San Antonio Water System
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Water and Wastewater Facilities Land Use Assumptions Plan, Capital Improvements Plan, and Maximum Impact Fees

DRAFT

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AACOG	Alamo Area Council of Governments
ADD	Average Day Demand
ADF	Average Daily Flow
AWWA	American Water Works Association
BCAD	Bexar County Appraisal District
BMWD	Bexar Metropolitan Water District
CCN	Certificate of Convenience and Necessity
CIAC	Capital Improvements Advisory Committee
CIP	Capital Improvements Plan
DOR	Drought of Record
EAA	Edwards Aquifer Authority
EDU	Equivalent Dwelling Unit
EST	Elevated Storage Tank
ETJ	Extra-territorial Jurisdiction
gpcd	Gallons per Capita per Day
gpd	Gallons per Day
GST	Ground Storage Tank
LUAP	Land Use Assumptions Plan
MDD	Maximum Day Demand
MDPF	Maximum Day Peaking Factor
MG	Million Gallons
mgd	Millions of Gallons per Day
MHD	Maximum Hour Demand
MHPF	Maximum Hour Peaking Factor
MPO	San Antonio / Bexar County Metropolitan Planning Organization
MRSO	Medina River Sewer Outfall
PWWF	Peak Wet Weather Flow
SAWS	San Antonio Water System
SDC	State Data Center (Office of State Demographer)
TAZ	Transportation Analysis Zone
TCEQ	Texas Commission on Environmental Quality
TLGC	Texas Local Government Code
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
WRC	Water Recycling Center

Available existing capacity – capacity that has been constructed but is not yet utilized because existing demand is less than existing capacity.

Average day demand (ADD) – the average number of gallons of water used by each person each day. SAWS' ADD is 127 gallons per capita per day, based on actual water production data for the 12 months ending June 2008.

Average daily flow (ADF) – the average number of gallons of wastewater contributed by each person (or equivalent dwelling unit) per day. SAWS' ADF is 240 gallons per EDU.

Capacity criteria – the capacity required to serve new growth projected for the study period at the same service level provided to existing customers.

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

- Water supply, treatment, and distribution facilities; wastewater collection and treatment facilities; and storm water, drainage, and flood control facilities; whether or not they are located within the service area; and
- Roadway facilities.(Texas Local Government Code, Chapter 395)

Capital Improvements Advisory Committee (CIAC) – a committee composed of not less than five members appointed by a majority vote of the governing body of the political subdivision. Not less than 40% of the membership must be representatives of the real estate, development, or building industries who are not employees or officials of a political subdivision or governmental entity.

Capital Improvements Plan – a plan required by Chapter 395 of the Local Government Code that identifies capital improvements or facility expansions for which impact fees may be assessed. (Texas Local Government Code, Chapter 395)

Certificate of Convenience and Necessity (CCN) – issued by the TCEQ, authorizes a utility to provide water and/or sewer service to a specific area. The CCN obligates the water or sewer retail public utility to provide continuous and adequate service to every customer who requests service in that area.

Debt service payments – the amounts of money necessary to pay interest and principal requirements for a given or series of years.(American Water Works Association, 2000)

Equivalent Dwelling Unit (EDU) – standardized measure of demand expressed as water flow for an average household unit. For purposes of this study, single family residence using a 5/8-inch meter has one EDU demand on the water system. Also referred to as a service unit in TLGC Chapter 395.

Facility expansion – the expansion of the capacity of an existing facility that serves the same function as an otherwise necessary new capital improvement, in order that the existing facility may serve new development. The term does not include the repair, maintenance, modernization, or expansion of an existing facility to better serve existing development. (Texas Local Government Code, Chapter 395)

Impact fee – a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development. The term includes amortized charges, lump-sum charges, capital recovery fees, contributions in aid of construction, and any other fee that functions as described by this definition. (Texas Local Government Code, Chapter 395)

Land Use Assumptions – a description of the service area and projections of changes in land uses, densities, intensities, and population in the service area over at least a 10-year period. (Texas Local Government Code, Chapter 395)

Maximum Allowable Impact Fees – Maximum impact fees that can be charged by a political subdivision; calculated by subtracting statutory credits for the estimated capital costs to be included in rates that will be charged to the new service units over the study period from the calculated impact fee per service unit.

Maximum Day Demand (MDD) – the maximum number of gallons of water used in the system in one day. This is typically represented by the highest volume of water pumped into the distribution system in one day each year.

Maximum Day Peaking Factor (MDPF) – factor used to project future maximum day demands; calculated by dividing the maximum day pumpage value by the design average day demand value. Based on actual water production data for the 12 months ending June 2008, the SAWS MDPF is 2.03.

Maximum Hour Demand (MHD) – the maximum number of gallons of water used in the system in one hour.

Maximum Hour Peaking Factor (MHPF) – factor used to project future maximum hour demands; calculated by dividing the maximum hour pumpage value by the design average day demand value. Based on actual water production data for the 12 months ending June 2008, the SAWS MDPF is 2.81.

New development – the subdivision of land; the construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure; or any use or extension of the use of land; any of which increases the number of service units. (Texas Local Government Code, Chapter 395)

Peak Wet Weather Flow (PWWF) – the maximum number of gallons of wastewater contributed by customers during a wet weather event. This value includes inflow and infiltration that is attributable to the system's customer connections. SAWS' design PWWF is 675 gpd per EDU.

Political subdivision – a municipality, a district or authority created under Article III, Section 52, or Article XVI, Section 59, of the Texas Constitution, or, for the purposes set forth by Section 395.079, certain counties described by that section. (Texas Local Government Code, Chapter 395)

Rate credit – a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the Capital Improvements Plan. As an alternative to calculating this credit, a political subdivision may award a credit equal to 50 percent of the total projected cost of implementing the Capital Improvements Plan. (Texas Local Government Code, Chapter 395)

Service area – the area within the corporate boundaries or extraterritorial jurisdiction, as determined under Chapter 42, of the political subdivision to be served by the capital improvements or facilities expansions specified in the capital improvements plan, except roadway facilities and storm water, drainage, and flood control facilities. (Texas Local Government Code, Chapter 395)

Service unit – a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years. (Texas Local Government Code, Chapter 395)

Study period – the period of time for which the impact fees are calculated. The study period is defined by the Capital Improvements Plan and may not exceed 10 years. Typically, a study period of 10 years is used.

1. Executive Summary

1.1. Introduction

The Texas Local Government Code (TLGC), Chapter 395 authorizes a political subdivision, such as the San Antonio Water System (SAWS), to impose impact fees on new development within its corporate boundaries and extraterritorial jurisdiction (ETJ). Impact fees provide utilities with a mechanism for funding or recouping the cost associated with capital improvements or facility expansions of the water and/or wastewater systems necessitated and attributable to new development.

Chapter 395 requires the political subdivision imposing an impact fee to update its Land Use Assumptions Plan (LUAP) and Capital Improvements Plan (CIP) every five years. SAWS commissioned Red Oak Consulting (Red Oak), to conduct a Capital Improvements Plan and Maximum Impact Fees Study. This report updates the previous LUAP and CIP for SAWS, which were completed in 2006.

Red Oak calculated the following impact fees by service area:

- Water Supply
- Water Delivery – Flow
- Water Delivery – System Development
- Wastewater Treatment
- Wastewater Collection

1.2. Land Use Assumptions Plan

Future land use assumptions are based on current land use data. For SAWS, these assumptions are primarily based on Bexar County Appraisal District (BCAD) databases and supplemented with SAWS customer data, Alamo Area Council of Governments (AACOG) land use studies as well as aerial photo documentation. Table 1-1 presents the service area land use distribution.

Table 1-1: Service Area Land Use Distribution

Land Use	Water	Wastewater
Commercial	13%	10%
Industrial	1%	1%
Residential	34%	29%
Undevelopable	10%	13%
Vacant	42%	47%
Total Acres	**379,177**	**544,332**

Population data is collected and converted into Equivalent Dwelling Units (EDU), the standard measure of demand expressed as water usage and wastewater discharge for an average household unit. One water EDU is equivalent to 313 gallons per day; a wastewater EDU is equivalent to 240 gallons per day.

In an effort to improve the equity of the impact fees, some changes to the current service areas are proposed:

- For Wastewater Treatment, the current Far West and Upper / Lower service areas are combined into one service area, the Leon Creek / Dos Rios service area.
- Wastewater Collection will be separated into six service areas – Medio Creek, Upper Medina, Lower Medina, Upper Collection, Middle Collection and Lower Collection. There are currently four Wastewater Collection service areas.

Table 1-2 presents population and EDU projections for water and wastewater by service areas.

Table 1-2: Water and Wastewater Service Area Population and EDU Projections

		-----Population-----		----------EDUs----------		
	Service Area	**2011**	**2020**	**2011**	**2020**	**Change**
Supply	**All**	**1,346,965**	**1,531,302**	**587,073**	**667,416**	**80,343**
Flow	**All**	**1,346,965**	**1,531,302**	**587,073**	**667,416**	**80,343**
System Development	High Elevation	41,004	84,181	17,872	36,690	18,818
	Middle Elevation	500,181	595,400	218,003	259,504	41,501
	Low Elevation	805,780	851,721	351,198	371,222	20,024
	Total System Development	**1,346,965**	**1,531,302**	**587,073**	**667,416**	**80,343**
Treatment	Medio Creek[(1)]	78,393	118,720	33,501	50,735	17,234
	Leon Creek / Dos Rios	1,567,369	1,777,596	669,816	759,657	89,841
	Total Treatment	**1,645,762**	**1,896,316**	**703,317**	**810,392**	**107,075**
Collection	Medio Creek[(1)]	78,393	118,720	33,501	50,735	17,234
	Upper Medina[(2)]	29,100	62,384	12,436	26,660	14,224
	Lower Medina	6,074	10,102	2,596	4,317	1,721
	Upper Collection	349,313	468,013	149,279	200,006	50,727
	Middle Collection	613,865	630,729	262,335	269,542	7,207
	Lower Collection	569,017	606,368	243,170	259,132	15,962
	Total Collection	**1,645,762**	**1,896,316**	**703,317**	**810,392**	**107,075**

Boundaries are for population served in 2020

(1) Medio Creek watershed of current Far West

(2) Includes lower 3 watersheds of current Far West

1.3. Capital Improvement Plan

SAWS owns and operates an infrastructure-intensive system comprised of treatment facilities, pumping stations, storage facilities, and pipelines that are continuously improved and expanded. The schedule for future investment in the water and wastewater system is known as the CIP. SAWS staff, with assistance from Red Oak and other consultants, updated the CIP as part of this study.

Projects included in the CIP can serve to rehabilitate and renew the system, enhance the system to improve efficiency and meet regulatory requirements, increase the system capacity, or achieve a combination of these objectives. However, only those projects required to provide capacity to serve new development during the 2011-2020 study period can be included in the maximum impact fee calculation.

Tables 1-3 through 1-9 provide the value of water facilities by infrastructure type that are eligible to be included in the calculation of the maximum water impact fee.

Table 1-3: 2011 - 2020 Eligible Water Supply CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$575.3	$0.0	$0.0	$254.3	$115.7	$0.0	$829.6	$115.7

Table 1-4: 2011 - 2020 Eligible Water Flow CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$603.2	$60.3	$27.6	$113.1	$19.2	$0.0	$716.3	$107.1

Table 1-5: 2011 - 2020 Eligible Well Pumps CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$69.3	$5.2	$2.4	$41.2	$9.6	$0.0	$110.5	$17.2

Table 1-6: 2011 - 2020 Eligible High Service and Booster Pump Stations CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$4.5	$0.9	$0.4	$6.7	$1.8	$0.0	$11.2	$3.1
Middle Elevation	37.2	2.7	1.3	13.0	2.4	0.0	50.2	6.4
Low Elevation	51.9	1.6	0.8	4.6	0.4	0.0	56.5	2.8
Total	**$93.6**	**$5.2**	**$2.5**	**$24.3**	**$4.6**	**$0.0**	**$117.9**	**$12.3**

Table 1-7: 2011 - 2020 Eligible Elevated Storage CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$4.0	$0.5	$0.2	$10.7	$3.8	$0.0	$14.7	$4.5
Middle Elevation	18.2	1.2	0.6	33.0	4.3	0.0	51.2	6.1
Low Elevation	24.4	0.6	0.3	15.3	1.1	0.0	39.7	2.0
Total	**$46.6**	**$2.3**	**$1.1**	**$59.0**	**$9.2**	**$0.0**	**$105.6**	**$12.6**

Table 1-8: 2011 - 2020 Eligible Ground Storage CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$0.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.2	$0.0
Middle Elevation	8.9	0.1	0.0	7.1	0.1	0.0	16.0	0.2
Low Elevation	18.4	0.3	0.2	0.0	0.0	0.0	18.4	0.5
Total	**$27.5**	**$0.4**	**$0.2**	**$7.1**	**$0.1**	**$0.0**	**$34.6**	**$0.7**

Table 1-9: 2011 - 2020 Eligible Water Transmission Mains CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$11.4	$2.3	$1.1	$14.2	$3.7	$0.0	$25.6	$7.1
Middle Elevation	39.0	2.9	1.3	40.4	7.5	0.0	79.4	11.7
Low Elevation	50.1	1.6	0.7	2.9	0.3	0.0	53.0	2.6
Total	**$100.5**	**$6.8**	**$3.1**	**$57.5**	**$11.5**	**$0.0**	**$158.0**	**$21.4**

Table 1-10 summarizes the eligible Water Delivery – System Development CIP costs by service area.

Table 1-10: 2011 – 2020 Eligible Water Delivery – System Development CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$22.2	$4.9	$2.3	$41.3	$11.5	$0.0	$63.5	$18.7
Middle Elevation	129.1	9.6	4.4	114.7	19.3	0.0	243.8	33.3
Low Elevation	186.2	5.4	2.6	33.1	4.2	0.0	219.3	12.2
Total	**$337.5**	**$19.9**	**$9.3**	**$189.1**	**$35.0**	**$0.0**	**$526.6**	**$64.2**

Table 1-11 and Table 1-12 provide the value of wastewater facilities that are eligible to be included in the calculation of the maximum wastewater impact fee.

Table 1-11: 2011 - 2020 Eligible Wastewater Treatment CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio Creek	$62.8	$16.2	$7.5	$7.3 (1)	$1.9	$0.0	$70.1	$25.5
Leon Creek / Dos Rios	278.8	16.7	7.6	255.7 (2)	27.9	0.0	534.5	52.2
Total	**$341.6**	**$32.9**	**$15.1**	**$263.0**	**$29.8**	**$0.0**	**$604.6**	**$77.7**

(1) These CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

(2) Some of these CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

Table 1-12: 2011 - 2020 Eligible Wastewater Collection CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio Creek	$21.2	$2.1	$1.0	$38.7	$7.2	$0.0	$59.9	$10.3
Upper Medina	7.9	0.8	0.3	39.0	5.6	0.0	46.9	6.7
Lower Medina	1.6	0.2	0.1	59.9	9.3	0.0	61.5	9.6
Upper Collection	94.5	9.5	4.3	100.0	20.5	0.0	194.5	34.3
Middle Collection	166.2	16.6	7.6	207.3	12.0	0.0	373.5	36.2
Lower Collection	154.0	15.4	7.1	268.2	20.3	0.0	422.2	42.8
Total	**$445.4**	**$44.6**	**$20.4**	**$713.1**	**$74.9**	**$0.0**	**$1,158.5**	**$139.9**

Table 1-13 summarizes the total eligible CIP costs by impact fee category.

Table 1-13: Summary of 2011 - 2020 Eligible CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Water Delivery	$940.7	$80.2	$36.9	$302.2	$54.2	$0.0	$1,242.9	$171.3
Water Supply	575.3	0.0	0.0	254.3	115.7	0.0	829.6	115.7
Wastewater	787.0	77.5	35.5	976.1	104.7	0.0	1,763.1	217.6
Total	**$2,303.0**	**$157.7**	**$72.4**	**$1,532.6**	**$274.6**	**$0.0**	**$3,835.6**	**$504.6**

1.4. Impact Fees Calculation

Eligible capital costs for growth-related CIP by service area are divided by the projected number of total service units for that service area to determine the calculated impact fee per service unit. Table 1-14 presents the calculated impact fees for water and wastewater service. The service units used in this calculation, as shown in Table 1-14, represent the incremental service units that will be served by the infrastructure in the respective area. They do not represent the incremental service units that will be located in the service area, which are shown in Table 1-2.

Table 1-14: Water and Wastewater Calculated Impact Fees

Impact Fee	Service Area	Eligible CIP Value	Service Units	Calculated Impact Fee per Service Unit
Water Supply	All	$115,660,971	80,343	$1,440
Flow	All	107,071,131	80,343	1,333
System Development	High Elevation	18,749,685	18,818	996
	Middle Elevation	33,332,491	41,501	803
	Low Elevation	12,196,277	20,024	609
Treatment	Medio Creek	25,542,728	17,234	1,482
	Leon Creek / Dos Rios	52,224,097	89,841	581
Collection	Medio Creek	10,285,377	17,234	597
	Upper Medina(1)	6,705,155	14,224	1,073
	Lower Medina	9,597,499	15,945	602
	Upper Collection(2)	34,328,678	50,727	1,880
	Middle Collection(3)	36,197,660	57,934	1,203
	Lower Collection	42,757,964	73,896	579

(1) Maximum Impact Fee per Service Unit includes Lower Medina fee
(2) Maximum Impact Fee per Service Unit includes Middle Collection fee
(3) Maximum Impact Fee per Service Unit includes Lower Collection fee

1.4.1. Credit Calculation

Chapter 395 of the TLGC requires utilities to calculate a credit for growth-related CIP, to be subtracted from the calculated impact fee. The credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP.[1] This credit provides an adjustment to benefit fee payers who will pay for CIP in both the impact fee and their future rates or taxes. Although SAWS is a municipally-owned utility, it is managed separately and independently from the City of San Antonio, including, the City's tax revenue and budget. SAWS relies on the revenue it generates from its customers to construct, manage, and operate its water and wastewater systems. Therefore, no tax revenue is used to fund the growth-related CIP. Utilities can calculate this credit and apply it to the calculated impact fee or, alternatively, can forgo the credit calculation by opting to use the statutory credit equal to 50% of the calculated impact fee. SAWS opted to calculate the credit.

[1] For SAWS, the credit is based on the cost of growth-related CIP projected to be in future rates of the projected new development as they do not receive tax revenue from the City of San Antonio.

Credits for the value of existing and future debt are allocated among the impact fees and service areas based on the proportion of eligible existing and future capacity value. SAWS plans to fund most of its growth-related CIP with cash from impact fee revenues. However, it plans to fully fund the Water Supply CIP and the Medina River Sewer Outfall (MRSO), as well as approximately 20% of all other future CIP, with debt.

1.4.2. Maximum Impact Fees per Service Unit

The maximum impact fees per service unit include both the existing value of infrastructure with capacity available to serve new development projected for the study period, 2011 through 2020, as well as the value of new water supply, water delivery, and wastewater capacity available to serve new development during the study period. Calculated impact fees, rate credits, and maximum impact fees by service area are presented in Table 1-15.

Table 1-15: Maximum Water and Wastewater Impact Fees per Service Unit

Impact Fee	Service Area	Calculated Impact Fee per EDU	Calculated Rate Credit/EDU	Maximum Impact Fee per EDU
Water Supply	All	$1,440	$143	$1,297
Flow	All	1,333	86	1,247
System Development	High Elevation	996	30	966
	Middle Elevation	803	29	774
	Low Elevation	609	30	579
Treatment	Medio Creek	1,482	103	1,379
	Dos Rios/Leon Creek	581	26	555
Collection	Medio Creek	597	15	582
	Upper Medina	1,073	20	1,053
	Lower Medina	602	8	594
	Upper Collection	1,880	85	1,795
	Middle Collection	1,203	61	1,142
	Lower Collection	579	27	552

Table 1-16 compares the maximum impact fee per service unit to the current impact fee per service unit.

Table 1-16: Maximum Impact Fees per EDU versus Current Fees per EDU

Impact Fee	Service Area	Maximum Impact Fee per EDU	Current Fee per EDU	Change	% Change
Water Supply	All	$1,297	$1,242	$55	4%
Flow	All	1,247	1,098	149	14%
System Development	High Elevation	966	1,356	(390)	-29%
	Middle Elevation	774	591	183	31%
	Low Elevation	579	668	(89)	-13%
Treatment	Medio Creek	1,379	901	478	53%
	Dos Rios/Leon Creek	555	453	102	23%
Collection	Medio Creek	582	394	188	48%
	Upper Medina	1,053	772	281	36%
	Lower Medina	594	413	181	44%
	Upper Collection	1,795	691	1,104	160%
	Middle Collection	1,142	413	729	177%
	Lower Collection	552	413	139	34%

2. Land Use Assumptions Plan[2]

2.1. Introduction

Chapter 395 of the Texas Local Government Code (TLGC) empowers cities to calculate, impose and collect impact fees to fund capital improvements required to serve new development. This legislation requires a utility to adopt a Land Use Assumptions Plan (LUAP) and a Capital Improvements Plan (CIP) before assessing or collecting impact fees. The CIP and the maximum allowable impact fees established therein must be based upon the adopted LUAP.

The LUAP incorporates the best information available to project future land use and demand for service areas in which a municipality intends to supply utility services. The areas are for Water Supply, System Development and Flow, as well as for Wastewater Treatment and Collection. Land use assumptions are based on a ten-year period. These assumptions may be general and do not require detailed projections for specific tracts of land.

The San Antonio Water System (SAWS) provides water and wastewater service to large portions of Bexar County and has authority to provide service to parts of two adjacent counties. State authority is provided by Certificate of Convenience & Necessity (CCN) and some service is provided by contract outside of the CCN. The following two maps, Figure 2-1 and Figure 2-2, show the general areas of service. The water system map shows areas of the Bexar County served by other purveyors. The wastewater system map shows the watersheds that flow into the water recycling centers (WRC) operated by SAWS.

[2] The Land Use Assumption Plan was prepared by SAWS staff. At SAWS request, Red Oak included the LUAP in this report as Section 2.

Figure 2-1: SAWS Water Service Areas

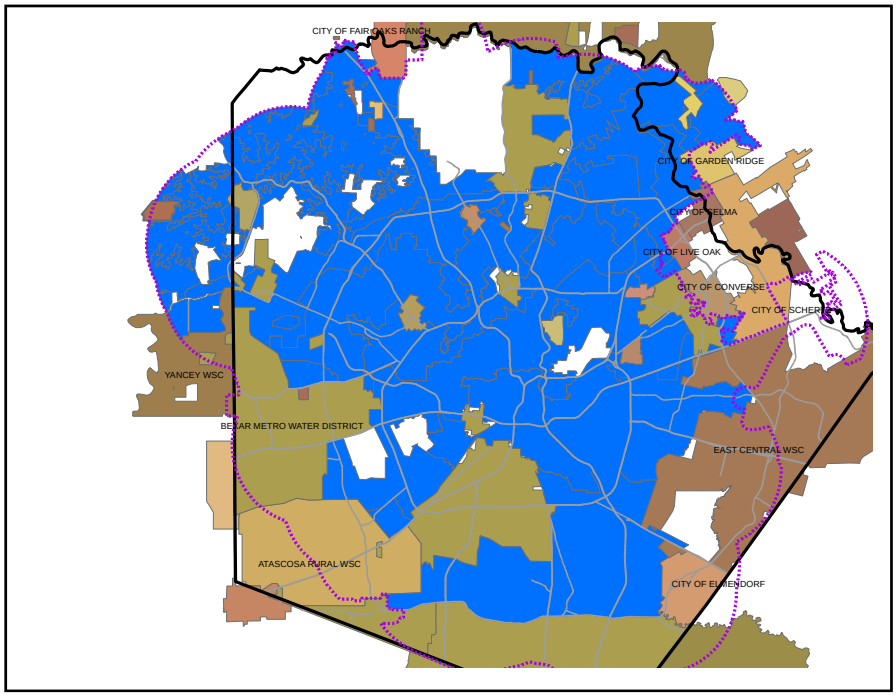
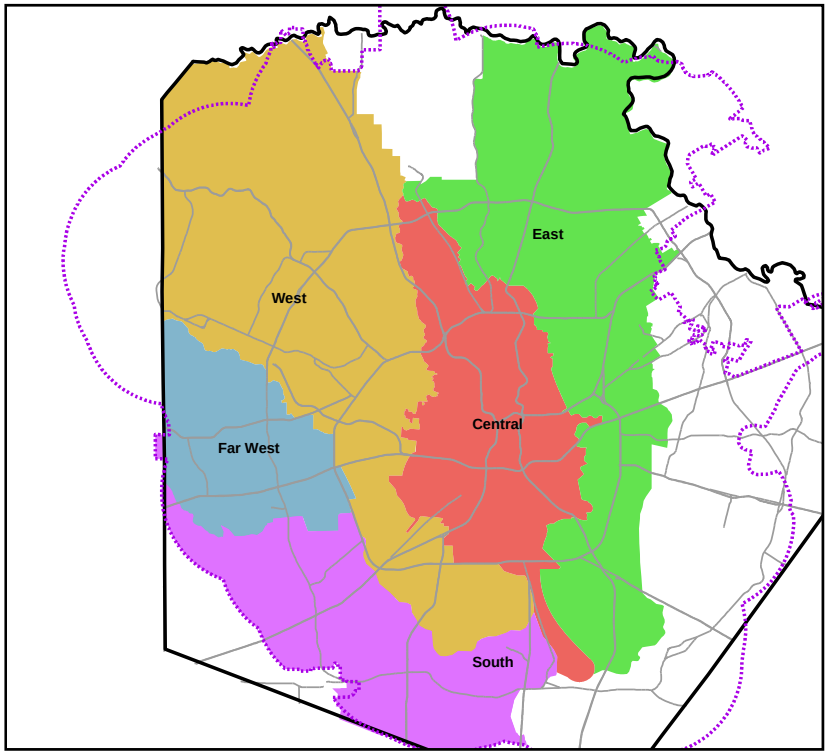


Figure 2-2: SAWS Wastewater Service Areas



2.2. Methodology

2.2.1. Current Land Use

Land use assumptions for the future are based on current land use. Current land use is primarily based on Bexar County Appraisal District (BCAD) databases but is supplanted with SAWS customer data, Alamo Area Council of Governments (AACOG) land use studies and some aerial photo documentation. The service area land use distribution is provided in Table 2-1.

Table 2-1: Service Area Land Use Distribution

Land Use	Water	Wastewater
Commercial	13%	10%
Industrial	1%	1%
Residential	34%	29%
Undevelopable	10%	13%
Vacant	42%	47%
Total Acres	**379,177**	**544,332**

Specifically, undevelopable land includes parks, lakes, cemeteries, roads, landfills, easements and floodplains. Vacant land does not fall into other categories and could develop into any of the other categories.

2.2.2. Population and Projections

The San Antonio area has an adopted methodology for projecting population for use by many area agencies. This process coordinates information by state and local agencies as well as incorporates data from private sector master plans.

The population projections in this LUAP are based upon an area wide model, for assessing future transportation improvements. The San Antonio-Bexar County Metropolitan Planning Organization (MPO) is the coordinating body for this information and the model is run by AACOG. The particular model is called Dram/Empal and is the most widely used tool for regional projections in the United States. A committee composed of representatives from such agencies as SAWS, City of San Antonio and neighboring cities, Texas Department of Transportation (TxDOT), Texas Workforce Commission, City Public Service, and Bexar County serve as technical reviewers. Elected officials and Chambers of Commerce members also provide review.

The model projects allocated population within the MPO study area (Bexar County and parts of Comal and Guadalupe Counties). The population for the total area is consistent with projections provided by the Texas State Data Center (SDC) and the Texas Water Development Board (TWDB). The SDC projects county population using Census data,

migration and birth rates within the state. The local modeling data inputs include existing land uses, household sizes and birthrates, employment numbers and types, future roads and developable land. The model projects future households, population and employment based on common transportation and land use relationships as well as local demographic relationships based on the inputs.

The review team tests for quality control of the data and provides guidance to account for local expected projects or trends that may affect specific areas. The projections are reviewed by five-year increments to ensure that the modeled growth rates look within reason. Growth rates may be slightly re-allocated to reflect programs that the model does not seem to project well. These are areas where the City Council is formulating growth or economic development policies.

The model outputs are population, households and employment by 278 census tracts, as well as further allocations to 917 smaller Transportation Analysis Zones (TAZ). SAWS projections are based on the best fit of the TAZ boundaries to the LUAP boundaries.

2.3. EDU Calculations and Factors

For the LUAP, the common measure used is an Equivalent Dwelling Unit (EDU). This is the standardized measure of demand expressed as water flow for an average household unit. One water EDU equals 313 gallons per day (gpd). A single family residence using a 5/8-inch meter has one EDU demand on the water system. Commercial and industrial users have larger meters, more demand and larger numbers of EDUs. A wastewater EDU is equivalent to 240 gpd.

The Population to EDU factor is useful to represent population as demand, currently and in the future. Since the Water Infrastructure Plan is based on 2008 data, the EDUs were calculated from that year also. The EDU calculation is shown in Table 2-2.

Table 2-2: Calculation of Water EDUs

1	2	3	4	5	6	7	8
		Apartment	----------Non-Apartments----------				
Meter Size	Active Meter Count	Master Meters	Meters	EDU/Meter	EDUs	Apartment EDUs	Total EDUs
(inches)			(2-3)		(4*5)		(6+7)
5/8	305,229	1,430	303,799	1	303,799	149,692	
3/4	21,918	161	21,757	1.5	32,636		
1	10,052	512	9,540	2	19,080	90% Occupancy	
1 1/2	5,775	368	5,407	5	27,035	134,723	
2	3,938	518	3,420	14	47,880		
3	834	195	639	30	19,170		
4	635	178	457	50	22,850		
6	346	162	184	105	19,320		
8	108	40	68	135	9,180		
10	25	7	18	190	3,420	1/2 Units	
Total	**395,227**	**3,798**	**345,289**		**504,370**	**67,361**	**571,731**

1. 2008 Population is 1,311,764. Population per EDU is 2.29.

Column 2 shows the distribution of meter sizes within the System. Since apartment master meter sizes are not clearly correlated to apartment use, they are removed until the end of the calculation. Column 5 shows the EDU to meter size ratio provided by the American Water Works Association (AWWA). This shows that a 1-inch meter can have a flow twice as much as a 5/8-inch meter. The total for column 6 is water system EDUs, without considering apartments. Apartment units represent at least 25% of housing units in San Antonio so their count is important to the EDU calculation. The total number of units is estimated from data provided by SAWS, CPS-Energy, the San Antonio Apartment Association, BCAD and private data sources. The private sources and the Census show a 90% occupancy rate for all apartments. Occupancy represents active apartment units. Past SAWS studies have shown that apartment water use represents 50% of residential water use. Each of these considerations yields the apartment EDU total.

The population for 2008 is also estimated from residential and apartment connection data. Quality control is conducted to compare TAZ estimates to connections and persons per household estimates.

Table 2-3 shows the calculation of wastewater EDUs.

Table 2-3: Calculation of Wastewater EDUs

1	2	3	4	5	6	7	8	9
		Apartment	----------Non-Apartments----------					
Meter Size	Active Meter Count	Master Meters	Percent by Size[1]	Meters	EDU/Meter	EDUs	Apartment EDUs	Total EDUs
(inches)				((2-3)*4)		(5*6)		(7+8)
5/8			87.98%	344,395	1	344,395	149,692	
3/4			6.30%	24,664	1.5	36,996	BMWD Estimate	
1			2.76%	10,815	2	21,630	11,760	
1 1/2			1.57%	6,130	5	30,648	Sum	
2			0.99%	3,877	14	54,278	161,452	
3			0.18%	724	30	21,732		
4			0.13%	518	50	25,903	90% Occupancy	
6			0.05%	209	105	21,902	145,307	
8			0.02%	77	135	10,407		
10			0.01%	20	190	3,877	1/2 Units	
Total	**395,227**	**3,798**	**100.00%**	**391,429**		**571,768**	**72,653**	**644,421**

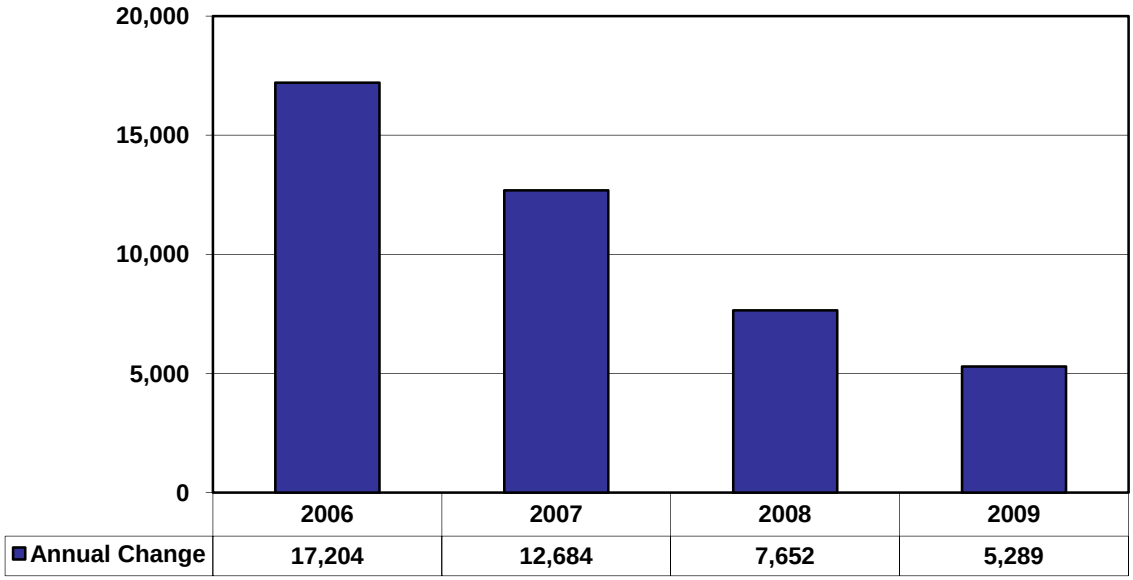
1. Percent sizes of sewer services assumed to equal percent for water services.
2. 2008 Population is 1,505,859. Population per EDU is 2.34.

The wastewater EDU calculation is similar to the water calculation, however the meter size distribution for the Bexar Metropolitan Water District (BMWD) water customers/SAWS sewer customers is assumed to be the same as the SAWS water system. The percentages in column 4 above correspond to column 2 in the water EDU calculation. Estimated apartment units in the BMWD are included in column 8.

The following sections show the 2011 – 2020 service areas and associated land use, population and EDU change. The future EDU projection is the future population projection multiplied by the EDU to Population factor.

As a comparison, Figure 2-3 shows the variability of EDU growth per year for the water system. For all four years, the average yearly growth was 10,500 EDUs per year. The 2006 LUAP had projected 10,000 EDUs per year.

Figure 2-3: Historical EDU Change

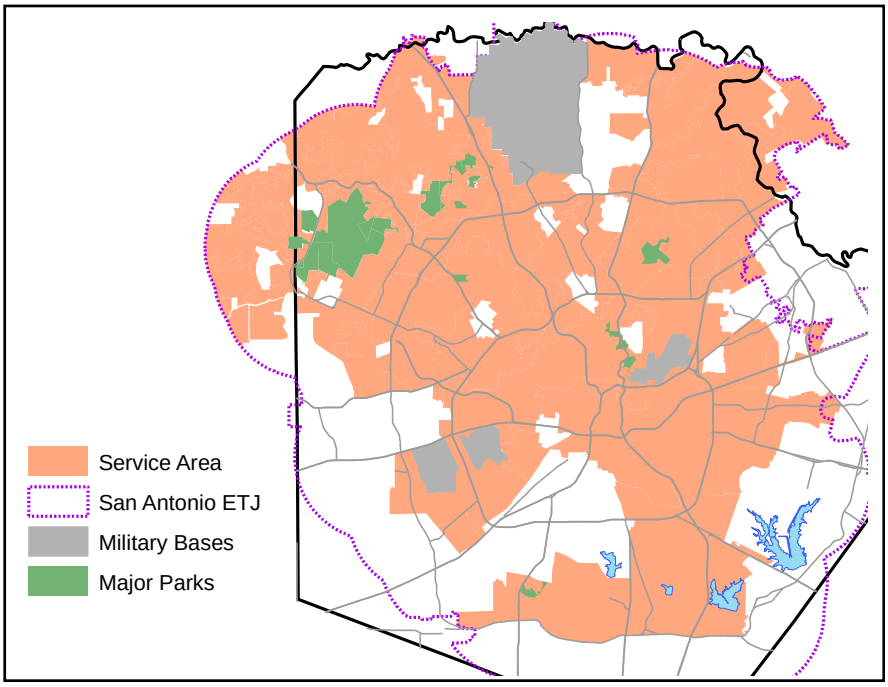


2.4. Service Areas

2.4.1. Water Supply

Water Supply facilities are the infrastructure associated with providing new water sources to the system. The proposed Water Supply impact fee service area, shown in Figure 2-4, does not change from the existing impact fee service area. The current service area includes recent changes to CCN boundaries as well as pending application areas.

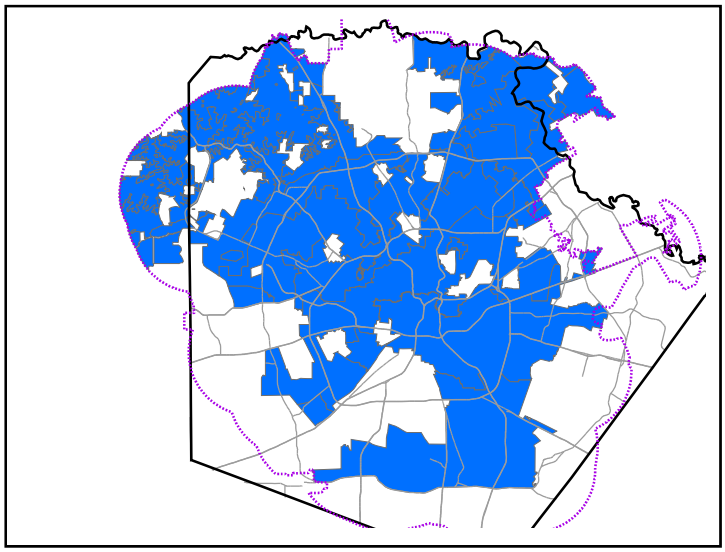
Figure 2-4: Existing and Proposed Water Supply Impact Fee Service Areas



2.4.2. Water Delivery – Flow

Flow facilities make up the distribution system. Currently, there is one impact fee service area for Flow. The proposed Water Flow impact fee service area, shown in Figure 2-5, is the same as the current impact fee service area.

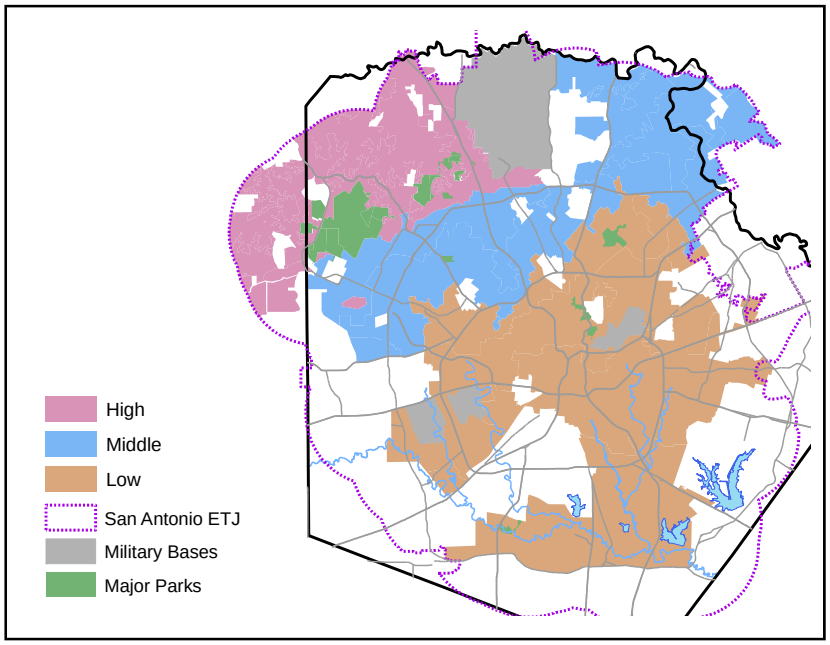
Figure 2-5: Existing and Proposed Water Delivery - Flow Impact Fee Service Area



2.4.3. Water Delivery – System Development

System Development facilities are the infrastructure associated with pumping and transmitting water to the distribution system. No change is proposed to the existing impact fee service areas, shown in Figure 2-6.

Figure 2-6: Existing and Proposed Water Delivery - System Development Impact Fee Service Areas



2.4.4. Wastewater Treatment

Currently there are three Wastewater Treatment impact fee service areas, shown in Figure 2-7. Medio Creek WRC has two, and Dos Rios and Leon Creek WRCs serve the largest area. With the Medina River Sewer Outfall (MRSO), the lower portion of the existing Medio Creek Service Area is proposed to be added to the Dos Rios/Leon Creek Service Area, as shown in Figure 2-8.

Figure 2-7: Existing Wastewater Treatment Impact Fee Service Areas

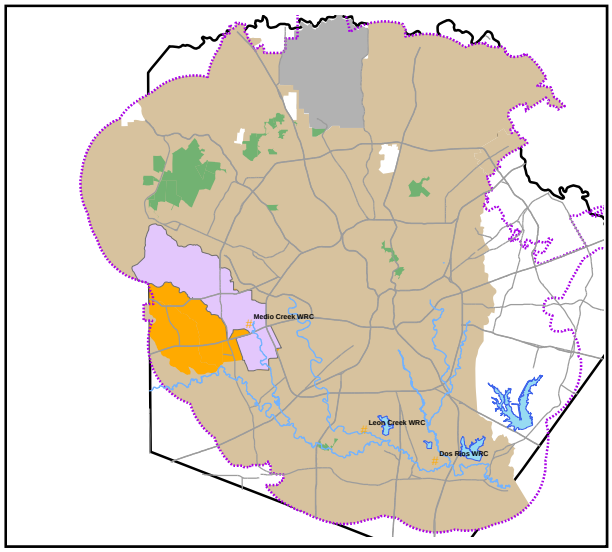
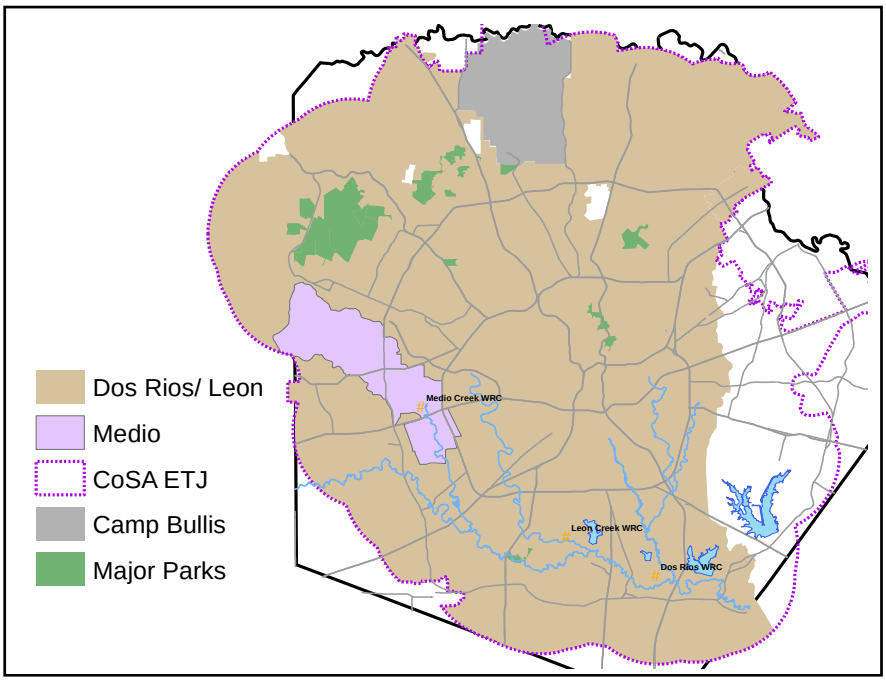


Figure 2-8: Proposed Wastewater Treatment Impact Fee Service Areas



2.4.5. Wastewater Collection

The Wastewater Collection impact fee service areas reflect the boundaries of the watersheds served by the WRCs but also designate areas that have higher costs mainly due to distance to the WRC. The existing impact fee service areas are shown in Figure 2-9. The proposed Collection impact fee service areas, shown in Figure 2-10, include the proposed Upper and Lower Medina service areas, which are related to the MRSO. The

Upper Medina service area includes land currently served by Medio Creek WRC. The proposed Middle Collection service area, which is the northern portion of the existing Lower Collection service area, is also shown in Figure 2-10. The separation of the Lower Collection service area into two service areas is recommended to reduce the impact fee for the proposed Lower Collection service area by shifting the higher costs of transporting wastewater to those customers who are located further from the WRC. The reduced impact fee for the proposed Lower Collection service area will also provide incentive for redevelopment within the inner city.

Figure 2-9: Existing Wastewater Collection Impact Fee Service Areas

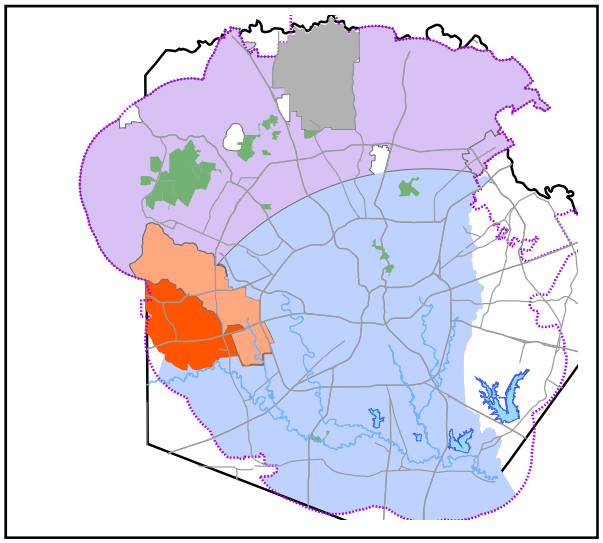
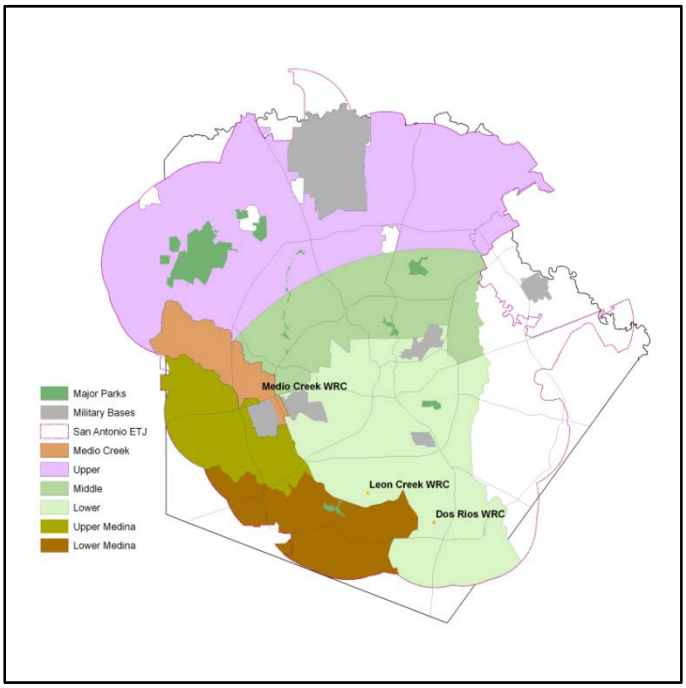


Figure 2-10: Proposed Wastewater Collection Impact Fee Service Areas



The population and EDU projections for the water and wastewater impact fee service areas are summarized in Table 2-4.

Table 2-4: Water and Wastewater Service Areas Population and EDU Projections

		-----Population-----		----------EDUs----------		
	Service Area	**2011**	**2020**	**2011**	**2020**	**Change**
Supply	**All**	**1,346,965**	**1,531,302**	**587,073**	**667,416**	**80,343**
Flow	**All**	**1,346,965**	**1,531,302**	**587,073**	**667,416**	**80,343**
System Development	High Elevation	41,004	84,181	17,872	36,690	18,818
	Middle Elevation	500,181	595,400	218,003	259,504	41,501
	Low Elevation	805,780	851,721	351,198	371,222	20,024
	Total System Development	**1,346,965**	**1,531,302**	**587,073**	**667,416**	**80,343**
Treatment	Medio Creek(1)	78,393	118,720	33,501	50,735	17,234
	Leon Creek / Dos Rios	1,567,369	1,777,596	669,816	759,657	89,841
	Total Treatment	**1,645,762**	**1,896,316**	**703,317**	**810,392**	**107,075**
Collection	Medio Creek(1)	78,393	118,720	33,501	50,735	17,234
	Upper Medina(2)	29,100	62,384	12,436	26,660	14,224
	Lower Medina	6,074	10,102	2,596	4,317	1,721
	Upper Collection	349,313	468,013	149,279	200,006	50,727
	Middle Collection	613,865	630,729	262,335	269,542	7,207
	Lower Collection	569,017	606,368	243,170	259,132	15,962
	Total Collection	**1,645,762**	**1,896,316**	**703,317**	**810,392**	**107,075**

Boundaries are for population served in 2020

(1) Medio Creek watershed of current Far West

(2) Includes lower 3 watersheds of current Far West

3. Capital Improvements Plans

3.1. Introduction

In accordance with Chapter 395 of the TLGC, SAWS has commissioned Red Oak Consulting (Red Oak), to conduct a Capital Improvement Plan and Maximum Impact Fees Study. This section establishes the engineering basis for the capital projects included in the water and wastewater impact fee calculations, updating the previous study completed in 2006.

Impact fees provide SAWS with a mechanism for funding or recouping the cost associated with capital improvements or facility expansions of the municipal water and wastewater systems necessitated by and attributable to the new development, as necessary to accommodate growth in the identified service areas from 2011 through 2020 (the study period). SAWS owns and operates an infrastructure-intensive system comprised of water production facilities, pumping stations, storage facilities, water transmission and distribution pipelines, wastewater treatment facilities, lift stations and wastewater collection mains that are continuously improved and expanded. The schedule for future investment in the water and wastewater systems is known as the CIP. The CIP was updated by SAWS staff as part of this study. The eligible CIP includes capital project descriptions and cost estimates as developed by combined efforts of SAWS staff, other consultants, and Red Oak.

This report includes a description of the basis for establishing which SAWS water and wastewater facilities are eligible to be included in the impact fee analysis. First, the criteria for measuring infrastructure capacity are explained for each infrastructure type. Then, the facilities required to accommodate growth during the 10-year study period, as defined in the LUAP, are identified. Finally, the impact fee per service unit is calculated using the value of the eligible capital facilities and the projected increase in service units from the LUAP, as prepared by SAWS and reviewed by the Capital Improvements Advisory Committee (CIAC). The final maximum impact fee per service unit is then calculated by subtracting statutory credits for the estimated capital costs to be included in future rates that will be charged to the new service units.

3.2. Capacity Criteria

3.2.1. General

This section of the report discusses the capacity of those facilities that are eligible for inclusion in the calculation of the impact fees. The only capacities that are considered for

inclusion are existing available capacities and the increases in capacities to serve growth projected to occur during the study period.

Sections 3.2.2 through 3.2.4 describe those growth-related capacities for the water supply facilities, well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission and distribution mains that were considered for inclusion in the calculation of the water impact fees; these facilities are collectively referred to as the "water system" throughout this report. Sections 3.2.5 through 3.2.6 describe those growth-related capacities for the wastewater treatment and collection facilities (collectively referred to as the "wastewater system" in this report) that were considered for inclusion in the calculation of the wastewater impact fees.

The water system design average day demand (ADD) is 127 gallons per capita per day (gpcd), which is based on actual water production data for the 12 months ending June 2008. This period included both wet and dry weather conditions and, as such, represents a typical year. The water system maximum day peaking factor (MDPF) is 2.03. This is calculated by dividing the maximum day pumpage value by the design average day demand value. The water system maximum hour peaking factor (MHPF) is 2.81 and is calculated by dividing the maximum hour pumpage value by the design average day demand value.

The wastewater system design average daily flow (ADF) is 240 gallons per EDU. The design peak wet weather flow (PWWF) is 1,220 gpd per EDU. However, this number includes inflow and infiltration. The design peak customer demand is 675 gpd per EDU. These design requirements are used to determine the requirements for wastewater treatment and collection capacities.

3.2.2. Water Supply[3]

The water supply impact fee service area includes all the area currently receiving water service from SAWS as well as all the areas that could potentially receive water service from SAWS within the next 10 years. The water supply impact fee includes capital costs for water supply projects anticipated to be constructed within the study period.

SAWS currently receives its water supply from the Edwards Aquifer, Trinity Aquifer, Carrizo Aquifer and Canyon Lake. Other major projects that affect the availability of those water supplies include the Aquifer Storage and Recovery Project, the recycle program and the water conservation program.

[3] SAWS staff developed the Water Supply capacity criteria and CIP. Section 3.2.2 was prepared by SAWS staff.

Water supply projects are typically measured in acre feet per year. To convert acre feet per year to EDUs, the following calculation was performed.

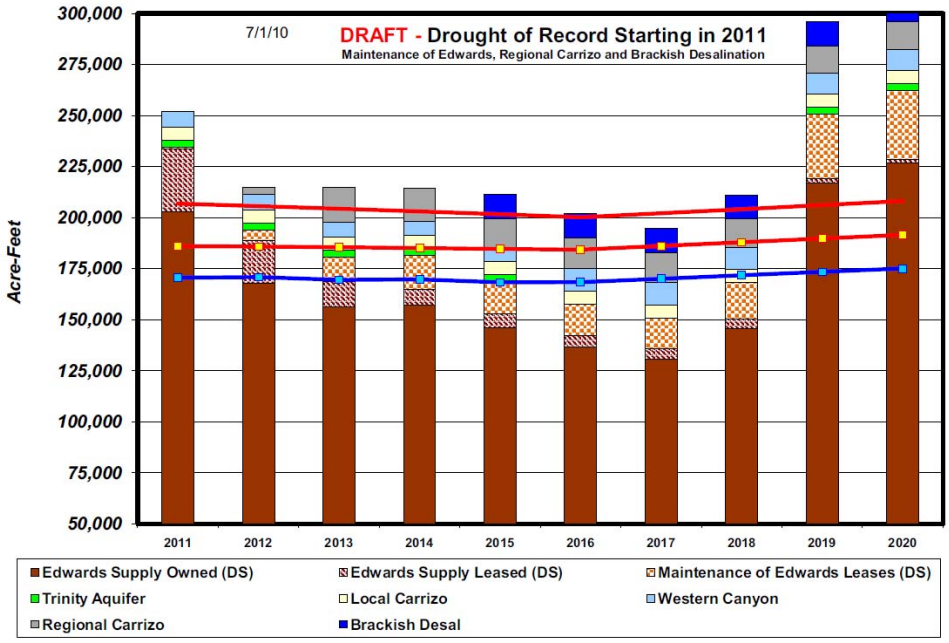
1 acre foot = 325,851 gallons

(325,851 gallons / ac-ft) / (313 gpd / EDU) / 365 days = 2.85 EDUs per acre foot

The majority of the SAWS water supply comes from the Edwards Aquifer. SAWS has been granted a groundwater withdrawal permit from the Edwards Aquifer Authority (EAA) that specifies the amount of groundwater that can be pumped from the aquifer. The permitted amount that is available each year can vary depending on the level of the aquifer and upon criteria established by the EAA. The EAA aquifer management criteria require the amount of groundwater pumping to be reduced as the level of the aquifer drops.

To manage the use of the various water supplies, SAWS has developed a water supply availability scenario based on the drought of record from the 1950s. For impact fee calculation purposes, the scenario assumes that a drought equal to the drought of record begins in 2011 and continues through 2020. The scenario assumes the projected Edwards Aquifer levels are the same as those that actually occurred during the drought of record period. The scenario reduces the amount of SAWS permitted Edwards Aquifer water available using the actual drought of record aquifer levels and also using the current EAA critical period reductions. Figure 3-1 shows the amount of Edwards Aquifer water that is available during the different years of the drought of record scenario. It also shows the amount of water available from other proposed and existing water supply projects during the study period.

Figure 3-1: Supply and Demand



The worst year of the drought of record scenario occurs in year seven of the 10 year plan and the amount of Edwards water available under the EAA restrictions is 130,587 acre feet. For this impact fee calculation, it is assumed that the 130,587 acre feet are committed to existing customers. The Edwards supply available for new customers will be the average of the amount of Edwards that exceeds 130,587 acre feet for each of the other nine years. The amount of Edwards available for new customers will be 32,073 acre feet.

The total amount of water supply available for existing and new customers during the study period that exceeds the Edwards amount in the worst year of the drought of record will include the 32,073 acre feet of Edwards water, plus the other sources shown on the graph. This total amount of water supply will be the source to fulfill the Land Use Assumption projection of 80,343 new EDUs.

3.2.3. Water Delivery – Flow

The cost of Water Delivery is separated into two impact fees, Flow and System Development. The Flow impact fee includes growth-related costs for the water distribution mains (12-inch and larger); mains smaller than 12 inches are typically constructed by developers and "dedicated" or contributed to SAWS and, as such, are not included in the costs used to calculate the impact fee.

To determine the eligible capacities to include in costs used to calculate the Flow impact fee, the maximum hour demands (MHD) of the customers who will come online during

the study period must be projected using the average day demand and the maximum hour peaking factor. The design average day demand for the system is 127 gpcd, and the maximum hour peaking factor is 2.81. Using these values and the population values from the LUAP, the estimated 2011 maximum hour demand is 480.7 million gallons per day (mgd):

$$MHD = ADD * MHPF * Population$$
$$2011\ MHD = 127\ gpcd * 2.81 * 1{,}346{,}965 / 1{,}000{,}000$$
$$2011\ MHD = 480.7\ mgd$$

Similarly, the estimated 2020 maximum hour demand is 546.5 mgd:

$$2020\ MHD = 127\ gpcd * 2.81 * 1{,}531{,}302 / 1{,}000{,}000$$
$$2020\ MHD = 546.5\ mgd$$

The expected increase in maximum hour demand due to growth during the study period is 65.8 mgd:

$$MHD\ Increase = 2020\ MHD - 2011\ MHD$$
$$MHD\ Increase = 546.5\ mgd - 480.7\ mgd = 65.8\ mgd$$

The calculated maximum hour demands for the Flow impact fee service area are summarized in Table 3-1.

Table 3-1: Distribution Mains Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2011	2020	Change
Distribution Mains	All	480.7	546.5	65.8

3.2.4. Water Delivery – System Development

The System Development impact fee includes growth-related costs for well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission mains (12-inch and larger).

There are currently three service areas for the System Development impact fee – High Elevation, Middle Elevation, and Low Elevation. No changes are proposed for the three existing service areas.

To determine the eligible allocation of existing and future CIP to the System Development impact fee, the available capacities and growth-related demands must be determined for the five infrastructure types by service area.

3.2.4.1. Well Pumps

Because the well pumps are directly related to the water supply and provide water to the entire system, they are not separated by service area. All customers within the SAWS system are assumed to require the same well pump capacity.

The well pumps are designed to meet the maximum day demand (MDD). Using the system design average day demand and maximum day peaking factor and the populations from the LUAP, the estimated 2011 maximum day demand for the SAWS system is 347.3 mgd:

MDD = ADD * MDPF * Population
2011 MDD = 127 gpcd * 2.03 * 1,346,965 / 1,000,000
2011 MDD = 347.3 mgd

Similarly, the estimated 2020 maximum day demand for the system is 394.8 mgd:

2020 MDD = 127 gpcd * 2.03 * 1,531,302 / 1,000,000
2020 MDD = 394.8 mgd

The projected study period increase in maximum day demand for well pumps is 47.5 mgd for the system:

MDD Increase = 2020 MDD – 2011 MDD
MDD Increase = 394.8 mgd – 347.3 mgd = 47.5 mgd

Table 3-2 presents the calculated maximum day demands and increase.

Table 3-2: Well Pumps Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2011	2020	Change
Well Pumps	All	347.3	394.8	47.5

3.2.4.2. High Service and Booster Pump Stations

Pumping requirements are based on design maximum hour demands and vary by pressure zone. The weighted average ADDs and MHPFs are calculated for each service area to determine the maximum hour demands for the three service areas.

HIGH ELEVATION SERVICE AREA

The High Elevation service area has significantly higher demands than the other two service areas. Its design average day demand is 166 gpcd, and its maximum day and maximum hour peaking factors are 2.76 and 3.38, respectively. Using this data and the

study period populations from the LUAP, the estimated 2011 maximum hour demand for the High Elevation service area is 23.0 mgd:

2011 MHD = 166 gpcd * 3.38 * 41,004 / 1,000,000
2011 MHD = 23.0 mgd

The estimated 2020 maximum hour demand for the High Elevation service area is 47.2 mgd:

2020 MHD = 166 gpcd * 3.38 * 84,181 / 1,000,000
2020 MHD = 47.2 mgd

The expected increase in maximum hour demand due to growth during the study period in the High Elevation service area is 24.2 mgd:

MHD Increase = 47.2 mgd – 23.0 mgd =24.2 mgd

MIDDLE ELEVATION SERVICE AREA

The Middle Elevation service area's design average day demand and peaking factors are lower than the High Elevation service area and higher than the Low Elevation service area. The design average day demand is 133 gpcd, and the maximum day and maximum hour peaking factors are 2.03 and 2.89, respectively. The estimated 2011 maximum hour demand for the Middle Elevation service area is 192.3 mgd:

2011 MHD = 133 gpcd * 2.89 * 500,181 / 1,000,000
2011 MHD = 192.3 mgd

The estimated 2020 maximum hour demand for the Middle Elevation service area is 228.9 mgd:

2020 MHD = 133 gpcd * 2.89 * 595,400 / 1,000,000
2020 MHD = 228.9 mgd

The expected increase in maximum hour demand due to growth during the study period in the Middle Elevation service area is 36.6 mgd:

MHD Increase = 228.9 mgd – 192.3 mgd = 36.6 mgd

LOW ELEVATION SERVICE AREA

The Low Elevation service area has the lowest design average day demand and peaking factors. Its design average day demand is 122 gpcd, and its maximum day and maximum hour peaking factors are 1.98 and 2.73, respectively. The estimated 2011 maximum hour demand for the Low Elevation service area is 268.4 mgd:

2011 MHD = 122 gpcd * 2.73 * 805,780 / 1,000,000
2011 MHD = 268.4 mgd

The estimated 2020 maximum hour demand for the Low Elevation service area is 283.7 mgd:

2020 MHD = 122 gpcd *2.73 * 851,721 / 1,000,000
2020 MHD = 283.7 mgd

The expected increase in maximum hour demand due to growth during the study period in the Low Elevation service area is 15.3 mgd:

MHD Increase = 283.7 mgd – 268.4 mgd = 15.3 mgd

The projected study period increase in pumping requirements is 76.1 mgd for the three System Development service areas, as summarized in Table 3-3.

Table 3-3: Booster Pumps Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2011	2020	Change
Booster PS	High	23.0	47.2	24.2
	Middle	192.3	228.9	36.6
	Low	268.4	283.7	15.3
	Total	**483.7**	**559.8**	**76.1**

3.2.4.3. Elevated Storage Tanks

Elevated storage tank (EST) requirements are based on design criteria and Texas Commission on Environmental Quality (TCEQ) requirements. Minimum design elevated storage capacity is greater than or equal to 100 gallons per connection. Design criteria provided in the Water Master Plan[4] vary by pressure zone. The weighted average elevated storage capacity requirements are calculated for each System Development service area and used as the impact fee capacity criteria if they exceed the minimum TCEQ requirement of 100 gallons per connection; if they do not exceed the TCEQ requirement, 100 gallons per connection is used.

HIGH ELEVATION SERVICE AREA

The 2011 and 2020 elevated storage demands for the three service areas are interpolated using the 2007 and 2017 weighted average elevated storage demands. For the High Elevation service area, the interpolated 2011 and 2020 demands for elevated storage capacity are 330 gallons and 253 gallons per connection, respectively. Since these

[4] Draft 2010 Black & Veatch Water Master Plan

demands exceed the minimum TCEQ requirement of 100 gallons per connection, they are used to estimate the 2011 capacity requirement for the High Elevation service area at 3.6 million gallons (MG):

2011 EST Capacity Requirement = Minimum capacity per connection * connections
2011 EST Capacity Requirement = 330 gallons/connection * 10,898 connections / 1,000,000
2011 EST Capacity Requirement = 3.6 MG

The estimated 2020 capacity requirement for the High Elevation service area is 5.7 MG:

2020 EST Capacity Requirement = 253 gallons/connection * 22,372 connections / 1,000,000
2020 EST Capacity Requirement = 5.7 MG

The expected increase in the elevated storage capacity requirement due to growth during the study period in the High Elevation service area is 2.1 MG:

EST Capacity Requirement Increase = 2020 Requirement – 2011 Requirement
EST Capacity Requirement Increase = 5.7 MG – 3.6 MG = 2.1 MG

MIDDLE ELEVATION SERVICE AREA

The interpolated 2011 and 2020 demands for elevated storage capacity in the Middle Elevation service area are 124 gallons and 132 gallons per connection, respectively. Since these demands exceed the minimum TCEQ requirement of 100 gallons per connection, this data is used to estimate the 2011 capacity requirement for the Middle Elevation service area at 16.5 MG:

2011 EST Capacity Requirement = 124 gallons/connection * 132,929 connections / 1,000,000
2011 EST Capacity Requirement = 16.5 MG

The estimated 2020 capacity requirement for the Middle Elevation service area is 20.9 MG:

2020 EST Capacity Requirement = 132 gallons/connection * 158,234 connections / 1,000,000
2020 EST Capacity Requirement = 20.9 MG

The expected increase in the elevated storage capacity requirements due to growth during the study period in the Middle Elevation service area is 4.4 MG:

EST Capacity Requirement Increase = 20.9 MG – 16.5 MG = 4.4 MG

LOW ELEVATION SERVICE AREA

The interpolated 2011 and 2020 demands for elevated storage capacity in the Low Elevation service area are 103 gallons per connection. Since these demands exceed the

minimum TCEQ requirement of 100 gallons per connection, this data is used to estimate the 2011 capacity requirement for the Low Elevation service area at 22.1 MG:

2011 EST Capacity Requirement = 103 gallons/connection * 214,145 connections / 1,000,000
2011 EST Capacity Requirement = 22.1 MG

The estimated 2020 capacity requirement for the Low Elevation service area is 23.3 MG:

2020 EST Capacity Requirement = 103 gallons/connection * 226,355 connections / 1,000,000
2020 EST Capacity Requirement = 23.3 MG

The expected increase in the elevated storage capacity requirement due to growth during the study period in the Low Elevation service area is 1.2 MG:

EST Capacity Requirement Increase = 23.3 MG – 22.1 MG = 1.2 MG

Table 3-4 summarizes the changes in elevated storage demands for the three service area elevations.

Table 3-4: Elevated Storage Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (MG) 2011	2020	Change
Elevated Storage	High	3.6	5.7	2.1
	Middle	16.5	20.9	4.4
	Low	22.1	23.3	1.2
	Total	**42.2**	**49.9**	**7.7**

3.2.4.4. Ground Storage Tanks

Ground storage tank (GST) requirements are based on design criteria and TCEQ requirements. Minimum design total storage capacity (elevated and ground) is greater than or equal to 200 gallons per connection. Design criteria provided in the Water Master Plan vary by pressure zone. The weighted average ground storage capacity requirements are calculated for each System Development service area and used as the impact fee capacity criteria if they exceed the difference between the minimum TCEQ total storage requirement of 200 gallons per connection and the minimum elevated storage requirement; if they do not exceed the TCEQ minimum, the difference between the TCEQ minimum of 200 gallons per connection and the weighted average ground storage capacity requirements from the Water Master Plan is used.

HIGH ELEVATION SERVICE AREA

The 2011 and 2020 ground storage demands for the three service areas are interpolated using the 2007 and 2017 weighted average ground storage demands. For the High Elevation service area, the interpolated 2011 and 2020 demands for ground storage

capacity are 23 gallons and 14 gallons per connection, respectively. In the High Elevation service area, the minimum TCEQ requirement of 200 gallons of total storage per connection is met by the elevated storage demand. Therefore, the interpolated ground storage demands are used to estimate the 2011 capacity requirement for the High Elevation service area at 0.25 MG:

2011 GST Capacity Requirement = Minimum capacity per connection * connections
2011 GST Capacity Requirement = 23 gallons/connection * 10,898 connections / 1,000,000
2011 GST Capacity Requirement = 0.25 MG

The estimated 2020 capacity requirement for the High Elevation service area is 0.31 million gallons:

2020 GST Capacity Requirement = 14 gallons/connection * 22,372 connections / 1,000,000
2020 GST Capacity Requirement = 0.31 MG

The expected increase in the ground storage capacity requirement due to growth during the study period in the High Elevation service area is 0.06 MG:

GST Capacity Requirement Increase = 2020 Requirement – 2011 Requirement
GST Capacity Requirement Increase = 0.31 MG – 0.25 MG = 0.06 MG

MIDDLE ELEVATION SERVICE AREA

The interpolated 2011 and 2020 demands for ground storage capacity in the Middle Elevation service area are 0.5 gallons and 0.9 gallons per connection, respectively. However, in the Middle Elevation service area, 76 gallons and 68 gallons of ground storage capacity per connection are needed in 2011 and 2020, respectively, to meet the minimum TCEQ requirement of 200 gallons of total storage per connection. Therefore, the TCEQ minimum storage requirement is used to estimate the 2011 capacity requirement for the Middle Elevation service area at 10.1 MG:

2011 GST Capacity Requirement = 76 gallons/connection * 132,929 connections / 1,000,000
2011 GST Capacity Requirement = 10.1 MG

The estimated 2020 capacity requirement for the Middle Elevation service area is 10.8 million gallons:

2020 GST Capacity Requirement = 68 gallons/connection * 158,234 connections / 1,000,000
2020 GST Capacity Requirement = 10.8 MG

The expected increase in the ground storage capacity requirement due to growth during the study period in the Middle Elevation service area is 0.7 MG:

GST Capacity Requirement Increase = 10.8 MG – 10.1 MG = 0.7 MG

LOW ELEVATION SERVICE AREA

The Water Master Plan shows no demand for ground storage capacity in the Low Elevation service area. However, because the elevated storage capacity demand is less than 200 gallons per connection, 97 gallons of ground storage capacity per connection is needed in the Low Elevation service area to meet the minimum TCEQ requirement of 200 gallons of total storage per connection. Therefore, the TCEQ minimum storage requirement is used to estimate the 2011 capacity requirement for the Low Elevation service area at 20.8 MG:

2011 GST Capacity Requirement = 97 gallons/connection * 214,145 connections / 1,000,000
2011 GST Capacity Requirement = 20.8 MG

The estimated 2020 capacity requirement for the Low Elevation service area is 22.0 MG:

2020 GST Capacity Requirement = 97 gallons/connection * 226,355 connections / 1,000,000
2020 GST Capacity Requirement = 22.0 MG

The expected increase in the ground storage capacity requirement due to growth during the study period in the Low Elevation service area is 1.2 MG:

GST Capacity Requirement Increase = 22.0 MG – 20.8 MG = 1.2 MG

Table 3-5 summarizes the changes in ground storage demand for the three service area elevations.

Table 3-5: Ground Storage Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (MG) 2011	2020	Change
Ground Storage	High	0.2	0.3	0.1
	Middle	10.1	10.8	0.7
	Low	20.8	22.0	1.2
	Total	**31.1**	**33.1**	**2.0**

3.2.4.5. Transmission Mains

The projected maximum hour demand is used to design transmission mains. Because the service areas are the same, the capacity criteria for transmission mains are the same as for the high service and booster pump stations. Table 3-6 summarizes the change in demand for the transmission mains during the study period.

Table 3-6: Transmission Mains Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2011	2020	Change
Transmission Mains	High	23.0	47.2	24.2
	Middle	192.3	228.9	36.6
	Low	268.4	283.7	15.3
	Total	**483.7**	**559.8**	**76.1**

3.2.5. Wastewater Treatment

To determine the eligible capacities to include in the Wastewater Treatment impact fee calculation, the system design average daily flow was used to estimate the 2011 and 2020 demands. Two service areas are proposed for wastewater treatment – Medio Creek and Leon Creek / Dos Rios. There are currently two service areas – Far West / Medio Creek and Upper / Lower. The proposed change reflects the decommissioning of the Salado Creek Water Recycling Center and the proposed construction of the MRSO.

3.2.5.1. Medio Creek Service Area

Using the system design average daily flow, the estimated average daily wastewater flow for the Medio Creek service area is 8.0 mgd in 2011 and 12.2 mgd in 2020:

ADF = Design ADF per EDU * No. of EDUs / 1,000,000
2011 ADF = 240 gallons/EDU * 33,501 EDUs / 1,000,000 = 8.0 mgd
2020 ADF = 240 gallons/EDU * 50,735 EDUs / 1,000,000 = 12.2 mgd

The estimated change in average daily flow in the Medio Creek service area for the study period is 4.2 mgd:

ADF Increase = 2020 ADF – 2011 ADF
ADF Increase = 12.2 mgd – 8.0 mgd = 4.2 mgd

3.2.5.2. Leon Creek / Dos Rios Service Area

Using the same methodology as for the Medio Creek service area, the estimated average daily wastewater flows for the Leon Creek / Dos Rios service area are 160.8 mgd in 2011 and 182.3 mgd in 2020:

2011 ADF = 240 gallons/EDU * 669,816 EDUs / 1,000,000 = 160.8 mgd
2020 ADF = 240 gallons/EDU * 759,656 EDUs / 1,000,000 = 182.3 mgd

The estimated change in average daily flow in the Leon Creek / Dos Rios service area for the study period is 21.5 mgd:

ADF Increase = 182.3 mgd – 160.8 mgd = 21.5 mgd

Table 3-7 summarizes the increase in average daily wastewater flows for the study period.

Table 3-7: Treatment Average Daily Flows

Infrastructure Component	Service Area	Capacity Required (mgd) 2011	2020	Change
WRCs	Medio Creek	8.0	12.2	4.2
	Leon Creek / Dos Rios	160.8	182.3	21.5
	Total	**168.8**	**194.5**	**25.7**

3.2.6. Wastewater Collection

For the wastewater collection facilities, the design peak wet weather flow of 675 gallons per day per EDU was used to estimate the 2011 and 2020 capacity criteria in each service area.

3.2.6.1. Medio Creek Service Area

The estimated capacities required in the Medio Creek service area are 22.6 mgd in 2011 and 34.2 mgd in 2020:

Capacity Requirement = Design PWWF * No. of EDUs / 1,000,000

2011 Capacity Requirement = 675 gpd/EDU * 33,501 EDUs / 1,000,000 = 22.6 mgd

2020 Capacity Requirement = 675 gpd/EDU* 50,735 EDUs / 1,000,000 = 34.2 mgd

The change in collection system capacity requirements in the Medio Creek service area for the study period is 11.6 mgd:

Increase in Capacity Requirement = 2020 Capacity Requirement – 2011 Capacity Requirement

Increase in Capacity Requirement = 34.2 mgd – 22.6 mgd = 11.6 mgd

3.2.6.2. Upper Medina Service Area

The estimated wet weather peak flows for the Upper Medina service area are 8.4 mgd in 2011 and 18.0 mgd in 2020:

2011 Capacity Requirement = 675 gpd/EDU * 12,436 EDUs / 1,000,000 = 8.4 mgd

2020 Capacity Requirement = 675 gpd/EDU * 26,660 EDUs / 1,000,000 = 18.0 mgd

The change in collection system capacity requirements in the Upper Medina service area for the study period is 9.6 mgd:

Increase in Capacity Requirement = 18.0 mgd – 8.4 mgd = 9.6 mgd

3.2.6.3. Lower Medina Service Area

The estimated peak wet weather flows for the Lower Medina service area are 1.8 mgd in 2011 and 2.9 mgd in 2020:

2011 Capacity Requirement = 675 gpd/EDU * 2,596 EDUs / 1,000,000 = 1.8 mgd
2020 Capacity Requirement = 675 gpd/EDU * 4,317 EDUs/ 1,000,000 = 2.9 mgd

The change in collection system capacity requirements to serve new development in the Lower Medina service area during the study period is 1.1 mgd:

Increase in Capacity Requirement = 2.9 mgd – 1.8 mgd = 1.1 mgd

3.2.6.4. Upper Collection Service Area

For the Upper Collection service area, the estimated peak wet weather flows are 100.8 mgd in 2011 and 135.0 mgd in 2020:

2011 Capacity Requirement = 675 gpd/EDU * 149,279 EDUs / 1,000,000 = 100.8 mgd
2020 Capacity Requirement = 675 gpd/EDU * 200,006 EDUs/ 1,000,000 = 135.0 mgd

The change in collection system capacity requirements in the Upper Collection service area for the study period is 34.2 mgd:

Increase in Capacity Requirement = 135.0 mgd – 100.8 mgd = 34.2 mgd

3.2.6.5. Middle Collection Service Area

The estimated peak wet weather flows for the Middle Collection service area are 177.1 mgd in 2011 and 181.9 mgd in 2020:

2011 Capacity Requirement = 675 gpd/EDU * 262,335 EDUs / 1,000,000 = 177.1 mgd
2020 Capacity Requirement = 675 gpd/EDU * 269,542 EDUs/ 1,000,000 = 182.0 mgd

The change in collection system capacity requirements to serve new development in the Middle Collection service area during the study period is 4.9 mgd:

Increase in Capacity Requirement = 182.0 mgd – 177.1 mgd = 4.9 mgd

3.2.6.6. Lower Collection Service Area

The estimated peak wet weather flows for the Lower Collection service area are 164.4 mgd in 2011 and 174.9 mgd in 2020:

2011 Capacity Requirement = 675 gpd/EDU * 243,170 EDUs / 1,000,000 = 164.1 mgd
2020 Capacity Requirement = 675 gpd/EDU * 259,132 EDUs/ 1,000,000 = 174.9 mgd

The change in collection system capacity requirements to serve new development in the Lower Collection service area during the study period is 10.8 mgd:

Increase in Capacity Requirement = 174.9 mgd – 164.1 mgd = 10.8 mgd

Table 3-8 summarizes the increase in estimated peak wet weather flows for the wastewater collection system.

Table 3-8 Collection System Peak Wet Weather Flows

Infrastructure Component	Service Area	Capacity Required (mgd) 2011	2020	Change
Lift Stations and Collection Mains	Medio Creek	22.6	34.2	11.6
	Upper Medina	8.4	18.0	9.6
	Lower Medina	1.8	2.9	1.1
	Upper Collection	100.8	135.0	34.2
	Middle Collection	177.1	182.0	4.9
	Lower Collection	164.1	174.9	10.8
	Total	**474.8**	**547.0**	**72.2**

3.3. Eligible Facilities

3.3.1. General

This section establishes the SAWS water and wastewater facilities that are eligible for inclusion in the calculation of the impact fee. Projects included in the CIP can serve to rehabilitate and renew the system, enhance the system to improve efficiency and meet regulatory requirements, increase the system capacity, or achieve a combination of these objectives. Only those projects warranted by capacity issues derived from growth projected to occur during the study period (2011 to 2020) can be included in the impact fee calculation. Additionally, if the cost of a project cannot be sufficiently delineated or if alternate mechanisms for cost recovery are in place, the project is not included in the impact fee calculation.

Financing costs associated with existing infrastructure with available capacity to serve new development are included in the eligible impact fee CIP. It is assumed, based on discussions with SAWS staff, that 65% of the existing infrastructure was financed with debt. SAWS prefers to use cash generated from impact fee revenues to fund growth-related CIP, to the extent that impact fee collections provide that cash. Although SAWS plans to fund specific future CIP projects with debt, it reserves the option to fund all CIP with cash. Therefore, based in part on the present level of uncertainty of future funding

sources, SAWS elected, for the purposes of this study, to exclude financing costs associated with the future CIP from the impact fee calculation.[5]

3.3.2. Water Supply[6]

The Water Supply impact fee includes growth-related costs for existing water supplies and for new projects to be constructed.

Table 3-9: Water Supply Eligible Capacity Calculation

Water Sources	Total Capital Cost	Acre Feet	Total EDUs	2011 - 2020 EDUs	Eligible Capital Costs
Edwards Supply DOR		130,587			
Edwards Acquisitions (for post 2011 growth)	$0	32,073	91,408	39,384	$0
Brackish Groundwater Desalination	112,762,576	11,800	33,630	14,490	48,584,517
Regional Carrizo	80,300,000	15,156	43,195	18,611	34,597,797
Local Carrizo	13,800,000	6,400	18,240	7,859	5,945,823
Subtotal	**$206,862,576**	**65,429**	**186,473**	**80,343**	**$89,128,137**
Integration pipeline	47,479,252		143,770	80,343	26,532,834
Total Water Supply	**$254,341,828**			**80,343**	**$115,660,971**

The information in Table 3-9 assumes that 130,587 acre feet of Edwards Aquifer supply from the drought of record scenario (DOR) is available only for existing customers and is not included in the amount of water supply available for future growth. The remaining 32,073 acre feet of Edwards Aquifer supply are available for existing and future customers as part of the overall water supply portfolio. No capital costs are given for the Edwards Aquifer supply. The brackish groundwater desalination project and the regional Carrizo project are anticipated to be built within the next 10 years. The integration pipeline is necessary to transport water from the desalination treatment plant to the west side of San Antonio. The size of the integration pipeline will exceed that needed for the desalination project. Only the portion of the costs associated with the capacity needed for the brackish project is included in the table.

The total capital costs for water supply projects needed to serve 80,343 EDUs is $115,660,971, which is summarized in Table 3-10.

Table 3-10: 2011 – 2020 Eligible Water Supply CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$575.3	$0.0	$0.0	$254.3	$115.7	$0.0	$829.6	$115.7

[5] Chapter 395 allows the inclusion of financing costs in the impact fee calculation. However, SAWS staff elected to use a more conservative approach and excluded the financing costs from the calculation.
[6] SAWS staff developed the Water Supply CIP and prepared Section 3.3.2.

3.3.3. Water Delivery – Flow

The Flow impact fee includes growth-related costs associated with the distribution mains that are 12 inches or more in diameter. Because the water distribution system is looped, it is difficult to pinpoint the existing and future capacities. Therefore, it is assumed, based on discussions with SAWS staff, that the capacity of the distribution mains is increased as needed to maintain 10% excess capacity.

The estimated 2011 and 2020 capacities for the Flow service area are 534.1 mgd and 607.2 mgd, respectively:

Capacity = MHD / 90%
2011 Capacity = 480.7 mgd / 90% = 534.1 mgd
2020 Capacity = 546.5 mgd / 90% = 607.2 mgd

It is assumed that growth will utilize available existing capacity first and future CIP capacity if the projected demand requires additional capacity beyond what is available in the existing distribution mains. Of the estimated 534.1 mgd capacity in 2011, 480.7 mgd is needed to meet the demand of existing customers. Therefore, 53.4 mgd is available to serve new development. However, from Section 3.2.3, 65.8 mgd is required to serve growth during the study period so all of the 53.4 mgd of available existing capacity, or 10.0% of existing capacity, is required to serve growth during the 2011-2020 study period:

Study Period Growth Allocation = 53.4 mgd / 534.1 mgd = 10.0%

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, 12.4 mgd, or 16.9%, of the 73.1 mgd of future CIP capacity (see Table B-1 of Appendix B) is included in the impact fee calculation:

Study Period Growth Allocation = Remaining Study Period Demand / Future CIP Capacity
Study Period Growth Allocation = 12.4 mgd / 73.1 mgd = 16.9%

The costs of the eligible capacities for the Flow service area are summarized in Table 3-11.

Table 3-11: 2011 - 2020 Eligible Water Flow CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$603.2	$60.3	$27.6	$113.1	$19.2	$0.0	$716.3	$107.1

3.3.4. Water Delivery – System Development

As with the capacity criteria, the allocation of existing facilities and future CIP is determined for each type of infrastructure in the System Development impact fee calculation. For each of these infrastructure types, there are multiple facilities within each service area, and each facility is likely to have some available capacity for future growth. Planned expansion projects in the CIP are often construction of a new facility within a service area even though several other facilities within that service area may have available capacity.

Because new System Development facilities are constructed and put into service even when available capacity exists at older facilities, the assumption that growth will utilize all existing available capacity before utilizing future CIP capacity is not realistic. Existing available and future CIP capacity are considered together as total available capacity during the study period, and the amount of that available capacity that would be utilized by study period growth is determined using the capacity criteria from Section 2.

3.3.4.1. Well Pumps

SAWS staff provided the capacities of the existing well pumps and the future well pumps in the CIP. The 2011 and 2020 well pump capacities for the combined system are 512.6 mgd and 551.3 mgd, respectively.

Of the 512.6 mgd of existing capacity in 2011 (see Table A-1 of Appendix A), 347.3 mgd is needed to meet the maximum day demand of existing customers. Therefore, 165.3 mgd is available to serve new development. The CIP includes 38.7 mgd of well pump capacity (see Table B-2 of Appendix B) so the total available capacity during the study period is 204.0 mgd:

Total Available Capacity = Existing Available Capacity + Future CIP Capacity
Total Available Capacity = 165.3 mgd + 38.7 mgd = 204.0 mgd

From Section 3.2.4.1, approximately 47.5 mgd is required to serve growth during the study period. This represents 23.3% of the total available capacity:

Study Period Growth Allocation = Study Period Demand / Total Available Capacity
Study Period Growth Allocation = 47.5 mgd / 204.0 mgd = 23.3%

Table 3-12 shows the total value of available capacity and the value eligible to be included in the System Development impact fee calculation.

Table 3-12: 2011 - 2020 Eligible Well Pumps CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$69.3	$5.2	$2.4	$41.2	$9.6	$0.0	$110.5	$17.2

3.3.4.2. High Service and Booster Pump Stations

SAWS staff provided the capacities of the existing and future high service and booster pump stations. The 2011 and 2020 pump station capacities for the combined system are 821.8 mgd and 937.3 mgd, respectively. The pump stations are separated into the three System Development service areas, but there are several pump stations that are shared among the service areas. Using data provided by SAWS staff and the Water Master Plan, the shared pump stations are allocated to the three service areas.

HIGH ELEVATION SERVICE AREA

The existing and planned 2020 capacities of the high service and booster pump stations located in the High Elevation service area are 74.5 mgd and 90.9 mgd, respectively (see Tables A-2 and B-3 of the appendices). Based on data from the Water Master Plan, 19.3 mgd, or 6.6%, of the 292.1 mgd existing capacity of the shared pump stations (see Table A-5 of Appendix A) serves customers in the High Elevation service area. It is assumed that the High Elevation service area will continue to require the same proportion of future shared pump stations (see Table B-6 of Appendix B). Therefore, the 2011 and 2020 high service and booster pump station capacities for the High Elevation service area are 93.9 mgd and 114.2 mgd, respectively:

$$\text{Capacity} = \text{Service Area Capacity} + (\text{Shared Capacity} * \text{Shared Allocation})$$

$$\text{2011 Capacity} = 74.5 \text{ mgd} + (292.1 \text{ mgd} * 6.6\%) = 93.9 \text{ mgd}$$

$$\text{2020 Capacity} = 90.9 \text{ mgd} + (351.2 \text{ mgd} * 6.6\%) = 114.2 \text{ mgd}$$

Of the 93.9 mgd of existing capacity in 2011, 23.0 mgd is needed to meet the demand of existing customers. Therefore, 70.9 mgd is available to serve new development in the High Elevation service area. The CIP includes 20.3 mgd of pump station capacity so the total available capacity for future High Elevation service area customers during the study period is 91.2 mgd:

$$\text{Total Available Capacity} = 70.9 \text{ mgd} + 20.3 \text{ mgd} = 91.2 \text{ mgd}$$

From Section 3.2.4.2, approximately 24.2 mgd is required to serve growth in the High Elevation service area during the study period. This represents 26.6% of the total available capacity:

Study Period Growth Allocation = 24.2 mgd / 91.2 mgd = 26.6%

MIDDLE ELEVATION SERVICE AREA

The existing and planned 2020 capacities of the high service and booster pump stations located in the Middle Elevation service area are 89.3 mgd and 113.8 mgd, respectively (see Table A-3 of Appendix A and Table B-4 of Appendix B). Based on data from the Water Master Plan, 229.3 mgd, or 78.5%, of the 292.1 mgd existing capacity of the shared pump stations serves customers in the Middle Elevation service area. It is assumed that the Middle Elevation service area will continue to require the same proportion of future shared pump stations. Therefore, the 2011 and 2020 high service and booster pump station capacities for the Middle Elevation service area are 318.6 mgd and 389.5 mgd, respectively:

2011 Capacity = 89.3 mgd + (292.1 mgd * 78.5%) = 318.6 mgd
2020 Capacity = 113.8 mgd + (351.2 mgd * 78.5%) = 389.5 mgd

Of the 318.6 mgd of existing capacity in 2011, 192.3 mgd is needed to meet the demand of existing customers. Therefore, 126.3 mgd is available to serve new development in the Middle Elevation service area. The CIP includes 70.9 mgd of pump station capacity so the total available capacity for future Middle Elevation service area customers during the study period is 197.2 mgd:

Total Available Capacity = 126.3 mgd + 70.9 mgd = 197.2 mgd

From Section 3.2.4.2, approximately 36.6 mgd is required to serve growth in the Middle Elevation service area during the study period. This represents 18.6% of the total available capacity:

Study Period Growth Allocation = 36.6 mgd / 197.2 mgd = 18.6%

LOW ELEVATION SERVICE AREA

The existing and planned 2020 capacities of the high service and booster pump stations located in the Low Elevation service area are 365.9 mgd and 381.4 mgd, respectively (see Tables A-4 and B-5 in the appendices). Based on data from the Water Master Plan, 43.4 mgd, or 14.9%, of the 292.1 mgd existing capacity of the shared pump stations serves customers in the Low Elevation service area. It is assumed that the Low Elevation service area will continue to require the same proportion of future shared pump stations. Therefore, the 2011 and 2020 high service and booster pump station capacities for the Low Elevation service area are 409.3 mgd and 433.6 mgd, respectively:

2011 Capacity = 365.9 mgd + (292.1 mgd * 14.9%) = 409.3 mgd
2020 Capacity = 381.4 mgd + (351.2 mgd * 14.9%) = 433.6 mgd

Of the 409.3 mgd of existing capacity in 2011, 268.4 mgd is needed to meet the demand of existing customers. Therefore, 140.9 mgd is available to serve new development in the Low Elevation service area. The CIP includes 24.3 mgd of pump station capacity so the total available capacity for future Low Elevation service area customers during the study period is 165.2 mgd:

Total Available Capacity = 140.9 mgd + 24.3 mgd = 165.2 mgd

From Section 3.2.4.2, approximately 15.3 mgd is required to serve growth in the Middle Elevation service area during the study period. This represents 9.3% of the total available capacity:

Study Period Growth Allocation = 15.3 mgd / 165.2 mgd = 9.3%

The costs of the total available and impact fee eligible pump station capacities for the three System Development service areas are summarized in Table 3-13.

Table 3-13: 2011 - 2020 Eligible High Service and Booster Pump Stations CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$4.5	$0.9	$0.4	$6.7	$1.8	$0.0	$11.2	$3.1
Middle Elevation	37.2	2.7	1.3	13.0	2.4	0.0	50.2	6.4
Low Elevation	51.9	1.6	0.8	4.6	0.4	0.0	56.5	2.8
Total	**$93.6**	**$5.2**	**$2.5**	**$24.3**	**$4.6**	**$0.0**	**$117.9**	**$12.3**

3.3.4.3. Elevated Storage Tanks

SAWS staff provided the capacities of the existing and future elevated storage tanks. The 2011 and 2020 elevated storage tank capacities for the combined system are 74.5 million gallons and 99.5 million gallons, respectively.

HIGH ELEVATION SERVICE AREA

For the High Elevation service area, the 2011 and 2020 elevated storage capacities are 5.4 million gallons and 9.4 million gallons, respectively. Of the 5.4 million gallons of existing capacity in 2011 (see Table A-6 of Appendix A), 3.6 million gallons is needed to meet the demand of existing customers. Therefore, 1.8 million gallons is available to serve new development in the High Elevation service area. The CIP includes 4.0 million gallons of elevated storage capacity (see Table B-7 of Appendix B) so the total available capacity for future High Elevation service area customers during the study period is 5.8 million gallons:

Total Available Capacity = 1.8 MG + 4.0 MG = 5.8 MG

From Section 3.2.4.3, approximately 2.1 million gallons is required to serve growth in the High Elevation service area during the study period. This represents 35.6% of the total available capacity:

Study Period Growth Allocation = 2.1 MG / 5.8 MG = 35.6%

MIDDLE ELEVATION SERVICE AREA

For the Middle Elevation service area, the 2011 and 2020 elevated storage capacities are 34.1 million gallons and 50.1 million gallons, respectively. Of the 34.1 million gallons of existing capacity in 2011 (see Table A-7 of Appendix A), 16.5 million gallons is needed to meet the demand of existing customers. Therefore, 17.6 million gallons is available to serve new development in the Middle Elevation service area. The CIP includes 16.0 million gallons of elevated storage capacity (see Table B-8 of Appendix B) so the total available capacity for future Middle Elevation service area customers during the study period is 33.6 million gallons:

Total Available Capacity = 17.6 MG + 16.0 MG = 33.6 MG

From Section 3.2.4.3, approximately 4.4 million gallons is required to serve growth in the Middle Elevation service area during the study period. This represents 13.1% of the total available capacity:

Study Period Growth Allocation = 4.4 MG / 33.6 MG = 13.1%

LOW ELEVATION SERVICE AREA

For the Low Elevation service area, the 2011 and 2020 elevated storage capacities are 35.0 million gallons and 40.0 million gallons, respectively. Of the 35.0 million gallons of existing capacity in 2011 (see Table A-8 of Appendix A), 22.1 million gallons is needed to meet the demand of existing customers. Therefore, 12.9 million gallons is available to serve new development in the Low Elevation service area. The CIP includes 5.0 million gallons of elevated storage capacity (see Table B-9 of Appendix B) so the total available capacity for future Low Elevation service area growth during the study period is 17.9 million gallons:

Total Available Capacity = 12.9 MG + 5.0 MG = 17.9 MG

From Section 3.2.4.3, approximately 1.2 million gallons is required to serve growth in the Low Elevation service area during the study period. This represents 7.0% of the total available capacity:

Study Period Growth Allocation = 1.2 MG / 17.9 MG = 7.0%

The costs of the total available and impact fee eligible elevated storage capacities for the three System Development service areas are summarized in Table 3-14.

Table 3-14: 2011 - 2020 Eligible Elevated Storage CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$4.0	$0.5	$0.2	$10.7	$3.8	$0.0	$14.7	$4.5
Middle Elevation	18.2	1.2	0.6	33.0	4.3	0.0	51.2	6.1
Low Elevation	24.4	0.6	0.3	15.3	1.1	0.0	39.7	2.0
Total	**$46.6**	**$2.3**	**$1.1**	**$59.0**	**$9.2**	**$0.0**	**$105.6**	**$12.6**

3.3.4.4. Ground Storage Tanks

SAWS staff provided the capacities of the existing and future ground storage tanks. The 2011 and 2020 ground storage tank capacities for the combined system are 111.0 million gallons and 123.5 million gallons, respectively.

HIGH ELEVATION SERVICE AREA

For the High Elevation service area, the 2011 and 2020 ground storage capacities are 4.79 million gallons. Of the 4.79 million gallons of existing capacity in 2011 (see Table A-9 of Appendix A), 0.25 million gallons is needed to meet the demand of existing customers. Therefore, 4.54 million gallons is available to serve new development in the High Elevation service area. There are no High Elevation service area ground storage tank projects in the CIP so the total available capacity for growth during the study period is 4.54 million gallons:

$$\text{Total Available Capacity} = 4.54\ \text{MG} + 0.00\ \text{MG} = 4.54\ \text{MG}$$

From Section 3.2.4.4, approximately 0.06 million gallons of ground storage is required to serve growth in the High Elevation service area during the study period. This represents 1.4% of the total available capacity:

$$\text{Study Period Growth Allocation} = 0.06\ \text{MG} / 4.54\ \text{MG} = 1.4\%$$

MIDDLE ELEVATION SERVICE AREA

For the Middle Elevation service area, the 2011 and 2020 ground storage capacities are 40.2 million gallons and 52.7 million gallons, respectively. Of the 40.2 million gallons of existing capacity in 2011 (see Table A-10 of Appendix A), 10.1 million gallons is needed to meet the demand of existing customers. Therefore, 30.1 million gallons is available to serve new development in the Middle Elevation service area. The CIP includes 12.5 million gallons of ground storage capacity (see Table B-10 of Appendix B) so the total available capacity for future Middle Elevation service area growth during the study period is 42.6 million gallons:

Total Available Capacity = 30.1 MG + 12.5 MG = 42.6 MG

From Section 3.2.4.4, approximately 0.7 million gallons of ground storage is required to serve growth in the Middle Elevation service area during the study period. This represents 1.5% of the total available capacity:

Study Period Growth Allocation = 0.7 MG / 42.6 MG = 1.5%

LOW ELEVATION SERVICE AREA

For the Low Elevation service area, the 2011 and 2020 ground storage capacities are 66.0 million gallons. Of the 66.0 million gallons of existing capacity in 2011 (see Table A-11 of Appendix A), 20.8 million gallons is needed to meet the demand of existing customers. Therefore, 45.2 million gallons is available to serve new development in the Low Elevation service area. There are no Low Elevation service area ground storage tank projects in the CIP so the total available capacity for growth during the study period is 45.2 million gallons:

Total Available Capacity = 45.2 MG + 0.0 MG = 45.2 MG

From Section 3.2.4.4, approximately 1.2 million gallons of ground storage is required to serve growth in the Low Elevation service area during the study period. This represents 2.6% of the total available capacity:

Study Period Growth Allocation = 1.2 MG / 45.2 MG = 2.6%

The costs of the total available and impact fee eligible ground storage capacities for the three System Development service areas are summarized in Table 3-15.

Table 3-15: 2011 - 2020 Eligible Ground Storage CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$0.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.2	$0.0
Middle Elevation	8.9	0.1	0.0	7.1	0.1	0.0	16.0	0.2
Low Elevation	18.4	0.3	0.2	0.0	0.0	0.0	18.4	0.5
Total	**$27.5**	**$0.4**	**$0.2**	**$7.1**	**$0.1**	**$0.0**	**$34.6**	**$0.7**

3.3.4.5. Transmission Mains

Transmission mains typically carry treated water from a high service pump station or a booster pump station to the smaller distribution mains within a pressure zone or to another pressure zone. Because, like with the distribution mains, it is difficult to estimate the total or available capacity within the transmission mains, we used the demands and capacities of the high service and booster pump stations to estimate the demands and

capacities of the transmission mains. Therefore, the study period growth allocations for transmission mains are the same as for the high service and booster pump stations.

The costs of the total available and impact fee eligible transmission main capacities for the three System Development service areas are summarized in Table 3-16. Transmission mains CIP projects for the three service areas are provided in Tables B-11 through B-13 of Appendix B.

Table 3-16: 2011 - 2020 Eligible Water Transmission Mains CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$11.4	$2.3	$1.1	$14.2	$3.7	$0.0	$25.6	$7.1
Middle Elevation	39.0	2.9	1.3	40.4	7.5	0.0	79.4	11.7
Low Elevation	50.1	1.6	0.7	2.9	0.3	0.0	53.0	2.6
Total	**$100.5**	**$6.8**	**$3.1**	**$57.5**	**$11.5**	**$0.0**	**$158.0**	**$21.4**

Table 3-17 summarizes the eligible Water Delivery – System Development CIP costs by service area.

Table 3-17: 2011 – 2020 Eligible Water Delivery – System Development CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$22.2	$4.9	$2.3	$41.3	$11.5	$0.0	$63.5	$18.7
Middle Elevation	129.1	9.6	4.4	114.7	19.3	0.0	243.8	33.3
Low Elevation	186.2	5.4	2.6	33.1	4.2	0.0	219.3	12.2
Total	**$337.5**	**$19.9**	**$9.3**	**$189.1**	**$35.0**	**$0.0**	**$526.6**	**$64.2**

3.3.5. Wastewater Treatment

The Wastewater Treatment impact fee includes growth-related costs associated with the three water recycling centers that treat wastewater. There are currently three Wastewater Treatment impact fee service areas. However, SAWS staff proposes to combine the Far West and Upper / Lower service areas into one service area served by the Leon Creek and Dos Rios WRCs. The Medio Creek service area, served by the Medio Creek WRC, would remain unchanged.

3.3.5.1. Medio Creek Service Area

The existing wastewater treatment capacity at the Medio Creek WRC is 16 mgd. Because the projected 2020 average daily flow is 12.2 mgd (from Section 3.2.5.1), no additional capacity will be required for the Medio Creek service area during the study period. However, a nutrient removal project is currently planned that will improve the existing capacity at Medio Creek WRC. Because this project will increase the value of the available existing capacity, the portion that is associated with the existing capacity that is

currently unused is eligible for inclusion in the impact fee calculation. This project is listed in Table B-14 of Appendix B. Therefore, the Wastewater Treatment impact fee calculation will include the increased value of existing available capacity that will be required to serve new development during the study period:

Study period growth allocation = Study period demand / Total existing capacity
Study period growth allocation = 4.2 mgd / 16.0 mgd = 26.3%

3.3.5.2. Leon Creek / Dos Rios Service Area

The existing wastewater treatment capacity is 46 mgd at Leon Creek WRC and 125 mgd at Dos Rios WRC. A re-rating project is currently planned at Dos Rios WRC, which will increase capacity to 217 mgd and improve existing available capacity. In addition, there are other CIP projects that will improve the existing capacity at Dos Rios WRC and enable transfer of wastewater between WRCs. Because these projects will increase the value of the available existing capacity, the portion that is associated with the existing capacity that is currently unused is eligible for inclusion in the impact fee calculation. The CIP projects are listed in Table B-14 of Appendix B.

It is assumed that growth will utilize available existing capacity first and future CIP capacity if the projected demand requires additional capacity beyond what is currently available at the WRCs. Of the estimated 171 mgd combined capacity at Leon Creek and Dos Rios WRCs in 2011, 160.8 mgd is needed to serve existing customers. Therefore, 10.2 mgd is available to serve new development. However, from Section 3.2.5.2, the projected 2020 average daily flow is 182.3 mgd, exceeding the existing capacity. Therefore, the Wastewater Treatment impact fee calculation will include all of the existing capacity available to serve new development, as well as the portion of CIP that is attributable to existing available capacity at Dos Rios WRC.

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, 11.3 mgd, or 12.3%, of the 92 mgd of future CIP capacity is included in the impact fee calculation. However, since the re-rating project also includes improvements to existing capacity, each phase of the project was considered serparately. Table B-14 provides the growth allocations by phase. The costs of the eligible facilities for the two Wastewater Treatment service areas are summarized in Table 3-18.

Table 3-18: 2011 - 2020 Eligible Wastewater Treatment CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio Creek	$62.8	$16.2	$7.5	$7.3 (1)	$1.9	$0.0	$70.1	$25.5
Leon Creek / Dos Rios	278.8	16.7	7.6	255.7 (2)	27.9	0.0	534.5	52.2
Total	**$341.6**	**$32.9**	**$15.1**	**$263.0**	**$29.8**	**$0.0**	**$604.6**	**$77.7**

(1) These CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

(2) Some of these CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

3.3.6. Wastewater Collection

The Wastewater Collection impact fee includes growth-related costs associated with the interceptors and wastewater collection mains that are 10 inches or greater in diameter; mains smaller than 10 inches are typically constructed by developers and "dedicated" or contributed to SAWS and, as such, are not included in the costs used to calculate the impact fee.

Since wastewater flows through a series of wastewater mains until it reaches the treatment facility, the system's capacity is limited by any pipes that are at full capacity. SAWS enlarges and expands its collection system when it reaches 90% of its design capacity. Because there are always "bottlenecks" within the system that limit the overall system capacity, it is assumed, based on discussion with SAWS staff, that the collection system is currently at 90% of its design capacity.

SAWS staff used the existing wastewater collection system model to estimate the 2011 and 2020 capacity requirements, based on the design peak wet weather flow and the number of EDUs contributing flow, for each collection system project in the CIP, which are listed in Tables B-15 through B-20 of Appendix B. Using this analysis, SAWS staff determined the portion of each project that is required to serve new growth during the study period. Red Oak applied this portion as a percentage of total project capacity to each project's cost estimate to determine the amount of each project that is eligible for inclusion in the Wastewater Collection impact fee calculation.

There are currently four Wastewater Collection impact fee service areas. However, SAWS staff propose to create the Upper Medina, Lower Medina, and Middle Collection service areas and eliminate the Far West service area. The proposed service areas are described in each of the following sections.

3.3.6.1. Medio Creek Service Area

The Medio Creek service area is the same for the Wastewater Collection impact fee as for the Wastewater Treatment impact fee. The proposed service area is unchanged from the current service area.

The estimated 2011 collection system capacity for the Medio Creek service area is 25.1 mgd:

Capacity = PWWF / 90%
2011 Capacity = 22.6 mgd / 90% = 25.1 mgd

Using the collection system model with planned wastewater collection CIP projects included, SAWS staff estimated the 2020 collection system capacity in the Medio Creek service area to be 46.9 mgd.

It is assumed growth will utilize available existing capacity first and future CIP capacity if the projected demand requires additional capacity beyond what is available in the existing collection system pipes. Of the estimated 25.1 mgd capacity in 2011, 22.6 mgd is needed to meet the demand of existing customers. Therefore, 2.5 mgd is available to serve new development. However, from Section 3.2.6.1, 11.6 mgd is required to serve new development during the study period so all of the 2.5 mgd of available existing capacity, or 10.0% of existing capacity, is required for new development in the Medio Creek service area during the 2011-2020 study period:

Study Period Growth Allocation = Study Period Demand / Total 2011 Capacity
Study Period Growth Allocation = 2.5 mgd / 25.1 mgd = 10.0%

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, SAWS staff's analysis of the planned collection system projects was used to determine the eligible future CIP capacity, which is provided in Table B-15 of Appendix B.

3.3.6.2. Upper Medina Service Area

The Upper Medina service area includes the existing Far West service area and a portion of the current Lower service area. The wastewater collected from the Upper Medina customers will flow through the planned Medina River Sewer Outfall to the Dos Rios Water Recycling Center. The estimated 2011 collection system capacity for the Upper Medina service area is 9.3 mgd:

2011 Capacity = 8.4 mgd / 90% = 9.3 mgd

Using the 2020 collection system model that includes future wastewater collection system CIP projects, SAWS staff estimated the 2020 collection system capacity in the Upper Medina service area to be 65.6 mgd.

Of the estimated 9.3 mgd capacity in 2011, 8.4 mgd is needed to meet the demand of existing customers. Therefore, 0.9 mgd is available to serve new development. However, from Section 3.2.6.2, 9.6 mgd is required to serve new development during the study

period so all of the 0.9 mgd of available existing capacity, or 10.0% of existing capacity, is required for new development in the Upper Medina service area during the 2011-2020 study period:

Study Period Growth Allocation = 0.9 mgd / 9.3 mgd = 10.0%

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, SAWS staff's analysis of the planned collection system projects was used to determine the eligible future CIP capacity, which is provided in Table B-16 of Appendix B.

3.3.6.3. Lower Medina Service Area

The new Lower Medina service area includes a portion of the current Lower service area where wastewater will be collected and delivered to the Dos Rios WRC through the downstream portion of the planned MRSO.

Wastewater flows from the Upper Medina service area through the Lower Medina service area to the wastewater treatment facilities. Therefore, collection system infrastructure in the Lower Medina service area must be sized to carry combined flow from customers in the Upper Medina and Lower Medina service areas.

The estimated 2011 collection system capacity for the Lower Medina service area is 11.3 mgd:

Capacity = (Upper Medina PWWF + Lower Medina PWWF) / 90%
2011 Capacity = (8.4 mgd + 1.8 mgd) / 90% = 11.3 mgd

Using the 2020 collection system model, SAWS staff estimated the 2020 collection system capacity in the Lower Medina service area to be 77.2 mgd.

Of the estimated 11.3 mgd capacity in 2011, 10.2 mgd is needed to meet the demand of existing customers in the Upper Medina and Lower Medina service areas. Therefore, 1.1 mgd is available to serve new development. However, from Sections 3.2.6.2 and 3.2.6.3, 10.7 mgd is required to serve new development in the Upper Medina and Lower Medina service areas during the study period so all of the 1.1 mgd of available existing capacity in the Lower Medina service area, or 10.0% of existing capacity, is required to serve new development in the Upper Medina and Lower Medina service areas during the 2011-2020 study period:

Study Period Growth Allocation = 1.1 mgd / 11.3 mgd = 10.0%

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, SAWS staff's analysis of the planned collection system projects

was used to determine the eligible future CIP capacity, which is provided in Table B-17 of Appendix B.

3.3.6.4. Upper Collection Service Area

The proposed Upper Collection service area is the same as the current Upper service area. The estimated 2011 collection system capacity for the Upper Collection service area is 112.0 mgd:

$$\text{2011 Capacity} = 100.8 / 90\% = 112.0 \text{ mgd}$$

Using the 2020 collection system model, SAWS staff estimated the 2020 collection system capacity in the Upper Collection service area to be 166.7 mgd.

Of the estimated 112.0 mgd of existing capacity, 100.8 mgd is needed for existing customers. Therefore, 11.2 mgd is available to serve new development. However, from Section 3.2.6.4, 34.2 mgd is required to serve new development during the study period so all of the 11.2 mgd of available existing capacity, or 10.0% of existing capacity, is required for new development in the Upper Collection service area during the 2011-2020 study period:

$$\text{Study Period Growth Allocation} = 11.2 \text{ mgd} / 112.0 \text{ mgd} = 10.0\%$$

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, SAWS staff's analysis of the planned collection system projects was used to determine the eligible future CIP capacity, which is provided in Table B-18 of Appendix B.

3.3.6.5. Middle Collection Service Area

The proposed Middle Collection service area is the northern portion of the current Lower service area. SAWS staff propose creating the Middle Collection service area to improve equity among fee payers in the current Lower service area. Wastewater flows from the Upper Collection service area through the Middle Collection service area to the Lower Collection service area where the wastewater treatment facilities are located. Therefore, collection system infrastructure in the Middle Collection service area must be sized to carry combined flow from customers in the Upper Collection and Middle Collection service areas.

The estimated 2011 collection system capacity for the Middle Collection service area is 308.7 mgd:

$$\text{Capacity} = (\text{Upper Collection PWWF} + \text{Middle Collection PWWF}) / 90\%$$
$$\text{2011 Capacity} = (100.8 \text{ mgd} + 177.1 \text{ mgd}) / 90\% = 308.7 \text{ mgd}$$

Using the 2020 collection system model, SAWS staff estimated the 2020 collection system capacity in the Middle Collection service area to be 369.7 mgd.

Of the 308.7 mgd of existing capacity, 277.9 mgd is needed for existing customers in the Upper Collection and Middle Collection service areas. Therefore, 30.8 mgd is available to serve new development. However, from Sections 3.2.6.4 and 3.2.6.5, 39.1 mgd is required to serve new development during the study period so all of 30.8 mgd of available existing capacity, or 10% of existing capacity, is required for new development in the Upper Collection and Middle Collection service areas during the 2011-2020 study period:

Study Period Growth Allocation = 30.8 mgd / 308.7 mgd = 10%

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, SAWS staff's analysis of the planned collection system projects was used to determine the eligible future CIP capacity, which is provided in Table B-19 of Appendix B.

3.3.6.6. Lower Collection Service Area

The proposed Lower Collection service area is reduced from the current Lower service area. Portions of the current Lower service area are included in the proposed Middle Collection, Upper Medina, and Lower Medina service areas. The remainder of the current Lower service area is the proposed Lower Collection service area.

Wastewater flows from the Upper Collection and Middle Collection service areas through the Lower Collection service area to the wastewater treatment facilities. Therefore, collection system infrastructure in the Lower Collection service area must be sized to carry combined flow from customers in the Upper Collection and Middle Collection service areas.

The estimated 2011 collection system capacity for the Lower Collection service area is 491.1 mgd:

Capacity = (Upper Collection PWWF + Middle Collection PWWF + Lower Collection PWWF) / 90%

2011 Capacity = (100.8 mgd + 177.1 mgd + 164.1 mgd) / 90% = 491.1 mgd

Using the 2020 collection system model, SAWS staff estimated the 2020 collection system capacity in the Lower Collection service area to be 570.1 mgd.

Of the 491.1 mgd of existing capacity, 442.0 mgd is needed for existing customers in the Upper Collection, Middle Collection and Lower Collection service areas. Therefore, 49.1 mgd is available to serve new development. However, from Sections 3.2.6.4, 3.2.6.5 and

3.2.6.6, 49.9 mgd is required to serve new development during the study period so all of the 49.1 mgd of available existing capacity, or 10% of existing capacity, is required for new development in the Upper Collection, Middle Collection, and Lower Collection service areas during the 2011-2020 study period:

Study Period Growth Allocation = 49.1 mgd / 491.1 mgd = 10%

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, SAWS staff's analysis of the planned collection system projects was used to determine the eligible future CIP capacity, which is provided in Table B-20 of Appendix B.

The costs of the eligible facilities for the six Wastewater Collection service areas are summarized in Table 3-19.

Table 3-19: 2011 - 2020 Eligible Wastewater Collection CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio Creek	$21.2	$2.1	$1.0	$38.7	$7.2	$0.0	$59.9	$10.3
Upper Medina	7.9	0.8	0.3	39.0	5.6	0.0	46.9	6.7
Lower Medina	1.6	0.2	0.1	59.9	9.3	0.0	61.5	9.6
Upper Collectior	94.5	9.5	4.3	100.0	20.5	0.0	194.5	34.3
Middle Collectio	166.2	16.6	7.6	207.3	12.0	0.0	373.5	36.2
Lower Collectior	154.0	15.4	7.1	268.2	20.3	0.0	422.2	42.8
Total	**$445.4**	**$44.6**	**$20.4**	**$713.1**	**$74.9**	**$0.0**	**$1,158.5**	**$139.9**

Table 3-20 summarizes the total eligible CIP costs by impact fee category.

Table 3-20: Summary of 2011 – 2020 Eligible CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Water Delivery	$940.7	$80.2	$36.9	$302.2	$54.2	$0.0	$1,242.9	$171.3
Water Supply	575.3	0.0	0.0	254.3	115.7	0.0	829.6	115.7
Wastewater	787.0	77.5	35.5	976.1	104.7	0.0	1,763.1	217.6
Total	**$2,303.0**	**$157.7**	**$72.4**	**$1,532.6**	**$274.6**	**$0.0**	**$3,835.6**	**$504.6**

4. Impact Fee Calculations

4.1. Calculated Impact Fee per Service Unit

The calculated impact fee per service unit by service area is calculated by first determining the eligible capital costs for growth-related CIP, as presented in Section 3. Those eligible capital costs per service area are then divided by the projected number of total service units for that service area, which are presented in Section 1, to determine the calculated impact fee per service unit.

Table 4-1 presents the calculated impact fees per service unit, which are calculated by dividing the eligible CIP value by the service units. The service units used in this calculation, as shown in Table 4-1, represent the incremental service units that will be served by the infrastructure in the respective service area. They do not represent the incremental service units that will be located in the service area, which are shown in Tables 1-2 and 2-4.

Table 4-1: Water and Wastewater Calculated Impact Fees per Service Unit

Impact Fee	Service Area	Eligible CIP Value	Service Units	Calculated Impact Fee per Service Unit
Water Supply	All	$115,660,971	80,343	$1,440
Flow	All	107,071,131	80,343	1,333
System Development	High Elevation	18,749,685	18,818	996
	Middle Elevation	33,332,491	41,501	803
	Low Elevation	12,196,277	20,024	609
Treatment	Medio Creek	25,542,728	17,234	1,482
	Leon Creek / Dos Rios	52,224,097	89,841	581
Collection	Medio Creek	10,285,377	17,234	597
	Upper Medina(1)	6,705,155	14,224	1,073
	Lower Medina	9,597,499	15,945	602
	Upper Collection(2)	34,328,678	50,727	1,880
	Middle Collection(3)	36,197,660	57,934	1,203
	Lower Collection	42,757,964	73,896	579

(1) Maximum Impact Fee per Service Unit includes Lower Medina fee
(2) Maximum Impact Fee per Service Unit includes Middle Collection fee
(3) Maximum Impact Fee per Service Unit includes Lower Collection fee

4.2. Credit Calculation

Chapter 395 of the TLGC requires utilities to calculate a credit for growth-related CIP, to be subtracted from the impact fee. The credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP. This credit provides an adjustment to benefit fee payers who will pay for CIP in both the impact fee and their future rates and taxes. Utilities can calculate this credit and apply it to the calculated impact fee or, alternatively, can avoid having to calculate the credit by opting to use the statutory credit equal to 50% of the calculated impact fee. SAWS has opted to calculate the credit.

SAWS does not receive tax revenue from the City of San Antonio. Therefore, the impact fee credit is based on the cost of growth-related CIP that is projected to be in future rates of the projected new development. Those costs include debt service payments on outstanding debt for the existing available capacity that has been included in the eligible study period capacity and projected future principal payments for future debt on eligible growth-related CIP. Interest payments on future debt are not included in the credit because they are not included in the impact fee calculation.

4.2.1. Credit for Existing Debt

For the existing available capacity, it is assumed that 65% of the asset value was financed with debt. From discussions with SAWS staff, SAWS has historically financed approximately 65% of its CIP with debt and 35% with cash. Outstanding water supply debt is not included in the credit calculation because capacity at existing water supply facilities is not included in the calculated Water Supply impact fee.

The amount of water delivery outstanding debt is estimated by applying the ratio of existing water delivery assets to existing wastewater assets after subtracting the water supply outstanding debt, which was provided by SAWS staff, from the total outstanding debt. Then the proportion of the annual debt service payments for the study period that is related to the existing available capacity for water delivery is determined.

These calculations are completed for each year in the study period, as shown in Table 4-2 for 2011, and then the eligible existing debt service to be recovered from new development is summed to determine the credit for existing debt, as shown in Line 13 of Table 4-2. Appendix D provides this calculation for all years of the study period.

Table 4-2: Eligible Existing Water Delivery Debt Service from New Development

Line No.	Description	Value
1	2011 Total Debt Service	$115,894,000
2	Outstanding Water Delivery Debt	$765,696,945
3	Debt-funded CIP / Total CIP	65%
4	Total Outstanding Debt	$1,759,700,000
5	2011 Existing Water Delivery Debt Service (1*2*3/4)	$32,778,765
6	Eligible Existing Water Delivery Capacity	$80,354,093
7	2011 Eligible Existing Water Delivery Debt Service (5*6/2)	$3,439,883
8	2011 Beginning Water Delivery Service Units	587,073
9	2011 Projected New Service Units	7,579
10	2011 Year-end Water Delivery Service Units (8+9)	594,652
11	2011 Eligible Existing Water Delivery Debt Service per Service Unit (7/10)	$5.78
12	2011 Eligible Existing Water Delivery Debt Service from EDUs (9*11)	$43,840
13	**Sum of Study Period Eligible Existing Water Delivery Debt Service from EDUs**	**$8,052,047**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing water delivery capacity value. Table 4-3 provides the water delivery credit for existing debt by impact fee and service area.

Table 4-3: Water Delivery Existing Debt Credit by Impact Fee Service Area

Impact Fee	Service Area	Infrastructure Type	Credit for Existing Debt
Flow	**All**	**Distribution Mains**	**$6,044,867**
System Development	High Elevation	Well Pumps	$122,202
		High Service and Booster Pump Stations	89,451
		Elevated Storage Tanks	47,249
		Ground Storage Tanks	289
		Transmission Mains	230,784
	Subtotal High		**$489,975**
	Middle Elevation	Well Pumps	$269,503
		High Service and Booster Pump Stations	274,230
		Elevated Storage Tanks	123,571
		Ground Storage Tanks	10,334
		Transmission Mains	287,326
	Subtotal Middle		**$964,964**
	Low Elevation	Well Pumps	$130,034
		High Service and Booster Pump Stations	165,877
		Elevated Storage Tanks	63,319
		Ground Storage Tanks	33,034
		Transmission Mains	159,977
	Subtotal Low		**$552,241**
Total			**$8,052,047**

The amount of wastewater outstanding debt is estimated by applying the ratio of existing wastewater assets to existing water delivery assets after subtracting the water supply outstanding debt, which was provided by SAWS staff, from the total outstanding debt. Then the proportion of the annual debt service payments for the study period that is related to the existing available capacity for wastewater service is determined.

These calculations are performed for each year in the study period, as shown in Table 4-4 for 2011, and then the eligible existing debt service to be recovered from new development is summed to determine the credit for existing debt, as shown in Line 13 of Table 4-4. Appendix D provides this calculation for each year of the study period.

Table 4-4: Eligible Existing Wastewater Debt Service from New Development

Line No.	Description	Value
1	2011 Total Debt Service	$115,894,000
2	Outstanding Wastewater Debt	$640,614,480
3	Debt-funded CIP / Total CIP	65%
4	Total Outstanding Debt	$1,759,700,000
5	2011 Existing Wastewater Debt Service (1*2*3/4)	$27,424,103
6	Eligible Existing Wastewater Capacity	$77,474,287
7	2011 Eligible Existing Wastewater Debt Service (5*6/2)	$3,316,601
8	2011 Beginning Wastewater Service Units	703,317
9	2011 Projected New Service Units	10,038
10	2011 Year-end Wastewater Service Units (8+9)	713,355
11	2011 Eligible Existing Wastewater Debt Service per Service Unit (7/10)	$4.65
12	2011 Eligible Existing Wastewater Debt Service from EDUs (9*11)	$46,668
13	**Sum of Study Period Eligible Existing Wastewater Debt Service from EDUs**	**$8,456,005**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing wastewater capacity value. Table 4-5 provides the wastewater credit for existing debt by impact fee and service area.

Table 4-5: Wastewater Existing Debt Credit by Impact Fee Service Area

Impact Fee Category	Service Area	Credit for Existing Debt
Treatment	Medio Creek	$1,771,086
	Leon Creek / Dos Rios	1,823,199
	Subtotal Treatment	**$3,594,285**
Collection	Medio Creek	231,578
	Upper Medina	85,964
	Lower Medina	17,945
	Upper Collection	1,031,900
	Middle Collection	1,813,406
	Lower Collection	1,680,927
	Subtotal Collection	**$4,861,720**
Total		**$8,456,005**

4.2.2. Credit for Future CIP

SAWS plans to fund most, but not all, of its growth-related CIP with cash from its impact fee revenues. However, it plans to fund all of the Water Supply CIP with debt. For purposes of calculating the credit, equal annual funding of the Water Supply CIP over the 10-year study period is assumed, i.e., 10% of the total eligible CIP is funded each year. Annual principal payments for the eligible Water Supply CIP for each year of the study period are projected using a term of 30 years and an annual interest rate of 5.00%. Based on these assumptions, the principal payment per service unit and the total principal to be recovered from new development are calculated.

These calculations are completed for each year in the study period, as shown in Table 4-6 for 2011, and then the water supply principal to be recovered from new development is summed to determine the credit for future CIP, as shown in Line 14 of Table 4-6. Appendix E, Table E-1, provides this calculation for each year of the study period.

Table 4-6: Eligible Future Water Supply Principal from New Development

Line No.	Description	Value
1	Total Eligible Future Water Supply CIP	$115,660,971
2	Percentage of Future Water Supply CIP to be Funded with Debt	100%
3	Annual Allocation of Future Water Supply CIP	10%
4	Annual Eligible Debt-funded Future Water Supply CIP (1*2*3)	$11,566,097
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2011 Water Supply Principal Payment	$176,704
9	2011 Beginning Water Supply Service Units	587,073
10	2011 Projected New Service Units	7,579
11	2011 Year-end Water Supply Service Units (9+10)	594,652
12	2011 Eligible Future Water Supply Principal per Service Unit (8/11)	$0.30
13	2011 Eligible Future Water Supply Principal from EDUs (10*12)	$2,252
14	**Sum of Study Period Eligible Future Water Supply Principal from EDUs**	**$11,528,812**

Based on discussions with SAWS staff, it is assumed that 20% of the Water Delivery CIP may be funded with debt and paid with rate revenues. Therefore, 20% of the projected annual principal payments on future Water Delivery CIP are included in the credit calculation.

As with the Water Supply CIP, equal annual funding of the Water Delivery CIP over the 10-year study period is assumed, i.e., 10% of the total eligible Water Delivery CIP is funded each year. Annual principal payments for the eligible Water Delivery CIP for each year of the study period are projected using a term of 30 years and an annual interest rate of 5.00%. Based on these assumptions, the principal payment per service unit and the total principal to be recovered from new development are calculated.

These calculations are completed for each year in the study period, as shown in Table 4-7 for 2011, and then the water delivery principal to be recovered from new development is summed to determine the credit for future Water Delivery CIP, as shown in Line 14 of Table 4-7. Tables E-2 through E-13 in Appendix E provide these calculations for each year of the study period by infrastructure type and service area.

Table 4-7: Eligible Future Water Delivery Principal from New Development

Line No.	Description	Value
1	Total Eligible Future Water Delivery CIP	$54,217,231
2	Percentage of Future Water Delivery CIP to be Funded with Debt	20%
3	Annual Allocation of Future Water Delivery CIP	10%
4	Annual Eligible Debt-funded Future Water Delivery CIP (1*2*3)	$1,084,345
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2011 Water Delivery Principal Payment	$24,609
9	2011 Beginning Water Delivery Service Units	587,073
10	2011 Projected New Service Units	7,579
11	2011 Year-end Water Delivery Service Units (9+10)	594,652
12	2011 Eligible Future Water Delivery Principal per Service Unit (8/11)	$0.04
13	2011 Eligible Future Water Delivery Principal from EDUs (10*12)	$314
14	**Sum of Study Period Eligible Future Water Delivery Principal from EDUs**	**$1,279,276**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing water delivery capacity value. Table 4-8 provides the water delivery credit for existing debt by impact fee and service area.

Table 4-8: Water Delivery Future CIP Credit by Service Area

Impact Fee	Service Area	Infrastructure Type	Credit for Future Debt
Flow	**All**	**Distribution Mains**	**$878,900**
System Development	High Elevation	Well Pumps	$44,851
		High Service and	9,150
		Elevated Storage Tanks	18,300
		Ground Storage Tanks	-
		Transmission Mains	18,300
	Subtotal High		**$90,601**
	Middle Elevation	Well Pumps	$98,915
		High Service and	25,352
		Elevated Storage Tanks	45,634
		Ground Storage Tanks	2,535
		Transmission Mains	78,591
	Subtotal Middle		**$251,027**
	Low Elevation	Well Pumps	$47,726
		High Service and	2,449
		Elevated Storage Tanks	6,123
		Ground Storage Tanks	-
		Transmission Mains	2,449
	Subtotal Low		**$58,747**
Total			**$1,279,275**

For the Wastewater CIP, SAWS plans to fund the entire MRSO project with debt. As with the Water Delivery CIP, it is also assumed that 20% of the remaining Wastewater CIP may be funded with debt and paid with rate revenues. Equal funding of the debt-funded Wastewater CIP over the 10-year study period is assumed so 10% of the total eligible CIP is funded each year. Annual principal payments for the eligible Wastewater CIP for each year of the study period are projected using a term of 30 years and interest rate of 5.00%. Then the principal payment per service unit and the total principal to be recovered from new development are calculated.

These calculations are performed for each year in the study period, as shown in Table 4-9 for 2011, and then the wastewater principal to be recovered from new development is summed to determine the credit for future CIP, as shown in Line 14 of Table 4-9. Tables E-14 through E-21 of Appendix E provide these calculations for all years of the study period by infrastructure type and service area.

Table 4-9: Eligible Future Wastewater Principal from New Development

Line No.	Description	Value
1	Total Eligible Future Wastewater CIP	$104,704,704
2	Total Eligible Future Wastewater CIP - MRSO	$16,364,068
3	Percentage of Future Wastewater CIP to be Funded with Debt - MRSO	100%
4	Percentage of Future Wastewater CIP to be Funded with Debt - Other	20%
5	Annual Allocation of Future Wastewater CIP	10%
6	Annual Eligible Debt-funded Future Wastewater CIP ((1-2)*4*5+2*3*5)	$3,403,220
7	Annual Interest Rate	5.00%
8	Bond Term (years)	30
9	Issuance Costs	1.50%
10	2011 Wastewater Principal Payment	$52,304
11	2011 Beginning Wastewater Service Units	703,317
12	2011 Projected New Service Units	10,038
13	2011 Year-end Wastewater Service Units (9+10)	713,355
14	2011 Eligible Existing Wastewater Principal per Service Unit (8/11)	$0.07
15	2011 Eligible Existing Wastewater Principal from EDUs (10*12)	$736
16	**Sum of Study Period Eligible Existing Wastewater Principal from EDUs**	**$1,688,470**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing wastewater capacity value. Table 4-10 provides the wastewater credit for future CIP by impact fee and service area.

Table 4-10: Wastewater Future CIP Credit by Impact Fee Service Area

Impact Fee Category	Service Area	Credit for Future CIP
Treatment	Medio Creek	$6,799
	Leon Creek / Dos Rios	808,582
	Subtotal Treatment	**$815,381**
Collection	Medio Creek	25,498
	Upper Medina	79,005
	Lower Medina	114,471
	Upper Collection	210,385
	Middle Collection	140,373
	Lower Collection	303,357
	Subtotal Collection	**$873,089**
Total		**$1,688,470**

4.3. Maximum Impact Fees

4.3.1. Maximum Impact Fees per Service Unit

The maximum impact fees per service unit include both the value of existing infrastructure with capacity available to serve projected new development from 2011 to 2020 and the value of new water supply, water delivery and wastewater capacity available to serve new development from 2011 to 2020. Table 4-11 shows the calculated impact fees, rate credits, and maximum impact fees by service area.

Table 4-11: Maximum Impact Fees per Service Unit

Impact Fee	Service Area	Calculated Impact Fee per EDU	Calculated Rate Credit/EDU	Maximum Impact Fee per EDU
Water Supply	All	$1,440	$143	$1,297
Flow	All	1,333	86	1,247
System Development	High Elevation	996	30	966
	Middle Elevation	803	29	774
	Low Elevation	609	30	579
Treatment	Medio Creek	1,482	103	1,379
	Dos Rios/Leon Creek	581	29	552
Collection	Medio Creek	597	15	582
	Upper Medina	1,073	20	1,053
	Lower Medina	602	8	594
	Upper Collection	1,880	85	1,795
	Middle Collection	1,203	61	1,142
	Lower Collection	579	27	552

Table 4-12 compares each of the maximum impact fees per EDU with the current impact fees per EDU for each service area.

Table 4-12: Comparison of Maximum Impact Fees and Current Impact Fees

Impact Fee	Service Area	Maximum Impact Fee per EDU	Current Fee per EDU	Change	% Change
Water Supply	All	$1,297	$1,242	$55	4%
Flow	All	1,247	1,098	149	14%
System Development	High Elevation	966	1,356	(390)	-29%
	Middle Elevation	774	591	183	31%
	Low Elevation	579	668	(89)	-13%
Treatment	Medio Creek	1,379	901	478	53%
	Dos Rios/Leon Creek	552	453	99	22%
Collection	Medio Creek	582	394	188	48%
	Upper Medina	1,053	772	281	36%
	Lower Medina	594	413	181	44%
	Upper Collection	1,795	691	1,104	160%
	Middle Collection	1,142	413	729	177%
	Lower Collection	552	413	139	34%

4.3.2. Service Units

The differentiated costs between meter sizes are allocated through the application of the equivalent meter ratios. Since the 5/8-inch water meter is the most frequently used meter by the residential customer, it is equivalent to 1.0 EDU or service unit, which represents 313 gpd of water usage and 240 gpd of wastewater discharge. The Maximum Impact Fee for meter sizes larger than 5/8-inch can be obtained by multiplying the Maximum Impact

Fee per EDU from Table 4-11 by the corresponding equivalent meter ratio. Table 4-13 presents the Maximum Water Impact Fees for all meter sizes using the equivalent meter ratios.

Table 4-13: Maximum Water Impact Fees by Meter Size

Meter Size	EDU Factor	Total Water Impact Fee		
		High Elevation	Middle Elevation	Low Elevation
5/8"	1.0	$3,510	$3,318	$3,123
3/4"	1.5	5,265	4,977	4,685
1"	2.0	7,020	6,636	6,246
1 1/2"	5.0	17,550	16,590	15,615
2"	14.0	49,140	46,452	43,722
3"	30.0	105,300	99,540	93,690
4"	50.0	175,500	165,900	156,150
6"	105.0	368,550	348,390	327,915
8"	135.0	473,850	447,930	421,605
10"	190.0	666,900	630,420	593,370
12"	360.0	1,263,600	1,194,480	1,124,280

Appendix A

EXISTING INFRASTRUCTURE

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Total Existing Capacity (MGD)
1	34 St. WP1	7.20
2	34 St. WP2	9.36
3	34 St. WP3	9.36
4	34 St. WP4	12.96
5	Anderson WP1	10.08
6	Anderson WP2	10.08
7	Anderson WP4	10.08
8	Anderson WP5	10.08
9	Artesia WP3	10.08
10	Artesia WP4	10.80
11	Artesia WP5	10.08
12	Barbet 2 WP1	5.04
13	Basin WP1	11.52
14	Basin WP2	11.52
15	Basin WP3	11.52
16	Basin WP5	11.52
17	Basin WP6	11.52
18	Basin WP7	11.52
19	Brackenridge WP13	4.03
20	Brackenridge WP14	3.02
21	BSR WP1	0.14
22	BSR WP2	0.36
23	BSR WP3	0.50
24	Concept Therapy WP1	0.10
25	Concept Therapy WP2	0.10
26	Culebra WP1	0.22
27	Dover WP1	1.10
28	Dreamhill WP1	4.03
29	Gateway WP1	1.77
30	Gateway WP2	1.77
31	Hidden Springs WP1	0.06
32	Hidden Springs WP2	0.06
33	Hidden Springs WP3	0.06
34	Hidden Springs WP4 (Offline)	0.00
35	Klaus WP1	4.98
36	Lackland City 3 WP1	4.90
37	Lackland City 6 WP1	4.61
38	Lackland City 6A WP1	5.04
39	Lindberg WP1	3.17
40	Loma Linda WP1	4.32
41	Maltsberger WP1	12.53
42	Maltsberger WP2	12.53
43	Maltsberger WP3	12.53
44	Maltsberger WP4	9.36
45	Maltsberger WP5	12.53
46	Maltsberger WP6	12.53
47	Marbach WP1	12.24

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Total Existing Capacity (MGD)
48	Marbach WP2	12.24
49	Marbach WP3	12.24
50	Market WP1	10.80
51	Market WP3	10.80
52	Market WP4	21.60
53	Micron WP1	10.08
54	Micron WP2	10.08
55	Micron WP3	10.08
56	Mission WP1	9.00
57	Mission WP2	5.18
58	Mission WP3	7.20
59	Mission WP4	11.52
60	Mission WP5	11.20
61	Mission WP6	9.18
62	Mission WP7	7.43
63	Naco WP1	10.08
64	Naco WP2	10.80
65	Naco WP3	10.80
66	Naco WP4	10.80
67	Naco WP5	10.08
68	Naco WP6	20.16
69	Naco WP7	20.16
70	Northwood WP1	5.04
71	Oliver Ranch WP10	0.65
72	Oliver Ranch WP2	1.02
73	Oliver Ranch WP5	0.55
74	Oliver Ranch WP6	0.99
75	Oliver Ranch WP7	0.99
76	Oliver Ranch WP9	1.04
77	Pipers Meadow WP1	1.44
78	Ramsey WP1	4.03
79	Randolph WP1	12.10
80	Randolph WP2	12.10
81	Randolph WP3	12.10
82	S&S Hills WP1	0.04
83	S&S Hills WP2	0.04
84	S&S Hills WP3	0.04
85	S&S Hills WP4	0.11
86	Seale WP2	4.75
87	Seale WP3	4.90
88	Seale WP4	7.20
89	Stapleton WP1	3.17
90	Sunshine WP1	3.46
91	Sutton WP	4.03
92	Turtle Creek 2 WP1	5.01
93	Turtle Creek 2 WP2	5.01
94	Turtle Creek 3 WP1	3.24

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Total Existing Capacity (MGD)
95	Upsom Park WP1	1.15
96	Village Green 134WP1	0.12
97	Village Green 140WP1	0.04
98	Walzem WP1	2.19
99	Woodlake WP1	2.02
100	Woods at Fair Oaks 136WP1	0.14
101	Woods at Fair Oaks 137WP1	0.22
102	Wurzbach WP1	12.96
103	Wurzbach WP2	12.96
104	Wurzbach WP3	11.81
105	Wurzbach WP4	11.52
106	Wurzbach WP5	20.16
107	Wurzbach WP6	20.16
108	**Total**	**752.91**

Table A-2: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
1	Adobe Ranch/Helotes HSP 1	2.00
2	Adobe Ranch/Helotes HSP 2	3.00
3	Adobe Ranch/Helotes HSP 3	1.00
4	Adobe Ranch/Helotes HSP 4	1.00
5	Cedar Creek Booster Station Booster 1	1.40
6	Cedar Creek Booster Station Booster 3	0.70
7	Concept Therapy Institute Booster 1	0.17
8	Concept Therapy Institute Booster 2	0.17
9	Dominion Booster Station Booster 1	0.50
10	Dominion Booster Station Booster 2	0.50
11	Dominion Booster Station Booster 3	1.40
12	Helotes Park Booster Station 1 Booster 1	1.20
13	Helotes Park Booster Station 1 Booster 2	1.00
14	Helotes Park Booster Station 2 Booster 1	0.90
15	Helotes Park Booster Station 2 Booster 2	0.90
16	Helotes Park Booster Station 2 Booster 3	0.90
17	Hidden Springs HSP 1	0.09
18	Hidden Springs HSP 2	0.22
19	Hills Booster Station Booster 1	3.00
20	Hills Booster Station Booster 2	6.30
21	Hills Booster Station Booster 3	6.30
22	IH 10 Booster Station Booster 1	3.00
23	IH 10 Booster Station Booster 2	6.10
24	IH 10 Booster Station Booster 3	3.00
25	IH 10 Booster Station Booster 4	6.10
26	Indian Hills Booster Station Booster 1	1.90
27	Indian Hills Booster Station Booster 2	1.90
28	Indian Hills Booster Station Booster 3	1.90
29	Indian Hills Booster Station Booster 4	1.90
30	Indian Hills Booster Station Booster 5	1.90
31	Indian Hills Booster Station Booster 6	0.10
32	Los Reyes Canyon #2 Booster 1	0.40
33	Los Reyes Canyon #2 Booster 2	0.40
34	Los Reyes Canyon #2 Booster 3	1.60
35	Los Reyes Canyon #2 Booster 4	1.60
36	Ranch Town No. 3 Booster 1	1.40
37	Ranch Town No. 3 Booster 2	1.40
38	Roft Road Booster Station Booster 1	0.10
39	Roft Road Booster Station Booster 2	2.52
40	Roft Road Booster Station Booster 3	2.52
41	Roft Road Booster Station Booster 4	2.52
42	S&S Hills Pump Station HSP 1	0.11
43	S&S Hills Pump Station HSP 2	0.12
44	S&S Hills Pump Station HSP 3	0.14
45	S&S Hills Pump Station HSP 4	0.58
46	Salado Booster Station HSP 1	1.00

Table A-2: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
47	Salado Booster Station HSP 2	2.00
48	Salado Booster Station HSP 3	2.00
49	Salado Temp Pkg Booster Station Booster 1	0.86
50	Salado Temp Pkg Booster Station Booster 2	0.86
51	Salado Temp Pkg Booster Station Booster 3	0.58
52	Salado Temp Pkg Booster Station Booster 4	0.58
53	Shields Booster Station Booster 1	1.30
54	Shields Booster Station Booster 2	2.00
55	Shields Booster Station Booster 3	1.30
56	Shields Booster Station Booster 4	2.00
57	Simon Tract Booster 1	0.07
58	Simon Tract Booster 2	1.70
59	Simon Tract Booster 3	1.70
60	Simon Tract Booster 4	1.70
61	Sundance Ranch Booster Station Booster 1	1.40
62	Sundance Ranch Booster Station Booster 2	1.40
63	Sundance Ranch Booster Station Booster 3	1.40
64	Sundance Ranch Booster Station Booster 4	0.30
65	Tower View Booster Station Booster 1	0.50
66	Tower View Booster Station Booster 2	0.90
67	Tower View Booster Station Booster 3	0.90
68	Village Green HSP 1	0.46
69	Village Green HSP 2	0.46
70	Walden Heights Booster Station Booster 1	0.80
71	Walden Heights Booster Station Booster 2	0.80
72	Walden Heights Booster Station Booster 3	1.40
73	Winwood Pump Station HSP 1	2.00
74	Winwood Pump Station HSP 2	4.00
75	Winwood Pump Station HSP 3	4.00
76	Woods Fair Oaks HSP 1	1.08
77	Woods Fair Oaks HSP 2	0.43
78	Woods Fair Oaks HSP 3	0.43
79	**Total**	**118.17**

Table A-3: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
1	Anderson Booster Station PZ8 HSP 1-8	10.10
2	Anderson Booster Station PZ8 HSP 2-8	10.10
3	Anderson Booster Station PZ8 HSP 3-8	10.10
4	Anderson Booster Station PZ8 HSP 4-8	1.70
5	Culebra Pump Station HSP 1	0.22
6	Culebra Pump Station HSP 2	1.00
7	Culebra Pump Station HSP 3	1.00
8	Culebra Pump Station HSP 4	1.00
9	Encino Booster Station Booster 1	3.30
10	Encino Booster Station Booster 2	3.30
11	Evans Booster Station HSP 1-10	2.00
12	Evans Booster Station HSP 1-11	1.40
13	Evans Booster Station HSP 2-10	4.00
14	Evans Booster Station HSP 2-11	1.40
15	Evans Booster Station HSP 3-10	2.00
16	Evans Booster Station HSP 3-11	1.40
17	Fossil Ridge Booster Station Booster 1	0.61
18	Fossil Ridge Booster Station Booster 2	0.61
19	Fossil Ridge Booster Station Booster 3	0.61
20	Medical Booster Station Booster 1	2.00
21	Medical Booster Station Booster 2	2.00
22	Naco Booster Station PZ9 HSP 1-SL9	4.00
23	Naco Booster Station PZ9 HSP 3-SL9	4.00
24	Naco Booster Station PZ9 HSP 4-SL9	8.10
25	Oliver Ranch HSP 1	9.79
26	Oliver Ranch HSP 2	5.76
27	Oliver Ranch HSP 3	9.79
28	Oliver Ranch HSP 4	5.76
29	Redland Pump Station HSP 1	2.00
30	Redland Pump Station HSP 2	4.00
31	Redland Pump Station HSP 3	2.00
32	Redland Pump Station HSP 4	4.00
33	Sasse Booster Station Booster 1	1.00
34	Sasse Booster Station Booster 2	1.00
35	Sasse Booster Station Booster 3	1.00
36	Turtle Creek No. 2 Booster Station HSP 1	5.00
37	Turtle Creek No. 2 Booster Station HSP 2	5.00
38	Turtle Creek No. 2 Booster Station HSP 3	5.00
39	Winchester Booster Station Booster 1	1.30
40	Winchester Booster Station Booster 2	1.30
41	Winchester Booster Station Booster 3	1.20
42	**Total**	**140.85**

Table A-4: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
1	34th Street Booster Station HSP 1	3.00
2	34th Street Booster Station HSP 2	6.10
3	34th Street Booster Station HSP 3	12.00
4	34th Street Booster Station HSP 4	12.00
5	34th Street Booster Station HSP 5	12.00
6	Artesia Booster Station HSP 1	6.10
7	Artesia Booster Station HSP 2	15.10
8	Artesia Booster Station HSP 3	15.10
9	Artesia Booster Station HSP 4	15.10
10	Basin Booster Station HSP 1	20.20
11	Basin Booster Station HSP 2	10.10
12	Basin Booster Station HSP 3	10.10
13	Basin Booster Station HSP 4	20.20
14	Basin Booster Station HSP 5	20.20
15	Basin Booster Station HSP 6	20.20
16	Marbach Booster Station HSP 1	6.10
17	Marbach Booster Station HSP 2	15.10
18	Marbach Booster Station HSP 3	15.10
19	Marbach Booster Station HSP 4	15.10
20	Marbach Booster Station HSP 5	6.10
21	Market Booster Station HSP 1	13.70
22	Market Booster Station HSP 2	13.80
23	Market Booster Station HSP 3	13.70
24	Market Booster Station HSP 4	13.70
25	Micron Pump Station PZ5 HSP 1-5	6.50
26	Micron Pump Station PZ5 HSP 2-5	10.10
27	Mission Booster Station HSP 1	12.10
28	Mission Booster Station HSP 2	12.10
29	Mission Booster Station HSP 3	12.10
30	Mission Booster Station HSP 4	9.40
31	Mission Booster Station HSP 5	12.10
32	Mission Booster Station HSP 6	12.10
33	Naco Booster Station PZ5 HSP 1	5.00
34	Naco Booster Station PZ5 HSP 2	10.10
35	Naco Booster Station PZ5 HSP 3	5.00
36	Naco Booster Station PZ5 HSP 4	10.10
37	Pipers Meadow Booster Station HSP 1	1.40
38	Pipers Meadow Booster Station HSP 2	1.40
39	Randolph Booster Station PZ4 HSP 1	12.10
40	Randolph Booster Station PZ4 HSP 2	12.10
41	Randolph Booster Station PZ4 HSP 3	12.10
42	Seale Booster Station HSP 1	5.00
43	Seale Booster Station HSP 2	5.00
44	Seale Booster Station HSP 3	5.00
45	Wurzbach Booster Station PZ5 HSP 1-5	13.00
46	Wurzbach Booster Station PZ5 HSP 2-5	11.20

Table A-4: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
47	Wurzbach Booster Station PZ5 HSP 3-5	15.10
48	**Total**	**520.00**

Table A-5: Existing Infrastructure, Water Delivery - System Development, Shared High Service and Booster Pump Stations

Line No.	Asset Description	Total Existing Capacity (MGD)
1	Anderson Booster Station HSP 1	6.00
2	Anderson Booster Station HSP 2	6.00
3	Anderson Booster Station HSP 3	6.00
4	Anderson Booster Station HSP 4	6.00
5	Anderson Booster Station HSP 5	10.00
6	Anderson Booster Station HSP 6	10.00
7	Bitters Booster Station Booster 01	3.60
8	Bitters Booster Station Booster 02	3.00
9	Bitters Booster Station Booster 03	5.00
10	Bitters Booster Station Booster 05	7.60
11	Bitters Booster Station Booster 06	10.10
12	Bitters Booster Station Booster 09	6.10
13	Bitters Booster Station Booster 10	6.10
14	Bitters Booster Station Booster 11	6.10
15	Inwood Booster Station Booster 1	1.00
16	Inwood Booster Station Booster 2	1.00
17	Inwood Booster Station Booster 3	2.00
18	Inwood Booster Station Booster 4	2.60
19	Inwood Booster Station Booster 5	2.90
20	Maltsberger Booster Station HSP 1	10.10
21	Maltsberger Booster Station HSP 2	10.10
22	Maltsberger Booster Station HSP 3	10.10
23	Maltsberger Booster Station HSP 4	10.10
24	Maltsberger Booster Station HSP 5	10.10
25	Maltsberger Booster Station HSP 6	10.10
26	Maltsberger Booster Station HSP 7	6.10
27	Micron Pump Station HSP 1-7	10.10
28	Micron Pump Station HSP 2-7	10.10
29	Micron Pump Station HSP 3-7	10.10
30	Naco Booster Station HSP 1	10.10
31	Naco Booster Station HSP 2	10.10
32	Naco Booster Station HSP 3	10.10
33	Naco Booster Station HSP 4	10.10
34	Naco Booster Station HSP 5	5.00
35	Randolph Booster Station HSP 1	6.10
36	Randolph Booster Station HSP 2	6.10
37	Randolph Booster Station HSP 3	6.10
38	Sunset Booster Station Booster 1	10.10
39	Sunset Booster Station Booster 2	10.10
40	Sunset Booster Station Booster 3	10.10
41	University Booster Station Booster 2	5.00
42	University Booster Station Booster 3	5.00
43	University Booster Station Booster 4	5.00
44	University Booster Station Booster 5	10.10
45	Wurzbach Booster Station HSP 1-7	15.10
46	Wurzbach Booster Station HSP 2-7	12.20

Table A-5: Existing Infrastructure, Water Delivery - System Development, Shared High Service and Booster Pump Stations

Line No.	Asset Description	Total Existing Capacity (MGD)
47	Wurzbach Booster Station HSP 3-7	12.10
48	Wurzbach Booster Station HSP 4-7	20.30
49	Wurzbach Booster Station HSP 5-7	15.10
50	**Total**	**392.00**

Table A-6: Existing Infrastructure, Water Delivery - System Development, Elevated Storage Tanks in High Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MG)
1	Cedar Creek Hydropneumatic	0.01
2	Concept Therapy Institute Hydropneumatic	0.01
3	Dominion Hydropneumatic	0.01
4	Helotes Park #2**	0.06
5	Helotes Park #3 Hydropneumatic	0.01
6	Helotes Park #3**	0.22
7	Hidden Springs Hydropneumatic	0.01
8	IH-10 Hydropneumatic	0.01
9	Indian Hills Hydropneumatic	0.02
10	Indian Hills Hydropneumatic	0.02
11	Los Reyes Canyon Hydropneumatic	0.00
12	Ranch Town #2 Hydropneumatic	0.02
13	Ranch Town**	0.99
14	S&S Hills Hydropneumatic 1	0.00
15	S&S Hills Hydropneumatic 2	0.00
16	S&S Hills Hydropneumatic 3	0.00
17	Salado Hydropneumatic	0.00
18	Shields**	3.97
19	Simon Tract Hydropneumatic	0.01
20	Sundance Hydropneumatic	0.01
21	Village Green Hydropneumatic	0.01
22	Walden Heights Hydropneumatic	0.01
23	Winwood Hydropneumatic	0.02
24	Woods at Fair Oaks Hydropneumatic	0.00
25	**Total**	**5.39**

Table A-7: Existing Infrastructure, Water Delivery - System Development, Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MG)
1	Babcock	2.50
2	Braun**	0.30
3	Callaghan	1.00
4	Culebra Hydroneumatic	1.50
5	Encino Hydroneumatic	4.85
6	Evans	2.18
7	Evans Hydropneumatic	5.00
8	Fossil Ridge Hydropneumatic	2.52
9	Helotes	2.42
10	Hills**	0.01
11	IH 10**	1.00
12	Indian Springs	0.01
13	Inwood Hydropneumatic	5.00
14	Judson N.	0.25
15	Lockhill	0.01
16	Marshall Rd.**	0.02
17	Medical	0.52
18	Roft Rd Hydropneumatic	0.01
19	Roft**	2.00
20	Salado**	0.01
21	Sasse Hydropneumatic	0.00
22	Sunset**	3.00
23	Winchester Heights Hydropneumatic	0.01
24	**Total**	**34.12**

Table A-8: Existing Infrastructure, Water Delivery - System Development, Elevated Storage Tanks in Low Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MG)
1	Austin	1.50
2	Bitters Hydropneumatic	0.01
3	Broadview	4.50
4	Dwyer	1.00
5	Foster	2.00
6	Gen Mcmullen	2.00
7	Grissom	2.50
8	Hall	0.50
9	Highlands	1.50
10	Hildebrand	2.00
11	Inspiration	2.20
12	Lions	1.50
13	Loma Linda	1.00
14	Menger	1.50
15	Northridge	1.50
16	Pipestone	1.77
17	Redland	2.50
18	Sasse**	1.48
19	South Foster	2.00
20	Tinker	0.75
21	Watson	1.00
22	Westover	0.31
23	**Total**	**35.03**

Table A-9: Existing Infrastructure, Water Delivery - System Development, Ground Storage Tanks in High Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
1	Cedar Creek	0.03
2	Concept Therapy Institute #1	0.01
3	Concept Therapy Institute #2	0.01
4	Concept Therapy Institute #3	0.01
5	Dominion	0.05
6	Helotes Park #3**	0.02
7	Helotes Park, No.2**	0.04
8	Hidden Springs	0.01
9	Hills	0.35
10	IH 10**	0.58
11	Ranch Town #2	0.01
12	S&S Hills #1	0.02
13	S&S Hills #2	0.02
14	Salado**	0.15
15	Shields**	1.03
16	Sundance	0.04
17	Village Green	0.16
18	Walden Heights	0.05
19	Winwood	2.00
20	Woods of Fair Oaks	0.10
21	Woods of Fair Oaks	0.10
22	**Total**	**4.79**

Table A-10: Existing Infrastructure, Water Delivery - System Development, Ground Storage Tanks in Middle Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
1	Anderson	7.50
2	Bitters	5.00
3	Braun**	0.42
4	Culebra	0.10
5	Encino	0.50
6	Hills**	0.13
7	Inwood	1.20
8	Marshall**	0.03
9	Micron	3.20
10	Naco	1.50
11	Oliver Ranch	3.00
12	Redland	0.80
13	Sasse**	0.52
14	Sunset**	2.17
15	Sunset**	0.65
16	Turtle Creek No.2 N	0.50
17	Turtle Creek No.3 N	0.50
18	University	5.00
19	Wurzbach	7.50
20	**Total**	**40.22**

Table A-11: Existing Infrastructure, Water Delivery - System Development, Ground Storage Tanks in Low Elevation Service Area

Line No.	Asset Description	Total Existing Capacity (MGD)
1	34th Street	2.26
2	34th Street	2.74
3	Artesia	5.00
4	Basin	5.00
5	Maltsberger	7.50
6	Marbach	5.00
7	Market	0.88
8	Micron	1.80
9	Mission	5.00
10	Naco	2.40
11	Naco	3.60
12	Pipers Meadow	0.05
13	Pipestone	1.23
14	Randolph	4.25
15	Randolph	0.75
16	Seale Road	6.00
17	Wayland	5.00
18	Wurzbach	7.50
19	**Total**	**65.96**

Appendix B

FUTURE CIP

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
1		PZ10-03 - Along Hanging Oak from Evans to Rattler Pass (16-inch)	$663,000
2	2142	PZ10-04 - Along Cibolo Vista from Evan Rd heading north towards Wilderness Oak Tank (16-inch)	2,863,000
3	2140	PZ10-04 - Along PLs from Wilderness Oak Tank heading south (16-inch)	1,271,000
4	2141	PZ10-04 - Along PLs looped around Wilderness Oak Tank (16-inch)	4,429,000
5	2143	PZ11-04 - Along Scenic Loop Dr from Marnoch to Mechaca Rd (16-inch)	1,027,000
6	2146	PZ11-05 - Along Frank Madla Dr from Madla to Blue Hills Pass Tanks (16-inch)	25,000
7	2145	PZ11-05 - Along Frank Madla Dr from State Hwy 16 to Blue Hills Tank (16-inch)	587,000
8	2147	PZ11-05 - Along Frank Madla Rd from Madla Ranch Rd to Blue Hills Pass Tanks (16-inch)	1,396,000
9	2148	PZ11-10 - Along open area from La Cantera Pkwy to Washita Way (16-inch)	365,000
10	2152	PZ11-13 - Along Camp Bullis Rd from Old Camp Bullis Rd to Tejas Trail (12-inch)	292,000
11	2153	PZ11-13 - Along IH-10 from south of Old Camp Bullis Rd to Camp Bullis (24-inch)	971,000
12	2150	PZ11-13 - Along La Cantera Pkwy connecting two existing 16-inch pipes (16-inch)	42,000
13	2154	PZ11-13 - Along Old Camp Bullis Rd from IH-10 to Talavera Rdg (12-inch)	183,000
14	2155	PZ11-13 - Along Old Camp Bullis Rd from Talavera Rdg to Camp Bullis Rd (12-inch)	762,000
15	2149	PZ11-13 - Along Talavera Rdg from existing pipe to Old Camp Bullis Rd (12-inch)	314,000
16	2156	PZ11-13 - Along Tejas Trail West to Brenthurst Ln extended (12-inch)	438,000
17	2157	PZ11-15 - Along IH-10 from Steeple Park to Cielo Vista Dr (24-inch)	549,000
18	2158	PZ11-16 - Along NW Military from Muir Glen Dr heading north (16-inch)	219,000
19	2159	PZ11-16 - Along PL from NW Military towards Camp Bullis (12-inch)	847,000
20		PZ11A-01 - Along existing pipe near Borgfeld Tank (16-inch)	5,000
21		PZ11A-02 - From Borgfeld Tank to existing 6-inch located east of tank (16-inch)	3,000
22	2160	PZ11A-03 - Along Borgfeld from Hwy 281 heading west (16-inch, Rock)	670,000
23	2161	PZ11A-03 - Along Borgfeld from Hwy 281 heading west (16-inch, Soil)	334,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
24		PZ11A-03 - Along Hwy 281 from Borgfeld to E Ramblewood St (16-inch)	260,000
25	2162	PZ11A-03 - Along Hwy 281 from Trinity Park to Borgfeld (16-inch)	722,000
26		PZ11A-03 - Along Hwy E Ramblewood St from Hwy 281 to Twin Peak St (16-inch)	202,000
27	2163	PZ11A-03 - Along PL from Borgfeld Rd to Borgfeld Tank (16-inch)	346,000
28		PZ11A-03 - Along Twin Peak St from E Ramblewood St to Twin Peak Tank (16-inch)	261,000
29	2165	PZ11A-04 - Along open area from Forsythia to Loy Morris Dr (16-inch)	775,000
30	2164	PZ11A-04 - Along Running Springs, Mark Alan and Loy Morris Dr from Smithson Valley to Loy Morris Dr (16-inch)	2,777,000
31	2166	PZ11K-01 - Borgfeld pump station discharge pipe (16-inch)	9,000
32	2167	PZ11K-02 - Along PL from Indian Springs PZ 11K pump station (16-inch)	324,000
33	2168	PZ12-01 - Along Anaqua Springs and Cat Springs to Toutant Beauregard Tank (16-inch)	288,000
34	2170	PZ12-01 - From Toutant Beuaregard Rd to Toutant Beuaregard Tank (16-inch)	642,000
35	2171	PZ12-03 - Along Babcock Rd from Cielo Vista Dr to Scenic Loop Rd (16-inch)	1,036,000
36	2172	PZ12-05 - Along Boerne Stage Rd from Dos Cerros Dr heading north to County Line (16-inch)	1,279,000
37	2174	PZ12-08 - Along Cielo Vista Dr from existing pipe towards IH-10 (12-inch)	758,000
38		PZ12-08 - Along Greywalls Pkwy extended to Ravine Pass extended (12-inch)	747,000
39	2175	PZ12-10 - Along open land from Caldwell Crest to Fiesta Grande (12-inch)	322,000
40	2176	PZ12-10 - Along PL from La Sierra Blvd heading north (12-inch)	181,000
41		PZ12-11 - Cross Mountain Trail	2,500,000
42	2177	PZ12A-01 - Along Ranch Pkwy heading west from Apacheria (12-inch)	294,000
43	2178	PZ14-01 - Along PLs from Bexar Tank heading east (16-inch)	1,939,000
44	2179	PZ14-01 - Along PLs in PZ 14, south of Bexar Tank heading east (12-inch)	480,000
45	2033	PZ2-01 - Along PL from E Chavaneaux to SE Loop 410 Access Rd (16-inch)	35,000
46	2001	PZ2-02 - Along Presa St from existing 8-inch to Graf Rd (16-inch)	233,000
47	2034	PZ2-03 - Along PL from Espada Rd Northeast to Villamain Rd (12-inch)	422,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
48	2035	PZ2-04 - Along Higdon from S W.W. White Road to US Hwy 181 S (12-inch)	585,000
49	2036	PZ2-05 - Along US Hwy 181 S from Donop Rd heading southeast to W Laguna Rd (12-inch)	167,000
50	2002	PZ3-01 - Along S Flores from W Malone to Octavia Pl (16-inch)	523,000
51	2004	PZ3-02 - Along Mission Rd from E Theo to Steves Ave (16-inch)	233,000
52	2005	PZ3-02 - Along Steves Ave from Probandt to Gevers St (16-inch)	2,088,000
53	2003	PZ3-02 - Along Steves Ave from Probandt to IH-37 (16-inch)	5,000
54	2006	PZ3-03 - Along Dietrich Rd and Eddie Rd from Dietrich tank (16-inch)	384,000
55	2007	PZ3-03 - Along Seale, Springfield Rd and Dietrich Rd to Dietrich Tank (16-inch)	80,000
56	2039	PZ3-04 - Along Kiefer Rd extended from IH-10 E to Lancer Blvd (12-inch)	479,000
57	2037	PZ3-04 - Along Lancer Blvd from N Foster Rd to Kiefer Rd (12-inch)	408,000
58	2038	PZ3-04 - Along N Foster from IH-10 to Lancer Blvd (16-inch)	9,000
59	2043	PZ3-08 - Along PL from S Foster Rd to Tierra Nueva (12-inch)	162,000
60	2044	PZ3-09 - Along Kirkner Rd and Zigmont Rd from US Hwy 87 E to Real Rd (12-inch)	923,000
61	2045	PZ3-09 - Along Real Rd east of Bonet and north along Zigmont Rd (12-inch)	416,000
62	2046	PZ3-09 - Along Real Rd from existing pipe to Zigmont Rd (12-inch)	523,000
63	2047	PZ3-09 - Along Zigmont Rd from Real Rd to FM 1346 (12-inch)	146,000
64	2008	PZ3-16 - Along IH-10 across Loop 410 between Pop Gunn Dr and Stutts Dr (24-inch)	455,000
65	2048	PZ3-16 - Along IH-10 E from Loop 410 to Dietrich Rd (24-inch)	951,000
66	2049	PZ3-16 - Along IH-10 from Dietrich Dr to west of N Foster Rd (24-inch)	864,000
67		PZ3-17 - Along Foster Meadows across US Hwy 87 (12-inch)	30,000
68		PZ3-18 - Along IH10 from proposed 16-inch main crossing IH10 to 16-inch main at FM 1516 (12-inch)	430,151
69		PZ3-19 - Along FM 1356 from S Foster to the end of the CCN (12-inch)	3,001,050
70		PZ3-20 - FM 1516 from FM 1346 to Hwy 87 E (12-inch)	1,262,938
71	2010	PZ4-01 - Across SW Loop 410 at Vista West Dr (12-inch)	261,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
72	2051	PZ4-01 - Along Hwy 90 at intersection of W Military Dr to Pinn Rd (24-inch)	200,000
73	2052	PZ4-01 - Along SH 151 from Cable Ranch Rd to Vista West Dr (24-inch)	535,000
74	2053	PZ4-01 - Along SH 151 from Ingram to Cable Ranch Rd (24-inch)	888,000
75		PZ4-01 - Along SH 151 from SW Loop 410 to W Military Dr (24-inch)	1,303,000
76	2050	PZ4-01 - Along SW Loop 410 from Lakeside Pkwy to Vista West Dr (24-inch)	33,000
77	2009	PZ4-01 - Along W Military Dr from SH 151 to W Commerce St (16-inch)	223,000
78	2054	PZ4-01 - From Richland Hills Tank to Richland Hills Dr (24-inch)	81,000
79	2055	PZ4-02 - Along Covel from Ray Ellison Blvd to Unnamed St in Medina Annex (16-inch)	770,000
80	2056	PZ4-02 - Along Covel Rd from Old Pearsall Rd to Unnamed St in Medina Annex (16-inch)	1,064,000
81		PZ4-02 - Along Old Pearsall, Nelson Rd and Loop 1604 from Pvt Rd to Hwy 90 (16-inch)	4,685,000
82	2059	PZ4-02 - Along Ray Ellison Blvd from Covel to Loop 410 (16-inch)	334,000
83	2012	PZ4-05 - Along Five Palms, Quintana Rd and PLs heading north to Farr Dr (12-inch)	194,000
84	2013	PZ4-07 - Along Medina Base Rd from Heathers Park to Palm Valley Dr (12-inch)	99,000
85	2018	PZ4-09 - Along PL from Marbach Rd extended to W Commerce St (12-inch)	970,000
86	2019	PZ4-10 - Along SW Loop 410 from SH 151 to Timbercreek Dr (16-inch)	232,000
87	2021	PZ4-13 - Along Blanco Rd and Jackson Keller from Arroyo Vista to Ave Maria (16-inch)	198,000
88	2024	PZ4-13 - Along Blanco Rd and Jackson Keller from Arroyo Vista to E Montana Ave (16-inch)	440,000
89	2022	PZ4-13 - Along Burwood from Blanco heading east (12-inch)	211,000
90	2023	PZ4-13 - Along PL from Ave Maria Dr to Burwood Ln (12-inch)	99,000
91		PZ4-14 - Along McCullough Ave from Basse to Hildebrand (24-inch)	2,418,000
92	2027	PZ4-16 - From Hildebrand tank, along Hildebrand and Devine Rd (16-inch)	102,000
93	2028	PZ4-17 - Along Broadway from Ridgecrest Dr to W Lawndale Dr (12-inch)	102,000
94	2029	PZ4-17 - Along Sunset and Rockhill Dr connecting PZ 4 piping across PZ 5A service area (16-inch)	693,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
95	2062	PZ4-20 - Along PLs from Ackerman Rd heading southeast to IH-10 (12-inch)	531,000
96	2063	PZ4-21 - Along IH-10 from N Foster heading East (16-inch)	580,000
97	2064	PZ4-21 - Along N Foster Rd across IH-10 (24-inch)	169,000
98	2065	PZ4-22 - Along PL from IH-10 E to Binz Engleman Rd (16-inch)	817,000
99	2030	PZ4-23 - Along SW 36th from Old US Hwy 90 W to Castroville Rd (16-inch)	830,000
100		PZ4-48 - Applewood Ranch Water Main along Hwy 90	4,128,000
101	2066	PZ5-03 - Along NE Loop 410 Access Rd connecting two existing pipes across Jones Maltsberger Rd (12-inch)	37,000
102	2067	PZ5-04 - Along Hwy 281 near Embassy Oaks connecting two existing 8-in pipes (12-inch)	11,000
103	2031	PZ5-05 - At intersection of E Montana Ave and Oblate (12-inch)	3,000
104	2068	PZ5-06 - Along Starcrest Dr and Wuzbach Pkwy to Buckhorn (12-inch)	451,000
105	2069	PZ5-10 - From Tumblewood Trl Tank to Jones Maltsberger Rd (24-inch)	26,000
106	2032	PZ5A-01 - Along New Braunfels Ave from Robinhood Pl heading southeast (12-inch)	121,000
107	2070	PZ6-01 - Along Eagle Crest, Killingsworth and Wendt Way from Oehler to O'Connor (12-inch)	1,130,000
108	2071	PZ6-01 - Along Forest Bluff Across O'Connor (12-inch)	55,000
109	2072	PZ6-02 - Along Foote Path and Averty from O'Connor to Forest Stream (12-inch)	484,000
110	2073	PZ6-03 - Along Bludau-Bishop from Randolph to across I-35 (12-inch)	191,000
111	2074	PZ6-04 - Along Crosswinds Way and O'Connor from existing pipes (12-inch)	115,000
112	2075	PZ6-04 - Along O'Connor across IH-35 (12-inch)	347,000
113		PZ6-04 - Along O'Connor across IH-35 (16-inch)	77,957
114		PZ6-04 - Along Randolph, Wayland Way and IH-35 Access Rd from Wayland (24-inch)	307,467
115	2078	PZ7-01 - Along Cotton Wood Way extended to Wiseman Blvd (24-inch)	241,000
116	2076	PZ7-01 - Along Talley Rd from Ray Lieck to Talley Rd PRV (16-inch)	513,000
117	2077	PZ7-01 - Along Wiseman Blvd from Loop 1604 to Talley Rd (16-inch)	919,000
118	2079	PZ7-01 - Along Wiseman Blvd from Loop 1604 to Talley Rd (24-inch)	2,704,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
119	2080	PZ7-08 - Along Woller Rd connecting two proposed 30-inch pipes (12-inch)	3,000
120	2081	PZ7-09 - Along Country View Ln from Rochelle Rd to existing pipe (12-inch)	41,000
121	2085	PZ7-09 - Along Drainage parallel to Western Sun from Prue Rd to Terra Rye (24-inch)	602,000
122	2086	PZ7-09 - Along Drainage parallel to Western Sun from Western Skies to Prue Rd (24-inch)	357,000
123	2082	PZ7-09 - Along Pembroke from Rochelle Rd to existing pipe (12-inch)	95,000
124	2083	PZ7-09 - Along PLs from Pembroke to Western Skies (12-inch)	23,000
125	2087	PZ7-09 - Along PLs from Pembroke to Western Skies (24-inch)	106,000
126	2088	PZ7-09 - Along Rochelle Rd from Stonykirk Rd to Pembroke (24-inch)	211,000
127	2084	PZ7-09 - Along Stonykirk Rd connecting existing pipes (12-inch)	237,000
128	2089	PZ7-13 - Along Hollyhock Rd from Oakland Rd to existing pipe on Holly (12-inch)	255,000
129	2090	PZ7-13 - Along Lockhill Rd from Babcock Rd to existing pipe on Lockhill (12-inch)	386,000
130	2091	PZ7-13 - Along Oakland from Prue Rd to Hollyhock Rd (12-inch)	329,000
131	2092	PZ7-13 - Along PL from Spring Time Dr to Heather Vw (12-inch)	372,000
132	2093	PZ7-14 - Along Fredricksburg Rd from Prue Rd to Huebner Rd (12-inch)	66,000
133	2094	PZ7-14 - Along Huebner Rd from Southwell to Vance Jackson (24-inch)	2,217,000
134	2095	PZ7-15 - Along DeZavala and Black Oak from DeZavala Tank to PZ 7 piping (16-inch)	594,000
135	2096	PZ7-15 - Along Huebner Rd from Lockhill-Selma to Cinnamon Oak (16-inch)	233,000
136	2097	PZ7-15 - Along Huebner Rd from Lockhill-Selma towards Sleepy Hollow (16-inch)	481,000
137	2098	PZ7-15 - Along Lockhill-Selma from DeZavala to Huebner Rd (16-inch)	955,000
138	2099	PZ7-15 - Along Lockhill-Selma from Huebner Rd to Orsinger Ln (16-inch)	298,000
139		PZ7-19 - Along Voelcker from Blanco Rd to Mill Creek Dr (12-inch)	284,000
140	2100	PZ7-19 - Along Voelcker from Blanco Rd to Mill Creek Dr (16-inch)	784,000
141	2101	PZ7-20 - Along Churchill Estates from Blanco to Huebner (16-inch)	1,581,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
142	2102	PZ7-23 - Along entrance to Encino Park Pump Station from Hwy 281 (16-inch)	154,000
143		PZ7-26 - Micron to Anderson tank (48-inch)	3,000,000
144		PZ7A-02 - Along W Loop 1604 N north of Westcreek Oaks (16-inch)	53,000
145		PZ8-01 - Along Alamo Ranch Pkwy extended to PL (24-inch)	48,949
146	2103	PZ8-01 - Along Del Webb Blvd from Devil's River to La Villita Way (12-inch)	322,000
147	2104	PZ8-01 - Along La Villita Way & Alamo Ranch Subdivision PL from Alamo (16-inch)	738,000
148	2106	PZ8-01 - Along PL from Galm Rd to Del Webb Blvd (24-inch)	759,000
149	2105	PZ8-01 - Along PL from La Villita Way to Del Webb Blvd (12-inch)	362,000
150	2107	PZ8-02 - Along Painted Daisy Extended to Roft Rd (12-inch)	73,000
151	2108	PZ8-02 - Along Palmetto Way towards Painted Daisy (12-inch)	106,000
152	2109	PZ8-03 - Along PL to Old FM 471 W (12-inch)	292,000
153	2110	PZ8-05 - Along FM 1560 N from Doheny to Braun Rd (12-inch)	190,000
154	2111	PZ8-05 - Along Galm Rd from Culebra Rd to Shaenfield (12-inch)	1,119,000
155	2112	PZ8-05 - Along PLs from Galm Rd to Braun Rd - Rock (12-inch)	1,032,000
156	2113	PZ8-05 - Along PLs from Galm Rd to Braun Rd - Soil (12-inch)	577,000
157	2114	PZ8-09 - Discharge Pipe from Turtle Creek PZ 8 (24-inch)	47,000
158	2117	PZ8-10 - Along IH-10 across Loop 1604 (24-inch)	164,000
159	2118	PZ8-10 - Along IH-10 from Loop 1604 to La Cantera Pkwy (24-inch)	1,422,000
160		PZ8-10 - Along La Cantera Pkwy across IH-10 (24-inch)	175,000
161	2119	PZ8-10 - Along Loop 1604 from Babcock Rd to Regency (24-inch)	2,164,000
162	2120	PZ8-10 - Along Loop 1604 from Regency to IH-10 (24-inch)	680,000
163	2121	PZ8-10 - Along Loop 1604 from Tradesman to Lockhill-Selma (24-inch)	714,000
164	2122	PZ8-10 - Along UTSA Blvd across IH-10 (24-inch)	156,000
165	2115	PZ8-10 - Along UTSA Blvd from Valero Way to UTEX Blvd (12-inch)	233,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
166	2116	PZ8-10 - Through Open Area from Chasethorn Dr to De Zavala Rd (12-inch)	364,000
167	2125	PZ8-11 - Across Lockhill Selma for PZ change from 7 to 8 (12-inch)	16,000
168	2126	PZ8-11 - At intersection for PZ 7 to PZ 8 change (12-inch)	4,000
169	2127	PZ8-12 - PZ Change from PZ 11F to PZ 8 (12-inch)	62,000
170	2128	PZ9-01 - Along Judson Rd across IH-35 to existing 8-inch on Judson Rd (12-inch)	207,000
171	2129	PZ9-01 - Along Toepperwein Rd from I-35 to Jud-Toepper Way (12-inch)	548,000
172	2130	PZ9-03 - Along E Evans Rd from FM 2252 to Wagon Rd (16-inch)	209,000
173	2131	PZ9-03 - Along FM 2252 from Dolentero to E Evans Rd (16-inch)	749,000
174	2132	PZ9-05 - PLs through PZ 9 open area from Bulverde Rd to Encino Rio (24-inch)	3,668,000
175	2133	PZ9-06 - Along Encino Cliff from Encino Royale to Encino Crown (12-inch)	424,000
176	2135	PZ9-07 - Along Encino Rio from Encino Ledge to Encino Pass (24-inch)	452,000
177	2136	PZ9-07 - Along Encino Rio from Encino Ledge to Evans Rd (24-inch)	382,000
178	2134	PZ9-07 - Along Encino Rio from Encino Pass to Evans Rd (12-inch)	341,000
179	2137	PZ9-07 - Along Encino Rio from Encino Pass to Evans Rd (24-inch)	389,000
180	**Total**		**$60,642,373**

Table B-2: Water Delivery - System Development, Well Pumps

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MGD)
1	2277	Artesia Pump 1	Artesia	$3,524,000	30.90
2	2277	Artesia Pump 2	Artesia	3,524,000	30.90
3	2278	Seale	Seale	2,663,000	16.85
4	2279	Micron	Micron	3,337,000	30.24
5	2281	Randolph Pump 1	Randolph	4,300,000	36.29
6	2281	Randolph Pump 2	Randolph	4,300,000	36.29
7	2282	Culebra	Culebra	5,353,000	0.22
8	2283	Turtle Creek Pump 1	Turtle Creek	7,100,500	5.01
9	2283	Turtle Creek Pump 2	Turtle Creek	7,100,500	5.01
10	**Total**			**$41,202,000**	**191.70**

Table B-3: Water Delivery - System Development, High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MGD)
1	2251	Adobe Ranch Pump 1	Adobe Ranch PS	$1,252,000	6.00
2	2251	Adobe Ranch Pump 2	Adobe Ranch PS	1,252,000	6.00
3	2252	Hwy 16 Pump 1	Hwy 16	427,000	1.00
4	2252	Hwy 16 Pump 2	Hwy 16	427,000	1.00
5	2252	Hwy 16 Pump 3	Hwy 16	427,000	1.00
6	PZ12A-02	Ranch Town Pump	Ranch Town PS	358,000	1.44
7	2253	PZ 11T PS Pump 1	PZ 11T PS	285,000	0.75
8	2253	PZ 11T PS Pump 2	PZ 11T PS	285,000	0.75
9	2253	PZ 11T PS Pump 3	PZ 11T PS	285,000	0.75
10	**Total**			**$4,998,000**	**18.69**

Table B-4: Water Delivery - System Development, High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MGD)
1	PZ11K-01	Borgfeld Pump 1	Borgfield	$285,000	1.00
2	PZ11K-01	Borgfeld Pump 2	Borgfield	285,000	1.00
3	2261	Turtle Creek PZ 8 Pump 1	Turtle Creek No 2	1,707,000	5.00
4	2261	Turtle Creek PZ 8 Pump 2	Turtle Creek No 2	1,707,000	5.00
5	2261	Turtle Creek PZ 8 Pump 3	Turtle Creek No 2	1,707,000	5.00
6	2261	Turtle Creek PZ 8 Pump 4	Turtle Creek No 2	1,707,000	5.00
7	2263	Green Mountain Pump 1	Green Mountain	285,000	1.00
8	2263	Green Mountain Pump 2	Green Mountain	285,000	1.00
9	2263	Green Mountain Pump 3	Green Mountain	285,000	1.00
10	2263	Green Mountain Pump 4	Green Mountain	285,000	1.00
11	2264	Indian Springs	Indian Springs	143,000	0.50
12	2264	Indian Springs	Indian Springs	143,000	0.50
13	**Total**			**$8,824,000**	**27.00**

Table B-5: Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MGD)
1	2254	Randolph	Randolph	$715,000	7.50
2	2257	Wayland A Pump 1	Wayland	427,000	2.00
3	2257	Wayland A Pump 2	Wayland	427,000	2.00
4	2258	Wayland B Pump 1	Wayland	854,000	4.00
5	2258	Wayland B Pump 2	Wayland	854,000	4.00
6	**Total**			**$3,277,000**	**19.50**

Table B-6: Water Delivery - System Development, Shared High Service and Booster Pump Stations

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MGD)
1	2260	University	University	$1,699,000	10.00
2	2262	Naco	Naco	2,860,000	12.00
3		Anderson - Replacement Pumps	Anderson	240,000	15.00
4		Anderson - Replacement Pumps	Anderson	240,000	15.00
5		Anderson - Replacement Pumps	Anderson	240,000	15.00
6		Anderson - Replacement Pumps	Anderson	240,000	15.00
7		Anderson - Replacement Pumps	Anderson	240,000	15.00
8		Anderson - Replacement Pumps	Anderson	240,000	15.00
9	**Total**			**$5,999,000**	**112.00**

Table B-7: Water Delivery - System Development, Elevated Storage Tanks in High Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MG)
1	2268	Cross Mountain	Cross Mountain	$4,388,000	1.50
2	2269	Blue Hills Pass	Hwy 16	6,338,000	2.50
3	**Total**			**$10,726,000**	**4.00**

Table B-8: Water Delivery - System Development, Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MG)
1	2272	Cibolo	Cibolo	$6,338,000	2.50
2	2273	DeZavala	DeZavala	5,363,000	2.00
3	2274	Batcave	Batcave	4,388,000	1.50
4	2275	Marshall	Marshall	6,338,000	2.50
5	PZ11A-03	Twin Peak	Twin Peak	6,338,000	2.50
6	2276	Borgfeld (Floating Ground)	Borgfeld (Floating Grour	4,225,000	5.00
7	**Total**			**$32,990,000**	**16.00**

Table B-9: Water Delivery - System Development, Elevated Storage Tanks in Low Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MG)
1	2270	Dietrich Rd	Dietrich Rd	$6,338,000	2.50
2		Mission Del Lago	Mission Del Lago	3,150,500	1.00
3	2271	Scattered Oaks (aka Jones Maltesberger)	Jones Maltesberger	3,413,000	1.00
4	PZ4-01	Richland Hills	Richland Hills	2,438,000	0.50
5	**Total**			**$15,339,500**	**5.00**

Table B-10: Water Delivery - System Development, Ground Storage Tanks in Middle Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2010)	Added Total Capacity (MG)
1	2267	Turtle Creek (Reservoir)	Turtle Creek	$4,225,000	5.00
2		Anderson Ground Tank	Anderson	2,835,890	7.50
3	**Total**			**$7,060,890**	**12.50**

Table B-11: Water Delivery - System Development, Transmission Mains Tanks in High Elevation Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
1	2295	Culebra PS to Hwy1283 PS (PZ 10B to 11L) (3502.206104 LF)	$419,000
2	2296	IH10 PS to Salado PS (PZ 11 to 11J) (16701.87205 LF)	5,326,903
3	2297	IH10 PS to Shields PS (PZ 11 to 12-East) (10696.38985 LF)	2,686,000
4	2298	Ranchtown PS to Hwy 16 PS (PZ 12-West to 14) (10888.22539 LF)	2,612,000
5	2299	PZ14A to Hwy 16 PS to Bexar Tank (PZ 14A to 14) (19288.63844 LF)	3,121,000
6	**Total**		**$14,164,903**

Table B-12: Water Delivery - System Development, Transmission Mains Tanks in Middle Elevation Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
1	2286	Naco PS to Redland PS (PZ 6 to 9) (11319.46443 LF)	$3,701,000
2	2287	Wurzbach Ps to University PS (PZ 7 to 8-North) (42475.54313 LF)	17,117,000
3	2289	Bitters PS to Inwood PS (PZ 7 to 8-North) (6787.172756 LF)	1,589,000
4	2290	Anderson PS to Culebra PS (PZ 8 to 8-Culebra) (17124.07698 LF)	3,202,263
5	2291	Hills PS to IH10 PS (PZ 8-North to 11) (2634.949173 LF)	758,000
6	2292	Naco PS to Green Mountain PS to Batcave PS (PZ 9 to 10) (36217.66919 LF)	8,508,000
7	2293	Green Mountain PS to Evans PS (PZ 10 to 11A) (24482.39985 LF)	5,526,000
8	**Total**		**$40,401,263**

Table B-13: Water Delivery - System Development, Transmission Mains Tanks in Low Elevation Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)
1	2284	Fischer PRV to Nelson PS (PZ 2 to 4) (7921.202926491 LF)	$1,531,098
2	2285	Wayland PS to Naco PS (PZ 6 to 6) (5500.891841 LF)	1,363,566
3	**Total**		**$2,894,664**

Table B-14: Wastewater Treatment

Line No.	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	WRCs Disinfection System Evaluation and Performance Upgrade	2,660,000	91.8%	2,442,004	8.2%	217,996	0.0%	0	125.00	114.76	136.32	21.56
2	Dos Rios WRC Sludge Thickening and Aeration System Improvements	6,134,000	91.8%	5,631,299	8.2%	502,701	0.0%	(0)	125.00	114.76	136.32	21.56
3	Dos Rios WRC Digester Improvements and Mixing System Enhancements - Phas	11,255,000	91.8%	10,332,616	8.2%	922,384	0.0%	0	125.00	114.76	136.32	21.56
4	Dos Rios WRC Digester Improvements and Mixing System Enhancements - Phas	9,595,000	91.8%	8,808,658	8.2%	786,342	0.0%	0	125.00	114.76	136.32	21.56
5	Dos Rios WRC Digester Improvements and Mixing System Enhancements - Phas	8,506,000	91.8%	7,808,905	8.2%	697,095	0.0%	0	125.00	114.76	136.32	21.56
6	Dos Rios WRC Dewatering Facility Improvements	13,988,000	91.8%	12,841,638	8.2%	1,146,362	0.0%	0	125.00	114.76	136.32	21.56
7	Dos Rios WRC Re-rating Phase I - Headworks Improvements and Process Enha	16,759,000	52.9%	8,862,641	9.9%	1,665,230	37.2%	6,231,129	217.00	114.76	136.32	21.56
8	Dos Rios WRC Re-rating Phase II - Primary Settling Tanks Improvements	33,126,000	52.9%	17,517,981	9.9%	3,291,509	37.2%	12,316,509	217.00	114.76	136.32	21.56
9	Dos Rios WRC Re-rating Phase III - Aeration Tanks and Secondary Settling Tanl	24,758,000	0.0%	0	5.2%	1,291,259	94.8%	23,466,741	217.00	0.00	11.32	11.32
10	Dos Rios WRC Re-rating Phase IV - Aeration Tanks and Secondary Settling Tanl	27,317,000	0.0%	0	5.2%	1,424,724	94.8%	25,892,276	217.00	0.00	11.32	11.32
11	Dos Rios WRC Re-rating Phase V - Solids Handling Improvements	20,212,000	52.9%	10,688,687	9.9%	2,008,331	37.2%	7,514,982	217.00	114.76	136.32	21.56
12	Dos Rios WRC Re-rating Phase VI - Effluent Pump Station	23,575,000	0.0%	0	5.2%	1,229,559	94.8%	22,345,441	217.00	0.00	11.32	11.32
13	Dos Rios WRC Re-rating Phase VII - Tertiary Filters Phase II	16,575,000	0.0%	0	5.2%	864,473	94.8%	15,710,527	217.00	0.00	11.32	11.32
14	Dos Rios WRC Re-rating Phase VIII - Disinfection System Improvements	17,968,000	52.9%	9,501,995	9.9%	1,785,360	37.2%	6,680,645	217.00	114.76	136.32	21.56
15	Medio Creek - Nutrient Removal	7,307,000	50.3%	3,671,877	25.9%	1,888,933	23.9%	1,746,190	16.00	8.04	12.18	4.14
16	Transfer Line	13,597,395	0.0%	0	43.1%	5,863,697	56.9%	7,733,698	50.00	0.00	21.56	21.56
17	MRSO Segment 1	8,980,415	0.0%	0	43.1%	3,872,685	56.9%	5,107,729	50.00	0.00	21.56	21.56
18	MRSO Land Acquisition	706,325	0.0%	0	43.1%	304,593	56.9%	401,732	50.00	0.00	21.56	21.56
19		**$263,019,135**	**37.3%**	**$98,108,301**	**11.3%**	**$29,763,233**	**51.4%**	**$135,147,600**	**2,652.00**	**1,155.60**	**1,485.31**	**329.71**

Table B-15: Wastewater Collection - Medio Creek Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4027	27 Far West - Medio Creek - North of US 90	6,374,050	37.9%	2,417,317	11.5%	735,705	50.5%	3,221,028	10.31	3.91	5.10	1.19
2	4034	34 Far West - Medio Creek WRC to Marbach Road	2,755,270	46.7%	1,288,052	8.3%	227,588	45.0%	1,239,629	5.69	2.66	3.13	0.47
3	4047	Lift Station No.187 (Medio Area)	3,400,000	0.0%	0	100.0%	3,400,000	0.0%	0	0.00	0.00	0.00	0.00
4		M-03A	1,853,228	0.0%	0	27.8%	514,607	72.2%	1,338,620	8.68	0.00	2.41	2.41
5		M-03B	3,971,202	0.0%	0	27.8%	1,102,730	72.2%	2,868,472	8.68	0.00	2.41	2.41
6		M-03C	5,373,729	0.0%	0	10.9%	584,277	89.1%	4,789,452	6.62	0.00	0.72	0.72
7		M-04	6,751,043	0.0%	0	0.0%	0	100.0%	6,751,043	5.16	0.00	0.00	0.00
8		M-17	1,288,182	0.0%	0	48.7%	627,626	51.3%	660,556	1.48	0.00	0.72	0.72
9		M-18	1,906,681	0.0%	0	0.0%	0	100.0%	1,906,681	5.21	0.00	0.00	0.00
10		M-19	4,989,595	0.0%	0	0.0%	0	100.0%	4,989,595	1.27	0.00	0.00	0.00
11	**Total**		**$38,662,980**	**9.6%**	**$3,705,369**	**18.6%**	**$7,192,534**	**71.8%**	**$27,765,077**	**53.09**	**6.57**	**14.49**	**7.92**

Table B-16: Wastewater Collection - Upper Medina Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1		MRSO Segment 4	17,523,899	9.2%	1,611,471	14.9%	2,612,740	75.9%	13,299,689	51.98	4.78	12.53	7.75
2		MRSO Segment 5	14,342,060	9.2%	1,318,874	14.9%	2,138,341	75.9%	10,884,845	51.98	4.78	12.53	7.75
3		MRSO Segment 6	4,310,585	9.2%	396,395	14.9%	642,690	75.9%	3,271,500	51.98	4.78	12.53	7.75
4		MRSO Land Acquisition - Upper Medina	2,845,346	9.2%	260,677	5.7%	163,281	85.1%	2,421,389	69.53	6.37	10.36	3.99
5	**Total**		**$39,021,890**	**9.2%**	**$3,587,416**	**14.2%**	**$5,557,052**	**76.6%**	**$29,877,423**	**225.47**	**20.71**	**47.95**	**27.24**

Table B-17: Wastewater Collection - Lower Medina Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1		MRSO Segment 1	12,392,972	9.2%	1,140,731	14.9%	1,846,558	75.9%	9,405,683	69.53	6.40	16.76	10.36
2		MRSO Segment 2	11,168,185	9.2%	1,027,993	14.9%	1,664,064	75.9%	8,476,127	69.53	6.40	16.76	10.36
3		MRSO Segment 3	17,172,104	9.2%	1,580,634	14.9%	2,558,651	75.9%	13,032,819	69.53	6.40	16.76	10.36
4		MRSO Segment C	13,219,250	0.0%	0	2.8%	376,617	97.2%	12,842,633	17.55	0.00	0.50	0.50
5		MRSO Land Acquisition - Lower Medina	3,203,740	9.2%	293,511	5.7%	183,848	85.1%	2,726,381	69.53	6.37	10.36	3.99
6	**Total**		**$57,156,251**	**7.1%**	**$4,042,869**	**11.6%**	**$6,629,738**	**81.3%**	**$46,483,644**	**295.67**	**25.57**	**61.14**	**35.57**

Table B-18: Wastewater Collection - Upper Collection Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4024	24 Eastern - Salado Creek - Loop 1604 and Fox Tail	15,275,050	52.4%	8,003,422	2.9%	444,635	44.7%	6,826,993	16.49	8.64	9.12	0.48
2	4025	25 Eastern - Creek Crossing Pinon Drive	902,110	43.7%	394,229	11.8%	106,548	44.5%	401,332	2.54	1.11	1.41	0.30
3	4026	26 Eastern - Creek West of Canyon Golf Rd.	2,149,450	29.6%	635,263	24.7%	530,836	45.7%	983,352	4.94	1.46	2.68	1.22
4	4031	31 West - I.H. 10 - La Cantera to Boerne Stage Road	17,050,860	12.2%	2,075,458	42.3%	7,212,502	45.5%	7,762,900	14.87	1.81	8.10	6.29
5	4041	41 Central - South of Pond Hill Rd. and west of NW Military	1,236,480	19.9%	245,891	31.8%	393,425	48.3%	597,164	1.76	0.35	0.91	0.56
6	4044	44 West - Leon Creek - Prue Rd and La Cantera	26,774,030	23.6%	6,311,605	25.8%	6,902,532	50.6%	13,559,893	42.59	10.04	21.02	10.98
7	4004	4 Eastern - Bulverde Rd - Loop 1604 to Redland Rd	13,280,438	21.4%	2,846,564	17.3%	2,296,299	61.3%	8,137,575	25.10	5.38	9.72	4.34
8	4009	9 West - Leon Creek - Ingram to Timberline	33,723,620	26.1%	8,801,966	23.5%	7,923,311	50.4%	16,998,343	153.14	39.97	75.95	35.98
9	4010	10 West - Huebner Creek - Apple Green Rd and I.H. 10	11,690,980	42.7%	4,987,697	10.9%	1,272,488	46.5%	5,430,795	10.29	4.39	5.51	1.12
10	4017	17 Eastern - Panther Springs Creek - West Ave. and Loop 1604	15,807,794	49.5%	7,829,140	3.8%	604,855	46.6%	7,373,799	23.26	11.52	12.41	0.89
11		CCMA Lift Stations	5,548,417	51.3%	2,845,396	16.6%	923,340	32.1%	1,779,681	2.94	1.51	2.00	0.49
12		LS 191 - Mud Creek	24,000	63.6%	15,259	24.9%	5,985	11.5%	2,756	8.10	5.15	7.17	2.02
13		LS 246 - San Antonio Ranch	613,300	3.9%	24,174	0.0%	0	96.1%	589,126	3.04	0.12	0.12	0.00
14	**Total**		**$144,076,529**	**31.2%**	**$45,016,063**	**19.9%**	**$28,616,757**	**48.9%**	**$70,443,709**	**309.07**	**91.45**	**156.12**	**64.67**

Table B-19: Wastewater Collection - Middle Collection Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4001	1 West - Leon Creek - U.S. 90 to S.H. 151	28,829,010	31.7%	9,148,054	19.9%	5,745,097	48.3%	13,935,859	214.42	68.04	110.77	42.73
2	4002	2 West - Huebner Creek - North of Bandera Rd.	9,405,730	46.2%	4,347,049	7.8%	736,030	46.0%	4,322,651	23.13	10.69	12.50	1.81
3	4003	3 Central - West of US 281 North of Basse Rd	25,783,520	49.2%	12,683,297	2.8%	727,790	48.0%	12,372,432	70.50	34.68	36.67	1.99
4	4007	7 Eastern - Beitel Creek - North of Loop 410	14,992,840	50.0%	7,490,817	1.5%	224,108	48.5%	7,277,914	26.76	13.37	13.77	0.40
5	4012	12 Central - Manor Dr - Mistletoe to Huisache	12,867,070	54.9%	7,061,611	0.0%	0	45.1%	5,805,459	11.37	6.24	6.24	0.00
6	4014	14 Central - Olmos Creek - Hildebrand and US 281	8,080,540	50.4%	4,068,924	5.0%	401,162	44.7%	3,610,454	1.41	0.71	0.78	0.07
7	4015	15 Eastern - Crestway Rd - S. Weidner to Fourwinds Dr.	4,155,220	46.6%	1,937,292	1.1%	45,264	52.3%	2,172,664	4.59	2.14	2.19	0.05
8	4016	16 Eastern - Salado Creek - Jones-Maltsberger to Blanco	13,616,650	51.7%	7,041,532	2.1%	282,514	46.2%	6,292,603	51.09	26.42	27.48	1.06
9	4018	18 Central - Barbara and McCullough Drives	9,710,120	54.9%	5,334,752	0.3%	29,072	44.8%	4,346,296	6.68	3.67	3.69	0.02
10	4019	19 Eastern - Holbrook and Ira Lee Roads	39,586,990	45.4%	17,953,159	4.6%	1,819,043	50.1%	19,814,788	195.21	88.53	97.50	8.97
11	4020	20 Eastern - Salado Creek - Nacogdoches Rd to Jones-Maltsberger Rd.	19,544,377	43.3%	8,465,495	5.7%	1,113,881	51.0%	9,965,001	150.02	64.98	73.53	8.55
12	4021	21 Eastern - Mud Creek - Moonlit Grove to Buckhorn	9,436,670	38.0%	3,581,846	7.7%	730,200	54.3%	5,124,623	92.79	35.22	42.40	7.18
13	4022	22 Central - Babcock Rd - Danville to Crestview Drives	6,011,610	54.4%	3,269,713	0.5%	27,419	45.2%	2,714,478	8.77	4.77	4.81	0.04
14	4029	29 Eastern - Loop 410 – Haskin and Nacogdoches Roads	744,700	55.1%	410,056	0.2%	1,571	44.7%	333,073	4.74	2.61	2.62	0.01
15	4036	36 Central - Jackson Keller Rd – Cotillion to Loop 410	4,039,870	53.0%	2,139,317	2.4%	95,505	44.7%	1,805,048	4.23	2.24	2.34	0.10
16	4037	37 Central - I.H. 10 – Tioga to Colony Drive	566,910	55.6%	315,271	0.0%	0	44.4%	251,639	1.96	1.09	1.09	0.00
17	**Total**		**$207,371,827**	**45.9%**	**$95,248,188**	**5.8%**	**$11,978,656**	**48.3%**	**$100,144,983**	**867.67**	**365.40**	**438.38**	**72.98**

Table B-20: Wastewater Collection - Lower Collection Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2010)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4005	5 Central - S. Laredo Ave - San Jacinto to Trinity St.	14,690,770	53.0%	7,784,951	1.8%	266,053	45.2%	6,639,765	25.40	13.46	13.92	0.46
2	4006	6 West - Leon Creek - US 90 to New Laredo Hwy	38,361,930	35.7%	13,706,761	16.5%	6,344,070	47.7%	18,311,099	270.78	96.75	141.53	44.78
3	4008	8 Central - Merida St. - Brazos to Trinity	1,339,240	53.3%	714,261	0.8%	11,160	45.8%	613,818	1.20	0.64	0.65	0.01
4	4011	11 Central - N. Navidad - Leal to Arbor	11,180,250	54.9%	6,140,029	0.0%	0	45.1%	5,040,221	16.57	9.10	9.10	0.00
5	4013	13 Central - Losoya & Broadway - Market St. to McCullough	54,024,570	50.4%	27,217,691	2.5%	1,336,510	47.1%	25,470,369	98.63	49.69	52.13	2.44
6	4023	23 West - Indian Creek - Old Pearsall Rd. and New Laredo Hwy	12,359,570	46.8%	5,787,162	7.1%	882,058	46.0%	5,690,350	11.49	5.38	6.20	0.82
7	4028	28 Central - West Houston St – NW 23rd to NW 26th	2,119,180	50.6%	1,071,809	3.6%	76,807	45.8%	970,563	6.07	3.07	3.29	0.22
8	4030	30 Central - S. General McMullen – Jewett to Castroville	1,746,770	55.0%	961,367	0.0%	0	45.0%	785,403	4.07	2.24	2.24	0.00
9	4032	32 Eastern - Binz Engleman at I.H. 35	1,795,700	55.1%	989,121	0.2%	4,245	44.7%	802,334	4.23	2.33	2.34	0.01
10	4033	33 Central - Avenue B – Mulberry to Tuleta	7,223,590	49.4%	3,566,998	2.8%	199,862	47.9%	3,456,730	73.37	36.23	38.26	2.03
11	4035	35 Central - Weir Ave. – Cupples to S. General McMullen	1,050,790	50.0%	525,395	2.9%	30,606	47.1%	494,789	2.06	1.03	1.09	0.06
12	4038	38 Central - N. Flores St. – Fredericksburg Rd to Weymouth	611,480	54.7%	334,403	0.3%	1,911	45.0%	275,166	3.20	1.75	1.76	0.01
13	4039	39 West - Leon Creek - New Laredo Hwy and SH 16	12,531,390	36.0%	4,514,336	15.9%	1,993,315	48.1%	6,023,739	289.00	104.11	150.08	45.97
14	4040	40 Central - N. Flores St – Nueva to Quincy	6,475,390	53.3%	3,450,835	1.3%	81,196	45.5%	2,943,359	3.19	1.70	1.74	0.04
15	4042	42 Central - West of AT&T Center Pkwy and South of IH 35	1,523,320	41.7%	635,355	9.5%	145,443	48.7%	742,523	1.99	0.83	1.02	0.19
16	4043	43 Central - From Rilling Road to Dos Rios WRC	57,083,340	52.3%	29,850,570	1.5%	865,402	46.2%	26,367,367	343.66	179.71	184.92	5.21
17	**Total**		**$224,117,280**	**47.9%**	**$107,251,044**	**5.5%**	**$12,238,638**	**46.7%**	**$104,627,597**	**1,154.91**	**508.02**	**610.27**	**102.25**

Appendix C

FINANCING COSTS FOR AVAILABLE EXISTING CAPACITY

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	Current 2010	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020
1	Total Outstanding Debt	$1,759,700,000										
2	Water Supply Outstanding Debt	$353,388,575										
3	Interest Payment for Existing Revenue Bonds		$76,399,000	$74,910,000	$73,259,000	$71,448,000	$69,913,000	$68,273,000	$66,077,000	$63,688,000	$61,229,000	$58,625,000
4	Water Delivery Outstanding Debt	$765,696,945										
5	Eligible Water Delivery Interest Payment		$2,267,621	$2,223,425	$2,174,421	$2,120,669	$2,075,108	$2,026,430	$1,961,250	$1,890,342	$1,817,356	$1,740,065
6	Water Delivery Financing Charge	$36,778,260										
7	Wastewater Outstanding Debt	$640,614,480										
8	Eligible Sewer Service Interest Payment		$2,186,351	$2,143,740	$2,096,492	$2,044,666	$2,000,738	$1,953,805	$1,890,961	$1,822,594	$1,752,223	$1,677,703
9	Sewer Service Financing Charge	$35,460,166										

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	11 2021	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031
1	Total Outstanding Debt											
2	Water Supply Outstanding Debt											
3	Interest Payment for Existing Revenue Bonds	$55,841,000	$52,930,000	$49,861,000	$46,695,000	$43,471,000	$40,129,000	$36,589,000	$32,883,000	$29,994,000	$27,959,000	$25,852,000
4	Water Delivery Outstanding Debt											
5	Eligible Water Delivery Interest Payment	$1,657,433	$1,571,031	$1,479,939	$1,385,968	$1,290,275	$1,191,080	$1,086,009	$976,010	$890,261	$829,859	$767,321
6	Water Delivery Financing Charge											
7	Wastewater Outstanding Debt											
8	Eligible Sewer Service Interest Payment	$1,598,032	$1,514,726	$1,426,899	$1,336,296	$1,244,033	$1,148,393	$1,047,087	$941,031	$858,355	$800,118	$739,821
9	Sewer Service Financing Charge											

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	22 2032	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041
1	Total Outstanding Debt										
2	Water Supply Outstanding Debt										
3	Interest Payment for Existing Revenue Bonds	$23,642,000	$21,349,000	$18,799,000	$15,885,000	$12,759,000	$9,527,000	$6,470,000	$3,586,000	$1,064,000	$0
4	Water Delivery Outstanding Debt										
5	Eligible Water Delivery Interest Payment	$701,725	$633,666	$557,979	$471,487	$378,704	$282,774	$192,038	$106,437	$31,581	$0
6	Water Delivery Financing Charge										
7	Wastewater Outstanding Debt										
8	Eligible Sewer Service Interest Payment	$676,576	$610,956	$537,981	$454,590	$365,131	$272,639	$185,155	$102,623	$30,449	$0
9	Sewer Service Financing Charge										

Appendix D

CREDIT FOR OUTSTANDING DEBT ON AVAILABLE EXISTING CAPACITY

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	Current 2010	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020
1	Debt Service for Existing Revenue Bonds		$115,894,000	$115,890,000	$115,879,000	$115,873,000	$116,213,000	$118,793,000	$121,367,000	$121,363,000	$119,074,000	$119,235,000
2	Eligible Water Delivery Debt Service		$3,439,883	$3,439,764	$3,439,438	$3,439,260	$3,449,351	$3,525,929	$3,602,329	$3,602,210	$3,534,270	$3,539,048
3	Water Delivery Service Unit Equivalents (Year-end)	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
4	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent		$5.78	$5.71	$5.64	$5.57	$5.51	$5.56	$5.61	$5.54	$5.36	$5.30
5	Water Delivery Cumulative Growth in Service Unit Equivalents		7,579	15,255	23,030	30,906	38,884	46,964	55,149	63,440	71,837	80,343
6	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$43,840	$87,118	$129,833	$172,004	$214,270	$261,172	$309,340	$351,296	$385,321	$426,028
7	Water Delivery Credit Amount	$8,052,047										
8	Water Delivery Growth Rate	1.29%										
9	Sewer Delivery Existing Debt Service		$3,316,601	$3,316,487	$3,316,172	$3,316,000	$3,325,730	$3,399,564	$3,473,225	$3,473,111	$3,407,605	$3,412,212
10	Sewer Service Unit Equivalents	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
11	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent		$4.65	$4.58	$4.52	$4.45	$4.41	$4.44	$4.47	$4.41	$4.26	$4.21
12	Sewer Cumulative Growth in Service Unit Equivalents		10,038	20,219	30,545	41,018	51,642	62,416	73,345	84,429	95,672	107,075
13	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$46,668	$92,677	$138,026	$182,737	$227,491	$277,105	$327,997	$372,242	$408,031	$450,847
14	Sewer Credit Amount	$8,456,005										
15	Sewer Growth Rate	1.43%										

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	11 2021	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Debt Service for Existing Revenue Bonds	$120,151,000	$119,740,000	$118,316,000	$115,750,000	$112,581,000	$113,789,000	$113,449,000	$110,978,000	$75,229,000	$72,274,000	$72,257,000	$72,242,000
2	Eligible Water Delivery Debt Service	$3,566,236	$3,554,037	$3,511,771	$3,435,609	$3,341,549	$3,377,404	$3,367,312	$3,293,970	$2,232,894	$2,145,185	$2,144,681	$2,144,236
3	Water Delivery Service Unit Equivalents (Year-end)	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent	$5.28	$5.19	$5.06	$4.89	$4.70	$4.69	$4.61	$4.45	$2.98	$2.83	$2.79	$2.75
5	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
6	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$423,829	$416,997	$406,786	$392,892	$377,265	$376,454	$370,546	$357,855	$239,489	$227,149	$224,202	$221,299
7	Water Delivery Credit Amount												
8	Water Delivery Growth Rate												
9	Sewer Delivery Existing Debt Service	$3,438,426	$3,426,664	$3,385,913	$3,312,480	$3,221,791	$3,256,361	$3,246,631	$3,175,917	$2,152,869	$2,068,304	$2,067,818	$2,067,388
10	Sewer Service Unit Equivalents	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
11	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent	$4.18	$4.11	$4.00	$3.86	$3.70	$3.69	$3.63	$3.50	$2.34	$2.22	$2.18	$2.15
12	Sewer Cumulative Growth in Service Unit Equivalents	107,075	107,075	107,075	107,075	107,075	107,075	107,075	107,075	107,075	107,075	107,075	107,075
13	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$447,918	$440,104	$428,751	$413,551	$396,569	$395,184	$388,459	$374,651	$250,392	$237,172	$233,780	$230,442
14	Sewer Credit Amount												
15	Sewer Growth Rate												

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040
1	Debt Service for Existing Revenue Bonds	$72,229,000	$79,619,000	$79,615,000	$79,619,000	$79,617,000	$66,300,000	$63,276,000	$43,604,000
2	Eligible Water Delivery Debt Service	$2,143,850	$2,363,194	$2,363,076	$2,363,194	$2,363,135	$1,967,869	$1,878,113	$1,294,223
3	Water Delivery Service Unit Equivalents (Year-end)	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592
4	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent	$2.72	$2.96	$2.92	$2.88	$2.85	$2.34	$2.21	$1.50
5	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
6	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$218,439	$237,719	$234,678	$231,699	$228,740	$188,053	$177,188	$120,546
7	Water Delivery Credit Amount								
8	Water Delivery Growth Rate								
9	Sewer Delivery Existing Debt Service	$2,067,016	$2,278,500	$2,278,386	$2,278,500	$2,278,443	$1,897,343	$1,810,804	$1,247,839
10	Sewer Service Unit Equivalents	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928
11	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent	$2.12	$2.31	$2.27	$2.24	$2.21	$1.81	$1.71	$1.16
12	Sewer Cumulative Growth in Service Unit Equivalents	107,075	107,075	107,075	107,075	107,075	107,075	107,075	107,075
13	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$227,159	$246,877	$243,391	$239,978	$236,595	$194,249	$182,781	$124,183
14	Sewer Credit Amount								
15	Sewer Growth Rate								

Appendix E

CREDIT FOR PROJECTED PRINCIPAL PAYMENTS ON ELIGIBLE FUTURE CIP

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$176,704	$362,243	$557,059	$761,616	$976,400	$1,201,924	$1,438,724	$1,687,364	$1,948,436	$2,222,562	$2,333,690
5	Debt Service Payment per EDU	$0.30	$0.60	$0.91	$1.23	$1.56	$1.90	$2.24	$2.59	$2.96	$3.33	$3.45
6	Water Supply Cumulative Growth in Service Unit Equivalents	7,579	15,255	23,030	30,906	38,884	46,964	55,149	63,440	71,837	80,343	80,343
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$2,252	$9,174	$21,028	$38,090	$60,653	$89,029	$123,547	$164,556	$212,427	$267,550	$277,347
8	**Water Supply Credit Amount**	**$11,528,812**										
9	Study Period Incremental EDUs	80,343										
10	**Water Supply Credit for Future Principal per EDU**	**$143**										

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$2,450,375	$2,572,893	$2,701,538	$2,836,615	$2,978,446	$3,127,368	$3,283,736	$3,447,923	$3,620,319	$3,801,335	$3,991,402
5	Debt Service Payment per EDU	$3.58	$3.71	$3.85	$3.99	$4.13	$4.28	$4.44	$4.60	$4.77	$4.95	$5.13
6	Water Supply Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$287,503	$298,031	$308,945	$320,258	$331,985	$344,142	$356,744	$369,807	$383,349	$397,386	$411,938
8	**Water Supply Credit Amount**											
9	Study Period Incremental EDUs											
10	**Water Supply Credit for Future Principal per EDU**											

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$4,190,972	$4,400,521	$4,620,547	$4,851,574	$5,094,153	$5,348,860	$5,616,304	$5,897,119	$5,428,271	$4,935,980	$4,419,076
5	Debt Service Payment per EDU	$5.31	$5.51	$5.71	$5.92	$6.14	$6.36	$6.60	$6.84	$6.21	$5.58	$4.93
6	Water Supply Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$427,022	$442,659	$458,868	$475,671	$493,089	$511,146	$529,863	$549,265	$499,153	$448,100	$396,061
8	**Water Supply Credit Amount**											
9	Study Period Incremental EDUs											
10	**Water Supply Credit for Future Principal per EDU**											

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$3,876,326	$3,306,438	$2,708,056	$2,079,755	$1,420,039	$727,337
5	Debt Service Payment per EDU	$4.27	$3.60	$2.91	$2.20	$1.49	$0.75
6	Water Supply Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$342,990	$288,835	$233,549	$177,077	$119,366	$60,359
8	**Water Supply Credit Amount**						
9	Study Period Incremental EDUs						
10	**Water Supply Credit for Future Principal per EDU**						

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$13,471	$27,616	$42,467	$58,062	$74,436	$91,629	$109,681	$128,636	$148,539	$169,437	$177,909
5	Debt Service Payment per EDU	$0.02	$0.05	$0.07	$0.09	$0.12	$0.14	$0.17	$0.20	$0.23	$0.25	$0.26
6	Water Delivery Cumulative Growth in Service Unit Equivalents	7,579	15,255	23,030	30,906	38,884	46,964	55,149	63,440	71,837	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$172	$699	$1,603	$2,904	$4,624	$6,787	$9,419	$12,545	$16,194	$20,397	$21,144
8	**Water Delivery - Flow Credit Amount for Distribution Mains**	**$878,900**										
9	Study Period Incremental EDUs	80,343										
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**	**$11**										

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$186,805	$196,145	$205,952	$216,250	$227,062	$238,415	$250,336	$262,853	$275,995	$289,795	$304,285
5	Debt Service Payment per EDU	$0.27	$0.28	$0.29	$0.30	$0.32	$0.33	$0.34	$0.35	$0.36	$0.38	$0.39
6	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$21,918	$22,720	$23,552	$24,415	$25,309	$26,236	$27,196	$28,192	$29,225	$30,295	$31,404
8	**Water Delivery - Flow Credit Amount for Distribution Mains**											
9	Study Period Incremental EDUs											
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**											

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$319,499	$335,474	$352,248	$369,860	$388,353	$407,771	$428,159	$449,567	$413,825	$376,295	$336,889
5	Debt Service Payment per EDU	$0.41	$0.42	$0.44	$0.45	$0.47	$0.49	$0.50	$0.52	$0.47	$0.43	$0.38
6	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$32,554	$33,746	$34,982	$36,263	$37,591	$38,967	$40,394	$41,873	$38,053	$34,161	$30,194
8	**Water Delivery - Flow Credit Amount for Distribution Mains**											
9	Study Period Incremental EDUs											
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**											

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$295,512	$252,067	$206,449	$158,550	$108,257	$55,449
5	Debt Service Payment per EDU	$0.33	$0.27	$0.22	$0.17	$0.11	$0.06
6	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$26,148	$22,019	$17,805	$13,499	$9,100	$4,601
8	**Water Delivery - Flow Credit Amount for Distribution Mains**						
9	Study Period Incremental EDUs						
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**						

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$2,935	$6,017	$9,253	$12,650	$16,218	$19,964	$23,897	$28,027	$32,363	$36,916	$38,762
5	Debt Service Payment per EDU	$0.00	$0.01	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.05	$0.06	$0.06
6	Water Delivery Cumulative Growth in Service Unit Equivalents	7,579	15,255	23,030	30,906	38,884	46,964	55,149	63,440	71,837	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$37	$152	$349	$633	$1,007	$1,479	$2,052	$2,733	$3,528	$4,444	$4,607
8	**Water Delivery - System Development Credit Amount for Well Pumps**	**$191,492**										
9	Study Period Incremental EDUs	80,343										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**	**$2**										

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$40,700	$42,735	$44,872	$47,116	$49,472	$51,945	$54,542	$57,270	$60,133	$63,140	$66,297
5	Debt Service Payment per EDU	$0.06	$0.06	$0.06	$0.07	$0.07	$0.07	$0.07	$0.08	$0.08	$0.08	$0.09
6	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$4,775	$4,950	$5,132	$5,319	$5,514	$5,716	$5,925	$6,142	$6,367	$6,601	$6,842
8	**Water Delivery - System Development Credit Amount for Well Pumps**											
9	Study Period Incremental EDUs											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**											

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$69,612	$73,092	$76,747	$80,584	$84,613	$88,844	$93,286	$97,950	$90,163	$81,986	$73,400
5	Debt Service Payment per EDU	$0.09	$0.09	$0.09	$0.10	$0.10	$0.11	$0.11	$0.11	$0.10	$0.09	$0.08
6	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$7,093	$7,353	$7,622	$7,901	$8,190	$8,490	$8,801	$9,123	$8,291	$7,443	$6,579
8	**Water Delivery - System Development Credit Amount for Well Pumps**											
9	Study Period Incremental EDUs											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**											

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$64,385	$54,920	$44,980	$34,544	$23,587	$12,081
5	Debt Service Payment per EDU	$0.07	$0.06	$0.05	$0.04	$0.02	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents	80,343	80,343	80,343	80,343	80,343	80,343
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$5,697	$4,798	$3,879	$2,941	$1,983	$1,003
8	**Water Delivery - System Development Credit Amount for Well Pumps**						
9	Study Period Incremental EDUs						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**						

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$602	$1,234	$1,898	$2,595	$3,327	$4,095	$4,902	$5,749	$6,639	$7,573	$7,951
5	Debt Service Payment per EDU	$0.001	$0.002	$0.003	$0.004	$0.005	$0.006	$0.008	$0.009	$0.010	$0.011	$0.012
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	1,333	2,765	4,304	5,958	7,735	9,645	11,697	13,902	16,272	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$1	$6	$13	$25	$41	$62	$89	$123	$164	$214	$221
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**	**$9,150**										
9	Study Period Incremental EDUs in High Elevation Service Area	18,818										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**	**$0**										

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$8,349	$8,766	$9,205	$9,665	$10,148	$10,655	$11,188	$11,748	$12,335	$12,952	$13,599
5	Debt Service Payment per EDU	$0.012	$0.013	$0.013	$0.014	$0.014	$0.015	$0.015	$0.016	$0.016	$0.017	$0.017
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$229	$238	$247	$256	$265	$275	$285	$295	$306	$317	$329
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**											

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$14,279	$14,993	$15,743	$16,530	$17,357	$18,224	$19,136	$20,092	$18,495	$16,818	$15,056
5	Debt Service Payment per EDU	$0.018	$0.019	$0.019	$0.020	$0.021	$0.022	$0.022	$0.023	$0.021	$0.019	$0.017
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$341	$353	$366	$380	$393	$408	$423	$438	$398	$358	$316
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**											

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$13,207	$11,266	$9,227	$7,086	$4,838	$2,478
5	Debt Service Payment per EDU	$0.015	$0.012	$0.010	$0.008	$0.005	$0.003
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$274	$230	$186	$141	$95	$48
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**						
9	Study Period Incremental EDUs in High Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**						

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$753	$1,543	$2,372	$3,244	$4,158	$5,119	$6,127	$7,186	$8,298	$9,466	$9,939
5	Debt Service Payment per EDU	$0.001	$0.003	$0.004	$0.005	$0.007	$0.008	$0.010	$0.011	$0.013	$0.014	$0.015
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	3,832	7,732	11,700	15,738	19,847	24,028	28,283	32,612	37,018	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$5	$20	$45	$83	$132	$194	$270	$360	$466	$589	$610
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**	**$25,352**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	41,501										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**	**$1**										

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$10,436	$10,958	$11,506	$12,081	$12,685	$13,319	$13,985	$14,685	$15,419	$16,190	$16,999
5	Debt Service Payment per EDU	$0.015	$0.016	$0.016	$0.017	$0.018	$0.018	$0.019	$0.020	$0.020	$0.021	$0.022
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$632	$656	$680	$705	$730	$757	$785	$814	$843	$874	$906
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**											

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$17,849	$18,742	$19,679	$20,663	$21,696	$22,780	$23,920	$25,115	$23,119	$21,022	$18,821
5	Debt Service Payment per EDU	$0.023	$0.023	$0.024	$0.025	$0.026	$0.027	$0.028	$0.029	$0.026	$0.024	$0.021
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$939	$974	$1,009	$1,046	$1,085	$1,124	$1,166	$1,208	$1,098	$986	$871
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**											

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$16,509	$14,082	$11,533	$8,858	$6,048	$3,098
5	Debt Service Payment per EDU	$0.018	$0.015	$0.012	$0.009	$0.006	$0.003
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$755	$635	$514	$390	$263	$133
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**						

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$151	$309	$474	$649	$832	$1,024	$1,225	$1,437	$1,660	$1,893	$1,988
5	Debt Service Payment per EDU	$0.000	$0.001	$0.001	$0.001	$0.001	$0.002	$0.002	$0.002	$0.003	$0.003	$0.003
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	1,953	3,916	5,891	7,877	9,873	11,881	13,900	15,930	17,971	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$0	$2	$5	$8	$13	$19	$27	$35	$45	$57	$59
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**	**$2,449**										
9	Study Period Incremental EDUs in Low Elevation Service Area	20,024										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**	**$0**										

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$2,087	$2,192	$2,301	$2,416	$2,537	$2,664	$2,797	$2,937	$3,084	$3,238	$3,400
5	Debt Service Payment per EDU	$0.003	$0.003	$0.003	$0.003	$0.004	$0.004	$0.004	$0.004	$0.004	$0.004	$0.004
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$61	$63	$66	$68	$70	$73	$76	$79	$81	$84	$87
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**											

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$3,570	$3,748	$3,936	$4,133	$4,339	$4,556	$4,784	$5,023	$4,624	$4,204	$3,764
5	Debt Service Payment per EDU	$0.005	$0.005	$0.005	$0.005	$0.005	$0.005	$0.006	$0.006	$0.005	$0.005	$0.004
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$91	$94	$97	$101	$105	$109	$112	$117	$106	$95	$84
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**											

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$3,302	$2,816	$2,307	$1,772	$1,210	$620
5	Debt Service Payment per EDU	$0.004	$0.003	$0.002	$0.002	$0.001	$0.001
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$73	$61	$50	$38	$25	$13
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**						

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

	High Elevation Service Area	High Elevation	Total System								
		EDUs	18,818	80,343							
		Growth	7.46%	1.29%							
Line		1	2	3	4	5	6	7	8	9	10	11
No.	Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$1,204	$2,468	$3,796	$5,190	$6,653	$8,190	$9,804	$11,498	$13,277	$15,145	$15,902
5	Debt Service Payment per EDU	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.02	$0.02	$0.02	$0.02	$0.02
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	1,333	2,765	4,304	5,958	7,735	9,645	11,697	13,902	16,272	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$3	$11	$27	$50	$82	$125	$179	$246	$328	$427	$443
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**	**$18,300**										
9	Study Period Incremental EDUs in High Elevation Service Area	18,818										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**	**$1**										

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

High Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$16,698	$17,532	$18,409	$19,330	$20,296	$21,311	$22,376	$23,495	$24,670	$25,903	$27,199
5	Debt Service Payment per EDU	$0.02	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$459	$476	$493	$511	$530	$549	$569	$590	$612	$634	$657
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**											

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

High Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$28,559	$29,987	$31,486	$33,060	$34,713	$36,449	$38,271	$40,185	$36,990	$33,635	$30,113
5	Debt Service Payment per EDU	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.05	$0.04	$0.04	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$682	$707	$732	$759	$787	$816	$846	$877	$797	$715	$632
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**											

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

High Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$26,414	$22,531	$18,454	$14,172	$9,677	$4,956
5	Debt Service Payment per EDU	$0.03	$0.02	$0.02	$0.02	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$547	$461	$373	$283	$191	$96
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**						
9	Study Period Incremental EDUs in High Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**						

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$1,355	$2,777	$4,270	$5,839	$7,485	$9,214	$11,029	$12,936	$14,937	$17,038	$17,890
5	Debt Service Payment per EDU	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.02	$0.02	$0.02	$0.03	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	3,832	7,732	11,700	15,738	19,847	24,028	28,283	32,612	37,018	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$9	$36	$82	$149	$237	$349	$486	$649	$839	$1,059	$1,098
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**	**$45,634**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	41,501										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**	**$1**										

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$18,785	$19,724	$20,710	$21,746	$22,833	$23,975	$25,173	$26,432	$27,754	$29,141	$30,598
5	Debt Service Payment per EDU	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.04	$0.04	$0.04	$0.04
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1,138	$1,180	$1,223	$1,268	$1,315	$1,363	$1,413	$1,464	$1,518	$1,574	$1,631
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**											

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$32,128	$33,735	$35,422	$37,193	$39,052	$41,005	$43,055	$45,208	$41,614	$37,840	$33,877
5	Debt Service Payment per EDU	$0.04	$0.04	$0.04	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.04	$0.04
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1,691	$1,753	$1,817	$1,884	$1,953	$2,024	$2,098	$2,175	$1,977	$1,774	$1,568
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**											

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$29,716	$25,347	$20,760	$15,944	$10,886	$5,576
5	Debt Service Payment per EDU	$0.03	$0.03	$0.02	$0.02	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1,358	$1,144	$925	$701	$473	$239
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**						

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$376	$771	$1,186	$1,622	$2,079	$2,559	$3,064	$3,593	$4,149	$4,733	$4,970
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	1,953	3,916	5,891	7,877	9,873	11,881	13,900	15,930	17,971	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1	$5	$11	$21	$33	$48	$66	$88	$113	$142	$147
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**	**$6,123**										
9	Study Period Incremental EDUs in Low Elevation Service Area	20,024										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**	**$0**										

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$5,218	$5,479	$5,753	$6,040	$6,343	$6,660	$6,993	$7,342	$7,709	$8,095	$8,500
5	Debt Service Payment per EDU	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$153	$158	$164	$170	$176	$183	$189	$196	$203	$211	$219
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**											

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$8,925	$9,371	$9,839	$10,331	$10,848	$11,390	$11,960	$12,558	$11,559	$10,511	$9,410
5	Debt Service Payment per EDU	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$227	$235	$244	$252	$262	$271	$281	$292	$265	$238	$210
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**											

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$8,255	$7,041	$5,767	$4,429	$3,024	$1,549
5	Debt Service Payment per EDU	$0.01	$0.01	$0.01	$0.00	$0.00	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$182	$153	$124	$94	$63	$32
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**						

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$75	$154	$237	$324	$416	$512	$613	$719	$830	$947	$994
5	Debt Service Payment per EDU	$0.000	$0.000	$0.000	$0.001	$0.001	$0.001	$0.001	$0.001	$0.001	$0.001	$0.001
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	3,832	7,732	11,700	15,738	19,847	24,028	28,283	32,612	37,018	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$0	$2	$5	$8	$13	$19	$27	$36	$47	$59	$61
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**	**$2,535**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	41,501										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**	**$0**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$1,044	$1,096	$1,151	$1,208	$1,269	$1,332	$1,399	$1,468	$1,542	$1,619	$1,700
5	Debt Service Payment per EDU	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002	$0.002
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$63	$66	$68	$70	$73	$76	$78	$81	$84	$87	$91
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**											

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$1,785	$1,874	$1,968	$2,066	$2,170	$2,278	$2,392	$2,512	$2,312	$2,102	$1,882
5	Debt Service Payment per EDU	$0.002	$0.002	$0.002	$0.003	$0.003	$0.003	$0.003	$0.003	$0.003	$0.002	$0.002
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$94	$97	$101	$105	$108	$112	$117	$121	$110	$99	$87
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**											

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$1,651	$1,408	$1,153	$886	$605	$310
5	Debt Service Payment per EDU	$0.002	$0.002	$0.001	$0.001	$0.001	$0.000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$75	$64	$51	$39	$26	$13
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**						

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$1,204	$2,468	$3,796	$5,190	$6,653	$8,190	$9,804	$11,498	$13,277	$15,145	$15,902
5	Debt Service Payment per EDU	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.02	$0.02	$0.02	$0.02	$0.02
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	1,333	2,765	4,304	5,958	7,735	9,645	11,697	13,902	16,272	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$3	$11	$27	$50	$82	$125	$179	$246	$328	$427	$443
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**	**$18,300**										
9	Study Period Incremental EDUs in High Elevation Service Area	18,818										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**	**$1**										

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$16,698	$17,532	$18,409	$19,330	$20,296	$21,311	$22,376	$23,495	$24,670	$25,903	$27,199
5	Debt Service Payment per EDU	$0.02	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$459	$476	$493	$511	$530	$549	$569	$590	$612	$634	$657
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**											

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$28,559	$29,987	$31,486	$33,060	$34,713	$36,449	$38,271	$40,185	$36,990	$33,635	$30,113
5	Debt Service Payment per EDU	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.05	$0.04	$0.04	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$682	$707	$732	$759	$787	$816	$846	$877	$797	$715	$632
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**											

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$26,414	$22,531	$18,454	$14,172	$9,677	$4,956
5	Debt Service Payment per EDU	$0.03	$0.02	$0.02	$0.02	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	18,818	18,818	18,818	18,818	18,818	18,818
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$547	$461	$373	$283	$191	$96
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**						
9	Study Period Incremental EDUs in High Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**						

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$2,333	$4,783	$7,355	$10,055	$12,891	$15,869	$18,995	$22,278	$25,725	$29,344	$30,811
5	Debt Service Payment per EDU	$0.00	$0.01	$0.01	$0.02	$0.02	$0.03	$0.03	$0.03	$0.04	$0.04	$0.05
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	3,832	7,732	11,700	15,738	19,847	24,028	28,283	32,612	37,018	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$15	$61	$141	$256	$409	$601	$837	$1,117	$1,445	$1,825	$1,891
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**	**$78,591**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	41,501										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**	**$2**										

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$32,352	$33,969	$35,668	$37,451	$39,324	$41,290	$43,354	$45,522	$47,798	$50,188	$52,697
5	Debt Service Payment per EDU	$0.05	$0.05	$0.05	$0.05	$0.05	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$1,961	$2,033	$2,107	$2,184	$2,264	$2,347	$2,433	$2,522	$2,614	$2,710	$2,809
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**											

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$55,332	$58,099	$61,004	$64,054	$67,257	$70,620	$74,151	$77,858	$71,668	$65,168	$58,344
5	Debt Service Payment per EDU	$0.07	$0.07	$0.08	$0.08	$0.08	$0.08	$0.09	$0.09	$0.08	$0.07	$0.07
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$2,912	$3,019	$3,129	$3,244	$3,363	$3,486	$3,614	$3,746	$3,404	$3,056	$2,701
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**											

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$51,178	$43,654	$35,754	$27,458	$18,748	$9,603
5	Debt Service Payment per EDU	$0.06	$0.05	$0.04	$0.03	$0.02	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	41,501	41,501	41,501	41,501	41,501	41,501
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$2,339	$1,970	$1,593	$1,208	$814	$412
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**						

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	587,073	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416
2	Incremental EDUs	7,579	7,676	7,775	7,876	7,978	8,081	8,185	8,290	8,397	8,506	8,616
3	Total EDUs	594,652	602,328	610,103	617,979	625,957	634,037	642,222	650,513	658,910	667,416	676,032
4	Annual Debt Service Payment	$151	$309	$474	$649	$832	$1,024	$1,225	$1,437	$1,660	$1,893	$1,988
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	1,953	3,916	5,891	7,877	9,873	11,881	13,900	15,930	17,971	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$0	$2	$5	$8	$13	$19	$27	$35	$45	$57	$59
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**	**$2,449**										
9	Study Period Incremental EDUs in Low Elevation Service Area	20,024										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**	**$0**										

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	676,032	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549
2	Incremental EDUs	8,727	8,840	8,954	9,069	9,186	9,305	9,425	9,547	9,670	9,795	9,921
3	Total EDUs	684,759	693,598	702,552	711,621	720,808	730,112	739,538	749,084	758,754	768,549	778,470
4	Annual Debt Service Payment	$2,087	$2,192	$2,301	$2,416	$2,537	$2,664	$2,797	$2,937	$3,084	$3,238	$3,400
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$61	$63	$66	$68	$70	$73	$76	$79	$81	$84	$87
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**											

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	778,470	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007
2	Incremental EDUs	10,049	10,179	10,310	10,444	10,578	10,715	10,853	10,993	11,135	11,279	11,425
3	Total EDUs	788,520	798,699	809,009	819,453	830,031	840,746	851,599	862,592	873,728	885,007	896,431
4	Annual Debt Service Payment	$3,570	$3,748	$3,936	$4,133	$4,339	$4,556	$4,784	$5,023	$4,624	$4,204	$3,764
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.00	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$91	$94	$97	$101	$105	$109	$112	$117	$106	$95	$84
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**											

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	896,431	908,003	919,725	931,598	943,624	955,805
2	Incremental EDUs	11,572	11,721	11,873	12,026	12,181	12,339
3	Total EDUs	908,003	919,725	931,598	943,624	955,805	968,143
4	Annual Debt Service Payment	$3,302	$2,816	$2,307	$1,772	$1,210	$620
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	20,024	20,024	20,024	20,024	20,024	20,024
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$73	$61	$50	$38	$25	$13
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**						

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Medio Creek Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$602	$1,234	$1,898	$2,595	$3,327	$4,095	$4,902	$5,749	$6,639	$7,573	$7,951
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	1,420	2,900	4,442	6,050	7,726	9,473	11,294	13,193	15,171	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$1	$5	$11	$21	$34	$51	$71	$96	$126	$161	$167
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**	**$6,799**										
9	Study Period Incremental EDUs in Medio Creek Service Area	17,234										
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**	**$0**										

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$8,349	$8,766	$9,205	$9,665	$10,148	$10,655	$11,188	$11,748	$12,335	$12,952	$13,599
5	Debt Service Payment per EDU	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$173	$179	$185	$191	$198	$205	$212	$220	$228	$236	$244
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$14,279	$14,993	$15,743	$16,530	$17,357	$18,224	$19,136	$20,092	$18,495	$16,818	$15,056
5	Debt Service Payment per EDU	$0.01	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$253	$261	$271	$280	$290	$300	$311	$322	$292	$262	$231
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$13,207	$11,266	$9,227	$7,086	$4,838	$2,478
5	Debt Service Payment per EDU	$0.01	$0.01	$0.01	$0.01	$0.00	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	17,234	17,234	17,234	17,234	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$200	$168	$136	$103	$69	$35
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**						
9	Study Period Incremental EDUs in Medio Creek Service Area						
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**						

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$13,697	$28,078	$43,179	$59,035	$75,683	$93,164	$111,520	$130,792	$151,029	$172,277	$180,891
5	Debt Service Payment per EDU	$0.02	$0.04	$0.06	$0.08	$0.10	$0.12	$0.14	$0.17	$0.19	$0.21	$0.22
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	8,484	17,075	25,775	34,586	43,507	52,542	61,692	70,957	80,340	89,841	89,841
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$163	$663	$1,517	$2,743	$4,362	$6,393	$8,858	$11,781	$15,186	$19,099	$19,772
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**	**$808,582**										
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area	89,841										
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**	**$9**										

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$189,935	$199,432	$209,404	$219,874	$230,868	$242,411	$254,532	$267,258	$280,621	$294,652	$309,385
5	Debt Service Payment per EDU	$0.23	$0.24	$0.24	$0.25	$0.26	$0.27	$0.28	$0.29	$0.30	$0.31	$0.32
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$20,468	$21,189	$21,935	$22,708	$23,508	$24,336	$25,193	$26,081	$26,999	$27,951	$28,935
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**											
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**											

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$324,854	$341,097	$358,151	$376,059	$394,862	$414,605	$435,335	$457,102	$420,760	$382,602	$342,535
5	Debt Service Payment per EDU	$0.33	$0.35	$0.36	$0.37	$0.38	$0.40	$0.41	$0.42	$0.39	$0.35	$0.31
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841	89,841
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$29,954	$31,010	$32,102	$33,233	$34,403	$35,615	$36,870	$38,168	$34,640	$31,055	$27,412
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**											
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**											

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$300,465	$256,291	$209,909	$161,208	$110,071	$56,378
5	Debt Service Payment per EDU	$0.26	$0.22	$0.18	$0.14	$0.09	$0.05
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	89,841	89,841	89,841	89,841	89,841	89,841
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$23,706	$19,937	$16,099	$12,190	$8,206	$4,144
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**						
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area						
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**						

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$2,258	$4,628	$7,117	$9,731	$12,475	$15,357	$18,382	$21,559	$24,895	$28,397	$29,817
5	Debt Service Payment per EDU	$0.00	$0.01	$0.01	$0.01	$0.02	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	1,420	2,900	4,442	6,050	7,726	9,473	11,294	13,193	15,171	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$4	$19	$43	$79	$128	$190	$267	$361	$473	$604	$625
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**	**$25,498**										
9	Study Period Incremental EDUs in Medio Creek Service Area	17,234										
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**	**$1**										

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$31,308	$32,873	$34,517	$36,243	$38,055	$39,958	$41,956	$44,054	$46,256	$48,569	$50,997
5	Debt Service Payment per EDU	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.05	$0.05	$0.05	$0.05	$0.05
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$647	$670	$694	$718	$743	$770	$797	$825	$854	$884	$915
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$53,547	$56,225	$59,036	$61,988	$65,087	$68,341	$71,759	$75,346	$69,356	$63,066	$56,462
5	Debt Service Payment per EDU	$0.05	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07	$0.07	$0.06	$0.06	$0.05
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$947	$981	$1,015	$1,051	$1,088	$1,126	$1,166	$1,207	$1,095	$982	$867
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$49,527	$42,246	$34,600	$26,573	$18,144	$9,293
5	Debt Service Payment per EDU	$0.04	$0.04	$0.03	$0.02	$0.02	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	17,234	17,234	17,234	17,234	17,234	17,234
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$750	$630	$509	$385	$259	$131
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**						
9	Study Period Incremental EDUs in Medio Creek Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**						

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$8,504	$17,433	$26,809	$36,654	$46,990	$57,844	$69,240	$81,206	$93,771	$106,963	$112,311
5	Debt Service Payment per EDU	$0.01	$0.02	$0.04	$0.05	$0.06	$0.08	$0.09	$0.10	$0.12	$0.13	$0.14
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	985	2,049	3,197	4,435	5,772	7,215	8,772	10,453	12,267	14,224	14,224
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$12	$49	$117	$218	$359	$545	$782	$1,078	$1,440	$1,877	$1,944
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**	**$79,005**										
9	Study Period Incremental EDUs in Upper Medina Service Area	14,224										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**	**$6**										

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$117,927	$123,823	$130,014	$136,515	$143,341	$150,508	$158,033	$165,935	$174,232	$182,943	$192,090
5	Debt Service Payment per EDU	$0.14	$0.15	$0.15	$0.16	$0.16	$0.17	$0.17	$0.18	$0.19	$0.19	$0.20
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,012	$2,083	$2,156	$2,232	$2,311	$2,392	$2,477	$2,564	$2,654	$2,748	$2,844
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**											
9	Study Period Incremental EDUs in Upper Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**											

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$201,695	$211,780	$222,369	$233,487	$245,162	$257,420	$270,291	$283,805	$261,241	$237,549	$212,673
5	Debt Service Payment per EDU	$0.21	$0.21	$0.22	$0.23	$0.24	$0.25	$0.25	$0.26	$0.24	$0.21	$0.19
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224	14,224
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,945	$3,048	$3,156	$3,267	$3,382	$3,501	$3,624	$3,752	$3,405	$3,053	$2,695
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**											
9	Study Period Incremental EDUs in Upper Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**											

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$186,552	$159,126	$130,328	$100,090	$68,341	$35,004
5	Debt Service Payment per EDU	$0.16	$0.14	$0.11	$0.08	$0.06	$0.03
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	14,224	14,224	14,224	14,224	14,224	14,224
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,330	$1,960	$1,583	$1,198	$807	$407
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**						
9	Study Period Incremental EDUs in Upper Medina Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**						

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$10,988	$22,524	$34,638	$47,358	$60,713	$74,736	$89,461	$104,921	$121,155	$138,200	$145,110
5	Debt Service Payment per EDU	$0.02	$0.03	$0.05	$0.06	$0.08	$0.10	$0.12	$0.13	$0.15	$0.17	$0.18
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	1,127	2,339	3,641	5,042	6,547	8,165	9,904	11,774	13,784	15,945	15,945
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$17	$73	$172	$321	$526	$797	$1,141	$1,568	$2,090	$2,719	$2,815
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**	**$114,471**										
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area	15,945										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**	**$7**										

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$152,366	$159,984	$167,983	$176,382	$185,201	$194,462	$204,185	$214,394	$225,114	$236,369	$248,188
5	Debt Service Payment per EDU	$0.18	$0.19	$0.20	$0.20	$0.21	$0.22	$0.22	$0.23	$0.24	$0.25	$0.26
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,914	$3,017	$3,123	$3,233	$3,347	$3,465	$3,587	$3,713	$3,844	$3,979	$4,120
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**											
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**											

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$260,597	$273,627	$287,308	$301,674	$316,757	$332,595	$349,225	$366,686	$337,533	$306,922	$274,781
5	Debt Service Payment per EDU	$0.27	$0.28	$0.29	$0.30	$0.31	$0.32	$0.33	$0.34	$0.31	$0.28	$0.24
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945	15,945
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$4,265	$4,415	$4,570	$4,731	$4,898	$5,071	$5,249	$5,434	$4,932	$4,421	$3,903
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**											
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**											

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$241,032	$205,596	$168,388	$129,320	$88,299	$45,226
5	Debt Service Payment per EDU	$0.21	$0.18	$0.14	$0.11	$0.07	$0.04
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	15,945	15,945	15,945	15,945	15,945	15,945
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$3,375	$2,838	$2,292	$1,736	$1,168	$590
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**						
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**						

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$6,322	$12,959	$19,929	$27,247	$34,931	$42,999	$51,471	$60,366	$69,706	$79,512	$83,488
5	Debt Service Payment per EDU	$0.01	$0.02	$0.03	$0.04	$0.05	$0.06	$0.07	$0.08	$0.09	$0.10	$0.10
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	4,431	8,994	13,693	18,530	23,512	28,641	33,923	39,361	44,961	50,727	50,727
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$39	$161	$372	$678	$1,088	$1,608	$2,248	$3,016	$3,922	$4,977	$5,152
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**	**$210,385**										
9	Study Period Incremental EDUs in Upper Collection Service Area	50,727										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**	**$4**										

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$87,662	$92,046	$96,648	$101,480	$106,554	$111,882	$117,476	$123,350	$129,517	$135,993	$142,793
5	Debt Service Payment per EDU	$0.11	$0.11	$0.11	$0.12	$0.12	$0.13	$0.13	$0.13	$0.14	$0.14	$0.15
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$5,334	$5,522	$5,716	$5,918	$6,126	$6,342	$6,565	$6,797	$7,036	$7,284	$7,540
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**											
9	Study Period Incremental EDUs in Upper Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**											

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$149,933	$157,429	$165,301	$173,566	$182,244	$191,356	$200,924	$210,970	$194,197	$176,585	$158,093
5	Debt Service Payment per EDU	$0.15	$0.16	$0.16	$0.17	$0.18	$0.18	$0.19	$0.20	$0.18	$0.16	$0.14
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727	50,727
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$7,806	$8,081	$8,366	$8,660	$8,965	$9,281	$9,608	$9,947	$9,027	$8,093	$7,143
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**											
9	Study Period Incremental EDUs in Upper Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**											

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$138,676	$118,288	$96,881	$74,404	$50,802	$26,021
5	Debt Service Payment per EDU	$0.12	$0.10	$0.08	$0.06	$0.04	$0.02
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	50,727	50,727	50,727	50,727	50,727	50,727
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$6,178	$5,195	$4,195	$3,177	$2,138	$1,080
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**						
9	Study Period Incremental EDUs in Upper Collection Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**						

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$3,688	$7,560	$11,625	$15,894	$20,376	$25,083	$30,024	$35,213	$40,662	$46,382	$48,701
5	Debt Service Payment per EDU	$0.01	$0.01	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.05	$0.06	$0.06
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	5,456	10,985	16,586	22,262	28,014	33,841	39,746	45,729	51,791	57,934	57,934
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$28	$115	$263	$475	$756	$1,109	$1,537	$2,044	$2,636	$3,316	$3,433
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**	**$140,373**										
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area	57,934										
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**	**$2**										

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$51,136	$53,693	$56,378	$59,197	$62,157	$65,264	$68,528	$71,954	$75,552	$79,329	$83,296
5	Debt Service Payment per EDU	$0.06	$0.06	$0.07	$0.07	$0.07	$0.07	$0.08	$0.08	$0.08	$0.08	$0.09
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$3,554	$3,679	$3,808	$3,942	$4,081	$4,225	$4,374	$4,528	$4,687	$4,853	$5,024
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**											

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$87,461	$91,834	$96,425	$101,247	$106,309	$111,624	$117,206	$123,066	$113,282	$103,008	$92,221
5	Debt Service Payment per EDU	$0.09	$0.09	$0.10	$0.10	$0.10	$0.11	$0.11	$0.11	$0.10	$0.09	$0.08
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934	57,934
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$5,200	$5,384	$5,573	$5,770	$5,973	$6,183	$6,401	$6,627	$6,014	$5,392	$4,759
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**											

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$80,894	$69,001	$56,514	$43,402	$29,635	$15,179
5	Debt Service Payment per EDU	$0.07	$0.06	$0.05	$0.04	$0.02	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	57,934	57,934	57,934	57,934	57,934	57,934
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$4,116	$3,461	$2,795	$2,116	$1,425	$719
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**						
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**						

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	703,317	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392
2	Incremental EDUs	10,038	10,181	10,326	10,474	10,623	10,775	10,928	11,084	11,243	11,403	11,566
3	Total EDUs	713,355	723,536	733,862	744,335	754,959	765,733	776,662	787,746	798,989	810,392	821,958
4	Annual Debt Service Payment	$6,246	$12,805	$19,692	$26,923	$34,515	$42,487	$50,858	$59,647	$68,876	$78,566	$82,494
5	Debt Service Payment per EDU	$0.01	$0.02	$0.03	$0.04	$0.05	$0.06	$0.07	$0.08	$0.09	$0.10	$0.10
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	7,039	14,154	21,345	28,614	35,961	43,386	50,892	58,478	66,146	73,896	73,896
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$62	$250	$573	$1,035	$1,644	$2,407	$3,333	$4,428	$5,702	$7,164	$7,416
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**	**$303,357**										
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area	73,896										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**	**$4**										

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	821,958	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095
2	Incremental EDUs	11,731	11,898	12,068	12,240	12,415	12,592	12,772	12,954	13,139	13,327	13,517
3	Total EDUs	833,689	845,587	857,655	869,896	882,311	894,903	907,675	920,629	933,768	947,095	960,612
4	Annual Debt Service Payment	$86,619	$90,950	$95,497	$100,272	$105,286	$110,550	$116,078	$121,881	$127,976	$134,374	$141,093
5	Debt Service Payment per EDU	$0.10	$0.11	$0.11	$0.12	$0.12	$0.12	$0.13	$0.13	$0.14	$0.14	$0.15
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$7,678	$7,948	$8,228	$8,518	$8,818	$9,129	$9,450	$9,783	$10,128	$10,484	$10,854
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**											

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	960,612	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858
2	Incremental EDUs	13,710	13,905	14,104	14,305	14,509	14,716	14,926	15,139	15,356	15,575	15,797
3	Total EDUs	974,322	988,227	1,002,331	1,016,636	1,031,146	1,045,862	1,060,788	1,075,928	1,091,284	1,106,858	1,122,655
4	Annual Debt Service Payment	$148,148	$155,555	$163,333	$171,499	$180,074	$189,078	$198,532	$208,459	$191,885	$174,483	$156,211
5	Debt Service Payment per EDU	$0.15	$0.16	$0.16	$0.17	$0.17	$0.18	$0.19	$0.19	$0.18	$0.16	$0.14
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896	73,896
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$11,236	$11,632	$12,042	$12,466	$12,905	$13,359	$13,830	$14,317	$12,993	$11,649	$10,282
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**											

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,122,655	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087
2	Incremental EDUs	16,022	16,251	16,483	16,718	16,957	17,199
3	Total EDUs	1,138,678	1,154,929	1,171,412	1,188,130	1,205,087	1,222,286
4	Annual Debt Service Payment	$137,025	$116,880	$95,728	$73,518	$50,197	$25,711
5	Debt Service Payment per EDU	$0.12	$0.10	$0.08	$0.06	$0.04	$0.02
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	73,896	73,896	73,896	73,896	73,896	73,896
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$8,892	$7,478	$6,039	$4,572	$3,078	$1,554
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**						
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**						