



SARATOGA
SPRINGS

Life's just better here

PRESSURIZED IRRIGATION IMPACT FEE ANALYSIS

(HAL Project No.: 360.63.200)

February 2025

CITY OF SARATOGA SPRINGS

PRESSURIZED IRRIGATION IMPACT FEE ANALYSIS

(HAL Project No.: 360.63.200)



Kai Krieger, P.E.

Project Manager



February 2025

IMPACT FEE CERTIFICATION

The Utah Impact Fee Act (Chapter 11-36a of the Utah Code) requires certifications for the Impact Fee Analysis (IFA). Hansen, Allen & Luce provides these certifications with the understanding that the recommendations in the IFA are followed by City Staff and elected officials. If all or a portion of the IFA is modified or amended, or if assumptions presented in this analysis change substantially, this certification is no longer valid. All information provided to Hansen, Allen & Luce is assumed to be correct, complete, and accurate.

IFFP Certification

Hansen, Allen & Luce, Inc. certifies that the IFA prepared for the drinking water system:

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.

HANSEN, ALLEN & LUCE, INC.

TABLE OF CONTENTS

IMPACT FEE CERTIFICATION	i
TABLE OF CONTENTS	ii
LIST OF TABLES AND FIGURES.....	iii
SUMMARY OF PRESSURIZED IRRIGATION IFA.....	iv
IMPACT FEE CALCULATION.....	1
1 GENERAL.....	1
2 GROWTH PROJECTIONS.....	1
3 COST OF EXISTING AND FUTURE FACILITIES	1
4 REVENUE OPTIONS.....	5
Revenue Bonds.....	5
State/Federal Grants and Loans.....	5
User Fees.....	5
Impact Fees.....	5
Impact Fees.....	6
5 IMPACT FEE UNIT CALCULATION.....	6
Source Impact Fee Unit.....	6
Storage Impact Fee Unit.....	7
Water Right Impact Fee Unit	9
6 IMPACT FEE SUMMARY.....	9

APPENDIX A

GROWTH PROJECTIONS MEMORANDUM

APPENDIX B

COST ESTIMATES

LIST OF TABLES AND FIGURES

LIST OF TABLES

TABLE 1: GROWTH PROJECTIONS	1
TABLE 2: COST OF EXISTING FACILITIES WITH REMAINING BUY-IN CAPACITY	1
TABLE 3: IMPACT FEE FACILITY PROJECTS FOR UPCOMING 10 YEARS	2
TABLE 4: FACILITY COST BY TIME PERIOD.....	2
TABLE 5: SOURCE NEEDED BY 2034	6
TABLE 6: SOURCE EXCESS CAPACITY	7
TABLE 7: SOURCE CAPACITY TO BE BUILT FOR NEW GROWTH	7
TABLE 8: PROPOSED SOURCE IMPACT FEE	7
TABLE 9: STORAGE NEEDED BY 2034	8
TABLE 10: STORAGE EXCESS CAPACITY	8
TABLE 11: STORAGE CAPACITY TO BE BUILT FOR NEW GROWTH	8
TABLE 12: PROPOSED STORAGE IMPACT FEE	9
TABLE 13: WATER RIGHTS NEEDED BY 2034	9
TABLE 14: WATER RIGHTS EXCESS CAPACITY	9
TABLE 15: WATER RIGHTS TO BE PURCHASED	9
TABLE 16: TOTAL PROPOSED IMPACT FEE PER IRRIGATED ACRE AND TYPICAL SINGLE-FAMILY CONNECTION	10

LIST OF FIGURES

FIGURE 1: IMPACT FEE PROJECTS	4
-------------------------------------	---

SUMMARY OF PRESSURIZED IRRIGATION IFA

Per Utah Code Section 11-36a-303, this is a summary of the impact fee analysis designed to be understood by a lay person.

The proposed pressurized irrigation system impact fee for a typical single-family residential connection is \$12,646, which is an increase of \$130 from the previous fee of \$12,516.

The **purpose** of the IFA is to comply with the requirements of the Utah Impact Fees Act by identifying demands placed on the existing Pressurized Irrigation (PI) system by new development and by identifying how the City of Saratoga Springs (City) will meet these new demands. This analysis is an update to the PI IFA prepared in 2022 to address changes in conditions and assumptions that result in an increase in the proposed PI impact fee.

The most significant **change** in this update is increased growth projections. The City has experienced periods of rapid growth since 2000. Zion Public Finance, Inc. prepared growth projections through 2034 for the City, included in Appendix A. When compared to the growth projections included in the 2022 PI IFFP, the updated growth projections anticipate more rapid growth over the coming 10 years. Several large capital facility projects are required to meet this anticipated growth.

The PI system impact fee **service area** is the current City boundary. The existing system irrigated about 2,546 acres at the beginning of 2023. Projected **growth** adds 1,196 irrigated acres in the next 10 years for a total of 3,742 irrigated acres.

The three **components** of the PI impact fee are source, storage, and water rights. All capacities and costs are summarized into these components.

The City assigns irrigated area in acres to new development based on actual irrigated acres when the new development is platted or when a building permit is issued, whichever one comes first. Irrigated acres are the recommended **fee unit** for calculating the impact fee. The typical single-family residential PI water use includes irrigated area in park strips and parks in the development. For this study, the typical single-family residential irrigated area is assumed to be 0.24 acres.

It is proposed that the **level of service** for the PI system does not change from the previous IFA. The level of service is an annual volume of 3.13 acre-feet per irrigated acre while maintaining a pressure of at least 30 pounds per square inch (psi) at all connections under all peak flow conditions. Peak flow conditions are defined per irrigated acre as 7.5 gallons per minute (gpm) for Peak Day Average Flow (source flow capacity) and 15.0 gpm for Peak Instantaneous Flow Capacity (pipe flow capacity). Also, a level of service for storage volume per irrigated acre of 9,216 gallons is used to maintain the minimum pressure of 30 psi at all connections.

The PI system has no existing deficiencies. The costs calculated for the capacity required for growth in the next 10 years come from the proportional historical buy-in costs of **excess existing capacity** and new projects required entirely to provide capacity for the new development.

The following table is a summary of the proposed impact fee per irrigated acre. The table also includes the impact fee per typical single-family residential connection for reference based on 0.24 irrigated acres per residential connection. The proposed impact fee is an increase from the current impact fee of \$52,147 per irrigated acre.

**PROPOSED IMPACT FEE PER IRRIGATED
ACRE AND TYPICAL SINGLE-FAMILY CONNECTION**

Component	Per Irrigated Acre	Per Typical Residential Connection
Source	\$27,886	\$6,693
Storage	\$13,808	\$3,314
Water Rights	\$10,999	\$2,640
Total	\$52,693	\$12,646

IMPACT FEE CALCULATION

1 GENERAL

This section relies on the data presented in the Impact Fee Facilities Plan (IFFP) to present a proposed impact fee based on the appropriate proportion of project costs planned in the next 10 years to increase the capacity for new growth and an appropriate buy-in cost of available existing excess capacity previously purchased by the City. This section includes projects planned in the next 10 years to increase capacity for new growth included within the impact fee. Also included in this section are the possible revenue sources that the City may consider to fund the recommended projects. The impact fee components are then presented with the proposed fee.

2 GROWTH PROJECTIONS

Outdoor water demands are based on irrigated acreage. Future irrigated acreage was calculated by adding the existing irrigated acreage and the area of land that is expected to be irrigated at projected build-out (2060), or the maximum development under future zoning and densities. Build-out projections were based on the future land use plans.

The existing system irrigates approximately 2,546 acres. Growth projections for the next 10 years were provided by Zions Public Finance Inc., have been included in Appendix A, and are summarized in Table 1. Locations likely to develop within the next 10 years were identified by City staff. Based on the current zoning and population estimates from Zions Public Finance Inc., it was estimated that the future irrigated acreage in 2034 would be 3,742. The annual growth rate from the “Base Case” was applied to the years between 2024 and 2034 to project the irrigated acres each year.

TABLE 1: GROWTH PROJECTIONS

Year	Total Projected Irrigated Acres
2023	2,546
2034	3,742

3 COST OF EXISTING AND FUTURE FACILITIES

The costs of existing facilities that have remaining capacity are presented in Table 2. These projects provide available buy-in capacity for future development. The table has each project cost broken out by impact fee component.

TABLE 2: COST OF EXISTING FACILITIES WITH REMAINING BUY-IN CAPACITY

Project	Construction Cost	Total Capacity (Ac-ft)	Remaining Capacity (Ac-ft)	Remaining Capacity (Irr. Ac)	Available Buy-In Cost
Pond 11 – Wildflower	\$2,523,250	2.5	2.5	88	\$2,523,250
Pond 10 – Mt. Saratoga Zone 3	\$2,481,633	5.6	5.6	198	\$2,481,633
Pond 9 – Mt. Saratoga Zone 2	\$3,399,160	11.3	5.3	187	\$1,594,296

Pond 8 – Evans Lane	\$5,198,026	17.0	17.0	601	\$5,198,026
Pond 10 – Zone 2 Lake Mountain	\$3,950,000	11.0	11.0	389	\$3,950,000
Total	\$17,552,069	47.4	41.4	1,464	\$15,747,205

The projects presented in Table 3 are proposed projects essential to maintain the proposed level of service while accommodating future growth. The table lists the project type, description, and estimated cost. The facility sizing was based on City planning data and modeling. All projects have a design life greater than 10 years, as required by the Impact Fee Act. See Appendix B for cost estimate details of future projects.

TABLE 3: IMPACT FEE FACILITY PROJECTS FOR UPCOMING 10 YEARS

TYPE	MAP ID	RECOMMENDED PROJECT	COST
Source	PI01	Zone 1: Well 7 Pipeline	\$162,000
Source	PI02	Zone 2: New Jacobs Ranch Well	\$4,800,000
Source & Storage	PI03	Zone 3: Grandview 15 ac-ft Storage Facility	\$13,053,000
Source	PI04	Zone 1: Tickville Wash Pump Station	\$12,880,000
Source & Storage	PI05	Zone 1: MVC/Tickville Wash Pipeline	\$3,180,000
Source	PI06	Zone 1: Well Drilling and Equipping	\$5,739,000
Total			\$39,814,000

Note: See Figure 1 for a map of projects

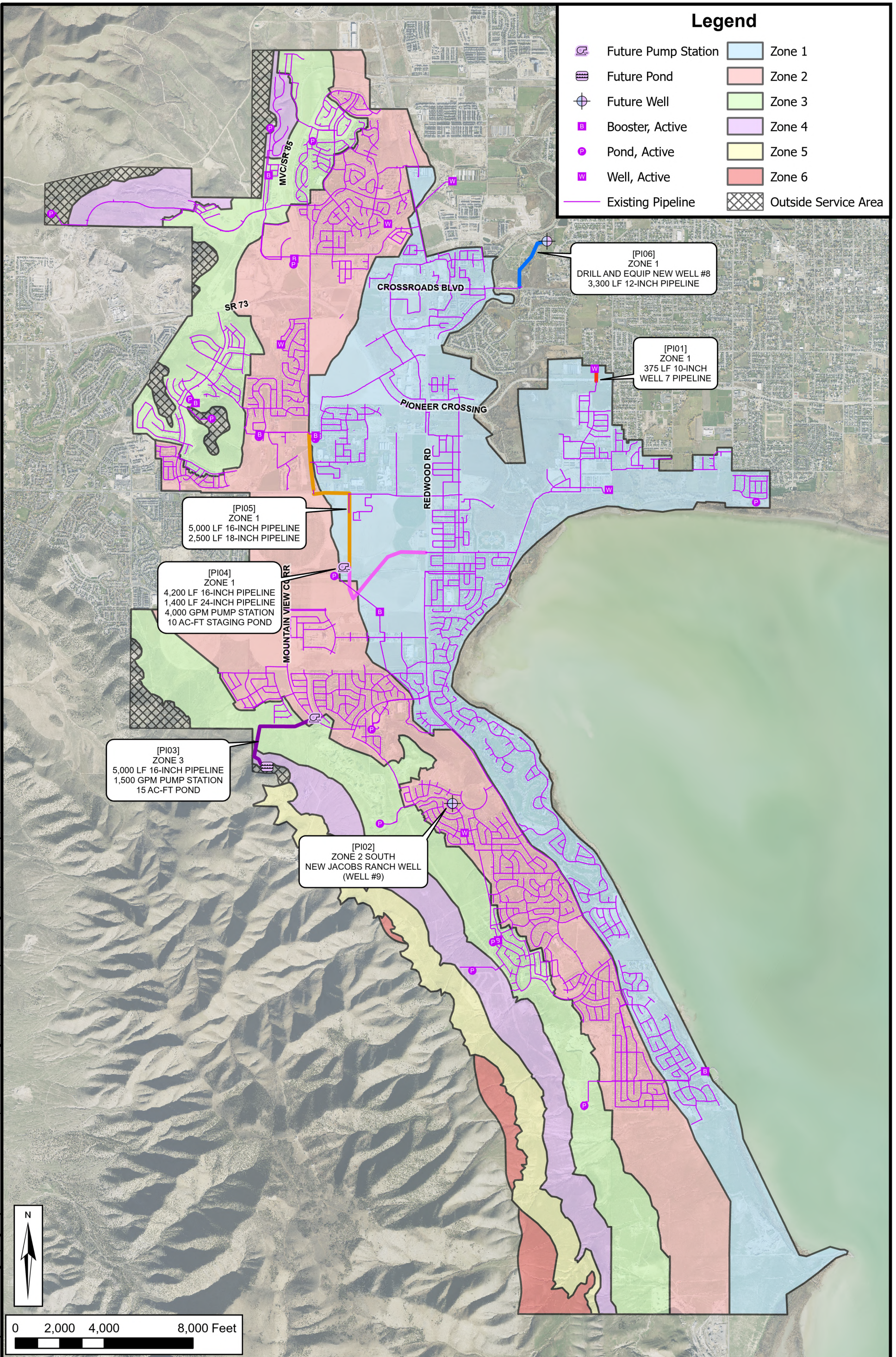
Only those costs attributed to the new growth in the next 10 years can be included in the impact fee. Interest for bonds used to pay for existing facilities is included in the impact fee eligible project costs. The City only uses impact fees to pay bond payments for bonds used to pay for impact fee eligible projects. Financing costs are not included in the projected cost of future projects. Table 4 is a summary of the existing and future facility costs by PI system component and by time period. Existing costs are those costs attributed to capacity currently being used and paid for by existing connections since the last IFA.

TABLE 4: FACILITY COST BY TIME PERIOD

PI Water Component	EXISTING		NEXT 10 YEARS		BEYOND 10 YEARS		TOTAL	
	Irrigated Acres	Cost	Irrigated Acres	Cost	Irrigated Acres	Cost	Irrigated Acres	Cost
Source	0	\$0	1,005	\$28,025,500	0	\$0	1,005	\$28,025,500
Storage	268	\$3,700,493	1,196	\$16,514,138	530	\$7,320,075	1,994	\$27,534,706
Water Rights	0	\$0	1,196	\$13,154,589	0	\$0	1,196	\$13,154,589
TOTAL COST	\$3,700,493		\$57,694,227		\$7,320,075		\$68,715,795	

Costs attributed to the next 10 years are costs for the existing capacity or new capacity for the assumed growth in the next 10 years. Costs attributed to beyond 10 years are costs for the existing capacity or new capacity for the assumed growth beyond 10 years. There is a total of \$28,025,500 attributed to source with a capacity of 1,005 irrigated acres, a total of \$16,514,138 for storage with a capacity of 1,196 irrigated acres, and a total of \$13,154,589 for water rights with a capacity of 1,196 irrigated acres anticipated over the next 10 years. The total anticipated cost for the next 10 years is \$57,694,227. There are still several developments that can only receive PI source water through the drinking water system. Costs for connecting these developments will be recouped in the future when source capacity from the drinking water system becomes available permanently.

Date: 1/28/2025
Document Path: H:\Projects\360 - Saratoga Springs City\63.200 PI Master Plan Update\GIS\Saratoga PI Impact Fee Projects\Saratoga PI Impact Fee Projects.aprx



4 REVENUE OPTIONS

Revenue options for the recommended projects include: revenue bonds, State/Federal grants and loans, user fees, and impact fees. Although this analysis focuses on impact fees, the City may need to consider a combination of these funding options. The following discussion describes each of these options.

Revenue Bonds

This form of debt financing is also available to the City for utility-related capital improvements. Unlike General Obligation (G.O.) bonds, revenue bonds are not backed by the City as a whole, but constitute a lien against the water service charge revenues of a Water Utility. Revenue bonds present a greater risk to the investor than do G.O. bonds, since repayment of debt depends on an adequate revenue stream, legally defensible rate structure /and sound fiscal management by the issuing jurisdiction.

Due to this increased risk, revenue bonds generally require a higher interest rate than G.O. bonds. This type of debt also has very specific coverage requirements in the form of a reserve fund specifying an amount, usually expressed in terms of average or maximum debt service due in any future year. This debt service is required to be held as a cash reserve for annual debt service payment to the benefit of bondholders. Typically, voter approval is not required when issuing revenue bonds. For growth-related projects, this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

State/Federal Grants and Loans

Historically, both local and county governments have experienced significant infrastructure funding support from state and federal government agencies in the form of block grants, direct grants in aid, interagency loans, and general revenue sharing. Federal expenditure pressures and virtual elimination of federal revenue sharing dollars are clear indicators that local government may be left to its own devices regarding infrastructure finance in general. However, state/federal grants and loans should be further investigated as a possible funding source for needed water system improvements.

It is also important to assess likely trends regarding federal/state assistance in infrastructure financing. Future trends indicate that grants will be replaced by loans through a public works revolving fund. Local governments can expect to access these revolving funds or public works trust funds by demonstrating both the need for and the ability to repay the borrowed monies, with interest. As with the revenue bonds discussed earlier, the ability of infrastructure programs to wisely manage their own finances will be a key element in evaluating whether many secondary funding sources, such as federal/state loans, will be available to the City.

User Fees

Similar to property taxes on existing residents, user fees to pay for improvements related to new growth-related projects places an unfair burden on existing residents as they had previously paid for their level of service.

Impact Fees

As discussed in Section 1, an impact fee is a one-time charge to a new development for the purpose of raising funds for the construction of improvements required by the new growth and to

maintain the current level of service. Impact fees in Utah are regulated by the Impact Fee Statute and substantial case law. Impact fees are a form of a development exaction that requires a fee to offset the burdens created by the development on existing municipal services. Funding the future improvements required by growth through impact fees does not place the burden on existing residents to provide funding for these new improvements.

Impact Fees

An impact fee is a one-time charge to a new development for the purpose of raising funds for the construction of improvements required by the new growth and to maintain the current level of service. Impact fees in Utah are regulated by the Impact Fee Statute and substantial case law. Impact fees are a form of a development exaction that requires a fee to offset the burdens created by the development on existing municipal services. Funding the future improvements required by growth through impact fees does not place the burden on existing residents to provide funding for these new improvements.

5 IMPACT FEE UNIT CALCULATION

Currently, the City assigns irrigated acres to new development based on actual irrigated acres when the new development is platted or when a building permit is issued, whichever comes first. Irrigated acres are the recommended unit for calculating the impact fee. The typical residential PI water use includes irrigated area in park strips and parks in the development.

It is recommended that the City have three components to the impact fee for PI system facilities—source, storage, and water rights. Each component is discussed separately in the following paragraphs. The major distribution pipelines are sized proportionate to the source and storage projects and have been included in the source and storage units.

Source Impact Fee Unit

The current level of service for source in the PI system is 7.5 gpm per irrigated acre. The total demand by the year 2034 at the proposed level of service is 3,742 irrigated acres. The existing PI source demand for the system is 2,546 irrigated acres. Subtracting the existing demand of 2,546 irrigated acres from the total demand in 2034 of 3,742 irrigated acres leaves an additional demand of **1,196 irrigated acres needed by 2034**, shown in Table 5.

TABLE 5: SOURCE NEEDED BY 2034

	Irrigated Acres	gpm
Predicted Demand in 2034	3,742	28,065
Existing Demand	2,546	19,095
Additional Demand Capacity needed by 2034	1,196	8,970

Shown in Table 6, the PI system has an existing source capacity of 2,511 irrigated acres. In addition, 40 irrigated acres are still being irrigated by the excess source capacity in the drinking water system. The system is master planned to be an independent system but is currently supplemented by excess capacity in the drinking water system for older areas that do not have PI source water available yet. Adding the 40 irrigated acres of capacity from the drinking water system to the 2,511 irrigated acres of existing capacity in the PI system is a total capacity of 2,551

irrigated acres. Subtracting the existing demand of 2,546 irrigated acres from the existing source capacity of 2,551 irrigated acres leaves an excess capacity of 5 irrigated acres.

TABLE 6: SOURCE EXCESS CAPACITY

	Irrigated Acres	gpm
Existing Source Capacity	2,551	19,133
Existing Demand	2,546	19,095
Excess Capacity	5	38

The current source demand plus the additional demand through 2034 leaves **1,191 irrigated acres of source capacity needed by 2034 for new growth** (see Table 7).

TABLE 7: SOURCE CAPACITY TO BE BUILT FOR NEW GROWTH

	Irrigated Acres	gpm
Additional Demand Capacity needed by 2034	1,196	8,970
Excess Capacity	5	38
Capacity needed by 2034 for new growth	1,191	8,933

The source facilities for the upcoming 10 years are planned to add 1,005 irrigated acres of source capacity to the PI system by 2034. Additional drinking water source capacity will be used to supplement the pressurized irrigation system while excess capacity exists. The existing drinking water wells will also be equipped with swing connections to allow the wells to service both the drinking water and pressurized irrigation systems. Shown in Table 4, the total anticipated cost for source projects over the next ten years is \$28,025,500. Dividing the cost by the increase in irrigated acres of 1,005 results in a **proposed impact fee per irrigated acre of \$27,886 or \$6,693 per ERC**, shown in Table 8.

TABLE 8: PROPOSED SOURCE IMPACT FEE

	Irrigated Acres	Typical Residential Connection
Total Cost of Source Capacity Projects over next 10 years	\$28,025,500	\$28,025,500
PI Source Development over next 10 years	1,005	4,188
Proposed Source Impact Fee	\$27,886	\$6,693

Storage Impact Fee Unit

The level of service for storage in the PI system is 9,216 gallons per irrigated acre (see Section 1). The total demand by the year 2034 at the level of service of 9,216 gallons per irrigated acre is 3,742 irrigated acres. The existing PI storage demand for the system is 2,546 irrigated acres. Subtracting the existing demand of 2,546 irrigated acres from the total demand in 2034 of 3,742

irrigated acres leaves an additional demand of **1,196 irrigated acres needed by 2034**, shown in Table 9.

TABLE 9: STORAGE NEEDED BY 2034

	Irrigated Acres	Acre-Feet
Predicted Demand in 2034	3,742	105.8
Existing Demand	2,546	72.0
Additional Demand Capacity needed by 2034	1,196	33.8

The PI system has an existing storage capacity of 4,010 irrigated acres. Subtracting the existing demand of 2,546 irrigated acres from the existing capacity of 4,010 irrigated acres leaves an excess capacity of **1,464 irrigated acres available for new development**, shown in Table 10.

TABLE 10: STORAGE EXCESS CAPACITY

	Irrigated Acres	Acre-Feet
Existing Storage Capacity	4,010	113.4
Existing Demand at the Proposed Level of Service	2,546	72.0
Excess Capacity	1,464	41.4

Subtracting the excess storage capacity of 1,464 irrigated acres from the additional demand needed by 2034 of 1,196 irrigated acres leaves and **268 irrigated acres or 7.6 acre-feet of storage available for growth**, shown in Table 11.

TABLE 11: STORAGE CAPACITY TO BE BUILT FOR NEW GROWTH

	Irrigated Acres	Acre-Feet
Additional Demand Capacity needed by 2034	1,196	33.8
Excess Capacity	1,464	41.4
Excess capacity available in 2034 for new growth	268	7.6

The storage facilities for upcoming 10 years in Table 4 are planned to add 530 irrigated acres of storage capacity to the PI system by 2034. As shown in Table 4, this leaves 530 irrigated acres capacity for growth beyond 10 years. Table 4 also includes the total anticipated cost for storage projects over the next ten years of \$16,514,138 which includes the impact fee eligible cost of existing facilities. Dividing the cost by the increase in irrigated acres of 1,196 results in a **proposed impact fee per irrigated acre is \$13,808 or \$3,314 per typical residential connection**, shown in Table 12.

TABLE 12: PROPOSED STORAGE IMPACT FEE

	Irrigated Acres	Typical Residential Connection
Total Cost of Storage Capacity Projects over next 10 years	\$16,514,138	\$16,514,138
Anticipated Growth over next 10 years	1,196	4,983
Proposed Storage Impact Fee	\$13,808	\$3,314

Water Right Impact Fee Unit

The proposed level of service for water rights is 3.13 acre-feet per irrigated acre. The total demand by the year 2034 at the proposed level of service is 11,712 acre-feet. The existing PI water right demand for the system is 7,969 acre-feet. Subtracting the existing demand of 7,969 acre-feet from the total demand in 2034 of 14,492 acre-feet leaves an additional demand of **3,743 acre-feet needed by 2034**, shown in Table 13.

TABLE 13: WATER RIGHTS NEEDED BY 2034

	Irrigated Acres	Diversion Acre-Feet
Predicted Demand in 2034 at the Proposed Level of Service	3,742	11,712
Existing Demand at the Proposed Level of Service	2,546	7,969
Additional Demand Capacity needed by 2034	1,196	3,743

The City owns a total of 6,655 acre-feet of water rights attributed exclusively to the PI system. The remaining capacity is supplemented from the excess capacity of drinking water rights which may be used for either system.

As shown in Table 14, the City will need to purchase 1,196 acre-feet of water rights by 2034. The average price the City has paid for water rights has been about \$3,514 per acre-foot of water rights. This would provide a price of **\$10,999 per irrigated acre or \$2,640 per typical residential connection**.

TABLE 14: WATER RIGHTS TO BE PURCHASED

	Irrigated Acres	Acre-Feet
Additional Capacity needed to be purchased by 2034	1,508	4,719

It is recommended that the City accept the water right impact fee in one of three ways: Payment of \$10,999 per irrigated acre for water rights the City has available for new development, use of PI water right credit, or deed the City a water right approved by the City Attorney.

6 IMPACT FEE SUMMARY

Adding the proposed PI system impact fee units together, the total proposed impact fee would be \$52,693 per irrigated acre. A typical single-family residential connection requiring 0.24 irrigated

acres would have an impact fee of **\$12,646**, shown in Table 16. This includes \$6,693 for source capacity, \$3,314 for storage capacity, and \$2,640 for water rights.

TABLE 16: TOTAL PROPOSED IMPACT FEE PER IRRIGATED ACRE AND TYPICAL SINGLE-FAMILY CONNECTION

Component	Per Irrigated Acre	Per Typical Residential Connection
Source	\$27,886	\$6,693
Storage	\$13,808	\$3,314
Water Rights	\$10,999	\$2,640
Total	\$52,693	\$12,646

APPENDIX A

Growth Projections Memorandum

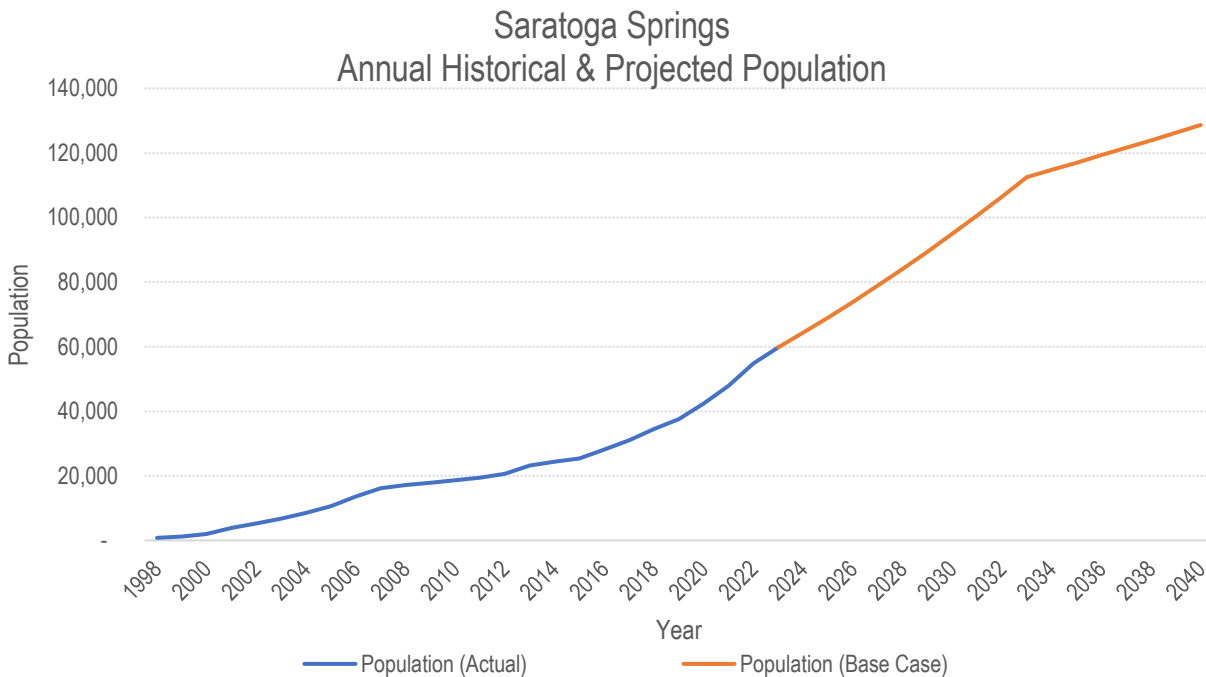
GROWTH PROJECTIONS MEMORANDUM

Historic and Projected Growth

Saratoga Springs continues its historically robust pace of growth as of March 2024. Indeed, over the trailing five-year period from 2018-2023, the City's population has increased at an average annual growth rate of 11.6 percent, reaching a new record population of 59,812 as of 2023. This comprises an absolute increase of 25,288 people since the close of 2018.

Zions projects Saratoga Springs to grow at an average annual growth rate of 6.1 percent, or 4,996 people, per-year over the period 2024-2034. Over the longer period of 2035-2040, Zions projects an average annual growth rate of 4.8 percent, at 4,157 people per year. In the year 2040 this would place Saratoga Springs total population at approximately 130,000 people.

CHART 1: SARATOGA SPRINGS ANNUAL HISTORICAL AND PROJECTED POPULATION



In generating these projections, Zions implemented a linear model coupled with upper and lower prediction intervals calculated at the 95% probability level to provide a base case long-term population growth scenario.

- **Base Case** – this scenario projects forward population levels assuming the mean growth of the City throughout its history. This is Zions recommended scenario.

The total population scenario is provided in the table below.

TABLE 1: HISTORIC ACTUAL AND PROJECTED POPULATION SCENARIO

Year	Population (Actual)	Projected Population (Base Case)
1998	795	-
1999	1,240	-
2000	1,984	-
2001	3,898	-
2002	5,267	-
2003	6,714	-
2004	8,520	-
2005	10,645	-
2006	13,574	-
2007	16,162	-
2008	17,135	-
2009	17,817	-
2010	18,624	-
2011	19,452	-
2012	20,663	-
2013	23,180	-
2014	24,403	-
2015	25,401	-
2016	28,138	-
2017	31,059	-
2018	34,524	-
2019	37,581	-
2020	42,449	-
2021	47,840	-
2022	54,875	-
2023	59,812	-
2024	-	64,334
2025	-	69,022
2026	-	73,877
2027	-	78,898
2028	-	84,085
2029	-	89,438
2030	-	94,958
2031	-	100,644
2032	-	106,496
2033	-	112,514
2034	-	114,764
2035	-	117,035
2036	-	119,328
2037	-	121,641
2038	-	123,974
2039	-	126,327
2040	-	128,698

Next, considering the recommended population scenario, we highlight annual percentage changes in the table below.

TABLE 2: ANNUAL PERCENT CHANGE IN PROJECTED POPULATION GROWTH

Year	Projected Population (Base Case)	YoY% Growth
2024	64,334	7.6%
2025	69,022	7.3%
2026	73,877	7.0%
2027	78,898	6.8%
2028	84,085	6.6%
2029	89,438	6.4%
2030	94,958	6.2%
2031	100,644	6.0%
2032	106,496	5.8%
2033	112,514	5.7%
2034	114,764	2.0%
2035	117,035	2.0%
2036	119,328	2.0%
2037	121,641	1.9%
2038	123,974	1.9%
2039	126,327	1.9%
2040	128,698	1.9%

Additionally, we provide year-over-year growth figures in count of people below in table 3.

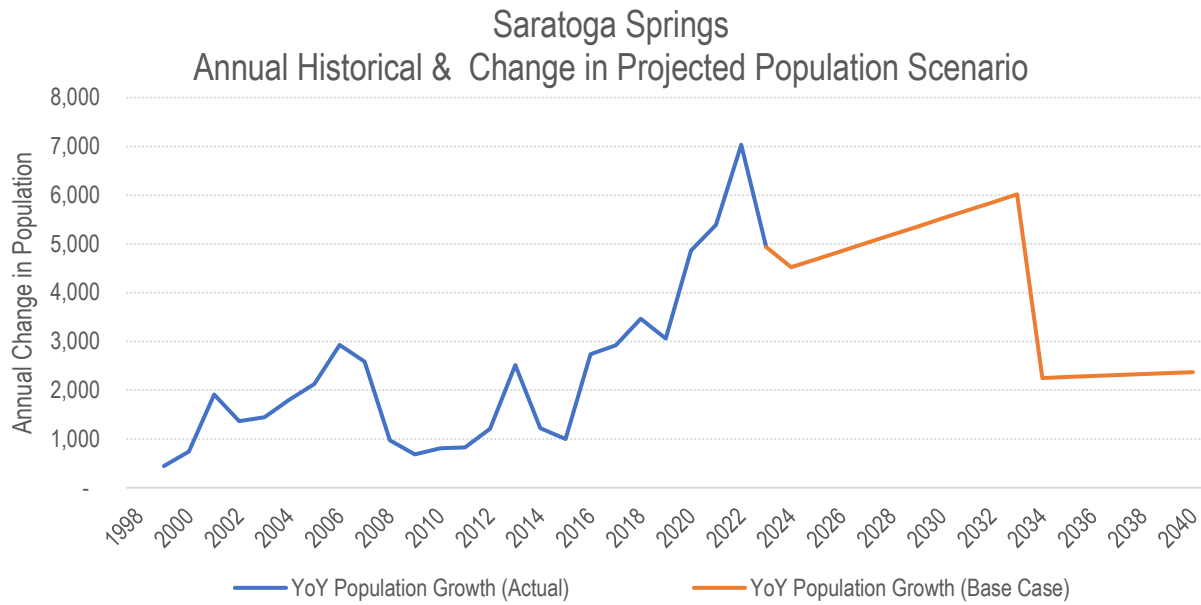
TABLE 3: ANNUAL CHANGE IN HISTORIC AND PROJECTED POPULATION GROWTH

Year	YoY Population Growth (Actual)	YoY Population Growth (Base Case)
1998	-	-
1999	445	-
2000	744	-
2001	1,914	-
2002	1,369	-
2003	1,447	-
2004	1,806	-
2005	2,125	-
2006	2,929	-
2007	2,588	-
2008	973	-
2009	682	-
2010	807	-
2011	828	-
2012	1,211	-
2013	2,517	-
2014	1,223	-
2015	998	-
2016	2,737	-
2017	2,921	-

Year	YoY Population Growth (Actual)	YoY Population Growth (Base Case)
2018	3,465	-
2019	3,057	-
2020	4,868	-
2021	5,391	-
2022	7,035	-
2023	4,937	-
2024	-	4,522
2025	-	4,688
2026	-	4,855
2027	-	5,021
2028	-	5,187
2029	-	5,353
2030	-	5,520
2031	-	5,686
2032	-	5,852
2033	-	6,018
2034	-	2,249
2035	-	2,271
2036	-	2,292
2037	-	2,313
2038	-	2,333
2039	-	2,353
2040	-	2,372
Avg. Forward Growth/Year		4,052

Next, utilizing historical data regarding residential units added annually, we can understand the relationship between population growth and the growth of residential units in the community. This historical record of residential units added annually with forward projections is provided below.

CHART 2: SARATOGA SPRINGS HISTORICAL & PROJECTED RESIDENTIAL UNITS ADDED ANNUALLY



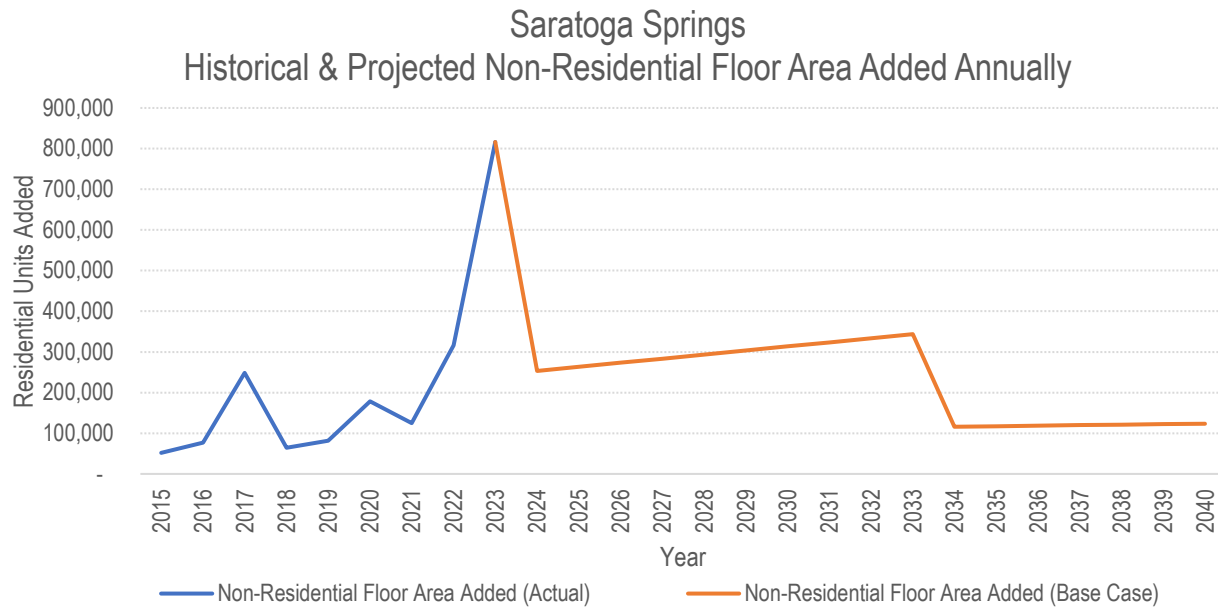
When analyzing the forward growth of residential units within Saratoga Springs, we again note the recommended base case scenario. This data is provided in table 4 below.

TABLE 4: HISTORICAL AND PROJECTED RESIDENTIAL UNITS ADDED ANNUALLY

Year	Residential Units Added (Actual)	Residential Units Added (Base Case)
2013	438	-
2014	315	-
2015	382	-
2016	812	-
2017	620	-
2018	666	-
2019	730	-
2020	1,536	-
2021	1,763	-
2022	1,091	-
2023	1,161	-
2024	-	1,065
2025	-	1,100
2026	-	1,135
2027	-	1,169
2028	-	1,204
2029	-	1,238
2030	-	1,273
2031	-	1,307
2032	-	1,342
2033	-	1,377
2034	-	592
2035	-	597
2036	-	601
2037	-	606
2038	-	610
2039	-	614
2040	-	618
Avg. Forward Growth/Year		968

Finally, we also provide a forecast of non-residential floor area added annually. We note that 2023 added non-residential floor area in an amount of 816,317 square feet, which stands 5.7x the historical average from 2015-2022. This is above trend, and while certainly possible to continue in the future, 2024 floor area constructed thus far is 151,770 square feet. Our statistical calculations predict 2024 to end with 322,719 square feet constructed in total. However, we acknowledge that the City has additional tangible, on-the-ground, knowledge regarding permitted construction that may diverge from this figure. Please see the historical chart and projections below.

CHART 3: SARATOGA SPRINGS HISTORICAL & PROJECTED NON-RESIDENTIAL FLOOR AREA ADDED ANNUALLY



Regarding non-residential floor area added, the Mid-Upper Range growth scenario is again selected. Over the future period from 2024-2040 we project an annual average of 224,844 square feet of non-residential floor area added annually. This data is provided directly in table 5 below.

TABLE 5: HISTORICAL AND PROJECTED NON-RESIDENTIAL FLOOR AREA ADDED ANNUALLY

Year	Non-Residential Floor Area Added (Actual)	Non-Residential Floor Area Added (Base Case)
2015	51,777	-
2016	76,676	-
2017	248,586	-
2018	64,614	-
2019	81,699	-
2020	178,188	-
2021	125,249	-
2022	316,469	-
2023	816,317	-
2024	-	253,217
2025	-	263,255
2026	-	273,293
2027	-	283,332

Year	Non-Residential Floor Area Added (Actual)	Non-Residential Floor Area Added (Base Case)
2028	-	293,370
2029	-	303,409
2030	-	313,447
2031	-	323,485
2032	-	333,524
2033	-	343,562
2034	-	116,002
2035	-	117,318
2036	-	118,598
2037	-	119,843
2038	-	121,056
2039	-	122,239
2040	-	123,392
Avg. Forward Growth/Year		224,844

Additional Considerations

As part of this analysis, Zions implemented a linear regression model coupled with prediction intervals calculated using Saratoga Springs historical data, including a prediction for year 2024 which is yet to close. As mentioned above, we acknowledge that the City may have additional tangible, on-the-ground, knowledge regarding growth in 2024 that is yet to be reflected in data.

APPENDIX B

Cost Estimates

**Saratoga Springs Impact Fee Facility Plan
Pressurized Irrigation System
Preliminary Engineers Cost Estimates**

	Item	Unit	Pipe Diameter	2024 Unit Price	Quantity	Total Price	Category
PI01	Well 7 Pipeline						
	Install 10-inch Pipeline	LF	10	\$ 270	500	\$ 135,000	Source Conveyance
					Total	\$ 135,000	
					Engineering & Admin. (10%)	\$ 13,500	
					Contingency (10%)	\$ 13,500	
					Total to Well 7 Pipeline	\$ 162,000	
PI02	New 3,000 GPM Jacobs Ranch Well						
	Well Drilling	LS	NA	\$ 1,500,000	1	\$ 1,500,000	Source Conveyance
	Well Equipping	LS	NA	\$ 2,500,000	1	\$ 2,500,000	Source Conveyance
					Total	\$ 4,000,000	
					Engineering & Admin. (10%)	\$ 400,000	
					Contingency (10%)	\$ 400,000	
					Total to New 3,000 GPM Jacobs Ranch Well	\$ 4,800,000	
PI03	Grandview 15 ac-ft Storage Pond						
	Construct 15 AC-FT Pond	AC-FT	NA	\$ 410,000	15	\$ 6,150,000	Storage
	Construct 1500 GPM Pump Station	LS	NA	\$ 3,500,000	1	\$ 3,500,000	Source Conveyance
	Install 16-inch Pipeline	LF	16	\$ 340	5,000	\$ 1,700,000	Source Conveyance
					Total	\$ 11,350,000	
					Engineering & Admin. (10%)	\$ 1,135,000	
					Contingency (5%)	\$ 567,500	
					Total to Grandview 15 ac-ft Storage Pond	\$ 13,053,000	
PI04	Tickville Wash Pump Station						
	Construct 4,000 GPM Pump Station	LS	NA	\$ 5,000,000	1	\$ 5,000,000	Source Conveyance
	Install 16-inch Pipeline	LF	16	\$ 340	4,200	\$ 1,428,000	Source Conveyance
	Install 24-inch Pipeline	LF	24	\$ 480	1,400	\$ 672,000	Source Conveyance
	10 AC-FT Pond	LS	NA	\$ 410,000	10	\$ 4,100,000	Storage
					Total	\$ 11,200,000	
					Engineering & Admin. (10%)	\$ 1,120,000	
					Contingency (5%)	\$ 560,000	
					Total to Tickville Wash Pump Station	\$ 12,880,000	
PI05	MVC/Tickville Wash Pipeline						
	Install 16-inch Pipeline	LF	16	\$ 340	5,000	\$ 1,700,000	Source Conveyance
	Install 18-inch Pipeline	LF	18	\$ 380	2,500	\$ 950,000	Source Conveyance
					Total	\$ 2,650,000	
					Engineering & Admin. (10%)	\$ 265,000	
					Contingency (10%)	\$ 265,000	
					Total to MVC/Tickville Wash Pipeline	\$ 3,180,000	
PI06	New Well Drilling and Equipping						
	Well Drilling	LS	NA	\$ 1,500,000	1	\$ 1,500,000	Source Conveyance
	Well Equipping	LS	NA	\$ 2,500,000	1	\$ 2,500,000	Source Conveyance
	Install 12-inch Pipeline	LF	12	\$ 300	3,300	\$ 990,000	Source Conveyance
					Total	\$ 4,990,000	
					Engineering & Admin. (10%)	\$ 499,000	
					Contingency (5%)	\$ 249,500	
					Total to New Well Drilling and Equipping	\$ 5,739,000	
					Total By Category		
					Water Rights	\$ -	
					Source Conveyance	\$ 28,025,500	
					Storage	\$ 11,787,500	
					Total	\$ 39,813,000	