

# SANITARY SEWER IMPACT FEE FACILITIES PLAN (IFFP) & IMPACT FEE ANALYSIS (IFA)

CITY OF ST. GEORGE, UTAH



FINAL ADOPTED  
JULY 10, 2014

  
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## Certification for Impact Fee Facilities Plan and Impact Fee Analysis

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### IFFP Certification

LYRB certifies that the attached impact fee facilities plan:

1. includes only the costs of public facilities that are:
  - a. allowed under the Impact Fees Act; and
  - b. actually incurred; or
  - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
  - a. costs of operation and maintenance of public facilities;
  - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and,
3. complies in each and every relevant respect with the Impact Fees Act.

### IFA Certification

LYRB certifies that the attached impact fee analysis:

1. includes only the costs of public facilities that are:
  - a. allowed under the Impact Fees Act; and
  - b. actually incurred; or
  - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
  - a. costs of operation and maintenance of public facilities;
  - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
3. offsets costs with grants or other alternate sources of payment; and,
4. complies in each and every relevant respect with the Impact Fees Act.

### LYRB makes this certification with the following caveats:

1. All of the recommendations for implementations of the IFFP made in the IFFP documents or in the IFA documents are followed by City Staff and elected officials.
2. If all or a portion of the IFFP or IFA are modified or amended, this certification is no longer valid.
3. All information provided to LYRB is assumed to be correct, complete, and accurate. This includes information provided by the City as well as outside sources.

LEWIS YOUNG ROBERTSON & BURNINGHAM, INC.



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## SECTION 1: EXECUTIVE SUMMARY

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The purpose of the Sanitary Sewer Impact Fee Facilities Plan (“IFFP”), with supporting Impact Fee Analysis (“IFA”), is to fulfill the requirements established in Utah Code Title 11 Chapter 36a, the “Impact Fees Act”, and assist the City of St. George (the “City”) in financing and constructing necessary capital improvements for future growth. This document will address the future sanitary sewer infrastructure needed to serve the service area through the next six to ten years, as well as the appropriate impact fees the City may charge to new growth to maintain the existing level of service (“LOS”). The 2008 Regional Treatment Master Plan and the 2010 Wastewater Collection Master Plan and Capital Facility Plan (“CFP”), as well as updates from the City, provide much of the information utilized in this analysis.

- ☐ **Impact Fee Service Area:** The wastewater system is separated into two distinct systems: 1) The Local Wastewater Division, and 2) the Regional Wastewater Division. The Local Wastewater System serves development within the City of St. George, whereas the Regional System serves the City of St. George, Ivins City, the City of Santa Clara, and Washington City.
- ☐ **Demand Analysis:** The demand units utilized in this analysis are based on typical usage patterns measured in gallons per day (gpd) and equivalent residential units (ERUs). As residential and commercial growth occurs within the City and region, additional ERUs will be generated. The sewer capital improvements identified in this study are based on maintaining the current level of service as defined and measured by the City.
- ☐ **Level of Service:** For **treatment**, the typical unit usage parameters are provided by the City of St. George Water Department. Typical daily usage per ERU is estimated at 282 gallons. The base impact fee and standard level of service recommended in this analysis will be discussed in terms of the number of gallons of flow of effluent per day. The **collection** system level of service was analyzed relative to needed improvements to develop the list of capital projects necessary to serve new growth. While there may be capacity within individual collection lines throughout the City, generally the collection system is at capacity resulting in needed future improvements to accommodate new development activity. The CFP identifies the portion of future improvements allocated to new growth. The LOS for **collection** improvements is based on the level of service per ERU defined for treatment.
- ☐ **Excess Capacity:** Based on the LOS of 282 gallons per day (gpd) per ERU, the City’s treatment facility is at 61 percent capacity, leaving 39 percent of the facility available for new development. Assuming the same LOS (282 gpd/ERU), the excess capacity should serve an additional 23,325 ERUs. As it was determined that the collection system did not have remaining capacity, the impact fee analysis does not include a buy-in component related to collection.
- ☐ **Capital Facilities Analysis:** A total of **\$1,654,317** is identified as needed collection improvements within the City and **\$1,754,572** in collection improvements within the region. In addition, the City estimates that additional fine bubble diffusers will be necessary to expand the existing facility capacity to 25 million gallon per day (mgd), which will retrofit the entire plant. The City has \$11 million to help fund this project and will finance the rest. **However, due to the timing of this facility near the end of the impact fee facilities planning horizon, the costs are not included in this analysis. Should growth estimates accelerate, the impact fees in this analysis should be revised to consider these necessary growth-related improvements.**
- ☐ **Funding of Future Facilities:** This analysis assumes future growth related facilities will be funded on a pay-as-you-go basis, utilizing impact fee and utility fee revenues to pay for capital facilities.
- ☐ **Planning Horizon:** The planning horizon is considered to be ten years beginning in 2013.

## PROPOSED SEWER IMPACT FEE

The IFFP must properly complete the legislative requirements found in the Impact Fee Act if it is to serve as a working document in the calculation of appropriate impact fees. The calculation of impact fees relies upon the information contained in this analysis. Impact fees are then calculated based on many variables centered on proportionality share and level of service. The following paragraph describes the methodology used for calculating impact fees in this analysis.

### PLAN BASED (FEE BASED ON DEFINED CAPITAL IMPROVEMENT PLAN)

Impact fees can be calculated using a specific set of costs specified for future development. The improvements are identified in the IFFP, CFP or Capital Improvement Plan (“CIP”) as growth related projects. The total project costs are divided by the total demand units the projects are designed to serve. Under this methodology, it is important to identify the existing level of service and determine any excess capacity in existing facilities that could serve new growth.

### SEWER IMPACT FEE CALCULATION

The tables below illustrate the appropriate buy-in component, the fee associated with projects occurring in the next six to ten years and the applicable costs related to collection. The proportionate share analysis determines the proportionate cost assignable to new development based on the proposed capital projects and the estimated ERU demand served by the proposed projects.

TABLE 1.1: CALCULATION OF PROPORTIONATE IMPACT FEE

REGIONAL FEE CALCULATION	ESTIMATED COST	PERCENT TO GROWTH	COST TO GROWTH	ERUS SERVED	COST PER ERU
Treatment and COI (Regional Buy-In)	\$46,480,972	38.7%	\$17,984,533	23,325	\$771
Collection (Regional Component)	\$1,754,572	100.0%	\$1,754,572	12,711	\$138
Professional Expense <sup>1</sup>	\$9,675	100.0%	\$9,675	7,172	\$1
<b>Subtotal: Regional</b>	<b>\$48,235,544</b>		<b>\$19,739,105</b>		<b>\$909</b>
LOCAL FEE CALCULATION	ESTIMATED COST	PERCENT TO GROWTH	COST TO GROWTH	ERUS	COST PER ERU
Collection (Local Component)	\$1,654,317	100.0%	\$1,654,317	10,296	\$161
<b>Subtotal: Local</b>	<b>\$1,654,317</b>		<b>\$1,654,317</b>		<b>\$161</b>
<b>Combined Total Impact Fee</b>					<b>\$1,070</b>

The impact fee per meter size is shown below.

TABLE 1.2: IMPACT FEE PER METER SIZE

CONNECTION SIZE	ERU MULTIPLIER*	REGIONAL FEE	LOCAL IMPACT FEE	TOTAL IMPACT FEE PER METER SIZE	EXISTING TOTAL IMPACT FEE	% CHANGE
3/4	1.00	\$909	\$161	\$1,070	\$1,877	-43%
1	2.16	\$1,964	\$347	\$2,311	\$3,714	-38%
1 1/2	7.17	\$6,518	\$1,152	\$7,670	\$7,429	3%
2	11.54	\$10,491	\$1,854	\$12,345	\$11,886	4%
3	26.00	\$23,636	\$4,178	\$27,814	\$26,001	7%
4	46.00	\$41,818	\$7,391	\$49,209	\$44,573	10%
6	104.00	\$94,544	\$16,711	\$111,255	\$92,860	20%

\*Provided by the City of St. George and based on actual historic water use for the different meter sizes.

<sup>1</sup> This is the actual cost to update the IFFP and IFA. The City can use this portion of the impact fee to reimburse itself for the expense of updating the IFFP and IFA. The cost is divided over the number of new ERUs in the next six years.

**NON-STANDARD SEWER IMPACT FEES**

The City reserves the right under the Impact Fees Act to assess an adjusted fee that more closely matches the true impact that the land use will have upon public facilities.<sup>2</sup> This adjustment could result in a higher or lower impact fee if the City determines that a particular user may create a different impact than what is standard for its land use. The impact fee for non-standard development would be determined based on the water utilization (in gallons per day) divided by the average effluent gallons per day per ERU (282), multiplied by the impact fee per ERU, as shown below.

**FORMULA FOR NON-STANDARD SEWER IMPACT FEES:**

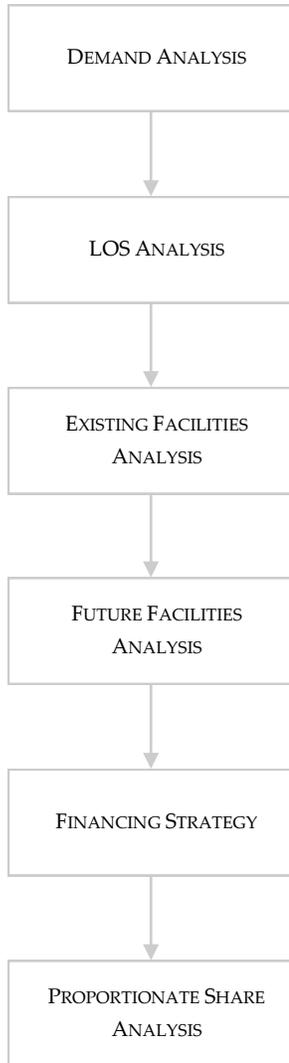
$$\text{Estimated Usage}/282 * \text{Impact Fee per ERU} = \text{Impact Fee}$$

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<sup>2</sup> 11-36a-402(1)(c)

## SECTION 2: GENERAL IMPACT FEE METHODOLOGY

FIGURE 2.1: IMPACT FEE METHODOLOGY



The purpose of this study is to fulfill the requirements of the Impact Fees Act regarding the establishment of an IFFP and IFA. The IFFP is designed to identify the demands placed upon the City’s existing facilities by future development and evaluate how these demands will be met by the City. The IFFP is also intended to outline the improvements which are intended to be funded by impact fees. The IFA is designed to proportionately allocate the cost of the new facilities and any excess capacity to new development, while ensuring that all methods of financing are considered. Each component must consider the historic level of service provided to existing development and ensure that impact fees are not used to raise that level of service. The following elements are important considerations when completing an IFFP and IFA.

### DEMAND ANALYSIS

The demand analysis serves as the foundation for the IFFP. This element focuses on a specific demand unit related to each public service – the existing demand on public facilities and the future demand as a result of new development that will impact public facilities.

### LEVEL OF SERVICE ANALYSIS

The demand placed upon existing public facilities by existing development is known as the existing “Level of Service” (“LOS”). Through the inventory of existing facilities, combined with the growth assumptions, this analysis identifies the level of service which is provided to a community’s existing residents and ensures that future facilities maintain these standards. Any excess capacity identified within existing facilities can be apportioned to new development. Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities.

### EXISTING FACILITY INVENTORY

In order to quantify the demands placed upon existing public facilities by new development activity, the Impact Fee Facilities Plan provides an inventory of the City’s existing system improvements. To the extent possible, the inventory valuation should consist of the following information:

- ▣ Original construction cost of each facility;
- ▣ Estimated date of completion of each future facility;
- ▣ Estimated useful life of each facility; and,
- ▣ Remaining useful life of each existing facility.

The inventory of existing facilities is important to properly determine the excess capacity of existing facilities and the utilization of excess capacity by new development.

### FUTURE CAPITAL FACILITIES ANALYSIS

The demand analysis, existing facility inventory and LOS analysis allow for the development of a list of capital projects necessary to serve new growth and to maintain the existing system. This list includes any excess capacity of existing facilities as well as future system improvements necessary to maintain the level of service. Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities.

**FINANCING STRATEGY – CONSIDERATION OF ALL REVENUE SOURCES**

This analysis must also include a consideration of all revenue sources, including impact fees, future debt costs, alternative funding sources and the dedication of system improvements, which may be used to finance system improvements.<sup>3</sup> In conjunction with this revenue analysis, there must be a determination that impact fees are necessary to achieve an equitable allocation of the costs of the new facilities between the new and existing users.<sup>4</sup>

**PROPORTIONATE SHARE ANALYSIS**

The written impact fee analysis is required under the Impact Fees Act and must identify the impacts placed on the facilities by development activity and how these impacts are reasonably related to the new development. The written impact fee analysis must include a proportionate share analysis, clearly detailing each cost component and the methodology used to calculate each impact fee. A local political subdivision or private entity may only impose impact fees on development activities when its plan for financing system improvements establishes that impact fees are necessary to achieve an equitable allocation to the costs borne in the past and to be borne in the future (UCA 11-36a-302).

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<sup>3</sup> 11-36a-302(2)

<sup>4</sup> 11-36a-302(3)

## SECTION 3: OVERVIEW OF SERVICE AREA AND DEMAND ANALYSIS

### SERVICE AREAS

Utah Code requires the impact fee enactment to establish one or more service areas within which impact fees will be imposed.<sup>5</sup> The wastewater system is separated into two distinct systems: 1) the local wastewater system, and 2) the regional wastewater system. The local system encompasses improvements only within the City of St. George, whereas the regional system includes improvements that are in the regional area including the City of St. George, Ivins City, the City of Santa Clara, and Washington City. For purposes of the impact fee, properties located within the City of St. George will pay both the local and regional portions of the impact fee, whereas properties located outside of St. George will only pay the regional portion.

It is anticipated that the growth projected over the next ten years, and through buildout, will impact the City's existing services. Sewer infrastructure will need to be expanded in order to maintain the existing level of service. Impact fees are a logical mechanism for funding growth-related infrastructure. The CFP and this analysis are designed to accurately assess the true impact of a particular user upon the City's infrastructure.

### DEMAND UNITS

The Local Wastewater Division currently receives wastewater from approximately 29,936 ERUs. The Regional Wastewater System currently receives wastewater from approximately 36,959 ERUs located in St. George, Ivins, Washington, and Santa Clara. Based upon the projected increase in wastewater usage, the total number of Local and Regional ERUs will increase by approximately 12,711, with 10,296 ERUs occurring within St. George through 2023 as shown in TABLE 3.1. Projections for population and ERUs assume three percent growth as identified in Census data and the Governor's Office of Planning and Budget (GOPB) projections. The initial ERUs have been identified using 2010 and 2011 flow data and applying the level of service of 282 average gpd/ERU.

TABLE 3.1: CITY-WIDE ERU PROJECTIONS

YEAR	CITY POPULATION	REGIONAL SERVICE AREA POPULATION	REGIONAL ERUS	LOCAL ERUS	TOTAL REGIONAL GALLONS PER DAY
2013	79,657	115,887	36,959	29,936	10,422,318
2014	82,046	119,985	38,067	30,835	10,734,987
2015	84,508	124,228	39,209	31,760	11,057,037
2016	87,043	128,433	40,386	32,712	11,388,748
2017	89,654	132,781	41,597	33,694	11,730,410
2018	92,344	137,275	42,845	34,705	12,082,323
2019	95,114	141,922	44,130	35,746	12,444,792
2020	97,967	146,726	45,454	36,818	12,818,136
2021	100,906	152,065	46,818	37,923	13,202,680
2022	103,934	157,598	48,223	39,060	13,598,761
2023	107,052	163,332	49,669	40,232	14,006,723
<b>Change: 2013-2023</b>			<b>12,711</b>	<b>10,296</b>	

The City has provided the ERU conversion multipliers shown in TABLE 3.2. These multipliers are representative of the actual historic water use for the different meter sizes.

<sup>5</sup> 11-36a-402(a)

TABLE 3.2: ILLUSTRATION ERU CONVERSION BASED ON METER SIZE

METER SIZE (IN)	ERU CONVERSION
3/4	1.00
1	2.16
1 1/2	7.17
2	11.54
3	26.00
4	46.00
6	104.00

Source: The City of St. George Water Department

### LEVEL OF SERVICE STANDARDS

Impact fees cannot be used to finance an increase in the level of service to current or future users of capital improvements. This practice would place an unfair funding scenario on new users for the purpose of establishing a level of service that is higher than what current users have demanded of the system. Therefore, it is important to identify the level of service per wastewater ERU and ensure that the new capacities of system projects financed through impact fees will not exceed the established standard.

#### TREATMENT

The City of St. George has identified the level of service in the *2010 Wastewater Master Plan and Capital Facilities Plan* ("Master Plan"). On page 8 of the Master Plan it identifies the average flow rate for residential development to be 100 gallons per day per person. Using the average household size of 2.82 as identified in Census 2010 data, the level of service is calculated to be **282 average gallons per day per ERU.**

The wastewater level of service is typically calculated based on average gallons per day while the culinary water source level of service is calculated based on peak gallons per day. The reason for this difference is due to the fact that wastewater effluent can be stored and treated at a later date, whereas culinary water systems must be constructed and designed to serve peak demand.

#### COLLECTION

According to the CFP, existing infrastructure was analyzed relative to needed improvements to develop the list of capital projects necessary to serve new growth. While there may be capacity within individual collection lines throughout the City, generally the system is at capacity resulting in needed future improvements. The CFP identifies the portion of future improvements allocated to new growth. **The LOS for collection improvements is based on the level of service per ERU defined above.**

## SECTION 4: EXISTING FACILITIES INVENTORY

The intent of the equity buy-in component is to recover the costs of the unused capacity in existing infrastructure from new development. This section addresses any excess capacity within the sewer system.

### EXCESS CAPACITY

#### TREATMENT

The Water Reclamation and Treatment Plant is an oxidation ditch treatment system comprised primarily of preliminary treatment units, aeration basins, secondary clarifiers and ultraviolet disinfection units. The Treatment Plant was originally designed to process five million gallons per day. The Treatment Plant has experienced several phases of expansion which increased the Treatment Plant's total capacity to 17 million gallons per day (mgd). The City owns the Treatment Plant and the land on which it is located.

A comparison of existing treatment capacity relative to the future treatment requirements per ERU illustrates excess capacity within the existing system. Based on the LOS of 282 gallons per day (gpd) per ERU, the City's treatment facility is at 61 percent capacity, leaving 39 percent of the facility available for new development. Assuming the same LOS (282 gpd/ERU), the excess capacity should serve 23,325 ERUs.

TABLE 4.1: ILLUSTRATION OF EXCESS TREATMENT CAPACITY

	CAPACITY (GALLONS PER DAY)	ERUS SERVED	% OF TOTAL
Existing Demand	10,422,318	36,959	61%
Buy-In Capacity for Future Growth	6,577,682	23,325	39%
Total Existing Capacity	17,000,000	60,284	

The buy-in component is calculated using the original cost of existing assets as presented in the City's financial records, plus any interest associated with outstanding debt to fund the existing facilities.

TABLE 4.2: DETERMINATION OF VALUE OF EXISTING TREATMENT FACILITY RELATED TO NEW GROWTH

Base Value of Existing Facilities	\$42,917,982	Based on existing depreciation schedules
Interest Component	\$3,562,990	Series 1993B & Series 2004 Debt (See TABLES 4.3 & 4.4)
Total Value of Existing Facilities	\$46,480,972	
Percent Excess Capacity	39%	See Table 4.1: ERUs Served by Excess Capacity (23,325) / Total Existing Storage Capacity (60,284 ERUs)
Buy-in Cost to Growth	\$17,984,533	Calculation of Buy-in

#### COLLECTION

Although there may be capacity in individual collection lines, it was the analysis of the City that generally the collection system is at capacity and therefore, the impact fee analysis does not include a buy-in component related to collection.

#### MANNER OF FINANCING EXISTING PUBLIC FACILITIES

The City has funded its existing capital infrastructure through a combination of different revenue sources, including impact fees, user fees, dedications and the issuance of debt.

The City issued 1993B Sewer Revenue Bonds used for treatment capacity expansion, which was outstanding at the time of this analysis. TABLE 4.3 shows the total interest cost for the Series 1993B Bonds.

TABLE 4.3: ILLUSTRATION OF OUTSTANDING DEBT SERIES 1993B

\$2,749,000 ST. GEORGE, UTAH SEWER REVENUE BONDS SERIES 1993B						
YEAR	PRINCIPAL	COUPON	INTEREST	TOTAL		
6/15/03	\$188,000	3.50%	\$96,215	\$284,215		
6/15/04	195,000	3.50%	89,635	284,635		
6/15/05	202,000	3.50%	82,810	284,810		
6/15/06	209,000	3.50%	75,740	284,740		
6/15/07	216,000	3.50%	68,425	284,425		
6/15/08	224,000	3.50%	60,865	284,865		
6/15/09	231,000	3.50%	53,025	284,025		
6/15/10	239,000	3.50%	44,940	283,940		
6/15/11	248,000	3.50%	36,575	284,575		
6/15/12	257,000	3.50%	27,895	284,895		
6/15/13	265,000	3.50%	18,900	283,900		
6/15/14	275,000	3.50%	9,625	284,625		
<b>Totals:</b>	<b>\$2,749,000</b>		<b>\$664,650</b>	<b>\$3,413,650</b>		

In 2004 the City issued the Series 2004 Sewer Revenue Refunding Bonds. These bonds refunded the 1997A Bonds which were used for the expansion of the wastewater treatment plant and increased capacity from 8.5 mgd to 17 mgd. The total interest cost for these bonds is shown in TABLE 4.4.

TABLE 4.4: ILLUSTRATION OF OUTSTANDING DEBT SERIES 2004

\$7,015,000 ST. GEORGE, UTAH SEWER REVENUE REFUNDING BONDS SERIES 2004						
YEAR	PRINCIPAL	COUPON	INTEREST	TOTAL P&I	FISCAL TOTAL	
1/1/05			255,415	255,415	255,415	
7/1/05			166,575	166,575		
1/1/06			166,575	166,575	333,150	
7/1/06			166,575	166,575		
1/1/07			166,575	166,575	333,150	
7/1/07			166,575	166,575		
1/1/08			166,575	166,575	333,150	
7/1/08	650,000	4.00%	166,575	816,575		
1/1/09			153,575	153,575	970,150	
7/1/09	670,000	4.50%	153,575	823,575		
1/1/10			138,500	138,500	962,075	
7/1/10	700,000	5.00%	138,500	838,500		
1/1/11			121,000	121,000	959,500	
7/1/11	740,000	5.00%	121,000	861,000		
1/1/12			102,500	102,500	963,500	
7/1/12	775,000	4.00%	102,500	877,500		
1/1/13			87,000	87,000	964,500	
7/1/13	805,000	5.00%	87,000	892,000		
1/1/14			66,875	66,875	958,875	
7/1/14	850,000	5.00%	66,875	916,875		
1/1/15			45,625	45,625	962,500	
7/1/15	890,000	5.00%	45,625	935,625		
1/1/16			23,375	23,375	959,000	
7/1/16	935,000	5.00%	23,375	958,375		
1/1/17					958,375	



\$7,015,000 ST. GEORGE, UTAH SEWER REVENUE REFUNDING BONDS SERIES 2004						
YEAR	PRINCIPAL	COUPON	INTEREST	TOTAL P&I	FISCAL TOTAL	
<b>Totals:</b>	\$7,015,000	\$0	\$2,898,340	\$9,913,340	\$9,913,340	

The treatment system is designed to serve 17 mgd, or a total of 60,284 ERUs (calculated by dividing the total capacity by the existing level of service, or 17 mgd/282 gpd). The interest costs are included in the buy-in component of this analysis, as shown in TABLE 4.2. It is assumed that the principal amount is included in the "Base Value of Existing Facilities" line item in TABLE 4.2.

## SECTION 5: CAPITAL FACILITY ANALYSIS

The estimated costs attributed to new growth were analyzed based on existing development versus future development patterns, as well as through an analysis of flow data. From this analysis, a portion of future development costs were attributed to new growth and included in this impact fee analysis as shown in TABLE 5.1. The costs of capital projects related to curing existing deficiencies cannot be funded through impact fees and were not included in the calculation of impact fees. The table below describes the specific capital improvements necessary to meet the future growth needs anticipated to occur within the City and region in the next six to ten year period.

TABLE 5.1: ILLUSTRATION OF CAPITAL IMPROVEMENTS RELATED TO GROWTH

	YEAR	2013 COST	CONSTRUCTION YEAR COST	% TO GROWTH	COST TO GROWTH
<b>Regional Sewer Lines</b>					
Mall Drive Bridge Sewer	2015	\$555,000	\$566,156	100%	\$566,156
15" St. James Outfall Sewer Line	2015	\$388,000	\$395,799	100%	\$395,799
30" St. George Ford Outfall Sewer Line	2015	\$777,000	\$792,618	100%	\$792,618
<b>Total</b>		<b>\$1,720,000</b>	<b>\$1,754,572</b>		<b>\$1,754,572</b>
<b>Local (St. George) Sewer Lines</b>					
Astragalus 18" Sewer Line	2015	\$82,000	\$83,648	100%	\$83,648
Replace 8" Line Through Entrada Golf Course with 10" Line <sup>6</sup>	2015	\$62,000	\$63,246	100%	\$63,246
Remove and Upsize 8", 10", and 12" Sewer Lines in Tonaquint Drive	2020	\$291,000	\$311,991	100%	\$311,991
18" Fort Pierce Sewer Line Segment 1	2020	\$1,115,000	\$1,195,431	100%	\$1,195,431
<b>Total</b>		<b>\$1,550,000</b>	<b>\$1,654,317</b>		<b>\$1,654,317</b>

The City has determined the projects included in this Impact Fee Facilities Plan using capital project and engineering data, planning analysis and other information. For purposes of regional sewer improvements it is estimated that the total cost is \$1.75 million. The estimated cost for local sewer improvements is \$1.65 million. The City has provided all future capital project data including project descriptions and estimated project costs. The accuracy and correctness of this plan is contingent upon the accuracy of the data and assumptions. Any deviations or changes in the assumptions due to changes in the economy or other relevant information used by the City for this study may cause this plan to be inaccurate and may require modifications.

### FUTURE CAPITAL IMPROVEMENTS NOT CONSIDERED IN THIS ANALYSIS

The Master Plan estimates that the Regional Reclamation Facility ("Treatment Plant") will need to be capable of treating 25 mgd as the average annual daily flow by 2030. However, changes in market conditions and technical advancements suggest that the Facility will need to be capable of treating 25 mgd by 2040. Currently, plant capacity is 17 mgd. Therefore an additional 8 mgd of treatment capacity, (52 percent additional capacity) will need to be provided. Annual average daily wastewater flows for 2012 are estimated at 10 mgd. Treatment of these flows requires the use of three of the four existing oxidation ditches. The fourth ditch will remain unused until plant flows reach 75 percent plant capacity, or approximately 12.75 mgd.

Based on the population projections at the time the Master Plan was completed, the flow was estimated to reach 12.75 mgd by the end of 2012. However, changes in market conditions and technology suggest the regional plant will not reach this capacity until sometime after 2019.

By planning plant modifications before flows require the use of the fourth ditch, the St. George Regional Water Reclamation Facility ("SGRWRF") will be able to make necessary process changes without adversely effecting

<sup>6</sup> The cost for this line-item only includes the upsizing cost of adding additional capacity.

current operations. For this reason, the City has chosen to prepare this expansion master plan, and if appropriate, begin modifications before they could cause treatment process interruptions or upsets.

The City staff is currently considering changing the treatment process at the St. George Regional Water Reclamation Facility (SGRWRF) from extended aeration to a version of staged aeration activated sludge. This modification would include installation of fine bubble diffusers in the oxidation ditches and the addition of a clarifier, return activated sludge/waste activated sludge (RAS/WAS) pumping, and solids handling capacity. Similar modifications have been successfully completed at the Henderson WRF, in Henderson, Nevada, and are also being implemented at the South Valley WRF, in West Jordan, Utah.

By installing fine bubble diffusers and modifying related facilities and systems, these facilities have been able to reduce their hydraulic retention time (HRT) by as much as half, effectively doubling the treatment capacity. The City previously reduced the HRT of the SGRWRF and would not be able to enjoy a 100 percent increase in plant capacity by making these modifications. However, if the conversion from extended aeration oxidation ditch treatment to modified staged aeration allowed a reduction of the HRT to 10 hours, for example, a 28 percent increase in capacity could be realized, equaling an additional 6.5 mgd capacity. That would reduce the amount of future expansion that would need to take place to only 1.5 mgd to reach 25 mgd at year 2040.

The 2008 cost estimate for the installation of the fine bubble diffusers was estimated at \$56.7 Million to expand to 25 mgd, but this cost will retrofit the whole plant. The City has \$11 million to help fund this project and will finance the rest. **However due to the timing of this facility near the end of the impact fee facilities plan window, the costs are not included in this analysis. Should growth estimates accelerate, the impact fees in this analysis should be revised to consider these necessary improvements.**

In addition, the CFP and this analysis are based on the hydraulic capacity of the treatment plant (17 mgd). There is also another component of the treatment plant capacity, which is the “loading” capacity. This is the capacity of the treatment plant to process the biochemical oxygen demand (BOD) and total suspended solids (TSS) of the effluent. While the treatment plant is capable of processing 17 mgd of sewage (based on an average household sewage), if larger industrial users, which add more BOD or TSS to the system than the average residential user, were to be added to the system, the plant may not handle the full 17 mgd. Currently, the hydraulic capacity and “loading” capacity are fairly equal, but this may change in the future. **Future changes in loading capacity may necessitate an update to the CFP and this analysis.**

## SYSTEM VS. PROJECT IMPROVEMENTS

System improvements are defined as existing and future public facilities that are intended to provide services to service areas within the community at large.<sup>7</sup> Project improvements are improvements and facilities that are planned and designed to provide service for a specific development (resulting from a development activity) and considered necessary for the use and convenience of the occupants or users of that development.<sup>8</sup> This analysis only includes the costs of system improvements related to new growth within the proportionate share analysis.

## FUNDING OF FUTURE FACILITIES

The IFFP must also include a consideration of all revenue sources, including impact fees and the dedication (donation) of system improvements, which may be used to finance system improvements.<sup>9</sup> In conjunction with this revenue analysis, there must be a determination that impact fees are necessary to achieve an equitable allocation of the costs of the new facilities between the new and existing users.<sup>10</sup>

In considering the funding of future facilities, the City has determined the portion of future projects that will be funded by impact fees as growth-related, system improvements. Impact fees are an appropriate funding and

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<sup>7</sup> 11-36a-102(20)

<sup>8</sup> 11-36a-102(13)

<sup>9</sup> 11-36a-302(2)

<sup>10</sup> 11-36a-302(3)



repayment mechanism of the growth-related improvements. Where applicable, impact fees will offset the cost of future facilities. However, impact fees cannot be used to fund non-qualified expenses (i.e. the costs to cure existing deficiencies, to raise the level of service, to recoup more than the actual cost of system improvements, or to fund overhead cannot be included in the calculation of impact fees). Other revenues such as utility rate revenues, property taxes, grants, or loans can be used to fund these types of expenditures, as described below.

### **UTILITY RATE REVENUES**

Utility rate revenues serve as the primary funding mechanism within enterprise funds. Rates are established to ensure appropriate coverage of all operations and maintenance expenses, debt service coverage, and capital project needs.

### **PROPERTY TAX REVENUES**

Property tax revenues are not specifically identified in this analysis as a funding source for capital projects, but inter-fund loans can be made from the general fund which will ultimately include some property tax revenues. Inter-fund loans will be repaid once sufficient impact fee revenues have been collected. The City does not currently assess interest on money borrowed from the general fund; however, the City may adopt a policy to do so.

### **GRANTS AND DONATIONS**

Grants and donations are not currently contemplated in this IFFP. However, the impact fees will be adjusted if grants become available to reflect the grant monies received. A donor will be entitled to a reimbursement for the value of system improvements funded through impact fees if donations are made by new development.

### **IMPACT FEE REVENUES**

Impact fees are a logical mechanism for funding growth-related infrastructure. Impact fees are charged to ensure that new growth pays its proportionate share of the costs for the development of public infrastructure. Impact fee revenues can also be attributed to the future expansion of public infrastructure if the revenues are used to maintain an existing level of service. Increases to an existing level of service cannot be funded with impact fee revenues. Analysis is required to accurately assess the true impact of a particular user upon the City infrastructure and to prevent existing users from subsidizing new growth. Impact fee revenues are generally considered non-operating revenues and help offset future capital costs.

### **DEBT FINANCING**

In the event the City has not accumulated sufficient impact fees to pay for the construction of time sensitive or urgent capital projects needed to accommodate new growth, the City must look to revenue sources other than impact fees for funding. The Impact Fees Act allows for the costs related to the financing of future capital projects to be legally included in the impact fee. This allows the City to finance and quickly construct infrastructure for new development and reimburse itself later from impact fee revenues for the costs of issuing debt.

We have assumed that construction of needed facilities in this plan will proceed on a pay-as-you-go basis. Therefore, the impact fees in this analysis do not include a debt component. Inter-fund loans can be made from the general fund which will be repaid once sufficient impact fee revenues have been collected.

## **EQUITY OF IMPACT FEES**

Impact fees are intended to recover the costs of capital infrastructure that relate to future growth. The impact fee calculations are structured for impact fees to fund 100% of the growth-related facilities identified in the proportionate share analysis as presented in the impact fee analysis. Even so, there may be years that impact fee revenues cannot cover the annual growth-related expenses. In those years, other revenues such as general fund revenues or user revenues may be used to make up any annual deficits. Any borrowed funds are to be repaid in their entirety through impact fees.



## NECESSITY OF IMPACT FEES

An entity may only impose impact fees on development activity if the entity's plan for financing system improvements establishes that impact fees are necessary to achieve parity between existing and new development. This analysis has identified the improvements to public facilities and the funding mechanisms to complete the suggested improvements. Impact fees are identified as a necessary funding mechanism to help offset the costs of new capital improvements related to new growth. In addition, alternative funding mechanisms are identified to help offset the cost of future capital improvements.

## SECTION 6: SEWER IMPACT FEE CALCULATION

The calculation of impact fees relies upon the information contained in this analysis. Impact fees are calculated based on many variables centered on proportionality and level of service. The City currently provides sewer services to its residents and businesses. As a result of new growth, the sewer system is in need of expansion to perpetuate the level of service that the City has historically maintained. The *2008 Regional Treatment Master Plan* and the *2010 Wastewater Collection Master Plan and Capital Facility Plan*, as well as updates from the City, outline the recommended capital projects that will maintain the established level of service.

### PROPOSED SEWER IMPACT FEE

The IFFP must properly complete the legislative requirements found in the Impact Fee Act if it is to serve as a working document in the calculation of appropriate impact fees. The calculation of impact fees relies upon the information contained in this analysis. Impact fees are then calculated based on many variables centered on proportionality share and level of service. The following paragraph describes the methodology used for calculating impact fees in this analysis.

#### PLAN BASED (FEE BASED ON DEFINED CAPITAL IMPROVEMENT PLAN)

Impact fees can be calculated using a specific set of costs specified for future development. The improvements are identified in the IFFP, Capital Facilities Plan (“CFP”) or Capital Improvement Plan (“CIP”) as growth related projects. The total project costs are divided by the total demand units the projects are designed to serve. Under this methodology, it is important to identify the existing level of service and determine any excess capacity in existing facilities that could serve new growth.

#### SEWER IMPACT FEE CALCULATION

The sewer impact fees proposed in this analysis will be assessed based on the service areas defined in this analysis. TABLE 6.1 below illustrates the appropriate buy-in component, the fee associated with projects occurring in the next six to ten years and the applicable costs related to collection. The proportionate share analysis determines the proportionate cost assignable to new development based on the proposed capital projects and the estimated ERU demand served by the proposed projects.

TABLE 6.1: CALCULATION OF PROPORTIONATE IMPACT FEE

REGIONAL FEE CALCULATION	ESTIMATED COST	PERCENT TO GROWTH	COST TO GROWTH	ERUS SERVED	COST PER ERU
Treatment and COI (Regional Buy-In)	\$46,480,972	38.7%	\$17,984,533	23,325	\$771
Collection (Regional Component)	\$1,754,572	100.0%	\$1,754,572	12,711	\$138
Professional Expense <sup>11</sup>	\$9,675	100.0%	\$9,675	7,172	\$1
<b>Subtotal: Regional</b>	<b>\$48,235,544</b>		<b>\$19,739,105</b>		<b>\$909</b>
LOCAL FEE CALCULATION	ESTIMATED COST	PERCENT TO GROWTH	COST TO GROWTH	ERUS	COST PER ERU
Collection (Local Component)	\$1,654,317	100.0%	\$1,654,317	10,296	\$161
<b>Subtotal: Local</b>	<b>\$1,654,317</b>		<b>\$1,654,317</b>		<b>\$161</b>
<b>Combined Total Impact Fee</b>					<b>\$1,070</b>

The impact fee per meter size is shown below in TABLE 6.2.

<sup>11</sup> This is the actual cost to update the IFFP and IFA. The City can use this portion of the impact fee to reimburse itself for the expense of updating the IFFP and IFA. The cost is divided over the number of new ERUs in the next six years.

TABLE 6.2: IMPACT FEE PER METER SIZE

CONNECTION SIZE	ERU MULTIPLIER*	REGIONAL FEE	LOCAL IMPACT FEE	TOTAL IMPACT FEE PER METER SIZE	EXISTING TOTAL IMPACT FEE	% CHANGE
3/4	1.00	\$909	\$161	\$1,070	\$1,877	-43%
1	2.16	\$1,964	\$347	\$2,311	\$3,714	-38%
1 1/2	7.17	\$6,518	\$1,152	\$7,670	\$7,429	3%
2	11.54	\$10,491	\$1,854	\$12,345	\$11,886	4%
3	26.00	\$23,636	\$4,178	\$27,814	\$26,001	7%
4	46.00	\$41,818	\$7,391	\$49,209	\$44,573	10%
6	104.00	\$94,544	\$16,711	\$111,255	\$92,860	20%

\*Provided by the City of St. George and based on actual historic water use for the different meter sizes.

**NON-STANDARD SEWER IMPACT FEES**

The City reserves the right under the Impact Fees Act<sup>12</sup> to assess an adjusted fee that more closely matches the true impact that the land use will have upon the City’s sewer system. This adjustment could result in a different impact fee if evidence suggests a particular user will create a different impact than what is standard for its category. The impact fee for non-standard development would be determined based on the water utilization (in gallons per day) divided by the average gallons per day per ERU (282), multiplied by the impact fee per ERU, as shown below.

FORMULA FOR NON-STANDARD SEWER IMPACT FEES:

$$\text{Estimated Usage}/282 * \text{Impact Fee per ERU}$$

**CONSIDERATION OF ALL REVENUE SOURCES**

The Impact Fees Act requires the proportionate share analysis to demonstrate that impact fees paid by new development are the most equitable method of funding growth-related infrastructure. See SECTION 5 for further discussion regarding the consideration of revenue sources.

**EXPENDITURE OF IMPACT FEES**

Legislation requires that impact fees should be spent or encumbered with six years after each impact fee is paid. Impact fees collected in the next five to six years should be spent only on those projects outlined in the IFFP as growth related costs.

**PROPOSED CREDITS OWED TO DEVELOPMENT**

The Impact Fees Act requires that credits be paid back to development for future fees that will pay for growth-driven projects included in the Impact Fee Facilities Plan that would otherwise be paid for through user fees. Credits may also be paid to developers who have constructed and donated system facilities to the City that are included in the IFFP in-lieu of impact fees. This situation does not apply to developer exactions or system improvements required to offset density or as a condition of development. Any system project that a developer funds must be included in the IFFP if a credit is to be issued.

In the situation that a developer chooses to construct facilities found in the IFFP in-lieu of impact fees, the decision must be made through negotiation with the developer and the City on a case-by-case basis.

**GROWTH-DRIVEN EXTRAORDINARY COSTS**

<sup>12</sup> 11-36a-402(1)(c)



The City does not anticipate any extraordinary costs necessary to provide services to future development.

### **SUMMARY OF TIME PRICE DIFFERENTIAL**

The Impact Fees Act allows for the inclusion of a time price differential to ensure that the future value of costs incurred at a later date are accurately calculated to include the costs of construction inflation. A one percent annual construction inflation adjustment is applied to projects completed after 2013 (the base year cost estimate).