RESOLUTION NO. 2016-12R

A RESOLUTION OF IVINS CITY, UTAH, ADOPTING UPDATED STORM DRAIN RATES

WHEREAS, Ivins City tries to structure rates to collect adequate revenue to meet projected costs to operate and maintain adequate storm drain collection systems, but for the past few years the revenues have not kept pace with expenditures; and

WHEREAS, a Storm Drain Rate Study has recently been completed for Ivins City that recommends phasing in over a period of years a series of rate increases that will become sufficient to meet necessary expenditures;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF IVINS CITY, STATE OF UTAH, that the Storm Drain Rate Study completed by Bowen Collins Associates, Inc. dated February 2016, a copy of which is attached hereto and incorporated herein by this reference, be approved and the Storm Drain rates recommended therein be adopted.

Severability. If any section, clause, or portion of this resolution or the rate study attached hereto is declared invalid by a court of competent jurisdiction, the remainder shall not be affected thereby and shall remain in full force and effect.

EFFECTIVE DATE: This Resolution shall become effective immediately upon adoption by the City Council.

PASSED AND ADOPTED BY THE IVINS CITY COUNCIL, STATE OF UTAH, ON THIS _____ DAY OF MAY, 2016 BY THE FOLLOWING VOTE:

	AYE	NAY	ABSTAIN	ABSENT
Dennis Mehr	_____	_____	_____	_____
Cheyne McDonald	_____	_____	_____	_____
Jenny Johnson	_____	_____	_____	_____
Steven Roberts	_____	_____	_____	_____
Ron Densley	_____	_____	_____	_____

_____
Chris Hart, Mayor

ATTEST:

_____
Kari Jimenez, City Recorder

STORM DRAIN RATE STUDY

February 2016

Project No. 235-14-01

Prepared for:

Prepared by:

Bowen Collins & Associates, Inc.
CONSULTING ENGINEERS

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SECTION 1
PROJECTED REVENUE NEEDS

INTRODUCTION

Ivins City has retained Bowen, Collins & Associates (BC&A) to update its storm drain rates. The purpose of this study is to update City's storm drain rate based on changes in system development patterns and revenue requirements that have occurred since the last study. The rate study will calculate detailed rates for the next six years and present a longer term finance plan to achieve the City's primary objectives of:

- Maintaining high quality, reliable storm drain service at affordable prices for customers;
- Maintaining stable revenue generation adequate to fund system needs; and
- Minimizing the City's long-term costs by avoiding debt where possible.

Implementing the recommendations contained in this report will help Ivins City keep its storm drain utility system adequately funded to maintain its current infrastructure and keep pace with its currently approved capital improvements plan.

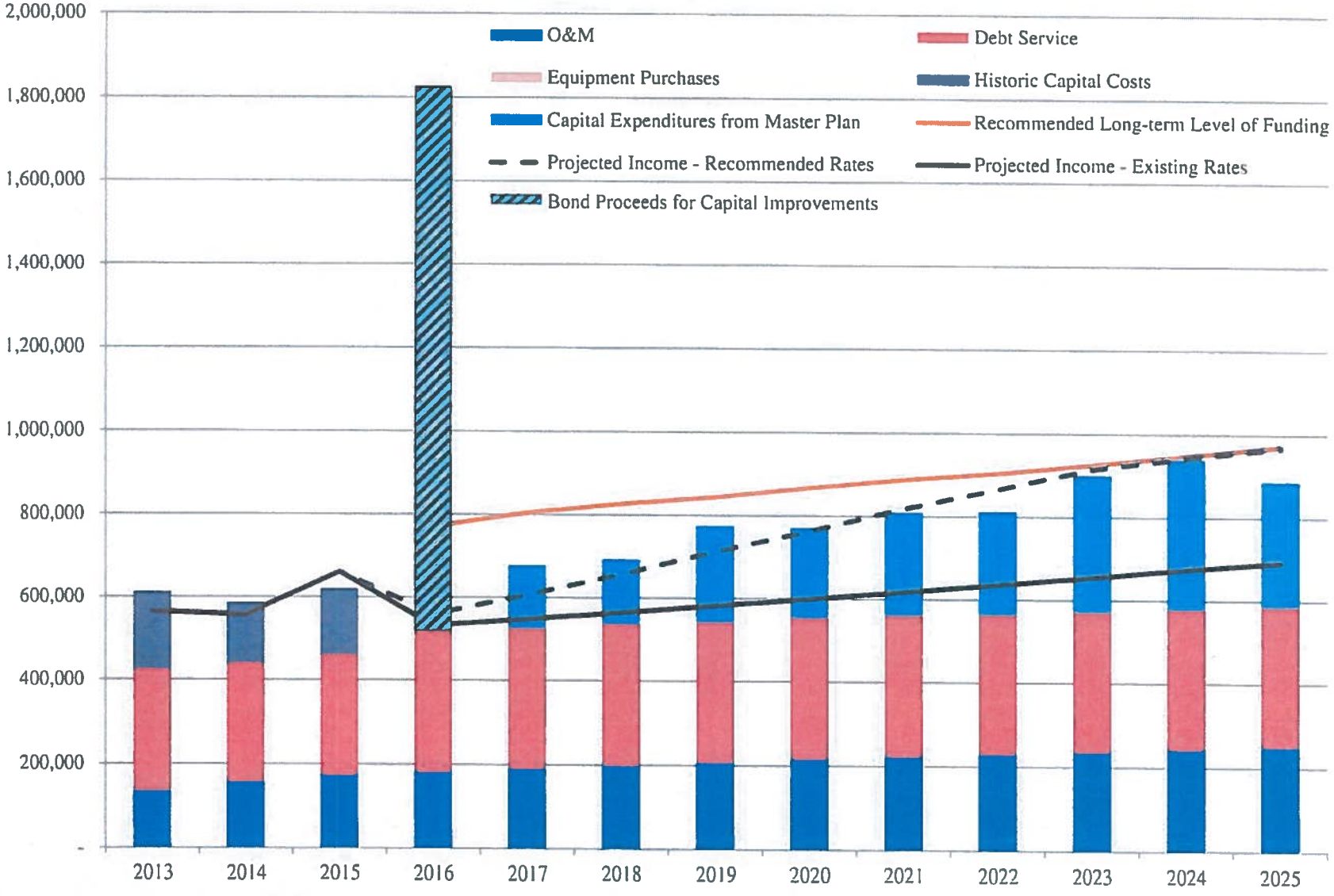
PROJECTED REVENUE NEEDS

Before calculating detailed rates for individual customer classes, it is important to consider the overall plan for meeting the future revenue needs of the City. The first step in this process is to project future expenditures. Historic and projected expenditures for the City for years 2013 through 2025 are shown in Figure 1-1.

Tables containing the values used to generate these figures are contained in Appendices A-B. Future expenditures can be grouped into four categories:

- **Operation and Maintenance Expenditures** – These are the annual costs of running the system. They include items such as salary and benefit costs for City staff, equipment and supplies, power costs, and all other costs associated with doing business throughout the year. Operation and maintenance (O&M) costs are relatively constant from year to year and tend to follow the rate of inflation. Some of the largest O&M costs are employee wages and repair of storm drain lines.
- **Debt Service Expenditures** – These are the costs paid toward bonds taken out by the City in previous years. These costs are easily predictable because they are tied to set payment schedules for each bond.
- **Capital Improvement Expenditures** – These are costs for constructing new facilities within the City. This can include completely new facilities or replacement of existing facilities. Capital improvement expenditures are usually the most volatile of expenditure categories. Because O&M and debt service costs are basically fixed, budgets are usually balanced by increasing or decreasing capital improvement expenditures as necessary. While some fluctuation in the funding of capital improvements is acceptable from year to year, the overall health of the system will depend on adequately funding this portion of the budget over the long term. The current capital improvement budget shown in the figure is

Figure 1-1
10-Year Revenue and Expenditures - Storm Drain



based on the City's recently completed storm drain master plan and associated capital facility plan. It includes the construction of a significant number of projects in 2016 to be funded through bonding.

10-YEAR BUDGET PLAN

With the expected expenditures outlined above, it is possible to prepare a future budget plan. A budget plan has been developed for the storm drain utility and is shown on top of projected expenditures in Figure 1-1. The process of creating this budget plan was as follows:

1. **Identify projected revenue based on existing storm drain rates** – Using the City's existing storm drain rates, BC&A calculated the revenue the City could expect to receive over the next 10 years if no changes are made to existing rates. These projections include consideration of future system growth. As can be seen in Figure 1-1, projected revenues based on existing rates are sufficient to meet the City's existing O&M and debt service costs, but fall well short of funding the City's recommended capital improvement plan. It appears an increase in existing rates will be required if the City wants to follow its capital improvement plan.
2. **Identify recommended level of funding based on long-term system needs** – As with most things, each component of storm drain system has a finite service life. As such, it is necessary to continually budget money for the rehabilitation or replacement of these system components. If adequate funds are not set aside for regular system renewal, the system will fall into disrepair and be incapable of providing the level of service customers in the City expect.

   To maintain the utility in good operating condition, it is recommended that the City's annual investment into the system be approximately equal to the replacement value of the system divided by its estimated service life. The estimated replacement value of the City's storm drain system is $16.2 million. Based on an approximate service life of 70 years, we would recommend the City budget approximately 1.5 percent of replacement costs ($242,000) per year for capital investment in its storm drain system. While a large portion of this total can be used toward constructing those projects identified in the capital facilities plan, the remaining amount will be available for rehabilitation and replacement of existing facilities.

   Based on this approach, the City's recommended long-term level of funding based on all O&M and system investment needs is shown in Figure 1-1. As can be seen in the figure, the City's historic level of investment in the system is below the long-term recommendations in the immediate future. The City will need to increase its rates gradually in order to keep up with inflation and continue to meet the City's long-term needs for the system.
3. **Create a plan to transition from existing revenue to revenue adequate to support long-term system needs** – As discussed above, the City needs to increase its rates in order to implement its capital improvement plan and meet long-term funding goals. As a result, it is recommended that rates be increased gradually over the next 8 years until the long team level of funding is reached. At that point, rates can be increased at simply the rate of inflation. The recommended rate increases for Ivins City over the next 10 years are

presented in Table 1-1. Following the rate increases recommended in this table will result in sufficient income to accomplish the City's goals as shown in Figure 1-1.

Table 1-1
Recommended Annual Rate Increase for 10-Year Budget Plan

Year	Storm Drain Percent Increase
2016	6%
2017	6%
2018	6%
2019	6%
2020	4.5%
2021	4.5%
2022	3%
2023	3%
2024	0%
2025	0%

SECTION 2
STORM DRAIN RATE ANALYSIS

In Section 1, a 10-year budget plan was developed for the storm drain systems. Based on this overall budget plan, detailed rates can now be calculated. The purpose of this chapter is to calculate detailed storm drain rates for the next 5 years based on the overall budget plan.

This analysis focuses on four major tasks:

1. **Projecting Future Connections:** Future storm drain connections were estimated by examining current developed impervious acres and by projecting system growth for the next several years.
2. **Calculating Revenue Requirements:** Total revenue requirements for the system were projected for the next several years based on the budget plan outlined in Section 1. Non-rate revenue (including impact fee revenue) was deducted from the total to give the net revenue requirement to be recovered from rate payers.
3. **Cost Allocation:** This analysis follows the essential principles of cost-of-service rate calculation methodologies and divides costs between two customer service characteristics: volume related costs and customer related costs.
4. **Rate Design:** Rates were calculated to generate the required rate revenue.

The remainder of this report details the results of each of these four major tasks. Detailed rate tables from the model used to develop the rate recommendations are located in Appendix B.

KEY ASSUMPTIONS

The results presented in this report are based on the following assumptions:

1. The storm drain fund will continue to be an enterprise-type fund.

2. This rate study is based on projections of future system operation, maintenance, and improvement costs. These projections are based on current economic conditions and regulatory requirements. Because conditions may change over time, it is recommended that Ivins City review the rates annually to determine if adjustments are needed to provide a revenue stream that will adequately fund operation and maintenance costs as well as needed capital improvements. It is also recommended that a comprehensive review and updating of storm drain rates be undertaken in three to five years so that the basic analytical foundations of this study can be re-evaluated.

PROJECTING STORM DRAIN USE

Historic Drainage Area

Ivins City provides storm drain service to over 3,000 accounts as shown in Table 2-1. To estimate the potential for storm drainage from each of these accounts, Table 2-1 also summarizes the total

impervious area associated with each customer class. Average drainage areas were then estimated for each customer class.

Table 2-1
Drainage Area Summary

Customer Class	Impervious Area (acres)	Accounts	Square Feet per Account
Residential	239	3044	3,434
Commercial	53	15	152,520
Church	10	4	100,674
Office	1	5	10,698
Total	**303**	**3,068**	

It should be noted here that a decision has been made to base this analysis on impervious area. This is one of two common methods of looking at potential for storm drainage. The other common method is to consider total lot size. For this study, impervious area has been used because it most closely matches the volume of runoff generated from each property and also matches historic billing practices.

Projected Accounts

Ivins City has historically seen a wide range of growth rates depending on economic conditions in the area. Current projections available from the City project growth around 3 percent per year over the next 6 years. Projected growth rates and number of accounts by customer type are summarized in Table 2-2.

Table 2-2
Projected Accounts Summary

	2016	2017	2018	2019	2020	2021
	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Residential	3,135	3,229	3,326	3,425	3,528	3,634
Commercial	15	16	16	17	17	18
Church	4	5	5	5	5	5
Office	5	6	6	6	6	6
Total	**3,160**	**3,255**	**3,353**	**3,453**	**3,557**	**3,663**

Projected Developed Area

Future impervious areas were estimated to grow at the same rate as population growth as is shown in Table 2-2. Using this methodology, the projected growth in impervious acres is shown in Table 2-3.

Table 2-3
Impervious Area Summary

Customer Class	Developed Impervious Area (Acres)					
	2016	2017	2018	2019	2020	2021
Residential	246	254	261	269	277	286
Commercial	54	56	57	59	61	63
Church	10	11	11	11	12	12
Office	1	1	1	1	2	2
Total	**312**	**321**	**331**	**341**	**351**	**362**

CALCULATING REVENUE REQUIREMENTS

There are two methods for determining a water utility's revenue requirements. One is called the Cash Basis of revenue requirements. The other method is called the Utility Basis of revenue requirements. The revenue requirements for each approach are summarized below.

Cash Basis	**Utility Basis**
Operation and Maintenance Costs	Operation and Maintenance Cost
Plus: Debt Service	Plus: Depreciation
Cash-Financed Capital Outlays	Return on Investment
Taxes (if applicable)	Taxes (if applicable)
Net Additions to Reserves	
Total Requirements	Total Requirements
Less: Non-Rate Revenues	Less: Non-Rate Revenues
Equals:Net Requirements from Rates	Equals:Net Requirements from Rates

The cash basis of revenue requirements is based on the actual cash expenditures of the system. Its goal is to make sure revenues match the cash needs of the system. In public utilities, this method generally matches the budgetary expenditures for the period. It has the additional advantage of being more understandable to most ratepayers and more directly meets any debt service coverage requirements that the system might need to comply with.

The utility basis approach simulates the financial requirements of private sector companies. It ensures that revenue requirements reflect the depreciation incurred by the system, as well as a return on the investment in rate base by system owners. In the municipal utility setting, the utility basis is most often used when there is significant utility service to customers outside the jurisdictional boundaries of the system owners. It allows the system owners (i.e., City residents) to earn a return from the investments to serve the customers outside the City.

Ivins City does not have any significant customers outside its jurisdictional boundaries. As a result, rates in this study were developed under the cash basis only.

Non-Rate Revenue

The projected non-rate revenue for the planning period is summarized in Table 2-4. Non-Rate Revenue may include items such as service charges, net interest income, lease income, and gain/loss on disposal of assets. It should be noted that revenue shown in the table assumes adoption of the impact fees recommended in the City's recently completed Impact Fee Analysis.

Table 2-4
Projected Non-Rate Revenue

	2016	2017	2018	2019	2020	2021
Impact Fees	**$89,308**	**$91,987**	**$94,747**	**$97,589**	**$100,517**	**$103,533**

City Expenditures

The projected City expenditures for the planning period are summarized in Table 2-5. Included in the table are the projected total costs for the three major categories of expenditures: operations and maintenance, debt service, and capital expenditures. Each of these categories is discussed in more detail in following sections.

Table 2-5
Projected Revenue Requirements

Item	2016	2017	2018	2019	2020	2021
O&M	$180,616	$188,744	$197,237	$206,113	$215,388	$221,850
Debt Services	$340,125	$337,906	$340,250	$337,375	$339,063	$340,313
Capital	$1,296,482	$150,701	$155,222	$230,729	$216,900	$246,691
Total Expenditures	**$1,817,223**	**$677,351**	**$692,709**	**$774,217**	**$771,351**	**$808,853**

Operation and Maintenance Costs

The projected operation and maintenance (O&M) costs for the City have been taken from the City's budget year for 2015. A detailed list of all O&M budget categories is included as part of the rate model in Appendix B. Beyond 2015, it has been assumed that most of these O&M cost categories will increase at a rate equal to half the system growth rate in each year and an assumed inflation rate of 3.0 percent (e.g. budget growth in 2017 = 3.0 %/2 + 3% = 4.5%).

Debt Service Costs

Ivins City is currently in the ninth year of a 20 year loan worth 3.97 million dollars. They are in the process of refinancing the loan and adding another 1.3 million dollars over the next 20 years in order to complete some necessary capital projects. The projected cost of all debt service including interest has been included as part of this study.

Capital Improvement Costs

As identified in the City's capital facility plan, there are multiple storm drain capital projects which will be completed during the next 6 years. Over the next 6 years there will be an average of approximately $380,000 per year spent on capital facility projects. The list of projects proposed to be completed in the next 6 years along with a cost for each project can be seen in Appendix B.

Included under the capital improvements budget is a section for the transfer of funds to or from the City's reserve fund. As noted in Section 1, there should be a budget of approximately $241,000 annually (increased with an assumed inflation rate of 3.0% plus 1.5% of capital projects completed the previous year) for investment into the system. Any money not spent on projects in the capital facility plan should be spent on other system rehabilitation and replacement projects. However, if specific rehabilitation and replacement projects are not immediately identified, this same total should be deposited in the utility's reserve fund. The reserve fund can then be used to smooth out total, overall capital expenditures in the City. To facilitate the option of paying for improvements without bonding, it is expected that there will also be years in which excess funds are generated and added to the reserve, only to be drawn out in subsequent years for large projects. From a long-term perspective, the City should continue to invest the recommended amount into projects in the system such that the reserve fund's overall size does not appreciably increase due to these transfers.

CURRENT STORM DRAIN RATE REVENUE

Total annual projected rate revenues based on existing storm drain rates are shown in Table 2-6. It can be seen that the projected revenue from existing storm drain rates will become increasingly insufficient to meet revenue requirements in the coming years. As described in Section 1, BC&A would recommend a series of small annual increases to reach the recommended long term level of funding needed.

Table 2-6
Projected Revenue Based on Existing Storm Rates

	2016	2017	2018	2019	2020	2021
Projected Rate Revenue-Existing Rates	$533,141	$549,244	$565,836	$582,934	$600,551	$618,568
Projected Rate Revenue Requirements	$520,741	$677,351	$692,709	$774,217	$771,351	$808,853
Projected Difference	**$12,400**	**($128,107)**	**($126,872)**	**($191,284)**	**($170,799)**	**($190,286)**

COST ALLOCATIONS

The next key step in the rate making process is the allocation of costs to customer service characteristics. The allocation approach used in this rate study reflects the basic cost-of-service approach recommended by the American Water Works Association (AWWA).

Customer Service Characteristics

Customer service characteristics for the storm drain rate analysis are similar to those steps followed in a culinary water model, but simplified. Specifically, the customer service characteristics considered in this rate study are divided into two categories:

- volume characteristics (which includes total storm water flow), and
- customer characteristics (which include billing & administrative costs).

The first step in allocating costs is to divide each of the City's revenue requirements into these categories. This has been done in the storm drain rate model (see Tables 7 and 8 of Appendix B). In each case, these allocations are based on information provided by Ivins City personnel, professional engineering judgment, and knowledge of system operations. Table 7 in Appendix B provides a division by customer service characteristics for O&M expenditures. Table 8 in Appendix B provides the same information for capital and bonding expenditures.

Using the percentages assigned to each budget category, the system revenue costs are distributed among the customer service characteristics. This is also shown in detail in the rate model. The total revenue requirement for each customer service characteristic is given in Table 10 of Appendix B. Table 11 of Appendix B shows the total cost allocation for each customer class.

COST-OF-SERVICE RATES

Existing monthly storm drain rates consist of a flat rate based on impervious area. Charges vary based on customer class, but only relative to how much impervious area is assumed for each customer class. Customers are billed based on lot size and the defined impervious percentage for their customer class.

Based on cost-of-service principles and standard industry practices, BC&A would recommend just one modification be made to the existing structure:

- **Calculate the Fee Using Separate Billing/Administrative and Volume Charges** – The storm drain rates can be calculated based on two components: monthly billing/admin charges and volumetric charges. The monthly billing/admin charge is the amount charged to existing users to be connected to the system, regardless of lot size or detention/retention needs. It includes cost associated with sending bills and administration costs associated with storm drain system. Volumetric charges are those charges assessed based on the amount of storm water produced by the customer.

Following this approach, the rate model was used to calculate new cost-of-service charges to meet projected revenue needs. These cost-of-service charges are shown in Table 2-7. The table includes

a billing/admin charge that would be applied to each customer account along with a volume charge. Volume charges are per 1000 square feet of impervious area.

Table 2-7
Calculated Monthly Storm Drain Cost-of-Service Charges

Cost-of-Service Rates	2016	2017	2018	2019	2020	2021
Billing/Admin Charge ($/account)	$3.26	$3.47	$3.70	$3.95	$4.14	$4.35
Volume Charge ($/1000 Impervious SF)	$2.20	$2.33	$2.46	$2.60	$2.72	$2.83

RECOMMENDED FUTURE RATES

While the rates summarized in Table 2-7 represent the best estimate of actual costs from a cost-of-service perspective, charging these rates directly would create some significant administrative challenges, specifically associated with calculating and tracking the amount of impervious area associated with each residential customer.

To simplify the administration of these rates, the following is proposed:

- **Residential Rates** – It is proposed that the City continue to follow its historic practice of billing all residents the same amount. The calculated amount can still be based on the cost-of-service rates identified above, but can be calculated for the average impervious area for residents as a whole.
- **Non-Residential Rates** – Non-residential rates have historically been charged based on total lot size assuming a constant percentage of impervious area within each zoning type. Because of the potential variability in impervious area between non-residential properties, even within the same zoning type, it is proposed that all non-residential customers be charged based on their actual calculated impervious acreage. For simplicity, the City does not wish to charge a separate billing and administrative charge to non-residential users. As a result, it is proposed that non-residential users pay a single charge per 1000 SF of impervious area, but that this incorporate both the cost-of-service volume charge and the billing/admin charge.

Following this approach, recommended rates have been calculated for residential and non-residential billing classes and are summarized in Table 2-8.

Table 2-8
Recommended Monthly Storm Drain Rates

	Existing	2016	2017	2018	2019	2020	2021
Residential ($/Account)	$10.62	$10.79	$11.44	$12.13	$12.86	$13.44	$14.05
Non-Residential ($/1000 Impervious SF)	-	$2.23	$2.36	$2.49	$2.64	$2.75	$2.87

SECTION 3
CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis contained in the previous sections of this report, BC&A would recommend the following actions:

Adopt the Recommended Rate Increases: It is recommended that the Ivins City adopt the proposed rate increases as summarized below in Table 3-1. This equates to increasing rates by 6 percent for the first 4 years with 4.5 percent increases for the next two years.

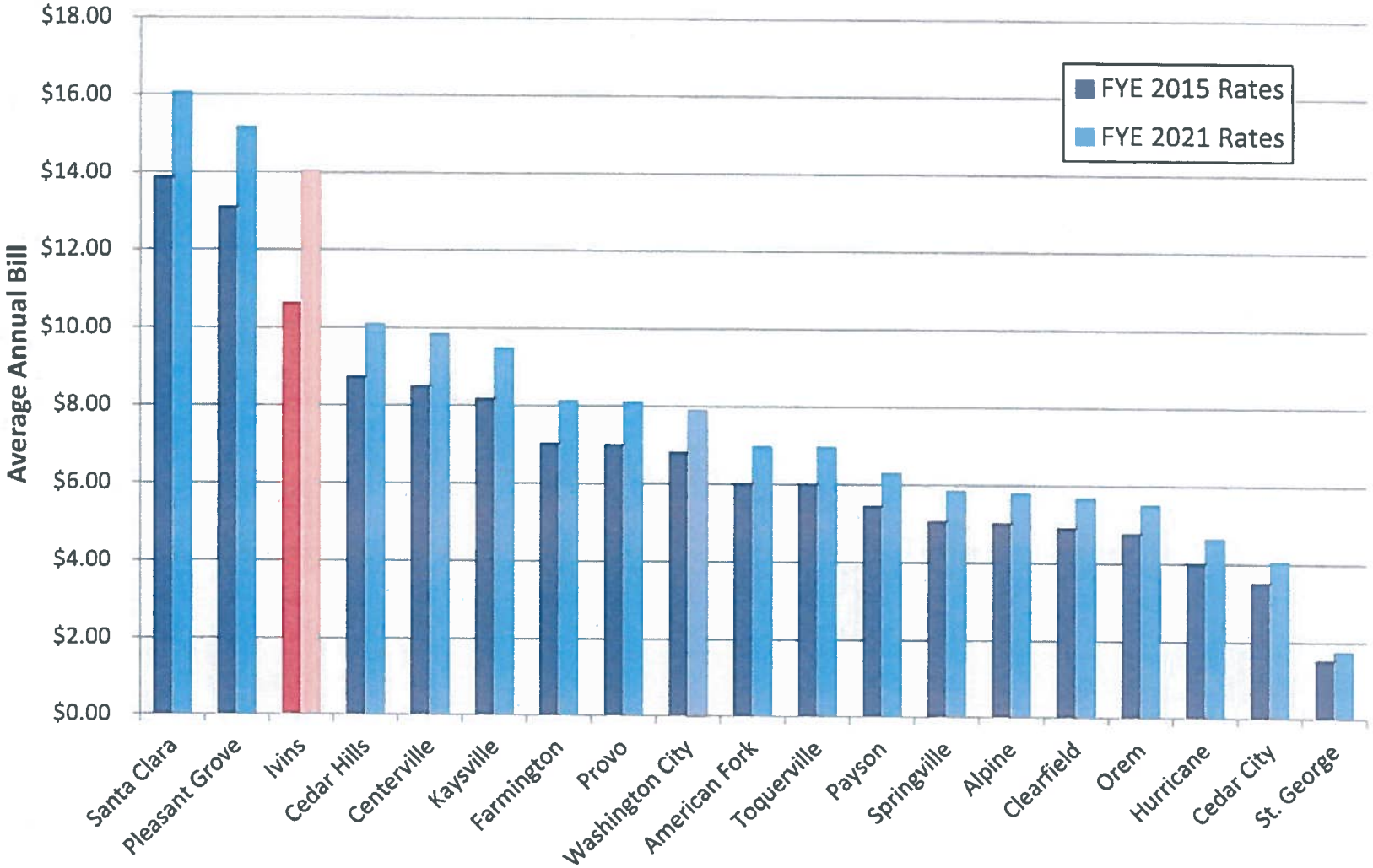
Table 3-1
Recommended Monthly Storm Drain Rates

	Existing	2016	2017	2018	2019	2020	2021
Residential ($/Account)	$10.62	$10.79	$11.44	$12.13	$12.86	$13.44	$14.05
Non-Residential ($/1000 Impervious SF)	-	$2.23	$2.36	$2.49	$2.64	$2.75	$2.87

A few small changes in approach to the current rate structure have been recommended in the previous section. This includes implementation of cost-of-service rates. Based on cost-of-service rates, monthly billing/admin charges and volumetric charges will be combined into a single fee to be charged based on a combination of customer class, impervious acreage, and lot size. It will be noted that the most of the increase the first year will be absorbed by non-residential users. This suggest that non-residential customers have been paying a little less than their true cost of service under existing rates. If the City adopts the recommended rates as shown, this will remedy this cost-of-service issue moving forward.

For comparison purposes, Table 3-2 show the existing and proposed future rates for Ivins City and other communities throughout Utah. The table shows the average annual bill that each municipality charges a residential connection for storm drain. For Ivins City, the future rate shown assumes the City adopts the rates recommended in this report. For all other cities, future rates are simply based on a constant annual inflation of 3 percent. This likely underestimates future rates for most cities, but provides a starting point for comparison. This same information is shown graphically in Figure 3-1.

Figure 3-1
Comparison of Annual Storm Drain Rates, Average Residential Customer



*FYE 2018 rates based on annual increase to account for inflation only (3%)

Table 3-2
Storm Drain Monthly Rate Comparison

City	Cost per Average Residential Connection for FYE 2015	Cost per Average Residential Connection for FYE 2020[1]
Santa Clara	$13.85	$16.06
Pleasant Grove	$13.09	$15.17
Ivins	$10.62	$14.05
Cedar Hills	$8.71	$10.10
Centerville	$8.48	$9.83
Kaysville	$8.17	$9.47
Farmington	$7.00	$8.11
Provo	$6.99	$8.10
Washington City	$6.80	$7.88
American Fork	$6.00	$6.96
Toquerville	$6.00	$6.96
Payson	$5.43	$6.29
Springville	$5.04	$5.84
Alpine	$5.00	$5.80
Clearfield	$4.89	$5.67
Orem	$4.75	$5.51
Hurricane	$4.00	$4.64
Cedar City	$3.50	$4.06
St. George	$1.50	$1.74

[1]Assumes other City rates are inflated at 3.0% annually

As can be seen in the table, Ivins City currently has a higher than average rate for storm drain when compared to other City's throughout Utah. With the proposed increases identified in this report, it is expected that Ivins City will remain at about the same spot compared to the other communities surveyed.

Consider Multiple Year Rate Schedules: It is recommended that Ivins City pursue adopting multiple year rate schedules (up to the full rate schedule above). By adopting multiple year rate schedules, the City can program small annual increases to the storm drain rates consistent with the results of this report. This will help avoid large rate increases in future years and minimizes the potential for "rate shock" to customers. Small, affordable changes in rate levels and rate structures are more acceptable to the public and benefit the utility in terms of financial stability. If small changes are needed to this multiyear schedule in the future, the City can always revise these rates at that time.

Update This Rate Study Periodically: After the implementation of any change to the rate structure, we would suggest that the City monitor customer responses and demand patterns for a period of one or two years. Following this initial observation period, the change should be re-examined to determine if there should be any subsequent adjustments. A comprehensive review of this rate study should also be performed in three to five years. The projections, assumptions, and data contained in this report may need to be revised over time. For these reasons, it is prudent to update storm drain rates to ensure they are sufficient to meet system requirements, as well as maintain cost-of-service equity in charges to customers.

APPENDIX A
10-YEAR BUDGET PLAN – STORM DRAIN

Table A-1
10-Year Budget Plan - Storm Drain

	Historic			Projected									
	Year			Year									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Number of Accounts	2,869	2,969	3,069	3,161	3,256	3,354	3,454	3,558	3,665	3,774	3,888	4,004	4,124
% Growth from Previous Year	-	3.49%	3.37%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Expenditures													
O&M	*134,938*	*$156,638*	*$172,838*	$180,616	$188,744	$197,237	$206,113	$215,388	$221,850	$228,505	$235,360	$242,421	$249,694
Debt Service	$290,250	$283,906	$287,125	$340,125	$337,906	$340,250	$337,375	$339,063	$340,313	$336,344	$336,938	$337,094	$336,813
Capital Expenditures	186,602	145,262	159,750	1,296,482	150,701	155,222	230,729	216,900	246,691	245,975	326,953	359,491	298,995
Equipment Purchases	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Expenditures	*611,789*	*585,807*	*619,713*	*1,817,223*	*677,351*	*692,709*	*774,217*	*771,351*	*808,853*	*810,824*	*899,251*	*939,006*	*885,501*
Historic Capital Costs	$186,602	$145,262	$159,750	-	-	-	-	-	-	-	-	-	-
Capital Expenditures from Master Plan	-	$0	-	1,296,482	$150,701	$155,222	$230,729	$216,900	$246,691	$245,975	$326,953	$359,491	$298,995
Income													
Impact Fees	$103,003	$102,940	$96,802	$74,621	$76,859	$79,165	$81,540	$83,986	$86,506	$89,101	$91,774	$94,527	$94,527
Other Non-Rate	21,951	$2,925	$99,695	$3,626	$3,844	$4,074	$4,319	$4,578	$4,715	$4,857	$5,002	$5,152	$5,307
Sales - Existing Rates	$441,786	$452,347	$466,094	$454,894	$468,541	$482,597	$497,075	$511,987	$527,347	$543,167	$559,462	$576,246	$593,533
Projected Income - Existing Rates	*$566,739*	*$558,212*	*$662,592*	*$533,141*	*$549,244*	*$565,836*	*$582,934*	*$600,551*	*$618,568*	*$637,125*	*$656,239*	*$675,926*	*$693,368*
System Investment Goal	$212,806	$226,607	$241,038	$250,725	$278,178	$288,840	$299,891	$312,435	$325,142	$338,689	$352,631	$368,236	$384,810
Recommended Long-term Level of Funding				$771,466	$804,828	$826,327	$843,379	$866,886	$887,305	$903,538	$924,929	$947,751	$971,316
										0.00	0.00	0.00	0.00
Recommended Rate Increases				6.0%	6.0%	6.0%	6.0%	4.5%	4.5%	3.0%	3.0%	0.0%	0.0%
Sales Revenue With Increase	$441,786	$452,347	$466,094	$482,188	$526,452	$574,781	$627,546	$675,459	$727,030	$771,306	$818,279	$842,827	$868,112
Projected Income - Recommended Rates	*$566,739*	*$558,212*	*$662,592*	*$560,434*	*$607,155*	*$658,020*	*$713,404*	*$764,023*	*$818,251*	*$865,264*	*$915,055*	*$942,507*	*$967,946*

APPENDIX B
DETAILED STORM DRAIN RATE MODEL TABLES

Table B-1
Ivins City - Storm Drain Rate Study
Historic Drainage Area
(acres)

	2013			2014			2015				
Customer Class	Impervious Area (acre)	Accounts	SF per Accounts	Impervious Area (acre)	Accounts	SF per Accounts	Impervious Area (acre)	Accounts	SF per Accounts	Planning SF/Account	SF/Account
Residential	236	2,846	3,609.8	237	2,946	3,507.9	239	3,044	3,424.1	3,424.1	3424.1
Commercial	52	14	161,468.9	53	14	163,414.3	53	15	152,520.0	152,520.0	152520.0
Church	10	4	108,225.0	10	4	108,225.0	10	4	100,674.4	100,674.4	100674.4
Office	1	5	11,476.6	1	5	11,340.0	1	5	10,698.1	10,698.1	10698.1
Total	299	2,869		301	2,969		303	3,068			

Table B-2
Ivins City - Storm Drain Rate Study
Projected Accountss

		Number					
Customer Class		2016	2017	2018	2019	2020	2021
	% Growth	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Residential		3,135	3,229	3,326	3,425	3,528	3,634
Commercial		15	16	16	17	17	18
Church		4	5	5	5	5	5
Office		5	6	6	6	6	6
Total		3,160	3,255	3,353	3,453	3,557	3,663

Table B-3
Ivins City - Storm Drain Rate Study
Projected Impervious Area

	Planning	Amount (Acres)					
Customer Class	SF/Acct.	2016	2017	2018	2019	2020	2021
Residential	3,424.1	246	254	261	269	277	286
Commercial	152,520.0	54	56	57	59	61	63
Church	100,674.4	10	11	11	11	12	12
Office	10,698.1	1	1	1	1	2	2
Total		312	321	331	341	351	362

Table B-4
Ivins City - Storm Drain Rate Study
Connection Fee Revenue

Impervious Area	Impact Fee ($/DCIA)	Historic 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020
Per ERU	$7,970.00	$102,940	$96,802	$74,621	$76,859	$79,165	$81,540	$83,986
Total Impact Fee Revenue		**$0**	**$96,802**	**$74,621**	**$76,859**	**$79,165**	**$81,540**	**$83,986**

Table B-5
Ivins City - Storm Drain Rate Study
Non-Rate Revenue (Including Connection Fees)

Assumed Inflation Rate =	3.0%	2014	2015	2016	2017	2018	2019	2020
Item		Historic 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020
Operations								
Total Operations Non-Rate Revenue		$0	$0	$0	$0	$0	$0	$0
Expansion and Replacement								
3610.0 - Impact Fees-Storm Drain		103,090	83,166	$74,621	$76,859	$79,165	$81,540	$83,986
3620.0 - Interest Income- Impact Fees		-	-	$0	$0	$0	$0	$0
3810.0 - Interest Income		2,925	2,921	$3,096	$3,282	$3,479	$3,688	$3,909
3820.0 - Grants		-	96,275	$0	$0	$0	$0	$0
3823.3 - Storm Drain Bond Proceeds		-	-	$0	$0	$0	$0	$0
3850.0 - Subdividers Contribution		-	-	$0	$0	$0	$0	$0
3890.0 - Miscellaneous		-	500	$530	$562	$596	$631	$669
3916.0 - Trans from Sewer Fund		-	-	$0	$0	$0	$0	$0
Total Expansion Non-Rate Revenue		106,016	182,862	$78,247	$80,703	$83,239	$85,859	$88,564
Total Non-Rate Revenue		**$106,016**	**$182,862**	**$78,247**	**$80,703**	**$83,239**	**$85,859**	**$88,564**

4023.0 - Travel & Lodging		1,045	711	$743	$776	$811	$848	
4024.0 - Office Supplies		3,534	2,055	$2,148	$2,245	$2,346	$2,451	
4025.0 - Equipment - Supplies & Maint		10	244	$255	$266	$278	$291	
4025.1 - Equipment Rental		-	908	$949	$992	$1,036	$1,083	
4025.5 - Vehicle Maintenance		-	73	$77	$80	$84	$88	
4025.6 - Gas/Oil/Diesel		2,948	2,908	$3,039	$3,175	$3,318	$3,468	
4026.0 - Bldgs & Grounds - Supplies/Mnt		2,144	1,496	$1,563	$1,633	$1,707	$1,784	
4027.0 - Utilities		745	824	$861	$900	$940	$982	
4028.0 - Telephone		1,732	1,558	$1,628	$1,701	$1,777	$1,857	
4031.0 - Professional & Technical		5,419	4,688	$4,899	$5,119	$5,350	$5,591	
4031.1 - Legal Fees		-	-	$0	$0	$0	$0	
4031.2 - Engineering Fees		-	-	$0	$0	$0	$0	
4031.4 - Accounting Services		-	1,785	$1,865	$1,949	$2,037	$2,129	
4031.5 - Contract Services		1,921	2,372	$2,478	$2,590	$2,706	$2,828	
4033.0 - Education & Training		606	784	$819	$856	$895	$935	
4035.0 - Write-off Bad Debt		-	-	$0	$0	$0	$0	
4048.0 - Materials & Supplies		233	562	$587	$613	$641	$670	
4049.0 - Landfill Charges		-	-	$0	$0	$0	$0	
4051.0 - Insurance & Surety Bonds		2,359	2,997	$3,132	$3,273	$3,420	$3,574	
4052.3 - Storm Drain Bond Expenses		1,500	1,650	$1,724	$1,802	$1,883	$1,968	
4061.0 - Miscellaneous		1,534	1,389	$1,452	$1,517	$1,586	$1,657	
4062.0 - Bankcard Fees		2,462	3,192	$3,335	$3,485	$3,642	$3,806	
4063.0 - Newsletter		-	1,011	$1,057	$1,104	$1,154	$1,206	
l O&M		$156,638	$172,838	$180,616	$188,744	$197,237	$206,113	

Service								
07 Series Bond		145,000	155,000	160,000	165,000	175,000	180,000	
4142.0 - 2007 Storm Drain Bond Int.		138,906	132,125	125,125	117,906	110,250	102,375	
16 New Bond		-	-	$55,000	$55,000	$55,000	$55,000	
used		-	-	-				
used		-	-	-				
used		-	-	-				
used		-	-	-				
l Debt Service		$283,906	$287,125	$340,125	$337,906	$340,250	$337,375	

nsion and Replacement		2014	2015	2016	2017	2018	2019	
4140.0 - GASB 68 Pension Expense		-	9,517	-	$ -	$ -	$ -	$
4142.5 - Cost of Issuance		3,060	-	-	$ -	$ -	$ -	$
4145.0 - GASB 68 Benefit Expense		-	(1,419)	-	$ -			
4274.0 - Capital Outlay - Equipment		374	504	-	$ -			
4287.6 - Storm Drain Master Plan		-	15,632	-	$ -			
4274.4 - Capital Outlay - Other		-	-	-	$ -			
4287.6 - Storm Drain Master Plan		-	15,632	-	$ -			

orm Drain Masterplan Update		$ 45,000						
l		$ 132,000		135,960				
)		$ 21,300		21,939				
1a		$ 142,100						
1b		$ 132,600		136,578				
1c*		$ 27,900		28,737				
)		$ 36,900		38,007				
)a		$ 173,640		178,849				
)b		$ 331,080		341,012				
7	$ 648,480							
8a	$ 65,200							
8b	$ 34,400							
9a		$ 258,100						
9b		$ 153,600						
16		$ 148,700		153,161				
21		$ 159,900		164,697				
22		$ 205,000					230,729	
1-1		$ 284,100			150,701	155,222		
1-2	$ 352,900							
1-4		$ 344,400						
1-5	$ 533,015							
1-6		$ 206,600						
1-7	$ 48,000							
1-8*		$ 94,700		97,541				
1-9**		$ 200,000						
2	$ 69,120							

habilitation and Replacement Budget								
nd Proceeds								
Trucks					$ -			
eeper Truck				$ -		$ -		$
nsfer to/(from) Reserve Fund				$ (1,256,788)	$ (70,196)	$ (34,689)	$ (60,813)	$
l Capital Outlays		$ 3,434	39,867	39,693	$80,505	$120,533	$169,916	

Table B-7
Ivins City - Storm Drain Rate Study
Cost Allocation Percentages to Service Characteristics

Item	Volume	Customer	Total	
O&M				
4011.0 - Salaries & Wages	80%	20%	100%	
4011.1 - Overtime	80%	20%	100%	
4012.0 - Employee Benefits	80%	20%	100%	
4013.0 - Employers Taxes	80%	20%	100%	
4013.5 - Uniform & Safety Equipment	80%	20%	100%	
4014.0 - Outside Counsel - Legal	80%	20%	100%	
4021.0 - Books, Subscript, Memberships	80%	20%	100%	
4021.5 - Software	80%	20%	100%	
4022.0 - Public Notices	80%	20%	100%	
4023.0 - Travel & Lodging	80%	20%	100%	
4024.0 - Office Supplies	80%	20%	100%	
4025.0 - Equipment - Supplies & Maint	100%	0%	100%	
4025.1 - Equipment Rental	80%	20%	100%	
4025.5 - Vehicle Maintenance	100%	0%	100%	
4025.6 - Gas/Oil/Diesel	100%	0%	100%	
4026.0 - Bldgs & Grounds - Supplies/Mnt	100%	0%	100%	
4027.0 - Utilities	80%	20%	100%	
4028.0 - Telephone	80%	20%	100%	
4031.0 - Professional & Technical	80%	20%	100%	
4031.1 - Legal Fees	80%	20%	100%	
4031.2 - Engineering Fees	80%	20%	100%	
4031.4 - Accounting Services	80%	20%	100%	
4031.5 - Contract Services	80%	20%	100%	
4033.0 - Education & Training	80%	20%	100%	
4035.0 - Write-off Bad Debt	80%	20%	100%	
4048.0 - Materials & Supplies	80%	20%	100%	
4049.0 - Landfill Charges	80%	20%	100%	
4051.0 - Insurance & Surety Bonds	80%	20%	100%	
4052.3 - Storm Drain Bond Expenses	80%	20%	100%	
4061.0 - Miscellaneous	80%	20%	100%	
4062.0 - Bankcard Fees	80%	20%	100%	
4063.0 - Newsletter	80%	20%	100%	

Table B-8
Ivins City - Storm Drain Rate Study
Fixed Assets Allocations to Service Characteristics

		Percent			*Allocated Amount*		
Item	Assets	Volume	Customer	Total	Volume	Customer	Total
Pipelines	$7,495,542	60%	40%	100%	$4,497,325	$2,998,217	$7,495,542
Detention Basins	$8,654,000	80%	20%	100%	$6,923,200	$1,730,800	$8,654,000
	$0	100%	0%	100%	$0	$0	$0
	$0	100%	0%	100%	$0	$0	$0
	$0	100%	0%	100%	$0	$0	$0
	$0	100%	0%	100%	$0	$0	$0
	$0	100%	0%	100%	$0	$0	$0
Total	**$16,149,542**				**$11,420,525**	**$4,729,017**	**$16,149,542**
Percent					**70.7%**	**29.3%**	**100.0%**

Table B-9
Irvine City - Storm Drain Rate Study
Allocation of O&M Costs to Service Characteristics

Item	2016			2017			2018			2019			2020			2021		
	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total
O&M																		
4011.0 - Salaries & Wages	$77,312	$19,328	$96,640	$80,791	$20,198	$100,988	$84,426	$21,107	$105,533	$88,226	$22,056	$110,282	$92,196	$23,049	$115,245	$94,962	$23,740	$118,702
4011.1 - Overtime	$1,171	$293	$1,464	$1,224	$306	$1,530	$1,279	$320	$1,599	$1,337	$334	$1,671	$1,397	$349	$1,746	$1,439	$360	$1,799
4012.0 - Employee Benefits	$30,567	$7,642	$38,208	$31,942	$7,986	$39,928	$33,380	$8,345	$41,725	$34,882	$8,720	$43,602	$36,451	$9,113	$45,564	$37,545	$9,386	$46,931
4013.0 - Employers Taxes	$7,308	$1,827	$9,135	$7,637	$1,909	$9,546	$7,981	$1,995	$9,976	$8,340	$2,085	$10,425	$8,715	$2,179	$10,894	$8,977	$2,244	$11,221
4013.5 - Uniform & Safety Equipment	$170	$42	$212	$178	$44	$222	$186	$46	$232	$194	$48	$242	$203	$51	$253	$209	$52	$261
4014.0 - Outside Counsel - Legal	$943	$236	$1,179	$986	$246	$1,232	$1,030	$257	$1,287	$1,076	$269	$1,345	$1,125	$281	$1,406	$1,158	$290	$1,448
4021.0 - Books, Subscript, Memberships	$251	$63	$314	$263	$66	$328	$275	$69	$343	$287	$72	$359	$300	$75	$375	$309	$77	$386
4021.5 - Software	$379	$95	$474	$396	$99	$496	$414	$104	$518	$433	$108	$541	$452	$113	$565	$466	$116	$582
4022.0 - Public Notices	$302	$76	$378	$316	$79	$395	$330	$83	$413	$345	$86	$431	$360	$90	$451	$371	$93	$464
4023.0 - Travel & Lodging	$594	$149	$743	$621	$155	$776	$649	$162	$811	$678	$170	$848	$709	$177	$886	$730	$183	$913
4024.0 - Office Supplies	$1,718	$430	$2,148	$1,796	$449	$2,245	$1,876	$469	$2,346	$1,961	$490	$2,451	$2,049	$512	$2,561	$2,111	$528	$2,638
4025.0 - Equipment - Supplies & Maint	$255	$0	$255	$266	$0	$266	$278	$0	$278	$291	$0	$291	$304	$0	$304	$313	$0	$313
4025.1 - Equipment Rental	$759	$190	$949	$793	$198	$992	$829	$207	$1,036	$866	$217	$1,083	$905	$226	$1,132	$932	$233	$1,165
4025.5 - Vehicle Maintenance	$77	$0	$77	$80	$0	$80	$84	$0	$84	$88	$0	$88	$92	$0	$92	$94	$0	$94
4025.6 - Gas/Oil/Diesel	$3,039	$0	$3,039	$3,175	$0	$3,175	$3,318	$0	$3,318	$3,468	$0	$3,468	$3,624	$0	$3,624	$3,732	$0	$3,732
4026.0 - Bldgs & Grounds - Supplies/Mat	$1,563	$0	$1,563	$1,633	$0	$1,633	$1,707	$0	$1,707	$1,784	$0	$1,784	$1,864	$0	$1,864	$1,920	$0	$1,920
4027.0 - Utilities	$689	$172	$861	$720	$180	$900	$752	$188	$940	$786	$196	$982	$821	$205	$1,027	$846	$211	$1,057
4028.0 - Telephone	$1,302	$326	$1,628	$1,361	$340	$1,701	$1,422	$355	$1,777	$1,486	$371	$1,857	$1,553	$388	$1,941	$1,599	$400	$1,999
4031.0 - Professional & Technical	$3,919	$980	$4,899	$4,096	$1,024	$5,119	$4,280	$1,070	$5,350	$4,472	$1,118	$5,591	$4,674	$1,168	$5,842	$4,814	$1,203	$6,017
4031.1 - Legal Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4031.2 - Engineering Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4031.4 - Accounting Services	$1,492	$373	$1,865	$1,559	$390	$1,949	$1,630	$407	$2,037	$1,703	$426	$2,129	$1,780	$445	$2,224	$1,833	$458	$2,291
4031.5 - Contract Services	$1,983	$496	$2,478	$2,072	$518	$2,590	$2,165	$541	$2,706	$2,262	$566	$2,828	$2,364	$591	$2,955	$2,435	$609	$3,044
4033.0 - Education & Training	$656	$164	$819	$685	$171	$856	$716	$179	$895	$748	$187	$935	$782	$195	$977	$805	$201	$1,007
4035.0 - Write-off Bad Debt	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4048.0 - Materials & Supplies	$469	$117	$587	$491	$123	$613	$513	$128	$641	$536	$134	$670	$560	$140	$700	$577	$144	$721
4049.0 - Landfill Charges	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4051.0 - Insurance & Surety Bonds	$2,506	$626	$3,132	$2,619	$655	$3,273	$2,736	$684	$3,420	$2,859	$715	$3,574	$2,988	$747	$3,735	$3,078	$769	$3,847
4052.3 - Storm Drain Bond Expenses	$1,379	$345	$1,724	$1,441	$360	$1,802	$1,506	$377	$1,883	$1,574	$394	$1,968	$1,645	$411	$2,056	$1,694	$424	$2,118
4061.0 - Miscellaneous	$1,162	$290	$1,452	$1,214	$303	$1,517	$1,268	$317	$1,586	$1,326	$331	$1,657	$1,385	$346	$1,732	$1,427	$357	$1,783
4062.0 - Bankcard Fees	$2,668	$667	$3,335	$2,788	$697	$3,485	$2,914	$728	$3,642	$3,045	$761	$3,806	$3,182	$795	$3,977	$3,277	$819	$4,097
4063.0 - Newsletter	$845	$211	$1,057	$883	$221	$1,104	$923	$231	$1,154	$965	$241	$1,206	$1,008	$252	$1,260	$1,038	$260	$1,298
Total	$145,480	$35,137	$180,616	$152,026	$36,718	$188,744	$158,867	$38,370	$197,237	$166,016	$40,097	$206,113	$173,487	$41,901	$215,388	$178,692	$43,158	$221,850
Percent	80.5%	19.5%	100.0%	80.5%	19.5%	100.0%	80.5%	19.5%	100.0%	80.5%	19.5%	100.0%	80.5%	19.5%	100.0%	80.5%	19.5%	100.0%

Table B-10
Irvine City - Storm Drain Rate Study
Revenue Requirements by Service Characteristics

Item	2016			2017			2018			2019			2020			2021		
	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total
O&M	$145,480	$35,137	$180,616	$152,026	$36,718	$188,744	$158,867	$38,370	$197,237	$166,016	$40,097	$206,113	$173,487	$41,901	$215,388	$178,692	$43,158	$221,850
Debt Service	$240,527	$99,598	$340,125	$238,958.29	$98,948	$337,906	$240,616	$99,634.28	$340,250	$238,583	$98,792	$337,375	$230,776	$99,287	$339,063	$240,660	$99,653	$340,313
Capital Outlays	$28,070	$11,623	$39,693	$56,931.23	$23,574	$80,505	$85,238	$35,295.24	$120,533	$120,160.39	$49,756	$169,916	$148,204	$61,368	$209,572	$181,099	$74,990	$256,089
Less: Operations Non-Rate Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Less: Expansion Non-Rate Revenue	$35,334.06	$22,912.76	$58,247	$57,071.01	$23,632	$80,703	$58,865	$24,374.72	$83,239	$60,717.07	$25,142	$85,859	$62,630	$25,934	$88,563	$64,509	$26,711.96	$91,221
Total	$358,743	$123,445	$482,188	$390,845	$135,608	$526,452	$425,856	$148,925	$574,781	$464,042	$163,503	$627,546	$490,837	$176,622	$675,459	$535,942	$191,089	$727,030

Table B-11
Irvine City - Storm Drain Rate Study
Cost Allocations to Customer Classes

	2016			2017			2018			2019			2020			2021		
	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total	Volume	Customer	Total
Residential	$283,253	$122,455	$405,708	$308,599	$134,520.46	$443,120	$336,243	$147,731	$483,974	$366,394	$162,192	$528,586	$393,866	$175,206	$569,072	$423,163	$189,456	$612,720
Commercial	$62,183	$604	$62,786	$67,747	$663	$68,410	$73,816	$728	$74,544	$80,435	$799	$81,234	$86,466	$864	$87,330	$92,898	$934	$93,832
Church	$11,766	$173	$11,939	$12,819	$190	$13,009	$13,968	$209	$14,176	$15,220	$229	$15,449	$16,361	$248	$16,609	$17,578	$266	$17,844
Office	$1,841	$213	$1,754	$1,879	$234	$1,913	$1,829	$257	$2,087	$1,993	$282	$2,276	$2,143	$305	$2,448	$2,302	$330	$2,632
Unused	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unused	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	$358,743	$123,445	$482,188	$390,845	$135,608	$526,452	$425,856	$148,925	$574,781	$464,042	$163,503	$627,546	$490,837	$176,622	$675,459	$535,942	$191,089	$727,030
Allocation Basis	Imp. Area	Account		Imp. Area	Account		Imp. Area	Account		Imp. Area	Account		Imp. Area	Account		Imp. Area	Account	

Table Rates B-12
Ivins City - Storm Drain Rate Study
Existing Rates and Projected Revenue

Base Rate (per ESU)	Existing
Residential	$10.62
Commercial	$1.66
Church	$1.36
Office	$ 1.68

Meter Size	2015	2016	2017	2018	2019	2020
Residential	$387,864	$399,500	$411,485	$423,829	$436,544	$449,640
Commercial	$45,573	$46,940	$48,348	$49,799	$51,293	$52,832
Church	$7,065	$7,277	$7,495	$7,720	$7,952	$8,190
Office	$1,143	$1,177	$1,213	$1,249	$1,287	$1,325

Revenue - Existing Rates	Revenue	$441,645	$454,894	$468,541	$482,597	$497,075	$511,987
Revenue Required	Revenue Req	$482,188	$526,452	$574,781	$627,546	$675,459	$727,030
Surplus/(Shortfall)		($40,543)	($71,558)	($106,240)	($144,949)	($178,384)	($215,043)

Table Rates B-13
Ivins City - Storm Drain Rate Study
Calculated Monthly Rates

Base Rate	2016	2017	2018	2019	2020	2021
Residential	$3.26	$3.47	$3.70	$3.95	$4.14	$4.35
Commercial	$3.26	$3.47	$3.70	$3.95	$4.14	$4.35
Church	$3.26	$3.47	$3.70	$3.95	$4.14	$4.35
Office	$3.26	$ 3.47	$ 3.70	$ 3.95	$ 4.14	$ 4.35

Volume Rate ($/1000 Imervious SF)	2016	2017	2018	2019	2020	2021
Volume Component						
Residential	$2.20	$2.33	$2.46	$2.60	$2.72	$2.83
Commercial	$2.20	$2.33	$2.46	$2.60	$2.72	$2.83
Church	$2.20	$2.33	$2.46	$2.60	$2.72	$2.83
Office	$2.20	$2.33	$2.46	$2.60	$2.72	$2.83

Table Rates B-14
Ivins City - Storm Drain Rate Study
Recommended Rates and Projected Revenue

Base Rate (per ESU)	Existing	2,016	2,017	2,018	2,019	2,020	2,021
Residential	$10.62	$10.79	$11.44	$12.13	$12.86	$13.44	$14.05
Non-Residential	-	$2.23	$2.36	$2.49	$2.64	$2.75	$2.87
Revenue - Existing Rates		$482,376	$526,452	$574,781	$627,546	$675,459	$727,030
Revenue Required		$482,188	$526,452	$574,781	$627,546	$675,459	$727,030
Surplus/(Shortfall)		$189	$0	$0	$0	$0	$0