

IMPACT FEE ANALYSIS (IFA)

PURSUANT TO 11-36A, UTAH CODE

WATER FACILITIES

NOVEMBER 2020

CITY OF ST. GEORGE, UTAH





TABLE OF CONTENTS

IMPACT FEE CERTIFICATION	3
SECTION 1: EXECUTIVE SUMMARY.....	4
PROPOSED WATER IMPACT FEE.....	4
SECTION 2: GENERAL IMPACT FEE METHODOLOGY.....	6
SECTION 3: OVERVIEW OF SERVICE AREA, DEMAND, AND LOS	8
SERVICE AREAS	8
DEMAND UNITS	9
LEVEL OF SERVICE STANDARDS	9
SECTION 4: EXISTING FACILITIES INVENTORY	11
EXCESS CAPACITY	11
SECTION 5: CAPITAL FACILITY ANALYSIS	13
SYSTEM VS. PROJECT IMPROVEMENTS.....	15
FUNDING OF FUTURE FACILITIES	15
EQUITY OF IMPACT FEES	16
NECESSITY OF IMPACT FEES	16
SECTION 6: WATER IMPACT FEE CALCULATION	17
PROPOSED WATER IMPACT FEE.....	17
CONSIDERATION OF ALL REVENUE SOURCES	18
EXPENDITURE OF IMPACT FEES	18
PROPOSED CREDITS OWED TO DEVELOPMENT.....	18
GROWTH-DRIVEN EXTRAORDINARY COSTS.....	18
SUMMARY OF TIME PRICE DIFFERENTIAL	18



IMPACT FEE CERTIFICATION

IFA CERTIFICATION

Lewis Young Robertson & Burningham, Inc. certifies that the Impact Fee Analysis prepared for Water Services:

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;
 - d. offsets costs with grants or other alternate sources of payment; and,
3. Complies in each and every relevant respect with the Impact Fees Act.

LEWIS YOUNG ROBERTSON & BURNINGHAM, INC



SECTION 1: EXECUTIVE SUMMARY

The purpose of the Water 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 water infrastructure needed to serve the service area through the next 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 Water Impact Fee Facilities Plan (“IFFP”) prepared by Bowen Collins and Associates in October 2020, as well as input from the City, provide much of the information utilized in this analysis.

- ☞ **Impact Fee Service Area:** The service area for water impact fees includes all areas within the 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”) generated from land-use types. As residential and commercial growth occurs within the City, additional ERUs will be generated. The water capital improvements identified in this study are based on maintaining the existing LOS.
- ☞ **Level of Service:** The proposed LOS is based on the various system requirements for production, storage, conveyance, and secondary water system. This analysis does not consider a LOS for source improvements, since water supply is provided by Washington County Water Conservancy District (“WCWCD”) and new development will be required to pay an impact fee to WCWCD. **SECTION 3** of this report further explains the LOS.
- ☞ **Excess Capacity:** A buy-in component for conveyance and storage is included in this analysis.
- ☞ **Capital Facilities Analysis:** A total of \$29.4 million in conveyance and storage related costs are included in the calculation of the impact fee. All of these costs are considered system improvements necessary to maintain the existing LOS and meet the anticipated development activity over that same period of time.
- ☞ **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.

PROPOSED WATER IMPACT FEE

The IFFP must meet the legislative requirements found in the Impact Fee Act if it is to serve as a working document in the calculation of 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 LOS.

WATER IMPACT FEE CALCULATION

The tables below illustrate the appropriate buy-in fee, the fee associated with projects occurring in the next ten years, and other costs related to the water impact fee. 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: IMPACT FEE PER ERU

	TOTAL COST	% TO IFFP GROWTH	COST TO GROWTH	ERU DEMAND SERVED	COST PER ERU	% OF TOTAL
Buy-In						
Culinary Conveyance	\$57,189,315	12.70%	\$7,263,043	19,469	\$373	19%
Secondary Conveyance	\$6,911,506	16.10%	\$1,112,752	19,469	\$57	3%
Culinary Storage	\$8,277,668	12.20%	\$1,009,619	19,469	\$52	3%
Secondary Storage	\$0	2.17%	\$0	19,469	\$0	0%
Subtotal: Buy-In	\$72,378,488		\$9,385,414		\$482	24%
Future Facilities						
Future Culinary Conveyance	\$28,865,000	38.05%	\$10,984,426	19,469	\$564	28%
Future Secondary Conveyance	\$28,414,950	36.98%	\$10,508,909	19,469	\$540	27%
Future Culinary Storage	\$8,463,000	26.66%	\$2,256,031	19,469	\$116	6%
Future Secondary Storage	\$15,102,000	37.38%	\$5,645,312	19,469	\$290	15%
Professional Expense ¹	37,140	100.00%	\$37,140	10,566	\$4	0%
Subtotal: Future Facilities	\$80,882,090		\$29,431,818		\$1,514	76%
Total	\$153,260,579		\$38,817,232		\$1,996	100%

¹ 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 1.2 shows the appropriate ERU multipliers for various meter sizes and is based on historic usage patterns for the different meter sizes.

TABLE 1.2: IMPACT FEE PER METER SIZE

METER SIZE (IN)	ERU MULTIPLIER	PROPOSED IMPACT FEE	EXISTING FEE	% CHANGE	\$ CHANGE
3/4	1.00	\$1,996	\$1,211	65%	\$785
1	2.16	\$4,311	\$2,616	65%	\$1,696
1 1/2	7.17	\$14,311	\$8,683	65%	\$5,628
2	11.54	\$23,034	\$13,975	65%	\$9,059
3	26.00	\$51,896	\$31,486	65%	\$20,410
4	46.00	\$91,816	\$55,706	65%	\$36,110
6	104.00	\$207,584	\$125,944	65%	\$81,640

ERU Multipliers are provided by the City of St. George and based on actual historic water use for the different meter sizes

NON-STANDARD WATER IMPACT FEES

The City reserves the right under the Impact Fees Act² to assess an adjusted fee that more closely matches the true impact that the land use will have upon the City's water system. The adjustment for Non-Standard Water Impact Fees is explained in Section 6 and 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. A developer may submit studies and data for a particular development and request an adjustment. The impact fee for non-standard development would be determined based on the water and storage utilization and according to the LOS variables presented in this report, calculated on a case-by-case basis.

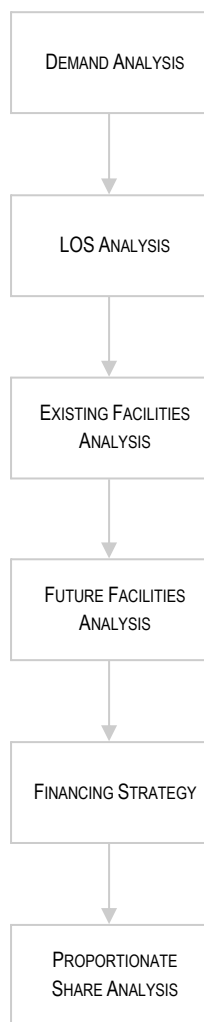
FORMULA FOR NON-STANDARD WATER IMPACT FEES:

Estimated ERU * Impact Fee per ERU (\$1,996) = Impact Fee

² UC 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 IFA³. The IFFP, completed by Bowen Collins & Associates, 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, as well as the future improvements required to maintain the existing LOS. The purpose of the IFA is 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. The following elements are important considerations when completing an IFA.

DEMAND ANALYSIS

The demand analysis serves as the foundation for this analysis. 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 system facilities.

LEVEL OF SERVICE ANALYSIS

The demand placed upon existing public facilities by existing development is known as the existing LOS. Through the inventory of existing facilities, combined with population growth assumptions, this analysis identifies the LOS which is provided to a community's existing residents and ensures that future facilities maintain these standards.

EXISTING FACILITY INVENTORY

In order to quantify the demands placed upon existing public facilities by new development activity, the IFFP provides an inventory of the City's existing system improvements. The inventory does not include project improvements. 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. Any excess capacity identified within existing facilities can be apportioned to future 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 LOS. Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities.

FINANCING STRATEGY

This analysis must also include a consideration of all revenue sources, including impact fees, debt issuance, alternative funding sources, and the dedication (aka donations) of system improvements, which may be used to finance system improvements.⁴ 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.⁵

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 of the costs borne in the past and to be borne in the future (UCA 11-36a-302).

³ UC 11-36a-301,302,303,304

⁴ UC 11-36a-302(2)

⁵ UC 11-36a-302(3)



SYSTEM VS. PROJECT IMPROVEMENTS

System improvements are defined as existing and future public facilities designed and intended to provide services to service areas within the community at large.⁶ 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.⁷ References to facilities, amenities, projects, etc. within this analysis are referring to System Improvements unless otherwise stated.

⁶ UC 11-36a-102(20)

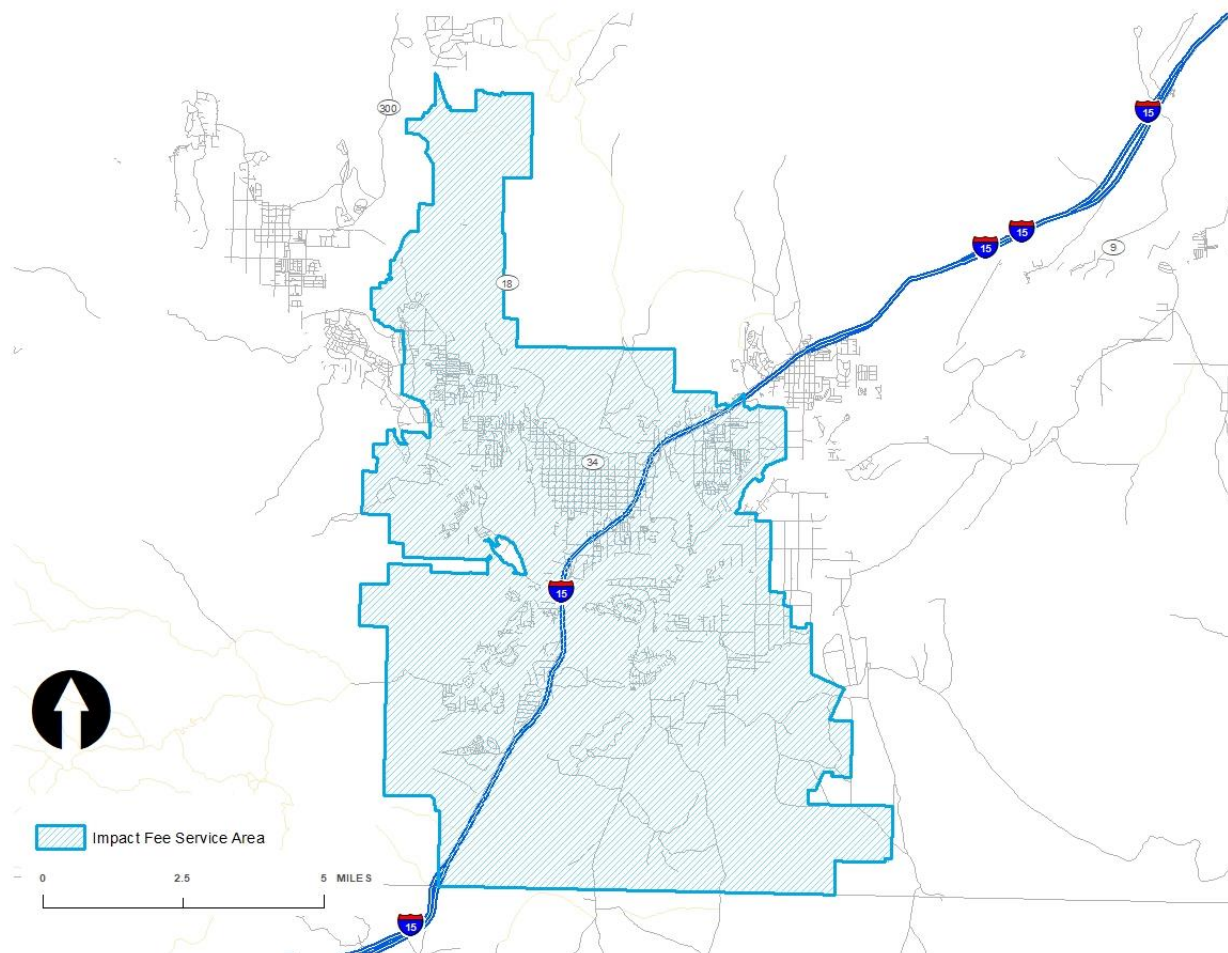
⁷ UC 11-36a102(13)

SECTION 3: OVERVIEW OF SERVICE AREA, DEMAND, AND LOS

SERVICE AREAS

Utah Code requires the impact fee enactment to establish one or more service areas within which impact fees will be imposed.⁸ The impact fees identified in this document will be assessed to a single, city-wide service area.

FIGURE 3.1: WATER SERVICE AREA



It is anticipated that the growth projected over the next ten years, and through buildout, will impact the City's existing services. Culinary and secondary water infrastructure will need to be expanded in order to maintain the existing level of service ("LOS"). Impact fees are a logical and sound mechanism for funding growth-related infrastructure. The IFFP and this analysis are designed to accurately assess the true impact of a particular user upon the City's infrastructure and prevent existing users from subsidizing new growth. This analysis also ensures that new growth is not paying for existing system deficiencies. Impact fees should be used to fund the costs of growth-related capital infrastructure based upon the historic funding of the existing infrastructure and the intent of the City to equitably allocate the costs of growth-related infrastructure in accordance with the true impact that a user will place on the system.

⁸ UC 11-36a-402(a)

DEMAND UNITS

As shown in **TABLE 3.1**, the growth in ERUs is expected to reach 67,319 units by 2028. This represents an increase of 19,469 ERUs to the existing ERUs of 47,850 in 2018.

TABLE 3.1: CITY-WIDE ERU PROJECTIONS

YEAR	TOTAL ERUs ¹	PEAK DAY DEMAND (GAL/DAY) ²
2018	47,850	65,005,119
2019	49,214	66,793,398
2020	50,690	68,735,005
2021	52,520	71,152,623
2022	54,416	73,916,154
2023	56,380	76,492,056
2024	58,416	79,363,484
2025	60,525	82,135,274
2026	62,710	85,006,893
2027	64,973	87,981,945
2028	67,319	91,064,257
2029	69,721	94,238,379
2030	72,209	97,524,943
2035	84,224	113,372,728
2040	96,153	129,088,119
2045	107,333	143,809,784
2050	112,987	151,278,700
2055	116,439	155,840,852

1. Total ERUs on culinary and secondary irrigation systems.

2. Combined peak day demand of culinary and secondary irrigation system.

Source: IFFP Table 6, p. 10

LEVEL OF SERVICE STANDARDS

Impact fees cannot be used to finance an increase in the LOS to current or future users of system improvements. Therefore, it is important to identify the water LOS currently provided within the City to ensure that the new capacities of projects financed through impact fees do not exceed the established standard.

SOURCE

Since water supply is provided by WCWCD, this analysis does not consider a LOS for source improvements.

STORAGE

The IFFP identifies the LOS for storage based on equalization storage, fire suppression and emergency storage, for both the culinary and secondary systems (See **IFFP p. 3** and summarized in **TABLE 3.2**).

CONVEYANCE

The IFFP identifies the LOS for conveyance based on pressure, fire flow demands, and pipe velocities, for both the culinary and secondary systems (See **IFFP p. 4** and summarized in **TABLE 3.2**).

According to the IFFP, existing infrastructure was analyzed relative to needed improvements to develop the list of capital projects necessary to serve new growth. Generally, the system is at capacity resulting in needed future improvements. However, there is one specific waterline that has significant excess capacity. This excess capacity will be calculated in the next section.

As outlined in the IFFP, “performance standards are those standards that are used to design and evaluate the performance of facilities. While the Impact Fees Act includes “defined performance standard” as part of the LOS definition, this report will make a subtle distinction between performance standard and LOS. The performance standard will be considered the desired minimum level of performance for each component, while the existing LOS will be the actual current performance of the component. Thus, if the existing LOS is less than the performance standard, it represents a deficiency. If it is greater than the performance standard, it may indicate excess capacity.”

TABLE 3.2: IFFP LOS VARIABLES

	EXISTING PERFORMANCE STANDARD	EXISTING LEVEL OF SERVICE ¹	PROPOSED LOS
Production Capacity			
Production Capacity (gpd/ERU) ¹	1,278	1,278	1,278
Culinary Water Storage			
Storage (gallons/ERU) ^{2,3}	765	1,155	765
Secondary Irrigation Storage			
Storage (gallons/ERU) ^{3,4}	870	1,312	870
Culinary Conveyance (Transmission, Pumping, and Conveyance)			
Peak Day Demand Pressure (psi) ⁵	40	25	40
Peak Hour Demand Pressure (psi) ⁵	30	22	30
Minimum Available Fire Flow at 20 psi during Peak Day Demand (psi) ⁵	1,500	208	1,500



	EXISTING PERFORMANCE STANDARD	EXISTING LEVEL OF SERVICE ¹	PROPOSED LOS
Maximum Pipe Velocity under Peak Hour (feet per second) ⁵	10	20	10
Secondary Irrigation Conveyance (Transmission, Pumping, and Distribution)			
Peak Day Demand Pressure (psi) ⁶	40	66	40
Peak Hour Demand Pressure (psi) ⁶	30	46	30
Maximum Pipe Velocity under Peak Hour (feet per second) ⁶	10	12.8	10

1. Source capacity value shown for information only. The impact fee for source capacity is paid to the WCWCD through a separate impact fee.

2. Does not include fire flow storage, only equalization and emergency storage.

3. Provided for storage in the system as a whole.

4. Includes only equalization storage.

5. Because there are many transmission and distribution components, the value given is for the worst case only. All other components have a higher level of service with the vast majority meeting the desired performance standard.

6. Because there are many transmission and distribution components, the value given is for the worst case only. All other components have a higher level of service with the vast majority meeting the desired performance standard. The value shown for the secondary irrigation system is the minimum pressure within the part of the system that supplies pressurized irrigation. The secondary irrigation system contains a significant amount of low-pressure transmission piping/flood irrigation areas, but pressurized irrigation connections do not exist in these areas.

Source: IFFP Table 2-3, p.5-6

SECTION 4: EXISTING FACILITIES INVENTORY

EXCESS CAPACITY

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 water system.

SOURCE

The City is part of the Washington County Water Conservancy District ("WCWCD"). Since joining the WCWCD Regional Pooling Agreement in 2006, the City does not collect impact fees to develop new water sources as the WCWCD is charged with developing new water sources to provide water for future growth. While the City utilizes some of its own existing sources of water, as well as purchase water from the WCWCD, there is no excess capacity associated with the source component.

STORAGE

The existing system has a combined culinary water storage capacity of 45,760,000 gallons for equalization/emergency and 6,808,000 for secondary water. A comparison of existing storage capacity relative to the future storage requirements per ERU illustrates excess capacity within the existing system, as well as a need to build additional capacity. Based on the LOS defined in the IFFP, demand in the IFFP planning window will utilize 12.2 percent of the available culinary water storage and 2.2 percent of the available secondary water storage.

TABLE 4.1: ILLUSTRATION OF EXISTING STORAGE EXCESS CAPACITY

	CUMULATIVE EQUALIZATION/EMERGENCY STORAGE REQUIREMENT (GALLONS)	USE OF EXISTING FACILITIES (GALLONS)	PERCENT USE OF EXISTING FACILITIES
Excess Culinary Water Storage Capacity			
Existing	30,280,000	30,280,000	66.2%
End of 10-Year Planning Window (2028)	39,613,400	5,581,300	12.2%
Growth Beyond 10-Year Window	68,230,000	9,898,700	21.6%
Total	68,230,000	45,760,000	100.0%
Excess Secondary Water Storage Capacity			
Existing	4,741,100	4,741,100	69.6%
End of 10-Year Planning Window (2028)	10,208,400	148,000	2.2%
Growth Beyond 10-Year Window	20,289,000	1,918,900	28.2%
Total	20,289,000	6,808,000	100.0%

Source: IFFP Table 4, p.8-9

The buy-in component is calculated using the original cost of existing assets as presented in the City's financial records. The original value of existing culinary storage facilities is estimated at \$8,277,668. Many of the secondary storage improvements were funded by development or there is insufficient data related to original cost, as further described below. Therefore, no value related to secondary storage is included in this analysis.

CONVEYANCE

According to the IFFP, the growth during the 10-year planning window will use 12.7 percent of the available excess capacity within the culinary conveyance system and 16.1 percent of the available excess capacity within the secondary conveyance system. The buy-in component is calculated using the original cost of existing assets as presented in the City's financial records, with \$57,189,315 total original value attributed to the culinary system and \$6,911,506 attributed to the secondary system.

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, the issuance of debt, and grant monies. This analysis has removed all funding that has come from federal grants and donations to ensure that none of those infrastructure items are included in the LOS.

As discussed above, many of the secondary storage facilities were funded by development. A brief description of each facility follows.



- ☞ The St. George Golf Pond is a storage pond on the St. George Golf Course. The pond was constructed in the 1970's or early 1980's as part of the golf course, funded by the Bloomington Hills developer.
- ☞ The Entrada Pond is the Blackrock Pond on the Sunbrook Golf Course. It was constructed as part of the Sunbrook Golf Course, built by a developer and then turned over to the City.
- ☞ Sandberg Pond is a pond on the Washington/St. George border that has been there for several decades. In approximately 2002, the pond was re-constructed by the City, and a pump station added.
- ☞ Skyline Pond is by the water yard on Red Hills Parkway, constructed in the 1940's. There is no documentation for the cost of construction of the pond.
- ☞ Southgate Pond, located at Southgate Golf Course, was funded by development.
- ☞ East Bloomington is a concrete pond that was constructed and is owned by the Bloomington Water Company. The pond was constructed in approximately 2010. This pond was not paid for by the City.
- ☞ Little Valley is a concrete pond by the Sunrise Ridge Intermediate School and the Little Valley Ball Fields. This pond was funded as a joint project with Washington County School District and the Parks Department. No value for this pond is included in this impact fee.
- ☞ Snow Park is a concrete pond by Snow Park. It was constructed in approximately 1996 as a replacement pond at Dixie High School. This pond was funded through as a joint project with Washington County School District and the Parks Department. No value for this pond is included in this impact fee.
- ☞ The St. George Golf Tank is owned by the Bloomington Water Company facility. The City uses this tank for storage as a majority shareholder in the Company. It was constructed in the late 1970's or early 1980s and was recently re-constructed or refurbished in approximately 2012. This pond was not paid for by the City.
- ☞ Bloomington Hills Small Tank is a steel tank that is located south of the Desert Hills High School. It was constructed in approximately 2002. It was constructed at the same time as the culinary Bloomington Area Tank ("BAT") and thus included in that project.

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 infrastructure costs were attributed to new growth and included in this impact fee analysis as shown in **TABLES 5.1-5.2**. The costs of capital projects related to curing existing deficiencies cannot be funded through impact fees and were not included in the calculation of the impact fees but are included in the capital improvement list shown below. Further details related to these projects can be found in the IFFP, p.12-13. A two percent annual construction inflation adjustment is applied to projects completed after 2019 (the base year cost estimate).

TABLE 5.1: ILLUSTRATION OF CULINARY WATER CAPITAL IMPROVEMENTS

PROJECT #	PROJECT DESCRIPTION	ESTIMATED TOTAL COST	% TO CURE EXISTING	% 10-YEAR GROWTH	% BEYOND 10-YEAR	COST TO 10-YEAR GROWTH
S3	3.5 MG Northern Gap Tank	\$3,844,000	26.40%	28.60%	45.00%	\$1,099,228
S4	2 MG Country Club Tank Replacement	\$2,241,000	94.00%	4.20%	1.80%	\$94,122
S5	2 MG Airport Redevelopment (Tech Ridge) Tank	\$2,378,000	18.60%	44.70%	36.80%	\$1,062,681
	Storage Subtotal	\$8,463,000				\$2,256,031
C1	City Creek to Ledges Pipeline	\$2,842,000	9.60%	19.30%	71.10%	\$547,673
C2	Ledges Main Line (Upsize)	\$519,000	0%	21.30%	78.70%	\$110,679
C3	The Lakes North Loop (Upsize)	\$1,492,000	0%	56.30%	43.70%	\$840,300
C6	Plantations Drive to Dixie Drive Waterline (Upsize)	\$832,000	0%	28.60%	71.40%	\$237,952
C7	Gap Tank Feed Line	\$5,040,000	0%	31.60%	68.40%	\$1,592,640
C8	Indian Hills Transmission Line (Upsize)	\$718,000	18.60%	44.70%	36.80%	\$320,860
C9	Indian Hills/Airport Redevelopment (Tech Ridge) Transmission Line (Upsize)	\$353,000	18.60%	44.70%	36.80%	\$157,749
C10	Foremaster Ridge Transmission Line Relocation	\$800,000	59.30%	9.60%	31.10%	\$76,586
C11	Riverside to Hilton Drive Transmission Line	\$4,494,000	0%	33.10%	66.90%	\$1,487,514
C14	Desert Color Southwest Loop (Upsize)	\$1,587,000	0%	91.10%	8.90%	\$1,446,526
C21	Sand Hollow Regional Pipeline -Washington Fields Road to 3000 E	\$2,294,000	0%	27.20%	72.80%	\$625,031
C22	Sand Hollow Regional Pipeline -Airport Connection	\$1,307,000	0%	25.80%	74.20%	\$337,640
C28	Southern Parkway Loop -14" Pipeline (Upsize)	\$1,374,000	0%	82.40%	17.60%	\$1,132,176
C29	Desert Canyons Reach 1 (Upsize)	\$1,295,000	0%	55.90%	44.10%	\$723,905
P1	City Creek to Ledges Pump Station	\$1,346,000	9.60%	19.30%	71.10%	\$259,383
P2	Indian Hills Pump Station	\$943,000	18.60%	44.70%	36.80%	\$421,408
P3	Airport Redevelopment (Tech Ridge) Pump Station	\$1,319,000	18.60%	44.70%	36.80%	\$589,435
P4	Dixie Drive Pump Station -Gunlock 1A to Gap Zone	\$183,000	0.00%	31.60%	68.40%	\$57,828
P6	Bloomington Hills Pump Station Upgrade	\$127,000	0.00%	15.10%	84.90%	\$19,141
	Conveyance Subtotal	\$28,865,000				\$10,984,426
	Total Improvements	\$37,328,000				\$13,240,457

Refer to Figure 7-6 of the Culinary Water Master Plan for more information on the location of each capital facilities project.

Source: IFFP Table 7, p. 12

TABLE 5.2: ILLUSTRATION OF SECONDARY WATER CAPITAL IMPROVEMENTS

PROJECT #	PROJECT DESCRIPTION	ESTIMATED TOTAL COST	% TO CURE EXISTING	% 10-YEAR GROWTH	% BEYOND 10-YEAR	COST TO 10-YEAR GROWTH
SS1	1.0 MG Hidden Valley Tank Replacement	\$1,098,000	36.70%	12.00%	51.30%	\$131,679
SS2	3.0 MG Commerce Drive Settling Pond	\$2,014,000	0.00%	59.50%	40.50%	\$1,198,959
SS3	1.3 MG New Entrada Storage Pond	\$555,000	28.40%	12.50%	59.10%	\$69,339
SS4	1.5 MG Stonediff Storage Tank	\$1,681,000	6.00%	68.10%	25.90%	\$1,144,388
SS5	2.0 MG Desert Canyons Tank No. 1	\$2,241,000	0.00%	68.60%	31.40%	\$1,536,888
SS6	Reuse Storage Pond	\$3,809,000	30.30%	26.70%	43.00%	\$1,017,003
SS7	1.5 MG Ledges Storage Tank	\$1,784,000	0.00%	11.40%	88.60%	\$203,376
SS8	1.9 MG Gap Irrigation Tank	\$1,920,000	0.00%	17.90%	82.10%	\$343,680
	Secondary Storage Subtotal	\$15,102,000				\$5,645,312
SC1	Ledges 12-inch Transmission Line (Upsize) ²	\$768,000	0.00%	11.40%	88.60%	\$87,552



PROJECT #	PROJECT DESCRIPTION	ESTIMATED TOTAL COST	% TO CURE EXISTING	% 10-YEAR GROWTH	% BEYOND 10-YEAR	COST TO 10-YEAR GROWTH
SC2	Ledges 10-inch Tank Feed Line	\$719,000	0.00%	11.40%	88.60%	\$81,966
SC3	Ledges 12-inch Distribution Line (Upsize)	\$575,000	0.00%	11.40%	88.60%	\$65,550
SC4	Lava Field 12-inch Transmission Line	\$1,080,000	0.00%	11.40%	88.60%	\$123,120
SC5	Entrada 12-inch Transmission Line	\$550,000	0.00%	11.40%	88.60%	\$62,700
SC6	Divario 12-inch Transmission Line	\$1,255,000	0.00%	17.90%	82.10%	\$224,645
SC7	16-inch Gap Irrigation Tank Transmission Line	\$934,000	0.00%	17.90%	82.10%	\$167,186
SC8	14-inch Lago Vista Drive from Divario to West Tonaquint (northern half of project) (Upsize)	\$198,000	0.00%	17.90%	82.10%	\$35,442
SC9	8-inch West Tonaquint Transmission Line (Upsize, southeast half of project) (Upsize)	\$157,000	0.00%	15.50%	84.50%	\$24,294
SC11	8-inch 900 S Distribution Line -Little Valley (Upsize)	\$42,000	0.00%	85.00%	15.00%	\$35,720
SC12	8-inch 3000 E Distribution Line -Little Valley (Upsize)	\$48,000	0.00%	85.00%	15.00%	\$40,823
SC13	10-inch 2780 E Distribution Line	\$96,000	0.00%	85.00%	15.00%	\$81,646
SC14	12-inch 1450 S Transmission Line	\$215,000	0.00%	85.00%	15.00%	\$182,853
SC15	Stone Cliffs Tank 12-inch Feed Line	\$364,300	6.00%	68.10%	25.90%	\$248,007
SC16	10-inch 2200 S Distribution Line -Little Valley (Upsize)	\$309,000	0.00%	85.00%	15.00%	\$262,798
SC17	10-inch 3430 E Distribution Line (2200 S to 2450 S) -Little Valley (Upsize)	\$157,000	0.00%	85.00%	15.00%	\$133,525
SC18	10-inch 3430 E Distribution Line (2450 S to Horsemans Park) -Little Valley (Upsize)	\$476,000	0.00%	85.00%	15.00%	\$404,828
SC19	10-inch 3000 E Distribution Line from 2450 s to Horsemans Park Drive -Little Valley	\$439,000	0.00%	85.00%	15.00%	\$373,360
SC20	10-inch Horsemans Park Distribution Line from 3000 E to 3430 E	\$303,000	0.00%	85.00%	15.00%	\$257,695
SC21	6-inch 3000 E Distribution Line from Horsemans Park Drive to Crimson Ridge Drive	\$129,000	0.00%	85.00%	15.00%	\$109,712
SC23	18-inch Fort Pierce Wash Transmission Line	\$1,198,000	0.00%	59.50%	40.50%	\$713,184
SC24	18-inch Commerce Drive Crossing	\$155,000	0.00%	59.50%	40.50%	\$92,273
SC25	24-inch Reuse Facility Storage Pond Feed Line	\$259,000	30.30%	26.70%	43.00%	\$69,181
SC26	24-inch Pipe from Future Reuse Pond to Reuse Transmission Pipeline	\$328,000	30.30%	26.70%	43.00%	\$87,611
SC30	18-inch Desert Canyons Transmission Line (Settling Pond to tie in at existing 14-inch pipe)	\$4,877,000	0.00%	59.50%	40.50%	\$2,903,339
SC31	12-inch Desert Canyons Southern Parkway Crossing (Upsize)	\$74,000	0.00%	29.50%	70.50%	\$21,835
SC39	18-inch Desert Canyons Transmission Line (Desert Canyons Parkway, West Section)	\$779,000	0.00%	29.50%	70.50%	\$229,861
SC40	18-inch Desert Canyons Transmission Line (Desert Canyons Parkway, East Section) (Upsize)	\$481,000	0.00%	29.50%	70.50%	\$141,930
SC41	24-inch Desert Canyons Tank Feed Line	\$1,369,000	0.00%	29.50%	70.50%	\$403,953
SC42	Connect Little Valley Pump Station to Distribution System (12-inch pipe)	\$48,000	6.00%	68.10%	25.90%	\$32,677
SC43	18-inch Commerce Drive to Desert Color Transmission Line	\$4,668,000	30.30%	26.70%	43.00%	\$1,246,879
SP1	Upper Ledges Pump Station with 100,000 Gallon Storage Wet Well	\$388,000	0.00%	11.40%	88.60%	\$44,232
SP2	Intermediate Ledges Pump Station with 200,000 Gallon Storage Wet Well ³	\$711,100	0.00%	11.40%	88.60%	\$81,065
SP3	Lower Ledges Pump Station 3	\$628,550	0.00%	11.40%	88.60%	\$71,655
SP4	Dixie Drive Pump Station	\$541,000	0.00%	17.90%	82.10%	\$96,839
SP6	Little Valley Pump Station	\$479,000	6.00%	68.10%	25.90%	\$326,093
SP7	Commerce Drive Settling Pond -Desert Canyons Pump Station	\$743,000	0.00%	59.50%	40.50%	\$442,317
SP8	Commerce Drive Settling Pond -Desert Color Pump Station	\$708,000	30.30%	26.70%	43.00%	\$189,115
SP10	SGWRF Reuse Pond Pump Station	\$1,166,000	30.30%	26.70%	43.00%	\$311,448
	Secondary Conveyance Subtotal	\$28,414,950				\$10,508,909
	Secondary Total Improvements	\$43,516,950				\$16,154,221

1. Refer to Figure 6-4 of the Secondary Irrigation Master Plan for more information on the location of each capital facilities project.

2. The Ledges Golf Course will be responsible for the cost to install an 8-inch transmission line and the City will fund the difference to upsize the line to 12-inch.

3. Estimated project cost shown is 65% of total project cost, which is the portion that the City will be responsible for funding. The facility will possess 2,000 gpm pumping capacity, but 700 gpm will be paid for and used by the Ledges Golf Course.

Source: IFFP Table 8, p.13

As shown above, a total of \$13.2 million in culinary system improvements and \$16.2 million in secondary system improvements, for a combined total of \$29.4 million, are planned through 2028. The capital costs are further summarized based upon storage and distribution costs, as shown in **TABLE 5.3**, are included in the calculation of the impact fee.

TABLE 5.3: CIP COSTS BY FUNCTION

FUNCTION	ESTIMATED TOTAL COST	% TO CURE EXISTING	% 10-YEAR GROWTH	% BEYOND 10-YEAR	COST TO 10-YEAR GROWTH
Storage	\$23,565,000	22.83%	33.53%	43.64%	\$7,901,343
Distribution	\$57,279,950	6.48%	37.52%	56.00%	\$21,493,335
Total	\$80,844,950				\$29,394,678

The IFFP has determined the projects included in this analysis using capital project and engineering data, planning analysis and other information. 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.

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.⁹ Project improvements are improvements and facilities that are planned and designed to provide service for a specific development and considered necessary for the use and convenience of the occupants or users of that specific development.¹⁰ 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 (donations) of system improvements, which may be used to finance system improvements.¹¹ 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.¹²

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 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 LOS, to recoup more than the actual cost of system improvements, or the cost to fund overhead). Other revenues such as utility rate revenue, 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, as well as all non-growth related debt service and capital project needs.

PROPERTY TAX REVENUES

Property tax revenues are not specifically identified in this analysis as a funding source for growth-related capital projects, but inter-fund loans may be made from the general fund which will ultimately include some property tax revenues. Interfund loans will be repaid once sufficient impact fee revenues have been collected. The City follows Utah Code 10-6-132 which requires interest to be accrued on interfund loans.

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 and the City may enter into a Development Agreement which may entitle the donor to a reimbursement for the value of the system improvements, up to the LOS, funded through impact fees if donations are made by new development.

⁹ UC 11-36a-102(20)

¹⁰ UC 11-36a-102(13)

¹¹ UC 11-36a-302(2)

¹² UC 11-36a-302(3)

IMPACT FEE REVENUES

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 LOS. Increases to an existing LOS cannot be funded with impact fee revenues. 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 principal, interest, and costs of issuance.

This analysis assumes future growth-related facilities will be funded on a pay-as-you-go basis, utilizing impact fee and utility fee revenues.

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 percent 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, growth-related projects may be delayed, or other revenues such as general fund revenues or other fund's revenues and/or fund balance reserves may be used to make up any annual deficits. Any borrowed funds are to be repaid in their entirety through subsequent 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 capital improvements related to new growth. In addition, alternative funding mechanisms are identified to help offset the cost of future capital improvements.



SECTION 6: WATER IMPACT FEE CALCULATION

The City currently provides culinary water and secondary water to its residents and businesses. As a result of new growth, the culinary and secondary water systems are in need of expansion to perpetuate the LOS that the City has historically maintained. The Water Impact Fee Facilities Plan ("IFFP") prepared by Bowen Collins and Associates in November 2019, as well as input from the City, provide much of the information utilized in this analysis.

PROPOSED WATER 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 LOS. The following paragraph describes the methodology used for calculating impact fees in this analysis.

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

Impact fees can be calculated using a specific set of costs specified for future development. The improvements are identified in the IFFP or 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 LOS and determine any excess capacity in existing facilities that could serve new growth.

COMBINED WATER IMPACT FEE CALCULATION

The water impact fees proposed in this analysis will be assessed within all areas of the City. **TABLE 6.1** below illustrates the appropriate buy-in component, the fee associated with projects occurring in the next ten years and the applicable costs related to conveyance. The impact fee calculations also include the costs of constructing future water projects and the related improvements and any debt related expense. 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, in this case, the ERUs over the next ten years which are illustrated in **TABLE 3.1**.

TABLE 6.1: CALCULATION OF PROPORTIONATE IMPACT FEE

	TOTAL COST	% TO IFFP GROWTH	COST TO GROWTH	ERU DEMAND SERVED	COST PER ERU	% OF TOTAL
Buy-In						
Culinary Conveyance	\$57,189,315	12.70%	\$7,263,043	19,469	\$373	19%
Secondary Conveyance	\$6,911,506	16.10%	\$1,112,752	19,469	\$57	3%
Culinary Storage	\$8,277,668	12.20%	\$1,009,619	19,469	\$52	3%
Secondary Storage	\$0	2.17%	\$0	19,469	\$0	0%
Subtotal: Buy-In	\$72,378,488		\$9,385,414		\$482	24%
Future Facilities						
Future Culinary Conveyance	\$28,865,000	38.05%	\$10,984,426	19,469	\$564	28%
Future Secondary Conveyance	\$28,414,950	36.98%	\$10,508,909	19,469	\$540	27%
Future Culinary Storage	\$8,463,000	26.66%	\$2,256,031	19,469	\$116	6%
Future Secondary Storage	\$15,102,000	37.38%	\$5,645,312	19,469	\$290	15%
Professional Expense ¹³	37,140	100.00%	\$37,140	10,566	\$4	0%
Subtotal: Future Facilities	\$80,882,090		\$29,431,818		\$1,514	76%
Total	\$153,260,579		\$38,817,232		\$1,996	100%

A total of \$38.8 million is identified as the necessary buy-in and future capital cost to maintain the LOS for new development activity within the next ten years. The cost to growth for excess capacity and future capital facilities is applied to the ERUs projected over the planning horizon.

The impact fee per meter size is illustrated in the **TABLE 6.2**.

¹³ 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

METER SIZE (IN)	ERU MULTIPLIER	PROPOSED IMPACT FEE	EXISTING FEE	% CHANGE	\$ CHANGE
3/4	1.00	\$1,996	\$1,211	65%	\$785
1	2.16	\$4,311	\$2,616	65%	\$1,696
1 1/2	7.17	\$14,311	\$8,683	65%	\$5,628
2	11.54	\$23,034	\$13,975	65%	\$9,059
3	26.00	\$51,896	\$31,486	65%	\$20,410
4	46.00	\$91,816	\$55,706	65%	\$36,110
6	104.00	\$207,584	\$125,944	65%	\$81,640

ERU Multipliers are provided by the City of St. George and based on actual historic water use for the different meter sizes

NON-STANDARD CULINARY WATER IMPACT FEES

The City reserves the right under the Impact Fees Act¹⁴ to assess an adjusted fee that more closely matches the true impact that the land use will have upon the City's water system. A developer may submit studies and data for a particular development and request an adjustment. 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 and storage utilization and according to the LOS variables presented in this report, calculated on a case-by-case basis.

FORMULA FOR NON-STANDARD SEWER IMPACT FEES:

Estimated ERU * Impact Fee per ERU (\$1,996) = Impact Fee

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 should be spent only on those projects outlined in the IFFP as growth related costs to maintain the LOS.

PROPOSED CREDITS OWED TO DEVELOPMENT

Credits may be applied to developers who have constructed and donated system facilities to the City that are included in the IFFP in-lieu of impact fees. Credits for system improvements may be available to developers up to, but not exceeding, the amount commensurate with the LOS identified within this IFA. Credits will not be given for the amount by which system improvements exceed the LOS identified within this IFA. This situation does not apply to developer exactions or improvements required to offset density or as a condition of development. Any 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 system 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

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 two percent annual construction inflation adjustment is applied to projects completed after 2019 (the base year cost estimate).

¹⁴ UC 11-36a-402(1)(c)