

**CITY OF EL PASO, TEXAS  
AGENDA ITEM  
DEPARTMENT HEAD'S SUMMARY FORM**

**AGENDA DATE:** March 12, 2024

**CONTACT PERSON(S) NAME AND PHONE NUMBER:** Philip F. Etiwe, (915) 212-1553  
Kevin Smith, (915) 212-1566  
Adriana Castillo, El Paso Water, (915) 594-5538

**DISTRICT(S) AFFECTED:** All Districts

**STRATEGIC GOAL:** #3 Promote the Visual Image of El Paso

**SUBGOAL:** 3.1 Provide business friendly permitting and inspection process  
3.2 Set one standard for infrastructure across the city

**SUBJECT:**

A public hearing to discuss and review the update of the land use assumptions and capital improvements plan and determine whether to amend the plan.

**BACKGROUND / DISCUSSION:**

This item is a public hearing to discuss and review the update of the land use assumptions and capital improvements plan and determine whether to amend the plan in accordance with Texas Local Government Code 395.053. This is part of the re-evaluation process of the impact fee structure for water and wastewater improvements.

**PRIOR COUNCIL ACTION:**

May 12, 2009 – City Council adopted Ordinance 017113 for impact fees for water and wastewater services and ancillary items.

February 26, 2024 – City Council received a briefing on an update on the land use assumptions and capital improvements plan. The draft impact fee calculations were also presented.

February 27, 2024 – City Council adopted a Resolution establishing March 12, 2024 as the public hearing to discuss and review the update of the land use assumptions and capital improvements plan and determine whether to amend the plan.

**AMOUNT AND SOURCE OF FUNDING:**

N/A

**HAVE ALL AFFECTED DEPARTMENTS BEEN NOTIFIED?**  X  YES \_\_\_ NO

**PRIMARY DEPARTMENT:** Planning & Inspections, Planning Division

**SECONDARY DEPARTMENT:** N/A

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\*\*\*\*\*REQUIRED AUTHORIZATION\*\*\*\*\*

**DEPARTMENT HEAD:**

*Philip Etiwe*

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# 2024 UPDATE

## LAND USE ASSUMPTIONS TECHNICAL REPORT

The review, evaluation, and update of underlying land use assumptions is required by Chapter 395 of the Texas Local Government Code to ensure reasonable future growth and acts as the basis of the City of El Paso's water and wastewater capital improvement plans, thus resulting in impact fee calculations. This report updates the land use assumptions adopted by the El Paso City Council on February 18, 2014, which serve as the foundation for the current water and wastewater impact fees levied on new development in each of the three identified service areas.

## Introduction

Texas Local Government Code Chapter 395 permits the use of impact fees to finance capital improvement and facility expansion costs attributable to projected new development within identified service areas located in the corporate boundaries or extraterritorial jurisdiction of a political subdivision. To determine the costs of providing such infrastructure accurately, a planning study known as a Land Use Assumptions (LUA) report is assembled to include a description of changes in land uses, densities, intensities, and population projected within each of these service areas over a 10-year period, as well as at full build-out. The LUA report is referenced in the development of a Capital Improvements Plan (CIP) and the adoption of an impact fee ordinance.

To ensure reasonable future growth estimates serve as the basis for expected capital improvements and facility expansions necessitated by new development and the resulting impact fee calculations, the review, evaluation and update of the underlying LUA and CIP is required at least every five years. Following preparation of this update, the political subdivision's governing body (City Council) is required to hold a public hearing for the purpose of reviewing and determining whether amendments to the LUA, CIP, or the adopted impact fees are necessary.

This report, prepared by the City of El Paso's Planning and Inspections Department (P&I), in partnership with El Paso Water (EPW), is intended to fulfill the requirements of Chapter 395 of the Local Government Code with respect to the periodic review and update of the LUA report. Specifically, this report reassesses the land use assumptions adopted by the El Paso City Council on February 18, 2014. The assumptions adopted on that date comprise the first update of the original assumptions, adopted on March 24, 2009; this report comprises the second update.

In addition to providing information about projected land use characteristics within the three established service areas (Eastside, Northeast, and Westside Water and Sewer Impact Fee Service Areas), this report estimates the total number of projected service units, or standardized measurement of consumption, necessitated by new development, and also provides a snapshot forecast of demand for water and wastewater system improvements or expansion by the year 2033. While a number of unforeseeable future events may affect these predictions, the estimates in this report are based on the best information that is currently available.

## Elements of the Land Use Assumptions Report Update

The body of this report is divided into five sections:

*Impact Fee Service Areas:* An explanation and description of the water and wastewater impact fee service areas.

*Methodology:* An explanation of the general methodology used to prepare and update the land use assumptions.

*Full Build-Out Projection:* Population and service unit holding capacity of land located within the impact fee service areas.

*Ten-Year Growth Projection:* Population and service unit growth assumptions for the period between 2024 and 2033.

*Summary:* A brief summation of the land use assumptions report 2024 update.

## Impact Fee Service Areas

Per state law, one or more service areas must be identified and used in all impact fee analyses to ensure that planned capital improvements and facility expansions, as well as the resulting fee structure, are commensurate with projected proximate demand. A service area may include all or part of the land located within the corporate boundaries of the political subdivision or its extraterritorial jurisdiction (ETJ). Currently, City of El Paso water and wastewater impact fees are levied on three specific service areas within the City's corporate boundary and the ETJ; these areas are referred to as the Northeast, Westside, and Eastside Water and Sewer Impact Fee Service Areas. See Figure 1 for a map delineating the location of the three service areas.

Each service area includes portions or all of the sub-service areas defined in the City of El Paso's Final Annexation Assessment and Strategy Report, completed in the fall of 2008, as well as other areas identified within the Water and Wastewater Impact Fees – Report Addendum, completed in March 2009. See Table 1 for an overview of size and existing intensity characteristics within the three impact fee service areas and the nineteen (19) sub-service areas included in this edition of the report.

In total, the three service areas currently encompass 40,095 acres of land, with nearly two-thirds of the total acreage within the El Paso city limits, while the remaining portion lies within the City's ETJ. The Northeast Service Area is the largest of the three, comprising approximately 47 percent (19,096 acres) of the composite acreage, while the Eastside Service Area currently constitutes nearly 30 percent (12,012 acres) and the Westside Service Area approximately 23 percent (8,987 acres). Each of these areas is likely to be developed, at least partially, within the next ten years.



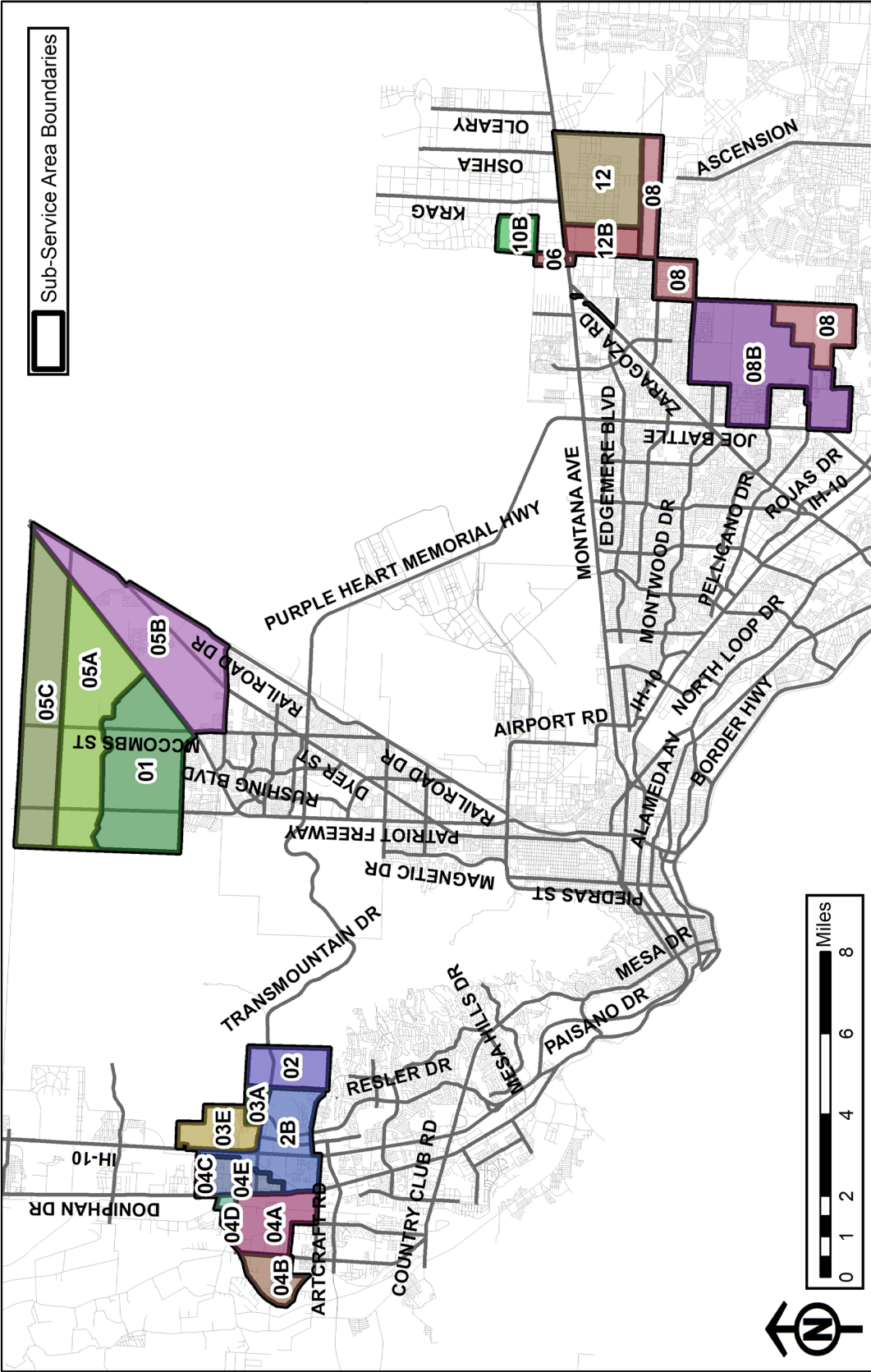


Figure 1. City of El Paso Water and Sewer Impact Fee Service Area

Table 1 provides a snapshot of existing development intensity within the impact fee service areas and sub-service areas. For the purposes of this report, development intensity is defined as the proportion of acreage within each impact fee service area built upon and zoned to a residential, commercial or industrial district. With respect to current development intensity, approximately 33% of the impact fee composite area is presently developed, representing approximately 13,128 acres.

Service Area	Total Acreage	Developed Acreage	% Acreage Developed
<b>Northeast Impact Fee Service Area</b>			
01 Northeast MP	4,835	610.1	13%
05A Northwest Fort Bliss A	4,812	574.4	12%
05B Northwest Fort Bliss B	4,929	2,153.8	44%
05C Northwest Fort Bliss C	4,520	965.9	21%
Northeast Subtotal	19,096	4,304	23%
<b>Westside Impact Fee Service Area</b>			
02 Westside MP	1,589	91.0	6%
03A Northwest Vinton A	294	38.7	13%
03E I-10375 MP	1,132	668.4	59%
04A Northwest Artcraft A	1,639	314.5	19%
04B Northwest Artcraft B	807	221.7	27%
04C Northwest Artcraft C	159	130.0	82%
04D Northwest Artcraft D	218	157.0	72%
04E Canutillo	801	705.0	88%
2B (Other)	2,348	1,845.4	79%
Westside Subtotal	8,987	4,172	46%
<b>Eastside Impact Fee Service Area</b>			
08B Eastside	4,826	1,165.6	24%
12 South Montana	2,919	1,695.9	58%
12B South Montana B	785	357.4	46%
06 South Fort Bliss	118	1.9	2%
08 East Battle	2,826	1,409.7	50%
10B South Fort Bliss B	538	21.2	4%
Eastside Subtotal	12,012	4,652	39%
<b>Total</b>	<b>40,095</b>	<b>13,128</b>	<b>33%</b>

Table 1. Impact Fee Service Area 2023 Existing Characteristics

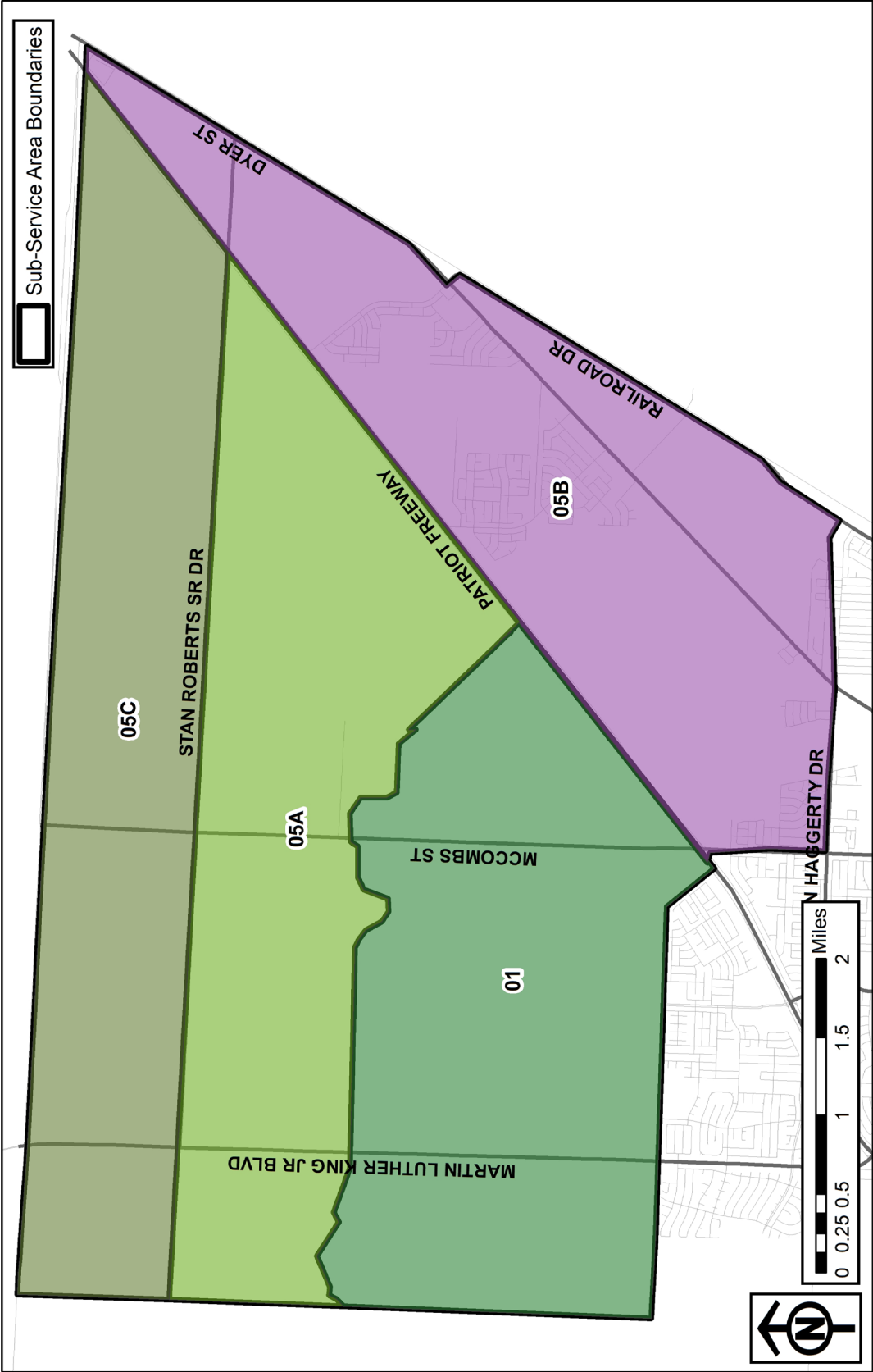


Figure 2. Northeast Water and Sewer Impact Fee Service Area

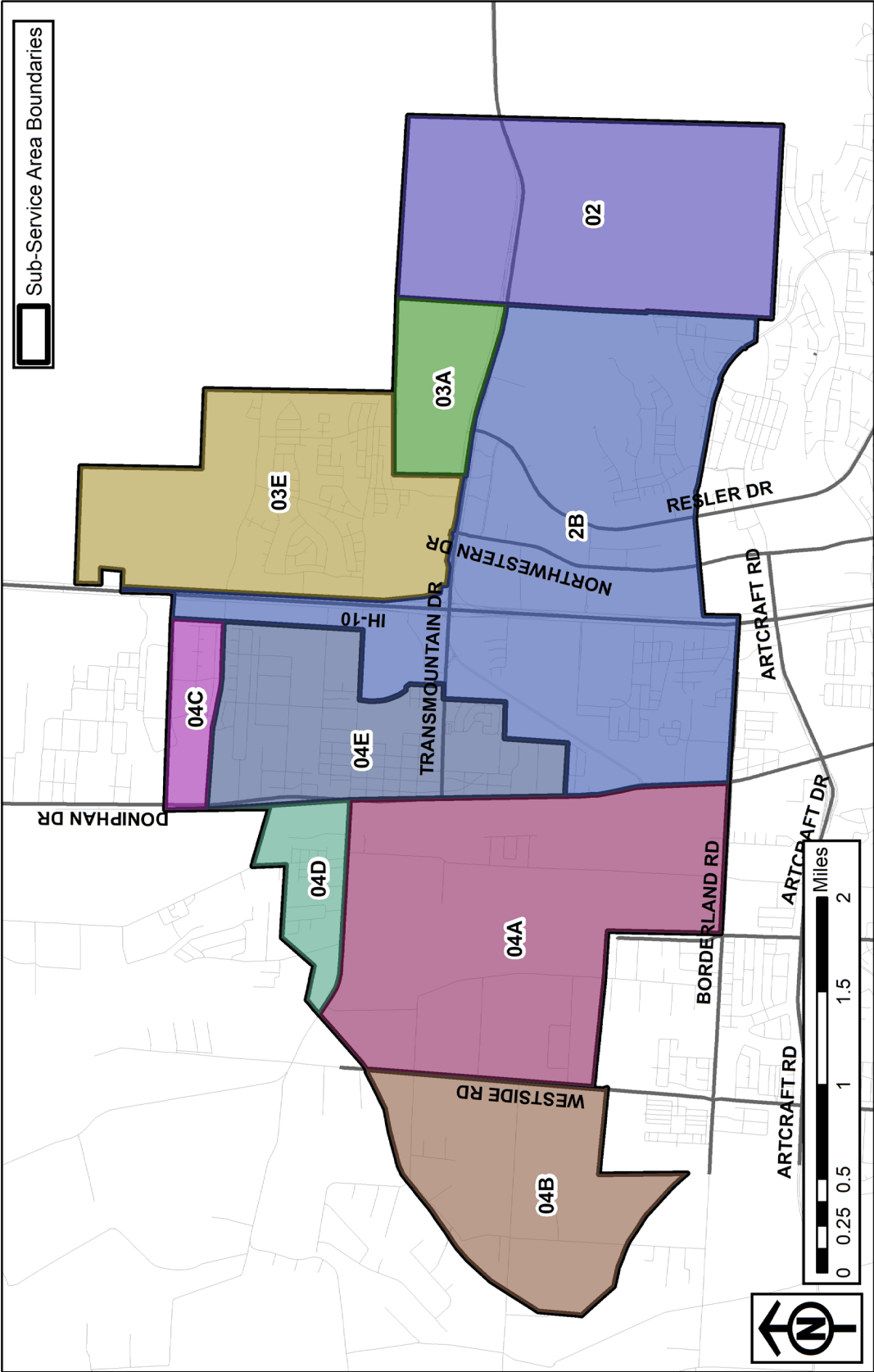


Figure 3. Westside Water and Sewer Impact Fee Service Area

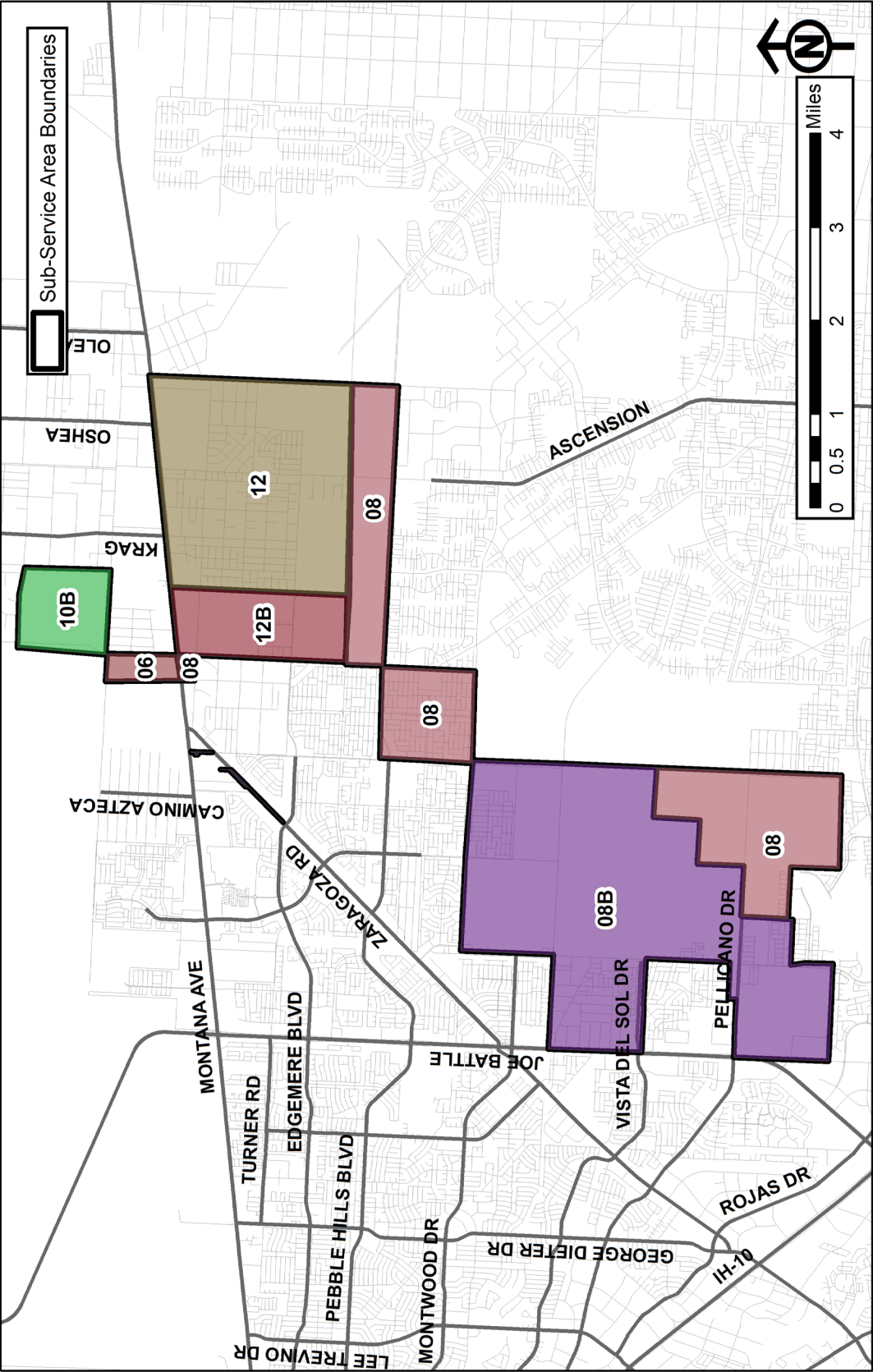


Figure 4. Eastside Water and Sewer Impact Fee Service Area



## Methodology

The City of El Paso's existing water and wastewater fee structure is based on a series of growth assumptions which have in turn been used to inform expected capital improvement and facility expansion needs. The updated land use assumptions and associated population and service unit projections contained in this report are formulated based on consideration and incorporation of the following development patterns:

- Current development trends and characteristics;
- Zoning patterns in place and in process;
- Known or anticipated subdivision of land;
- Historic and anticipated growth trends;
- Expected future land use envisioned by *Plan El Paso*;
- Existing master plans

## Land Use Assumption Update

Update of the 2014 growth projections began with the development of a database summarizing expected land use acreage at full build-out within each of the nineteen sub-service areas. Assembly of the database included analysis of the City's current zoning map and aerial photography. Zoning cases and subdivision plats in progress provided further information about near future development trends, as did surrounding development densities and types. Additionally, several approved master plans, including land studies and master zoning plans were used in determining the allocation of land use types. Developments were analyzed in each of the three impact fee service areas, including the Northeast (Campo Del Sol and Vista Del Norte Estates), Westside (Cimarron and Enchanted Hills developments), and in the Eastside (Gateway Estates and Tierra Del Este Phases IV, V, and VI).

Consistent with previous analyses, acreage within the impact fee service areas was allocated to either a non-residential or residential land use. Non-residential land use categories include: commercial, industrial, floodplain, institutional/utilities, open space, transportation, parkland or undeveloped land. Residential land use categories are defined by residential type (i.e. conventional or mixed-use) and associated density. Here, development density refers to the number of service units (either residential or residential equivalents) per acre. The level of density will differ by land use; for example, a high-density residential zone is assumed to accommodate relatively more service units per acre when compared to a low-density residential use. Appendix A provides a series of maps delineating previously adopted land use assumptions, as well as updated land use assumptions within each of the three impact fee areas.

## Full Build-Out and Ten-Year Growth Projections Update

This expected land use acreage database was then used to update growth assumptions for two time horizons: a ten-year projection, and a full build-out projection. Development of these scenarios involved the estimation of population and service unit figures, two variables intended to provide information regarding demand for water and wastewater services in the impact fee service areas. A service unit is defined as a standardized measure of consumption attributable to an individual unit of development, while population is defined as the number of residents located within an impact fee service area.

### Full Build-Out Projection:

The full build-out scenario is intended to provide information about the maximum realistic holding capacity for land within each of the impact fee service areas. It is therefore not tied to a specific time period as a number of external factors, such as economic growth and political events, will ultimately influence development.

Estimation of the full build-out scenario involves the following assumptions:

- For residential land uses, service units per acre are assigned according to the densities provided in Table 2 below. These densities are estimated based on current zoning restrictions, historic trends, and, where applicable, information provided in each of the approved master plans.
- Population per residential service unit is assumed to follow a household size of 2.94 persons per housing unit in El Paso County, as per the Census Quickfacts 2017-2021 estimates. Note that one housing unit is the equivalent of one residential service unit.
- For non-residential land uses, only lands categorized as a commercial or industrial land use type are expected to require water and wastewater services. Based on information provided by the El Paso Water, it is assumed that such land uses will require 7.25 residential equivalent service units per acre.

Land Use Type	Service Units per Acre
<b>Conventional Residential Development</b>	
Low Density	2
Medium Density	4.5
Medium High Density	6
High Density	9
<b>Mixed-Use Development</b>	
Mixed-Use	6
<b>Non-Residential</b>	
Commercial	7.25
Industrial	7.25

*Table 2. Land Use Density Assumptions*

Using the assumptions outlined in Table 2, the holding capacity within each impact fee service area is projected by first applying the non-residential and residential service unit density per acre to total commercial, industrial, and residential land use acreage figures as identified in the land use assumptions database (detailed in Appendices B-C). Land capacity for population is then derived by applying a factor of 2.94 to total residential service units at full build-out in each of the impact fee service areas.

### **Ten-Year Growth Projection**

Following the development of the full build-out scenario, service unit and population growth projections for the time period corresponding to 2024-2033 were developed. In accordance with state law, the ten-year projections are intended to provide reasonable estimates of demand for water and wastewater services within the established impact fee service area boundaries over a practical planning period. These estimates are then used to inform potential modifications to the associated ten-year capital improvements plan and, if necessary, revisions to the existing impact fee structure.

In an effort to provide the most practical demand projections possible, growth rate assumptions vary by sub-service area. Estimating growth rates at the sub-service area level allows for the incorporation of several influencing factors, such as proximity to existing development and infrastructure, anticipated development projects, and expected phasing of master planned areas.

In the ten-year growth projections, the previously adopted projections were used as a starting point. Specifically, the 2014-2024 sub-service area projections were compared to existing development and adjusted to factor in the influencing factors outlined above, as well as revisions to land use assumptions summarized in Appendices A-C.

The remainder of this report provides service unit and population projections under the full build-out and ten-year scenarios. Each section includes projections by impact fee service area and by impact fee sub-service area. Refer to Appendices B-C for greater detail regarding land use assumptions, associated acreage, and projected service unit and population densities under the full build-out and ten-year scenarios.

### **Full Build-Out Projection**

Table 3 on the following page summarizes total service unit and population projections by impact fee service area and sub-service area under the full build-out scenario. Given the land use assumptions summarized in this report, the three impact fee service areas are expected to hold 169,528 total service units and 281,107 residents at full capacity.



Service Area	Population at Build-Out	Service Units at Full-Build-Out		
		Residential	Non-Residential	Total
<b>Northeast</b>				
01 Northeast MP	48,334	16,440	2,175	18,615
05A Northwest Fort Bliss A	21,005	7,145	15,247	22,391
05B Northwest Fort Bliss B	41,128	13,989	12,144	26,133
05C Northwest Fort Bliss C	4,009	1,364	15,957	17,321
<b>Northeast Subtotal</b>	<b>114,475</b>	<b>38,937</b>	<b>45,523</b>	<b>84,460</b>
<b>Westside</b>				
02 Westside MP	0	0	0	0
03A Northwest Vinton A	209	71	761	832
03E I-10375 MP	10,333	3,515	1,740	5,255
04A Northwest Artcraft A	16,564	5,634	377	6,011
04B Northwest Artcraft B	9,182	3,123	261	3,384
04C Northwest Artcraft C	1,119	381	225	605
04D Northwest Artcraft D	2,209	752	80	831
04E Canutillo	6,178	2,102	1,240	3,341
02B Other	12,489	4,248	6,815	11,063
<b>Westside Subtotal</b>	<b>58,283</b>	<b>19,824</b>	<b>11,498</b>	<b>31,322</b>
<b>Eastside</b>				
08B Eastside	44,678	15,197	9,229	24,426
12 South Montana	25,225	8,580	2,791	11,371
12B South Montana B	7,722	2,627	1,276	3,903
06 South Fort Bliss	0	0	160	160
08 East Battle	21,803	7,416	3,437	10,853
10B South Fort Bliss B	8,921	3,035	0	3,035
<b>Eastside Subtotal</b>	<b>108,349</b>	<b>36,854</b>	<b>16,893</b>	<b>53,746</b>
<b>Total</b>	<b>281,107</b>	<b>95,615</b>	<b>73,914</b>	<b>169,528</b>

Table 3. Full Build-Out Projections

## Ten-Year Growth Projection

Table 4 summarizes expected demand in 2033. Census data for 2000, 2010, and 2020 are provided as points of reference. By 2033 development within the composite impact fee service areas is anticipated to reach approximately 59% of total service unit holding capacity.

Service Area	Census			2033 Proj. Population	2033 Projected Service Units		
	2000	2010	2020		Residential	Non-Residential	Total
<b>Northeast</b>							
01 Northeast MP	0	0	13	39,193	13,331	1,740	15,071
05A Northwest Fort Bliss A	0	0	0	9,626	3,274	7,946	11,220
05B Northwest Fort Bliss B	2,199	4,799	10,735	29,162	9,919	6,537	16,456
05C Northwest Fort Bliss C	10	28	37	0	0	7,721	7,721
<b>Northeast Subtotal</b>	<b>2,209</b>	<b>4,827</b>	<b>10,785</b>	<b>77,981</b>	<b>26,524</b>	<b>23,944</b>	<b>50,468</b>
<b>Westside</b>							
02 Westside MP	0	0	0	0	0	0	0
03A Northwest Vinton A	0	0	0	209	71	207	278
03E I-10375 MP	0	0	2,142	9,202	3,130	653	3,783
04A Northwest Aircraft A	299	312	312	2,764	940	68	1,008
04B Northwest Aircraft B	289	251	289	3,014	1,025	81	1,106
04C Northwest Aircraft C	0	0	316	994	338	233	571
04D Northwest Aircraft D	836	1,001	635	2,020	687	80	767
04E Canutillo	3,633	4,760	4,615	8,258	2,809	1,091	3,900
02B Other	1,167	2,149	4,732	10,940	3,721	6,965	10,686
<b>Westside Subtotal</b>	<b>6,224</b>	<b>8,473</b>	<b>13,041</b>	<b>37,400</b>	<b>12,721</b>	<b>9,378</b>	<b>22,099</b>
<b>Eastside</b>							
08B Eastside	13	682	5,736	19,874	6,760	2,684	9,444
12 South Montana	6,766	7,625	7,483	11,457	3,897	2,198	6,095
12B South Montana B	0	7	12	4,933	1,678	809	2,487
06 South Fort Bliss	0	0	0	861	293	0	293
08 East Battle	0	0	1,460	16,420	5,585	2,920	8,505
10B South Fort Bliss B	0	21	0	2,984	1,015	0	1,015
<b>Eastside Subtotal</b>	<b>6,779</b>	<b>8,335</b>	<b>14,691</b>	<b>56,530</b>	<b>19,228</b>	<b>8,611</b>	<b>27,839</b>
<b>Total</b>	<b>15,212</b>	<b>21,635</b>	<b>38,517</b>	<b>171,911</b>	<b>58,473</b>	<b>41,933</b>	<b>100,406</b>

Table 4. Ten-Year Growth Projections

## Summary

Table 5 provides a comparative analysis of the previously approved and updated residential service unit and population estimates under the full build-out scenario. Overall, total projected holding capacity for residential service units and population has remained relatively constant. While there is anticipated to be growth within these service areas, the effects of the COVID-19 pandemic, disruptions in the building supply chain, and current interest rates are impacting and anticipated to continue impacting the building growth over the next few years.

Service Area	Existing Build-Out Estimates		Updated Build-Out Estimates	
	Residential Service Units	Population	Residential Service Units	Population
Northeast	54,923	168,065	38,937	114,475
Westside	23,659	72,398	19,824	58,283
Eastside	37,753	115,524	36,854	108,349
<b>Total</b>	<b>116,335</b>	<b>355,987</b>	<b>95,615</b>	<b>281,107</b>

*Table 5. Full Build-Out Projections Comparison*

Table 6 provides a summary of the total service unit and population projections for both scenarios by impact fee service area. Given the updated land use assumptions, 170,232 total service units are projected at full build-out, while development demand will reach approximately 59% of the total holding capacity by 2033.

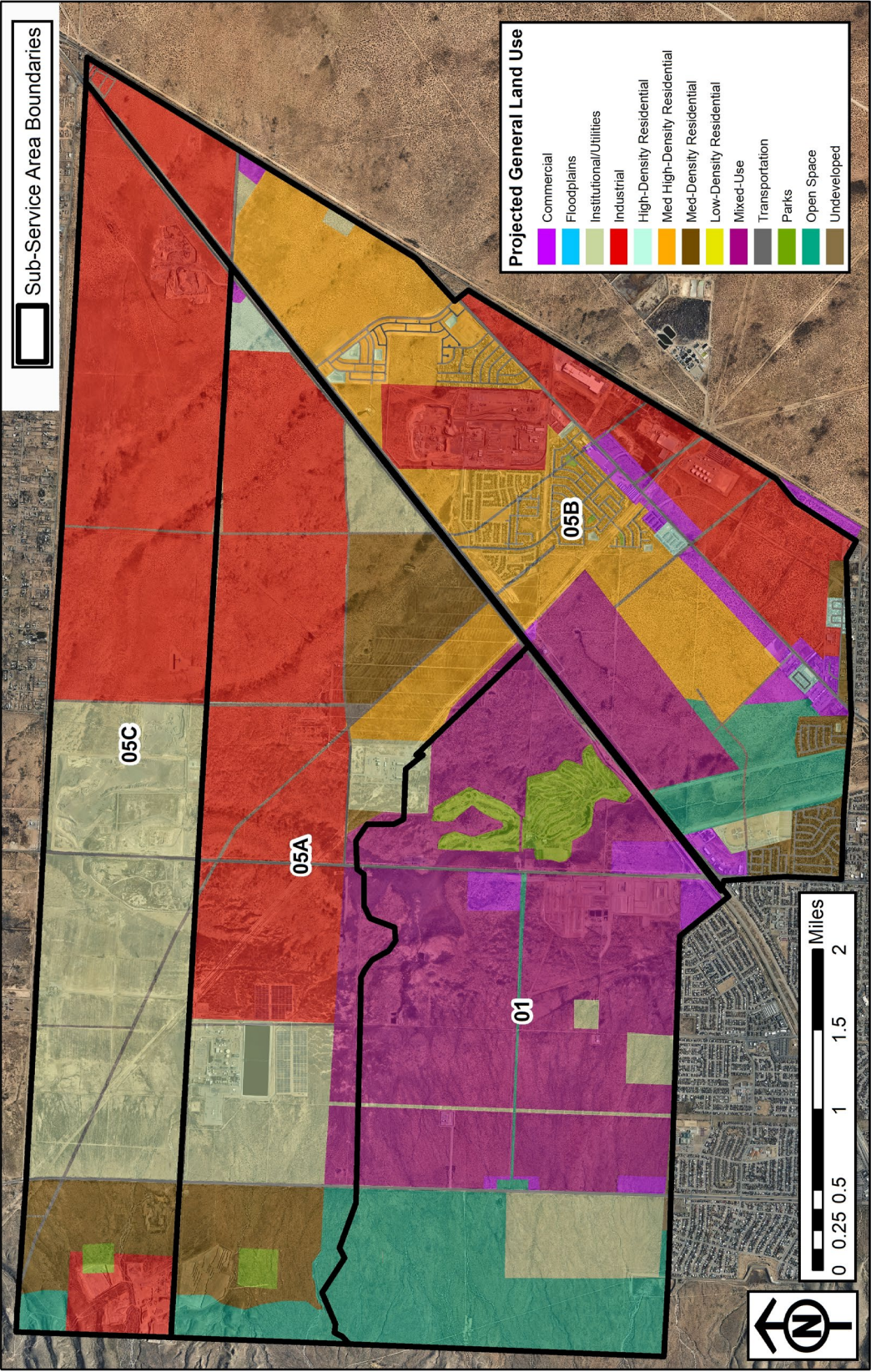
Service Area	Full Build-Out Scenario		2033 (Ten-Year) Scenario	
	Total Service Units	Population	Total Service Units	Population
Northeast	84,460	114,475	50,468	77,981
Westside	31,607	58,283	22,099	37,400
Eastside	54,165	108,349	27,839	56,530
<b>Total</b>	<b>170,232</b>	<b>281,107</b>	<b>100,406</b>	<b>171,911</b>

*Table 6. Updated Projections Summary Table*

## Appendix A

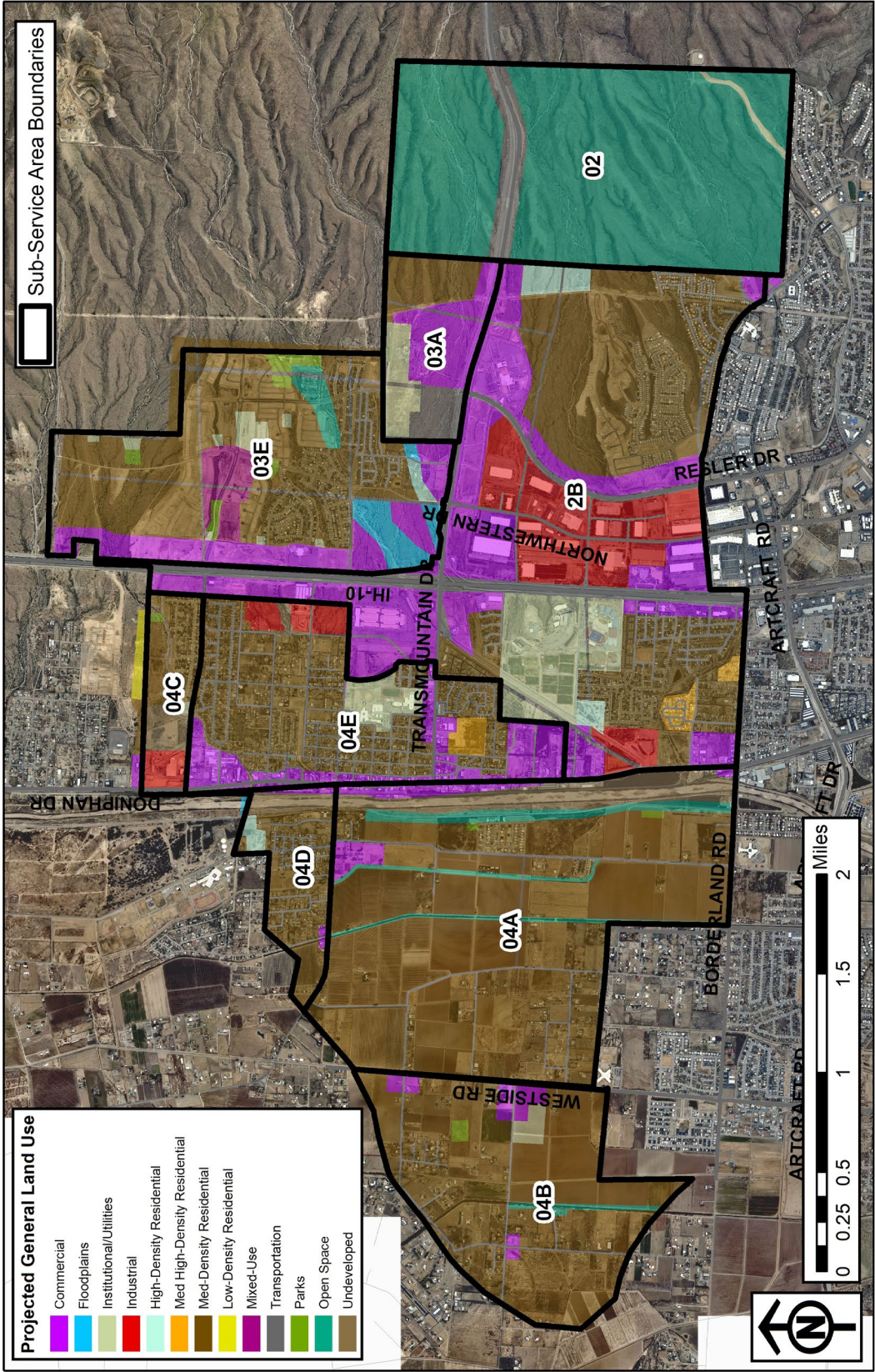
### Land Use Assumptions Maps



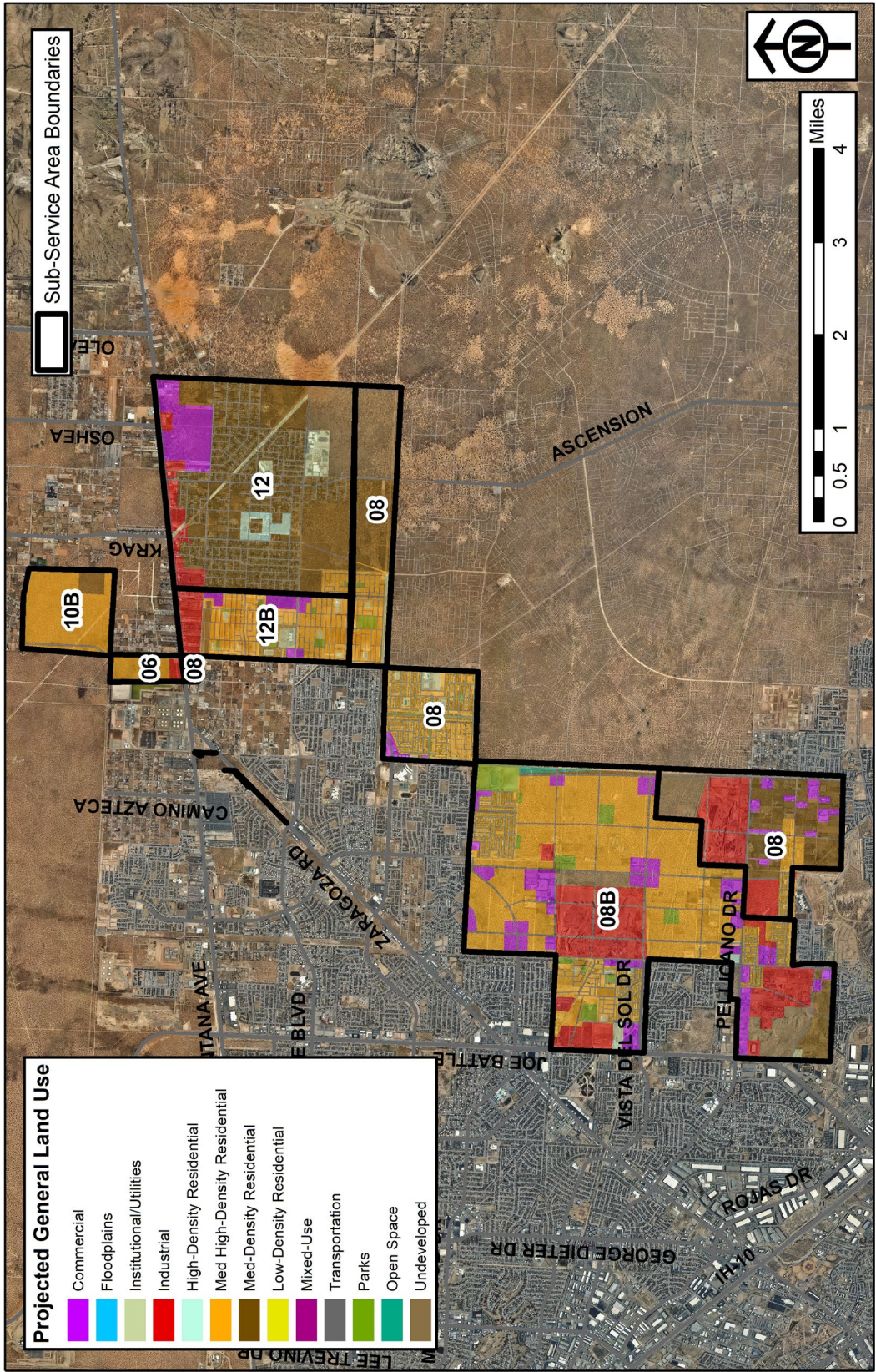


Northeast Projected General Land Use









Eastside Projected General Land Use

## Appendix B

### Full Build-Out Projections



Service Area	Total Acreage		Non-Residential					Conventional Residential				Mixed Use		
	Transportation	Commercial	Industrial	Parkland	Floodplain	Open Space	Undeveloped	Institutional/Utilities	Low	Medium	Medium-High	High	Total	Mixed Use
Northeast														
01 Northeast MP	4,835	99	300		255		968	20						0
05A Northwest Fort Bliss A	4,812	260	5	2,098	38		229			775	229	51	1,055	304
05B Northwest Fort Bliss B	4,929	446	304	1,371	9		348				1,649	37	1,858	498
05C Northwest Fort Bliss C	4,520	154		2,201	23		51				303		303	
Northeast Subtotal	19,096	959	609	5,670	325	0	1,596	20		0	1,250	1,878	88	3,216
Westside														
02 Westside MP	1,589	91					1,483							0
03A Northwest Vinton A	294	58	105							79				79
03E I-10375 MP	1,132	71	220	20	34	57	50				581		9	590
04A Northwest Artcraft A	1,639	75	52		4		106	150			1,252			1,252
04B Northwest Artcraft B	807	38	36		6		17				694			694
04C Northwest Artcraft C	159	15	5	26				16		17	77			94
04D Northwest Artcraft D	218	25	11			3		22			147		10	157
04E Canutillo	801	133	141	42				10			371	21	34	426
02B (Other)	2,348	315	622	318							826	24	43	893
Westside Subtotal	8,987	821	1,192	406	44	60	1,656	198		17	4,027	45	96	4,185
Eastside														
08B Eastside	4,826	509	471	802	186		23	228			167	2,388	13	2,568
12 South Montana	2,919	347	247	138	121			242			1,716	38	70	1,824
12B South Montana B	785	98	77	99	20						25	419		444
06 South Fort Bliss	118	3		22							93			93
08 East Battle	2,826	440	166	308	40			370			740	681		1,421
10B South Fort Bliss B	538	21									45	472		517
Eastside Subtotal	12,012	1,418	961	1,369	246	0	23	840		0	2,786	3,998	83	6,867
Total	40,095	3,198	2,762	7,445	615	60	3,275	1,058		17	8,063	5,921	267	14,268

## Full Build-Out Projections

Service Area	Build-Out Non-Residential Service Units			Build-Out Conventional Service Units				Mixed Use Mixed Use	Build-Out Residential	Build-Out Non- Residential
	Commercial	Institutional	Industrial	Low	Medium	Medium-High	High			
Northeast				-	-	-	-	0		
01 Northeast MP	2,175		-	-	-	-	-	16,440	16,440	2,175
05A Northwest Fort Bliss A	36		15,211	-	3,488	1,374	459	1,824	7,145	15,247
05B Northwest Fort Bliss B	2,204		9,940	-	774	9,894	333	2,988	13,989	12,144
05C Northwest Fort Bliss C	-		15,957	-	1,364	-	-	0	1,364	15,957
Northeast Subtotal	4,415	0	41,108	0	5,625	11,268	792	21,252	38,937	45,523
Westside				-	-	-	-	-	-	-
02 Westside MP	-		-	-	-	-	-	-	-	-
03A Northwest Vinton A	761		-	-	356	-	-	-	356	761
03E I-10375 MP	1,595		145	-	2,615	-	540	360	3,515	1,740
04A Northwest Artcraft A	377		-	-	5,634	-	-	-	5,634	377
04B Northwest Artcraft B	261		-	-	3,123	-	-	-	3,123	261
04C Northwest Artcraft C	36		189	34	347	-	-	-	381	225
04D Northwest Artcraft D	80		-	-	662	-	90	-	752	80
04E Canutillo	935		305	-	1,670	126	306	-	2,102	1,240
02B Other	4,510		2,306	-	3,717	144	387	-	4,248	6,815
Westside Subtotal	8,555	0	2,944	34	18,122	270	1,323	360	20,109	11,498
Eastside				-	-	-	-	-	-	-
08B Eastside	3,415		5,815	-	752	14,328	117	-	15,197	9,229
12 South Montana	1,791		1,001	-	7,722	228	630	-	8,580	2,791
12B South Montana B	558		718	-	113	2,514	-	-	2,627	1,276
06 South Fort Bliss	-		160	-	419	-	-	-	419	160
08 East Battle	1,204		2,233	-	3,330	4,086	-	-	7,416	3,437
10B South Fort Bliss B	-		-	-	203	2,832	-	-	3,035	-
Eastside Subtotal	6,967	0	9,925	-	12,537	23,988	747	-	37,272	16,893
Total	19,937	0	53,976	34	36,284	35,526	2,862	21,612	96,318	73,914

Service Units Full Build-Out Projections

Service Area	Population at Build-Out	Service Units at Full-Build-Out		
		Residential	Non-Residential	Total
<b>Northeast</b>				
01 Northeast MP	48,334	16,440	2,175	18,615
05A Northwest Fort Bliss A	21,005	7,145	15,247	22,391
05B Northwest Fort Bliss B	41,128	13,989	12,144	26,133
05C Northwest Fort Bliss C	4,009	1,364	15,957	17,321
<b>Northeast Subtotal</b>	<b>114,475</b>	<b>38,937</b>	<b>45,523</b>	<b>84,460</b>
<b>Westside</b>				
02 Westside MP	0	0	0	0
03A Northwest Vinton A	209	71	761	832
03E I-10375 MP	10,333	3,515	1,740	5,255
04A Northwest Artcraft A	16,564	5,634	377	6,011
04B Northwest Artcraft B	9,182	3,123	261	3,384
04C Northwest Artcraft C	1,119	381	225	605
04D Northwest Artcraft D	2,209	752	80	831
04E Canutillo	6,178	2,102	1,240	3,341
02B Other	12,489	4,248	6,815	11,063
<b>Westside Subtotal</b>	<b>58,283</b>	<b>19,824</b>	<b>11,498</b>	<b>31,322</b>
<b>Eastside</b>				
08B Eastside	44,678	15,197	9,229	24,426
12 South Montana	25,225	8,580	2,791	11,371
12B South Montana B	7,722	2,627	1,276	3,903
06 South Fort Bliss	0	0	160	160
08 East Battle	21,803	7,416	3,437	10,853
10B South Fort Bliss B	8,921	3,035	0	3,035
<b>Eastside Subtotal</b>	<b>108,349</b>	<b>36,854</b>	<b>16,893</b>	<b>53,746</b>
<b>Total</b>	<b>281,107</b>	<b>95,615</b>	<b>73,914</b>	<b>169,528</b>

Full Build-Out Projections – Population and Service Unit Summary

## Appendix C

### Ten-Year Growth Projections

Service Area	2033 Non-Residential Service Units			2033 Conventional Service Units				Mixed Use Mixed Use	2033 Residential	2033 Non- Residential
	Commercial	Institutional	Industrial	Low	Medium	Medium-High	High			
Northeast										
01 Northeast MP	1,740		-	0	0	0	0	13,331	13,331	1,740
05A Northwest Fort Bliss A	-		7,946	0	1,697	334	331	912	3,274	7,946
05B Northwest Fort Bliss B	1,317		5,220	0	774	7,746	403	996	9,919	6,537
05C Northwest Fort Bliss C	-		7,721	0	0	0	0	0	-	7,721
Northeast Subtotal	3,057	0	20,887	0	2,471	8,080	734	15,239	26,524	23,944
Westside										
02 Westside MP	0		0	0	0	0	0	0	-	-
03A Northwest Vinton A	207		0	0	71	0	0	0	71	207
03E I-10375 MP	653		0	0	2,500	0	270	360	3,130	653
04A Northwest Artcraft A	68		0	0	940	0	0	0	940	68
04B Northwest Artcraft B	81		0	0	1,025	0	0	0	1,025	81
04C Northwest Artcraft C	37		196	17	321	0	0	0	338	233
04D Northwest Artcraft D	80		0	0	597	0	90	0	687	80
04E Canutillo	935		156	0	2,372	126	311	0	2,809	1,091
02B Other	4652		2313	0	3,352	144	225	0	3,721	6,965
Westside Subtotal	6,713	0	2,665	17	11,178	270	896	360	12,721	9,378
Eastside										
08B Eastside	833		1851	0	450	6,264	46	0	6,760	2,684
12 South Montana	1197		1001	2,842	664	0	391	0	3,897	2,198
12B South Montana B	91		718	0	112	1,566	0	0	1,678	809
06 South Fort Bliss	0		0	0	293	0	0	0	293	-
08 East Battle	907		2013	0	2,213	3,372	0	0	5,585	2,920
10B South Fort Bliss B	0		0	0	63	952	0	0	1,015	-
Eastside Subtotal	3,028	0	5,583	2,842	3,795	12,154	437	0	19,228	8,611
Total	12,798	0	29,135	2,859	17,444	20,504	2,067	15,599	58,473	41,933

2033 Service Unit Projections

Service Area	Census			2033 Proj. Population	2033 Projected Service Units		
	2000	2010	2020		Residential	Non-Residential	Total
<b>Northeast</b>							
01 Northeast MP	0	0	13	39,193	13,331	1,740	15,071
05A Northwest Fort Bliss A	0	0	0	9,626	3,274	7,946	11,220
05B Northwest Fort Bliss B	2,199	4,799	10,735	29,162	9,919	6,537	16,456
05C Northwest Fort Bliss C	10	28	37	0	0	7,721	7,721
<b>Northeast Subtotal</b>	<b>2,209</b>	<b>4,827</b>	<b>10,785</b>	<b>77,981</b>	<b>26,524</b>	<b>23,944</b>	<b>50,468</b>
<b>Westside</b>							
02 Westside MP	0	0	0	0	0	0	0
03A Northwest Vinton A	0	0	0	209	71	207	278
03E I-10375 MP	0	0	2,142	9,202	3,130	653	3,783
04A Northwest Artcraft A	299	312	312	2,764	940	68	1,008
04B Northwest Artcraft B	289	251	289	3,014	1,025	81	1,106
04C Northwest Artcraft C	0	0	316	994	338	233	571
04D Northwest Artcraft D	836	1,001	635	2,020	687	80	767
04E Canutillo	3,633	4,760	4,615	8,258	2,809	1,091	3,900
02B Other	1,167	2,149	4,732	10,940	3,721	6,965	10,686
<b>Westside Subtotal</b>	<b>6,224</b>	<b>8,473</b>	<b>13,041</b>	<b>37,400</b>	<b>12,721</b>	<b>9,378</b>	<b>22,099</b>
<b>Eastside</b>							
08B Eastside	13	682	5,736	19,874	6,760	2,684	9,444
12 South Montana	6,766	7,625	7,483	11,457	3,897	2,198	6,095
12B South Montana B	0	7	12	4,933	1,678	809	2,487
06 South Fort Bliss	0	0	0	861	293	0	293
08 East Battle	0	21	1,460	16,420	5,585	2,920	8,505
10B South Fort Bliss B	0	0	0	2,984	1,015	0	1,015
<b>Eastside Subtotal</b>	<b>6,779</b>	<b>8,335</b>	<b>14,691</b>	<b>56,530</b>	<b>19,228</b>	<b>8,611</b>	<b>27,839</b>
<b>Total</b>	<b>15,212</b>	<b>21,635</b>	<b>38,517</b>	<b>171,911</b>	<b>58,473</b>	<b>41,933</b>	<b>100,406</b>

2033 Population and Service Unit Summary

# Water and Wastewater Impact Fees Fiscal Year 2023-24 Update

## **Draft Water and Wastewater Impact Fee Study**

January 3, 2024

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# Table of Contents

PROJECT OVERVIEW ..... 1

BACKGROUND OF THE STUDY ..... 1

IMPACT FEE METHODOLOGY ..... 2

LAND USE ASSUMPTIONS AND SERVICE UNIT  
CHARACTERISTICS ..... 2

10-YEAR POPULATION AND SERVICE UNIT PROJECTIONS ..... 4

PROPOSED CAPITAL IMPROVEMENT FACILITIES ..... 4

MAXIMUM IMPACT FEE CALCULATION ..... 4

MAXIMUM CALCULATION ..... 5

IMPACT FEE ASSESSMENT SCHEDULE ..... 6

List of Tables

Table 1 - Land Use Assumptions ..... 3

Table 2 - Equivalent Service Unit Flows ..... 3

Table 3 - 2033 Population and Service Units..... 4

Table 4 - Maximum Impact Fee by Service Area ..... 5

Table 5 - Impact Fee Credits per Service Unit Equivalent..... 6

Table 6 - Northeast Water and Wastewater Impact Fee Assessment Schedule (Net Fee after Credit) .... 7

Table 7 - Northeast Impact Fee Comparison (Net Fee after 50% Credit) ..... 7

Table 8 - Westside Impact Fee Comparison Schedule (Net Fee after 50% Credit) ..... 7

Table 9 - East Impact Fee Comparison Schedule (Net Fee after 50% Credit)..... 8

Table 10 - Northeast Current versus Calculated..... 8

Table 11 - West Current versus Calculated..... 8

Table 12 - Eastside Current versus Calculated..... 8

List of Attachments

- Attachment A: Service Units Maps
- Attachment B: Land Use Assumptions
- Attachment C: Capital Improvement Plan
- Attachment D: Capital Improvement Plan Cost Projection
- Attachment E: Impact Fee Calculation by Service Area
- Attachment F: Maximum Impact Fee Calculation
- Attachment G: Impact Fee Credit Calculation
- Attachment H: Impact Fee Assessment Schedules

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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 Statutes). This report documents the 2024 update of the water and wastewater impact fees and replaces the previous Water and Wastewater Impact Fees-2019 Update. During the last impact fee update process, it was determined that the approved 2019 impact fee amounts would be updated.

Consistent with the previous updates 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
- 06- South Fort Bliss
- 08- East Battle
- 10B- South Fort Bliss B

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 categories' total service units then divide the total categories' costs 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 2.94 persons per household based on the County average as shown in the *2024 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
<b>Northeast</b>			
01	16,440	2.94	48,334
05A	7,145	2.94	21,006
05B	13,989	2.94	41,128
05C	1,364	2.94	4,010
<b>Westside</b>			
02	0	2.94	0
03A	356	2.94	1,047
03E	3,515	2.94	10,334
04A	5,634	2.94	16,564
04B	3,123	2.94	9,182
04C	381	2.94	1,120
04D	752	2.94	2,211
04E	2,102	2.94	6,180
02B	4,248	2.94	12,489
<b>Eastside</b>			
08B	15,197	2.94	44,679
12	8,580	2.94	25,225
12B	2,627	2.94	7,723
06	419	2.94	1,232
08	7,416	2.94	21,803
10B	3,035	2.94	8,923

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 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 3.29 persons per Service Unit to define the flow rates, this rate is higher than the 2.94 persons per Service Unit in Table 1 due to the additional commercial and industrial usage. The Persons Per Service Unit was updated from 3.50 as reflected within the 2019 Impact Fee Study analysis to 3.29 for this update as referenced in Table 2 below.

**Table 2 - Equivalent Service Unit Flows**

Description	Water	Wastewater
<b>Average Usage Per Capita (gallons per day-gpd)</b>	115	70
<b>Ratio of Maximum Day Demand to Average Day Demand</b>	<u>1.71<sup>1</sup></u>	<u>1.39</u>
<b>Maximum Day Demand per Capita (gpd)</b>	209	98
<b>Persons per Service Unit</b>	<u>3.29</u>	<u>3.29</u>
<b>Flows per Equivalent Service Unit (gpd)<sup>2</sup></b>	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 as of 2033. The values includes 2023 developed acres, population, and residential, non-residential, and total service units plus projected growth over the 10-year period of 2023 through 2033.

**Table 3 - 2033 Population and Service Units**

Service Area	Developable Acres	Population	Residential Service Units	Non-Residential Service Unit Equivalents	Total Service Units
Northeast	5,363	77,981	26,524	23,944	50,468
Westside	3,309	37,400	12,721	9,378	22,099
Eastside	<u>5,441</u>	<u>56,530</u>	<u>19,228</u>	<u>8,611</u>	<u>27,839</u>
Total	14,314	171,911	58,473	41,933	100,406

## Proposed Capital Improvement Facilities

In compliance with the State Impact Fee Statues, proposed capital improvements were prepared by Adriana Castillo, P.E., with 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 2033, and the maximum impact fee for each service area. The model assumes a 35% debt funding rate with a 5% interest rate and a 20-year repayment period for water-related capital projects. For wastewater-related capital projects, it assumes a 63% debt funding rate with the same 5% interest rate and 20-year 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 2033)	Maximum Impact Fee per Service Unit
<u>Northeast</u>		
Water	37,660	\$10,023
Wastewater	37,660	<u>1,345</u>
Total		\$11,368
<u>Westside</u>		
Water	5,989	\$3,136
Wastewater	5,989	<u>3,379</u>
Total		\$6,515
<u>Eastside</u>		
Water	11,421	\$14,954
Wastewater	11,421	<u>21,008</u>
Total		\$35,962

## Maximum 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.

Raftelis conducted an analysis involving two scenarios to comprehend the ramifications of a net impact fee following the application of a credit to the maximum impact fee. Tables 5 through 12 illustrate the impact fee considering a maximum credit of 50 percent. Attachment H presents a schedule displaying the net impact fee under two scenarios: (1) Net Impact Fee after Revenue Credit (8.1% for Water and 20.1% for Wastewater) and (2) Net Impact Fee after Maximum Credit (50% for Water and Wastewater). The option displaying the Net Impact Fee after Maximum Credit, as depicted in Tables 5 through 12, results in lower fees.

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

	Water			Wastewater			Total
Service Area	Max Impact Fee	Max Credit (50%)	Net Impact Fee	Max Impact Fee	Max Credit (50%)	Net Impact Fee	Net Impact Fee
Northeast	\$10,023	(\$5,012)	\$5,012	\$1,345	(\$672)	\$672	\$5,684
Westside	\$3,136	(\$1,568)	\$1,568	\$3,379	(\$1,689)	\$1,689	\$3,257
Eastside	\$14,954	(\$7,477)	\$7,477	\$21,008	(\$10,504)	\$10,504	\$17,981

## 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  $\frac{3}{4}$  inch meter or for an equivalent residential unit. For meters  $\frac{3}{4}$  inch and larger the American Water Works Association (AWWA) standard ratios are used. These guidelines define the  $\frac{3}{4}$  inch meter as one unit, and all other meters as a multiple of the  $\frac{3}{4}$  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	\$5,012	\$672	\$5,684
1-Inch	1.67	8,370	1,122	9,492
1 1/2-Inch	3.33	16,690	2,238	18,928
2-Inch	5.33	26,714	3,582	30,296
3-Inch	10.00	50,120	6,720	56,840
4-Inch	16.67	83,550	11,202	94,752
6-Inch	33.33	167,050	22,398	189,448
8-Inch	53.33	\$267,290	\$35,838	\$303,128

Attachment H provides a schedule for all impact fee service areas. Tables 7 through 9 compare the current and calculated 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 and is a material factor in the increase in the calculated fees. The Eastside Service Area has the greatest impact, which is attributed to the portion of water projects associated with an Advanced Water Purification Facility and wastewater projects associated with Bustamante Wastewater Treatment Plant.

**Table 7 - Northeast Impact Fee Comparison (Net Fee after 50% Credit)**

Meter Size	Water		Wastewater		Total		Change in Total Fee	
	Current	Calculated	Current	Calculated	Current	Calculated	\$	%
Less than 1-Inch	\$1,178	\$5,012	\$291	\$672	\$1,469	\$5,684	\$4,215	287%
1-Inch	1,967	8,370	486	1,122	2,453	9,492	\$7,039	287%
1 1/2-Inch	3,921	16,690	969	2,238	4,890	18,928	14,038	287%
2-Inch	6,276	26,714	1,551	3,582	7,827	30,296	22,469	287%
3-Inch	11,775	50,120	2,910	6,720	14,685	56,840	42,155	287%
4-Inch	19,629	83,550	4,851	11,202	24,480	94,752	70,272	287%
6-Inch	39,246	167,050	9,699	22,398	48,945	189,448	140,503	287%
8-Inch	62,796	\$267,290	15,519	\$35,838	78,315	\$303,128	224,813	287%

**Table 8 - Westside Impact Fee Comparison Schedule (Net Fee after 50% Credit)**

Meter Size	Water		Wastewater		Total		Change in Total Fee	
	Current	Calculated	Current	Calculated	Current	Calculated	\$	%
Less than 1-Inch	\$659	\$1,568	\$927	\$1,689	\$1,586	\$3,257	\$1,671	105%
1-Inch	1,101	2,619	1,548	2,821	2,649	5,439	2,790	105%
1 1/2-Inch	2,195	5,221	3,087	5,624	5,282	10,846	5,564	105%
2-Inch	3,514	8,357	4,941	9,002	8,455	17,360	8,905	105%
3-Inch	6,593	15,680	9,270	16,890	15,863	32,570	16,707	105%
4-Inch	10,990	26,139	15,453	28,156	26,443	54,294	27,851	105%
6-Inch	21,973	52,261	30,897	56,294	52,870	108,556	55,686	105%
8-Inch	35,158	83,621	49,437	90,074	84,595	173,696	\$89,101	105%

**Table 9 - East Impact Fee Comparison Schedule (Net Fee after 50% Credit)**

Meter Size	Water		Wastewater		Total		Change in Total Fee	
	Current	Calculated	Current	Calculated	Current	Calculated	\$	%
Less than 1-Inch	\$697	\$7,477	\$920	\$10,504	\$1,617	\$17,981	\$16,364	1012%
1-Inch	1,163	12,847	1,537	17,542	2,700	30,028	27,328	1012%
1½-Inch	2,321	24,898	3,065	34,978	5,386	59,877	54,491	1012%
2-Inch	3,714	39,852	4,905	55,986	8,619	95,839	87,220	1012%
3-Inch	6,968	74,770	9,203	105,040	16,171	179,810	163,639	1012%
4-Inch	11,615	124,642	15,341	175,102	26,956	299,743	272,787	1012%
6-Inch	23,223	249,208	30,672	350,098	53,895	599,307	545,412	1012%
8-Inch	37,158	398,748	49,077	560,178	86,235	958,927	872,692	1012%

Tables 10 through 12 provide a comparison of the current impact fees adopted in 2019 and the calculated Net Impact Fee after reducing by the Max Credit. This comparison is acutely relevant due to the dramatic increase in costs since 2019.

**Table 10 - Northeast Current versus Calculated**

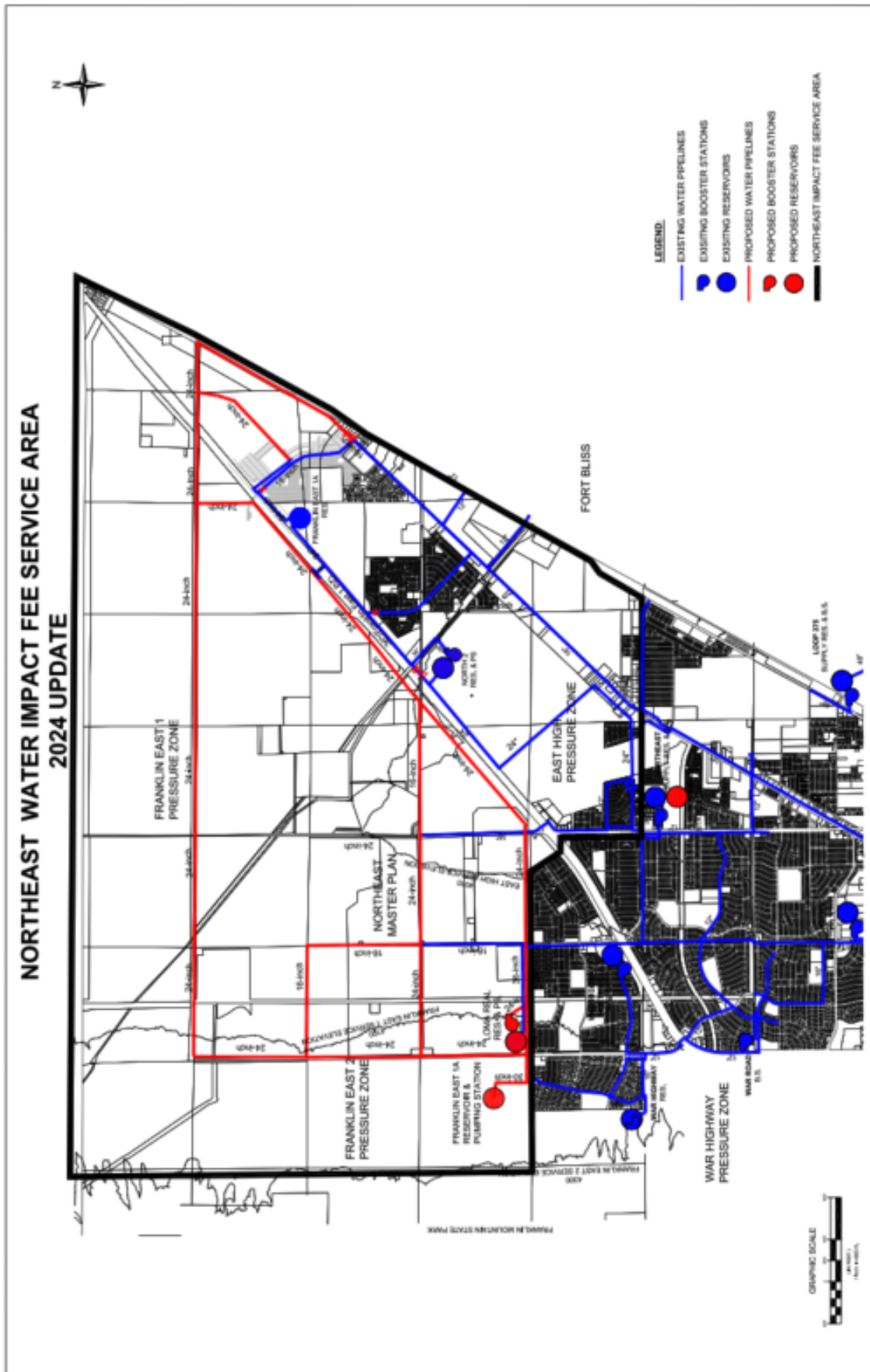
Meter Size	Current	Calculated
Less than 1-Inch	\$1,469	\$5,684
1-Inch	2,453	9,492
1½-Inch	4,890	18,928
2-Inch	7,827	30,296
3-Inch	14,685	56,840
4-Inch	24,480	94,752
6-Inch	48,945	189,448
8-Inch	78,315	\$303,128

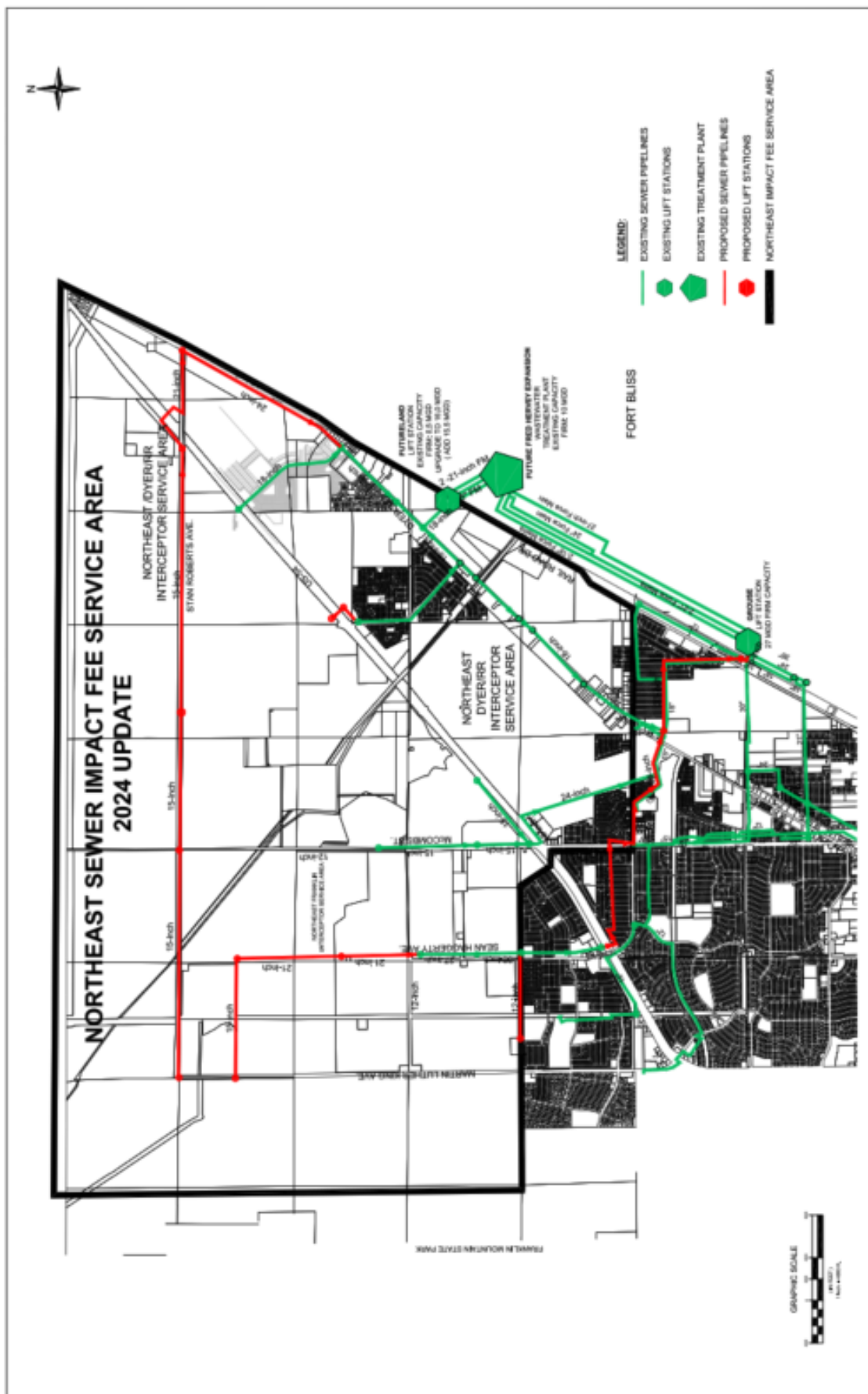
**Table 11 - West Current versus Calculated**

Meter Size	Current	Calculated
Less than 1-Inch	\$1,586	\$3,257
1-Inch	2,649	5,439
1½-Inch	5,282	10,846
2-Inch	8,455	17,360
3-Inch	15,863	32,570
4-Inch	26,443	54,294
6-Inch	52,870	108,556
8-Inch	84,595	173,696

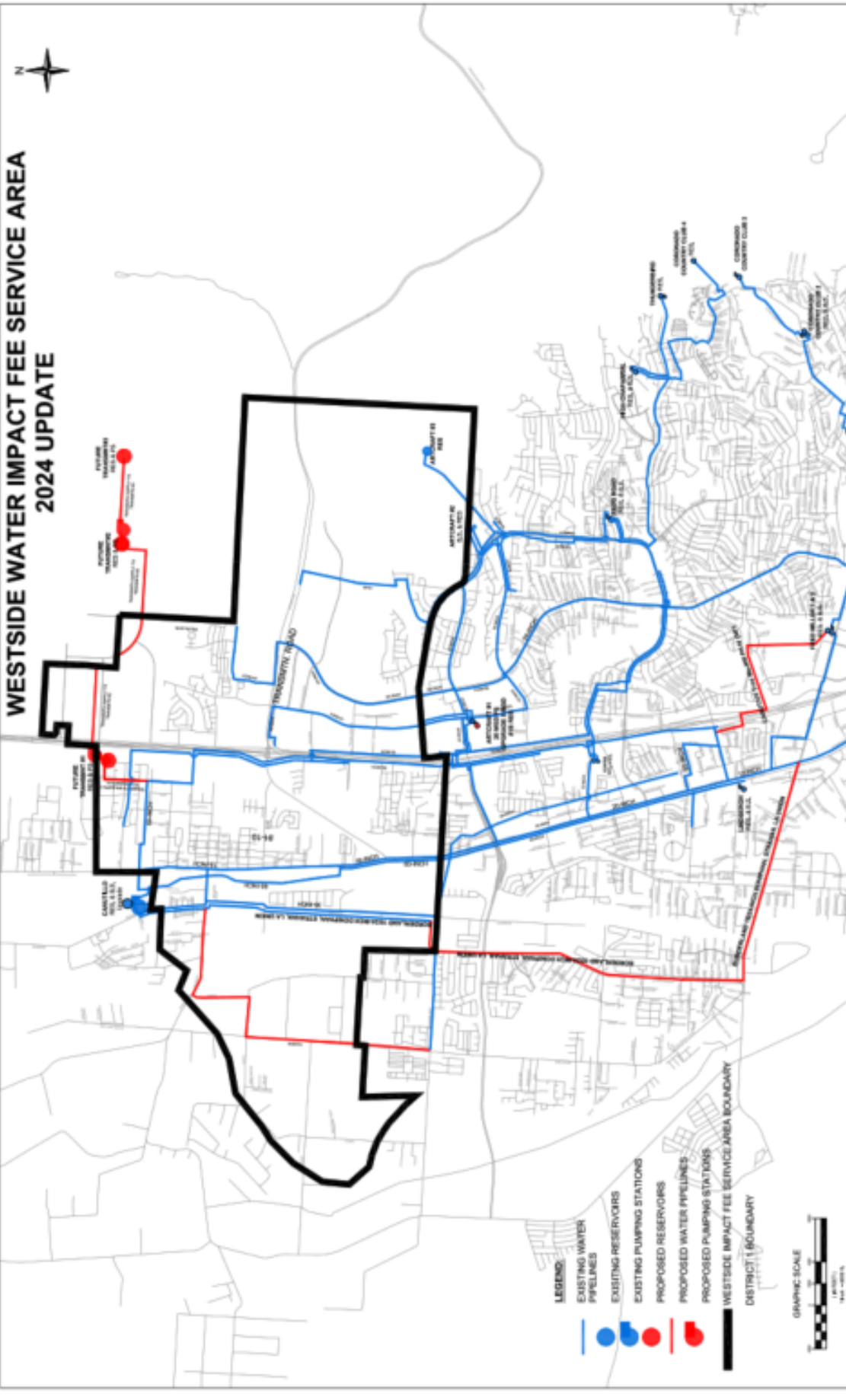
**Table 12 - Eastside Current versus Calculated**

Meter Size	Current	Calculated
Less than 1-Inch	\$1,617	\$17,981
1-Inch	2,700	30,028
1½-Inch	5,386	59,877
2-Inch	8,619	95,839
3-Inch	16,171	179,810
4-Inch	26,956	299,743
6-Inch	53,895	599,307
8-Inch	86,235	958,927





# WESTSIDE WATER IMPACT FEE SERVICE AREA 2024 UPDATE



## LEGEND

- EXISTING WATER PIPELINES
- EXISTING RESERVOIRS
- EXISTING PUMPING STATIONS
- PROPOSED RESERVOIRS
- PROPOSED WATER PIPELINES
- PROPOSED PUMPING STATIONS
- WESTSIDE IMPACT FEE SERVICE AREA BOUNDARY
- DISTRICT 1 BOUNDARY

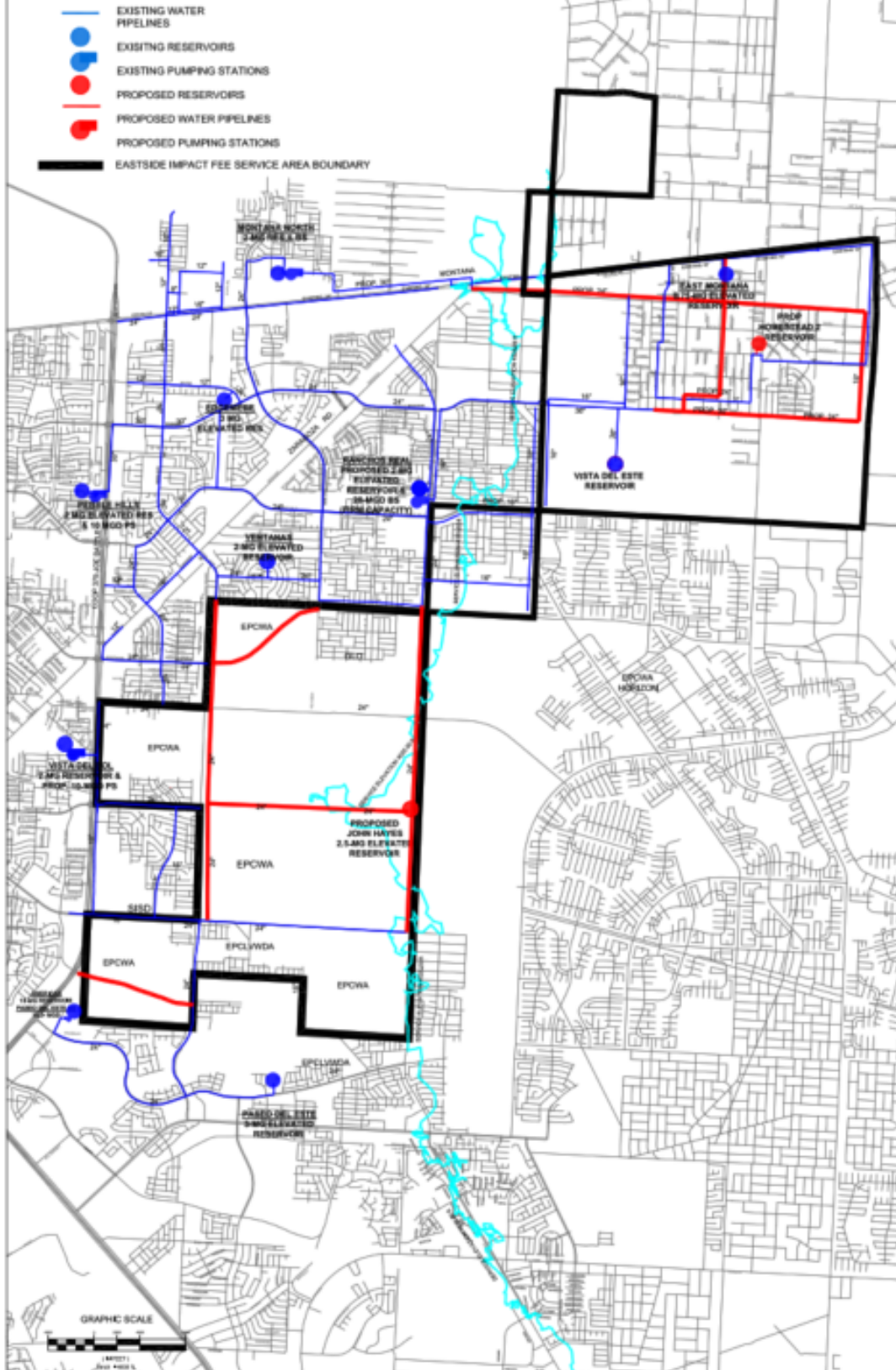
GRAPHIC SCALE







 EXISTING WATER PIPELINES  
 EXISTING RESERVOIRS  
 EXISTING PUMPING STATIONS  
 PROPOSED RESERVOIRS  
 PROPOSED WATER PIPELINES  
 PROPOSED PUMPING STATIONS  
 EASTSIDE IMPACT FEE SERVICE AREA BOUNDARY

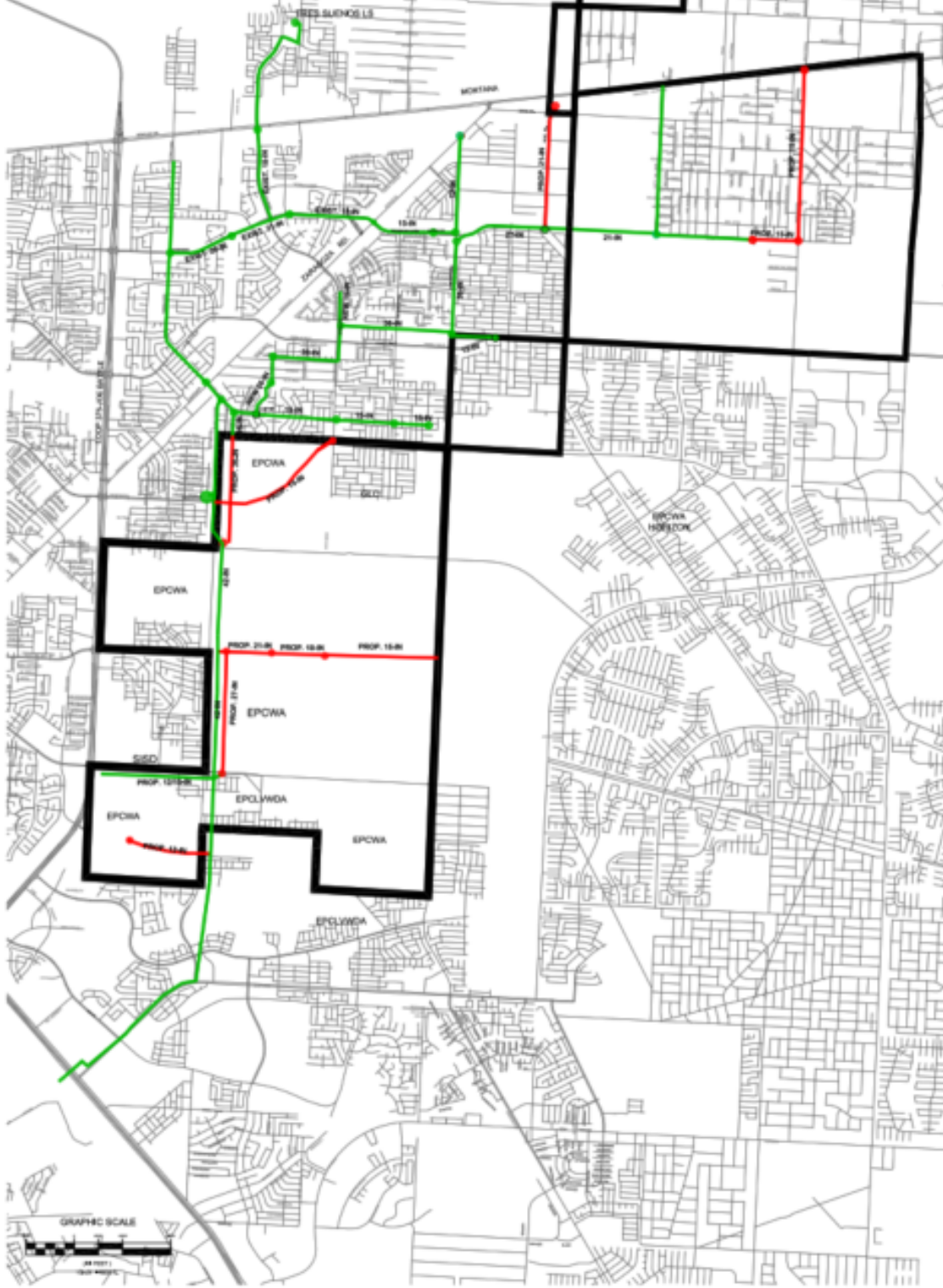


(Barrett)  
 1890-1891

# EASTSIDE SEWER IMPACT FEE SERVICE AREA 2024 UPDATE

## LEGEND:

- EXISTING SEWER PIPELINES
- EXISTING LIFT STATIONS
- EXISTING TREATMENT PLANT
- PROPOSED SEWER PIPELINES
- PROPOSED LIFT STATIONS
- EASTSIDE IMPACT FEE SERVICE AREA



## Attachment B: Land Use Assumptions

Service Area	2033 Share of Development	Total Acreage	Non-Residential								Conventional Residential					Mixed Use
			Transportation	Commercial	Industrial	Parkland	Floodplain	Open Space	Undeveloped	Institutional/Utilities	Low	Medium	Medium-High	High	Total	
<b>Northeast</b>																
01 Northeast MP	80%	4,835	99	300		255		968	20	453					0	2,740
05A Northwest Fort Bliss A	25%	4,812	260	5	2,098	38		229		823		775	229	51	1,055	304
05B Northwest Fort Bliss B	50%	4,929	446	304	1,371	9		348		95		172	1,649	37	1,858	498
05C Northwest Fort Bliss C	10%	4,520	154		2,201	23		51		1,788		303			303	
<b>Northeast Subtotal</b>		<b>19,096</b>	<b>959</b>	<b>609</b>	<b>5,670</b>	<b>325</b>	<b>0</b>	<b>1,596</b>	<b>20</b>	<b>3,159</b>	<b>0</b>	<b>1,250</b>	<b>1,878</b>	<b>88</b>	<b>3,216</b>	<b>3,542</b>
<b>Westside</b>																
02 Westside MP	7%	1,589	91					1,483		15					0	
03A Northwest Vinton A	20%	294	58	105						52		79			79	
03E I-10375 MP	60%	1,132	71	220	20	34	57	50		30		581		9	590	60
04A Northwest Artcraft A	20%	1,639	75	52		4		106	150			1,252			1,252	
04B Northwest Artcraft B	30%	807	38	36		6		17		16		694			694	
04C Northwest Artcraft C	50%	159	15	5	26				16	3	17	77			94	
04D Northwest Artcraft D	90%	218	25	11			3		22			147		10	157	
04E Canutillo	95%	801	133	141	42				10	49		371	21	34	426	
02B (Other)	80%	2,348	315	622	318					200		826	24	43	893	
<b>Westside Subtotal</b>		<b>8,987</b>	<b>821</b>	<b>1,192</b>	<b>406</b>	<b>44</b>	<b>60</b>	<b>1,656</b>	<b>198</b>	<b>365</b>	<b>17</b>	<b>4,027</b>	<b>45</b>	<b>96</b>	<b>4,185</b>	<b>60</b>
<b>Eastside</b>																
08B Eastside	40%	4,826	509	471	802	186		23	228	39		167	2,388	13	2,568	
12 South Montana	80%	2,919	347	247	138				242	121		1,716	38	70	1,824	
12B South Montana B	90%	785	98	77	99	20				47		25	419		444	
06 South Fort Bliss	70%	118	3		22							93			93	
08 East Battle	60%	2,826	440	166	308	40			370	81		740	681		1,421	
10B South Fort Bliss B	70%	538	21									45	472		517	
<b>Eastside Subtotal</b>		<b>12,012</b>	<b>1,418</b>	<b>961</b>	<b>1,369</b>	<b>246</b>	<b>0</b>	<b>23</b>	<b>840</b>	<b>288</b>	<b>0</b>	<b>2,786</b>	<b>3,998</b>	<b>83</b>	<b>6,867</b>	<b>0</b>
<b>Total</b>		<b>40,095</b>	<b>3,198</b>	<b>2,762</b>	<b>7,445</b>	<b>615</b>	<b>60</b>	<b>3,275</b>	<b>1,058</b>	<b>3,812</b>	<b>17</b>	<b>8,063</b>	<b>5,921</b>	<b>267</b>	<b>14,268</b>	<b>3,602</b>

Attachment B: Land Use Cont.

Service Area	Build-Out Non-Residential Service Units			Build-Out Conventional Service Units					Mixed Use	Build-Out Residential	Build-Out Non-Residential
	Commercial	Institutional	Industrial	Low	Medium	Medium-High	High	Total	Mixed Use		
<b>Northeast</b>								0			
01 Northeast MP	2,175		-	-	-	-	-	0	16,440	16,440	2,175
05A Northwest Fort Bliss A	36		15,211	-	3,488	1,374	459	5,321	1,824	7,145	15,247
05B Northwest Fort Bliss B	2,204		9,940	-	774	9,894	333	11,001	2,988	13,989	12,144
05C Northwest Fort Bliss C	-		15,957	-	1,364	-	-	1,364	0	1,364	15,957
<b>Northeast Subtotal</b>	<b>4,415</b>	<b>0</b>	<b>41,108</b>	<b>0</b>	<b>5,625</b>	<b>11,268</b>	<b>792</b>	<b>17,685</b>	<b>21,252</b>	<b>38,937</b>	<b>45,523</b>
<b>Westside</b>											
02 Westside MP	-		-	-	-	-	-	-	-	-	-
03A Northwest Vinton A	761		-	-	356	-	-	356	-	356	761
03E I-10375 MP	1,595		145	-	2,615	-	540	3,155	360	3,515	1,740
04A Northwest Artcraft A	377		-	-	5,634	-	-	5,634	-	5,634	377
04B Northwest Artcraft B	261		-	-	3,123	-	-	3,123	-	3,123	261
04C Northwest Artcraft C	36		189	34	347	-	-	381	-	381	225
04D Northwest Artcraft D	80		-	-	662	-	90	752	-	752	80
04E Canutillo	935		305	-	1,670	126	306	2,102	-	2,102	1,240
02B Other	4,510		2,306	-	3,717	144	387	4,248	-	4,248	6,815
<b>Westside Subtotal</b>	<b>8,555</b>	<b>-</b>	<b>2,944</b>	<b>34</b>	<b>18,122</b>	<b>270</b>	<b>1,323</b>	<b>19,749</b>	<b>360</b>	<b>20,109</b>	<b>11,498</b>
<b>Eastside</b>											
08B Eastside	3,415		5,815	-	752	14,328	117	15,197	-	15,197	9,229
12 South Montana	1,791		1,001	-	7,722	228	630	8,580	-	8,580	2,791
12B South Montana B	558		718	-	113	2,514	-	2,627	-	2,627	1,276
06 South Fort Bliss	-		160	-	419	-	-	419	-	419	160
08 East Battle	1,204		2,233	-	3,330	4,086	-	7,416	-	7,416	3,437
10B South Fort Bliss B	-		-	-	203	2,832	-	3,035	-	3,035	-
<b>Eastside Subtotal</b>	<b>6,967</b>	<b>-</b>	<b>9,925</b>	<b>-</b>	<b>12,537</b>	<b>23,988</b>	<b>747</b>	<b>37,272</b>	<b>-</b>	<b>37,272</b>	<b>16,893</b>
<b>Total</b>	<b>19,937</b>	<b>-</b>	<b>53,976</b>	<b>34</b>	<b>36,284</b>	<b>35,526</b>	<b>2,862</b>	<b>74,706</b>	<b>21,612</b>	<b>96,318</b>	<b>73,914</b>



Attachment B: Land Use Cont.

Residential Land Use Type	Residential Service Units per Acre
<b>Conventional Residential Zones</b>	
Low Density	2.0
Medium Density	4.5
Medium High Density	6.0
High Density	9.0
<b>SmartCode Zone<sup>1</sup></b>	
T-3 Sub-Urban Zone	6.0
T-4 General Urban Zone	15.0
T-40 General Urban Zone - Open	20.0
T-5 Urban Center Zone	24.0
<b>Northeast Retirement General Mixed Use Zone<sup>2</sup></b>	
Context Zone 3	3.6
Context Zone 4	6.4
Context Zone 5	15.0
<b>Northeast General Mixed Use Zone<sup>3</sup></b>	
Low Residential Density	3.5
Low <sup>1</sup> Residential Density	5.5
Medium Residential Density	7.2
High Residential Density	12.0
<b>Enchanted Hills Residential Mixed Use Zone<sup>4</sup></b>	
Single Family	4.0
Duplex	6.0
Triplex	8.0
Quadruplex	10.0
Apartments	14.0

<sup>1</sup>Applied to Northeast properties zoned SmartCode.

<sup>2</sup>Applied to the Northeast master planned area intended to house a retirement community.

<sup>3</sup>Applied to the remaining Northeast master planned area zoned General Mixed Use.


<sup>4</sup>Applied to the privately owned Enchanted Hills development zoned Residential Mixed Use.





**Date:** December 20, 2023

**To:** Andrew Rheem  
Raftelis Financial Consultants, Inc.

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

**Re: Water and Wastewater Capital Improvements Plan– 2024 Impact Fee update**

In preparation for the 2024 Impact Fee Update and in accordance with the Texas State Statutes, Local Government Code, Chapter 395, attached please find a description of the proposed Capital Improvements Plan for the El Paso Water Utilities.

**Attachment C** contains a narrative description of the proposed 10-year capital improvements plan necessitated by and attributed to new development per service area.

**Attachment D** contains a list of the proposed 10-year capital improvements plan costs necessitated by and attributed to new development per service area.

**Maps** depicting the proposed water and wastewater capital improvements plan for the three (3) service areas

This information provides the capital improvements plan and costs required to complete the 2024 update and meet the letter and intent of the Texas State Statutes.

Please feel free to contact me with any questions.



12/20/23

A handwritten signature in blue ink that reads "Adriana Castillo".

## Attachment C: Capital Improvements Plan

*Memo: Water & Wastewater Impact Fee Update 2024*

### **Associated Capital Improvement Water Facilities**

#### **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 to be met by the Advanced Water Purification Facility producing 10 MGD. The facility includes the wells and blending lines to comply with adequate water quality standards.

**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. The facility expansion includes a new Reverse Osmosis skid and concentrate pipelines.

#### **RESERVOIRS**

**LOMA REAL A** proposed 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 proposed 3.0 MG ground storage tank to serve the Franklin East 1 Pressure Zone. The tank is needed to meet future growth development of the areas east of War Highway and to the State line.

**TRANSMOUNTAIN NORTHWEST #1A** – A proposed 4.0 MG ground storage 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.

**TRANSMOUNTAIN NORTHWEST #3** – A proposed 1.0 MG tank north of Transmountain on the Westside, at the same overflow elevation of Artcraft No. 3, to meet anticipated growth.

**NORTHEAST STATION WELL SUPPLY TANK** – A new 2.0 MG ground storage supply tank in Northeast El Paso, 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.

**HOMESTEAD II** – A proposed 2.5 MGD elevated storage tank to provide service on the Eastside south of the Montana Ave. corridor to meet demand for future growth on the East Montana Pressure Zone.

**JOHN HAYES/VISTA DEL SOL** – A proposed 2.5 MGD elevated storage tank to provide service on the Eastside east of Loop 375 to meet demand for future growth on the Joe Battle Pressure Zone.

### **DISTRIBUTION PUMPING EQUIPMENT**

**ARTCRAFT #1 NW** – 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 to meet growth demands.

**TRANSMOUNTAIN NORTHWEST #1 PUMP STATION** – A proposed 3.0 MGD pump station north of Transmountain on the Westside, to pump from Transmountain #1 tank to Transmountain #2 tank to meet growth demand.

**TRANSMOUNTAIN NORTHWEST #2 PUMP STATION** – A proposed 1.0 MGD pump station north of Transmountain on the Westside, to pump from Transmountain #2 tank to Transmountain #3 tank to meet growth demand.

**LOMA REAL** Pump station to be located at the Loma Real tank site with an initial 6.0 MGD capacity which will provide pumping to supply the Franklin East 1 B reservoir.

### **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 the Upper Valley Treatment Plant to the Westside area.

**SUPPLY LINE TO TRANSMOUNTAIN#1 TANK-** A proposed 48-inch diameter transmission main on the Westside, from the Canutillo 60" diameter main to the Transmountain Northwest #1A tank, to meet growth.

**TRANSMOUNTAIN NW SUPPLY TO TRANSMOUNTAIN #1** - A proposed transmission main on the Westside, from the Transmountain Northwest #1 pump station to the Transmountain Northwest Tank 2 to meet growth demand.

**TRANSMOUNTAIN NW SUPPLY TO TRANSMOUNTAIN #2** - from the Transmountain Northwest #2 pump station to the Transmountain Northwest Tank 3 to meet growth demand.

**UPPER VALLEY BORDERLAND SYSTEM** Part of the Westside upgrades to meet future growth the project consists of the installation of a 36-inch transmission main, part of the system of large diameter pipelines that extends and delivers water supply on the Westside area.



**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 elevated tanks. This item provides the backbone for the water distribution to meet demand.

**CANUTILLO- LA UNION/WESTSIDE SYSTEM** – Proposed transmission mains necessary to serve areas generally located north of Borderland Road and West of Strahan Road to provide water distribution to serve future growth.

**MONTANA EAST SUPPLY LINES**– Water distribution mains that have been conceptually planned to provide service on the Eastside, south of the Montana Ave. corridor. This item considers the mains that create a backbone network of water transmission mains (16-inch to 24-inch) to supply these areas.

**DYER / RR WATER LINES** – A series of planned water mains to convey water to the far northeast part of the city. The proposed pipeline will tie into the Franklin East Distribution Line near the intersection of Stan Roberts Dr. and US-54.

**NE FRANKLIN SYSTEM LINES** – A network of water distribution mains, generally 16-inch to 24-inch, to be constructed within the Franklin East #1 Pressure Zone service areas in response to and in step with growth.

**FRANKLIN EAST DISTRIBUTION LINES** – Water distribution mains, generally 24-inch to be constructed within the Franklin East #1 Pressure Zones service area located in the vicinity of Stan Roberts Drive and US54.

### **Associated Capital Improvement Wastewater Facilities**

#### **COLLECTION LINES**

**NE DYER/RR INTERCEPTOR** - Gravity sewer line extending near Stan Roberts Drive and Dyer St. that convey wastewater flows to the Fred Hervey Reclamation Plant. This system will service future development in the Northeast.

**OTHER EAST INTERCEPTORS (Area 8 East)** – Gravity sewer interceptors related to development east of Zaragoza and Loop 375 for the area commonly known as Montana Vista and adjacent growth areas.

**LOOP 375 EAST INTERCEPTOR SYSTEM** - These multi-phase, multi-year gravity sewer interceptors will serve areas east of Loop 375. All interceptors in this program will ultimately transport flow to the Bustamante Wastewater Treatment Plant via the Eastside Interceptor System already constructed.

**TRANSMOUNTAIN NORTHWEST INTERCEPTORS** – Proposed gravity sewer interceptors necessary to serve areas north of Transmountain Road and east of IH-10 on the Westside to meet growth.

**NE INTERCEPTOR SYSTEM** – Gravity sanitary sewer interceptors to include relief lines to convey wastewater flows from land in the Northeast area. The sanitary sewer pipeline will extend from north of US-54, and south crossing US-54 to the existing Grouse Street Lift Station or the Dyer Railroad Lift Station. The wastewater will ultimately be treated at the Fred Hervey Water Reclamation Plant. This is a multi-year, multi-phase project.

**NE FRANKLIN SYSTEM** – 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, to include the Sean Haggerty Interceptor and conveying flows 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.

### **PUMPING STATIONS AND FORCE MAINS**

**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.

**CANUTILLO BOSQUE LIFT STATION** – Pro-rated lift station capacity needed for portion of the service area located north of Canutillo – La Union. This station flows will ultimately discharge into the Mowad Interceptor and connect into the Easy Way II Lift Station.

### **TREATMENT PLANT EXPANSION**

**BUSTAMANTE WWTP EXPANSION** – Multi-approach construction project to expand the capacity of the Bustamante Wastewater Treatment Plant from 39.0 MGD to 51.0 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
<u>Water Supply and Treatment System</u>		
KBH Expansion Phase 1 (2.5 MG)		\$ 17,000,000
Subtotal:		\$ 17,000,000
<u>Water Distribution System</u>		
Reservoirs		
Loma Real Tank - Ground (5 MG)		\$ 15,000,000
Franklin East 1B - Ground (3 MG)		\$ 9,000,000
NE Station Well Supply Tank (2 MG)		\$ 6,000,000
Subtotal:		\$ 30,000,000
Distribution Pumping Equipment		
Loma Real Pump Station (6 MGD)		\$ 22,000,000
Subtotal:		\$ 22,000,000
Distribution Lines		
Dyer/RR Waterline		\$ 2,300,000
Franklin East Distribution		\$ 6,800,000
NE Franklin System		\$ 37,000,000
Subtotal:		\$ 46,100,000
<b>Total Water CIP</b>		<b>\$ 115,100,000</b>

Northeast Service Area - Wastewater		Capital Cost
<u>Wastewater Treatment System</u>		
No wastewater treatment CIP proposed		\$ -
<u>Collection System</u>		
Lines		
NE Dyer/RR Interceptor		\$ 10,300,000
NE Interceptor System		\$ 26,000,000
NE Franklin		\$ 6,000,000
Subtotal:		\$ 42,300,000
<b>Total Wastewater CIP</b>		<b>\$ 42,300,000</b>



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

<b>Westside Service Area - Water</b>		<b>Capital Cost</b>
<u>Water Supply and Treatment System</u>		
No water supply or treatment system CIP proposed	\$	-
<u>Water Distribution System</u>		
Reservoirs		
TransMountain NW #1A (4 MG)	\$	12,000,000
TransMountain NW #2A (3 MG)	\$	9,000,000
TransMountain NW #3 (1 MG)	\$	3,000,000
Subtotal:	\$	24,000,000
Distribution Pumping Equipment		
Artcraft #1-NW-WFMP	\$	7,500,000
TransMountain NW #1 Pump Station (3 MGD)	\$	6,000,000
TransMountain NW#2 Pump Station (1 MGD)	\$	2,000,000
Subtotal:	\$	15,500,000
Distribution Lines		
48" Supply Line to TransMountain #1 Tank	\$	5,000,000
Canutillo/UV Mn NWPH IV (36" Thorn)	\$	18,500,000
36" TransMountain #1 BS to TransMountain #2 Tank	\$	8,000,000
24" TransMountain #2 BS to TransMountain #3 Tank	\$	4,000,000
Upper Valley Borderland 36" Phase 2A	\$	35,500,000
Upper Valley Borderland 36" Phase 4	\$	21,600,000
16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 1	\$	2,000,000
16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 2	\$	3,000,000
16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 3	\$	3,000,000
Subtotal:	\$	100,600,000
<b>Total Water CIP</b>	<b>\$</b>	<b>140,100,000</b>
<b>Westside Service Area - Wastewater</b>		<b>Capital Cost</b>
<u>Wastewater Treatment System</u>		
No wastewater treatment CIP proposed	\$	-
<u>Collection System</u>		
Lines		
TransMountain NW Interceptors	\$	2,500,000
Subtotal:	\$	2,500,000
Pumping & Force Mains		
Upper Valley 3 LS (1.5+3.5+2.5 MGD) and Force Mains	\$	50,000,000
Canutillo/Bosque LS (Schuman & Wester Village)	\$	300,000
Subtotal:	\$	50,300,000
<b>Total Wastewater CIP</b>	<b>\$</b>	<b>52,800,000</b>

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

<b>Eastside Service Area - Water</b>		<b>Capital Cost</b>
<u>Water Supply and Treatment System</u>		
KBH Phase 2 (2.5 MG)		\$ 17,000,000
Advanced Water Purification Facility (8 MG)		\$ 173,000,000
Subtotal:		\$ 190,000,000
<u>Water Distribution System</u>		
Reservoirs		
Homestead II Tank (2.5 MG)		\$ 15,000,000
John Hayes (2.5 MG)		\$ 15,000,000
Subtotal:		\$ 30,000,000
Distribution Lines		
Eastside Planned Service Area		\$ 25,500,000
Montana East Supply Line Area (E&W, N&S, Darrington)		\$ 21,000,000
Subtotal:		\$ 46,500,000
<b>Total Water CIP</b>		<b>266,500,000</b>

<b>Eastside Service Area - Wastewater</b>		<b>Capital Cost</b>
<u>Wastewater Treatment System</u>		
Bustamante WWTP (Expansion 39 to 51 MGD)		\$ 605,100,000
<u>Collection System</u>		
Lines		
Other Interceptors (Area 8 East)		\$ 12,700,000
Loop 375 East Interceptor System		\$ 14,300,000
Subtotal:		\$ 27,000,000
Pumping & Force Mains		
No wastewater pumping & force main CIP proposed		-
<b>Total Wastewater CIP</b>		<b>\$ 632,100,000</b>

## 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
<b>Water Supply and Treatment System</b>						
1	KBH Expansion Phase 1 (2.5 MG)	\$ 17,000,000	2.50	3,634	\$ 4,678	\$ 4,678
	Subtotal	\$ 17,000,000		3,634		
<b>Debt Issued</b>						
2	KBH Expansion Phase 1 (2.5 MG)	\$ 6,050,000				
	Subtotal	\$ 6,050,000				
<b>NPV of Interest</b>						
3	KBH Expansion Phase 1 (2.5 MG)	\$ 2,564,902	2.50	3,634	706	\$ 706
	Subtotal	\$ 2,564,902		3,634		
<b>Reservoirs</b>						
4	Loma Real Tank - Ground (5 MG)	\$ 15,000,000	5.00	14,535	\$ 1,032	
5	Franklin East 1B - Ground (3 MG)	\$ 9,000,000	3.00	8,721	\$ 1,032	
6	NE Station Well Supply Tank (2 MG)	\$ 6,000,000	2.00	5,814	\$ 1,032	\$ 1,032
	Subtotal	\$ 30,000,000		29,070		
<b>Debt Issued</b>						
7	Loma Real Tank - Ground (5 MG)	\$ 5,335,000				
8	Franklin East 1B - Ground (3 MG)	\$ 3,205,000				
9	NE Station Well Supply Tank (2 MG)	\$ 2,135,000				
	Subtotal	\$ 10,675,000				
<b>NPV of Interest</b>						
10	Loma Real Tank - Ground (5 MG)	\$ 2,261,777	5.00	14,535	\$ 156	
11	Franklin East 1B - Ground (3 MG)	\$ 1,358,762	3.00	8,721	\$ 156	
12	NE Station Well Supply Tank (2 MG)	\$ 905,135	2.00	5,814	\$ 156	\$ 156
	Subtotal	\$ 4,525,674		29,070		
<b>Distribution Pumping Equipment</b>						
13	Loma Real Pump Station (6 MGD)	\$ 22,000,000	6.00	8,721	\$ 2,523	\$ 2,523
	Subtotal	\$ 22,000,000		8,721		
<b>Debt Issued</b>						
14	Loma Real Pump Station (6 MGD)	\$ 7,825,000				
	Subtotal	\$ 7,825,000				
<b>NPV of Interest</b>						
15	Loma Real Pump Station (6 MGD)	\$ 3,317,414	6.00	8,721	\$ 380	\$ 380
	Subtotal	\$ 3,317,414		8,721		
<b>Distribution Lines</b>						
16	Dyer/RR Waterline	\$ 2,300,000	28.00	40,698	\$ 57	
17	Franklin East Distribution	\$ 6,800,000	28.00	40,698	\$ 167	
18	NE Franklin System	\$ 37,000,000	28.00	40,698	\$ 909	\$ 378
	Subtotal	\$ 46,100,000		122,093		
<b>Debt Issued</b>						
20	Dyer/RR Waterline	\$ 820,000				
21	Franklin East Distribution	\$ 2,420,000				
22	NE Franklin System	\$ 13,160,000				
23	0	\$ -				
	Subtotal	\$ 16,400,000				
<b>NPV of Interest</b>						
24	Dyer/RR Waterline	\$ 347,640			\$ 171	
25	Franklin East Distribution	\$ 1,025,961	28.00	40,698	\$ 171	
26	NE Franklin System	\$ 5,579,191			\$ 171	\$ 171
27	0	\$ -			\$ 171	
	Subtotal	\$ 6,952,792		40,698		
28	<b>Maximum Water Impact Fee - Northeast Service Area (Capital and Financing)</b>					<b>\$ 10,023</b>

**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
<b>Collection System</b>						
<b>Lines</b>						
29	NE Dyer/RR Interceptor	\$ 10,300,000	4.55	13,343	\$ 772	
30	NE Interceptor System	\$ 26,000,000	5.38	15,777	\$ 1,648	
31	NE Franklin	\$ 6,000,000	3.71	10,880	\$ 551	\$ 1,058
	Subtotal	\$ 42,300,000		40,000		
<b>Debt Issued</b>						
32	NE Dyer/RR Interceptor	\$ 6,595,000				
33	NE Interceptor System	\$ 1,335,638				
34	NE Franklin	\$ 308,533				
	Subtotal	\$ 8,239,171				
<b>NPV of Interest</b>						
35	NE Dyer/RR Interceptor	\$ 2,795,955	4.55	13,343	\$ 210	
36	NE Interceptor System	\$ 7,056,660	5.38	15,777	\$ 447	
37	NE Franklin	\$ 1,630,091	3.71	10,880	\$ 150	\$ 287
	Subtotal	\$ 11,482,705		40,000		
38	<b>Maximum Wastewater Impact Fee - Northeast Service Area (Capital and Financing)</b>					<b>\$ 1,345</b>
39	<b>Maximum Northeast Water and Wastewater Impact Fee</b>					<b>\$ 11,368</b>

**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
<b>Reservoirs</b>						
1	TransMountain NW #1A (4 MG)	\$ 12,000,000	4.00	11,628	\$ 1,032	\$1,032
2	TransMountain NW #2A (3 MG)	\$ 9,000,000	3.00	8,721	\$ 1,032	
3	TransMountain NW #3 (1 MG)	\$ 3,000,000	1.00	2,907	\$ 1,032	
	Subtotal	\$ 24,000,000		23,256		
<b>Debt Issued</b>						
4	TransMountain NW #1A (4 MG)	\$ 4,270,000				
5	TransMountain NW #2A (3 MG)	\$ 3,205,000				
6	TransMountain NW #3 (1 MG)	\$ 1,070,000				
	Subtotal	\$ 8,545,000				
<b>NPV of Interest</b>						
7	TransMountain NW #1A (4 MG)	\$ 1,810,270	4.00	11,628	\$ 156	\$156
8	TransMountain NW #2A (3 MG)	\$ 1,358,762	3.00	8,721	\$ 156	
9	TransMountain NW #3 (1 MG)	\$ 453,627	1.00	2,907	\$ 156	
	Subtotal	\$ 3,622,659		23,256		
<b>Distribution Pumping Equipment</b>						
10	Artcraft #1-NW-WFMP	\$ 7,500,000	5.00	7,267	\$ 1,032	\$1,185
11	TransMountain NW #1 Pump Station (3 MGD)	\$ 6,000,000	3.00	4,360	\$ 1,376	
12	TransMountain NW#2 Pump Station (1 MGD)	\$ 2,000,000	1.00	1,453	\$ 1,376	
	Subtotal	\$ 15,500,000		13,081		
<b>Debt Issued</b>						
13	Artcraft #1-NW-WFMP	\$ 2,670,000				
14	TransMountain NW #1 Pump Station (3 MGD)	\$ 2,135,000				
15	TransMountain NW#2 Pump Station (1 MGD)	\$ 715,000				
	Subtotal	\$ 5,520,000				
<b>NPV of Interest</b>						
16	Artcraft #1-NW-WFMP	\$ 1,131,948	5.00	7,267	\$ 156	\$179
17	TransMountain NW #1 Pump Station (3 MGD)	\$ 905,135	3.00	4,360	\$ 208	
18	TransMountain NW#2 Pump Station (1 MGD)	\$ 303,125	1.00	1,453	\$ 209	
	Subtotal	\$ 2,340,208		13,081		
<b>Distribution Lines</b>						
19	48" Supply Line to TransMountain #1 Tank	\$ 5,000,000	40.00	58,140	\$ 86	\$508
20	Canutillo/UV Mn NWPH IV (36" Thorn)	\$ 18,500,000	22.00	31,977	\$ 579	
21	36" TransMountain #1 BS to TransMountain #2 Tank	\$ 8,000,000	22.00	31,977	\$ 250	
22	24" TransMountain #2 BS to TransMountain #3 Tank	\$ 4,000,000	5.00	7,267	\$ 550	
23	Upper Valley Borderland 36" Phase 2A	\$ 35,500,000	22.00	31,977	\$ 1,110	
24	Upper Valley Borderland 36" Phase 4	\$ 21,600,000	6.30	9,157	\$ 2,359	
25	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 2	\$ 2,000,000	6.30	9,157	\$ 218	
26	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 3	\$ 3,000,000	6.30	9,157	\$ 328	
27	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 4	\$ 3,000,000	6.30	9,157	\$ 328	
	Subtotal	\$ 100,600,000		197,965		
<b>Debt Issued</b>						
28	48" Supply Line to TransMountain #1 Tank	\$ 1,780,000				
29	Canutillo/UV Mn NWPH IV (36" Thorn)	\$ 6,580,000				
30	36" TransMountain #1 BS to TransMountain #2 Tank	\$ 2,845,000				
31	24" TransMountain #2 BS to TransMountain #3 Tank	\$ 1,425,000				
32	Upper Valley Borderland 36" Phase 2A	\$ 12,625,000				
33	Upper Valley Borderland 36" Phase 4	\$ 7,685,000				
34	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 2	\$ 715,000				
35	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 3	\$ 1,070,000				
36	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 4	\$ 1,070,000				
	Subtotal	\$ 35,795,000				
<b>NPV of Interest</b>						
37	48" Supply Line to TransMountain #1 Tank	\$ 754,632	40.00	58,140	\$ 13	\$77
38	Canutillo/UV Mn NWPH IV (36" Thorn)	\$ 2,789,596	22.00	31,977	\$ 87	
39	36" TransMountain #1 BS to TransMountain #2 Tank	\$ 1,206,140	22.00	31,977	\$ 38	
40	24" TransMountain #2 BS to TransMountain #3 Tank	\$ 604,130	5.00	7,267	\$ 83	
41	Upper Valley Borderland 36" Phase 2A	\$ 5,352,378	22.00	31,977	\$ 167	
42	Upper Valley Borderland 36" Phase 4	\$ 3,258,061	6.30	9,157	\$ 356	
43	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 2	\$ 303,125	6.30	9,157	\$ 33	
44	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 3	\$ 453,627	6.30	9,157	\$ 50	
45	16" Canutillo La Union/Westside Dr (Gato to Borderland) Phase 4	\$ 453,627	6.30	9,157	\$ 50	
	Subtotal	\$ 15,175,316		197,965		
46	<b>Maximum Water Impact Fee - Westside Service Area (Capital and Financing)</b>					<b>\$ 3,136</b>

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
<b><u>Lines</u></b>						
47	TransMountain NW Interceptors	\$ 2,500,000	2.04	5,982	\$ 418	
	Subtotal	\$ 2,500,000		5,982		\$ 418
<b><u>Debt Issued</u></b>						
48	TransMountain NW Interceptors	\$ 1,605,000				
	Subtotal	\$ 1,605,000				
<b><u>NPV of Interest</u></b>						
49	TransMountain NW Interceptors	\$ 680,441	2.04	5,982	\$ 114	
	Subtotal	\$ 680,441		5,982		114
<b><u>Pumping &amp; Force Mains</u></b>						
50	Upper Valley 3 LS (1.5+3.5+2.5 MGD) and Force Mains	\$ 50,000,000	7.50	21,994	\$ 2,273	
51	Canutillo/Bosque LS (Schuman & Wester Village)	\$ 300,000	0.16	469	\$ 639	2,239
	Subtotal	\$ 50,300,000		22,463		
<b><u>Debt Issued</u></b>						
52	Upper Valley 3 LS (1.5+3.5+2.5 MGD) and Force Mains	\$ 32,005,000				
53	Canutillo/Bosque LS (Schuman & Wester Village)	\$ 195,000				
	Subtotal	\$ 32,200,000				
<b><u>NPV of Interest</u></b>						
54	Upper Valley 3 LS (1.5+3.5+2.5 MGD) and Force Mains	\$ 13,568,543	7.50	21,994	\$ 617	
55	Canutillo/Bosque LS (Schuman & Wester Village)	\$ 82,670	0.16	469	\$ 176	608
	Subtotal	\$ 13,651,213		22,463		
56	<b>Maximum Wastewater Impact Fee - Westside Service Area (Capital and Financing)</b>				<b>\$ 3,379</b>	
57	<b>Maximum Water and Wastewater Impact Fee - Westside Area</b>				<b>\$ 6,515</b>	



**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
<b>Water Supply and Treatment System</b>						
1	KBH Phase 2 (2.5 MG)	\$ 17,000,000	2.50	3,634	\$ 4,678	
2	Advanced Water Purification Facility (10 MG)	\$ 173,000,000	10.00	14,535	\$ 11,902	\$ 10,458
	Subtotal	\$ 190,000,000		18,169		
<b>Debt Issued</b>						
3	KBH Phase 2 (2.5 MG)	\$ 6,050,000				
4	Advanced Water Purification Facility (10 MG)	\$ 61,520,000				
	Subtotal	\$ 67,570,000				
<b>NPV of Interest</b>						
5	KBH Phase 2 (2.5 MG)	\$ 2,564,902	2.50	3,634	\$ 706	
6	Advanced Water Purification Facility (10 MG)	\$ 26,081,448	10.00	14,535	\$ 1,794	\$ 1,577
	Subtotal	\$ 28,646,350		18,169		
<b>Water Distribution System</b>						
<b>Reservoirs</b>						
7	Homestead II Tank (2.5 MG)	\$ 15,000,000	2.50	7,267	\$ 2,064	
8	John Hayes (2.5 MG)	\$ 15,000,000	2.50	7,267	\$ 2,064	
	Subtotal	\$ 30,000,000		14,535		\$ 2,064
<b>Debt Issued</b>						
9	Homestead II Tank (2.5 MG)	\$ 5,335,000				
10	John Hayes (2.5 MG)	\$ 5,335,000				
	Subtotal	\$ 10,670,000				
<b>NPV of Interest</b>						
11	Homestead II Tank (2.5 MG)	\$ 2,261,777	2.50	7,267	\$ 311	
12	John Hayes (2.5 MG)	\$ 2,261,777	2.50	7,267	\$ 311	
	Subtotal	\$ 4,523,554		14,535		\$ 311
<b>Distribution Lines</b>						
1	Eastside Planned Service Area	\$ 25,500,000	32.60	47,384	\$ 538	
2	Montana East Supply Line Area (E&W, N&S, Darrington)	\$ 21,000,000	35.00	50,872	\$ 413	
	Subtotal	\$ 46,500,000		98,256		\$ 473
<b>Debt Issued</b>						
3	Eastside Planned Service Area	\$ 9,070,000				
4	Montana East Supply Line Area (E&W, N&S, Darrington)	\$ 7,470,000				
	Subtotal	\$ 16,540,000				
<b>NPV of Interest</b>						
5	Eastside Planned Service Area	\$ 3,845,233	32.60	47,384	\$ 81	
6	Montana East Supply Line Area (E&W, N&S, Darrington)	\$ 3,166,912	35.00	50,872	\$ 62	
	Subtotal	\$ 7,012,145		98,256		\$ 71
7	<b>Maximum Water Impact Fee - Eastside Service Area (Capital and Financing)</b>					<b>\$ 14,954</b>

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
<b>Wastewater Treatment System</b>						
1	Bustamante WWTP (Expansion 39 to 51 MGD)	\$ 605,100,000	12.00	35,191	\$ 17,195	\$ 17,195
<b>Debt Issued</b>						
2	Bustamante WWTP (Expansion 39 to 51 MGD)	\$ 215,175,000				
<b>NPV of Interest</b>						
3	Bustamante WWTP (Expansion 39 to 51 MGD)	\$ 91,223,596	12.00	35,191	\$ 2,592	\$ 2,592
<b>Lines</b>						
1	Other Interceptors (Area 8 East)	12,700,000	3.52	10,323	\$ 1,230	
2	Loop 375 East Interceptor System	14,300,000	5.64	16,540	\$ 865	
	Subtotal	27,000,000		26,862		\$ 1,005
<b>Debt Issued</b>						
3	Other Interceptors (Area 8 East)	4,520,000				
4	Loop 375 East Interceptor System	9,155,000				
	Subtotal	13,675,000				
<b>NPV of Interest</b>						
5	Other Interceptors (Area 8 East)	1,916,257	3.52	10,323	\$ 186	
6	Loop 375 East Interceptor System	3,881,269	5.64	16,540	\$ 235	
	Subtotal	5,797,526		26,862		\$ 216
7	<b>Maximum Wastewater Impact Fee - Eastside Service Area (Capital and Financing)</b>				<b>\$ 21,008</b>	
8	<b>Maximum Eastside Water and Wastewater Impact Fee</b>				<b>\$ 35,962</b>	

## 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 2033	Portion of Capital Improvements and Financing	Maximum Impact Fee per Unit
<b>Northeast</b>							
Water							
Treatment	\$17,000,000	6,050,000	2,564,902	3,634	50,468	271,732,884	5,384
Reservoirs	30,000,000	10,675,000	4,525,674	29,070	50,468	59,939,995	1,188
Pumping	22,000,000	7,825,000	3,317,414	8,721	50,468	146,511,810	2,903
Distribution Lines	46,100,000	16,400,000	6,952,792	122,093	50,468	21,929,740	435
Total Water	115,100,000	40,950,000	17,360,782	N/A	50,468	500,114,428	9,910
Wastewater							
Collection Lines	42,300,000	8,239,171	11,482,705	40,000	50,468	67,857,639	1,345
Total Wastewater	42,300,000	8,239,171	11,482,705	N/A	50,468	67,857,639	1,345
<b>Total Northeast Area</b>	<b>\$157,400,000</b>	<b>\$49,189,171</b>	<b>\$28,843,487</b>	<b>N/A</b>	<b>50,468</b>	<b>\$567,972,068</b>	<b>\$11,254</b>
<b>Westside</b>							
Water							
Reservoirs	24,000,000	8,545,000	3,622,659	23,256	22,099	26,248,625	1,188
Pumping	15,500,000	5,520,000	2,340,208	13,081	22,099	30,138,280	1,364
Distribution Lines	100,600,000	35,795,000	15,175,316	197,965	22,099	12,924,089	585
Total Water	140,100,000	49,860,000	21,138,183	N/A	22,099	69,310,994	3,136
Wastewater							
Collection Lines	2,500,000	1,605,000	680,441	5,982	22,099	11,748,547	532
Pumping	50,300,000	32,200,000	13,651,213	22,463	22,099	62,913,960	2,801
Total Wastewater	52,800,000	33,805,000	14,331,654	N/A	22,099	74,662,507	3,332
<b>Total Westside Area</b>	<b>\$192,900,000</b>	<b>\$83,665,000</b>	<b>\$35,469,837</b>	<b>N/A</b>	<b>22,099</b>	<b>\$143,973,500</b>	<b>\$6,469</b>
<b>Eastside</b>							
Water							
Treatment	\$190,000,000	\$67,570,000	\$28,646,350	18,169	27,839	335,022,742	12,034
Reservoirs	30,000,000	10,670,000	4,523,554	14,535	27,839	66,123,764	2,375
Distribution Lines	46,500,000	16,540,000	7,012,145	98,256	27,839	15,161,694	545
Total Water	266,500,000	94,780,000	40,182,049	N/A	27,839	416,308,200	14,954
Wastewater							
Treatment	605,100,000	215,175,000	91,223,596	35,191	27,839	550,855,736	19,787
Collection Lines	27,000,000	13,675,000	5,797,526	26,862	27,839	33,990,192	1,221
Total Wastewater	632,100,000	228,850,000	97,021,122	N/A	27,839	584,845,929	21,008
<b>Total Eastside Area</b>	<b>\$898,600,000</b>	<b>\$323,630,000</b>	<b>\$137,203,172</b>	<b>N/A</b>	<b>27,839</b>	<b>\$1,001,154,129</b>	<b>\$35,962</b>
<b>Systemwide</b>							
Water	\$521,700,000	\$185,590,000	\$78,681,014	NA	100,406	\$985,733,622	\$9,875
Wastewater	727,200,000	270,894,171	122,835,482	NA	100,406	727,366,075	\$7,244
<b>Systemwide Area</b>	<b>\$1,248,900,000</b>	<b>\$456,484,171</b>	<b>\$201,516,496</b>	<b>NA</b>	<b>100,406</b>	<b>\$1,713,099,697</b>	<b>\$17,119</b>

## 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)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1	Principal Payments	\$185,590,000	\$5,612,722	\$5,893,358	\$6,188,026	\$6,497,427	\$6,822,298	\$7,163,413	\$7,521,584	\$7,897,663	\$8,292,546	\$8,707,174
2	Annual Interest on Future Debt		9,279,500	8,998,864	8,704,196	8,394,795	8,069,923	7,728,808	7,370,638	6,994,559	6,599,675	6,185,048
3	Total Debt Service		\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222
<u>Present Value</u>												
4	Principal on Future Debt		\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449
2	Interest Payments (present value)	78,681,014	8,837,619	8,162,235	7,519,012	6,906,418	6,322,996	5,767,356	5,238,175	4,734,193	4,254,210	3,797,083
3	Principal and Present Value of Interest	\$264,271,014	\$14,450,341	\$14,055,593	\$13,707,038	\$13,403,845	\$13,145,295	\$12,930,769	\$12,759,759	\$12,631,856	\$12,546,756	\$12,504,257
4	Beginning Year Service Units		252,766	262,807	272,847	282,888	292,928	302,969	313,010	323,050	333,091	343,131
5	Incremental Service Units		10,041	10,041	10,041	10,041	10,041	10,041	10,041	10,041	10,041	10,041
6	Total Service Units		262,807	272,847	282,888	292,928	302,969	313,010	323,050	333,091	343,131	353,172
7	Debt Service Credit per Unit	\$799	\$55	\$52	\$48	\$46	\$43	\$41	\$39	\$38	\$37	\$35

#### 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.		2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
1	Principal Payments	\$9,142,532	\$9,599,659	\$10,079,642	\$10,583,624	\$11,112,805	\$11,668,445	\$12,251,868	\$12,864,461	\$13,507,684	\$14,183,068
2	Annual Interest on Future Debt	5,749,689	5,292,563	4,812,580	4,308,598	3,779,417	3,223,776	2,640,354	2,027,761	1,384,538	709,153
3	Total Debt Service	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222	\$14,892,222
<u>Present Value</u>											
4	Principal on Future Debt	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449	\$5,345,449
2	Interest Payments (present value)	3,361,724	2,947,097	2,552,214	2,176,135	1,817,964	1,476,849	1,151,978	842,576	547,909	267,272
3	Principal and Present Value of Interest	\$12,504,257	\$12,546,756	\$12,631,856	\$12,759,759	\$12,930,769	\$13,145,295	\$13,403,845	\$13,707,038	\$14,055,593	\$14,450,341
4	Beginning Year Service Units	353,172	363,213	363,213	363,213	363,213	363,213	363,213	363,213	363,213	363,213
5	Incremental Service Units	10,041	0	0	0	0	0	0	0	0	0
6	Total Service Units	363,213	363,213	363,213	363,213	363,213	363,213	363,213	363,213	363,213	363,213
7	Debt Service Credit per Unit	\$34	\$35	\$35	\$35	\$36	\$36	\$37	\$38	\$39	\$40

#### 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)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1	Principal Payments	\$289,740,000	\$8,762,487	\$9,200,612	\$9,660,642	\$10,143,674	\$10,650,858	\$11,183,401	\$11,742,571	\$12,329,699	\$12,946,184	\$13,593,494
2	Interest Payments (present value)	\$122,835,482	13,797,143	12,742,744	11,738,555	10,782,185	9,871,356	9,003,899	8,177,751	7,390,942	6,641,601	5,927,942
3	Principal and Present Value of Interest	\$412,575,482	\$22,559,630	\$21,943,356	\$21,399,197	\$20,925,859	\$20,522,214	\$20,187,300	\$19,920,321	\$19,720,642	\$19,587,785	\$19,521,436
4	Beginning Year Service Units		206,116	216,157	226,197	236,238	246,278	256,319	266,360	276,400	286,441	296,481
5	Incremental Service Units		10,041	10,041	10,041	10,041	10,041	10,041	10,041	10,041	10,041	10,041
6	Total Service Units		216,157	226,197	236,238	246,278	256,319	266,360	276,400	286,441	296,481	306,522
7	Debt Service Credit per Unit	\$1,455	\$104	\$97	\$91	\$85	\$80	\$76	\$72	\$69	\$66	\$64

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.		2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
1	Principal Payments	\$14,273,168	\$14,986,827	\$15,736,168	\$16,522,976	\$17,349,125	\$18,216,582	\$19,127,411	\$20,083,781	\$21,087,970	\$22,142,369
2	Interest Payments (present value)	5,248,268	4,600,959	3,984,474	3,397,345	2,838,175	2,305,632	1,798,448	1,315,416	855,386	417,261
3	Principal and Present Value of Interest	\$19,521,436	\$19,587,785	\$19,720,642	\$19,920,321	\$20,187,300	\$20,522,214	\$20,925,859	\$21,399,197	\$21,943,356	\$22,559,630
4	Beginning Year Service Units	306,522	316,563	316,563	316,563	316,563	316,563	316,563	316,563	316,563	316,563
5	Incremental Service Units	10,041	0	0	0	0	0	0	0	0	0
6	Total Service Units	316,563	316,563	316,563	316,563	316,563	316,563	316,563	316,563	316,563	316,563
7	Debt Service Credit per Unit	\$62	\$62	\$62	\$63	\$64	\$65	\$66	\$68	\$69	\$71

Notes:

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

## Attachment H Impact fee Assessment Schedules

### ATTACHMENT H

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

##### Northeast - Net Impact Fee after Max Credit

Meter Size	Meter Capacity Ratio	Water	Wastewater	Total
Less than 1-inch	1.00	\$5,012	\$672	\$5,684
1-inch	1.67	8,370	1,122	9,492
1½-inch	3.33	16,690	2,238	18,928
2-inch	5.33	26,714	3,582	30,296
3-inch	10.00	50,120	6,720	56,840
4-inch	16.67	83,550	11,202	94,752
6-inch	33.33	167,050	22,398	189,448
8-inch	53.33	\$267,290	\$35,838	\$303,128

##### Westside - Net Impact Fee after Max Credit

Meter Size	Meter Capacity Ratio	Water	Wastewater	Total
Less than 1-inch	1.00	\$1,568	\$1,689	\$3,257
1-inch	1.67	2,619	2,821	5,439
1½-inch	3.33	5,221	5,624	10,846
2-inch	5.33	8,357	9,002	17,360
3-inch	10.00	15,680	16,890	32,570
4-inch	16.67	26,139	28,156	54,294
6-inch	33.33	52,261	56,294	108,556
8-inch	53.33	\$83,621	\$90,074	\$173,696

##### Eastside - Net Impact Fee after Max Credit

Meter Size	Meter Capacity Ratio	Water	Wastewater	Total
Less than 1-inch	1.00	\$7,477	\$10,504	\$17,981
1-inch	1.67	12,487	17,542	30,028
1½-inch	3.33	24,898	34,978	59,877
2-inch	5.33	39,852	55,986	95,839
3-inch	10.00	74,770	105,040	179,810
4-inch	16.67	124,642	175,102	299,743
6-inch	33.33	249,208	350,098	599,307
8-inch	53.33	\$398,748	\$560,178	\$958,927

### ATTACHMENT H

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

##### Northeast - Net Impact Fee after Revenue Credit

Meter Size	Meter Capacity Ratio	Water	Wastewater	Total
Less than 1-inch	1.00	\$9,213	\$1,074	\$10,287
1-inch	1.67	15,386	1,794	17,179
1½-inch	3.33	30,679	3,576	34,256
2-inch	5.33	49,105	5,724	54,830
3-inch	10.00	92,130	10,740	102,870
4-inch	16.67	153,581	17,904	171,484
6-inch	33.33	307,069	35,796	342,866
8-inch	53.33	\$491,329	\$57,276	\$548,606

##### Westside - Net Impact Fee after Revenue Credit

Meter Size	Meter Capacity Ratio	Water	Wastewater	Total
Less than 1-inch	1.00	\$2,883	\$2,700	\$5,583
1-inch	1.67	4,815	4,509	9,324
1½-inch	3.33	9,600	8,991	18,591
2-inch	5.33	15,366	14,391	29,757
3-inch	10.00	28,830	27,000	55,830
4-inch	16.67	48,060	45,009	93,069
6-inch	33.33	96,090	89,991	186,081
8-inch	53.33	\$153,750	\$143,991	\$297,741

##### Eastside - Net Impact Fee after Revenue Credit

Meter Size	Meter Capacity Ratio	Water	Wastewater	Total
Less than 1-inch	1.00	\$13,745	\$16,788	\$30,533
1-inch	1.67	22,954	28,036	50,990
1½-inch	3.33	45,771	55,904	101,675
2-inch	5.33	73,261	89,480	162,741
3-inch	10.00	137,450	167,880	305,330
4-inch	16.67	229,129	279,856	508,985
6-inch	33.33	458,121	559,544	1,017,665
8-inch	53.33	\$733,021	\$895,304	\$1,628,325