- Vista Del Este/Homestead II | | $ | 12,250,000 |
| Eastside PSA Reservoirs (Ranchos Real- 2.0) | | $ | 6,000,000 |
| | Subtotal: | $ | 18,250,000 |
| Distribution Pumping Equipment | | | |
| Montana East (3 MGD)- Ranchos Real | | $ | 1,200,000 |
| Distribution Lines | | | |
| Eastside Planned Service Area | | $ | 18,000,000 |
| Montana East Supply Line Area | | $ | 14,700,000 |
| Montana East 36" Line | | $ | 6,700,000 |
| | Subtotal: | $ | 39,400,000 |
| **Total Water CIP** | | | **101,220,000** |

| **Eastside Service Area - Wastewater** | | | **Capital Cost** |
|---|---|---|---|
| Wastewater Treatment System | | | |
| Bustamante WWTP Expansion from 39 to 54 MGD | | $ | 64,000,000 |
| Collection System | | | |
| Lines | | | |
| Other Interceptors (Area 8 East) | | $ | 10,400,000 |
| Loop 375 East Interceptor System | | $ | 17,150,000 |
| | Subtotal: | $ | 27,550,000 |
| Pumping & Force Mains | | | |
| No wastewater pumping & force main CIP proposed | | | - |
| **Total Wastewater CIP** | | **$** | **91,550,000** |

# Attachment E Impact Fee Calculation by Service Area

**ATTACHMENT E**
**Water and Wastewater Impact Fee Study**
**Northeast Service Area**

Water Service Unit Flows (Max Day) **688** gpd

| Line No. | Northeast Service Area - Water | | Capital Cost | Capacity (MGD) | Total Service Units | Unit Cost of Capacity | Weighted Average |
|---|---|---|---|---|---|---|---|
| | **Water Supply and Treatment System** | | | | | | |
| 1 | KBH Phase 1 | | $ 9,700,000 | 5.00 | 7,267 | $ 1,335 | |
| 2 | Advanced Water Purification Facility | | $ 9,680,000 | 8.00 | 11,628 | $ 832 | |
| | | Subtotal | $ 19,380,000 | | 18,895 | | $ 1,026 |
| | **Debt Issued** | | | | | | |
| 3 | KBH Phase 1 | | $ 3,450,000 | | | | |
| 4 | Advanced Water Purification Facility | | $ 3,445,000 | | | | |
| | | Subtotal | $ 6,895,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 5 | KBH Phase 1 | | $ 1,462,630 | 5.00 | 7,267 | 201 | |
| 6 | Advanced Water Purification Facility | | $ 1,460,510 | 8.00 | 11,628 | 126 | |
| | | Subtotal | $ 2,923,140 | | 18,895 | | $ 155 |
| | **Water Distribution System** | | | | | | |
| | **Reservoirs** | | | | | | |
| 7 | Loma Real Tank- Ground (5MG) | | $ 7,500,000 | 5.00 | 14,535 | $ 516 | |
| 8 | Franklin East 1B (3 MG)- Ground | | $ 3,000,000 | 3.00 | 8,721 | $ 344 | |
| 9 | NE Station Well Supply Tank (2) | | $ 6,650,000 | 2.00 | 5,814 | $ 1,144 | |
| | | Subtotal | $ 17,150,000 | | 29,070 | | $ 590 |
| | **Debt Issued** | | | | | | |
| 10 | Loma Real Tank- Ground (5MG) | | $ 2,670,000 | | | | |
| 11 | Franklin East 1B (3 MG)- Ground | | $ 1,070,000 | | | | |
| 12 | NE Station Well Supply Tank (2) | | $ 2,365,000 | | | | |
| | | Subtotal | $ 6,105,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 13 | Loma Real Tank- Ground (5MG) | | $ 1,131,948 | 5.00 | 14,535 | $ 78 | |
| 14 | Franklin East 1B (3 MG)- Ground | | $ 453,627 | 3.00 | 8,721 | $ 52 | |
| 15 | NE Station Well Supply Tank (2) | | $ 1,002,643 | 2.00 | 5,814 | $ 172 | |
| | | Subtotal | $ 2,588,219 | | 29,070 | | $ 89 |
| | **Distribution Pumping Equipment** | | | | | | |
| 16 | North Two Pump Station (11.8 MGD) | | $ 4,320,000 | 11.80 | 17,151 | $ 252 | |
| 17 | Loma Real Pump Station (initial 3 MGD) | | $ 1,235,000 | 3.00 | 4,360 | $ 283 | |
| | | Subtotal | $ 5,555,000 | | 21,512 | | $ 258 |
| | **Debt Issued** | | | | | | |
| 18 | North Two Pump Station (11.8 MGD) | | $ 1,540,000 | | | | |
| 19 | Loma Real Pump Station (initial 3 MGD) | | $ 440,000 | | | | |
| | | Subtotal | $ 1,980,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 20 | North Two Pump Station (11.8 MGD) | | $ 652,884 | 11.80 | 17,151 | $ 38 | |
| 21 | Loma Real Pump Station (initial 3 MGD) | | $ 186,538 | 3.00 | 4,360 | $ 43 | |
| | | Subtotal | $ 839,422 | | 21,512 | | $ 39 |
| | **Distribution Lines** | | | | | | |
| 22 | Dyer/RR Waterline | | $ 4,500,000 | | | $ 1,113 | |
| 23 | NE Franklin Distribution Line | | $ 26,700,000 | 20.55 | 29,869 | $ 1,113 | |
| 24 | Franklin East Distribution | | $ 2,035,000 | | | $ 1,113 | |
| | | Subtotal | $ 33,235,000 | | 29,869 | | $ 1,113 |
| | **Debt Issued** | | | | | | |
| 25 | Dyer/RR Waterline | | $ 1,605,000 | | | | |
| 26 | NE Franklin Distribution Line | | $ 9,495,000 | | | | |
| 27 | Franklin East Distribution | | $ 725,000 | | | | |
| | | Subtotal | $ 11,825,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 28 | Dyer/RR Waterline | | $ 680,441 | | | $ 168 | |
| 29 | NE Franklin Distribution Line | | $ 4,025,412 | 20.55 | 29,869 | $ 168 | |
| 30 | Franklin East Distribution | | $ 307,364 | | | $ 168 | |
| | | Subtotal | $ 5,013,217 | | 29,869 | | $ 168 |
| 31 | **Maximum Water Impact Fee - Northeast Service Area (Capital and Financing)** | | | | | | **$ 3,437** |

**ATTACHMENT E (continued)**
**Water and Wastewater Impact Fee Study**
**Northeast Service Area**

Wastewater Service Unit Flows (Max Day) **341** gpd

| Line No. | Northeast Service Area - Wastewater | | Capital Cost | Capacity (MGD) | Total Service Units | Unit Cost of Capacity | Weighted Average |
|---|---|---|---|---|---|---|---|
| | **Wastewater Treatment System** | | | | | | |
| 1 | No wastewater treatment CIP proposed | | - | - | - | - | - |
| | **Collection System** | | | | | | |
| | **Lines** | | | | | | |
| 2 | NE Dyer/RR Interceptor | | $ 10,920,000 | 3.92 | 11,497 | $ 950 | |
| 3 | NE Interceptor System (EPWU-NEMP) | | $ 11,400,000 | 6.54 | 19,182 | $ 594 | |
| 4 | NE Franklin Service Area | | $ 8,800,000 | 4.80 | 14,089 | $ 625 | |
| | | Subtotal | $ 31,120,000 | | 44,768 | | $ 695 |
| | **Debt Issued** | | | | | | |
| 5 | NE Dyer/RR Interceptor | | $ 3,885,000 | | | | |
| 6 | NE Interceptor System (EPWU-NEMP) | | $ 4,055,000 | | | | |
| 7 | NE Franklin Service Area | | $ 3,130,000 | | | | |
| | | Subtotal | $ 11,070,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 8 | NE Dyer/RR Interceptor | | $ 1,647,049 | 3.92 | 11,497 | $ 143 | |
| 9 | NE Interceptor System (EPWU-NEMP) | | $ 1,719,120 | 6.54 | 19,182 | $ 90 | |
| 10 | NE Franklin Service Area | | $ 1,326,966 | 4.80 | 14,089 | $ 94 | |
| | | Subtotal | $ 4,693,134 | | 44,768 | | $ 105 |
| | **Pumping & Force Mains** | | | | | | |
| 11 | NE Dyer/RR Lift Station (5 MGD) | | $ 6,000,000 | 5.00 | 14,663 | $ 409 | $ 409 |
| | **Debt Issued** | | | | | | |
| 12 | NE Dyer/RR Lift Station (5 MGD) | | $ 2,135,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 13 | NE Dyer/RR Lift Station (5 MGD) | | $ 905,135 | 5.00 | 14,663 | $ 62 | $ 62 |
| 14 | **Maximum Wastewater Impact Fee - Northeast Service Area (Capital and Financing)** | | | | | | **$ 1,271** |
| 15 | **Maximum Northeast Water and Wastewater Impact Fee** | | | | | | **$ 4,708** |

**ATTACHMENT E (continued)**
**Water and Wastewater Impact Fee Study**
**Westside Service Area**

Water Service Unit Flows (Max Day) **688** gpd

| Line No. | Westside Service Area | | Capital Cost | Capacity (MGD) | Total Service Units | Unit Cost of Capacity | Weighted Average |
|---|---|---|---|---|---|---|---|
| | **Water Supply and Treatment System** | | | | | | |
| 1 | No water supply or treatment system CIP proposed | | - | - | - | - | - |
| | **Water Distribution System** | | | | | | |
| | **Reservoirs** | | | | | | |
| 1 | TransMountain NW #1A (4) | | $ 4,500,000 | 4.00 | 11,628 | $ 387 | |
| 2 | TransMountain NW #2A (3) | | $ 3,500,000 | 3.00 | 8,721 | $ 401 | |
| 3 | Artcraft #4 Tank (2) | | $ 3,800,000 | 2.00 | 5,814 | $ 654 | |
| | | Subtotal | $ 11,800,000 | | 26,163 | | $451 |
| | **Debt Issued** | | | | | | |
| 4 | TransMountain NW #1A (4) | | $ 1,605,000 | | | | |
| 5 | TransMountain NW #2A (3) | | $ 1,245,000 | | | | |
| 6 | Artcraft #4 Tank (2) | | $ 1,355,000 | | | | |
| | | Subtotal | $ 4,205,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 7 | TransMountain NW #1A (4) | | $ 680,441 | 4.00 | 11,628 | $ 59 | |
| 8 | TransMountain NW #2A (3) | | $ 527,819 | 3.00 | 8,721 | $ 61 | |
| 9 | Artcraft #4 Tank (2) | | $ 574,453 | 2.00 | 5,814 | $ 99 | |
| | | Subtotal | $ 1,782,713 | | 26,163 | | $68 |
| | **Distribution Pumping Equipment** | | | | | | |
| 10 | Artcraft #1-NW-WFMP | | $ 450,000 | 5.00 | 7,267 | $ 62 | |
| 11 | TransMountain NW #1 Pump Station | | $ 2,000,000 | 3.00 | 4,360 | $ 459 | |
| 12 | Artcraft #3 Pump Station | | $ 1,235,000 | 3.00 | 4,360 | $ 283 | |
| | | Subtotal | $ 3,685,000 | | 15,988 | | $230 |
| | **Debt Issued** | | | | | | |
| 13 | Artcraft #1-NW-WFMP | | $ 165,000 | | | | |
| 14 | TransMountain NW #1 Pump Station | | $ 715,000 | | | | |
| 15 | Artcraft #3 Pump Station | | $ 440,000 | | | | |
| | | Subtotal | $ 1,320,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 16 | Artcraft #1-NW-WFMP | | $ 69,952 | 5.00 | 7,267 | $ 10 | |
| 17 | TransMountain NW #1 Pump Station | | $ 303,125 | 3.00 | 4,360 | $ 70 | |
| 18 | Artcraft #3 Pump Station | | $ 186,538 | 3.00 | 4,360 | $ 43 | |
| | | Subtotal | $ 559,615 | | 15,988 | | $35 |
| | **Distribution Lines** | | | | | | |
| 19 | Canut/UV Trns Mn-NW PH IV (36") | | $ 5,000,000 | 22.00 | 31,977 | $ 156 | |
| 20 | TransMtn NW Supply to TransMtn #1 | | $ 1,750,000 | 22.00 | 31,977 | | |
| 21 | TransMtn NW Supply to TransMtn #2 | | $ 3,500,000 | | | $ 164 | |
| 22 | Borderland 16"/24" Doniphan, Strahan, La Union | | $ 10,500,000 | 10.00 | 14,535 | $ 722 | |
| 23 | Artcraft #3 to #4 Trans Mountain | | $ 10,500,000 | 6.00 | 8,721 | $ 1,204 | |
| | NW Water Distribution Mains | | $ 8,200,000 | 4.11 | 5,974 | $ 1,373 | |
| | | Subtotal | $ 39,450,000 | | 87,209 | | $423 |
| | **Debt Issued** | | | | | | |
| 24 | Canut/UV Trns Mn-NW PH IV (36") | | $ 1,780,000 | | | | |
| 25 | TransMtn NW Supply to TransMtn #1 | | $ 625,000 | | | | |
| 26 | TransMtn NW Supply to TransMtn #2 | | $ 1,245,000 | | | | |
| 27 | Borderland 16"/24" Doniphan, Strahan, La Union | | $ 3,735,000 | | | | |
| 28 | Artcraft #3 to #4 Trans Mountain | | $ 3,735,000 | | | | |
| 29 | NW Water Distribution Mains | | $ 2,920,000 | | | | |
| | | Subtotal | $ 14,040,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 30 | Canut/UV Trns Mn-NW PH IV (36") | | $ 754,632 | 22.00 | 31,977 | $ 24 | |
| 31 | TransMtn NW Supply to TransMtn #1 | | $ 264,969 | 22.00 | 31,977 | $ 25 | |
| 32 | TransMtn NW Supply to TransMtn #2 | | $ 527,819 | | | $ 25 | |
| 33 | Borderland 16"/24" Doniphan, Strahan, La Union | | $ 1,583,456 | 10.00 | 14,535 | $ 109 | |
| 34 | Artcraft #3 to #4 Trans Mountain | | $ 1,583,456 | 6.00 | 8,721 | $ 182 | |
| 35 | NW Water Distribution Mains | | $ 1,237,936 | 4.11 | 5,974 | $ 207 | |
| | | Subtotal | $ 5,952,268 | | 87,209 | | $64 |
| 36 | **Maximum Water Impact Fee - Westside Service Area (Capital and Financing)** | | | | | | **$ 1,272** |

**ATTACHMENT E (continued)**
**Water and Wastewater Impact Fee Study**
**Westside Service Area**

Wastewater Service Unit Flows (Max Day) **341** gpd

| Line No. | Westside Service Area | | Capital Cost | Capacity (MGD) | Total Service Units | Unit Cost of Capacity | Weighted Average |
|---|---|---|---|---|---|---|---|
| | **Wastewater Treatment System** | | | | | | |
| 1 | No wastewater treatment CIP proposed | | - | - | - | - | - |
| | **Collection System** | | | | | | |
| | **Lines** | | | | | | |
| 2 | TransMountain NW Interceptors | | $ 1,680,000 | 2.38 | 3,459 | $ 486 | |
| 3 | La Mesa Line Interconnection | | $ 400,000 | 4.50 | 6,541 | $ 61 | |
| 4 | Paseo Del Norte | | $ 1,635,000 | 2.78 | 4,041 | $ 405 | |
| 5 | Strahan Interceptor | | $ 1,500,000 | 1.70 | 2,471 | $ 607 | |
| | | Subtotal | $ 5,215,000 | | 16,512 | | $ 316 |
| | **Debt Issued** | | | | | | |
| 6 | TransMountain NW Interceptors | | $ 600,000 | | | | |
| 7 | La Mesa Line Interconnection | | $ 145,000 | | | | |
| 8 | Paseo Del Norte | | $ 585,000 | | | | |
| 9 | Strahan Interceptor | | $ 535,000 | | | | |
| | | Subtotal | $ 1,865,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 10 | TransMountain NW Interceptors | | $ 254,370 | 2.38 | 3,459 | $ 74 | |
| 11 | La Mesa Line Interconnection | | $ 61,473 | 4.50 | 6,541 | $ 9 | |
| 12 | Paseo Del Norte | | $ 248,011 | 2.78 | 4,041 | $ 61 | |
| 13 | Strahan Interceptor | | $ 226,814 | 1.70 | 2,471 | $ 92 | |
| | | Subtotal | $ 790,668 | | 16,512 | | 48 |
| | **Pumping & Force Mains** | | | | | | |
| 14 | TransMountain North LS & FM (0.344 MGD for development) | | $ 600,000 | 0.34 | 1,009 | $ 595 | |
| 15 | Upper Valley 3 LS (1.5+2.5+3.5 MGD) | | $ 7,100,000 | 5.00 | 14,663 | $ 484 | |
| | | Subtotal | $ 7,700,000 | | 15,672 | | 491 |
| | **Debt Issued** | | | | | | |
| 16 | TransMountain North LS & FM | | $ 215,000 | | | | |
| 17 | Upper Valley 3 LS (1.5+2.5+3.5 MGD) | | $ 2,525,000 | | | | |
| | | Subtotal | $ 2,740,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 18 | TransMountain North LS & FM | | $ 91,149 | 0.34 | 1,009 | $ 90 | |
| 19 | Upper Valley 3 LS (1.5+2.5+3.5 MGD) | | $ 1,070,476 | 5.00 | 14,663 | $ 73 | |
| | | Subtotal | $ 1,161,625 | | 15,672 | | 74 |
| 20 | **Maximum Wastewater Impact Fee - Westside Service Area (Capital and Financing)** | | | | | | **$ 929** |
| 21 | **Maximum Water and Wastewater Impact Fee - Westside Area** | | | | | | **$ 2,201** |

**ATTACHMENT E (continued)**
**Water and Wastewater Impact Fee Study**
**Eastside Service Area**

Water Service Unit Flows (Max Day) **688** gpd

| Line No. | Eastside Service Area | Capital Cost | Capacity (MGD) | Total Service Units | Unit Cost of Capacity | Weighted Average |
|---|---|---|---|---|---|---|
| | **Water Supply and Treatment System** | | | | | |
| 1 | KBH Phase 1 | $ 9,700,000 | 5.00 | 7,267 | $ 1,335 | |
| 2 | Advanced Water Purification Facility | $ 32,670,000 | 8.00 | 11,628 | $ 2,810 | $ 2,242 |
| | Subtotal | $ 42,370,000 | | 18,895 | | |
| | **Debt Issued** | | | | | |
| 3 | KBH Phase 1 | $ 3,450,000 | | | | |
| 4 | Advanced Water Purification Facility | $ 11,620,000 | | | | |
| | Subtotal | $ 15,070,000 | | | | |
| | **NPV of Interest** | | | | | |
| 5 | KBH Phase 1 | $ 1,462,630 | 5.00 | 7,267 | $ 201 | |
| 6 | Advanced Water Purification Facility | $ 4,926,307 | 8.00 | 11,628 | $ 424 | $ 338 |
| | Subtotal | $ 6,388,937 | | 18,895 | | |
| | **Water Distribution System** | | | | | |
| | **Reservoirs** | | | | | |
| 7 | Montana East Reservoirs (2.5 + 2.0)- Vista Del Este/Homestead II | $ 12,250,000 | 4.50 | 13,081 | $ 936 | |
| 8 | Eastside PSA Reservoirs (Ranchos Real- 2.0) | $ 6,000,000 | 2.00 | 5,814 | $ 1,032 | |
| | Subtotal | $ 18,250,000 | | 18,895 | | $ 966 |
| | **Debt Issued** | | | | | |
| 9 | Montana East Reservoirs (2.5 + 2.0)- Vista Del Este/Homestead II | $ 4,360,000 | | | | |
| 10 | Eastside PSA Reservoirs (Ranchos Real- 2.0) | $ 2,135,000 | | | | |
| | Subtotal | $ 6,495,000 | | | | |
| | **NPV of Interest** | | | | | |
| 11 | Montana East Reservoirs (2.5 + 2.0)- Vista Del Este/Homestead II | $ 1,848,425 | 4.50 | 13,081 | $ 141 | |
| 12 | Eastside PSA Reservoirs (Ranchos Real- 2.0) | $ 905,135 | 2.00 | 5,814 | $ 156 | |
| | Subtotal | $ 2,753,560 | | 18,895 | | $ 146 |
| | **Distribution Pumping Equipment** | | | | | |
| 13 | Montana East (3 MGD)- Ranchos Real | $ 1,200,000 | 3.00 | 4,360 | $ 275 | $ 275 |
| | **Debt Issued** | | | | | |
| 14 | Montana East (3 MGD)- Ranchos Real | $ 430,000 | | | | |
| | **NPV of Interest** | | | | | |
| 15 | Montana East (3 MGD)- Ranchos Real | $ 182,299 | 3.00 | 4,360 | $ 42 | $ 42 |
| | **Distribution Lines** | | | | | |
| 16 | Eastside Planned Service Area | $ 18,000,000 | 20.00 | 29,070 | $ 619 | |
| 17 | Montana East Supply Line Area | $ 14,700,000 | 22.30 | 32,413 | $ 454 | |
| 18 | Montana East 36" Line | $ 6,700,000 | 25.00 | 36,337 | $ 184 | |
| | Subtotal | $ 39,400,000 | | 61,483 | | $ 403 |
| | **Debt Issued** | | | | | |
| 19 | Eastside Planned Service Area | $ 6,405,000 | | | | |
| 20 | Montana East Supply Line Area | $ 5,230,000 | | | | |
| 21 | Montana East 36" Line | $ 2,385,000 | | | | |
| | Subtotal | $ 14,020,000 | | | | |
| | **NPV of Interest** | | | | | |
| 22 | Eastside Planned Service Area | $ 2,715,404 | 20.00 | 29,070 | $ 93 | |
| 23 | Montana East Supply Line Area | $ 2,217,262 | 22.30 | 32,413 | $ 68 | |
| 24 | Montana East 36" Line | $ 1,011,122 | 25.00 | 36,337 | $ 28 | |
| | Subtotal | $ 5,943,789 | | 61,483 | | $ 61 |
| 25 | **Maximum Water Impact Fee - Eastside Service Area (Capital and Financing)** | | | | | **$ 4,473** |

**ATTACHMENT E (continued)**
**Water and Wastewater Impact Fee Study**
**Eastside Service Area**

Wastewater Service Unit Flows (Max Day) **341** gpd

| Line No. | Eastside Service Area | | Capital Cost | Capacity (MGD) | Total Service Units | Unit Cost of Capacity | Weighted Average |
|---|---|---|---|---|---|---|---|
| | **Wastewater Treatment System** | | | | | | |
| 1 | Bustamante WWTP Expansion from 39 to 54 MGD | | $ 64,000,000 | 15.00 | 43,988 | $ 1,455 | $ 1,455 |
| | **Debt Issued** | | | | | | |
| 2 | Bustamante WWTP Expansion from 39 to 54 MGD | | $ 22,760,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 3 | Bustamante WWTP Expansion from 39 to 54 MGD | | $ 9,649,118 | 15.00 | 43,988 | $ 219 | $ 219 |
| | **Collection System** | | | | | | |
| | **Lines** | | | | | | |
| 1 | Other Interceptors (Area 8 East) | | 10,400,000 | 7.86 | 23,055 | $ 451 | |
| 2 | Loop 375 East Interceptor System | | 17,150,000 | 9.82 | 28,800 | $ 595 | |
| | | Subtotal | 27,550,000 | | 51,855 | | $ 531 |
| | **Debt Issued** | | | | | | |
| 3 | Other Interceptors (Area 8 East) | | 3,700,000 | | | | |
| 4 | Loop 375 East Interceptor System | | 6,100,000 | | | | |
| | | Subtotal | 9,800,000 | | | | |
| | **NPV of Interest** | | | | | | |
| 5 | Other Interceptors (Area 8 East) | | 1,568,618 | 7.86 | 23,055 | $ 68 | |
| 6 | Loop 375 East Interceptor System | | 2,586,099 | 9.82 | 28,800 | $ 90 | |
| | | Subtotal | 4,154,717 | | 51,855 | | $ 80 |
| | **Pumping & Force Mains** | | | | | | |
| 7 | | | | | | | |
| | **Debt Issued** | | | | | | |
| 8 | | | - | | | | |
| 9 | **NPV of Interest** | | | | | | |
| | | | $ - | | 0 | | |
| 10 | **Maximum Wastewater Impact Fee - Eastside Service Area (Capital and Financing)** | | | | | | **$ 2,286** |
| 11 | **Maximum Eastside Water and Wastewater Impact Fee** | | | | | | **$ 6,758** |

# Attachment F Maximum Impact Fee Calculation

**ATTACHMENT F**
**Water and Wastewater Impact Fee Study**
**Maximum Impact Fee Per Service Unit**

| Service Area and Category of Capital Improvement | Capital Improvement Costs | Amount Financed | Financing Costs (NPV of Interest) | Facility Service Units | Projected New Service Units through 2029 | Portion of Capital Improvements and Financing | Maximum Impact Fee per Unit |
|---|---|---|---|---|---|---|---|
| **Northeast** | | | | | | | |
| Water | | | | | | | |
| Treatment | $19,380,000 | 6,895,000 | 2,923,140 | 18,895 | 21,661 | 25,567,579 | 1,180 |
| Reservoirs | 17,150,000 | 6,105,000 | 2,588,219 | 29,070 | 21,661 | 14,707,705 | 679 |
| Pumping | 5,555,000 | 1,980,000 | 839,422 | 21,512 | 21,661 | 6,438,824 | 297 |
| Distribution Lines | 33,235,000 | 11,825,000 | 5,013,217 | 29,869 | 21,661 | 27,737,436 | 1,281 |
| Total Water | 75,320,000 | 26,805,000 | 11,363,999 | N/A | 21,661 | 74,451,544 | 3,437 |
| Wastewater | | | | | | | |
| Treatment | 0 | 0 | 0 | - | 21,661 | 0 | 0 |
| Collection Lines | 31,120,000 | 11,070,000 | 4,693,134 | 44,768 | 21,661 | 17,328,188 | 800 |
| Pumping[1] | 6,000,000 | 2,135,000 | 905,135 | 14,663 | 21,661 | 10,200,819 | 471 |
| Total Wastewater | 37,120,000 | 13,205,000 | 5,598,269 | N/A | 21,661 | 27,529,007 | 1,271 |
| **Total Northeast Area** | **$112,440,000** | **$40,010,000** | **$16,962,268** | **N/A** | **21,661** | **$101,980,550** | **$4,708** |
| **Westside** | | | | | | | |
| Water | | | | | | | |
| Treatment | $0 | $0 | $0 | - | 19,574 | $0 | $0 |
| Reservoirs | 11,800,000 | 4,205,000 | 1,782,713 | 26,163 | 19,574 | 10,162,067 | 519 |
| Pumping | 3,685,000 | 1,320,000 | 559,615 | 15,988 | 19,574 | 5,196,532 | 265 |
| Distribution Lines | 39,450,000 | 14,040,000 | 5,952,268 | 87,209 | 19,574 | 10,190,472 | 521 |
| Total Water | 54,935,000 | 19,565,000 | 8,294,596 | N/A | 19,574 | 25,549,071 | 1,305 |
| Wastewater | | | | | | | |
| Treatment | 0 | 0 | 0 | - | 19,574 | 0 | 0 |
| Collection Lines | 5,215,000 | 1,865,000 | 790,668 | 10,000 | 19,574 | 11,755,495 | 601 |
| Pumping | 7,700,000 | 2,740,000 | 1,161,625 | 15,672 | 19,574 | 8,861,625 | 565 |
| Total Wastewater | 12,915,000 | 4,605,000 | 1,952,293 | N/A | 19,574 | 20,617,120 | 1,166 |
| **Total Westside Area** | **$67,850,000** | **$24,170,000** | **$10,246,889** | **N/A** | **19,574** | **$46,166,191** | **$2,471** |
| **Eastside** | | | | | | | |
| Water | | | | | | | |
| Treatment | $42,370,000 | $15,070,000 | $6,388,937 | 18,895 | 24,904 | 64,264,099 | 2,580 |
| Reservoirs | 18,250,000 | 6,495,000 | 2,753,560 | 18,895 | 24,904 | 27,682,614 | 1,112 |
| Pumping | 1,200,000 | 430,000 | 182,299 | 4,360 | 24,904 | 7,894,747 | 317 |
| Distribution Lines | 39,400,000 | 14,020,000 | 5,943,789 | 97,820 | 24,904 | 11,544,106 | 464 |
| Total Water | 101,220,000 | 36,015,000 | 15,268,585 | N/A | 24,904 | 111,385,567 | 4,473 |
| Wastewater | | | | | | | |
| Treatment | 64,000,000 | 22,760,000 | 9,649,118 | 43,988 | 24,904 | 41,696,517 | 1,674 |
| Collection Lines | 27,550,000 | 9,800,000 | 4,154,717 | 51,855 | 24,904 | 15,226,579 | 611 |
| Pumping | 0 | 0 | 0 | 0 | 24,904 | 0 | 0 |
| Total Wastewater | 91,550,000 | 32,560,000 | 13,803,835 | N/A | 24,904 | 56,923,096 | 2,286 |
| **Total Eastside Area** | **$192,770,000** | **$68,575,000** | **$29,072,421** | **N/A** | **24,904** | **$168,308,663** | **$6,758** |
| **Systemwide** | | | | | | | |
| Water | $231,475,000 | $82,385,000 | $34,927,180 | | 66,139 | $211,386,182 | $3,186 |
| Wastewater | 141,585,000 | 50,370,000 | 21,354,398 | | 66,139 | 105,069,223 | $1,552 |
| **Systemwide Area** | **$373,060,000** | **$132,755,000** | **$56,281,578** | | **66,139** | **$316,455,404** | **$4,738** |

# Attachment G Impact Fee Credit Calculation

**ATTACHMENT G**
**Water and Wastewater Impact Fee Study**
**Impact Fee Credit Calculation**

**Systemwide Water Credit Calculation**

| Line No. | | Total (All Years) | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 | FY 2023-24 | FY 2024-25 | FY 2025-26 | FY 2026-27 | FY 2027-28 | FY 2028-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Principal Payments | $82,385,000 | $2,491,536 | $2,616,112 | $2,746,918 | $2,884,264 | $3,028,477 | $3,179,901 | $3,338,896 | $3,505,841 | $3,681,133 | $3,865,189 |
| 2 | Annual Interest on Future Debt | | 4,119,250 | 3,994,673 | 3,863,868 | 3,726,522 | 3,582,309 | 3,430,885 | 3,271,890 | 3,104,945 | 2,929,653 | 2,745,596 |
| 3 | Total Debt Service | | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 |
| | Present Value | | | | | | | | | | | |
| 4 | Principal on Future Debt | | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 |
| 2 | Interest Payments (present value) | 34,927,180 | 3,923,095 | 3,623,286 | 3,337,754 | 3,065,819 | 2,806,832 | 2,560,179 | 2,325,271 | 2,101,549 | 1,888,480 | 1,685,558 |
| 3 | Principal and Present Value of Interest | $117,312,180 | $6,414,631 | $6,239,399 | $6,084,672 | $5,950,082 | $5,835,309 | $5,740,080 | $5,664,167 | $5,607,390 | $5,569,613 | $5,550,747 |
| 4 | Beginning Year Service Units | | 238,709 | 245,347 | 251,985 | 258,623 | 265,261 | 271,900 | 278,538 | 285,176 | 291,814 | 298,452 |
| 5 | Incremental Service Units | | 6,638 | 6,638 | 6,638 | 6,638 | 6,638 | 6,638 | 6,638 | 6,638 | 6,638 | 6,638 |
| 6 | Total Service Units | | 245,347 | 251,985 | 258,623 | 265,261 | 271,900 | 278,538 | 285,176 | 291,814 | 298,452 | 305,090 |
| 7 | Debt Service Credit per Unit | **$407** | $26 | $25 | $24 | $22 | $21 | $21 | $20 | $19 | $19 | $18 |

Notes:
1. Present value calculations apply a 5 percent discount rate.

**ATTACHMENT G**
**Water and Wastewater Impact Fee Study**
**Impact Fee Credit Calculation**

**Systemwide Water Credit Calculation**

| Line No. | | FY 2029-30 | FY 2030-31 | FY 2031-32 | FY 2032-33 | FY 2033-34 | FY 2034-35 | FY 2035-36 | FY 2036-37 | FY 2037-38 | FY 2038-39 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Principal Payments | $4,058,449 | $4,261,371 | $4,474,440 | $4,698,162 | $4,933,070 | $5,179,723 | $5,438,710 | $5,710,645 | $5,996,177 | $6,295,986 |
| 2 | Annual Interest on Future Debt | 2,552,337 | 2,349,414 | 2,136,346 | 1,912,624 | 1,677,716 | 1,431,062 | 1,172,076 | 900,140 | 614,608 | 314,799 |
| 3 | Total Debt Service | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 | $6,610,786 |
| | Present Value | | | | | | | | | | |
| 4 | Principal on Future Debt | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 | $2,372,891 |
| 2 | Interest Payments (present value) | 1,492,298 | 1,308,242 | 1,132,950 | 966,005 | 807,010 | 655,586 | 511,373 | 374,027 | 243,221 | 118,645 |
| 3 | Principal and Present Value of Interest | $5,550,747 | $5,569,613 | $5,607,390 | $5,664,167 | $5,740,080 | $5,835,309 | $5,950,082 | $6,084,672 | $6,239,399 | $6,414,631 |
| 4 | Beginning Year Service Units | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 |
| 5 | Incremental Service Units | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Total Service Units | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 | 305,090 |
| 7 | Debt Service Credit per Unit | $18 | $18 | $18 | $19 | $19 | $19 | $20 | $20 | $20 | $21 |

Notes:
1. Present value calculations apply a 5 percent discount rate.

**ATTACHMENT G (continued)**
**Water and Wastewater Impact Fee Study**
**Impact Fee Credit Calculation**

**Systemwide Wastewater Credit Calculation**

| Line No. | | Total (All Years) | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 | FY 2023-24 | FY 2024-25 | FY 2025-26 | FY 2026-27 | FY 2027-28 | FY 2028-29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Principal Payments | $50,370,000 | $1,523,319 | $1,599,485 | $1,679,459 | $1,763,432 | $1,851,604 | $1,944,184 | $2,041,393 | $2,143,463 | $2,250,636 | $2,363,168 |
| 5 | Interest Payments (present value) | $21,354,398 | 2,398,571 | 2,215,269 | 2,040,695 | 1,874,434 | 1,716,091 | 1,565,288 | 1,421,665 | 1,284,882 | 1,154,613 | 1,030,546 |
| 6 | Principal and Present Value of Interest | $71,724,398 | $3,921,891 | $3,814,754 | $3,720,155 | $3,637,867 | $3,567,695 | $3,509,472 | $3,463,059 | $3,428,345 | $3,405,249 | $3,393,714 |
| 7 | Beginning Year Service Units | | 222,608 | 229,222 | 235,836 | 242,450 | 249,064 | 255,678 | 262,291 | 268,905 | 275,519 | 282,133 |
| 8 | Incremental Service Units | | 6,614 | 6,614 | 6,614 | 6,614 | 6,614 | 6,614 | 6,614 | 6,614 | 6,614 | 6,614 |
| 9 | Total Service Units | | 229,222 | 235,836 | 242,450 | 249,064 | 255,678 | 262,291 | 268,905 | 275,519 | 282,133 | 288,747 |
| 10 | Debt Service Credit per Unit | **$264** | $17 | $16 | $15 | $15 | $14 | $13 | $13 | $12 | $12 | $12 |

Notes:
1. Present value calculations apply a 5 percent discount rate.

**ATTACHMENT G (continued)**
**Water and Wastewater Impact Fee Study**
**Impact Fee Credit Calculation**

**Systemwide Wastewater Credit Calculation**

| Line No. | | FY 2029-30 | FY 2030-31 | FY 2031-32 | FY 2032-33 | FY 2033-34 | FY 2034-35 | FY 2035-36 | FY 2036-37 | FY 2037-38 | FY 2038-39 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Principal Payments | $2,481,326 | $2,605,393 | $2,735,662 | $2,872,445 | $3,016,068 | $3,166,871 | $3,325,215 | $3,491,475 | $3,666,049 | $3,849,352 |
| 5 | Interest Payments (present value) | 912,388 | 799,856 | 692,683 | 590,613 | 493,404 | 400,824 | 312,652 | 228,679 | 148,705 | 72,539 |
| 6 | Principal and Present Value of Interest | $3,393,714 | $3,405,249 | $3,428,345 | $3,463,059 | $3,509,472 | $3,567,695 | $3,637,867 | $3,720,155 | $3,814,754 | $3,921,891 |
| 7 | Beginning Year Service Units | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 |
| 8 | Incremental Service Units | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Total Service Units | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 | 288,747 |
| 10 | Debt Service Credit per Unit | $12 | $12 | $12 | $12 | $12 | $12 | $13 | $13 | $13 | $14 |

Notes:
1. Present value calculations apply a 5 percent discount rate.

# ATTACHMENT H
# Water and Wastewater Impact Fee Study
# Impact Fee Assessment Schedules (Net Fee after Credit)

## Northeast

| Meter Size | Meter Capacity Ratio | Water | Wastewater | Total |
|---|---|---|---|---|
| Less than 1-inch | 1.00 | $2,998 | $1,055 | $4,053 |
| 1-inch | 1.67 | 5,007 | 1,762 | 6,769 |
| 1½-inch | 3.33 | 9,983 | 3,513 | 13,496 |
| 2-inch | 5.33 | 15,979 | 5,623 | 21,602 |
| 3-inch | 10.00 | 29,980 | 10,550 | 40,530 |
| 4-inch | 16.67 | 49,977 | 17,587 | 67,564 |
| 6-inch | 33.33 | 99,923 | 35,163 | 135,086 |
| 8-inch | 53.33 | 159,883 | 56,263 | 216,146 |

## Westside

| Meter Size | Meter Capacity Ratio | Water | Wastewater | Total |
|---|---|---|---|---|
| Less than 1-inch | 1.00 | $1,109 | $771 | $1,880 |
| 1-inch | 1.67 | 1,852 | 1,288 | 3,140 |
| 1½-inch | 3.33 | 3,693 | 2,567 | 6,260 |
| 2-inch | 5.33 | 5,911 | 4,109 | 10,020 |
| 3-inch | 10.00 | 11,090 | 7,710 | 18,800 |
| 4-inch | 16.67 | 18,487 | 12,853 | 31,340 |
| 6-inch | 33.33 | 36,963 | 25,697 | 62,660 |
| 8-inch | 53.33 | 59,143 | 41,117 | 100,260 |

## Eastside

| Meter Size | Meter Capacity Ratio | Water | Wastewater | Total |
|---|---|---|---|---|
| Less than 1-inch | 1.00 | $3,901 | $1,897 | $5,798 |
| 1-inch | 1.67 | 6,515 | 3,168 | 9,683 |
| 1½-inch | 3.33 | 12,990 | 6,317 | 19,307 |
| 2-inch | 5.33 | 20,792 | 10,111 | 30,903 |
| 3-inch | 10.00 | 39,010 | 18,970 | 57,980 |
| 4-inch | 16.67 | 65,030 | 31,623 | 96,653 |
| 6-inch | 33.33 | 130,020 | 63,227 | 193,247 |
| 8-inch | 53.33 | 208,040 | 101,167 | 309,207 |