

**RESOLUTION R15-17 (4-21-15)**

**A RESOLUTION OF THE CITY OF SARATOGA SPRINGS, UTAH  
AMENDING SECONDARY WATER RATES AND FEES IN THE  
CONSOLIDATED FEE SCHEDULE AND ESTABLISHING AN  
EFFECTIVE DATE.**

**WHEREAS**, the City of Saratoga Springs operates a secondary water system to ensure the public health, safety, and welfare of its citizens; and

**WHEREAS**, Utah Code Annotated § 10-8-14 authorizes the City to establish and provide secondary water services; and

**WHEREAS**, Utah Code Annotated § 10-8-22 authorizes the City to charge a fee for use of the same; and

**WHEREAS**, Sections 8.01.08 and 8.01.09 of the City Code authorizes the City to charge a water charge to its residents; and

**WHEREAS**, the City previously adopted secondary water fees and now desires to amend the same; and

**WHEREAS**, the City has recently installed secondary water meters throughout the City and needs to establish secondary water usage rates; and

**WHEREAS**, the City wishes to create a tiered water rate structure to encourage water conservation; and

**WHEREAS**, growth in population of the City of Saratoga Springs has resulted in the need to construct and expand the secondary water system; and

**WHEREAS**, said expansion, addition of secondary water meters, and an increase in operation and maintenance costs, has necessitated a change in the secondary water rates and fees; and

**WHEREAS**, it is the responsibility and obligation of the City Council of the City of Saratoga Springs to ensure that the costs of the secondary water improvements and the increased operation and maintenance costs are paid for through the City's Water Enterprise Fund and that said fund remains solvent; and

**WHEREAS**, from 2014 to 2015, Zions Bank Public Finance conducted a utility rate study to determine if the City's secondary water rates and fees are sufficient to meet its current and future service delivery and infrastructure needs; and

**WHEREAS**, on February 17, 2015, Zions Bank Public Finance made presentations to the City Council during work and policy sessions outlining the comprehensive rate study that recommended amendments to the secondary water rates and fees; and

**WHEREAS**, the City Council adopts the findings by Zions Bank Public Finance, which are attached as Exhibit A; and

**WHEREAS**, the City Council finds that amending the secondary water fees and rates as specifically provided herein is in accordance with Utah law and City ordinances and furthers the public health, safety, and welfare.

**NOW, THEREFORE, BE IT RESOLVED** by the Saratoga Springs City Council as follows:

**SECTION I – WATER USER RATE ANALYSIS**

The Secondary Water User Rate Analysis prepared by Zions Bank Public Finance, attached as Exhibit A hereto and incorporated herein by this reference, is hereby adopted.

**SECTION II – ENACTMENT**

The secondary water rates and fees in the Consolidated Fee Schedule are replaced by the following rates and fees:

**A. Secondary Water Rates and Fees**

Single Family Residential Base Fee	\$65.00 per acre
Base fee for all other types of accounts (non-single family residential accounts)	\$65.00 per irrigable acre
Single Family Residential Monthly Allotment (thousand gallons)	Gross lot acreage multiplied by 108.793732
Monthly Allotment for non-single family residential accounts (thousand gallons)	Irrigable lot area multiplied by 152.99127
Secondary Water Usage Rates	0 to 75% of allotment, \$0.35 per 1,000 gallons 75 to 100% of allotment, \$1.00 per 1,000 gallons 100 to 150% of allotment, \$1.25per 1,000 gallons 150 to 200% of allotment, \$2.00 per 1,000 gallons 200 to 250% of allotment, \$3.00 per 1,000 gallons Above 250% of allotment, \$3.80 per 1,000 gallons

**B. Leak Forgiveness Program**

Because the cost of a leak in a residential customer’s irrigation system can be costly, the City establishes a leak forgiveness policy with the following guidelines:

1. Participation is only available to residential customers.
2. This policy only applies to water leaks and does not apply to customers who overwater or establish new sod.
3. Each account is eligible to request forgiveness up to once per year.
4. The City will only forgive an amount over 150% of the resident's allotment.
5. The resident must request the forgiveness no later than 30 days after the high water bill's due date.
6. Customers must be current on their City utility account (with the exception of the month for which they are requesting to use this leak forgiveness policy).
7. Sufficient proof and/or documentation evidencing a leak may be required to be provided by the resident before the City forgives any amount.

**SECTION III – AMENDMENT OF CONFLICTING POLICIES**

If any ordinances, resolutions, or policies of the City of Saratoga Springs heretofore adopted are inconsistent herewith they are hereby amended to comply with the provisions hereof. If they cannot be amended to comply with the provisions hereof, they are hereby repealed.

**SECTION IV – EFFECTIVE DATE**

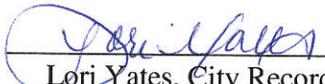
This resolution shall take effect on July 1, 2015.

**SECTION V – SEVERABILITY**

If any section, subsection, sentence, clause, phrase, or portion of this ordinance is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such provision shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of this ordinance.

**ADOPTED AND PASSED** by the City Council of the City of Saratoga Springs, Utah, this 21 day of April, 2015.

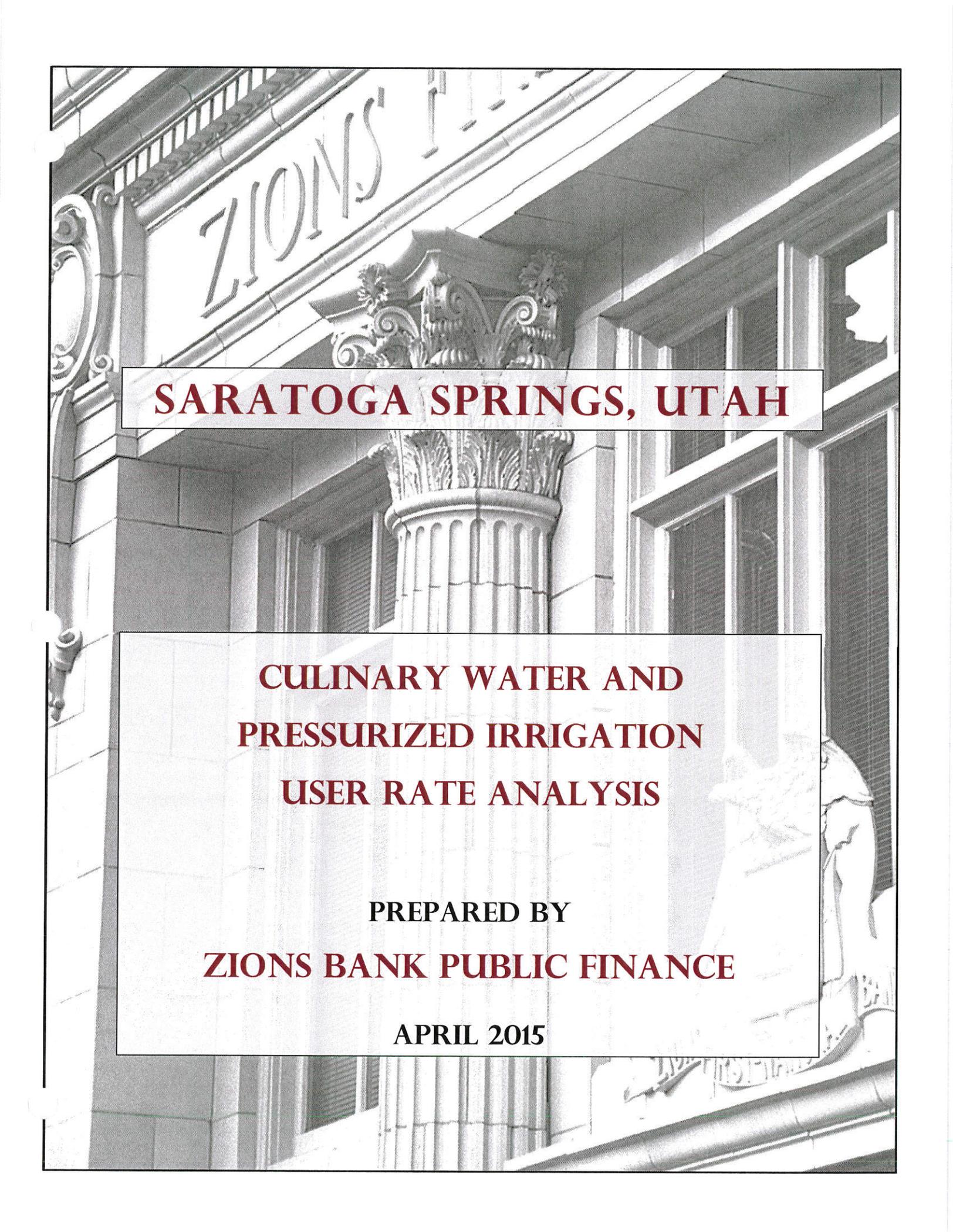
Signed:   
 Jim Miller, Mayor

Attest:   
 Lori Yates, City Recorder

4/21/15  
 Date

	<b>VOTE</b>
Shellie Baertsch	<u>Aye</u>
Rebecca Call	<u>Aye</u>
Michael McOmber	<u>Aye</u>
Stephen Willden	<u>Aye</u>
Bud Poduska	<u>Aye</u>





**SARATOGA SPRINGS, UTAH**

**CULINARY WATER AND  
PRESSURIZED IRRIGATION  
USER RATE ANALYSIS**

**PREPARED BY  
ZIONS BANK PUBLIC FINANCE**

**APRIL 2015**



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Saratoga Springs Culinary Water and Pressurized Irrigation User Rate Analysis



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## **RATEPAYERS' OVERVIEW OF THE USER RATE ANALYSIS**

### **WHY IS THE CITY PREPARING A USER RATE ADJUSTMENT?**

The City of Saratoga Springs (the City) is a growing community with continual new development and many water projects yet to be constructed. This user rate adjustment has been prepared for the culinary water and pressurized irrigation (PI) water utilities.

Pressurized irrigation meters have recently been installed throughout the City. The meters allow the City to bill according to pressurized irrigation usage which will help the City conserve water supplies and reduce operations costs. The City is updating the pressurized irrigation rate structure at this time to incorporate changes to the billing rate structure to consider PI metering.

The pressurized irrigation system is in need of many large projects over the next several years to develop the capacity and redundancy to reliably deliver water to its users. The City needs to carefully monitor rate revenues annually to be sure that the capital projects as well as outstanding and future debt service payments can be adequately funded and that the costs of operating the system are met.

When setting user rates, consideration has been given to projects that will be funded with the City's impact fees, and the rates have been set to consider operations and maintenance expense, repair and replacement projects, and maintenance of bond coverage ratios and cash balances. An objective of this rate analysis is to modify the existing culinary and PI water rates to ensure that user rates develop sufficient revenues to adequately fund the operations and maintenance of the systems while maintaining a fair fee structure for each utility.

### **WHO PREPARED THE USER RATE ANALYSIS?**

Zions Public Finance Inc has been hired by the City to review the costs of the water utilities, make recommendations on how to best fund future capital projects, review the demands of each user class, and recommend a rate for each utility that will generate the funds needed. The professionals at Zions have combined experience of 25 years in ratemaking work.

### **WHAT ARE UTILITY USER RATES?**

Utility user rates are fees charged to users of each of the utilities. The utility rate studies follow the general methodologies prescribed by the American Water Works Association (AWWA). AWWA rate methodologies provide consistency and uniform reporting and documentation. The rate study follows the City's budgetary formats and can easily be incorporated into budget documents. The intent of a user rate is to generate only enough to operate the system, build new or replacement capital projects, and maintain fair cash reserves to offset potential risks and unforeseen costs to the system. The intent for these user rates is not to create a profit for the City that can be spent elsewhere but rather ensure that each system is financially self-sufficient.

### **WHAT ARE THE UTILITIES?**

The existing culinary and pressurized irrigation utilities provide high quality service to the residents, businesses, and other users in Saratoga Springs. Although generally unseen, these utilities provide essential services and must be maintained so that they continue to do so. Pipes, wells, water tanks, pumps, reservoirs, etc. are continually degrading with time and use that requires the City to reinvest in these facilities to make sure that they provide safe and reliable service indefinitely.

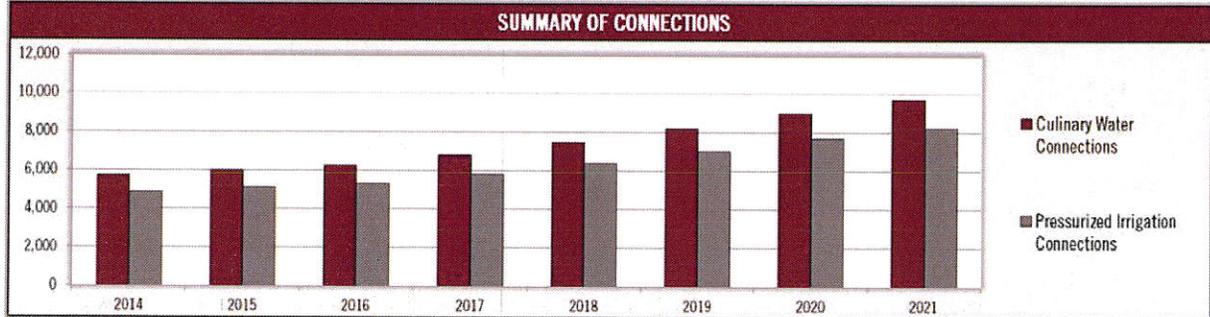


Cities that do not maintain their systems run the risk of line breaks, backups, flooding, or service interruption that can result in illnesses, loss of property, or even loss of life.

Both systems are relatively new and currently require little repair and replacement expense, but the City is facing a great deal of new growth. Although impact fees will pay for the bulk of the new improvements there still may be timing gaps between the timing of impact fee payments and the actual construction timing of the project. Generally, impact fee revenues do not come to the City fast enough to pay the entire growth-related project costs. Until sufficient impact fees are collected, the utility enterprise fund will cover the costs and then will be repaid as impact fees are collected.

In 2014 the City had 5,738 culinary water connections and 4,899 pressurized irrigation connections. The table below graphs the growth in connections that the City anticipates. It is projected that by 2021 the City will have 9,676 culinary connections and 8,261 PI connections.

FIGURE ES.1: UTILITY CUSTOMERS CONNECTIONS



**WHAT ARE OUR CURRENT USER RATES AND WHAT DO THEY FUND?**

The City of Saratoga Springs currently collects monthly user rates for culinary water and pressurized irrigation. Revenues collected are used to pay the following key costs of maintaining good utility service for the City:

- Salaries and wages of City employees that operate and maintain the system;
- Costs of power to pump water out of the ground and deliver it throughout the City;
- Costs of keeping the existing infrastructure in good and safe condition;
- Cost of annual debt service payments for the outstanding Series 2011 and 2014 bonds and the future Series 2016 bond which have or will fund culinary and pressurized irrigation capital projects; and
- Maintenance of enterprise fund cash reserves equivalent to 150 days of operations expense combined coverage to maintain financial stability and protect against emergencies or cost overruns.

The current culinary water rate and pressurized irrigation rate structures are found in Figures ES.2 and ES.3 below.



FIGURE ES.2: CURRENT CULINARY RATE STRUCTURE

Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	Unlimited	1.65	112	3/4"	\$	17.75
			113	1"		23.08
			114	1.5"		28.40
			115	2"		46.15
			116	3"		177.50
			117	4"		225.43
			118	6"		339.03
			119	8"		468.60

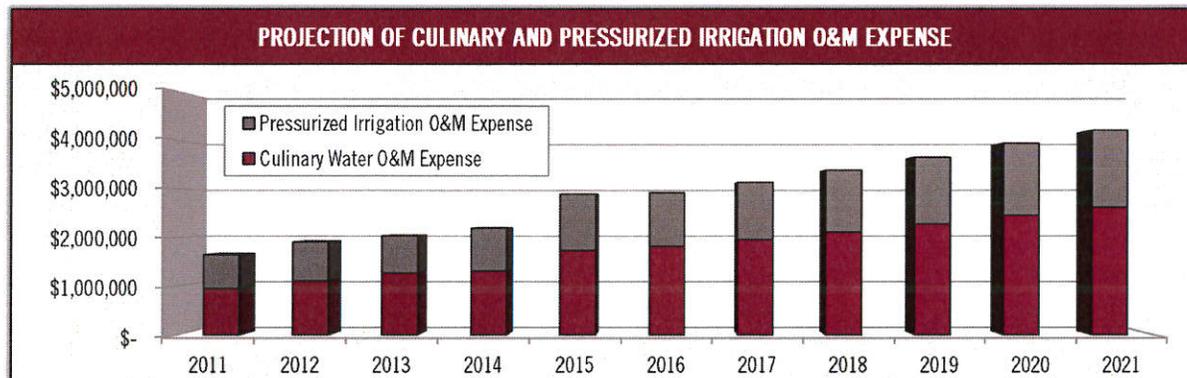
Culinary Water Residential With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	\$ -	101	0.75"	\$	17.75
3,001	7,000	2.40	102	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				

FIGURE ES.3: CURRENT PRESSURIZED IRRIGATION RATE STRUCTURE

Pressurized Irrigation - Reliance on Combined Water Coverage for 1.25 X Coverage			
Table No.	Base Fee		
701	Acre	\$	104.72
701	Half Acre		52.36
701	Third Acre		34.56
701	Quarter Acre		26.18

Figure ES.4 below shows the projected annual costs for fiscal years 2011-2021 broken down by utility.

FIGURE ES.4: PROJECTED ANNUAL OPERATIONS & MAINTENANCE COSTS BY UTILITY



There are four primary goals that the City is concerned with when making long-term financial goals. These are: **1)** cover the cost of operating the system, **2)** minimize the amount of borrowing needed while still providing exceptional service, **3)** sufficiently pay the costs of bond payments if bonds must be issued, and **4)** maintain, at an absolute minimum, at least 150 days of operating expense in cash reserves to mitigate any financial risks, emergencies, or unanticipated cash overruns. The City is meeting all goals very well.

The City's utilities have maintained a good financial position by making all bond payments resulting from money borrowed to build capital projects.

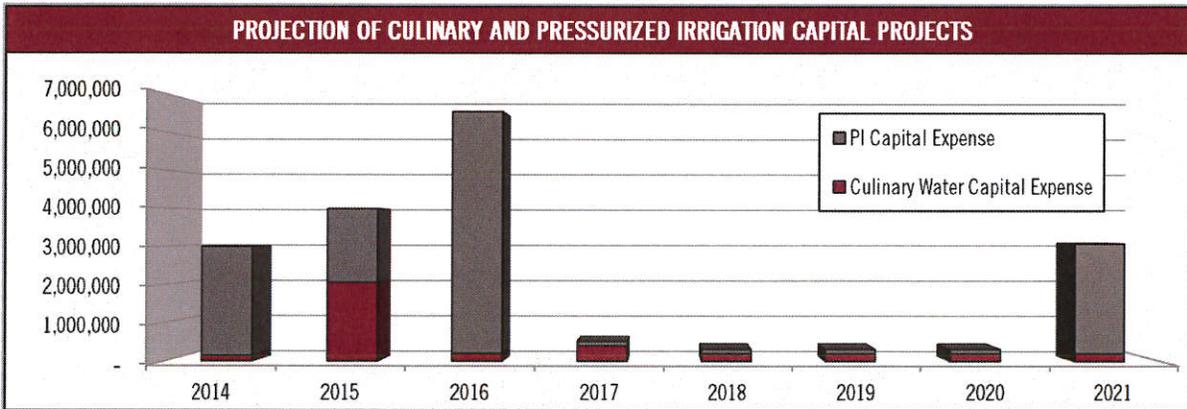
**WHAT IS THE LONG-TERM PLAN FOR THE UTILITIES?**

The City has prepared this rate analysis and financial plan to be sure that adequate financial resources are available to continue to operate the utilities as well as invest sufficient funds in repair and replacement to keep the systems operating properly. Growth will certainly continue within the City and although impact fees will help to fund the bulk of the growth-related costs, the timing of the impact fee collections will likely not match the timing of growth-related capital expenses. User rate revenues will offset any mismatches between slow impact fee collections and the immediate need for impact fee qualifying projects.

**WHY DOES THE CITY NEED THE PLANNED CAPITAL PROJECTS?**

The City needs to undertake multiple capital projects for each utility to provide sufficient capacity for new growth and to a small extent repair and replace some existing facilities that need to be upgraded or replaced as they have reached their useful life. Pressurized irrigation meters were recently installed and will enable the City to develop more equitable PI rates. Impact fees will pay the majority of the costs for system expansions over time but rates will need to make up any immediate funding gaps.

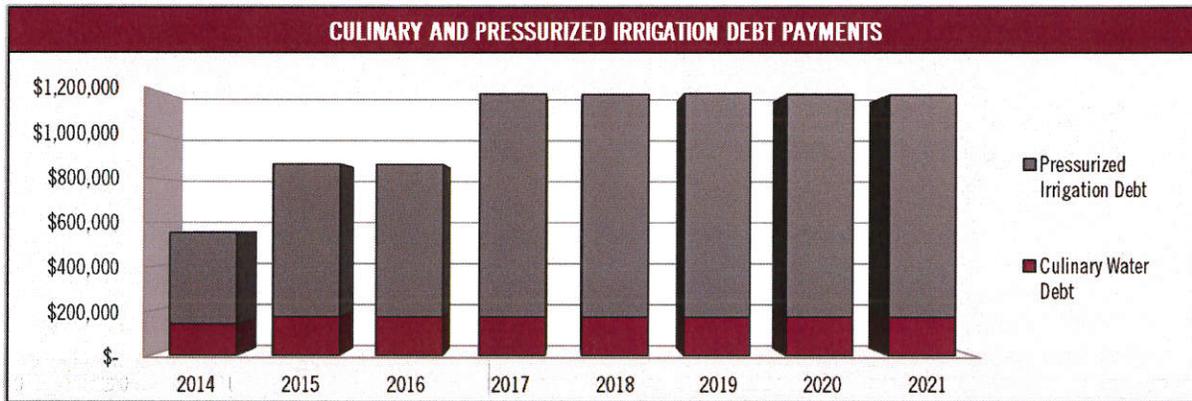
FIGURE ES.5: ANNUAL CAPITAL PROJECTS BY UTILITY



**WILL THE CITY NEED TO ISSUE BONDS TO BUILD CAPITAL PROJECTS?**

The City has outstanding debt issues associated with the culinary water and pressurized irrigation utilities. Saratoga Springs issued 2005, 2006 and Series 2009 Bonds. These three bonds were refunded by the 2014 Bond in addition to approximately \$6,350,000 in new money. A portion of the 2011 Sales Tax Bond has also been used for culinary and PI projects. The City also anticipates issuing approximately \$4.6M in 2016 for PI projects. Figure ES.6 summarizes the City's debt payment schedules for the culinary and pressurized irrigation systems.

FIGURE ES.6: SUMMARY OF FUTURE DEBT PAYMENTS FOR BOTH WATER SYSTEMS



Coverage ratios must be evaluated in conjunction with cash reserves. A utility may have a high coverage ratio if there is a lot of cash funded capital projects but have low cash balances or vice versa. A low number of cash funded capital projects needed results in high cash balances and lower coverage ratios.

FIGURE ES.7: FORECASTED DEBT SERVICE COVERAGE GRAPH FOR BOTH WATER SYSTEMS

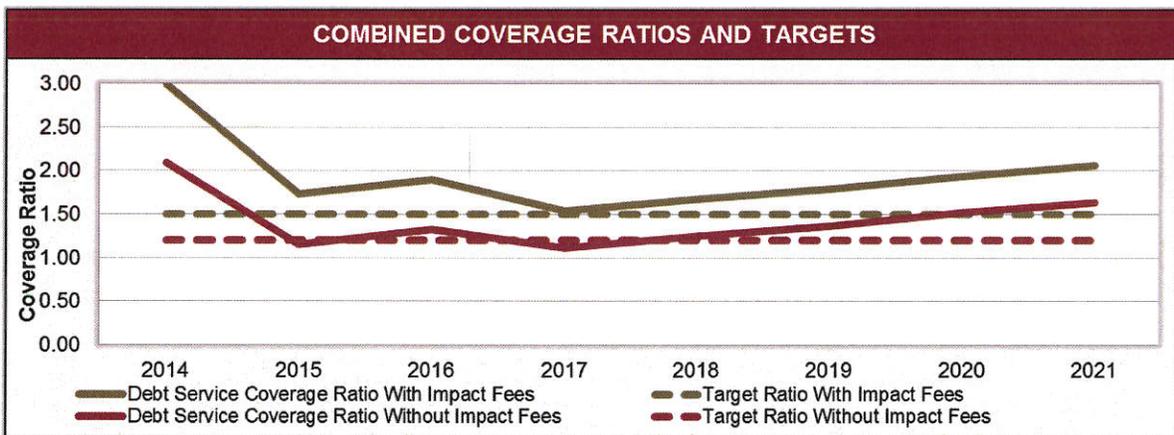
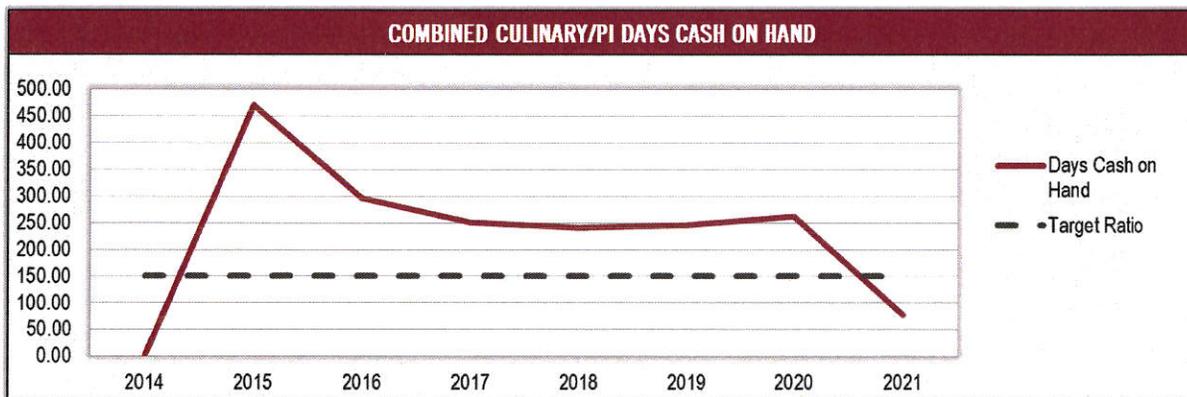


FIGURE ES.8: FORECASTED DAYS CASH ON HAND GRAPH FOR BOTH WATER SYSTEMS





**HOW ARE UTILITY RATES CALCULATED?**

Rates are determined by first calculating how much money the City must generate each year to adequately meet all financial goals. Second, the usage patterns of customer classes (i.e. single family, multi-family, commercial, etc.) are reviewed to know how much impact or demand each type of user places on the system. Finally a rate structure that will generate the necessary income is tailored for each user class that charges a fair price for the service provided given average demands.

**WHAT CHANGES WILL BE MADE TO CUSTOMER CLASSES, TIERS, OR OTHER RATE COMPONENTS?**

The current structure of the culinary water rates will generally follow the current rate structure. The rate structures for pressurized irrigation will change significantly and will be updated to a graduated tier structure similar to what has been implemented for culinary water rates.

**WHAT ARE THE RECOMMENDED RATES?**

The complete rate schedule for each utility is found in the attachments of this analysis. Figures ES.9 and ES.10 show the proposed rates.

FIGURE ES.9: PROPOSED RESIDENTIAL CULINARY WATER RATES

Culinary Water Residential With 3,000 Gal Allotment							
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee			
-	3,000	\$ -	101	0.75"	\$ 17.75		
3,001	7,000	2.40	102	1"	17.75		
7,001	12,000	3.25					
12,001	999,999,999	4.00					

Culinary Water Multi-Family/Condominiums - Per Unit With 3,000 Gal Allotment							
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee			
-	3,000	\$ -	103	3/4"	\$ 17.75		
3,001	7,000	2.40	104	1"	17.75		
7,001	12,000	3.25					
12,001	999,999,999	4.00					

Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment							
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee			
-	Unlimited	1.65	112	3/4"	\$ 17.75		
			113	1"	23.08		
			114	1.5"	28.40		
			115	2"	46.15		
			116	3"	177.50		
			117	4"	225.43		
			118	6"	339.03		
			119	8"	468.60		

The structure for the pressurized irrigation rates is changing significantly. The PI rates were previously calculated based entirely on lot size and charged as a flat monthly fee regardless of water use. However, the City has recently installed meters on the PI connections which allows the City to charge according to consumption. The proposed PI rate structure is being updated to charge according to actual consumption and to promote water conservation.

Each PI connection will be charged a base fee of \$65 per acre which will be multiplied by the gross lot size. Therefore, a quarter acre lot would be charged ¼ of that base fee, or \$16.25. Consumption tiers are also based on the percentage of a monthly water allotment that is scaled according to the gross lot size and a reasonable estimate of water use to adequately irrigate and maintain landscaping. The monthly water allotment is determined according to the information in the table below. The gross lot size is multiplied by the Monthly Allotment per Acre to determine the water allotment for each user.

FIGURE ES.10: CALCULATION OF ALLOTMENT BY GROSS LOT SIZE

	Residential	Commercial
Acre feet per Irrigated Acre:	3.13	3.13
% Irrigable:	0.64	0.90
Gallons per Af:	325,860	325,860
Annual Allotment (Gal):	652,763	917,948
Monthly Allotment per Acre (Gal):	108,793.79	152,991.27

Once the allotment has been determined for each lot, the PI rates are charged according to the tiered rate schedule below. For a connection that uses 75% or less of their total allotment they are charged the base fee for their lot size and \$0.35 per 1,000 gallons of consumption. As consumption increases the price per thousand gallons increases as actual demand meets or exceeds the target monthly allotment.

FIGURE ES.11: PROPOSED PRESSURIZED IRRIGATION WATER RATES

Pressurized Irrigation			
Allotment	Price per 1Kgal		Price per Acre
Up to 75%	\$	0.35	Base Fee \$ 65.00
Up to 100%		1.00	
Up to 150%		1.25	
Up to 200%		2.00	
Up to 250%		3.00	
Above 250%		3.80	

### WHEN WILL USER RATES BE CHANGED AGAIN?

The user rates proposed in this analysis are intended to be useful for the next five years assuming that there are no shifts in capital project timings or costs, or major changes in how the City operates each utility that would affect operations and maintenance cost projections. After 2016, rates are expected to be increased annually as shown in Figure ES.11. The rates reflect a larger bump today to set the revenues in a trend that will likely prevent the need for major increases later as long as the City implements the small annual adjustments recommended in Figure ES.11. If there is any major change in project planning or user rate assessment, then the rate analysis will need to be redone sooner.

FIGURE ES.12: ANNUAL RATE INCREASE

Culinary Water		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Annual Increase to Average Monthly Culinary Rates	\$	0.57	\$ -	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Average Monthly Culinary Rates	\$	24.95	\$ 24.95	\$ 25.11	\$ 25.11	\$ 25.11	\$ 25.11	\$ 25.11	\$ 25.11
Pressurized Irrigation		2014	2015	2016	2017	2018	2019	2020	2021
Increase to PI Revenues		60%	0%	10%	10%	10%	10%	10%	10%
Growth Rates		5%	5%	4%	9%	10%	10%	10%	8%
Net Change to Rates		55%	0%	6%	1%	0%	0%	0%	2%
Annual Increase to Average Monthly PI Rates	\$	9.31	\$ -	\$ 1.48	\$ 0.36	\$ 0.02	\$ 0.07	\$ 0.12	\$ 0.70
Annual Average Monthly PI Rates	\$	26.18	\$ 26.18	\$ 27.66	\$ 28.01	\$ 28.03	\$ 28.10	\$ 28.22	\$ 28.92
Estimated Increase in Average Water Bill	\$	9.88	\$ -	\$ 1.64	\$ 0.36	\$ 0.02	\$ 0.07	\$ 0.12	\$ 0.70
Estimated Average Monthly Water Bill	\$	51.13	\$ 51.13	\$ 52.77	\$ 53.12	\$ 53.14	\$ 53.21	\$ 53.33	\$ 54.03
Net Change to Rates			0%	3%	1%	0%	0%	0%	1%

Figures shaded beyond 2016 are for rough approximation only. Once PI meters are installed, rates will be based on actual consumption rather than lot size.

### WHAT IS THE IMPACT UPON RESIDENTS OF SARATOGA SPRINGS?

Figures ES.13 and ES.14 are graphs that compare the current residential bills with the proposed bill for each utility given different usage patterns.

FIGURE ES.13: COMPARISON OF CURRENT AND PROPOSED CULINARY WATER AVERAGE COST PER 1,000 GALLONS

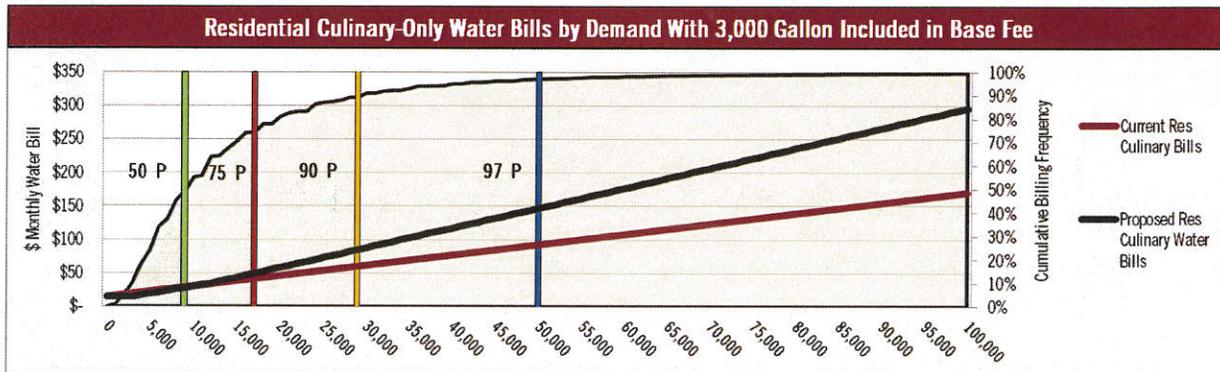


FIGURE ES.14: COMPARISON OF RESIDENTIAL PI WATER BILLS ACCORDING TO LOT SIZE AND USAGE

Lot Size (Acre)	Current Monthly Bill (1 Acre)	Base Monthly Fee	Up to 75% of allotment	Up to 100% of allotment	Up to 150% of allotment	Up to 200% of allotment	Up to 250% of allotment	300% of allotment
2.00	\$ 208	\$ 130	\$ 210	\$ 287	\$ 478	\$ 784	\$ 1,243	\$ 1,825
1.50	156	98	158	215	359	588	932	1,369
1.00	104	65	105	143	239	392	622	913
0.75	78	49	79	108	179	294	466	684
0.50	52	33	53	72	120	196	311	456
0.25	26	16	26	36	60	98	155	228

## **CHAPTER 1: UTILITY RATE ANALYSIS OVERVIEW**

The City of Saratoga Springs (the “City”) hired Zions Bank Public Finance (“Zions”) to conduct a utility user rate study, including an evaluation of the current user rate structures, an updated revenue requirement analysis, and corresponding user rates for the culinary water and pressurized irrigation utilities. The purpose of this analysis was to provide a fair and equitable rate structure for each utility that provides for healthy, financially sustainable utilities. The data for this analysis was provided by the City of Saratoga Springs and the study was conducted in cooperation with City staff.

### **OVERVIEW OF THE USER RATE ANALYSIS**

#### **BACKGROUND OF CITY UTILITIES**

The City was incorporated in December of 1997. The City contains over 21 square miles and runs from Pelican Point on the west side of Utah Lake over eleven miles north to the Camp Williams US Army facility in the foothills between Utah and Salt Lake Counties. Saratoga Springs provides culinary water and pressurized irrigation services within the City boundaries. The City has an estimated 25,364 residents and 5,087 culinary water connections and 4,828 PI connections.

#### **RATE-SETTING PROCESS**

The rate setting process consisted of the following three phases:

1. **Revenue Requirement Analysis:** In this phase, Zions worked with the City’s public works staff to project expenses for each utility over eight years from FY 2014 to FY 2021, including operating and maintenance expenses, capital expenditures, specified reserves, and future debt service;
2. **User Demand and Cost of Service Analysis:** Following the calculation of the revenue requirements, Zions analyzed the City’s historic billing and usage data to determine the demand for each utility; and
3. **Rate Design Analysis:** In the final phase of the study, Zions structured a schedule of rates based on the revenue requirements and historical user data for all utilities.

### **GENERAL USER RATE ANALYSIS OBJECTIVES**

#### **REVENUE SUFFICIENCY AND FINANCIAL STRENGTH**

An objective of the rate analysis is to determine rates for each of the water utilities that provide revenue sufficiency, meet bond debt service requirements, fund capital projects, and build reserves. The rates also need to remain within affordability guidelines as defined by the EPA and maintain fairness between users with differing levels of impact on the system.

#### **FAIR AND EQUITABLE USER RATES**

Each city is unique and each of its utilities has its own characteristics that need to be considered in a rate analysis. Considerable research and analysis must be undertaken to understand and analyze the costs of the City’s utilities and demands. The City is working to draw new business in and promote economic development. The rate design process should not hamper these goals, but provide a tool to meet the City’s key objectives. The objective is to develop a fair rate structure that will keep the City’s utilities financially self-sufficient indefinitely.

## CONSIDER FUTURE INFLATIONARY COSTS OF OPERATIONS

The costs of operating the utility systems increases each year with cost inflation just as the expenses of food, cars, power, clothing and other day to day goods increase over time. If the City were not able to increase utility rates accordingly then the amount of buying power would decrease each year due to inflation and eventually the City would be unable to effectively operate the system. To maintain the same great service that the City currently provides, the rates must be increased for inflation and to adequately fund capital projects.

## CITY COUNCIL'S OBJECTIVES

ZBPF worked with the City Council to discuss options regarding policy that would be used to guide the development of an improved utility user rate structure. The following are the general results of the efforts to define a rate structure:

- User rates should be divided into more user rate classes according to the different user and demand characteristics to achieve a more equitable cost allocation;
  - New culinary water rate categories could include Single Family Residential, Multi-family Residential, and Commercial/Industrial;
- User rates should reflect the demand patterns for each user class rather than using a flat and averaged cost for all user classes;
- A tiered culinary water rate structure is appropriate for residential users;
  - 3,000 gallons are included in the base monthly fee;
  - Tiered pricing starts at 3,001 gallons to 7,000 gallons, 7,001 to 12,000 gallons, and above 12,001 gallons;
  - Multi-family rates follow the same single-family tiered rate structure multiplied by the number of units served. For example, a four unit building with one connection will be provided 12,000 gallons (3,000 gallons x 4 connections) included in the base monthly fee and will pay a base fee of \$71.00 (\$17.75 x 4 connections); and
  - Commercial/Industrial users will be based upon a flat price per 1Kgal per class that will be applied to all water usage.
- ADD FOR PI POLICIES

## FINANCIAL OBJECTIVES

Zions and City staff have developed the following financial objectives to be met by this user rate analysis:

- User rate revenues should cover all operating, financing, and capital costs;
- Meet minimum coverage ratio requirements for all debt to be issued;
- Each utility should establish adequate cash fund balances;
- Cash fund improvements wherever possible to reduce borrowing costs; and
- Consider reasonable future capital projects/replacements.

## USER RATE REVENUES

Revenue for each utility is derived from user charges, meter fees, impact fees, interest income, and other non-rate revenues. The bulk of revenue generated will come from user rate charges, thus the level of future revenue the City can expect is directly related to the number of connections the City serves.

### **DEBT SERVICE COVERAGE RATIO**

One of the key ratios credit analysts use in assessing the financial strength of a utility system is the Debt Service Coverage Ratio—the ratio of revenues (less O&M excluding depreciation expense) to annual debt service. The minimum coverage ratio is 1.25X, which means the system generates enough revenue, after O&M expenses excluding depreciation, to pay 125% of the debt service. When the City issues debt this coverage calculation must be constantly monitored to ensure full compliance with bond covenants.

As future debt is contemplated in this user rate analysis and outstanding debt exists, a debt service coverage ratio must be met. Debt service requirements consist of principal and interest payments on existing debt. Outstanding and future bonds require at least 1.25X annual revenue coverage for each dollar of debt.

### **CASH RESERVES (DAYS OPERATION & MAINTENANCE IN RESERVE)**

Another key ratio used by credit analysts in assessing the strength of a utility system is Days Operation & Maintenance in Reserve (DO&MR). DO&MR measures the utility's financial flexibility and liquidity and is calculated as follows:

$$\text{Cash Balance}/(\text{Annual O\&M Expenses}/150) = \text{Days Operation \& Maintenance in Reserve}$$

Highly rated municipalities have adequate cash on hand to cover unforeseen contingencies.

These numbers can be used as a benchmark for the City as it prepares to issue utility revenue bonds.

The City requires adequate cash reserves to meet operating, capital, and debt service requirements. Debt service reserves provide protection from defaulting on annual debt service payments in times of financial difficulty. One year of debt service payments is required in reserve, so each time the City issues new bonds, additional proceeds are added to the restricted reserve. Operating reserves may be used to meet ongoing cash flow requirements as well as emergency requirements.

### **CASH FUNDING REPAIR AND GROWTH-RELATED CAPITAL PROJECTS**

Cash funding capital projects is ideal because this approach reduces the amount of interest expense that the City's ratepayers must pay in user rates and it suggests a greater degree of self-reliance. However, at times it is not practical to cash fund capital projects and debt must be issued. Debt is helpful when the amount of capital projects to fund is so large that setting the user rates to cash-fund the improvements will result in very large rate increases. Sometimes a project must be built much quicker than the ability to accumulate cash.

Some utilities will only focus on growth-related infrastructure that can be included in the impact fees and neglect to consider the costs of failing infrastructure that need significant investment to continue to serve users. It is important that utilities continually focus on the amount of reinvestment needed each year to keep their assets in service as long as possible. This analysis considers a large amount of capital reinvestment.

### **REVENUE REQUIREMENT ANALYSIS**

The first important step in the rate setting process is to determine a utility's revenue requirement. A revenue requirement is the level of user rate revenues required for a utility to adequately operate and maintain its system, meet its financial obligations, and maintain appropriate reserves. Utility user rates must generate sufficient revenue to cover expenses and maintain the financial integrity of each utility. The revenue requirement analysis includes operating and maintenance (O&M) expenses, capital expenditures, debt service payments, specified reserves, and related bond covenants.

The revenue requirement analysis includes the following five expense categories to create an annual amount that each of the water utilities must generate to keep each system financially sound:

1. Rate and Non-Rate Revenue Projections;
2. Operations and Maintenance Expense Forecast;
3. Funding Future Capital Projects;
4. Outstanding and Future Debt Service Payments; and
5. Maintenance of Adequate Cash Balances

### **USER RATE AND NON-RATE REVENUE PROJECTIONS**

The City collects a range of revenue sources that help pay the costs of the utilities in addition to the revenues collected from the user rates. These revenues include operating and non-operating revenues that help reduce the amount that must be collected from rates.

#### **UTILITY RATE REVENUES**

Rate revenues are a combination of a monthly base fee paid per connection plus, in the case of culinary water, a consumption fee for the amount of water used. Rate revenues from the monthly base fees are very stable and predictable while the revenues from the consumption fees become more unstable as consumption increases beyond what is needed for indoor consumption.

#### **NON-RATE UTILITY REVENUES**

Non-rate revenues include sources such as interest income paid on cash balances, impact fees collected according to the rate of growth, connection fees, disconnection fees, penalties for late payment, and other administrative charges. Non-rate revenues are small in comparison with rate revenues. Some charges, such as impact fees and connection fees, fluctuate with growth while others tend to remain stable or slightly increase as the total number of City connections increases.

### **OPERATIONS AND MAINTENANCE EXPENSE FORECAST**

O&M expenses are the costs necessary to operate and maintain wells, lines, pumping, transmission and distribution facilities, as well as the costs of customer service, administrative, and general expenses. The O&M expenses are projected based on historical expenditures with adjustments to reflect any known and anticipated changes in expenditures, including inflationary costs. The operational expenses to be covered by each utility were identified and divided by utility.

### **WATER AND SYSTEMS' CAPITAL NEEDS**

#### **CAPITAL PROJECTS IDENTIFIED THROUGH 2021**

Capital expenditures are those expenditures that result in the repair, acquisition, or addition of fixed assets. The City's 2013 Culinary Water and Pressurized Irrigation Capital Facilities Plan, prepared by Hansen Allen & Luce and reviewed by City staff, outlines the growth-related and maintenance capital projects required through 2021. These capital projects may be paid for through a combination of current year revenues, debt financing, and cash reserves.

#### **FUNDING GROWTH-RELATED AND MAINTENANCE CAPITAL PROJECTS**

The Capital Facilities Plan has laid out the projects that will be needed to expand the current capacities of the City's utilities for future citizens, and repair and, when necessary, replace existing facilities that serve current customers. It is important to categorize projects in this manner because impact fee revenues (charged to new development) are reserved



for expansion related costs and therefore cannot be used for repair and replacement projects. It is important that the City plan for anticipated repair and replacement projects, as well as build a reserve fund for unanticipated projects.

Capital facilities are to be funded through a combination of several different funding mechanisms listed below:

- Bond proceeds
- Pay-as-you-go revenues— rates and rate funded reserves
- Grant receipts
- Contributions
- Interest earnings
- Impact Fees

### **FUNDING GROWTH-RELATED PROJECTS WITH IMPACT FEES**

The City’s capital improvement plan for each utility has distinguished between repair and replacement and expansion costs to properly apply revenue sources. New customers will benefit from capacity created by expansion projects. These projects will be funded (in part) by impact fees and bond proceeds. However, impact fees are not always a stable source of revenue as growth patterns change and sufficient funds may not have been collected to fund an entire project. This rate analysis also includes a financing plan to fund high dollar projects from the Capital Facilities Plan.

### **OUTSTANDING AND FUTURE DEBT SERVICE PAYMENTS**

Debt service includes principal and interest payments on existing and future bonds. The City’s Capital Facilities Plan outlines multiple capital projects that are anticipated to be paid for with bonds at some point in the future. The exact timing of the projects is unknown and the costs of the projects will vary from year to year due to inflation, which can be a challenge for creating stable rates. City staff/Consulting Engineers provided reasonable estimations of capital project timings for each utility. Financing the projects through bonds will help provide uniform expenses from year to year, which allows for more rate stability.

### **COST OF SERVICE ANALYSIS**

In a cost of service analysis (COSA), the true cost of water is determined using a methodology that generates a system of fair and equitable costs in proportion to the service received by each customer class. The cost of service allocations conducted in this study are based on the base-extra capacity method endorsed by the American Water Works Association (AWWA) a nationally recognized water body directing the management of utilities in the US.

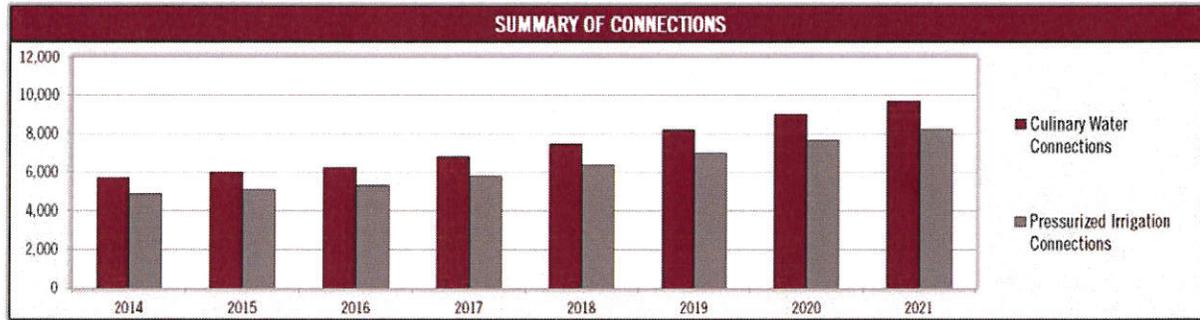
ZBPF will demonstrate in the following chapters the true cost of water and evaluate scenarios for cost savings and optimizing the City’s water resources and contracts.

### **GENERAL CITY-WIDE CONNECTION GROWTH PROJECTIONS**

Figure 1.1 shows the growth rate projection for the City of Saratoga Springs. In 2014 the City had 5,738 culinary connections and 4,899 PI connections. By 2021 it is anticipated that culinary connections will reach 9,676 and pressurized irrigation will reach 8,261.



FIGURE 1.1: PROJECTED GROWTH IN CONNECTIONS



## **CHAPTER 2: CULINARY WATER RATES**

### **CULINARY WATER SYSTEM OVERVIEW**

The City's culinary water system provides safe and clean drinking water to all the residents in Saratoga Springs. The culinary water system provides the water used indoors for domestic purposes such as cooking, cleaning, bathing, etc. The pressurized irrigation system is used for outdoor watering purposes.

The City has several projects that must be undertaken to ensure that culinary water service remains safe and reliable. A lack of maintenance often leads to greater frequencies of pipe breaks and failures that usually end up costing the City and ratepayers more than if the money was put into rehabilitating the system in the first place. Timings and sizes of capital project investments are found in Figure 2.5 later in the document.

### **CURRENT CULINARY WATER USER RATE STRUCTURE**

The City's current culinary water user rates for all users, both residential and non-residential, are based upon the following key rate structuring criteria:

- Single family, multi-family and commercial/industrial user classes;
- Monthly base fee of 17.75 for residential; and
- Consumption charges assessed per 1,000 gallons based on a graduated tier structure.

### **CULINARY WATER RATE DESIGN OPTIONS AND RECOMMENDATIONS**

Culinary water rates are structured to promote water conservation. Water in Utah is a scarce resource and must be used wisely. The infrastructure needed to convey water is expensive and high volumes of wasteful water use requires the City to build higher-capacity and higher cost storage tanks and water lines. Conservation ensures that there is enough water for everyone to use and reduces the costs of building culinary water infrastructure.

Conservation is promoted by water rates through an increasing cost of water as more water is used. The cost increases particularly fast once a user reaches a level of usage that is very high (97<sup>th</sup> Percentile) in comparison with what other similar users are demanding.

### **RECOMMENDED CULINARY WATER USER GROUPS**

The following groups are recommended for the new culinary water rate structure:

- Single Family Residential;
- Multi-Family/Condominiums; and
- Commercial/Industrial.

FIGURE 2.1: RECOMMENDED CULINARY WATER RATE STRUCTURE

Culinary Water Residential With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	\$ -	101	0.75"	\$	17.75
3,001	7,000	2.40	102	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				

Culinary Water Multi-Family/Condominiums - Per Unit With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	\$ -	103	3/4"	\$	17.75
3,001	7,000	2.40	104	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				

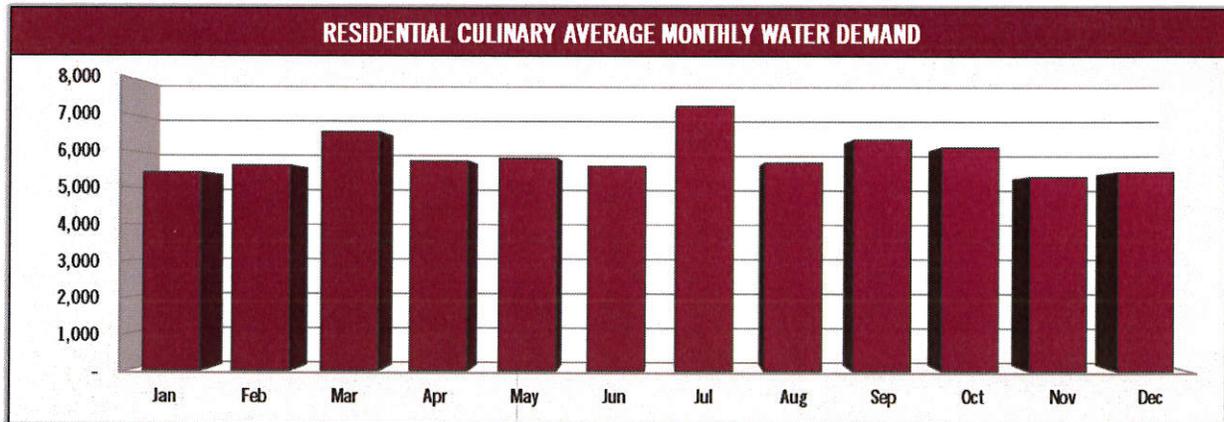
Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	Unlimited	1.65	112	3/4"	\$	17.75
			113	1"		23.08
			114	1.5"		28.40
			115	2"		46.15
			116	3"		177.50
			117	4"		225.43
			118	6"		339.03
			119	8"		468.60

**CULINARY WATER DEMAND ANALYSIS**

**PROJECTED RATE OF CONNECTION**

It is anticipated that an average of 500 new culinary water connections will be added per year which equates to an average growth rate of 7.77% from 2014 to 2021.

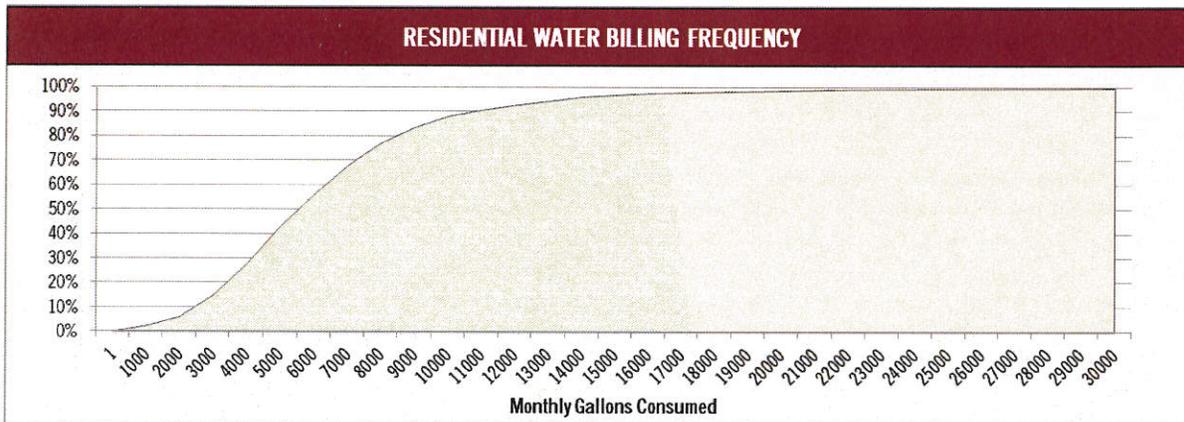
FIGURE 2.2: AVERAGE MONTHLY CULINARY WATER DEMANDS BY CONNECTION



### CUSTOMER DEMAND PATTERNS

Culinary water usage is more level throughout the year than a typical city without pressurized irrigation. The single family residences, in comparison with commercial/industrial culinary water users, have a very predictable pattern of usage as the water is for meeting in-door demands. Figure 2.3 below shows the typical residential single-family consumption by percentile. The median or 50% percentile of all bills is at 6,000 gallons.

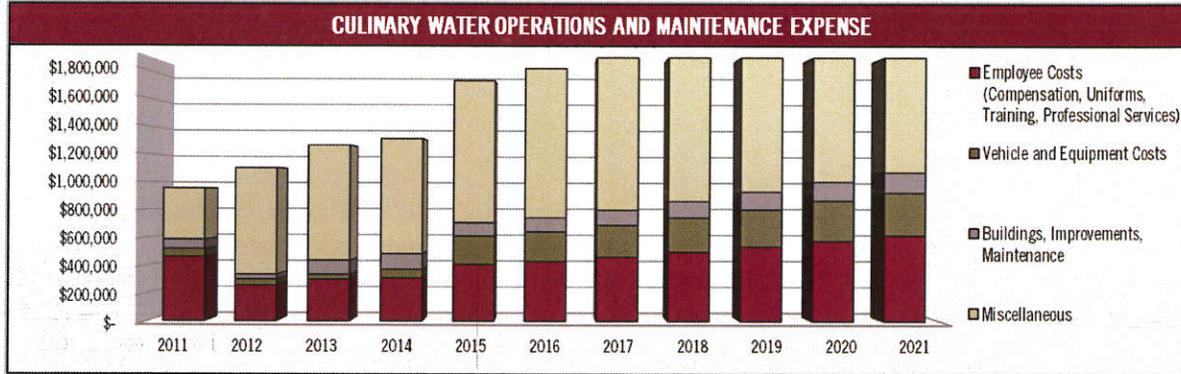
FIGURE 2.3: RESIDENTIAL CULINARY WATER BILLING FREQUENCY



## CULINARY WATER REVENUE REQUIREMENTS

### CULINARY WATER OPERATIONS AND MAINTENANCE EXPENSE

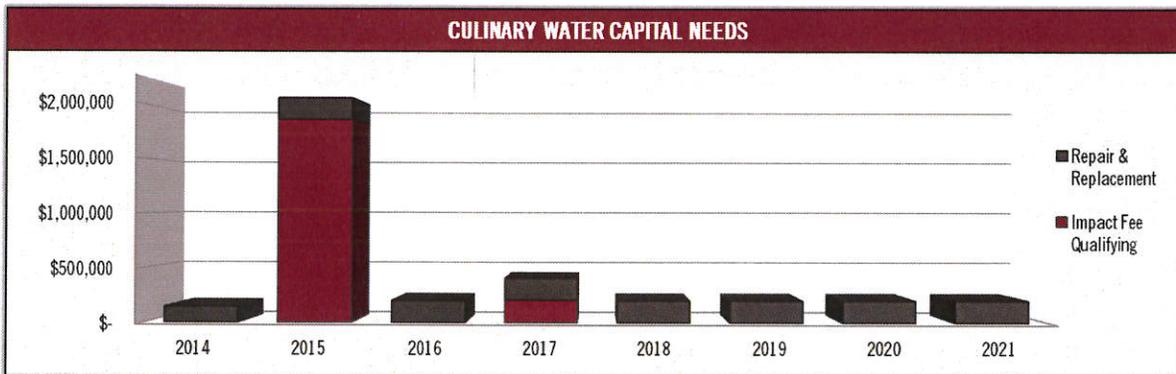
FIGURE 2.4: CULINARY WATER OPERATIONS AND MAINTENANCE EXPENSE



### CULINARY WATER CAPITAL PROJECTS

The City is planning to invest funding toward culinary water capital projects and has identified these projects in the attached Appendix E. The initiative includes \$3 million (FV) of projects required to expand and improve the City's system.

FIGURE 2.5: CULINARY WATER CAPITAL PROJECT EXPENSE



### OUTSTANDING AND FUTURE DEBT SERVICE PAYMENTS

The City issued a 2011 Bond to build the Public Works Building but excess funds have been used to construct water improvements. Approximately 33% of the Series 2011 Bond relates to culinary water improvements and 16% to the pressurized irrigation system. Figure 2.6 below details the summary of outstanding and future debt. Two future bonds are anticipated. The 2014 Bond refunded the City's 2005, 2006 and 2009 bonds and benefits both the pressurized irrigation system and a small portion to culinary water. The Series 2016 bonds will exclusively be used for the pressurized irrigation system.

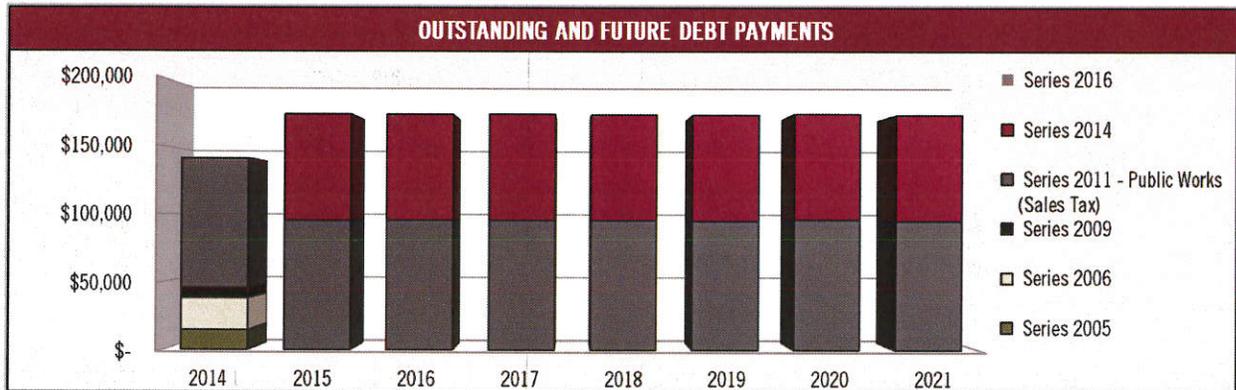
### FUTURE PROPOSED BONDS

FIGURE 2.6: SUMMARY OF OUTSTANDING AND FUTURE CULINARY AND PRESSURIZED IRRIGATION DEBT

Bond Issue	Total Par Amount	Interest	Total Debt Service	% to Water	% to PI
Series 2011 Public Works	\$ 4,000,000	\$ 1,820,163	\$ 5,820,163	33%	16%
Series 2014 Water Revenue Bond	10,000,000	4,406,184	14,406,184	11%	89%
Series 2016 Water Revenue Bond	4,395,000	1,937,309	6,332,309	0%	100%
<b>Totals</b>	<b>\$ 18,395,000</b>	<b>\$ 8,163,655</b>	<b>\$ 26,558,655</b>		

Figure 2.7 shows the schedule of outstanding and future debt payments. As mentioned previously, the Series 2005, 2006 and 2009 Bonds are expected to be refunded with the Series 2014 Bond.

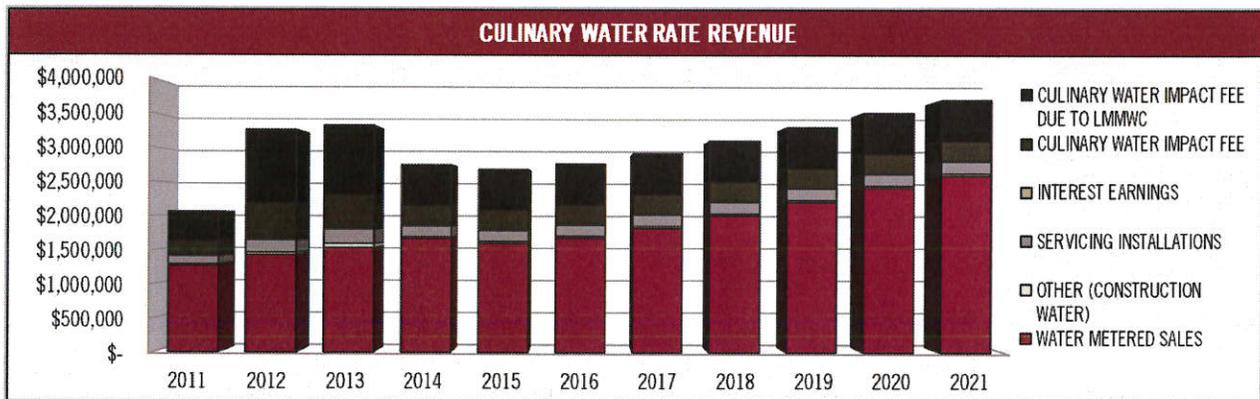
FIGURE 2.7: SCHEDULE OF OUTSTANDING AND FUTURE CULINARY WATER DEBT PAYMENTS



### ANNUAL REVENUE REQUIREMENT TO BE COLLECTED

As shown below, the City needs to generate approximately \$2.8M in total revenue in FY 2014. By FY 2021 this total revenue requirement will have increased to just over \$4M.

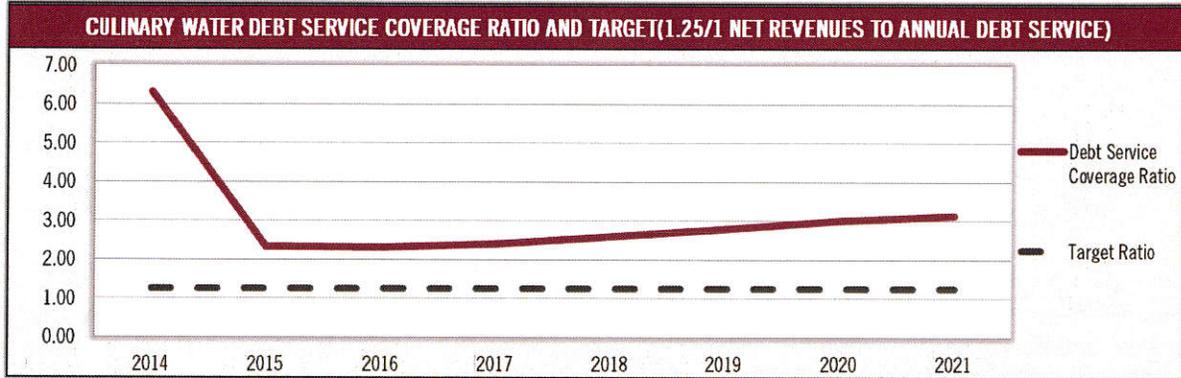
FIGURE 2.8: RECOMMENDED CULINARY WATER ANNUAL REVENUE REQUIREMENT (2011 TO 2021)



### CASH RESERVE LEVELS (DAYS OPERATION & MAINTENANCE IN RESERVE)

As explained in Chapter 1, DO&MR is a key ratio to analyze when calculating user rates. The City's target ratio is 150 days of funds in reserve. The graph below shows the DO&MR for the culinary water utility fund.

FIGURE 2.9: CULINARY WATER DEBT SERVICE COVERAGE RATIO AND TARGET



The City requires adequate cash reserves to meet operating, capital, and debt service requirements. Debt service reserves provide protection from defaulting on annual debt service payments in times of financial difficulty. One year of debt service payments is required in reserve, so each time the City issues new bonds, additional proceeds are added to the restricted reserve. Operating reserves may be used to meet ongoing cash flow requirements as well as emergency requirements.

FIGURE 2.10: CULINARY WATER RATE SUMMARY

CULINARY WATER RATE SUMMARY					
Year	2014	2015	2016	2017	2018
Increase to Culinary Water Revenues	9.0%	0.0%	5.0%	0.0%	0.0%
Culinary Water Connections	5,738	5,738	5,738	5,738	5,738
Growth Rates	4.82%	4.56%	4.35%	8.71%	9.94%
Net Change to Rates	0.00%	0.65%	0.00%	0.00%	0.00%
Coverage Ratio	0.62	0.59	0.69	0.87	1.07
Days Operations Expense Cash on Hand (Target: 150)	858	495	475	458	480

## CHAPTER 3: PRESSURIZED IRRIGATION RATES

### PRESSURIZED IRRIGATION SYSTEM OVERVIEW

Pressurized irrigation rates are structured to promote conservation of more expensive culinary water sources by developing lesser grade water sources for outdoor watering. The water delivered to these connections is only delivered for a portion of the year. The pressurized irrigation system is generally in operation for six months of the year from April to October.

Saratoga Springs' existing PI system is comprised of a pipe network, water storage ponds, and water supply sources. Though the system is master planned and the desire of the City is to have a completed system there are still a number of major facilities yet to be constructed. The majority of the systems in the north are piping only, relying on cross connections to the culinary water system to provide source and storage. The south system utilizes low quality groundwater, and canal water as sources with large storage ponds.

### CURRENT PRESSURIZED IRRIGATION USER RATE STRUCTURE

In the past, the pressurized irrigation user rates were structured as a flat monthly fee graduated according to lot size. The City has recently installed meters on the PI connections so the rate structure can now be updated to consider consumption to encourage an efficient use of PI water.

### CALCULATION OF THE PI RATES

The structure for the pressurized irrigation rates is changing significantly. The PI rates were previously calculated based entirely on lot size and charged as a flat monthly fee regardless of water use. However, the City has recently installed meters on the PI connections which allows the City to charge according to consumption. The proposed PI rate structure is being updated to charge according to actual consumption and to promote water conservation.

Each PI connection will be charged a base fee of \$65 per acre which will be multiplied by the gross lot size. Therefore, a quarter acre lot would be charged ¼ of that base fee, or \$16.25. Consumption tiers are also based on the percentage of a monthly water allotment that is scaled according to the gross lot size and a reasonable estimate of water use to adequately irrigate and maintain landscaping. The monthly water allotment is determined according to the information in the table below. The gross lot size is multiplied by the Monthly Allotment per Acre to determine the water allotment for each user.

FIGURE 3.1: CALCULATION OF ALLOTMENT BY GROSS LOT SIZE

	Residential	Commercial
Acre feet per Irrigated Acre:	3.13	3.13
% Irrigable:	0.64	0.90
Gallons per Af:	325,860	325,860
Annual Allotment (Gal):	652,763	917,948
Monthly Allotment per Acre (Gal):	108,793.79	152,991.27



Once the allotment has been determined for each lot, the PI rates are charged according to the tiered rate schedule below. For a connection that uses 75% or less of their total allotment they are charged the base fee for their lot size and \$0.35 per 1,000 gallons of consumption. As consumption increases the price per thousand gallons increases as actual demand meets or exceeds the target monthly allotment.

FIGURE 3.2: RECOMMENDED PRESSURIZED IRRIGATION RATE STRUCTURE

Pressurized Irrigation			
Allotment	Price per 1Kgal		Price per Acre
Up to 75%	\$ 0.35	Base Fee	\$ 65.00
Up to 100%	1.00		
Up to 150%	1.25		
Up to 200%	2.00		
Up to 250%	3.00		
Above 250%	3.80		

For example, a ¼ acre lot that consumes 20,000 gallons in a month would follow the steps listed below to calculate the monthly bill:

1. Base fee is calculated based on gross lot size at \$65 per acre.  $65 \times .25 = \$16.25$
2. Calculate the allotment based on lot size by multiplying 0.25 by 108,793 gallons equaling 27,198.45 per month.
3. A ¼ acre lot using 20,000 gallons per month is using less than 75% of their allotment (monthly allotment of 27,198.45 reduced to 75% is 20,398.84). Their monthly rate would be base rate (\$16.25) + 0.35 per 1,000 gallons ( $0.35 \times 20 = \$7.00$ ) so that connection would be assessed a PI rate of \$23.25.

### PRESSURIZED IRRIGATION DEMAND ANALYSIS

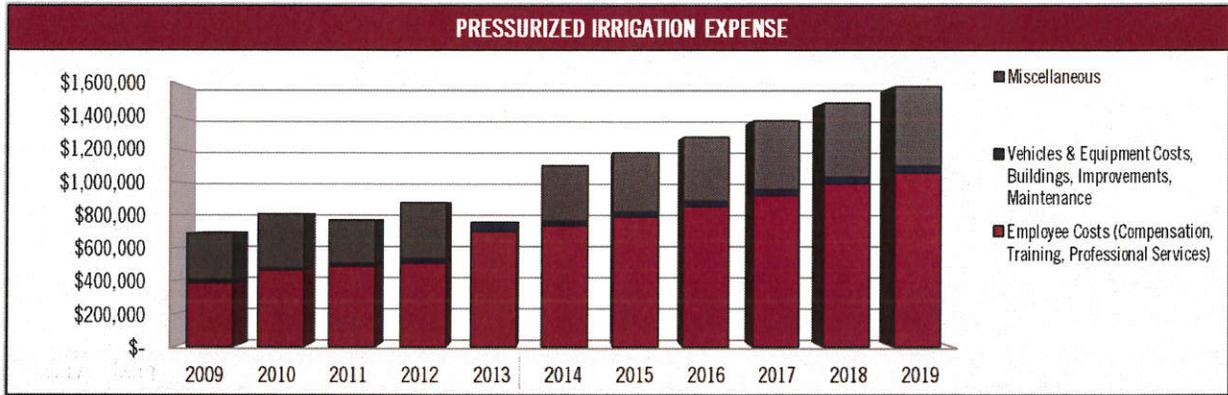
Overall, the City has 1,435 existing irrigated acres in the PI system. Three year usage data was completed on the metered connections and it was determined average of 0.62 acre feet of water was used per year per connection. Average peak month water use per meter was 1,528 gallons per day. Based on this data an equivalent residential connection (ERC) was identified as 0.5 acre feet of PI per year.

### PRESSURIZED IRRIGATION REVENUE REQUIREMENTS

#### **PRESSURIZED IRRIGATION OPERATIONS AND MAINTENANCE EXPENSE**

Several of the costs assigned to the pressurized irrigation system are shared with the culinary water system. The pressurized irrigation system is not operated throughout the entire year. Figure 3.3 shows the general cost categories defined for the pressurized irrigation system starting at approximately \$814,240 per year in 2013 and increasing to approximately \$1.1M in 2021. The operations and maintenance costs are also added to the capital project and bond financing costs to determine the total costs that rates must fund for the pressurized irrigation system.

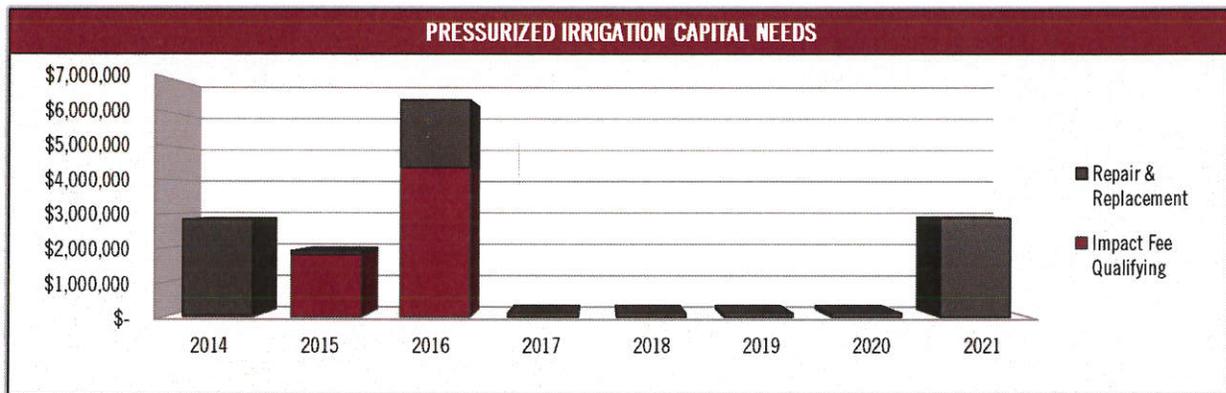
FIGURE 3.3: PRESSURIZED IRRIGATION EXPENSE



**PRESSURIZED IRRIGATION CAPITAL PROJECTS**

The City has recently put a lot of funding toward water capital projects and has identified through the current pressurized irrigation CFP that future water capital facilities remain a priority.

FIGURE 3.4: PRESSURIZED IRRIGATION CAPITAL PROJECT EXPENSE



**FUTURE DEBT SERVICE PAYMENTS**

There are outstanding bonds associated with the pressurized irrigation system. The City issued debt in 2005 and 65.36% of the 2009 bond that related to the PI utility. Both of those bonds were refunded by the Series 2014 bond. Additionally, a future bond is expected in 2016. As shown in Figure 3.5 all of the debt that the City must issue through 2021 for the water utilities relates to the PI system.

**FUTURE PROPOSED BONDS**

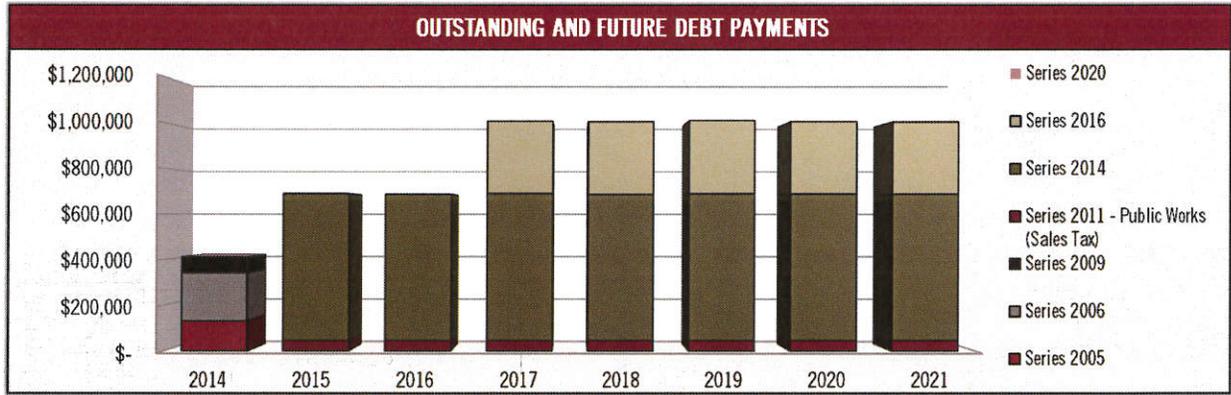
FIGURE 3.5: SUMMARY OF OUTSTANDING AND FUTURE CULINARY AND PI WATER DEBT

Bond Issue	Total Par Amount	Interest	Total Debt Service	% to Water	% to PI
Series 2011 Public Works	\$ 4,000,000	\$ 1,820,163	\$ 5,820,163	33%	16%
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<b>Totals</b>	<b>\$ 18,395,000</b>	<b>\$ 8,163,655</b>	<b>\$ 26,558,655</b>		



Figure 3.6 shows the schedule of outstanding and future debt payments. As mentioned previously, the Series 2005, 2006 and 2009 Bonds were refunded with the Series 2014 Bond.

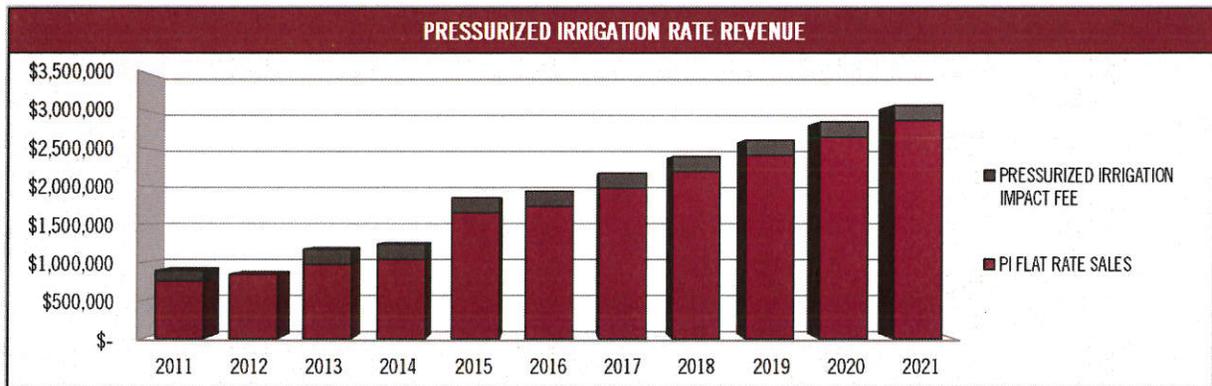
FIGURE 3.6: SCHEDULE OF OUTSTANDING AND FUTURE CULINARY AND PI DEBT PAYMENTS



### ANNUAL REVENUE REQUIREMENT TO BE COLLECTED

As shown below, the City needs to generate approximately \$1.65M in FY 2015 through pressurized irrigation water rates to cover the costs of the PI system. This amount will increase to just over \$2.9M in FY 2021 with increases to cost inflation, additional capital projects, and revenue requirements related to outstanding debt.

FIGURE 3.7: RECOMMENDED PI ANNUAL REVENUE REQUIREMENT (2011 TO 2021)





### CASH RESERVE LEVELS (DAYS OPERATION & MAINTENANCE IN RESERVE, DO&MR)

As explained in Chapter 1, DO&MR is a key ratio to analyze when calculating user rates. The City's minimum target ratio is 150 days of funds in reserve. The graph below shows the DO&MR for the pressurized irrigation utility fund.

FIGURE 3.8: PRESSURIZED IRRIGATION DEBT SERVICE COVERAGE RATIO AND TARGET

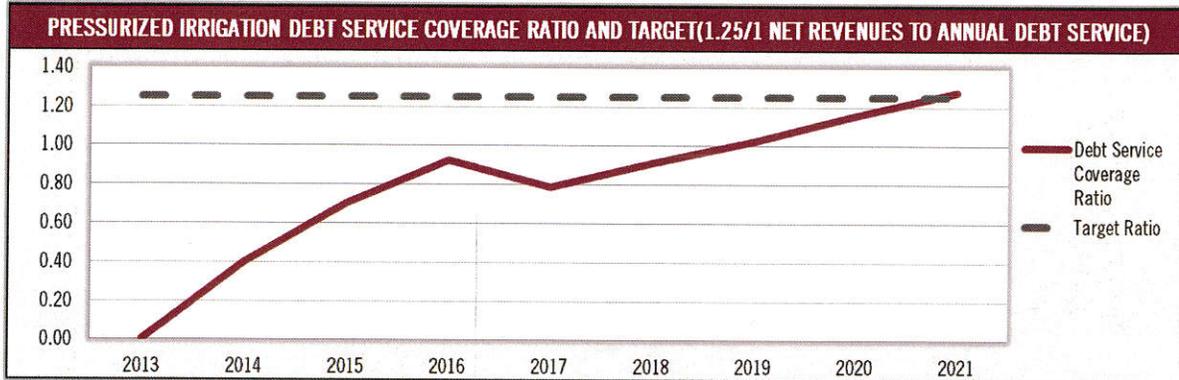


FIGURE 3.9: PRESSURIZED IRRIGATION RATE SUMMARY

PRESSURIZED IRRIGATION					
Year	2014	2015	2016	2017	2018
Increase to Pressurized Irrigation Revenues	60.0%	0.0%	10.0%	10.0%	10.0%
PI Connections	4,899	5,122	5,345	5,811	6,388
Growth Rates	4.82%	4.56%	4.35%	8.71%	9.94%
Net Change to Rates	55.18%	0.00%	0.00%	5.65%	1.29%
Coverage Ratio	0.40	0.70	0.93	0.79	0.91
Days Operations Expense Cash on Hand (Target: 150)	1,305	801	287	90	83

### IMPACT ON RESIDENTIAL AND COMMERCIAL/INDUSTRIAL USER RATES

The recommended pressurized irrigation rates will change the cost that users pay monthly for pressurized irrigation service.

FIGURE 3.10: COMPARISON OF RESIDENTIAL PI WATER BILLS ACCORDING TO LOT SIZE AND USAGE

Lot Size (Acre)	Current Monthly Bill (1Acre)	Base Monthly Fee	Up to 75% of allotment	Up to 100% of allotment	Up to 150% of allotment	Up to 200% of allotment	Up to 250% of allotment	300% of allotment
2.00	\$ 208	\$ 130	\$ 210	\$ 287	\$ 478	\$ 784	\$ 1,243	\$ 1,825
1.50	156	98	158	215	359	588	932	1,369
1.00	104	65	105	143	239	392	622	913
0.75	78	49	79	108	179	294	466	684
0.50	52	33	53	72	120	196	311	456
0.25	26	16	26	36	60	98	155	228



**APPENDICES**

# WATER APPENDIX A: CURRENT AND PROPOSED CULINARY WATER AND PRESSURIZED IRRIGATION USER RATES

Saratoga Springs City Utility User Rate Analysis - April 2015

**Table A.1: Current Culinary Water Rates**

Culinary Water All Users			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	999,999,999	\$ 1.55	101 All Meters* \$ 15.08

\*Single family homes in the City are allowed a 5/8" or 3/4" meter

Hydrant Meter Water Usage			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	999,999,999	\$ 1.33	102 All Meters* \$ -

Condominiums			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	999,999,999	\$ 1.40	104 All Meters \$ 15.08

Daybreak Bypass Meter			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	999,999,999	\$ 1.40	105 All Meters \$ -

**Table A.2: Proposed Water Rate Structures**

Culinary Water Residential With 3,000 Gal Allotment			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	3,000	\$ -	101 0.75" \$ 17.75
3,001	7,000	2.40	102 1" 17.75
7,001	12,000	3.25	
12,001	999,999,999	4.00	

Culinary Water Multi-Family/Condominiums - Per Unit With 3,000 Gal Allotment			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	3,000	\$ -	103 3/4" \$ 17.75
3,001	7,000	2.40	104 1" 17.75
7,001	12,000	3.25	
12,001	999,999,999	4.00	

Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment			
Minimum	Maximum	Price per 1Kgal	Table No. Base Fee
-	Unlimited	1.65	112 3/4" \$ 17.75
			113 1" 23.08
			114 1.5" 28.40
			115 2" 46.15
			116 3" 177.50
			117 4" 225.43
			118 6" 339.03
			119 8" 468.60

**Table A.3: Current Pressurized Irrigation Rates**

Table No.	Base Fee
701 Acre	\$ 67.48
701 Half Acre	33.74
701 Third Acre	22.27
701 Quarter Acre	16.87

**Table A.4: Proposed Pressurized Irrigation Rates**

Pressurized Irrigation - Reliance on Combined Water Coverage for 1.25 X Coverage	
Table No.	Base Fee
701 Acre	\$ 104.72
701 Half Acre	52.36
701 Third Acre	34.56
701 Quarter Acre	26.18

**Pressurized Irrigation**

Allotment	Price per 1Kgal	Base Fee	Price per Acre
Up to 75%	\$	0.35	\$ 65.00
Up to 100%		1.00	
Up to 150%		1.25	
Up to 200%		2.00	
Up to 250%		3.00	
Above 250%		3.80	

WATER APPENDIX B: COMBINED CULINARY AND PI COVERAGE  
Saratoga Springs City Utility User Rate Analysis - April 2015

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total Blended Increase to Culinary/PI Rate Revenues	5.21%	4.07%	9.92%	2.55%	5.63%	5.25%	4.90%	4.86%	3.96%
Growth Rates		4.82%	4.56%	4.35%	8.71%	9.94%	9.75%	9.58%	7.53%
Net Change to Rates		3.32%	15.29%	0.74%	2.56%	0.56%	0.05%	0.15%	0.40%
Change to Non Rate Revenue	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Coverage Ratio Without Impact Fees	-	2.09	1.15	1.32	1.11	1.25	1.37	1.52	1.64
Days Operational Expense Cash on Hand (Target: 150)	-	-	472	296	251	242	246	262	78

Table B.1: Combined Culinary and Pressurized Irrigation Coverage Table

Fiscal Year	BUDGET										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Cash Balances (Target: > 150 Days O&M Budget)					\$ 8,282,739	\$ 4,516,698	\$ 2,852,511	\$ 2,565,243	\$ 2,640,755	\$ 2,861,394	\$ 3,255,234
Target Cash Balances	676,664	785,211	837,194	1,146,955	1,436,721	1,447,066	1,535,362	1,638,079	1,747,660	1,864,594	1,974,053
<b>Operational Revenues</b>					\$ 3,435,500	\$ 3,604,789	\$ 3,993,422	\$ 4,396,464	\$ 4,811,872	\$ 5,264,331	\$ 5,669,554
CULINARY WATER METERED SALES	\$ 1,273,546	\$ 1,428,884	\$ 1,534,486	\$ 1,571,708	\$ 1,600,000	\$ 1,678,267	\$ 1,826,262	\$ 2,007,792	\$ 2,203,552	\$ 2,414,652	\$ 2,596,476
PRESSURIZED IRRIGATION WATER SALES	751,692	842,121	973,040	1,040,036	1,650,000	1,737,313	1,974,166	2,191,818	2,407,529	2,644,872	2,864,176
OTHER CULINARY WATER OPERATIONAL REVENUES	138,903	216,242	272,266	180,600	185,500	189,210	192,994	196,854	200,791	204,807	208,903
OTHER PRESSURIZED IRRIGATION OPERATIONAL REVENUES	-	-	-	-	-	-	-	-	-	-	-
<b>Non-Operational Revenues</b>					\$ 1,155,000	\$ 1,156,100	\$ 1,157,222	\$ 1,158,366	\$ 1,159,534	\$ 1,160,724	\$ 1,161,939
CULINARY NON-OPERATIONAL NET REVENUES/(EXPENSE)	\$ 63,235	\$ 56,359	\$ 65,174	\$ 55,000	\$ 55,000	\$ 56,100	\$ 57,222	\$ 58,366	\$ 59,534	\$ 60,724	\$ 61,939
PI NON-OPERATIONAL NET REVENUES/(EXPENSE)	-	-	-	-	-	-	-	-	-	-	-
CULINARY WATER IMPACT FEES (Non-LMMWC)	646,500	1,617,060	1,519,661	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
PRESSURIZED IRRIGATION IMPACT FEES	141,600	(2,665)	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
CULINARY WATER IMPACT FEE DUE TO LMMWC	431,250	1,078,040	1,013,661	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
<b>Total Operational Expenses</b>	\$ (1,646,548)	\$ (1,910,680)	\$ (2,037,172)	\$ (2,790,925)	\$ (3,496,020)	\$ (3,521,195)	\$ (3,736,048)	\$ (3,985,992)	\$ (4,252,638)	\$ (4,537,179)	\$ (4,803,529)
<b>Net Revenues Available for Debt Service</b>	\$ 1,800,178	\$ 3,325,363	\$ 3,541,116	\$ 1,256,419	\$ 1,094,480	\$ 1,239,695	\$ 1,414,596	\$ 1,568,839	\$ 1,718,768	\$ 1,887,876	\$ 2,027,964
<b>Future Debt</b>											
Series 2005	\$ (147,701)	\$ (147,590)	\$ (147,365)	\$ (147,024)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Series 2006	(232,883)	(233,403)	(232,763)	(232,995)	-	-	-	-	-	-	-
Series 2009	(78,070)	(78,240)	(78,326)	(78,330)	-	-	-	-	-	-	-
Series 2011 - Public Works (Sales Tax)	-	(94,953)	(95,215)	(95,426)	(95,590)	(95,704)	(95,769)	(95,785)	(95,198)	(96,177)	(95,394)
Series 2011 - Public Works (Sales Tax) - Pond 6	-	-	-	-	(46,472)	(46,528)	(46,560)	(46,568)	(46,280)	(46,760)	(46,376)
Series 2014	-	-	-	-	(722,459)	(719,650)	(722,550)	(718,475)	(722,300)	(720,750)	(719,775)
Series 2016	-	-	-	-	-	-	(315,984)	(317,500)	(319,350)	(315,350)	(315,475)
Series 2020	-	-	-	-	-	-	-	-	-	-	-
<b>Total Outstanding and Future Debt</b>	\$ (458,654)	\$ (554,186)	\$ (553,669)	\$ (553,775)	\$ (864,521)	\$ (861,882)	\$ (1,180,863)	\$ (1,178,328)	\$ (1,183,128)	\$ (1,179,037)	\$ (1,177,020)
Rate Stabilization Fund - Water Rights	\$ -	\$ -	\$ -	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
<b>Coverage Ratio with Impact Fees (Min: &gt;1.25, Target: &gt;1.5)</b>				2.99	1.73	1.90	1.54	1.67	1.79	1.94	2.06
<b>Coverage Ratio Without Impact Fees (Min: &gt;1.00)</b>				2.09	1.15	1.32	1.11	1.25	1.37	1.52	1.64
<b>Net Revenues After Debt Service</b>				\$ 702,645	\$ 229,959	\$ 377,813	\$ 233,732	\$ 390,511	\$ 535,640	\$ 708,839	\$ 850,944
Culinary Water Capital Expenses	\$ -	\$ -	\$ -	\$ (145,790)	\$ (2,064,000)	\$ (200,000)	\$ (406,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)	\$ (200,000)
Pressurized Irrigation Capital Expenses	-	-	-	(2,853,000)	(1,932,000)	(6,342,000)	(115,000)	(115,000)	(115,000)	(115,000)	(2,883,000)
LMMWC Payoff	-	-	-	-	-	-	-	-	-	-	-
Bond Proceeds	-	-	-	6,825,000	-	4,500,000	-	-	-	-	-
<b>Total Net Capital Expenses</b>				\$ 3,826,210	\$ (3,996,000)	\$ (2,042,000)	\$ (521,000)	\$ (315,000)	\$ (315,000)	\$ (315,000)	\$ (3,083,000)
<b>Net Revenues After Debt Services</b>	\$ 1,341,523	\$ 2,771,176	\$ 2,987,447	\$ 702,645	\$ 229,959	\$ 377,813	\$ 233,732	\$ 390,511	\$ 535,640	\$ 708,839	\$ 850,944
<b>Ending Cash Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ 4,516,698	\$ 2,852,511	\$ 2,565,243	\$ 2,640,755	\$ 2,861,394	\$ 3,255,234	\$ 1,023,178

FOOTNOTES

1 Cash balances is combination of operational cash, impact fees, and bond proceeds  
Red numbers in the coverage table are for cross checking tables

Fund 51	869,581
Culinary Water Impact Fees	338,516
Pressurized Irrigation Impact Fees	547,980
Water Rights Fund	3,026,662
<b>Beginning Cash Fund Balance</b>	<b>\$ 4,782,739</b>

WATER APPENDIX C: CULINARY COVERAGE  
Saratoga Springs City Utility User Rate Analysis - April 2015

	2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21	
Increase to Culinary Water Revenues - March 2014 Adoption	0.00%		9.00%		0.00%		5.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
Growth Rates	4.96%		4.82%		4.56%		4.35%		8.71%		9.94%		9.75%		9.58%		7.53%	
Net Change to Rates			4.18%		0.00%		0.65%		0.00%		0.00%		0.00%		0.00%		0.00%	
Change to Non-Rate Revenues	2.00%		2.00%		2.00%		2.00%		2.00%		2.00%		2.00%		2.00%		2.00%	
Coverage Ratio Without Impact Fees	-		4.19		0.62		0.59		0.69		0.87		1.07		1.29		1.42	
Days Operational Expense Cash on Hand (Target: 150)	205		414		858		495		475		458		480		419		416	

Fiscal Year	2011	2012	2013	2014	BUDGET 2015	2016	2017	2018	2019	2020	2021
Beginning Annual Operating Cash Balance	\$ -	\$ -	\$ -	\$ -	\$ 4,234,759	\$ 2,405,359	\$ 2,433,595	\$ 2,274,372	\$ 2,352,248	\$ 2,464,883	\$ 2,615,577
Target Cash Balances	393,007	453,761	520,688	540,357	711,779	748,613	803,674	867,727	936,050	1,008,979	1,077,237
<b>Operational Revenues</b>											
WATER METERED SALES	\$ 1,273,546	\$ 1,428,884	\$ 1,534,486	\$ 1,671,708	\$ 1,600,000	\$ 1,678,267	\$ 1,826,262	\$ 2,007,792	\$ 2,203,552	\$ 2,414,652	\$ 2,586,476
OTHER (CONSTRUCTION WATER)	17,300	33,669	58,344	23,100	28,000	28,560	29,131	29,714	30,308	30,914	31,533
SERVICING INSTALLATIONS	117,200	181,345	210,882	157,500	157,500	160,650	163,863	167,140	170,483	173,893	177,371
INTEREST EARNINGS	4,403	1,229	3,040	-	-	-	-	-	-	-	-
CULINARY WATER IMPACT FEE	215,250	539,020	506,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
PULINARY WATER IMPACT FEE DUE TO LMMWC	431,250	1,078,040	1,013,661	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
<b>Total Operational Revenues</b>	<b>\$ 2,058,948</b>	<b>\$ 3,262,187</b>	<b>\$ 3,326,413</b>	<b>\$ 2,752,308</b>	<b>\$ 2,685,500</b>	<b>\$ 2,767,477</b>	<b>\$ 2,919,256</b>	<b>\$ 3,104,646</b>	<b>\$ 3,304,343</b>	<b>\$ 3,519,459</b>	<b>\$ 3,705,379</b>
<b>Non-Operational Revenues</b>											
FORFEITURES AND PENALTIES	\$ 63,235	\$ 56,359	\$ 65,174	\$ 55,000	\$ 55,000	\$ 56,100	\$ 57,222	\$ 58,366	\$ 59,534	\$ 60,724	\$ 61,939
<b>Total Non-Operational Revenues</b>	<b>\$ 63,235</b>	<b>\$ 56,359</b>	<b>\$ 65,174</b>	<b>\$ 55,000</b>	<b>\$ 55,000</b>	<b>\$ 56,100</b>	<b>\$ 57,222</b>	<b>\$ 58,366</b>	<b>\$ 59,534</b>	<b>\$ 60,724</b>	<b>\$ 61,939</b>
<b>Annual % Change</b>		<b>58.44%</b>	<b>1.97%</b>	<b>-17.26%</b>	<b>-2.43%</b>	<b>2.05%</b>	<b>5.48%</b>	<b>6.35%</b>	<b>6.43%</b>	<b>6.51%</b>	<b>5.28%</b>
<b>Operational Expenses</b>											
SALARIES & WAGES	\$ (300,342)	\$ (142,981)	\$ (162,616)	\$ (161,239)	\$ (221,319)	\$ (232,772)	\$ (249,893)	\$ (269,809)	\$ (291,057)	\$ (313,730)	\$ (334,954)
EMPLOYEE BENEFITS	(119,487)	(81,558)	(94,631)	(88,377)	(93,994)	(98,858)	(106,129)	(114,588)	(123,611)	(133,241)	(142,255)
OVERTIME PAY	(11,592)	(18,395)	(25,681)	(20,233)	(20,233)	(21,280)	(22,845)	(24,665)	(26,500)	(28,481)	(30,621)
UNIFORMS / CLOTHING	(3,841)	(2,510)	(5,317)	(2,862)	(4,304)	(4,527)	(4,860)	(5,247)	(5,660)	(6,101)	(6,514)
ADMINISTRATIVE CHARGE	(71,418)	(422,542)	(404,648)	(364,195)	(526,069)	(553,293)	(593,988)	(641,329)	(691,833)	(745,727)	(796,175)
VEHICLES	(31,012)	(589)	-	(21,327)	(21,327)	(22,431)	(24,000)	(26,000)	(28,047)	(30,232)	(32,773)
VEHICLE MAINTENANCE	(7,596)	(16,739)	(13,378)	(16,500)	(16,500)	(17,354)	(18,630)	(20,115)	(21,699)	(23,390)	(24,972)
GAS CARD	(16,642)	(22,182)	(21,732)	(16,800)	(16,800)	(17,669)	(18,969)	(20,481)	(22,094)	(23,815)	(25,426)
POWER AND PUMPING (70% TO CULINARY)	(127,412)	(169,212)	(138,585)	(142,800)	(145,656)	(153,194)	(164,461)	(177,569)	(191,552)	(206,474)	(220,442)
SCADA SYSTEM EXPENSES (33% TO CULINARY)	(189)	(848)	(200)	(12,177)	(594)	(625)	(724)	(781)	(842)	(909)	(983)
PROF & TECH SERVICE - ATTORNEY (50% TO CULINARY)	(16,263)	(5,535)	-	(6,000)	-	-	-	-	-	-	-
PROF & TECH SERVICE - ENGINEER (50% TO CULINARY)	(5,953)	-	(1,250)	(1,250)	(1,250)	(1,315)	(1,411)	(1,524)	(1,644)	(1,772)	(1,892)
BLUE STAKES EXPENSES (50% TO CULINARY)	(1,555)	(2,337)	(2,551)	(1,950)	(2,460)	(2,587)	(2,778)	(2,999)	(3,235)	(3,487)	(3,723)
EDUCATION/TRAINING	(1,033)	(1,035)	(6,868)	(6,896)	(6,700)	(7,047)	(7,565)	(8,168)	(8,811)	(9,498)	(10,140)
CONTRACT SERVICES	(4,830)	(5,397)	(4,948)	(23,500)	(6,000)	(6,311)	(6,735)	(7,191)	(7,681)	(8,205)	(8,761)
SOURCE AND SUPPLY	(100)	-	-	-	-	-	-	-	-	-	-
PURIFICATION	(2,750)	(4,800)	(4,626)	(4,000)	(4,000)	(4,207)	(4,516)	(4,876)	(5,260)	(5,670)	(6,054)
WATER METER	(164,684)	(156,678)	(270,878)	(300,585)	(338,985)	(356,527)	(382,750)	(413,255)	(445,799)	(480,527)	(513,034)
SHOP AND MAINTENANCE	(4,465)	(12,322)	(48,335)	(11,800)	(11,800)	(12,411)	(13,323)	(14,385)	(15,518)	(16,727)	(17,859)
CUL WATER EQUIPMENT	(1,480)	(4,842)	(854)	(7,020)	(2,020)	(2,125)	(2,281)	(2,463)	(2,657)	(2,863)	(3,057)
C SHOP AND MAINTENANCE DISTRIBUTION	(10,863)	(36,775)	(37,527)	(66,400)	(50,000)	(52,588)	(56,455)	(60,955)	(65,755)	(70,877)	(75,727)
C SHOP AND MAINTENANCE WELL HOUSE	(52,810)	14,007	(15,213)	(35,000)	(35,000)	(36,811)	(39,519)	(42,668)	(46,028)	(49,614)	(52,971)
BAD DEBT EXPENSE	-	(10,881)	(8,400)	(4,157)	(4,365)	(4,591)	(4,929)	(5,321)	(5,740)	(6,188)	(6,606)
MISCELLANEOUS EXPENSES	-	-	(20)	-	(148,000)	-	-	-	-	-	-
TRANSFER OUT-CAP PROJECT	-	-	-	-	(54,519)	(155,659)	(167,108)	(180,426)	(194,635)	(209,797)	(223,990)
Replacement Meters	-	-	-	-	(64,519)	(57,445)	(61,671)	(66,586)	(71,829)	(77,425)	(82,683)
Additional Employee	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operational Expenses</b>	<b>\$ (956,316)</b>	<b>\$ (1,104,152)</b>	<b>\$ (1,267,008)</b>	<b>\$ (1,314,868)</b>	<b>\$ (1,731,955)</b>	<b>\$ (1,821,626)</b>	<b>\$ (1,955,606)</b>	<b>\$ (2,111,468)</b>	<b>\$ (2,277,746)</b>	<b>\$ (2,455,183)</b>	<b>\$ (2,621,276)</b>
<b>Payments to LMMWC</b>											
				(600,000)	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)
<b>Net Revenues Available for Debt Service</b>	<b>\$ 1,165,867</b>	<b>\$ 2,214,394</b>	<b>\$ 2,124,579</b>	<b>\$ 892,440</b>	<b>\$ 408,505</b>	<b>\$ 401,951</b>	<b>\$ 420,872</b>	<b>\$ 451,545</b>	<b>\$ 486,131</b>	<b>\$ 525,001</b>	<b>\$ 546,042</b>
<b>Outstanding Debt</b>											
Series 2005	\$ (14,770)	\$ (14,759)	\$ (14,736)	\$ (14,702)	-	-	-	-	-	-	-
Series 2006	(23,288)	(23,340)	(23,276)	(23,300)	-	-	-	-	-	-	-
Series 2009	(7,807)	(7,824)	(7,833)	(7,833)	-	-	-	-	-	-	-
Series 2011 - Public Works (Sales Tax)	-	(94,953)	(95,215)	(95,426)	(95,590)	(95,704)	(95,769)	(95,785)	(95,198)	(95,177)	(95,394)
Series 2014	-	-	-	-	(78,315)	(78,011)	(78,325)	(77,883)	(78,298)	(78,130)	(78,024)
Series 2016	-	-	-	-	-	-	-	-	-	-	-
Series 2020	-	-	-	-	-	-	-	-	-	-	-
<b>Total Outstanding and Future Debt</b>	<b>\$ (45,865)</b>	<b>\$ (140,876)</b>	<b>\$ (141,060)</b>	<b>\$ (141,261)</b>	<b>\$ (173,905)</b>	<b>\$ (173,715)</b>	<b>\$ (174,094)</b>	<b>\$ (173,668)</b>	<b>\$ (173,496)</b>	<b>\$ (174,307)</b>	<b>\$ (173,418)</b>
<b>Coverage Ratio with Impact Fees (Min: &gt;1.25, Target: &gt;1.5)</b>				6.32	2.35	2.31	2.42	2.60	2.80	3.01	3.15
<b>Coverage Ratio Without Impact Fees (Min: &gt;1.00)</b>				4.19	0.62	0.59	0.69	0.87	1.07	1.29	1.42
<b>Net Operating Revenues After Debt Services</b>				<b>\$ 751,179</b>	<b>\$ 234,608</b>	<b>\$ 228,236</b>	<b>\$ 246,777</b>	<b>\$ 277,876</b>	<b>\$ 312,635</b>	<b>\$ 350,694</b>	<b>\$ 372,623</b>
Impact Fee Qualifying Capital Expense				\$ -	\$ (1,864,000)	\$ -	\$ (206,000)	\$ -	\$ -	\$ -	\$ -
Non-Impact Fee Qualifying Capital Expense				(145,790)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)
LMMWC Payoff				-	-	-	-	-	-	-	-
<b>Culinary Water Capital Expenses</b>				<b>\$ (145,790)</b>	<b>\$ (2,064,000)</b>	<b>\$ (200,000)</b>	<b>\$ (406,000)</b>	<b>\$ (200,000)</b>	<b>\$ (200,000)</b>	<b>\$ (200,000)</b>	<b>\$ (200,000)</b>
<b>Bond Proceeds</b>				739,838	-	-	-	-	-	-	-
<b>Ending Cash</b>				<b>\$ 1,345,227</b>	<b>\$ (1,829,400)</b>	<b>\$ 28,236</b>	<b>\$ (159,223)</b>	<b>\$ 77,876</b>	<b>\$ 112,635</b>	<b>\$ 150,694</b>	<b>\$ 172,623</b>
					<b>\$ 2,405,359</b>	<b>\$ 2,433,595</b>	<b>\$ 2,274,372</b>	<b>\$ 2,352,248</b>	<b>\$ 2,464,883</b>	<b>\$ 2,615,577</b>	<b>\$ 2,788,200</b>

WATER APPENDIX D: PI COVERAGE  
Saratoga Springs City Utility User Rate Analysis - April 2015

Mar-16

Baseline Scenario - Meters Funded in 2014 Bonds		E	F	G	H	I	J	K	L	M
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Increase to Pressurized Irrigation Revenues - April Adoption		0.00%	60.00%	0.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Growth Rates		4.96%	4.82%	4.56%	4.35%	8.71%	9.94%	9.75%	9.58%	7.53%
Net Change to Rates (Implemented in April)			55.18%	0.00%	5.65%	1.29%	0.06%	0.25%	0.42%	2.47%
Change to Non-Rate Revenues		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Coverage Ratio Without Impact Fees		-	0.40	0.70	0.93	0.79	0.91	1.02	1.16	1.28
Days Operational Expense Cash on Hand (Target: 365)		-	1,305	801	287	90	83	105	158	(407)

Apr-14

Table D.1: Pressurized Irrigation Coverage Table

Fiscal Year	2011				2012				2013				2014				BUDGET			
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2015	2016	2017	2018	2019	2020	2021		
Beginning Annual Operating Cash Balance	\$ -				\$ -				\$ 4,047,980				\$ 2,111,340				\$ 418,916			
Target Cash Balance	\$ 283,657				\$ 331,450				\$ 316,505				\$ 360,023				\$ 478,366			
Revenues																				
Operational Revenues																				
WATER METERED SALES	\$ -				\$ -				\$ -				\$ -				\$ -			
OTHER (CONSTRUCTION WATER)	\$ -				\$ -				\$ -				\$ -				\$ -			
SERVICING INSTALLATIONS	\$ -				\$ -				\$ -				\$ -				\$ -			
FORFEITURES AND PENALTIES	\$ -				\$ -				\$ -				\$ -				\$ -			
INTEREST EARNINGS	\$ -				\$ -				\$ -				\$ -				\$ -			
PI FLAT RATE SALES	751,692				842,121				973,040				1,040,036				1,650,000			
CONTRIBUTIONS	\$ -				\$ -				\$ -				\$ -				\$ -			
WATER RIGHTS DEVELOPER FEES	\$ -				\$ -				\$ -				\$ -				\$ -			
TRANSFERS FROM OTHER FUNDS	\$ -				\$ -				\$ -				\$ -				\$ -			
WATER FUND BAL - APPROPRIATED	\$ -				\$ -				\$ -				\$ -				\$ -			
APPROPRIATED RETAINED EARNINGS	\$ -				\$ -				\$ -				\$ -				\$ -			
TRANSFER TO GENERAL FUND	\$ -				\$ -				\$ -				\$ -				\$ -			
TRANSFER TO CAPIT PROJ FUND	\$ -				\$ -				\$ -				\$ -				\$ -			
LEASE FINANCING (LIABILITY)	\$ -				\$ -				\$ -				\$ -				\$ -			
DW BOND REVENUE	\$ -				\$ -				\$ -				\$ -				\$ -			
TRANSFER TO DEBT SERVICE FUND	\$ -				\$ -				\$ -				\$ -				\$ -			
PRESSURIZED IRRIGATION IMPACT FEE	141,600				12,663				200,000				200,000				200,000			
Total Operational Revenues	\$ 893,292				\$ 839,457				\$ 1,173,040				\$ 1,240,036				\$ 1,850,000			
Annual % Change	-6.03%				39.74%				5.71%				49.19%				4.72%			
Operational Expenses																				
SALARIES & WAGES	(267,699)				(87,744)				(96,178)				(96,079)				(96,380)			
EMPLOYEE BENEFITS	(89,822)				(41,410)				(40,308)				(45,845)				(48,995)			
OVERTIME PAY	(5,897)				(2,792)				(9,768)				(8,330)				(8,330)			
ADMIN FEE TO DEBT SERVICE	(118,559)				(118,559)				(118,559)				(118,559)				(118,559)			
VEHICLES	(757)				(834)				(834)				(834)				(834)			
VEHICLE MAINTENANCE	(4,834)				(4,834)				(4,834)				(4,834)				(4,834)			
GASOLINE EXPENSES	(5,970)				(7,445)				(5,293)				(6,300)				(6,300)			
PRESSURIZED IRRIGATION POWER & PUMPING	(107,282)				(159,348)				(121,538)				(142,700)				(154,559)			
EDUCATION/TRAINING	(553)				(965)				(1,100)				(3,000)				(3,155)			
CONTRACT SERVICES	(17,400)				(17,400)				(17,400)				(17,400)				(17,400)			
PI SOURCE & SUPPLY	(95,301)				(37,632)				(30,535)				(25,000)				(35,043)			
PI TRANSMISSION & DIST	(6,268)				(1,688)				(10,175)				(5,000)				(5,000)			
SHOP AND MAINTENANCE	(3,995)				(1,186)				(180)				(5,500)				(3,500)			
PRESSURIZED IRRIGATION EQUIPMENT	(13,530)				(19,508)				(13,121)				(55,000)				(35,000)			
PI MAINTENANCE DISTRIBUTION	(9,361)				(36,186)				(35,085)				(28,000)				(29,449)			
PI MAINTENANCE WELL & PUMPS	(208)				(173)				(212)				(2,000)				(2,000)			
MISCELLANEOUS EXPENSES	\$ -				\$ -				\$ -				\$ -				\$ -			
WATER METERS	\$ -				\$ -				\$ -				\$ -				\$ -			
ADMINISTRATIVE CHARGE	\$ -				(327,116)				(341,258)				(330,172)				(523,819)			
POWER AND PUMPING - WATER - 30%	(54,605)				(72,519)				(59,394)				(61,200)				(62,424)			
SCADA SYSTEM EXPENSES - 66%	(378)				(1,696)				(400)				(24,354)				(1,188)			
PROF AND TECH SERVICE - ATTORNEY - 50%	(16,263)				(5,535)				(6,000)				(6,000)				(6,000)			
PROF AND TECH SERVICE - ENGINEER - 50%	(1,555)				(2,337)				(2,551)				(1,250)				(1,250)			
BLUE STAINES - 50%	(1,555)				(2,337)				(2,551)				(1,250)				(1,250)			
Total Operational Expenses	\$ (630,232)				\$ (806,528)				\$ (770,163)				\$ (876,057)				\$ (1,164,025)			
Net Revenues Available for Debt Service	\$ 263,060				\$ 32,929				\$ 402,877				\$ 363,979				\$ 685,975			
Outstanding Debt																				
Series 2005	(132,931)				(132,831)				(132,628)				(132,322)				\$ -			
Series 2006	(209,595)				(210,063)				(209,487)				(209,696)				\$ -			
Series 2009	(70,263)				(70,416)				(70,494)				(70,497)				\$ -			
Series 2011 - Public Works (Sales Tax)	\$ -				\$ -				\$ -				\$ -				\$ -			
Series 2014	\$ -				\$ -				\$ -				\$ -				\$ -			
Series 2016	\$ -				\$ -				\$ -				\$ -				\$ -			
Series 2020	\$ -				\$ -				\$ -				\$ -				\$ -			
Total Outstanding and Future Debt	\$ (412,789)				\$ (413,310)				\$ (412,609)				\$ (412,514)				\$ (690,615)			
Coverage Ratio with Impact Fees (Min. > 1.25, Target > 1.5)					0.88				0.99				1.22				1.11			
Coverage Ratio Without Impact Fees (Min. > 1.00)					0.40				0.70				0.93				0.79			
Net Operating Revenues After Debt Services	\$ (209,728)				\$ (380,381)				\$ (5,732)				\$ (48,534)				\$ (4,640)			
Impact Fee Qualifying Capital Expense	\$ -				\$ (46,000)				\$ (1,817,000)				\$ (4,367,000)				\$ -			
Non-Impact Fee Qualifying Capital Expense	\$ -				\$ (2,853,000)				\$ (1,932,000)				\$ (1,932,000)				\$ (1,932,000)			
Pressurized Irrigation Capital Expenses	\$ -				\$ (2,853,000)				\$ (1,932,000)				\$ (1,932,000)				\$ (1,932,000)			
Bond Proceeds	\$ -				\$ 5,085,162				\$ 4,500,000				\$ -				\$ -			
Ending Cash	444,075				3,183,628				2,111,340				418,916				299,871			

# WATER APPENDIX E: CULINARY WATER CAPITAL PROJECTS

Saratoga Springs City Utility User Rate Analysis - April 2015

A B C D E F G H I J K L M N

**Table E.1: Total Culinary Water Rate and Impact Fee Eligible Projects**

Description	Total Cost	Construction Year	PV Cost	8 Year Capital Projects								Construction Year Cost					
				2013	2014	2015	2016	2017	2018	2019	2020		2021				
CW - 2.0 Zone 2 North Source Capacity - Pump Station at U-73 & Line	\$ 1,211,000	2015	\$ 1,211,000	-	-	\$ 1,211,000	-	-	-	-	-	-	-	-	-	-	\$ 1,211,000
CW - 3.0 Zone 1 Redwood Road Transmission	653,000	2015	653,000	-	-	653,000	-	-	-	-	-	-	-	-	-	-	653,000
CW - 4.0 CWP Source	206,000	2017	206,000	-	-	-	-	206,000	-	-	-	-	-	-	-	-	206,000
CW - 5.0 CWP Source	360,000	2023	360,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous Water Project	-	-	-	-	145,790	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	1,545,790
<b>Capital Facilities Plan Total</b>	<b>2,430,000</b>		<b>2,430,000</b>	<b>-</b>	<b>-</b>	<b>2,064,000</b>	<b>200,000</b>	<b>406,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>3,615,790</b>

**Table E.2: Total Culinary Water Impact Fee Eligible Projects**

Description	% To Growth	Blank	Blank	8 Year Capital Projects								Construction Year Cost					
				2013	2014	2015	2016	2017	2018	2019	2020		2021				
CW - 2.0 Zone 2 North Source Capacity - Pump Station at U-73 & Line	100%			\$	-	\$ 1,211,000	-	-	-	-	-	-	-	-	-	-	\$ 1,211,000
CW - 3.0 Zone 1 Redwood Road Transmission	100%				-	653,000	-	-	-	-	-	-	-	-	-	-	653,000
CW - 4.0 CWP Source	100%				-	-	-	206,000	-	-	-	-	-	-	-	-	206,000
CW - 5.0 CWP Source	100%				-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous Water Project	0%				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Capital Facilities Plan Total</b>				<b>\$</b>	<b>-</b>	<b>1,864,000</b>	<b>\$</b>	<b>206,000</b>	<b>\$</b>	<b>200,000</b>	<b>\$</b>	<b>200,000</b>	<b>\$</b>	<b>200,000</b>	<b>\$</b>	<b>200,000</b>	<b>2,070,000</b>

**Table E.3: Total Culinary Water Non-Impact Fee Projects**

Description	% To Growth	Blank	Blank	8 Year Capital Projects								Construction Year Cost					
				2013	2014	2015	2016	2017	2018	2019	2020		2021				
CW - 2.0 Zone 2 North Source Capacity - Pump Station at U-73 & Line	0%			\$	-	-	-	-	-	-	-	-	-	-	-	-	-
CW - 3.0 Zone 1 Redwood Road Transmission	0%				-	-	-	-	-	-	-	-	-	-	-	-	-
CW - 4.0 CWP Source	0%				-	-	-	-	-	-	-	-	-	-	-	-	-
CW - 5.0 CWP Source	0%				-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous Water Project	100%				-	145,790	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	1,545,790
<b>Capital Facilities Plan Total</b>				<b>\$</b>	<b>-</b>	<b>145,790</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>1,545,790</b>

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