

CITY OF

# FLAGSTAFF



August 6, 2015

## UTILITIES RATE STUDY

### Utilities Rates and Charges

### Report

### Final Draft Report

Report 1 of 2



August 6, 2015

Mr. Brad Hill  
Utilities Director  
City of Flagstaff  
211 West Aspen Ave.  
Flagstaff, AZ 86001

RE: Utilities Rate Study - Final Draft Report – Report 1 of 2

Mr. Hill:

Willdan Financial Services (“Willdan”) was retained by the City of Flagstaff, AZ (“City”) to conduct a Utilities Rate Study (“Utilities Rate Study”) for the City’s Water, Sewer, Reclaimed Water and Stormwater Utilities. In order to expedite the prosecution of the Utilities Rate Study, it was segmented into two separate components, each of which has been documented by its own stand-alone report. Report 1 of 2 is the report which documents the Utilities Rates and Charges analysis, referred to herein as the Rate Study. Report 2 of 2 is the Water and Sewer Capacity Fee Report. Both reports should be reviewed in order to gain a full understanding of the data, assumptions and results of the Utilities Rate Study.

Willdan prepared the attached analysis, including the gathering and analysis of historic information, budget information, financial records, billing data and other relevant information. Key data and assumptions were derived from discussions with the City to gain a more complete understanding of the financial health of the City’s utility systems. A system of rates and charges were then developed which are projected to provide sufficient revenue for each of the utility evaluated. The results of our analysis is presented in this Report.

We appreciate the opportunity to be of service to the City on this important project. If you have any questions regarding the attached Report please feel free to contact us.

Very truly yours,



Jonathan Varnes

**Willdan Financial Services**

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>SECTION 1 - INTRODUCTION</b>	
1.1 Introduction .....	1
1.2 Organization of this Report .....	1
1.3 Summary of Scenarios / Options Presented in this Report.....	2
<b>SECTION 2 – OVERVIEW OF UTILITY RATE-MAKING PRINCIPLES, PROCESSES AND ISSUES</b>	
2.1 Introduction .....	4
2.2 Discussion of General Rate-Making Principles .....	4
2.3 The Revenue Sufficiency Process .....	5
2.4 The Cost Allocation Process.....	6
2.5 The Rate Design Process.....	7
2.6 Financial Management Goals of the Utility.....	8
2.7 General Statement Regarding the Nature of Financial Forecasting.....	8
<b>SECTION 3 – WATER RATE STUDY DEVELOPMENT AND RESULTS</b>	
3.1 Summary of Water Rate Study Scenarios and Results .....	9
3.2 General Methodology .....	10
3.3 Financial Management Goals of the Water Utility.....	10
3.4 Water Revenue Sufficiency Options.....	12
3.5 Water Revenue Sufficiency Analysis .....	13
3.6 Water Cost of Service Analysis .....	18
3.7 Water Rate Design Analysis.....	19
<b>SECTION 4 – SEWER RATE STUDY DEVELOPMENT AND RESULTS</b>	
4.1 Summary of Sewer Rate Study Scenarios and Results .....	33
4.2 General Methodology .....	33
4.3 Financial Management Goals of the Sewer Utility.....	34
4.4 Sewer Revenue Sufficiency Options.....	35
4.5 Sewer Revenue Sufficiency Analysis.....	36
4.6 Sewer Cost of Service Analysis .....	40
4.7 Sewer Rate Design Analysis.....	41

**SECTION 5– RECLAIMED WATER RATE STUDY DEVELOPMENT AND RESULTS**

5.1 Summary of Reclaimed Water Rate Study Scenarios and Results ..... 47

5.2 General Methodology ..... 47

5.3 Financial Management Goals of the Reclaimed Water Utility ..... 48

5.4 Reclaimed Water Revenue Sufficiency Options ..... 50

5.5 Reclaimed Water Revenue Sufficiency Analysis..... 50

5.6 Reclaimed Water Cost of Service Analysis ..... 54

5.7 Reclaimed Water Rate Schedules..... 55

**SECTION 6 – STORMWATER RATE STUDY DEVELOPMENT AND RESULTS**

6.1 Summary of Stormwater Rate Study Scenarios ..... 57

6.2 General Methodology ..... 57

6.3 Financial Management Goals of the Stormwater Utility..... 58

6.4 Stormwater Revenue Sufficiency Options..... 59

6.5 Stormwater Revenue Sufficiency Analysis ..... 60

6.6 Stormwater Cost of Service Analysis ..... 66

6.7 Stormwater Rates..... 66

**APPENDIX A – DETAILED RATE STUDY SCHEDULES – WATER UTILITY**

Appendix A1 – Schedules for Option 1

Appendix A2 – Schedules for Option 2

**APPENDIX B – DETAILED RATE STUDY SCHEDULES – SEWER UTILITY**

Appendix D1 – Schedules for Option 1

Appendix D2 – Schedules for Option 2

**APPENDIX C – DETAILED RATE STUDY SCHEDULES – RECLAIMED WATER UTILITY**

Appendix C1 – Schedules for Option 1

Appendix C2 – Schedules for Option 2

**APPENDIX D – DETAILED RATE STUDY SCHEDULES – STORMWATER UTILITY**

Appendix D1 – Schedules for Option 1

Appendix D2 – Schedules for Option 2

Appendix D3 – Schedules for Option 3

Appendix D4 – Schedules for Option 4

## Executive Summary

### 1.1. Introduction and Brief Background

Willdan Financial Services (“Willdan”) was retained by the City of Flagstaff, AZ (“City”) to conduct a Utilities Rate Study (“Utilities Rate Study”) for the City’s Water, Sewer, Reclaimed Water and Stormwater Utilities. In order to expedite the prosecution of the Utilities Rate Study, it was segmented into two separate components, each of which has been documented by its own stand-alone report. Report 1 of 2 is the report which documents the Utilities Rates and Charges analysis, referred to herein as the Rate Study. Report 2 of 2 is the Water and Sewer Capacity Fee Report. Both reports should be reviewed in order to gain a full understanding of the data, assumptions and results of the Utilities Rate Study.

This Rate Study Report details the results of the Rate Study for the six-year period Fiscal Years 2015-2020.

The results of the Rate Study presented herein are a financial plan, and associated rates and charges, which were designed to provide revenues sufficient to fund the ongoing operating and capital costs necessary to operate the Utility, while meeting the financial requirements and goals set forth by the City for the Water Utility, Sewer Utility, Reclaimed Water Utility and Stormwater Utility.

#### **Brief Description of Water, Sewer and Reclaimed Water Scenarios**

The scenarios for water, sewer and reclaimed water center primarily around the Financial Policy that Utilities have no more than 20% of revenues dedicated the payment of debt service. During our first pass at the analysis it was decided to relax this requirement in order to mitigate the need for higher rate increases being caused solely to meet this one policy. During our presentations to the Water Commission this topic was discussed and it was requested that we develop another scenario which held more firmly to this policy such that in no year of the forecast period did debt service exceed 20% of annual revenue – even if rates needed to be higher to do so, which was the case.

For purposes of this Report, scenarios which allow the 20% debt service threshold to be exceeded are noted as Option 1 scenarios. Scenarios which do not allow the 20% debt service threshold to be exceeded are noted as Option 2 scenarios. For water, we have sub-scenarios under both Options 1 and 2 to reflect 3 alternative rate design options for consideration by the City.

### **Brief Description of Stormwater Scenarios**

The scenarios for stormwater center primarily around the need to fund stormwater capital projects and the requisite stormwater rate increases required to fund various levels of capital given the type of funding, cash only versus a mixture of cash/debt, used to fund the capital plan.

A summary of the scenarios presented in this report follows in this Executive Summary. A more thorough exposition of the data, analysis and results of this Rate Study is presented in the main body of the report.



**Description of Water Rate Study Options**

Option	Financial Plan Option	Description of Financial Plan Option	Description - Rate Structure Option
<b>Option 1</b>			
<b>Option 1a</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 3% per Year
<b>Option 1b</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 1c</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure
<b>Option 2</b>			
<b>Option 2a</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 7% per Year
<b>Option 2b</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 2c</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure

**Description of Sewer Rate Study Options**

Option	Financial Plan Option	Description
<b>Option 1</b>	5.5% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
<b>Option 2</b>	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

**Description of Reclaimed Water Rate Study Options**

Option	Financial Plan Option	Description
<b>Option 1</b>	3.0% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
<b>Option 2</b>	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

**Description of Stormwater Rate Study Options**

Option	Financial Plan Option	Description
<b>Option 1</b>	3.0% Annual Increase in Rate Revenue	Funds Baseline \$400,000 per year of Capital Projects - with Cash
<b>Option 2</b>	6.0% Annual Increase in Rate Revenue	Funds \$600,000 per year of Capital Projects - with Cash
<b>Option 3</b>	6.0% Annual Increase in Rate Revenue	Funds \$1,000,000 per year of Capital Projects - with Cash/Debt
<b>Option 4</b>	15.0% Annual Increase in Rate Revenue	Funds Rio De Flag Capital Projects (~\$15M) - with Cash/Debt

## Water Rate Study Development and Results

### 1.2. Summary of Water Rate Study Scenarios and Results

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Water Rate Study Options, followed by a table which presents a selection of summary customer impacts. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Water Rate Study Options			
Option	Financial Plan Option	Description of Financial Plan Option	Description - Rate Structure Option
<b>Option 1</b>			
<b>Option 1a</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 3% per Year
<b>Option 1b</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 1c</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure
<b>Option 2</b>			
<b>Option 2a</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 7% per Year
<b>Option 2b</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 2c</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure

### 1.2.1 Water Rate Options

The Water Rate Option Scenarios presented incorporate the two (2) primary Water Revenue Sufficiency Options, presented in the Water Revenue Sufficiency Analysis Section as Options 1 and 2. Within each of these two (2) Water Revenue Sufficiency Options, we have developed three (3) alternative Water Rate Structures for consideration. This results in six (6) unique Water Rate Scenarios as described below.

#### Water Rate Options associated with Water Revenue Sufficiency Option 1

**Option 1A. Keep existing Water Rate Tiers**

Incorporates application of 3% annual water rate increase (assumed to be implemented January of each year)

**Option 1B. Update Water Rate Tiers to next highest 1,000 gallon increment**

Incorporates application of 3% annual water rate increase (assumed to be implemented January of each year)

**Option 1C. Keep existing Water Rate Tiers / Add Tiered Rate Structure for Non-Residential class**

Incorporates application of 3% annual water rate increase (assumed to be implemented January of each year)

#### Water Rate Option associated with Water Revenue Sufficiency Option 2

**Option 2A. Keep existing Water Rate Tiers**

Incorporates application of 7% annual water rate increase (assumed to be implemented January of each year)

**Option 2B. Update Water Rate Tiers to next highest 1,000 gallon increment**

Incorporates application of 7% annual water rate increase (assumed to be implemented January of each year)

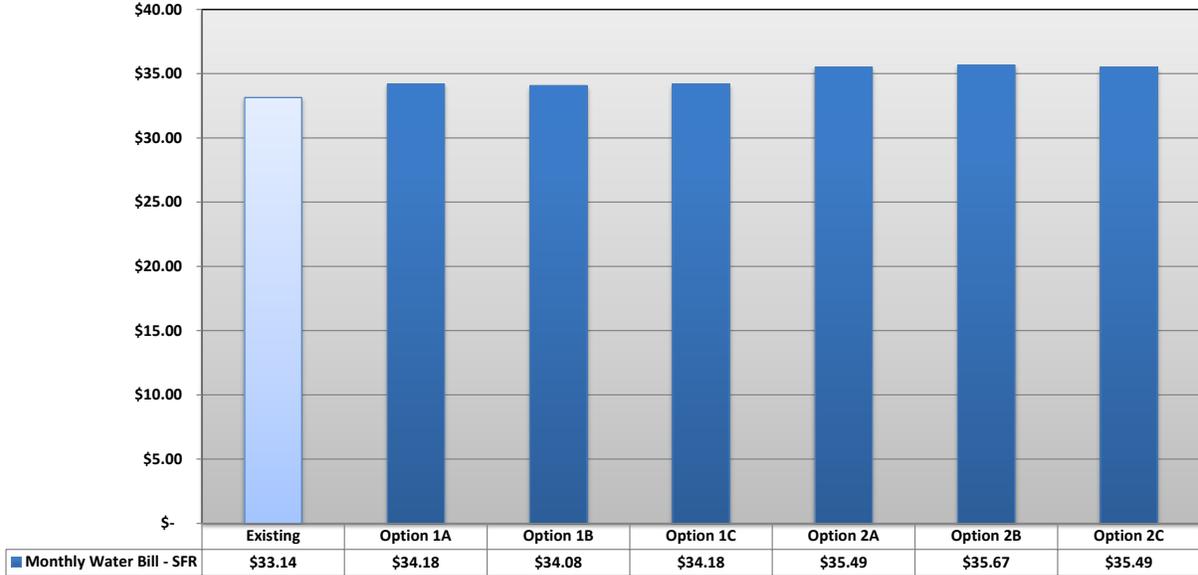
**Option 2C. Keep existing Water Rate Tiers / Add Tiered Rate Structure for Non-Residential class**

Incorporates application of 7% annual water rate increase (assumed to be implemented January of each year)

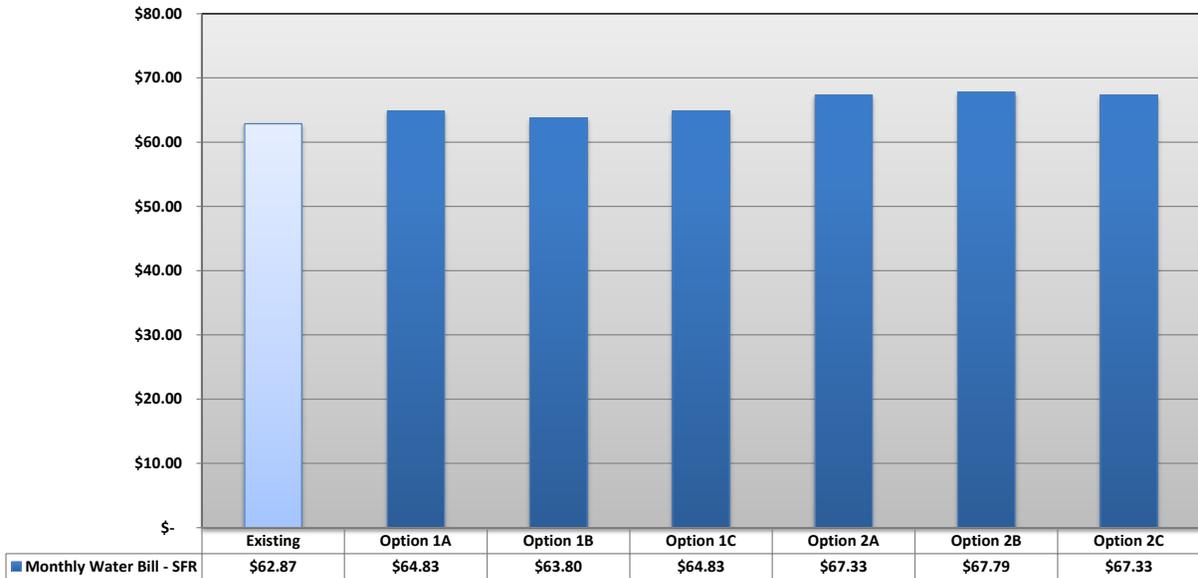
A summary of the customer impact of each rate option above is presented below for a Single Family Residential customer using 5,000 gallons and 10,000 gallons per month.



**Monthly Water Bill - Single Family Residential - Using 5,000 Gal/Mo**



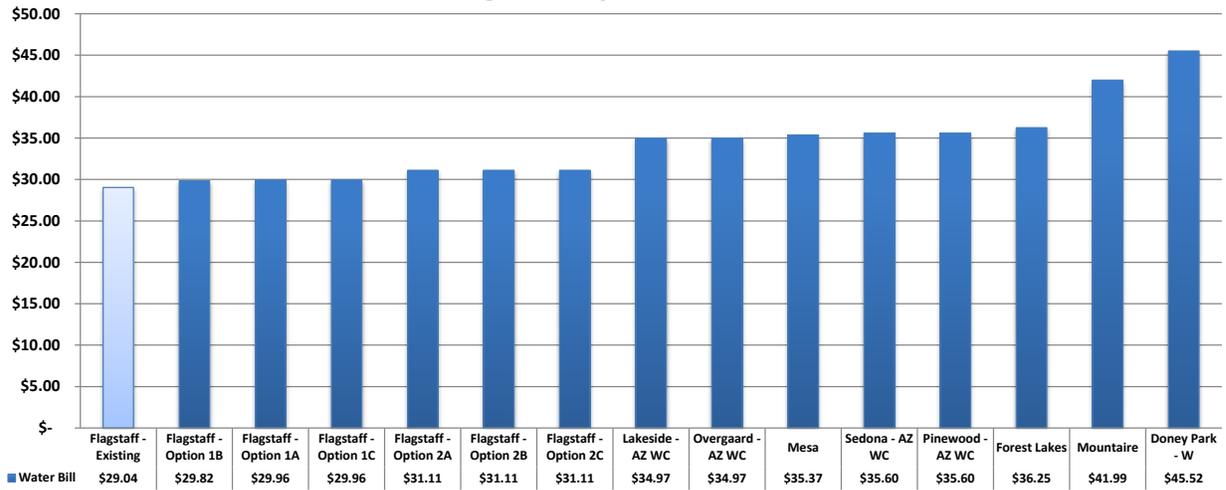
**Monthly Water Bill - Single Family Residential - Using 10,000 Gal/Mo**





**Survey of Water Bills for Single Family Customers with 4,100 Gallons of Monthly Water Use**

**Survey of Monthly Water Bills @ 4,100 Gal/Mo  
Single Family Residential**



## Sewer Rate Study Development and Results

### 1.3. Summary of Sewer Rate Study Scenarios and Results

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Sewer Rate Study Options, followed by a table which presents a selection of summary customer impacts. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Sewer Rate Study Options		
Option	Financial Plan Option	Description
<b>Option 1</b>	5.5% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
<b>Option 2</b>	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

#### 1.3.1.1. Sewer Rate Option 1

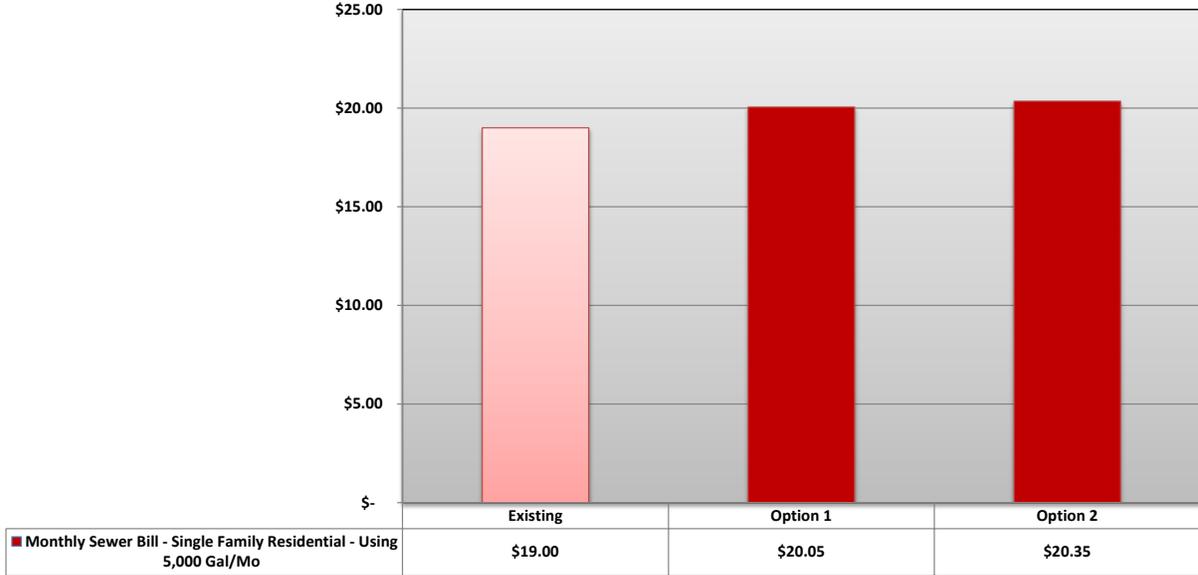
Sewer rate option 1 assumes the existing flow rate is increased by 5.5% in order to meet all funding requirements and financial policies EXCEPT the policy that the Utility maintain debt service at less than 20% of revenues.

#### 1.3.1.2. Sewer Rate Option 2

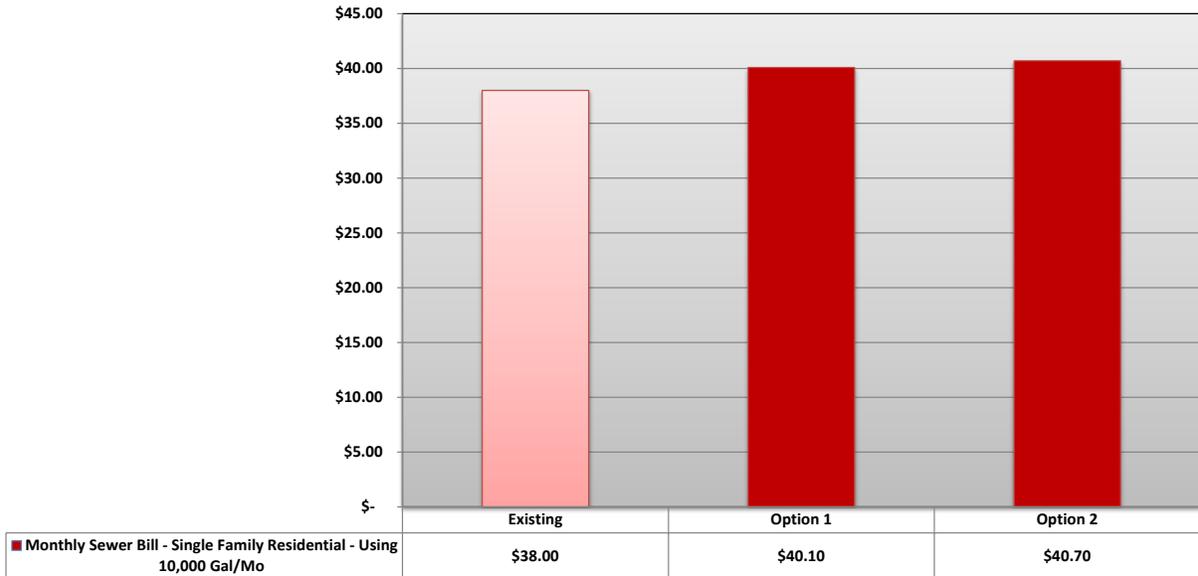
Sewer rate option 2 assumes the existing flow rate is increased by 7.0% in order to meet all funding requirements and financial policies INCLUDING the policy that the Utility maintain debt service at less than 20% of revenues.

A summary of the customer impact of each rate option above is presented below for a Single Family Residential customer using 5,000 gallons and 10,000 gallons per month.

**Monthly Sewer Bill - Single Family Residential - Using 5,000 Gal/Mo**



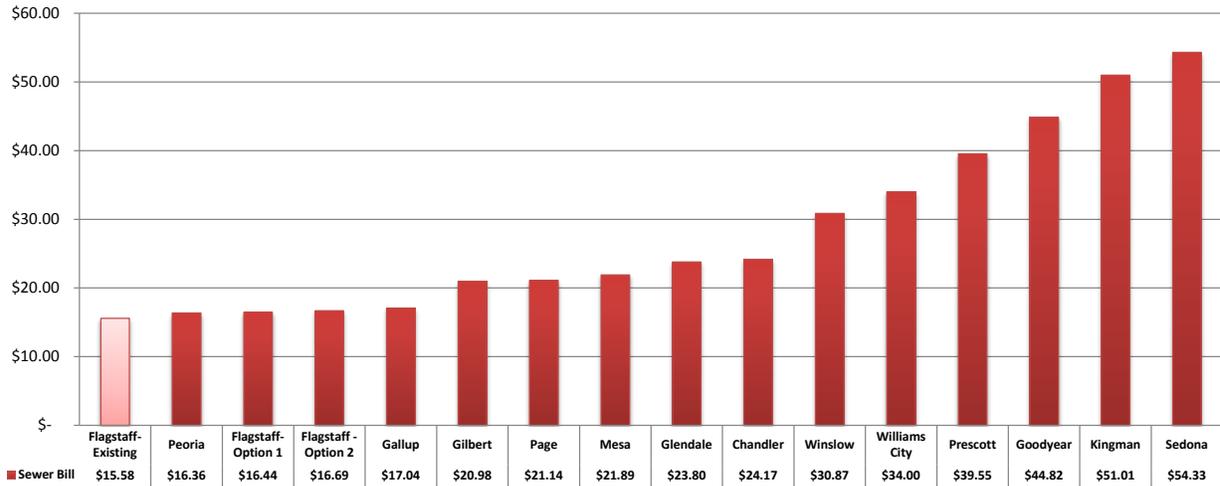
**Monthly Sewer Bill - Single Family Residential - Using 10,000 Gal/Mo**





**Survey of Sewer Bills for Single Family Customers with 4,100 Gallons of Monthly Water Use**

**Survey of Monthly Sewer Bills @ 4,100 Gal/Mo  
Single Family Residential**





## Reclaimed Water Rate Study Development and Results

### 1.4. Summary of Reclaimed Water Rate Study Options

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Reclaimed Water Rate Study Options. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Reclaimed Water Rate Study Options		
Option	Financial Plan Option	Description
Option 1	3.0% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
Option 2	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

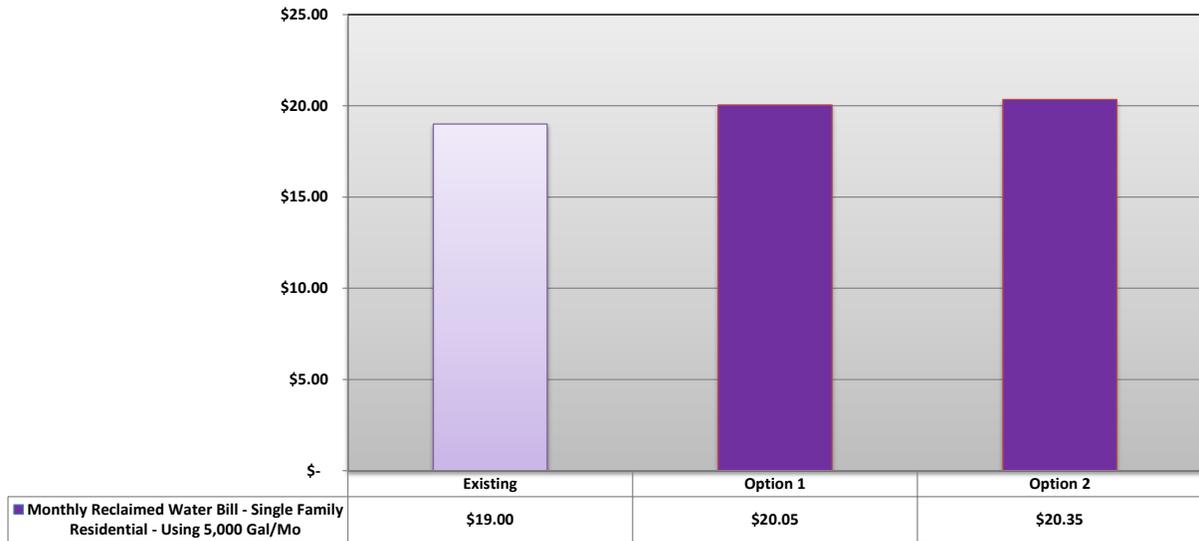
#### 1.4.1.1. Reclaimed Water Rate Option 1

Reclaimed water rate option 1 assumes the existing reclaimed water rates are increased by 3.0% in order to meet all funding requirements and financial policies EXCEPT the policy that the Utility maintain debt service at less than 20% of revenues.

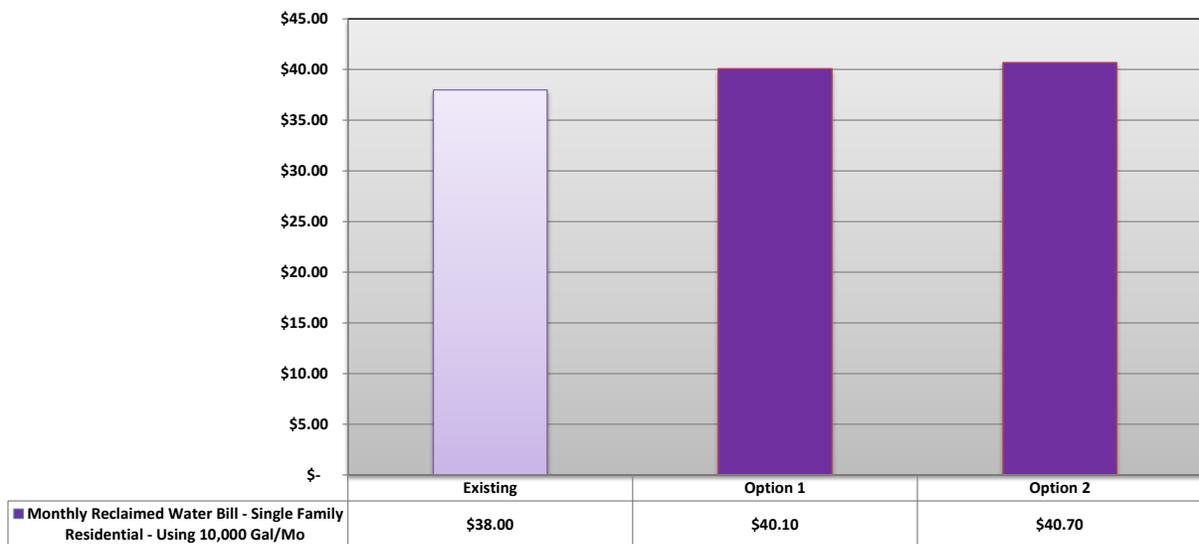
#### 1.4.1.2. Reclaimed Water Rate Option 2

Reclaimed water rate option 2 assumes the existing reclaimed water rates are increased by 7.0% in order to meet all funding requirements and financial policies EXCEPT the policy that the Utility maintain debt service at less than 20% of revenues.

### Monthly Reclaimed Water Bill - Single Family Residential - Using 5,000 Gal/Mo



### Monthly Reclaimed Water Bill - Single Family Residential - Using 10,000 Gal/Mo



## Stormwater Rate Study Development and Results

### 1.5. Summary of Stormwater Rate Study Scenarios

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Stormwater Rate Study Options. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Stormwater Rate Study Options		
Option	Financial Plan Option	Description
<b>Option 1</b>	3.0% Annual Increase in Rate Revenue	Funds Baseline \$400,000 per year of Capital Projects - with Cash
<b>Option 2</b>	6.0% Annual Increase in Rate Revenue	Funds \$600,000 per year of Capital Projects - with Cash
<b>Option 3</b>	6.0% Annual Increase in Rate Revenue	Funds \$1,000,000 per year of Capital Projects - with Cash/Debt
<b>Option 4</b>	15.0% Annual Increase in Rate Revenue	Funds Rio De Flag Capital Projects (~\$15M) - with Cash/Debt

#### 1.5.1 Stormwater Rates Under Option 1

The proposed Stormwater rates presented in the table below are projected to fund the operating and capital costs presented in Option 1. It is important to note that this scenario assumes funding of the Capital Plan with cash only.

		Option 1					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.34	\$ 1.39	\$ 1.44	\$ 1.49	\$ 1.54
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.02	\$ 4.17	\$ 4.32	\$ 4.47	\$ 4.62
Monthly \$ Change			\$ 0.12	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

### 1.5.2 Stormwater Rates Under Option 2

The proposed Stormwater rates presented in the table below are projected to fund the operating and capital costs presented in Option 2. It is important to note that this scenario assumes funding of the Capital Plan with cash only.

		Option 2					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.38	\$ 1.47	\$ 1.56	\$ 1.66	\$ 1.76
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.14	\$ 4.41	\$ 4.68	\$ 4.98	\$ 5.28
Monthly \$ Change			\$ 0.24	\$ 0.27	\$ 0.27	\$ 0.30	\$ 0.30

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

### 1.5.3 Stormwater Rates Under Option 3

The proposed Stormwater rates presented in the table below are projected to fund the operating and capital costs presented in Option 3. It is important to note that this scenario assumes funding of the Capital Plan with both cash and new debt.

		Option 3					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.38	\$ 1.47	\$ 1.56	\$ 1.66	\$ 1.71
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.14	\$ 4.41	\$ 4.68	\$ 4.98	\$ 5.13
Monthly \$ Change			\$ 0.24	\$ 0.27	\$ 0.27	\$ 0.30	\$ 0.15

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.



### 1.5.4 Stormwater Rates Under Option 4

The proposed Stormwater rates presented in the table below are projected to fund the operating and capital costs presented in Option 4. It is important to note that this scenario assumes funding of the Capital Plan with both cash and new debt.

Stormwater							Option 4					
Stormwater Rates per ERU												
Stormwater Rate per ERU												
	FY 15		FY 16		FY 17		FY 18		FY 19		FY 20	
1 ERU	\$	1.30	\$	1.50	\$	1.73	\$	1.99	\$	2.29	\$	2.36
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$	4.50	\$	5.19	\$	5.97	\$	6.87	\$	7.08
Monthly \$ Change			\$	0.60	\$	0.69	\$	0.78	\$	0.90	\$	0.21

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

## **Section 1 - Introduction**

### **1.1. Introduction**

Willdan Financial Services (“Willdan”) was retained by the City of Flagstaff, AZ (“City”) to conduct a Utilities Rate Study (“Utilities Rate Study”) for the City’s Water, Sewer, Reclaimed Water and Stormwater Utilities. In order to expedite the prosecution of the Utilities Rate Study, it was segmented into two separate components, each of which has been documented by its own stand-alone report. Report 1 of 2 is the report which documents the Utilities Rates and Charges analysis, referred to herein as the Rate Study. Report 2 of 2 is the Water and Sewer Capacity Fee Report. Both reports should be reviewed in order to gain a full understanding of the data, assumptions and results of the Utilities Rate Study.

This Rate Study Report details the results of the Rate Study for the six-year period Fiscal Years 2015-2020.

The results of the Rate Study presented herein are a financial plan, and associated rates and charges, which were designed to provide revenues sufficient to fund the ongoing operating and capital costs necessary to operate the Utility, while meeting the financial requirements and goals set forth by the City for the Water Utility, Sewer Utility, Reclaimed Water Utility and Stormwater Utility.

### **1.2. Organization of this Report**

This Rate Study Report presents an overview of the rate-making concepts employed in the development of the analysis contained herein, followed by a discussion of the data, assumptions and results associated with the analysis. An appendix with detailed schedules is presented for a further investigation into the data, assumptions and calculations which drive the results presented in this Report. Appendices A - D present the detailed schedules for each scenario presented herein for the FY 2015-2020 time period. The report is organized as follows:

- Section 1 – Introduction
- Section 2 – Overview of Utility Rate-Making Principles, Processes and Issues
- Section 3 – Water Rate Study Development and Results
- Section 4 – Sewer Rate Study Development and Results
- Section 5 – Reclaimed Water Rate Study Development and Results

- Section 6 – Stormwater Rate Study Development and Results
- Appendix A – Detailed Rate Study Schedules – Water Utility
  - Appendix A1 – Schedules for Option 1
  - Appendix A2 – Schedules for Option 2
- Appendix B – Detailed Rate Study Schedules – Sewer Utility
  - Appendix B1 – Schedules for Option 1
  - Appendix B2 – Schedules for Option 2
- Appendix C – Detailed Rate Study Schedules – Reclaimed Water Utility
  - Appendix C1 – Schedules for Option 1
  - Appendix C2 – Schedules for Option 2
- Appendix D – Detailed Rate Study Schedules – Stormwater Utility
  - Appendix D1 – Schedules for Option 1
  - Appendix D2 – Schedules for Option 2
  - Appendix D3 – Schedules for Option 3
  - Appendix D4 – Schedules for Option 4

### **1.3. Summary of Scenarios / Options Presented in this Report**

The tables below present a summary of each of the scenarios / options presented in this Report.

**Description of Water Rate Study Options**

Option	Financial Plan Option	Description of Financial Plan Option	Description - Rate Structure Option
<b>Option 1</b>			
<b>Option 1a</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 3% per Year
<b>Option 1b</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 1c</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure
<b>Option 2</b>			
<b>Option 2a</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 7% per Year
<b>Option 2b</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 2c</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure

**Description of Sewer Rate Study Options**

Option	Financial Plan Option	Description
<b>Option 1</b>	5.5% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
<b>Option 2</b>	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

**Description of Reclaimed Water Rate Study Options**

Option	Financial Plan Option	Description
<b>Option 1</b>	3.0% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
<b>Option 2</b>	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

**Description of Stormwater Rate Study Options**

Option	Financial Plan Option	Description
<b>Option 1</b>	3.0% Annual Increase in Rate Revenue	Funds Baseline \$400,000 per year of Capital Projects - with Cash
<b>Option 2</b>	6.0% Annual Increase in Rate Revenue	Funds \$600,000 per year of Capital Projects - with Cash
<b>Option 3</b>	6.0% Annual Increase in Rate Revenue	Funds \$1,000,000 per year of Capital Projects - with Cash/Debt
<b>Option 4</b>	15.0% Annual Increase in Rate Revenue	Funds Rio De Flag Capital Projects (~\$15M) - with Cash/Debt

## Section 2 - Overview of Utility Rate-Making Principles, Processes and Issues

### 2.1. Introduction

The Rate Study utilized generally accepted rate-making principles which resulted in the development of rates and charges which are projected to: 1) generate sufficient revenue to meet the financial requirements of the utility, 2) address the need to recover costs from users in a manner which is fair and equitable relative to service provided, and 3) meet the rate design goals of the utility. A discussion of some of the key principles of rate-making, and how the processes employed herein are guided by those principles, is presented below.

### 2.2. Discussion of General Rate-Making Principles

While the individual rates for each utility vary based on a variety of factors, the development of rates should, for the most part, be consistent with general rate-making principles set forth in utility rate-making practice and literature. The principle by which rate practitioners are guided is that rates designed for any utility should strike a reasonable balance between several key principles. In general, rates designed should:

- Generate a stable rate revenue stream which, when combined with other sources of funds, is sufficient to meet the financial requirements and goals of the utility
- Be fair and equitable – that is, they should generate revenue from customer classes which is reasonably in proportion to the cost to provide service to that customer class
- Be easy to understand by customers
- Be easy to administer by the utility
- Minimize customer impact
- Encourage conservation of resources

Designing a rate structure which completely addresses all of these principles is challenging given the sometimes competing goals of the principles. For instance, designing a rate structure which generates a stable revenue stream would guide the rate practitioner to the development of a rate structure with high fixed charges which result in an assumed guaranteed revenue stream each year. However, high

fixed charges typically do not minimize customer impact, nor do they typically encourage conservation (through a price signal). Striking the appropriate balance between the principles of rate-making is the result of a detailed process of evaluation of revenue requirements and cost of service and how those translate into the rate design alternatives which most closely meet the specific objectives of the individual utility under the circumstances in which the utility operates.

### **2.3. The Revenue Sufficiency Process**

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the utility, a determination of the annual rate revenue required must be completed. This rate revenue, combined with other sources of funds, is evaluated to determine whether the total revenue is sufficient to meet those fiscal requirements. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis results in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements are then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet projected revenue requirements. To the extent that the existing revenue stream is not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases are calculated which would be required in order to provide revenue sufficient to meet those needs.

### **2.4. The Cost Allocation Process**

In order to provide guidance to the utility as to how to appropriately recover the rate revenue requirements identified in the Revenue Sufficiency Analysis, a Cost of Service Analysis is required.

The process employed in the Cost of Service Analysis results in the identification of the cost to provide water and sewer service to customers. These water and sewer cost allocations are then used as the basis for the assignment of revenue requirements to customer classes, upon which the development of rates and charges is based.

Two common approaches to the development of a cost of service analysis are based on the Base-Extra Capacity methodology, as detailed in the American Water Works Association (AWWA) M1 Manual – Principles of Water Rates, Fees and Charges and the Functional Cost Allocation methodology, as detailed in the Water Environment Federation (WEF) Manual 27 – Financing and Charges for Wastewater Systems.

The general approach to the development of cost of service allocations under both the Base-Extra Capacity and Functional Cost Allocation methodologies is to: 1) identify the costs by functional cost category, 2) allocate the functionalized costs further to cost categories and then 3) allocate rate revenue requirements to customer classes based on the distribution of costs and customer characteristics.

The resulting allocations provide guidance to the rate practitioner which, combined with the other goals and objectives of the utility, provides the necessary information required to proceed to the development of utility rates and charges.

## **2.5. The Rate Design Process**

With the rate revenue requirement determined in the Revenue Sufficiency Analysis, and the manner in which that rate revenue should be recovered determined in the Cost of Service Analysis, the development of specific rates and charges can commence.

Utilities consider a variety of factors in establishing rates, including cost allocation, customer impact, conservation of resources and ease of administration. The rate design process seeks to find the balance between the need to recover sufficient revenue in a fair and equitable manner and the need to do so within the constraints of other objectives which are unique to each utility. By understanding the types of customers served by the utility, and the general usage characteristics of those customers, a system of rates and charges can be developed that balances those many objectives while also generating sufficient revenue.

First, the rate design goals of the utility are reviewed to identify areas the utility wishes to address over the course of the Rate Study. Next, an assessment of the existing rate design is undertaken to identify what has worked well for the utility with regard to their specific goals and objectives, and the general goals and objectives of utility rate-making. This assessment typically also identifies areas for

improvement which can provide guidance to the rate practitioner with respect to the design of future rates and charges.

After a review of the existing rates and charges, a dialog of how to build on the positive aspects of the existing structure and how to address deficiencies in the existing structure occurs with utility management and staff. For instance, for a utility with a primary goal of encouraging water conservation, the substitution of a uniform rate structure, which charges the same unit price for water regardless of consumption level, with a conservation/inclining block rate structure, which charges a greater unit price as usage levels increase beyond certain thresholds, would better address that primary goal.

With an evaluation of the strengths and weaknesses of the existing rate structure and the goals of the utility going forward, the development of a new rate structure can begin. Development of a new rate structure which recovers the costs to provide water and sewer service in a manner which achieves the goals of the utility in a manner consistent with standard rate-making practice requires an analysis of the projected usage characteristics of the customer base to which the rates will apply. This analysis is typically referred to as a billing frequency analysis.

The billing frequency analysis is provided through the billing system of the utility and then used by the rate-practitioner to accumulate billing statistics for each class of customer. Typical customer classes for water and sewer utilities consist of residential, sometimes broken down into subcategories such as single family and multi-family, and non-residential, sometimes broken down into subcategories such as commercial, government, industrial and others. Billing data allows for the development of rates based on the use of the system by each class. Alternative rate designs which account for customer usage patterns and also address various combinations of utility rate-making goals and rate-making principles can then be developed and reviewed by both the rate-practitioner and the utility regarding the viability of each rate structure designed.

With the identification of the rate revenue required, the manner in which those requirements should be recovered and the billing units to be used to recover the required revenue, specific rates and charges can then be developed. At the heart of successful rate design is the attempt to strike a proper balance between the many, sometimes competing, objectives of rate-making while ensuring generation of revenue sufficient to meet system financial requirements.

## **2.6. Financial Management Goals of the Utility**

The establishment of specific financial management goals of a utility is a key step in developing financial plans which will ensure the financial health of the utility. Financial management goals exist as a way for the utility to track financial performance so the utility can ensure financial strength and proper stewardship of utility assets, both financial and operational.

## **2.7. General Statement Regarding the Nature of Financial Forecasting**

During the course of this study, we reviewed the data and assumptions presented in this report with the City in several meetings. While nothing came to our attention which would lead us to believe the data and assumptions in this report are materially incorrect, the results of the analysis are, necessarily, a reflection of the data and assumptions presented herein.

To the extent that the data and/or assumptions reflected in this report vary from those which ultimately materialize during the forecast period that could have a material impact upon the results -possibly in the form of the need for additional water, sewer, reclaimed water and/or stormwater rate/capacity charge increases greater than those presented herein - this has not been quantified in this report.

## Section 3 - Water Rate Study Development and Results

### 3.1. Summary of Water Rate Study Scenarios and Results

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Water Rate Study Options, followed by a table which presents a selection of summary customer impacts. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Water Rate Study Options			
Option	Financial Plan Option	Description of Financial Plan Option	Description - Rate Structure Option
<b>Option 1</b>			
<b>Option 1a</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 3% per Year
<b>Option 1b</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 1c</b>	3% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure
<b>Option 2</b>			
<b>Option 2a</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	No Change in Existing Rate Structure - Increase all Existing Rates by 7% per Year
<b>Option 2b</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Change Existing Rate Structure - Expand Residential Tiers to Nearest Upper 1,000
<b>Option 2c</b>	7% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold	Keep Existing Rate Tiers for Residential - Include Non-Residential In Tiered Structure

## 3.2. General Methodology

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Utility, a determination of the annual revenue from rates which, combined with other sources of funds, will provide sufficient funds to meet those fiscal requirements must first be completed. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis resulted in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage, as applicable), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements were then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet requirements. To the extent that the existing revenue stream was not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases were calculated to provide revenue sufficient to meet those needs.

The Capital Improvement Plan (CIP), including the timing of projects and estimated costs, was provided by the Utility. Willdan relied on this information and the CIP was fully integrated into the Revenue Sufficiency Analysis.

## 3.3. Financial Management Goals of the Water Utility

The financial management goals of the City's Water Utility are described below.

### 3.3.1.1. Debt Service Ceiling

Utilities are a capital intensive business. Oftentimes it is difficult to fully fund the significant capital requirements, whether driven by growth, regulatory pressures and/or system repair and maintenance, without the measured use of debt. As a means of controlling the debt load of the Water, Sewer, Reclaimed Water and Stormwater utilities the City has established a debt policy as follows.

***Policy A1.1<sup>1</sup> The annual payment of debt service should not exceed 20% of total annual Operating Revenues.***

---

<sup>1</sup> This policy appears to apply to the Water, Sewer, Reclaimed Water utilities only and it appears to apply to them as a Combined Enterprise versus individual utilities. We have, therefore, presented the results as combined.

Key to our presentation of Financial Plan options in our Report is our interpretation of this policy, which centers on the use of the word “should” versus “shall”. The use of “should” guides us to attempt to meet this policy, but not at the risk of overburdening the utility rates when the use of debt in a prudent manner might relieve some of the rate pressure on the customer base. We have, therefore, provided a scenario which does this – referred to herein as Option 1 for the Water, Sewer and Reclaimed Water analyses. However, we have also provided a scenario which more strictly adheres to this policy should the City desire to do that – referred to herein as Option 2 for the Water, Sewer and Reclaimed Water analyses.

#### **3.3.1.2. Debt Service Coverage**

The Utility, like most utilities, has utilized long-term debt to fund capital assets in the past. To secure this debt, a pledge of utility net revenue as the source of repayment for the debt was required and made by the City’s Utility. In addition, there exists a debt service coverage requirement to be met in each year in which the debt is outstanding. Debt service coverage requirements generally mandate some multiple of annual net revenue, defined as operating revenue less operating expenses, as compared to annual debt service payments due.

In the case of the Utility, the covenants associated with this debt require that minimum debt service coverage of 1.20x be maintained, or exceeded, in each year of the forecast period. As a further measure of financial strength, it was determined that a 1.40x debt service coverage ratio was prudent for this analysis. This means that in each year that a debt service payment is to be made, the Utility must generate net revenue that is at least 1.40x the annual debt service payment to be made in that year

#### **3.3.1.3. Minimum Unrestricted Operating Reserve Fund Balance**

In order to maintain a certain level of liquidity, utilities typically establish some form of unrestricted operating reserve fund balance target. Guided by the City’s policy in this regard the analysis presented herein has a goal of an unrestricted working capital operating fund reserve amount greater than, or equal to, approximately 25% of Operating Revenues. The City’s policy is as follows:

**Policy A1.2<sup>2</sup>** *The Water-Sewer-Reclaimed Water utility shall have a goal of maintaining more than 25% of the total estimated annual Operational Revenues in reserve for future obligations plus an allowance for unbudgeted contingencies. This policy would not include Federal Support for disaster relief.*

### 3.4. Water Revenue Sufficiency Options

During our analysis we reviewed many options in order to balance to objectives of meeting the financial, operational, and management goals/policies of the Water Utility. As a result of nearly a dozen meetings with the City to review data, assumptions and results we have focused this Report on a manageable number of options for consideration by the City. For the Water Utility, the options center around the following key items – each of which funds the same operating and capital cost requirements of the utility during the forecast period.

- **Water Revenue Sufficiency Option 1**
  - Funds all operating and capital costs presented in this report and utilizes debt to fund the Capital Improvement Plan (CIP) in a manner which exceeds the Utility Policy A1.1 which states the annual repayment of debt service should not exceed 20% of total annual Operating Revenues.
  - Option 1 results in the debt service threshold of 20% of Operating Revenues being exceeded in FY 2018 – 2020.
- **Water Revenue Sufficiency Option 2**
  - Funds the same operating and capital costs as does Option 1, but more strictly adheres to the Utility Policy A1.1 which states the annual repayment of debt service should not exceed 20% of total annual Operating Revenues.

---

<sup>2</sup> This policy applies to the Water, Sewer, Reclaimed Water utilities only and it appears to apply to them as a Combined Enterprise versus individual utilities. We have, therefore, presented the results as combined. In addition, Stormwater Policy A2.1 states that Stormwater shall maintain a reserve of 10% of Operating Revenue.

### **3.5. Water Revenue Sufficiency Analysis**

#### **3.5.1 Data Items**

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Utility
- Beginning Balances related to the FY 2014 Comprehensive Annual Financial Report
- Sources of Funds from FY 2015 Operating Budget and resulting projections
- Uses of Funds from FY 2015 Operating Budget and resulting projections
- Capital Improvements Plan (CIP)
- General assumptions related to:
  - Customer growth
  - Cost escalation factors
  - New debt terms

During the course of this study, we reviewed the data and assumptions presented in this report with the City in several meetings. While nothing came to our attention which would lead us to believe the data and assumptions in this report are materially incorrect, the results of the analysis are, necessarily, a reflection of the data and assumptions presented herein. To the extent that the data and/or assumptions reflected in this report vary from those which ultimately materialize during the forecast period that could have a material impact upon the results presented herein and this has not been quantified in this report.

### 3.5.2 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

#### 3.5.2.1. Growth

Based on discussion with the City, it was decided to assume approximately 1% annual growth in utility customer base during the forecast period (approx. 200 units per year).

#### 3.5.2.2. Cost Escalation Factors

Based on discussion with the City, it was decided to assume annual operating costs escalated at approximately 2% per year.

#### 3.5.2.3. New Debt Terms

Based on discussion with the City, it was assumed that new debt would carry a 30 year repayment term at a rate of 5.5% per year.<sup>3 4</sup>

### 3.5.3 Results of the Water Revenue Sufficiency Analysis

After a thorough review of the above-mentioned data elements and assumptions, the resulting financial plan presented herein is the embodiment of the data, assumptions and review process undertaken with staff in several meetings.

A more thorough presentation of the detailed financial data which comprise the summary tables below is presented in Appendices A1 and A2.

---

<sup>3</sup> Willdan is not a financial advisor to the City with respect to debt terms, and urges the City to seek guidance from professionals in the arena of debt terms in order to validate our general assumptions for purposes of this analysis.

<sup>4</sup> In the event the City chose/voted to not issue new debt for capital projects then the projects would need to be eliminated from the capital plan or funded through another funding source.

**Option 1 – Meets all funding / financial policies EXCEPT the 20% Debt Service Threshold**

Table W-1 below presents the resulting financial plan, including annual water rate revenue increases required, to meet the stated requirements of this scenario. Note that **annual water rate revenue increases of 3% per year**, implemented by Jan. 1 of each year, would need to be achieved to meet the requirements of Option 1.

Table W-1 Water Summary Pro Forma						
	2015	2016	2017	2018	2019	2020
<b>Operating Fund - Water</b>						
Beginning Unrestricted Fund Balance	\$ 6,041,489	\$ 3,826,067	\$ 3,746,139	\$ 3,897,018	\$ 4,054,144	\$ 4,218,023
Water Rate Revenue Increases	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
% of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%
Rate Revenue	\$ 14,000,005	\$ 14,579,535	\$ 15,183,054	\$ 15,811,556	\$ 16,466,074	\$ 17,147,686
Operating Revenue	386,019	386,019	386,019	386,019	386,019	386,019
Interest Income	30,000	19,000	19,000	19,000	20,000	21,000
<b>Total Revenue</b>	<b>\$ 14,416,024</b>	<b>\$ 14,984,554</b>	<b>\$ 15,588,073</b>	<b>\$ 16,216,575</b>	<b>\$ 16,872,093</b>	<b>\$ 17,554,705</b>
Operating Expense	\$ 8,890,374	\$ 9,660,900	\$ 8,987,050	\$ 9,186,000	\$ 9,390,000	\$ 9,598,400
Minor Capital	1,033,800	646,600	659,600	672,800	686,200	699,900
Major Capital Funded with Existing Reserves/Current Cast	4,279,874	2,133,454	3,214,376	2,403,276	2,832,924	1,731,439
Transfers Out	420,796	44,900	-	-	-	-
Non Operating Expenses	-	-	-	-	-	-
Existing Revenue Bond Debt Service	2,006,601	2,009,629	2,007,167	2,009,373	2,011,089	2,007,313
New Revenue Bond Debt Service	-	569,000	569,000	1,788,000	1,788,000	3,347,000
<b>Total Expenses</b>	<b>\$ 16,631,445</b>	<b>\$ 15,064,483</b>	<b>\$ 15,437,193</b>	<b>\$ 16,059,450</b>	<b>\$ 16,708,214</b>	<b>\$ 17,384,052</b>
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 3,826,067</b>	<b>\$ 3,746,139</b>	<b>\$ 3,897,018</b>	<b>\$ 4,054,144</b>	<b>\$ 4,218,023</b>	<b>\$ 4,388,676</b>
<b>Water Buy-in Fees</b>						
Beginning Fund Balance	\$ 2,137,255	\$ 1,186,562	\$ 2,195,068	\$ -	\$ -	\$ -
Sources of Funds	1,257,219	1,266,006	1,284,945	1,288,039	1,302,289	1,316,696
Uses of Funds	2,207,912	257,500	3,480,013	1,288,039	1,302,289	1,316,696
Ending Fund Balance	\$ 1,186,562	\$ 2,195,068	\$ -	\$ -	\$ -	\$ -
<b>Grants - Water</b>						
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sources of Funds	170,000	-	-	-	-	-
Uses of Funds	170,000	-	-	-	-	-
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Bond Draw Schedule</b>						
Beginning Fund Balance	\$ 597,200	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Sources of Funds	3,000	-	-	-	-	-
Uses of Funds	597,200	-	-	-	-	-
Ending Fund Balance	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
<b>Summary of Key Metrics:</b>						
	<b>Target</b>					
Unrestricted Operating Funds (Min)	25%	27%	25%	25%	25%	25%
Debt Service Coverage (Min)	1.40	2.08	1.61	2.11	1.76	1.59
Debt Service Threshold (Max)	20%	17%	19%	19%	23%	28%

Note: Additional detail associated with this table can be found in Appendix A1 in Water Schedule A - 1

Note at the bottom of Table W-1 that the Debt Service threshold, established as Policy A1.1 of the Utility, has been exceeded in Fiscal Years 2018 – 2020. This was necessary in order to mitigate further rate increases which would have been required to generate sufficient cash as to replace the debt funding assumed in this option, Option 1.

However, as a means of demonstrating the water rate impact of a stringent adherence to Policy A1.1, we present Option 2 next.

**Option 2 – Meets all funding / financial policies INCLUDING the 20% Debt Service Threshold**

Table W-2 below presents the resulting financial plan, including annual water rate revenue increases required, to meet the stated requirements of this scenario. Note that **annual water rate revenue increases of 7% per year**, implemented by Jan. 1 of each year, would need to be achieved to meet the requirements of Option 2.

Table W-2 Water Summary Pro Forma						
	2015	2016	2017	2018	2019	2020
<b>Operating Fund - Water</b>						
Beginning Unrestricted Fund Balance	\$ 6,041,489	\$ 3,826,067	\$ 3,817,959	\$ 4,122,125	\$ 4,451,683	\$ 4,807,920
Water Rate Revenue Increases	3.0%	7.0%	7.0%	7.0%	7.0%	7.0%
% of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%
Rate Revenue	\$ 14,000,005	\$ 14,866,816	\$ 16,083,479	\$ 17,399,711	\$ 18,823,659	\$ 20,364,140
Operating Revenue	386,019	386,019	386,019	386,019	386,019	386,019
Interest Income	30,000	19,000	19,000	21,000	22,000	24,000
<b>Total Revenue</b>	<b>\$ 14,416,024</b>	<b>\$ 15,271,835</b>	<b>\$ 16,488,498</b>	<b>\$ 17,806,730</b>	<b>\$ 19,231,678</b>	<b>\$ 20,774,159</b>
Operating Expense	\$ 8,890,374	\$ 9,660,900	\$ 8,987,050	\$ 9,186,000	\$ 9,390,000	\$ 9,598,400
Minor Capital	1,033,800	646,600	659,600	672,800	686,200	699,900
Major Capital Funded with Existing Reserves/Current Cast	4,279,874	2,429,915	4,042,515	4,241,999	5,421,152	5,850,926
Transfers Out	420,796	44,900	-	-	-	-
Non Operating Expenses	-	-	-	-	-	-
Existing Revenue Bond Debt Service	2,006,601	2,009,629	2,007,167	2,009,373	2,011,089	2,007,313
New Revenue Bond Debt Service	-	488,000	488,000	1,367,000	1,367,000	2,232,000
<b>Total Expenses</b>	<b>\$ 16,631,445</b>	<b>\$ 15,279,944</b>	<b>\$ 16,184,332</b>	<b>\$ 17,477,172</b>	<b>\$ 18,875,441</b>	<b>\$ 20,388,539</b>
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 3,826,067</b>	<b>\$ 3,817,959</b>	<b>\$ 4,122,125</b>	<b>\$ 4,451,683</b>	<b>\$ 4,807,920</b>	<b>\$ 5,193,540</b>
<b>Water Buy-in Fees</b>						
Beginning Fund Balance	\$ 2,137,255	\$ 1,186,562	\$ 2,195,068	\$ -	\$ -	\$ -
Sources of Funds	1,257,219	1,266,006	1,284,945	1,288,039	1,302,289	1,316,696
Uses of Funds	2,207,912	257,500	3,480,013	1,288,039	1,302,289	1,316,696
Ending Fund Balance	\$ 1,186,562	\$ 2,195,068	\$ -	\$ -	\$ -	\$ -
<b>Grants - Water</b>						
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sources of Funds	170,000	-	-	-	-	-
Uses of Funds	170,000	-	-	-	-	-
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Bond Draw Schedule</b>						
Beginning Fund Balance	\$ 597,200	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Sources of Funds	3,000	-	-	-	-	-
Uses of Funds	597,200	-	-	-	-	-
Ending Fund Balance	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
<b>Summary of Key Metrics:</b>						
	<b>Target</b>					
Unrestricted Operating Funds (Min)	25%	27%	25%	25%	25%	25%
Debt Service Coverage (Min)	1.40	2.08	1.71	2.38	2.25	2.47
Debt Service Threshold (Max)	20%	17%	19%	17%	20%	18%

### 3.6. Water Cost of Service Analysis

During our discussions with the City, the City requested Willdan rely on the extensive cost of service analysis conducted by the City and Willdan in the last, recent rate study. The result of this assumption was that the cost of service is assumed to be consistent with the current level of revenue generation exhibited by the City’s existing water rates. Therefore, the Water Rate Study was developed under this assumption and the level of revenue projected to be generated by the water rates proposed herein from each customer class is in general conformance with the level of revenue generated by the current rates from each customer class. This provides a link from the cost of service analysis conducted in the last study to the rates proposed in each option presented in this Report.

The existing water cost of service, as reflected in the existing water rates of the system, is presented below in Table W-3.

<b>Table W-3</b>			
<b>Water</b>			
<b>Cost of Service Results</b>			
<b>Rate Code</b>	<b>Customer Class</b>	<b>Water Rate Revenue - FY 2014</b>	<b>% Distribution</b>
R1	Single Family Residential	\$ 6,049,699	44%
R2	Multi-Family Residential	1,560,737	11%
R3	Multi-Family Residential	1,173,734	9%
R4	Single Family Residential	5,152	0%
C	Commercial	3,090,921	23%
NA	Northern Arizona University	718,343	5%
LM	Lawn Meters	458,219	3%
MN	Manufacturing	452,161	3%
SP	Standpipes	144,826	1%
<b>Total</b>		<b>\$ 13,653,790</b>	<b>100%</b>

### 3.7. Water Rate Design Analysis

#### 3.7.1 Analysis of Customer Data

Crucial to the development of rate alternatives is the analysis of existing billing data to both validate the data for use in the rate design process and to better understand the usage characteristics each customer class in the design of rates and charges.

##### 3.7.1.1. Distribution of Bills by Customer Class/Meter Type

Table W-4 below presents an analysis of the existing bills which demonstrates the City’s customer base is overwhelmingly residential customers with ¾” (0.75”) meters.

Table W-4 Water Distribution of Meters by Customer Class										
Inside City										
Meter Size	Customer Class - Rate Code									
	Single Family Residential - R1	Multi-Family Residential - R2	Multi-Family Residential - R3	Single Family Residential - R4	Commercial - C	Northern Arizona University - NA	Lawn Meters - LM	Manufacturing - MN	Standpipes - SP	Total Bills
0.75	162,280	25,053	4,490	181	9,854	-	777	130	-	202,765
1	4,256	1,293	378	11	2,786	-	482	47	-	9,253
1.5	239	358	955	-	2,033	-	184	36	-	3,805
2	55	808	1,868	-	3,534	-	370	163	12	6,810
3	-	48	12	-	99	12	-	37	-	208
4	-	-	48	-	142	12	7	36	-	245
6	-	-	-	-	48	-	-	-	-	48
8	-	-	-	-	-	36	-	-	-	36
10	-	-	-	-	-	24	-	-	-	24
<b>Total</b>	<b>166,830</b>	<b>27,560</b>	<b>7,751</b>	<b>192</b>	<b>18,496</b>	<b>84</b>	<b>1,820</b>	<b>449</b>	<b>12</b>	<b>223,194</b>
Outside City										
Meter Size	Customer Class - Rate Code									
	Single Family Residential - R1	Multi-Family Residential - R2	Multi-Family Residential - R3	Single Family Residential - R4	Commercial - C	Northern Arizona University - NA	Lawn Meters - LM	Manufacturing - MN	Standpipes - SP	Total Bills
0.75	1,076	24	-	-	99	-	-	11	-	1,210
1	12	-	-	-	45	-	-	-	-	57
1.5	-	-	-	-	-	-	-	-	-	-
2	8	-	-	-	36	-	21	-	-	65
3	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	12	-	-	-	-	12
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1,096</b>	<b>24</b>	<b>-</b>	<b>-</b>	<b>192</b>	<b>-</b>	<b>21</b>	<b>11</b>	<b>-</b>	<b>1,344</b>

##### 3.7.1.2. Distribution of Flow by Customer Class/Meter Type

In order to design tiered water rates which achieve the rate goals of the utility, an analysis of the usage characteristics of customers which would be subject to the tiered system must be conducted. As can be seen from Table W-5 below, the only two customer classes which are subject to the Tiered rates are the R1 and R4 classes – Single Family Residential. All other classes, under the existing rate structure, pay a uniform rate for all consumption – that is, they pay the same per unit rate for all usage.

**Water, Sewer, Reclaimed Water and Stormwater Rate Study**

Final Draft Report  
Report 1 of 2  
August 6, 2015



Table W-5 Water Distribution of Flow, by Tier - Existing Tier Ranges										
Inside City										
Meter Size	Customer Class - Rate Code									Total Flow (000's of Gal)
	Single Family Residential - R1	Multi-Family Residential - R2	Multi-Family Residential - R3	Single Family Residential - R4	Commercial - C	Northern Arizona University - NA	Lawn Meters - LM	Manufacturing - MN	Standpipes - SP	
Tier 1	481,704	287,959	250,127	450	624,970	172,893	88,462	102,149	22,970	2,031,683
Tier 2	157,680	-	-	121	-	-	-	-	-	157,801
Tier 3	112,640	-	-	88	-	-	-	-	-	112,727
Tier 4	89,963	-	-	19	-	-	-	-	-	89,981
<b>Total</b>	<b>841,986</b>	<b>287,959</b>	<b>250,127</b>	<b>677</b>	<b>624,970</b>	<b>172,893</b>	<b>88,462</b>	<b>102,149</b>	<b>22,970</b>	<b>2,392,193</b>
Outside City										
Meter Size	Customer Class - Rate Code									Total Flow (000's of Gal)
	Single Family Residential - R1	Multi-Family Residential - R2	Multi-Family Residential - R3	Single Family Residential - R4	Commercial - C	Northern Arizona University - NA	Lawn Meters - LM	Manufacturing - MN	Standpipes - SP	
Tier 1	3,156	148	-	-	8,509	-	8,522	82	-	20,416
Tier 2	931	-	-	-	-	-	-	-	-	931
Tier 3	510	-	-	-	-	-	-	-	-	510
Tier 4	339	-	-	-	-	-	-	-	-	339
<b>Total</b>	<b>4,936</b>	<b>148</b>	<b>-</b>	<b>-</b>	<b>8,509</b>	<b>-</b>	<b>8,522</b>	<b>82</b>	<b>-</b>	<b>22,197</b>
Base Tiers:										
Tier 1	0 to 3,700 Gal / Mo									
Tier 2	3,700 to 6,400 Gal / Mo									
Tier 3	6,400 to 11,700 Gal / Mo									
Tier 4	Over 11,700 Gal / Mo									

A closer review of the Single Family customers, shown below in Table W-6, demonstrates that in FY 14 65% of customers were issued a bill at, or below, 4,000 gallons per month. Beyond that, 85% of customers are issued bills by 7,000 gallons per month. Finally, only 5% of customers are issued bills beyond 12,000 gallons per month. The application of a tiered structure for the City is designed to incent those customers at the outer ranges of the distribution, beyond 85% in this case, to reduce their flow.

**Table W-6**  
**Water**  
**Analysis of Single Family Residential Consumption Characteristics**

Single Family Residential (R1) - Inside City - 0.75" Meter						
Consumption Increment (000's of Gal)	Number of Annual Bills	%	Cumulative		Cumulative Flow	%
			Distribution	Distribution		
0	15,066	9%		9%	-	0%
1	19,125	12%		21%	19,125	2%
2	25,082	15%		37%	69,289	9%
3	25,329	16%		52%	145,276	18%
<b>Tier 1 Break --&gt;</b>	<b>4</b>	<b>20,980</b>	<b>13%</b>	<b>65%</b>	229,196	28%
	5	14,903	9%	74%	303,711	37%
	6	10,491	6%	81%	366,657	45%
<b>Tier 2 Break --&gt;</b>	<b>7</b>	<b>7,141</b>	<b>4%</b>	<b>85%</b>	416,644	51%
	8	4,891	3%	88%	455,772	56%
	9	3,752	2%	90%	489,540	60%
	10	2,729	2%	92%	516,830	64%
	11	2,198	1%	93%	541,008	67%
<b>Tier 3 Break --&gt;</b>	<b>12</b>	<b>1,673</b>	<b>1%</b>	<b>95%</b>	561,084	69%
	13	1,411	1%	95%	579,427	71%
	14	1,104	1%	96%	594,883	73%
	15	916	1%	97%	608,623	75%
	16	717	0%	97%	620,095	76%
	17	651	0%	97%	631,162	78%
	18	550	0%	98%	641,062	79%
	19	428	0%	98%	649,194	80%
	20	397	0%	98%	657,134	81%
	21	358	0%	99%	664,652	82%
	22	284	0%	99%	670,900	83%
	23	287	0%	99%	677,501	83%
	24	192	0%	99%	682,109	84%
	25	174	0%	99%	686,459	85%
	> 25	1,451	1%	100%	812,225	100%
	<b>Total</b>	<b>162,280</b>				

It is important to note that the billing data presented in this report is from FY 14. It is our understanding that the billing data for FY 15 will likely show a lower average usage as the rate revenue for FY 15 is significantly lower than we would have projected had the billing results for FY 15 been similar to FY 14. While we have adjusted for this in the analysis, we have not made further reductions in usage to address potential elasticity of demand due to this apparent drop in consumption from FY 14 to FY 15.



### 3.7.1.3. Water Billing Data Validation

An analysis of water billing data was conducted, using billing data provided by the City for Fiscal Year 2014. That water billing data was compiled and tested using multiple methods to ensure its accuracy for rate design purposes. Our billing data test resulted in the validation of the water billing data to within less than 1%, therefore making it sufficient for rate-making purposes. Table W-7 below presents the summary results of our test of the FY 14 water billing data.

Rate Code	Customer Class	Meter Size	Jurisdiction	Bills	Total Revenue -			FY 14 Actual Rate Revenue Target
					Fixed Charge	Flow Charge	Total Revenue	
C	Commercial	0.75	I	9,854	\$ 123,512	\$ 363,680	\$ 487,191	
C	Commercial	0.75	O	99	\$ 1,365	\$ 7,787	\$ 9,152	
C	Commercial	1.00	I	2,786	\$ 41,112	\$ 223,925	\$ 265,037	
C	Commercial	1.00	O	45	\$ 730	\$ 2,552	\$ 3,282	
C	Commercial	1.50	I	2,033	\$ 41,300	\$ 373,894	\$ 415,194	
C	Commercial	2.00	I	3,534	\$ 95,371	\$ 1,304,083	\$ 1,399,454	
C	Commercial	2.00	O	36	\$ 1,069	\$ 13,454	\$ 14,522	
C	Commercial	3.00	I	99	\$ 4,212	\$ 57,216	\$ 61,428	
C	Commercial	4.00	I	142	\$ 9,200	\$ 329,819	\$ 339,019	
C	Commercial	6.00	I	48	\$ 5,778	\$ 72,252	\$ 78,030	
C	Commercial	6.00	O	12	\$ 1,589	\$ 17,022	\$ 18,611	
LM	Lawn Meters	0.75	I	777	\$ 9,739	\$ 87,759	\$ 97,498	
LM	Lawn Meters	1.00	I	482	\$ 7,113	\$ 58,846	\$ 65,959	
LM	Lawn Meters	1.50	I	184	\$ 3,738	\$ 55,934	\$ 59,672	
LM	Lawn Meters	2.00	I	370	\$ 9,985	\$ 168,883	\$ 178,868	
LM	Lawn Meters	2.00	O	21	\$ 623	\$ 40,875	\$ 41,498	
LM	Lawn Meters	4.00	I	7	\$ 454	\$ 14,270	\$ 14,724	
MN	Manufacturing	0.75	I	130	\$ 1,629	\$ 4,613	\$ 6,242	
MN	Manufacturing	0.75	O	11	\$ 152	\$ 387	\$ 539	
MN	Manufacturing	1.00	I	47	\$ 694	\$ 487	\$ 1,181	
MN	Manufacturing	1.50	I	36	\$ 731	\$ 932	\$ 1,664	
MN	Manufacturing	2.00	I	163	\$ 4,399	\$ 87,331	\$ 91,730	
MN	Manufacturing	3.00	I	37	\$ 1,574	\$ 45,896	\$ 47,471	
MN	Manufacturing	4.00	I	36	\$ 2,332	\$ 301,002	\$ 303,334	
NA	Northern Arizona University	3.00	I	12	\$ 511	\$ 1,365	\$ 1,875	
NA	Northern Arizona University	4.00	I	12	\$ 777	\$ 15,127	\$ 15,905	
NA	Northern Arizona University	8.00	I	36	\$ 6,735	\$ 522,427	\$ 529,162	
NA	Northern Arizona University	10.00	I	24	\$ 6,358	\$ 165,043	\$ 171,401	
R1	Single Family Residential	0.75	I	162,280	\$ 2,034,045	\$ 3,795,026	\$ 5,829,070	
R1	Single Family Residential	0.75	O	1,076	\$ 14,835	\$ 20,829	\$ 35,665	
R1	Single Family Residential	1.00	I	4,256	\$ 62,804	\$ 159,067	\$ 221,872	
R1	Single Family Residential	1.00	O	12	\$ 195	\$ 2,642	\$ 2,836	
R1	Single Family Residential	1.50	I	239	\$ 4,855	\$ 26,263	\$ 31,118	
R1	Single Family Residential	2.00	I	55	\$ 1,484	\$ 2,178	\$ 3,662	
R1	Single Family Residential	2.00	O	8	\$ 237	\$ 187	\$ 425	
R2	Multi-Family Residential	0.75	I	25,053	\$ 314,018	\$ 588,274	\$ 902,292	
R2	Multi-Family Residential	0.75	O	24	\$ 331	\$ 677	\$ 1,008	
R2	Multi-Family Residential	1.00	I	1,293	\$ 19,080	\$ 112,438	\$ 131,518	
R2	Multi-Family Residential	1.50	I	358	\$ 7,273	\$ 52,634	\$ 59,907	
R2	Multi-Family Residential	2.00	I	808	\$ 21,805	\$ 410,097	\$ 431,902	
R2	Multi-Family Residential	3.00	I	48	\$ 2,042	\$ 32,067	\$ 34,109	
R3	Multi-Family Residential	0.75	I	4,490	\$ 56,278	\$ 85,079	\$ 141,357	
R3	Multi-Family Residential	1.00	I	378	\$ 5,578	\$ 24,641	\$ 30,219	
R3	Multi-Family Residential	1.50	I	955	\$ 19,401	\$ 197,354	\$ 216,755	
R3	Multi-Family Residential	2.00	I	1,868	\$ 50,411	\$ 678,100	\$ 728,511	
R3	Multi-Family Residential	3.00	I	12	\$ 511	\$ 9,561	\$ 10,072	
R3	Multi-Family Residential	4.00	I	48	\$ 3,110	\$ 43,710	\$ 46,820	
R4	Single Family Residential	0.75	I	181	\$ 2,269	\$ 2,458	\$ 4,727	
R4	Single Family Residential	1.00	I	11	\$ 162	\$ 316	\$ 478	
SP	Standpipes	2.00	I	12	\$ 324	\$ 144,502	\$ 144,826	
				<b>224,538</b>	<b>\$ 3,003,832</b>	<b>\$ 10,724,961</b>	<b>\$ 13,728,793</b>	Rev Test Target -> \$ <b>13,643,863</b>
					22%	78%	100%	% Var ---> <b>0.62%</b>

Items of note during this billing data validation are that the billing data test was within 0.62% of the actual revenue collected by the City in FY 14. This is well within tolerances and validates the data. Also, we noted that revenue from the water fixed charge accounted for 22% of water rate revenue which is near the policy set forth by the City of 25% of revenue from the fixed charges.

### **3.7.2 Water Rate Options**

During the course of the rate study, we conducted an independent review of the water rate structure for consistency with AWWA rate-making standards and emerging trends in water rate-making. One item which we noted was the breakpoints of the existing water tiers. While they appear to be generally consistent with industry practice, the actual breakpoints are in units of 100 gallons which can make explanation of the tiers to customers more difficult. We would prefer to see these round up to whole 1,000 gallon increments. Other than that refinement we see no material change needed in the existing water rate structure.

In discussions with the City, and during discussions at Water Commission meetings, we noted certain comments and have incorporated a selection of those into this Report for consideration by the City. The Water Rate Option Scenarios presented incorporate the two (2) primary Water Revenue Sufficiency Options, presented in the Water Revenue Sufficiency Analysis Section as Options 1 and 2. Within each of these two (2) Water Revenue Sufficiency Options, we have developed three (3) alternative Water Rate Structures for consideration. This results in six (6) unique Water Rate Scenarios as described below.

#### **Water Rate Options associated with Water Revenue Sufficiency Option 1**

- Option 1A. Keep existing Water Rate Tiers**  
Incorporates application of 3% annual water rate increase (assumed to be implemented January of each year)
- Option 1B. Update Water Rate Tiers to next highest 1,000 gallon increment**  
Incorporates application of 3% annual water rate increase (assumed to be implemented January of each year)
- Option 1C. Keep existing Water Rate Tiers / Add Tiered Rate Structure for Non-Residential class**  
Incorporates application of 3% annual water rate increase (assumed to be implemented January of each year)

## Water Rate Option associated with Water Revenue Sufficiency Option 2

**Option 2A. Keep existing Water Rate Tiers**

Incorporates application of 7% annual water rate increase (assumed to be implemented January of each year)

**Option 2B. Update Water Rate Tiers to next highest 1,000 gallon increment**

Incorporates application of 7% annual water rate increase (assumed to be implemented January of each year)

**Option 2C. Keep existing Water Rate Tiers / Add Tiered Rate Structure for Non-Residential class**

Incorporates application of 7% annual water rate increase (assumed to be implemented January of each year)

A summary of each rate option above is presented below. It is important to note that each of the above options is designed to recover the same amount of revenue regardless of the option chosen.

### 3.7.2.1. Water Rate Option 1A

Water rate option 1A assumes the existing fixed and flow rate components are increased by 3% with no change to the water rate tiers or to any other component of the rate structure. This annualized water rate revenue increase of 3% is projected to be implemented in January (the effect of this mid-year increase will be that the 3% increase is projected to actually result in approximately 1.5% more water rate revenue in the subject year).

Table W-8		Rate Option 1A							
Water									
Water Rate Structure - Fixed Charges									
		Monthly Fixed Charge - Inside City							
Meter Size		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20		
0.75	\$	13.42	\$ 13.83	\$ 14.25	\$ 14.68	\$ 15.13	\$ 15.59		
1		15.80	16.28	16.77	17.28	17.80	18.34		
1.5		21.75	22.41	23.09	23.79	24.51	25.25		
2		28.90	29.77	30.67	31.60	32.55	33.53		
3		45.57	46.94	48.35	49.81	51.31	52.85		
4		69.38	71.47	73.62	75.83	78.11	80.46		
6		128.91	132.78	136.77	140.88	145.11	149.47		
8		200.34	206.36	212.56	218.94	225.51	232.28		
10		283.68	292.20	300.97	310.00	319.30	328.88		

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

Table W-9		Rate Option 1A							
Water									
Water Rate Structure - Flow Charges									
		Flow Charge per 1,000 Gallons - Inside City							
Rate Code	Customer Class	Tier	Tier Range	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1	Single Family Residential	Tier 1	0 - 3700 Gal/Mo	\$ 2.77	\$ 2.92	\$ 3.03	\$ 3.14	\$ 3.25	\$ 3.36
R1		Tier 2	3,701 - 6,400 Gal/Mo	3.59	3.76	3.90	4.04	4.17	4.31
R1		Tier 3	6,401 - 11,700 Gal/Mo	5.53	5.76	5.96	6.16	6.36	6.56
R1		Tier 4	11,701 and above	11.06	11.46	11.83	12.21	12.59	12.98
R2	Multi-Family Residential	All Usage	All Usage	3.56	3.73	3.86	4.00	4.13	4.27
R3	Multi-Family Residential	All Usage	All Usage	3.56	3.73	3.86	4.00	4.13	4.27
R4	Single Family Residential	Tier 1	0 - 3700 Gal/Mo	2.77	2.92	3.03	3.14	3.25	3.36
R4		Tier 2	3,701 - 6,400 Gal/Mo	3.59	3.76	3.90	4.04	4.17	4.31
R4		Tier 3	6,401 - 11,700 Gal/Mo	5.53	5.76	5.96	6.16	6.36	6.56
R4		Tier 4	11,701 and above	11.06	11.46	11.83	12.21	12.59	12.98
C	Commercial	All Usage	All Usage	3.78	3.96	4.10	4.25	4.39	4.54
NA	Northern Arizona University	All Usage	All Usage	3.47	3.64	3.77	3.91	4.04	4.18
LM	Lawn Meters	All Usage	All Usage	3.78	3.96	4.10	4.25	4.39	4.54
MN	Manufacturing	All Usage	All Usage	3.73	3.91	4.05	4.19	4.33	4.47
SP	Standpipes	All Usage	All Usage	5.78	6.02	6.22	6.43	6.64	6.85
Projected Energy Charge per 1,000 Gal - Applicable to All Rates (Subject to Change Based on Future Energy Costs)				\$ 0.96	\$ 0.93	\$ 0.94	\$ 0.95	\$ 0.97	\$ 0.99

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

### 3.7.2.2. Water Rate Option 1B

Water rate option 1B incorporates updated water tier ranges to the nearest upper thousand gallon increment and incorporates an annualized water rate revenue increase of 3% to be implemented in January (the effect of this mid-year increase will be that the 3% increase is projected to actually result in approximately 1.5% more water rate revenue in the subject year).

Table W-10		Rate Option 1B					
Water							
Water Rate Structure - Fixed Charges							
Monthly Fixed Charge - Inside City							
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	
0.75	\$ 13.42	\$ 13.83	\$ 14.25	\$ 14.68	\$ 15.13	\$ 15.59	
1	15.80	16.28	16.77	17.28	17.80	18.34	
1.5	21.75	22.41	23.09	23.79	24.51	25.25	
2	28.90	29.77	30.67	31.60	32.55	33.53	
3	45.57	46.94	48.35	49.81	51.31	52.85	
4	69.38	71.47	73.62	75.83	78.11	80.46	
6	128.91	132.78	136.77	140.88	145.11	149.47	
8	200.34	206.36	212.56	218.94	225.51	232.28	
10	283.68	292.20	300.97	310.00	319.30	328.88	
*Outside City rates 1.10x higher							
**Slight percentage differences in rates above from year to year may occur due to rounding.							

Table W-11		Rate Option 1B							
Water									
Water Rate Structure - Flow Charges									
		Flow Charge per 1,000 Gallons - Inside City							
Rate Code	Customer Class	Tier	Tier Range	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1	Single Family Residential	Tier 1	0 - 4,000 Gal/Mo	\$2.77	\$2.95	\$3.06	\$3.17	\$3.28	\$3.39
R1		Tier 2	4,001 - 7,000 Gal/Mo	3.59	3.80	3.94	4.08	4.22	4.36
R1		Tier 3	7,001 - 12,000 Gal/Mo	5.53	5.82	6.02	6.22	6.42	6.63
R1		Tier 4	12,001 and above	11.06	11.57	11.94	12.32	12.70	13.10
R2	Multi-Family Residential	All Usage	All Usage	3.56	3.71	3.85	3.99	4.12	4.26
R3	Multi-Family Residential	All Usage	All Usage	3.56	3.71	3.85	3.99	4.12	4.26
R4	Single Family Residential	Tier 1	0 - 4,000 Gal/Mo	2.77	2.95	3.06	3.17	3.28	3.39
R4		Tier 2	4,001 - 7,000 Gal/Mo	3.59	3.80	3.94	4.08	4.22	4.36
R4		Tier 3	7,001 - 12,000 Gal/Mo	5.53	5.82	6.02	6.22	6.42	6.63
R4		Tier 4	12,001 and above	11.06	11.57	11.94	12.32	12.70	13.10
C	Commercial	All Usage	All Usage	3.78	3.93	4.07	4.22	4.36	4.50
NA	Northern Arizona University	All Usage	All Usage	3.47	3.59	3.72	3.85	3.98	4.11
LM	Lawn Meters	All Usage	All Usage	3.78	3.92	4.06	4.20	4.34	4.48
MN	Manufacturing	All Usage	All Usage	3.73	3.86	4.00	4.14	4.28	4.42
SP	Standpipes	All Usage	All Usage	5.78	6.05	6.26	6.47	6.68	6.89
Projected Energy Charge per 1,000 Gal - Applicable to All Rates (Subject to Change Based on Future Energy Costs)				\$ 0.96	\$ 0.93	\$ 0.94	\$ 0.95	\$ 0.97	\$ 0.99
*Outside City rates 1.10x higher									
**Slight percentage differences in rates above from year to year may occur due to rounding.									



**3.7.2.3. Water Rate Option 1C**

Water rate option 1C keeps the existing water tier ranges, incorporates a tiered water rate structure for non-residential class and incorporates an annualized water rate revenue increase of 3% to be implemented in January (the effect of this mid-year increase will be that the 3% increase is projected to actually result in approximately 1.5% more water rate revenue in the subject year).

Table W-12		Rate Option 1C					
Water							
Water Rate Structure - Fixed Charges							
		Monthly Fixed Charge - Inside City					
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	
0.75	\$ 13.42	\$ 13.83	\$ 14.25	\$ 14.68	\$ 15.13	\$ 15.59	
1	15.80	16.28	16.77	17.28	17.80	18.34	
1.5	21.75	22.41	23.09	23.79	24.51	25.25	
2	28.90	29.77	30.67	31.60	32.55	33.53	
3	45.57	46.94	48.35	49.81	51.31	52.85	
4	69.38	71.47	73.62	75.83	78.11	80.46	
6	128.91	132.78	136.77	140.88	145.11	149.47	
8	200.34	206.36	212.56	218.94	225.51	232.28	
10	283.68	292.20	300.97	310.00	319.30	328.88	
*Outside City rates 1.10x higher							
**Slight percentage differences in rates above from year to year may occur due to rounding.							

**Water, Sewer, Reclaimed Water and Stormwater Rate Study**

Final Draft Report  
Report 1 of 2  
August 6, 2015



Table W-13			Rate Option 1C					
Water								
Water Rate Structure - Flow Charges			Flow Charge per 1,000 Gallons - Inside City					
Rate Code	Customer Class	Tier Range	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1		0 - 3700 Gal/Mo	\$ 2.77	\$ 2.92	\$ 3.03	\$ 3.14	\$ 3.25	\$ 3.36
R1	Single Family Residential	3,701 - 6,400 Gal/Mo	3.59	3.76	3.90	4.04	4.17	4.31
R1		6,401 - 11,700 Gal/Mo	5.53	5.76	5.96	6.16	6.36	6.56
R1		11,701 and above	11.06	11.46	11.83	12.21	12.59	12.98
R2	Multi-Family Residential	All Usage	3.56	3.73	3.86	4.00	4.13	4.27
R3	Multi-Family Residential	All Usage	3.56	3.73	3.86	4.00	4.13	4.27
R4		0 - 3700 Gal/Mo	2.77	2.92	3.03	3.14	3.25	3.36
R4	Single Family Residential	3,701 - 6,400 Gal/Mo	3.59	3.76	3.90	4.04	4.17	4.31
R4		6,401 - 11,700 Gal/Mo	5.53	5.76	5.96	6.16	6.36	6.56
R4		11,701 and above	11.06	11.46	11.83	12.21	12.59	12.98
C		Tier 1**	3.78	1.10	1.14	1.18	1.22	1.26
C	Commercial	Tier 2**	3.78	1.55	1.60	1.65	1.70	1.76
C		Tier 3**	3.78	2.60	2.68	2.77	2.86	2.95
C		Tier 4**	3.78	5.61	5.78	5.96	6.14	6.33
NA		Northern Arizona University	Tier 1**	3.47	0.66	0.69	0.72	0.75
NA	Tier 2**		3.47	1.01	1.05	1.09	1.13	1.17
NA	Tier 3**		3.47	1.84	1.90	1.96	2.02	2.09
NA	Tier 4**		3.47	4.20	4.33	4.46	4.60	4.74
LM	Lawn Meters	Tier 1**	3.78	0.91	0.94	0.97	1.00	1.03
LM		Tier 2**	3.78	1.31	1.36	1.41	1.46	1.51
LM		Tier 3**	3.78	2.27	2.34	2.42	2.50	2.58
LM		Tier 4**	3.78	5.00	5.15	5.31	5.47	5.64
MN	Manufacturing	Tier 1**	3.73	0.71	0.74	0.77	0.80	0.83
MN		Tier 2**	3.73	1.07	1.11	1.15	1.19	1.23
MN		Tier 3**	3.73	1.93	1.99	2.05	2.12	2.19
MN		Tier 4**	3.73	4.36	4.50	4.64	4.78	4.93
SP	Standpipes	All Usage	5.78	6.01	6.20	6.39	6.59	6.79
Projected Energy Charge per 1,000 Gal - Applicable to All Rates (Subject to Change Based on Future Energy Costs)			\$ 0.96	\$ 0.93	\$ 0.94	\$ 0.95	\$ 0.97	\$ 0.99
*Outside City rates 1.10x higher								
** Non Residential tiers to be expanded by AWWA Meter Equivalency Factors based on Non Residential Customer's Meter Size (See Below)								
<b>Meter Size</b>			<b>AWWA Meter Equivalency Factors</b>					
0.75			1.00					
1.00			1.67					
1.50			3.33					
2.00			5.33					
3.00			10.00					
4.00			16.67					
6.00			33.33					
8.00			53.33					
10.00			76.67					
*Outside City rates 1.10x higher								
**Slight percentage differences in rates above from year to year may occur due to rounding.								

### 3.7.2.4. Water Rate Option 2A

Water rate option 2A assumes the existing fixed and flow rate components are increased by 7% with no change to the water rate tiers or to any other component of the rate structure. This annualized water rate revenue increase of 7% is projected to be implemented in January (the effect of this mid-year increase will be that the 7% increase is projected to actually result in approximately 3.5% more water rate revenue in the subject year).

Table W-14		Rate Option 2A										
Water												
Water Rate Structure - Fixed Charges												
		Monthly Fixed Charge - Inside City										
Meter Size		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20					
0.75	\$	13.42	\$	14.36	\$	15.37	\$	16.45	\$	17.61	\$	18.85
1		15.80		16.91		18.10		19.37		20.73		22.19
1.5		21.75		23.28		24.91		26.66		28.53		30.53
2		28.90		30.93		33.10		35.42		37.90		40.56
3		45.57		48.76		52.18		55.84		59.75		63.94
4		69.38		74.24		79.44		85.01		90.97		97.34
6		128.91		137.94		147.60		157.94		169.00		180.83
8		200.34		214.37		229.38		245.44		262.63		281.02
10		283.68		303.54		324.79		347.53		371.86		397.90

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

Table W-15		Rate Option 2A						
Water								
Water Rate Structure - Flow Charges								
		Flow Charge per 1,000 Gallons - Inside City						
Rate Code	Customer Class	Tier	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1		Tier 1	\$ 2.77	\$ 3.07	\$ 3.34	\$ 3.63	\$ 3.94	\$ 4.27
R1	Single Family Residential	Tier 2	3.59	3.94	4.28	4.64	5.02	5.42
R1		Tier 3	5.53	6.02	6.50	7.02	7.56	8.14
R1		Tier 4	11.06	11.94	12.84	13.80	14.82	15.91
R2		Multi-Family Residential	All Usage	3.56	3.91	4.24	4.60	4.97
R3	Multi-Family Residential	All Usage	3.56	3.91	4.24	4.60	4.97	5.37
R4		Tier 1	2.77	3.07	3.34	3.63	3.94	4.27
R4	Single Family Residential	Tier 2	3.59	3.94	4.28	4.64	5.02	5.42
R4		Tier 3	5.53	6.02	6.50	7.02	7.56	8.14
R4		Tier 4	11.06	11.94	12.84	13.80	14.82	15.91
C		Commercial	All Usage	3.78	4.15	4.50	4.88	5.27
NA	Northern Arizona University	All Usage	3.47	3.82	4.15	4.50	4.87	5.26
LM	Lawn Meters	All Usage	3.78	4.15	4.50	4.88	5.27	5.69
MN	Manufacturing	All Usage	3.73	4.09	4.44	4.81	5.20	5.62
SP	Standpipes	All Usage	5.78	6.29	6.79	7.33	7.89	8.50

Projected Energy Charge per 1,000 Gal - Applicable to All Rates (Subject to Change Based on Future Energy Costs) \$ 0.96 \$ 0.93 \$ 0.94 \$ 0.95 \$ 0.97 \$ 0.99

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

### 3.7.2.5. Water Rate Option 2B

Water rate option 2B incorporates updated water tier ranges to the nearest upper thousand gallon increment and incorporates an annualized water rate revenue increase of 7% to be implemented in January (the effect of this mid-year increase will be that the 7% increase is projected to actually result in approximately 3.5% more water rate revenue in the subject year).

Table W-16		Rate Option 2B					
Water							
Water Rate Structure - Fixed Charges							
		Monthly Fixed Charge - Inside City					
Meter Size		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
0.75	\$	13.42	\$ 14.36	\$ 15.37	\$ 16.45	\$ 17.61	\$ 18.85
1		15.80	16.91	18.10	19.37	20.73	22.19
1.5		21.75	23.27	24.90	26.65	28.52	30.52
2		28.90	30.92	33.09	35.41	37.89	40.55
3		45.57	48.74	52.16	55.82	59.73	63.92
4		69.38	74.21	79.41	84.97	90.92	97.29
6		128.91	137.87	147.53	157.86	168.92	180.75
8		200.34	214.27	229.27	245.32	262.50	280.88
10		283.68	303.40	324.64	347.37	371.69	397.71

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

Table W-17		Rate Option 2B							
Water									
Water Rate Structure - Flow Charges									
		Flow Charge per 1,000 Gallons - Inside City							
Rate Code	Customer Class	Tier	Tier Range	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1	Single Family Residential	Tier 1	0 - 4,000 Gal/Mo	\$2.77	\$ 3.10	\$3.38	\$3.68	\$3.99	\$4.32
R1		Tier 2	4,001 - 7,000 Gal/Mo	3.59	3.99	4.33	4.69	5.07	5.48
R1		Tier 3	7,001 - 12,000 Gal/Mo	5.53	6.08	6.57	7.09	7.64	8.23
R1		Tier 4	12,001 and above	11.06	12.05	12.95	13.92	14.95	16.05
R2	Multi-Family Residential	All Usage	All Usage	3.56	3.89	4.22	4.58	4.95	5.35
R3	Multi-Family Residential	All Usage	All Usage	3.56	3.89	4.22	4.58	4.95	5.35
R4	Single Family Residential	Tier 1	0 - 4,000 Gal/Mo	2.77	3.10	3.38	3.68	3.99	4.32
R4		Tier 2	4,001 - 7,000 Gal/Mo	3.59	3.99	4.33	4.69	5.07	5.48
R4		Tier 3	7,001 - 12,000 Gal/Mo	5.53	6.08	6.57	7.09	7.64	8.23
R4		Tier 4	12,001 and above	11.06	12.05	12.95	13.92	14.95	16.05
C	Commercial	All Usage	All Usage	3.78	4.12	4.47	4.84	5.23	5.65
NA	Northern Arizona University	All Usage	All Usage	3.47	3.77	4.09	4.44	4.80	5.19
LM	Lawn Meters	All Usage	All Usage	3.78	4.11	4.46	4.83	5.22	5.64
MN	Manufacturing	All Usage	All Usage	3.73	4.05	4.39	4.76	5.14	5.55
SP	Standpipes	All Usage	All Usage	5.78	6.32	6.82	7.36	7.93	8.54
Projected Energy Charge per 1,000 Gal - Applicable to All Rates (Subject to Change Based on Future Energy Costs)				\$ 0.96	\$ 0.93	\$ 0.94	\$ 0.95	\$ 0.97	\$ 0.99

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.



**3.7.2.6. Water Rate Option 2C**

Water rate option 2C keeps the existing water tier ranges, incorporates a tiered water rate structure for non-residential class and incorporates an annualized water rate revenue increase of 7% to be implemented in January (the effect of this mid-year increase will be that the 7% increase is projected to actually result in approximately 3.5% more water rate revenue in the subject year).

Table W-18		Rate Option 2C					
Water							
Water Rate Structure - Fixed Charges							
		Monthly Fixed Charge - Inside City					
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	
0.75	\$ 13.42	\$ 14.36	\$ 15.37	\$ 16.45	\$ 17.61	\$ 18.85	
1	15.80	16.91	18.10	19.37	20.73	22.19	
1.5	21.75	23.27	24.90	26.65	28.52	30.52	
2	28.90	30.92	33.09	35.41	37.89	40.55	
3	45.57	48.74	52.16	55.82	59.73	63.92	
4	69.38	74.21	79.41	84.97	90.92	97.29	
6	128.91	137.87	147.53	157.86	168.92	180.75	
8	200.34	214.27	229.27	245.32	262.50	280.88	
10	283.68	303.40	324.64	347.37	371.69	397.71	

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

**Water, Sewer, Reclaimed Water and Stormwater Rate Study**

Final Draft Report  
Report 1 of 2  
August 6, 2015



Table W-19			Rate Option 2C					
Water								
Water Rate Structure - Flow Charges			Flow Charge per 1,000 Gallons - Inside City					
Rate Code	Customer Class	Tier Range	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1		0 - 3700 Gal/Mo	\$ 2.77	\$ 3.07	\$ 3.34	\$ 3.63	\$ 3.94	\$ 4.27
R1	Single Family Residential	3,701 - 6,400 Gal/Mo	3.59	3.94	4.28	4.64	5.02	5.42
R1		6,401 - 11,700 Gal/Mo	5.53	6.02	6.50	7.02	7.56	8.14
R1		11,701 and above	11.06	11.94	12.84	13.80	14.82	15.91
R2	Multi-Family Residential	All Usage	3.56	3.91	4.24	4.60	4.97	5.37
R3	Multi-Family Residential	All Usage	3.56	3.91	4.24	4.60	4.97	5.37
R4		0 - 3700 Gal/Mo	2.77	3.07	3.34	3.63	3.94	4.27
R4	Single Family Residential	3,701 - 6,400 Gal/Mo	3.59	3.94	4.28	4.64	5.02	5.42
R4		6,401 - 11,700 Gal/Mo	5.53	6.02	6.50	7.02	7.56	8.14
R4		11,701 and above	11.06	11.94	12.84	13.80	14.82	15.91
C		Tier 1**	3.78	1.10	1.14	1.18	1.22	1.26
C	Commercial	Tier 2**	3.78	1.55	1.60	1.65	1.70	1.76
C		Tier 3**	3.78	2.60	2.68	2.77	2.86	2.95
C		Tier 4**	3.78	5.61	5.78	5.96	6.14	6.33
NA		Northern Arizona University	Tier 1**	3.47	0.66	0.69	0.72	0.75
NA	Tier 2**		3.47	1.01	1.05	1.09	1.13	1.17
NA	Tier 3**		3.47	1.84	1.90	1.96	2.02	2.09
NA	Tier 4**		3.47	4.20	4.33	4.46	4.60	4.74
LM		Tier 1**	3.78	0.91	0.94	0.97	1.00	1.03
LM	Lawn Meters	Tier 2**	3.78	1.31	1.36	1.41	1.46	1.51
LM		Tier 3**	3.78	2.27	2.34	2.42	2.50	2.58
LM		Tier 4**	3.78	5.00	5.15	5.31	5.47	5.64
MN			Tier 1**	3.73	0.71	0.74	0.77	0.80
MN	Manufacturing	Tier 2**	3.73	1.07	1.11	1.15	1.19	1.23
MN		Tier 3**	3.73	1.93	1.99	2.05	2.12	2.19
MN		Tier 4**	3.73	4.36	4.50	4.64	4.78	4.93
SP		Standpipes	All Usage	5.78	6.01	6.20	6.39	6.59
Projected Energy Charge per 1,000 Gal - Applicable to All Rates (Subject to Change Based on Future Energy Costs)			\$ 0.96	\$ 0.93	\$ 0.94	\$ 0.95	\$ 0.97	\$ 0.99
*Outside City rates 1.10x higher								
** Non Residential tiers to be expanded by AWWA Meter Equivalency Factors based on Non Residential Customer's Meter Size (See Below)								
Meter Size		AWWA Meter Equivalency Factors						
0.75		1.00						
1.00		1.67						
1.50		3.33						
2.00		5.33						
3.00		10.00						
4.00		16.67						
6.00		33.33						
8.00		53.33						
10.00		76.67						
*Outside City rates 1.10x higher								
**Slight percentage differences in rates above from year to year may occur due to rounding.								

## Section 4 - Sewer Rate Study Development and Results

### 4.1. Summary of Sewer Rate Study Scenarios and Results

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Sewer Rate Study Options, followed by a table which presents a selection of summary customer impacts. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Sewer Rate Study Options		
Option	Financial Plan Option	Description
<b>Option 1</b>	5.5% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
<b>Option 2</b>	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

### 4.2. General Methodology

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Sewer Utility, a determination of the annual revenue from rates which, combined with other sources of funds, will provide sufficient funds to meet those fiscal requirements must first be completed. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis resulted in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage, as applicable), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements were then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet requirements. To the extent that the existing revenue stream was not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases were calculated to provide revenue sufficient to meet those needs.

The Capital Improvement Plan (CIP), including the timing of projects and estimated costs, was provided by the Sewer Utility. Willdan relied on this information and the CIP was fully integrated into the Revenue Sufficiency Analysis.

### 4.3. Financial Management Goals of the Sewer Utility

The financial management goals of the City's Sewer Utility are described below.

#### 4.3.1.1. Debt Service Ceiling

Utilities are a capital intensive business. Oftentimes it is difficult to fully fund the significant capital requirements, whether driven by growth, regulatory pressures and/or system repair and maintenance, without the measured use of debt. As a means of controlling the debt load of the Water, Sewer, Reclaimed Water and Stormwater utilities the City has established a debt policy as follows.

***Policy A1.1<sup>5</sup>    The annual payment of debt service should not exceed 20% of total annual Operating Revenues.***

Key to our presentation of Financial Plan options in our Report is our interpretation of this policy, which centers on the use of the word "should" versus "shall". The use of "should" guides us to attempt to meet this policy, but not at the risk of overburdening the utility rates when the use of debt in a prudent manner might relieve some of the rate pressure on the customer base. We have, therefore, provided a scenario which does this – referred to herein as Option 1 for the Water, Sewer and Reclaimed Water analyses. However, we have also provided a scenario which more strictly adheres to this policy should the City desire to do that – referred to herein as Option 2 for the Water, Sewer and Reclaimed Water analyses.

#### 4.3.1.2. Debt Service Coverage

The Utility, like most utilities, has utilized long-term debt to fund capital assets in the past. To secure this debt, a pledge of utility net revenue as the source of repayment for the debt was required and made by the City's Utility. In addition, there exists a debt service coverage requirement to be met in each year in which the debt is outstanding. Debt service coverage requirements generally mandate some multiple of

---

<sup>5</sup> This policy appears to apply to the Water, Sewer, Reclaimed Water utilities only and it appears to apply to them as a Combined Enterprise versus individual utilities. We have, therefore, presented the results as combined.

annual net revenue, defined as operating revenue less operating expenses, as compared to annual debt service payments due.

In the case of the Utility, the covenants associated with this debt require that minimum debt service coverage of 1.20x be maintained, or exceeded, in each year of the forecast period. As a further measure of financial strength, it was determined that a 1.40x debt service coverage ratio was prudent for this analysis. This means that in each year that a debt service payment is to be made, the Utility must generate net revenue that is at least 1.40x the annual debt service payment to be made in that year

#### **4.3.1.3. Minimum Unrestricted Operating Reserve Fund Balance**

In order to maintain a certain level of liquidity, utilities typically establish some form of unrestricted operating reserve fund balance target. Guided by City's policy in this regard the analysis presented herein has developed a goal of an unrestricted working capital operating fund reserve amount greater than, or equal to, approximately 25% of Gross Revenues. The City's policy is as follows:

***Policy A1.2<sup>6</sup> The Water-Sewer-Reclaimed Water utility shall have a goal of maintaining more than 25% of the total estimated annual Operational Revenues in reserve for future obligations plus an allowance for unbudgeted contingencies. This policy would not include Federal Support for disaster relief.***

#### **4.4. Sewer Revenue Sufficiency Options**

During our analysis we reviewed many options in order to balance to objectives of meeting the financial, operational, and management goals/policies of the Sewer Utility. As a result of nearly a dozen meetings with the City to review data, assumptions and results we have concentrated this Report on a management number of options for consideration by the City. For the Sewer Utility, the options center around the following key items – each of which funds the same operating and capital cost requirements of the utility during the forecast period.

---

<sup>6</sup> This policy applies to the Water, Sewer, Reclaimed Water utilities only and it appears to apply to them as a Combined Enterprise versus individual utilities. We have, therefore, presented the results as combined. In addition, Stormwater Policy A2.1 states that Stormwater shall maintain a reserve of 10% of Operating Revenue.

- **Sewer Revenue Sufficiency Option 1**

- Funds all operating and capital costs presented in this report and utilizes debt to fund the Capital Improvement Plan (CIP) in a manner which exceeds the Utility Policy A1.1 which states the annual repayment of debt service should not exceed 20% of total annual Operating Revenues.
- Option 1 results in the debt service threshold of 20% of Operating Revenues being exceeded in FY 2018 – 2020.

- **Sewer Revenue Sufficiency Option 2**

- Funds the same operating and capital costs as does Option 1, but more strictly adheres to the Utility Policy A1.1 which states the annual repayment of debt service should not exceed 20% of total annual Operating Revenues.

## 4.5. Sewer Revenue Sufficiency Analysis

### 4.5.1 Data Items

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Utility
- Beginning Balances related to the FY 2014 Comprehensive Annual Financial Report
- Sources of Funds from FY 2015 Operating Budget and resulting projections
- Uses of Funds from FY 2015 Operating Budget and resulting projections
- Capital Improvements Plan (CIP)
- General assumptions related to:
  - Customer growth
  - Cost escalation factors
  - New debt terms

A discussion of the use of each of the above data items is presented below.

#### 4.5.2 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

##### 4.5.2.1. Growth

Based on discussion with the City, it was decided to assume approximately 1% annual growth in utility customer base during the forecast period (approx. 200 units per year).

##### 4.5.2.2. Cost Escalation Factors

Based on discussion with the City, it was decided to assume annual operating costs escalated at approximately 2% per year.

##### 4.5.2.3. New Debt Terms

Based on discussion with the City, it was assumed that new debt would carry a 30 year repayment term at a rate of 5.5% per year.<sup>7 8</sup>

#### 4.5.3 Results of the Sewer Revenue Sufficiency Analysis

After a thorough review of the above-mentioned data elements and assumptions, the resulting financial plan presented herein is the embodiment of the data, assumptions and review process undertaken with staff in several meetings.

A more thorough presentation of the detailed financial data which comprise the summary tables below is presented in Appendices B1 and B2.

---

<sup>7</sup> Willdan is not a financial advisor to the City with respect to debt terms, and urges the City to seek guidance from professionals in the arena of debt terms in order to validate our general assumptions for purposes of this analysis.

<sup>8</sup> In the event the City chose/voted to not issue new debt for capital projects then the projects would need to be eliminated from the capital plan or funded through another funding source.



**Option 1 – Meets all funding / financial policies EXCEPT the 20% Debt Service Threshold**

Table S-1 below presents the resulting financial plan, including annual water rate revenue increases required, to meet the stated requirements of this scenario. Note that **annual sewer rate revenue increases of 5.5% per year**, implemented by Jan. 1 of each year, would need to be achieved to meet the requirements of Option 1.

<b>Table S - 1</b>						
<b>Sewer</b>						
<b>Summary Pro Forma</b>						
	2015	2016	2017	2018	2019	2020
<b>Operating Fund - Sewer</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ 8,696,308	\$ 4,446,076	\$ 3,205,873	\$ 2,494,560	\$ 2,508,657	\$ 2,665,022
<b>Sewer Rate Revenue Increases</b>	0.0%	5.5%	5.5%	5.5%	5.5%	5.5%
<b>% of Year Rate Increase Effective</b>	50%	50%	50%	50%	50%	50%
Rate Revenue	\$ 8,025,840	\$ 8,334,655	\$ 8,886,010	\$ 9,472,803	\$ 10,097,263	\$ 10,761,758
Operating Revenue	549,824	549,824	549,824	549,824	549,824	549,824
Interest Income	43,000	22,000	16,000	12,000	13,000	13,000
<b>Total Revenue</b>	<b>\$ 8,618,664</b>	<b>\$ 8,906,479</b>	<b>\$ 9,451,834</b>	<b>\$ 10,034,627</b>	<b>\$ 10,660,087</b>	<b>\$ 11,324,582</b>
Operating Expense	\$ 5,921,901	\$ 6,595,700	\$ 5,955,400	\$ 6,083,100	\$ 6,213,700	\$ 6,346,100
Minor Capital	1,428,180	525,300	535,800	546,400	557,500	568,800
Major Capital Funded with Existing Reserves/Current Cash	3,494,520	721,000	1,368,561	814,944	1,157,825	1,243,302
Transfers Out	-	-	-	-	-	-
Non Operating Expenses	-	-	-	-	-	-
Existing Revenue Bond Debt Service	2,024,295	2,023,683	2,022,386	1,770,087	1,768,697	1,767,257
New Revenue Bond Debt Service	-	281,000	281,000	806,000	806,000	1,233,000
<b>Total Expenses</b>	<b>\$ 12,868,896</b>	<b>\$ 10,146,683</b>	<b>\$ 10,163,147</b>	<b>\$ 10,020,531</b>	<b>\$ 10,503,722</b>	<b>\$ 11,158,458</b>
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 4,446,076</b>	<b>\$ 3,205,873</b>	<b>\$ 2,494,560</b>	<b>\$ 2,508,657</b>	<b>\$ 2,665,022</b>	<b>\$ 2,831,146</b>
<b>Sewer Buy-in Fees</b>						
Beginning Fund Balance	\$ 1,977,025	\$ 1,773,544	\$ 2,436,703	\$ 3,152,598	\$ 3,103,973	\$ 2,611,775
Sources of Funds	819,999	827,960	840,020	853,180	862,442	868,806
Uses of Funds	1,023,480	164,800	124,125	901,806	1,354,640	2,085,673
<b>Ending Fund Balance</b>	<b>\$ 1,773,544</b>	<b>\$ 2,436,703</b>	<b>\$ 3,152,598</b>	<b>\$ 3,103,973</b>	<b>\$ 2,611,775</b>	<b>\$ 1,394,908</b>
<b>Grants - Sewer</b>						
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sources of Funds	260,000	-	-	-	-	-
Uses of Funds	260,000	-	-	-	-	-
<b>Ending Fund Balance</b>	<b>\$ -</b>					
<b>Summary of Key Metrics:</b>						
	<b>Target</b>					
Unrestricted Operating Funds (Min)	25%	52%	36%	26%	25%	25%
Debt Service Coverage (Min)	1.40	2.08	1.61	2.11	1.76	1.91
Debt Service Threshold (Max)	20%	17%	20%	19%	24%	28%

Note: Additional detail associated with this table can be found in Appendix B1 in Sewer Schedule A - 1

Note at the bottom of Table S-1 that the Debt Service threshold, established as Policy A1.1 of the Utility, has been exceeded in Fiscal Years 2018 – 2020. This was necessary in order to mitigate further rate increases which would have been required to generate sufficient cash as to replace the debt funding assumed in this option, Option 1.



However, as a means of demonstrating the sewer rate impact of a stringent adherence to Policy A1.1, we present Option 2 next.

**Option 2 – Meets all funding / financial policies INCLUDING the 20% Debt Service Threshold**

Table S-2 below presents the resulting financial plan, including annual water rate revenue increases required, to meet the stated requirements of this scenario. Note that **annual sewer rate revenue increases of 7% per year**, implemented by Jan. 1 of each year, would need to be achieved to meet the requirements of Option 2.

<b>Table S - 2</b>						
<b>Sewer</b>						
<b>Summary Pro Forma</b>						
	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Operating Fund - Sewer</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ 8,696,308	\$ 4,446,076	\$ 3,266,710	\$ 2,747,522	\$ 2,594,759	\$ 2,793,455
<b>Sewer Rate Revenue Increases</b>	0.0%	7.0%	7.0%	7.0%	7.0%	7.0%
<b>% of Year Rate Increase Effective</b>	50%	50%	50%	50%	50%	50%
Rate Revenue	\$ 8,025,840	\$ 8,395,492	\$ 9,078,135	\$ 9,815,212	\$ 10,610,997	\$ 11,470,096
Operating Revenue	549,824	549,824	549,824	549,824	549,824	549,824
Interest Income	43,000	22,000	16,000	14,000	13,000	14,000
<b>Total Revenue</b>	<b>\$ 8,618,664</b>	<b>\$ 8,967,316</b>	<b>\$ 9,643,959</b>	<b>\$ 10,379,036</b>	<b>\$ 11,173,821</b>	<b>\$ 12,033,920</b>
Operating Expense	\$ 5,921,901	\$ 6,595,700	\$ 5,955,400	\$ 6,083,100	\$ 6,213,700	\$ 6,346,100
Minor Capital	1,428,180	525,300	535,800	546,400	557,500	568,800
Major Capital Funded with Existing Reserves/Current Cash	3,494,520	721,000	1,368,561	1,406,212	1,709,228	2,121,739
Transfers Out	-	-	-	-	-	-
Non Operating Expenses	-	-	-	-	-	-
Existing Revenue Bond Debt Service	2,024,295	2,023,683	2,022,386	1,770,087	1,768,697	1,767,257
New Revenue Bond Debt Service	-	281,000	281,000	726,000	726,000	1,015,000
<b>Total Expenses</b>	<b>\$ 12,868,896</b>	<b>\$ 10,146,683</b>	<b>\$ 10,163,147</b>	<b>\$ 10,531,799</b>	<b>\$ 10,975,125</b>	<b>\$ 11,818,895</b>
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 4,446,076</b>	<b>\$ 3,266,710</b>	<b>\$ 2,747,522</b>	<b>\$ 2,594,759</b>	<b>\$ 2,793,455</b>	<b>\$ 3,008,480</b>
<b>Sewer Buy-in Fees</b>						
Beginning Fund Balance	\$ 1,977,025	\$ 1,773,544	\$ 2,436,703	\$ 3,152,598	\$ 3,103,973	\$ 2,611,775
Sources of Funds	819,999	827,960	840,020	853,180	862,442	868,806
Uses of Funds	1,023,480	164,800	124,125	901,806	1,354,640	2,085,673
<b>Ending Fund Balance</b>	<b>\$ 1,773,544</b>	<b>\$ 2,436,703</b>	<b>\$ 3,152,598</b>	<b>\$ 3,103,973</b>	<b>\$ 2,611,775</b>	<b>\$ 1,394,908</b>
<b>Grants - Sewer</b>						
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sources of Funds	260,000	-	-	-	-	-
Uses of Funds	260,000	-	-	-	-	-
<b>Ending Fund Balance</b>	<b>\$ -</b>					
<b>Summary of Key Metrics:</b>						
	<b>Target</b>					
Unrestricted Operating Funds (Min)	25%	52%	36%	28%	25%	25%
Debt Service Coverage (Min)	1.40	2.08	1.71	2.38	2.25	2.47
Debt Service Threshold (Max)	20%	17%	19%	17%	20%	20%

Note: Additional detail associated with this table can be found in Appendix B2 in Sewer Schedule A - 1

#### 4.6. Sewer Cost of Service Analysis

During our discussions with the City, the City requested Willdan rely on the extensive cost of service analysis conducted by the City and Willdan in the last, recent rate study. The result of this assumption was that the cost of service is assumed to be consistent with the current level of revenue generation exhibited by the City’s existing sewer rates. Therefore, the Sewer Rate Study was developed under this assumption and the level of revenue projected to be generated from each customer class by the sewer rates proposed herein is in general conformance with the level of revenue generated from each customer class by the current rates. This provides a link from the cost of service analysis conducted in the last study to the rates proposed in each option presented in this Report.

The existing sewer cost of service, as reflected in the existing sewer rates of the system, is presented below in Table S-3.

<b>Table S-3 Sewer Cost of Service Results</b>				
<b>Rate Code</b>	<b>Customer Class</b>	<b>Sewer Rate</b>		
		<b>Revenue - FY</b>	<b>%</b>	
		<b>2014</b>	<b>Distribution</b>	
R1	Single Family	\$ 2,252,676	28%	
R2	Multi-Family	947,190	12%	
R3	Multi-Family	918,619	12%	
R4	Single Family	2,630	0%	
CW	Car Washes	54,543	1%	
L	Laundromats	63,995	1%	
C	Commercial	1,098,484	14%	
H	Hotels & Motels	1,013,324	13%	
RF	Restaurants	472,368	6%	
IL	Industrial Laundries	86,361	1%	
MN	Manufacturing	593,829	7%	
PF	Pet Food Manufacturers	29,286	0%	
SD	Soft Drink Bottling	34,289	0%	
IC	Ice Cream Cone Manufact	7,804	0%	
NA	NAU	387,770	5%	
	<b>Total</b>	<b>\$ 7,963,167</b>	<b>100%</b>	

## 4.7. Sewer Rate Design Analysis

### 4.7.1 Analysis of Customer Data

Crucial to the development of rate alternatives is the analysis of existing billing data to both validate the data for use in the rate design process and to better understand the usage characteristics each customer class in the design of rates and charges.

#### 4.7.1.1. Distribution of Bills by Customer Class/Meter Type

Table S-4 below presents an analysis of the existing bills which demonstrates the City’s customer base is overwhelmingly residential customers with ¾” (0.75”) meters.

Table S-4 Sewer Distribution of Meters by Customer Class																
Inside City																
Customer Class - Rate Code																
Meter Size	Single Family - R1	Multi-Family - R2	Multi-Family - R3	Single Family - R4	Car Washes - CW	Laundromats - L	Commercial - C	Hotels & Motels - H	Restaurants - RF	Industrial Laundries - IL	Manufacturing - MN	Pet Food Manufacturers - PF	Soft Drink Bottling - SD	Ice Cream Cone Manufacturing - IC	NAU - NA	Total Bills
0.75	180,932	27,641	4,739	196	38	-	9,088	322	784	-	128	-	-	-	-	223,868
1	4,881	1,382	364	-	52	-	2,399	125	335	-	51	-	-	-	-	9,589
1.5	270	390	903	-	26	26	1,617	140	271	-	39	-	-	-	11	3,693
2	52	864	2,041	-	26	39	2,569	705	286	13	114	13	13	-	-	6,735
3	-	52	13	-	-	-	78	13	-	-	38	-	-	13	-	207
4	-	-	52	-	-	-	88	51	-	-	24	13	-	-	-	228
6	-	-	-	-	-	-	39	-	-	-	-	-	-	-	-	39
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>186,135</b>	<b>30,329</b>	<b>8,112</b>	<b>196</b>	<b>142</b>	<b>65</b>	<b>15,878</b>	<b>1,356</b>	<b>1,676</b>	<b>13</b>	<b>394</b>	<b>26</b>	<b>13</b>	<b>13</b>	<b>23</b>	<b>244,371</b>
Outside City																
Customer Class - Rate Code																
Meter Size	Single Family - R1	Multi-Family - R2	Multi-Family - R3	Single Family - R4	Car Washes - CW	Laundromats - L	Commercial - C	Hotels & Motels - H	Restaurants - RF	Industrial Laundries - IL	Manufacturing - MN	Pet Food Manufacturers - PF	Soft Drink Bottling - SD	Ice Cream Cone Manufacturing - IC	NAU - NA	Total Bills
0.75	86	-	-	-	-	-	13	-	-	-	-	-	-	-	-	99
1	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	13
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>26</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>126</b>



**4.7.1.2. Distribution of Flow by Customer Class/Meter Type**

All sewer classes pay a uniform rate for all sewer billings. Residential customers pay based a winter average, which was not adjusted as part of this rate study.

Table S-5  
Sewer  
Distribution of Flow

Inside City														Customer Class - Rate Code		Total Flow (000's of Gal)
Single Family - R1	Multi-Family - R2	Multi-Family - R3	Single Family - R4	Car Washes - CW	Laundromats - L	Commercial - C	Hotels & Motels - H	Restaurants - RF	Industrial Laundries - IL	Manufacturing - MN	Pet Food Manufacturers - PF	Soft Drink Bottling - SD	Ice Cream Cone Manufacturing - IC	NAU - NA		
Total Annual Flow	602,501	253,542	245,894	704	14,545	16,640	278,182	192,039	74,447	14,811	140,247	3,147	4,648	677	113,521	1,955,545
Outside														Customer Class - Rate Code		Total Flow (000's of Gal)
Single Family - R1	Multi-Family - R2	Multi-Family - R3	Single Family - R4	Car Washes - CW	Laundromats - L	Commercial - C	Hotels & Motels - H	Restaurants - RF	Industrial Laundries - IL	Manufacturing - MN	Pet Food Manufacturers - PF	Soft Drink Bottling - SD	Ice Cream Cone Manufacturing - IC	NAU - NA		
Total Annual Flow	446	-	-	-	-	-	190	-	-	-	-	-	-	-	-	636

It is important to note that the billing data presented in this report is from FY 14. It is our understanding that the billing data for FY 15 will likely show a lower average usage as the rate revenue for FY 15 is significantly lower than we would have projected had the billing results for FY 15 been similar to FY 14. While we have adjusted for this in the analysis, we have not made further reductions in usage to address potential elasticity of demand due to this apparent drop in consumption from FY 14 to FY 15.

**4.7.1.3. Sewer Billing Data Validation**

An analysis of sewer billing data was conducted, using billing data provided by the City for Fiscal Year 2014. That sewer billing data was compiled and tested using multiple methods to ensure its accuracy for rate design purposes. Our billing data test resulted in the validation of the billing data to within less than 1%, therefore making it sufficient for rate-making purposes. Table S-6 below presents the summary results of our test of the FY 14 water billing data.

**Water, Sewer, Reclaimed Water and Stormwater Rate Study**

Final Draft Report  
Report 1 of 2  
August 6, 2015



Table S-6 Sewer Summary of FY 14 Billing Data Test					FY 14 Actual Rate Revenue Target
Rate Code	Customer Class	Meter Size	Jurisdiction	Total Revenue	
C	Commercial	0.75	I	\$ 194,300	
C	Commercial	0.75	O	\$ 482	
C	Commercial	1.00	I	\$ 107,750	
C	Commercial	1.50	I	\$ 164,157	
C	Commercial	2.00	I	\$ 432,301	
C	Commercial	2.00	O	\$ 344	
C	Commercial	3.00	I	\$ 17,197	
C	Commercial	4.00	I	\$ 123,625	
C	Commercial	6.00	I	\$ 58,330	
CW	Car Washes	0.75	I	\$ 16,907	
CW	Car Washes	1.00	I	\$ 10,280	
CW	Car Washes	1.50	I	\$ 5,825	
CW	Car Washes	2.00	I	\$ 21,531	
H	Hotels & Motels	0.75	I	\$ 54,527	
H	Hotels & Motels	1.00	I	\$ 36,757	
H	Hotels & Motels	1.50	I	\$ 53,707	
H	Hotels & Motels	2.00	I	\$ 641,111	
H	Hotels & Motels	3.00	I	\$ 21,091	
H	Hotels & Motels	4.00	I	\$ 206,130	
IC	Ice Cream Cone Manufactur	3.00	I	\$ 7,804	
IL	Industrial Laundries	2.00	I	\$ 86,361	
L	Laundromats	1.50	I	\$ 23,236	
L	Laundromats	2.00	I	\$ 40,759	
MN	Manufacturing	0.75	I	\$ 1,373	
MN	Manufacturing	1.00	I	\$ 478	
MN	Manufacturing	1.50	I	\$ 915	
MN	Manufacturing	2.00	I	\$ 39,083	
MN	Manufacturing	3.00	I	\$ 26,605	
MN	Manufacturing	4.00	I	\$ 525,376	
NA	NAU	1.50	I	\$ 1,087	
NA	NAU	8.00	I	\$ 386,683	
PF	Pet Food Manufacturers	2.00	I	\$ 679	
PF	Pet Food Manufacturers	4.00	I	\$ 28,607	
R1	Single Family	0.75	I	\$ 2,202,283	
R1	Single Family	0.75	O	\$ 1,439	
R1	Single Family	1.00	I	\$ 43,904	
R1	Single Family	1.00	O	\$ 393	
R1	Single Family	1.50	I	\$ 3,641	
R1	Single Family	2.00	I	\$ 1,016	
R2	Multi-Family	0.75	I	\$ 499,569	
R2	Multi-Family	1.00	I	\$ 80,272	
R2	Multi-Family	1.50	I	\$ 43,705	
R2	Multi-Family	2.00	I	\$ 297,991	
R2	Multi-Family	3.00	I	\$ 25,652	
R3	Multi-Family	0.75	I	\$ 76,694	
R3	Multi-Family	1.00	I	\$ 17,536	
R3	Multi-Family	1.50	I	\$ 154,984	
R3	Multi-Family	2.00	I	\$ 621,468	
R3	Multi-Family	3.00	I	\$ 8,603	
R3	Multi-Family	4.00	I	\$ 39,332	
R4	Single Family	0.75	I	\$ 2,630	
RF	Restaurants	0.75	I	\$ 120,848	
RF	Restaurants	1.00	I	\$ 75,104	
RF	Restaurants	1.50	I	\$ 140,372	
RF	Restaurants	2.00	I	\$ 136,044	
SD	Soft Drink Bottling	2.00	I	\$ 34,289	
				<b>\$ 7,963,167</b>	<b>Rev Test Target --&gt; \$ 7,941,000</b>
					<b>% Var ---&gt; 0.28%</b>

The billing data test was within 0.28% of the actual revenue collected by the City in FY 14. This is well within tolerances and validates the data.

#### **4.7.2 Sewer Rate Options**

In reviewing the sewer rate structure we noted no fixed charge for sewer, only a flow charge. From a cost of service perspective this is not material as customers can be charged their fair share of sewer costs through a flow charge. While we might sometimes recommend a fixed charge for sewer it appears as though the City has done fine without one and the customer impact of implementing even a nominal fixed charge where one currently does not exist would likely be significant while not generating any additional revenue for the City.

Therefore, the sewer rate plan for Option 1 is to apply a 5.5% Rate Revenue increase to the existing sewer flow charges for all customers. The applicable rates are presented below.

#### 4.7.2.1. Sewer Rate Option 1

Sewer rate option 1 assumes the existing flow rate is increased by 5.5%. Note that the rates in Table S-10 below are the total sewer rates to be charged under Sewer Rate Option 1. If the City desires, it can separate out the energy rate component shown under Table S-7, but the rates presented in Table S-7 should be reduced by the energy rate implemented.

This annualized sewer rate revenue increase of 5.5% is projected to be implemented in January (the effect of this mid-year increase will be that the 5.5% increase is projected to actually result in approximately 2.75% more sewer rate revenue in the subject year).

Table S-7 Sewer Sewer Rate Structure - Flow Charges		Rate Option 1					
		Flow Charge per 1,000 Gallons - Inside City					
Rate Code	Customer Class	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1	Single Family	\$3.80	\$4.01	\$4.24	\$4.48	\$4.73	\$5.00
R2	Multi-Family	3.80	4.01	4.24	4.48	4.73	5.00
R3	Multi-Family	3.80	4.01	4.24	4.48	4.73	5.00
R4	Single Family	3.80	4.01	4.24	4.48	4.73	5.00
CW	Car Washes	3.82	4.04	4.27	4.51	4.76	5.03
L	Laundromats	3.92	4.14	4.37	4.62	4.88	5.15
C	Commercial	4.02	4.25	4.49	4.74	5.01	5.29
H	Hotels & Motels	5.38	5.68	6.00	6.33	6.68	7.05
RF	Restaurants	6.46	6.82	7.20	7.60	8.02	8.47
IL	Industrial Laundries	5.94	6.27	6.62	6.99	7.38	7.79
MN	Manufacturing	4.32	4.56	4.82	5.09	5.37	5.67
PF	Pet Food Manufacturers	9.48	10.01	10.57	11.16	11.78	12.43
SD	Soft Drink Bottling	7.51	7.93	8.37	8.84	9.33	9.85
IC	Ice Cream Cone Manufacturing	11.73	12.38	13.07	13.79	14.55	15.36
NA	NAU	3.48	3.68	3.89	4.11	4.34	4.58

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

#### 4.7.2.2. Sewer Rate Option 2

Sewer rate option 2 assumes the existing flow rate is increased by 7.0%. This is higher than Sewer rate option 1 in order to generate additional cash to fund capital so that future debt can be lower in order to remain within the City Policy A1.1 that notes the City should limit debt service to no more than 20% of Operating Revenue.

Note that the rates in Table S-8 below are the total sewer rates to be charged under Sewer Rate Option 2. If the City desires, it can separate out the energy rate component shown under Table S-8, but the rates presented in Table S-8 should be reduced by the energy rate implemented.

This annualized sewer rate revenue increase of 7.0% is projected to be implemented in January (the effect of this mid-year increase will be that the 7.0% increase is projected to actually result in approximately 3.5% more sewer rate revenue in the subject year).

Table S-8 Sewer Sewer Rate Structure - Flow Charges		Rate Option 2					
		Flow Charge per 1,000 Gallons - Inside City					
Rate Code	Customer Class	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1	Single Family	\$3.80	\$4.07	\$4.36	\$4.67	\$5.00	\$5.35
R2	Multi-Family	3.80	4.07	4.36	4.67	5.00	5.35
R3	Multi-Family	3.80	4.07	4.36	4.67	5.00	5.35
R4	Single Family	3.80	4.07	4.36	4.67	5.00	5.35
CW	Car Washes	3.82	4.09	4.38	4.69	5.02	5.38
L	Laundromats	3.92	4.20	4.50	4.82	5.16	5.53
C	Commercial	4.02	4.31	4.62	4.95	5.30	5.68
H	Hotels & Motels	5.38	5.76	6.17	6.61	7.08	7.58
RF	Restaurants	6.46	6.92	7.41	7.93	8.49	9.09
IL	Industrial Laundries	5.94	6.36	6.81	7.29	7.81	8.36
MN	Manufacturing	4.32	4.63	4.96	5.31	5.69	6.09
PF	Pet Food Manufacturers	9.48	10.15	10.87	11.64	12.46	13.34
SD	Soft Drink Bottling	7.51	8.04	8.61	9.22	9.87	10.57
IC	Ice Cream Cone Manufacturing	11.73	12.56	13.44	14.39	15.40	16.48
NA	NAU	3.48	3.73	4.00	4.28	4.58	4.91

\*Outside City rates 1.10x higher  
\*\*Slight percentage differences in rates above from year to year may occur due to rounding.

## Section 5 - Reclaimed Water Rate Study Development and Results

### 5.1. Summary of Reclaimed Water Rate Study Options

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Reclaimed Water Rate Study Options. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Reclaimed Water Rate Study Options		
Option	Financial Plan Option	Description
Option 1	3.0% Annual Increase in Rate Revenue	Meets all funding / financial policies EXCEPT 20% Debt Service Threshold
Option 2	7.0% Annual Increase in Rate Revenue	Meets all funding / financial policies INCLUDING 20% Debt Service Threshold

### 5.2. General Methodology

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Reclaimed Water Utility, a determination of the annual revenue from rates which, combined with other sources of funds, will provide sufficient funds to meet those fiscal requirements must first be completed. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis resulted in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage, as applicable), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements were then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet requirements. To the extent that the existing revenue stream was not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases were calculated to provide revenue sufficient to meet those needs.

The Capital Improvement Plan (CIP), including the timing of projects and estimated costs, was provided by the Sewer Utility. Willdan relied on this information and the CIP was fully integrated into the Revenue Sufficiency Analysis.

### 5.3. Financial Management Goals of the Reclaimed Water Utility

The financial management goals of the City's Reclaimed Water Utility are described below.

#### 5.3.1.1. Debt Service Ceiling

Utilities are a capital intensive business. Oftentimes it is difficult to fully fund the significant capital requirements, whether driven by growth, regulatory pressures and/or system repair and maintenance, without the measured use of debt. As a means of controlling the debt load of the Water, Sewer, Reclaimed Water and Stormwater utilities the City has established a debt policy as follows.

***Policy A1.1<sup>9</sup> The annual payment of debt service should not exceed 20% of total annual Operating Revenues.***

Key to our presentation of Financial Plan options in our Report is our interpretation of this policy, which centers on the use of the word "should" versus "shall". The use of "should" guides us to attempt to meet this policy, but not at the risk of overburdening the utility rates when the use of debt in a prudent manner might relieve some of the rate pressure on the customer base. We have, therefore, provided a scenario which does this – referred to herein as Option 1 for the Water, Sewer and Reclaimed Water analyses. However, we have also provided a scenario which more strictly adheres to this policy should the City desire to do that – referred to herein as Option 2 for the Water, Sewer and Reclaimed Water analyses.

#### 5.3.1.2. Debt Service Coverage

The Utility, like most utilities, has utilized long-term debt to fund capital assets in the past. To secure this debt, a pledge of utility net revenue as the source of repayment for the debt was required and made by the City's Utility. In addition, there exists a debt service coverage requirement to be met in each year in which the debt is outstanding. Debt service coverage requirements generally mandate some multiple of

---

<sup>9</sup> This policy appears to apply to the Water, Sewer, Reclaimed Water utilities only and it appears to apply to them as a Combined Enterprise versus individual utilities. We have, therefore, presented the results as combined.

annual net revenue, defined as operating revenue less operating expenses, as compared to annual debt service payments due.

In the case of the Utility, the covenants associated with this debt require that minimum debt service coverage of 1.20x be maintained, or exceeded, in each year of the forecast period. As a further measure of financial strength, it was determined that a 1.40x debt service coverage ratio was prudent for this analysis. This means that in each year that a debt service payment is to be made, the Utility must generate net revenue that is at least 1.40x the annual debt service payment to be made in that year

#### **5.3.1.3. Minimum Unrestricted Operating Reserve Fund Balance**

In order to maintain a certain level of liquidity, utilities typically establish some form of unrestricted operating reserve fund balance target. Guided by City's policy in this regard the analysis presented herein has developed a goal of an unrestricted working capital operating fund reserve amount greater than, or equal to, approximately 25% of Gross Revenues. The City's policy is as follows:

***Policy A1.2<sup>10</sup> The Water-Sewer-Reclaimed Water utility shall have a goal of maintaining more than 25% of the total estimated annual Operational Revenues in reserve for future obligations plus an allowance for unbudgeted contingencies. This policy would not include Federal Support for disaster relief.***

#### **5.3.1.4. Reclaimed Water Revenue Which Fully Funds Reclaimed Water Costs**

A goal of the reclaimed water rate study was that reclaimed water rates result in reclaimed water revenue which fully funds the cost of reclaimed water as identified in this report. The analysis presented herein is projected to meet this goal during the period FY 16-20.

---

<sup>10</sup> This policy applies to the Water, Sewer, Reclaimed Water utilities only and it appears to apply to them as a Combined Enterprise versus individual utilities. We have, therefore, presented the results as combined. In addition, Stormwater Policy A2.1 states that Stormwater shall maintain a reserve of 10% of Operating Revenue.

## 5.4. Reclaimed Water Revenue Sufficiency Options

During our analysis we reviewed many options in order to balance to objectives of meeting the financial, operational, and management goals/policies of the Reclaimed Water Utility. As a result of nearly a dozen meetings with the City to review data, assumptions and results we have concentrated this Report on a management number of options for consideration by the City. For the Reclaimed Water Utility, the options center around the following key items – each of which funds the same operating and capital cost requirements of the utility during the forecast period.

- **Reclaimed Water Revenue Sufficiency Option 1**
  - Funds all operating and capital costs presented in this report and utilizes debt to fund the Capital Improvement Plan (CIP) in a manner which exceeds the Utility Policy A1.1 which states the annual repayment of debt service should not exceed 20% of total annual Operating Revenues.
  - Option 1 results in the debt service threshold of 20% of Operating Revenues being exceeded in FY 2018 – 2020.
- **Reclaimed Water Revenue Sufficiency Option 2**
  - Funds the same operating and capital costs as does Option 1, but more strictly adheres to the Utility Policy A1.1 which states the annual repayment of debt service should not exceed 20% of total annual Operating Revenues.

## 5.5. Reclaimed Water Revenue Sufficiency Analysis

### 5.5.1 Data Items

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Utility
- Beginning Balances related to the FY 2014 Comprehensive Annual Financial Report
- Sources of Funds from FY 2015 Operating Budget and resulting projections
- Uses of Funds from FY 2015 Operating Budget and resulting projections

- Capital Improvements Plan (CIP)
- General assumptions related to:
  - Customer growth
  - Cost escalation factors
  - New debt terms

### 5.5.2 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

#### 5.5.2.1. Growth

Based on discussion with the City, it was decided to assume approximately 1% annual growth in utility customer base during the forecast period.

#### 5.5.2.2. Cost Escalation Factors

Based on discussion with the City, it was decided to assume annual operating costs escalated at approximately 2% per year.

#### 5.5.2.3. New Debt Terms

Based on discussion with the City, it was assumed that new debt would carry a 30 year repayment term at a rate of 5.5% per year.<sup>11 12</sup>

---

<sup>11</sup> Willdan is not a financial advisor to the City with respect to debt terms, and urges the City to seek guidance from professionals in the arena of debt terms in order to validate our general assumptions for purposes of this analysis.

<sup>12</sup> In the event the City chose/voted to not issue new debt for capital projects then the projects would need to be eliminated from the capital plan or funded through another funding source.



### 5.5.3 Results of the Reclaimed Water Revenue Sufficiency Analysis

After a thorough review of the above-mentioned data elements and assumptions, the resulting financial plan presented herein is the embodiment of the data, assumptions and review process undertaken with staff in several meetings.

A more thorough presentation of the detailed financial data which comprise the summary tables below is presented in Appendices C1 and C2.

#### Option 1 – Meets all funding / financial policies EXCEPT the 20% Debt Service Threshold

Table RW-1 below presents the resulting financial plan, including annual water rate revenue increases required, to meet the stated requirements of this scenario. Note that **annual reclaimed water rate revenue increases of 3% per year**, implemented by Jan. 1 of each year, would need to be achieved to meet the requirements of Option 1.

Table RW-1 Reclaimed Water Summary Pro Forma							
Description	2015	2016	2017	2018	2019	2020	
<b>Operating Fund - Reclaimed</b>							
<b>Beginning Unrestricted Fund Balance</b>	\$ 1,108,755	\$ 677,713	\$ 926,048	\$ 1,199,202	\$ 961,078	\$ 795,714	
Reclaimed Water Rate Revenue Increases	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
% of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%	50%
Rate Revenue	\$ 1,006,466	\$ 1,032,865	\$ 1,075,620	\$ 1,120,145	\$ 1,166,513	\$ 1,214,802	
Operating Revenue	-	-	-	-	-	-	-
Interest Income	6,000	3,000	5,000	6,000	5,000	4,000	
<b>Total Revenue</b>	<b>\$ 1,012,466</b>	<b>\$ 1,035,865</b>	<b>\$ 1,080,620</b>	<b>\$ 1,126,145</b>	<b>\$ 1,171,513</b>	<b>\$ 1,218,802</b>	
Operating Expense	\$ 681,487	\$ 697,920	\$ 717,765	\$ 735,093	\$ 752,858	\$ 771,069	
Minor Capital	6,100	6,222	6,346	6,473	6,603	6,735	
Major Capital Funded with Existing Reserves/Current Cash	672,500	-	-	539,382	494,132	-	
Transfers Out	-	-	-	-	-	-	
Non Operating Expenses	-	-	-	-	-	-	
Existing Revenue Bond Debt Service	83,420	83,388	83,355	83,321	83,285	83,248	
New Revenue Bond Debt Service	-	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ 1,443,508</b>	<b>\$ 787,530</b>	<b>\$ 807,466</b>	<b>\$ 1,364,269</b>	<b>\$ 1,336,877</b>	<b>\$ 861,052</b>	
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 677,713</b>	<b>\$ 926,048</b>	<b>\$ 1,199,202</b>	<b>\$ 961,078</b>	<b>\$ 795,714</b>	<b>\$ 1,153,463</b>	
<b>Capacity Fees - Water (1)</b>							
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sources of Funds (1)	672,500	-	-	455,000	350,000	-	-
Uses of Funds	672,500	-	-	455,000	350,000	-	-
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Summary of Key Metrics:</b>							
	<b>Target</b>						
Unrestricted Operating Funds (Min)	25%	67%	89%	111%	85%	68%	95%
Debt Service Coverage (Min)	1.40	2.08	1.61	2.11	1.76	1.91	1.59
Debt Service Threshold (Max)	20%	17%	20%	19%	24%	22%	28%

Notes: (1) Water Capacity Fees include Reclaimed Water Projects. Amounts shown reflect Reclaimed Water portion of Water Capacity Fee in applicable years.

Note: Additional detail associated with this table can be found in Appendix C1 in Reclaimed Schedule A - 1



Note at the bottom of Table RW-1 that the Debt Service threshold, established as Policy A1.1 of the Utility, has been exceeded in Fiscal Years 2018 – 2020. This was necessary in order to mitigate further rate increases which would have been required to generate sufficient cash as to replace the debt funding assumed in this option, Option 1.

However, as a means of demonstrating the reclaimed water rate impact of a stringent adherence to Policy A1.1, we present Option 2 next.

**Option 2 – Meets all funding / financial policies INCLUDING the 20% Debt Service Threshold**

Table RW-2 below presents the resulting financial plan, including annual water rate revenue increases required, to meet the stated requirements of this scenario. Note that **annual reclaimed water rate revenue increases of 7% per year**, implemented by Jan. 1 of each year, would need to be achieved to meet the requirements of Option 2.

Table RW-2 Reclaimed Water Summary Pro Forma							
Description	2015	2016	2017	2018	2019	2020	
<b>Operating Fund - Reclaimed</b>							
<b>Beginning Unrestricted Fund Balance</b>	\$ 1,108,755	\$ 677,713	\$ 946,400	\$ 1,283,344	\$ 1,157,731	\$ 1,160,387	
<b>Reclaimed Water Rate Revenue Increases</b>	0.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
<b>% of Year Rate Increase Effective</b>	50%	50%	50%	50%	50%	50%	50%
Rate Revenue	\$ 1,006,466	\$ 1,053,217	\$ 1,139,410	\$ 1,232,656	\$ 1,333,533	\$ 1,442,667	
Operating Revenue	-	-	-	-	-	-	-
Interest Income	6,000	3,000	5,000	6,000	6,000	6,000	
<b>Total Revenue</b>	\$ 1,012,466	\$ 1,056,217	\$ 1,144,410	\$ 1,238,656	\$ 1,339,533	\$ 1,448,667	
Operating Expense	\$ 681,487	\$ 697,920	\$ 717,765	\$ 735,093	\$ 752,858	\$ 771,069	
Minor Capital	6,100	6,222	6,346	6,473	6,603	6,735	
Major Capital Funded with Existing Reserves/Current Cash	672,500	-	-	539,382	494,132	-	
Transfers Out	-	-	-	-	-	-	
Non Operating Expenses	-	-	-	-	-	-	
Existing Revenue Bond Debt Service	83,420	83,388	83,355	83,321	83,285	83,248	
New Revenue Bond Debt Service	-	-	-	-	-	-	
<b>Total Expenses</b>	\$ 1,443,508	\$ 787,530	\$ 807,466	\$ 1,364,269	\$ 1,336,877	\$ 861,052	
<b>Ending Unrestricted Fund Balance</b>	\$ 677,713	\$ 946,400	\$ 1,283,344	\$ 1,157,731	\$ 1,160,387	\$ 1,748,001	
<b>Capacity Fees - Water (1)</b>							
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Sources of Funds (1)	672,500	-	-	455,000	350,000	-	
Uses of Funds	672,500	-	-	455,000	350,000	-	
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Summary of Key Metrics:</b>							
	<b>Target</b>						
Unrestricted Operating Funds (Min)	25%	67%	90%	112%	93%	87%	121%
Debt Service Coverage (Min)	1.40	2.08	1.71	2.38	2.25	2.58	2.47
Debt Service Threshold (Max)	20%	17%	19%	17%	20%	18%	20%

Notes: (1) Water Capacity Fees include Reclaimed Water Projects. Amounts shown reflect Reclaimed Water portion of Water Capacity Fee in applicable years.

## **5.6. Reclaimed Water Cost of Service Analysis**

Willdan did not evaluate the cost allocations for the Reclaimed Water Utility as we had difficulty validating the Reclaimed Water billing data to within acceptable tolerances. Under a circumstance such as this, the alternative approach is to raise all rates the same to maintain the existing cost of service as determined in the prior rate study. During our discussions with the City, nothing came to our attention that would lead us to believe the prior cost of service study is not still valid so we propose the City raise all reclaimed water rates by the percentages presented herein.

## 5.7. Reclaimed Water Rate Schedules

### 5.7.1.1. Reclaimed Water Rate Option 1

Reclaimed Water rate option 1 assumes the existing fixed and flow rates are increased by 3.0%.

Table RW-3							Rate Option 1
Reclaimed Water							
Reclaimed Water Rate Structure - Fixed Charges							
Monthly Fixed Charge - Inside City							
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	
0.75	\$ 13.42	\$ 13.83	\$ 14.25	\$ 14.68	\$ 15.13	\$ 15.59	
1	15.80	16.28	16.77	17.28	17.80	18.34	
1.5	21.75	22.41	23.09	23.79	24.51	25.25	
2	28.90	29.77	30.67	31.60	32.55	33.53	
3	45.57	46.94	48.35	49.81	51.31	52.85	
4	69.38	71.47	73.62	75.83	78.11	80.46	
6	128.91	132.78	136.77	140.88	145.11	149.47	
8	200.34	206.36	212.56	218.94	225.51	232.28	
10	283.68	292.20	300.97	310.00	319.30	328.88	

\*Outside City rates 1.10x higher  
\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

Table RW-4							Rate Option 1
Reclaimed Water							
Reclaimed Water Rate Structure - Flow Charges							
Flow Charge per 1,000 Gallons - Inside City							
Rate Code	Description	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
R1	Private Residential (R1)						
R1	0-3,700 Gal/Mo	\$ 1.23	\$ 1.27	\$ 1.31	\$ 1.35	\$ 1.40	\$ 1.45
R1	3,701 – 6,400 Gal/Mo	1.52	1.57	1.62	1.67	1.73	1.79
R1	6,401 – 11,700 Gal/Mo	2.20	2.27	2.34	2.42	2.50	2.58
R2	11,701 + Gal/Mo	4.13	4.26	4.39	4.53	4.67	4.82
C	Commercial (no main ext) (C)	1.59	1.64	1.69	1.75	1.81	1.87
C	Commercial (w/ main ext) (C)	3.40	3.51	3.62	3.73	3.85	3.97
MN	Manufacturing (no main ext) (MN)	1.57	1.62	1.67	1.73	1.79	1.85
MN	Manufacturing (no main ext) (MN)	3.17	3.27	3.37	3.48	3.59	3.70
NA	NAU (Sinclair Wash – I/M Fields) (NA)	1.48	1.53	1.58	1.63	1.68	1.74
NA	NAU (all other) (NA)	3.17	3.27	3.37	3.48	3.59	3.70
MU	City Departmental (MU)	1.59	1.64	1.69	1.75	1.81	1.87
HM	Hydrant Meter (HM)	3.55	3.66	3.77	3.89	4.01	4.14
SP	Standpipe (SP)	3.87	3.99	4.11	4.24	4.37	4.51
WR	Off Peak / Golf Course (WR)						
WR	0 – 150 Million Gal	1.38	1.43	1.48	1.53	1.58	1.63
WR	150 Million + Gal	1.07	1.11	1.15	1.19	1.23	1.27
WR	Untreated Surface Water	1.32	1.36	1.41	1.46	1.51	1.56

\*Outside City rates 1.10x higher  
\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

### 5.7.1.2. Reclaimed Water Rate Option 2

Reclaimed Water rate option 2 assumes the existing fixed and flow rates are increased by 7.0%.

Table RW-5							Rate Option 2	
Reclaimed Water								
Reclaimed Water Rate Structure - Fixed Charges								
Monthly Fixed Charge - Inside City								
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20		
0.75	\$ 13.42	\$ 14.36	\$ 15.37	\$ 16.45	\$ 17.61	\$ 18.85		
1	15.80	16.91	18.10	19.37	20.73	22.19		
1.5	21.75	23.28	24.91	26.66	28.53	30.53		
2	28.90	30.93	33.10	35.42	37.90	40.56		
3	45.57	48.76	52.18	55.84	59.75	63.94		
4	69.38	74.24	79.44	85.01	90.97	97.34		
6	128.91	137.94	147.60	157.94	169.00	180.83		
8	200.34	214.37	229.38	245.44	262.63	281.02		
10	283.68	303.54	324.79	347.53	371.86	397.90		

\*Outside City rates 1.10x higher  
\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

Table RW-6							Rate Option 2	
Reclaimed Water								
Reclaimed Water Rate Structure - Flow Charges								
Flow Charge per 1,000 Gallons - Inside City								
Rate Code	Description	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	
R1	Private Residential (R1)							
R1	0-3,700 Gal/Mo	\$ 1.23	\$ 1.32	\$ 1.42	\$ 1.52	\$ 1.63	\$ 1.75	
R1	3,701 – 6,400 Gal/Mo	1.52	1.63	1.75	1.88	2.02	2.17	
R1	6,401 – 11,700 Gal/Mo	2.20	2.36	2.53	2.71	2.90	3.11	
R2	11,701 + Gal/Mo	4.13	4.42	4.73	5.07	5.43	5.82	
C	Commercial (no main ext) (C)	1.59	1.71	1.83	1.96	2.10	2.25	
C	Commercial (w/ main ext) (C)	3.40	3.64	3.90	4.18	4.48	4.80	
MN	Manufacturing (no main ext) (MN)	1.57	1.68	1.80	1.93	2.07	2.22	
MN	Manufacturing (no main ext) (MN)	3.17	3.40	3.64	3.90	4.18	4.48	
NA	NAU (Sinclair Wash – I/M Fields) (NA)	1.48	1.59	1.71	1.83	1.96	2.10	
NA	NAU (all other) (NA)	3.17	3.40	3.64	3.90	4.18	4.48	
MU	City Departmental (MU)	1.59	1.71	1.83	1.96	2.10	2.25	
HM	Hydrant Meter (HM)	3.55	3.80	4.07	4.36	4.67	5.00	
SP	Standpipe (SP)	3.87	4.15	4.45	4.77	5.11	5.47	
WR	Off Peak / Golf Course (WR)							
WR	0 – 150 Million Gal	1.38	1.48	1.59	1.71	1.83	1.96	
WR	150 Million + Gal	1.07	1.15	1.24	1.33	1.43	1.54	
WR	Untreated Surface Water	1.32	1.42	1.52	1.63	1.75	1.88	

\*Outside City rates 1.10x higher  
\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

## Section 6 - Stormwater Rate Study Development and Results

### 6.1. Summary of Stormwater Rate Study Scenarios

During the conduct of the Rate Study, we evaluated numerous options. The following are the options agreed upon by Staff and Willdan, after review of several options with the Water Commission, which warranted inclusion in the Report.

The following table summarizes the Stormwater Rate Study Options. Further review of any particular scenario may be done by reviewing the requisite section of the report pertaining to the option the reviewer wishes to investigate.

Description of Stormwater Rate Study Options		
Option	Financial Plan Option	Description
<b>Option 1</b>	3.0% Annual Increase in Rate Revenue	Funds Baseline \$400,000 per year of Capital Projects - with Cash
<b>Option 2</b>	6.0% Annual Increase in Rate Revenue	Funds \$600,000 per year of Capital Projects - with Cash
<b>Option 3</b>	6.0% Annual Increase in Rate Revenue	Funds \$1,000,000 per year of Capital Projects - with Cash/Debt
<b>Option 4</b>	15.0% Annual Increase in Rate Revenue	Funds Rio De Flag Capital Projects (~\$15M) - with Cash/Debt

### 6.2. General Methodology

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Utility, a determination of the annual revenue from rates which, combined with other sources of funds, will provide sufficient funds to meet those fiscal requirements must first be completed. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis resulted in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage, as applicable), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements were then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet requirements. To the extent that the existing revenue stream was not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases were calculated to provide revenue sufficient to meet those needs.

The Capital Improvement Plan (CIP), including the timing of projects and estimated costs, was provided by the Utility. Willdan relied on this information and the CIP was fully integrated into the Revenue Sufficiency Analysis.

### 6.3. Financial Management Goals of the Stormwater Utility

The financial management goals of the City's Stormwater Utility are described below.

#### 6.3.1.1. Debt Service Ceiling

Utilities are a capital intensive business. Oftentimes it is difficult to fully fund the significant capital requirements, whether driven by growth, regulatory pressures and/or system repair and maintenance, without the measured use of debt. As a means of controlling the debt load of the Water, Sewer, Reclaimed Water utilities the City has established a debt policy as follows.

***Policy A1.1     The annual payment of debt service should not exceed 20% of total annual Operating Revenues.***

No such policy exists for Stormwater of which we are aware. However, we have presented the calculation of debt service as a percent of Operating Revenues in the tables presented herein for informational purposes.

#### 6.3.1.2. Debt Service Coverage

The Stormwater Utility has no existing debt and, as such, no debt service coverage requirement. For scenarios where we project the need for new debt, we have assumed that, to secure this debt, a pledge of utility net revenue as the source of repayment for the debt will be required and made by the City's Utility. We also assumed that a debt service coverage requirement will need to be met in each year in which the debt is outstanding. Debt service coverage requirements generally mandate some multiple of annual net revenue, defined as operating revenue less operating expenses, as compared to annual debt service payments due.

Consistent with the Water, Sewer and Reclaimed Water utilities, we have assumed that a 1.40x debt service coverage ratio was prudent for this analysis. This means that in each year that a debt service payment is to be made, the Utility must generate net revenue that is at least 1.40x the annual debt service payment to be made in that year

### 6.3.1.3. Minimum Unrestricted Operating Reserve Fund Balance

In order to maintain a certain level of liquidity, utilities typically establish some form of unrestricted operating reserve fund balance target. Guided by the City's policy in this regard the analysis presented herein has a goal of an unrestricted working capital operating fund reserve amount greater than, or equal to, approximately 10% of Operating Revenues. The City's policy is as follows:

***Policy A2.1     The Stormwater Utility shall have a goal of maintaining more than 10% of the total estimated annual Operational Revenues in reserve for future obligations plus an allowance for unbudgeted contingencies.***

## 6.4. Stormwater Revenue Sufficiency Options

During our analysis we reviewed many options in order to balance to objectives of meeting the financial, operational, and management goals/policies of the Stormwater Utility. As a result of nearly a dozen meetings with the City to review data, assumptions and results we have focused this Report on a manageable number of options for consideration by the City. For the Stormwater Utility, the options center around the annual level of Capital Projects to be funded within the Stormwater Utility.

- **Stormwater Revenue Sufficiency Option 1**
  - Funds baseline operating costs
  - Funds the FY 15 Capital Plan
  - Funds an annual Capital Plan of \$400,000 with cash only
- **Stormwater Revenue Sufficiency Option 2**
  - Funds baseline operating costs
  - Funds the FY 15 Capital Plan
  - Funds an annual Capital Plan of \$600,000 with cash only
- **Stormwater Revenue Sufficiency Option 3**
  - Funds baseline operating costs
  - Funds the FY 15 Capital Plan

- Funds an annual Capital Plan of \$1,000,000 with a mixture of cash and debt
- **Stormwater Revenue Sufficiency Option 4**
  - Funds baseline operating costs
  - Funds the FY 15 Capital Plan
  - Funds an annual Capital Plan of \$400,000 PLUS the Rio De Flag Capital Projects for FY 2016-20

## 6.5. Stormwater Revenue Sufficiency Analysis

### 6.5.1 Data Items

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Utility
- Beginning Balances related to the FY 2014 Comprehensive Annual Financial Report
- Sources of Funds from FY 2015 Operating Budget and resulting projections
- Uses of Funds from FY 2015 Operating Budget and resulting projections
- Capital Improvements Plan (CIP)
- General assumptions related to:
  - Customer growth
  - Cost escalation factors
  - New debt terms

## 6.5.2 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

### 6.5.2.1. Growth

Based on discussion with the City, it was decided to assume approximately 1% annual growth in utility customer base during the forecast period.

### 6.5.2.2. Cost Escalation Factors

Based on discussion with the City, it was decided to assume annual operating costs escalated at approximately 2% per year.

### 6.5.2.3. New Debt Terms

Based on discussion with the City, it was assumed that new debt would carry a 30 year repayment term at a rate of 5.5% per year.<sup>13 14</sup>

---

<sup>13</sup> Willdan is not a financial advisor to the City with respect to debt terms, and urges the City to seek guidance from professionals in the arena of debt terms in order to validate our general assumptions for purposes of this analysis.

<sup>14</sup> In the event the City chose/voted to not issue new debt for capital projects then the projects would need to be eliminated from the capital plan or funded through another funding source.

### 6.5.3 Results of the Stormwater Revenue Sufficiency Analysis – Option 1

The results of Option 1 for the Stormwater Revenue Sufficiency Analysis are presented below. In order to fund the baseline capital plan of approximately \$400,000 per year annual revenue increases of 3% will be required in each year of the forecast period.

A more detail presentation of the data, analysis and results of this scenario is presented in Appendix C1.

Table SW-1 Stormwater Summary Pro Forma		Option 1					
Description	2015	2016	2017	2018	2019	2020	
<b>Operating Fund - Stormwater</b>							
<b>Beginning Unrestricted Fund Balance</b>	\$ 819,728	\$ 400,486	\$ 396,460	\$ 418,314	\$ 467,609	\$ 546,194	
Stormwater Rate Revenue Increases	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
% of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%	
Rate Revenue	\$ 1,460,541	\$ 1,497,274	\$ 1,557,614	\$ 1,620,386	\$ 1,685,688	\$ 1,753,622	
Operating Revenue	230,000	30,000	30,000	30,000	30,000	30,000	
Interest Income	4,000	2,000	2,000	2,000	2,000	3,000	
<b>Total Revenue</b>	<b>\$ 1,694,541</b>	<b>\$ 1,529,274</b>	<b>\$ 1,589,614</b>	<b>\$ 1,652,386</b>	<b>\$ 1,717,688</b>	<b>\$ 1,786,622</b>	
Operating Expense	\$ 1,600,683	\$ 1,121,300	\$ 1,143,400	\$ 1,166,000	\$ 1,188,900	\$ 1,212,400	
Minor Capital	-	-	-	-	-	-	
Major Capital Funded with Existing Reserves/Current Cash	513,100	412,000	424,360	437,091	450,204	463,710	
Transfers Out	-	-	-	-	-	-	
Non Operating Expenses	-	-	-	-	-	-	
Existing Revenue Bond Debt Service	-	-	-	-	-	-	
New Revenue Bond Debt Service	-	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ 2,113,783</b>	<b>\$ 1,533,300</b>	<b>\$ 1,567,760</b>	<b>\$ 1,603,091</b>	<b>\$ 1,639,104</b>	<b>\$ 1,676,110</b>	
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 400,486</b>	<b>\$ 396,460</b>	<b>\$ 418,314</b>	<b>\$ 467,609</b>	<b>\$ 546,194</b>	<b>\$ 656,706</b>	
<b>Transfers from GF for Projects</b>							
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Sources of Funds (1)	3,538,796	-	-	-	-	-	
Uses of Funds	3,538,796	-	-	-	-	-	
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Summary of Key Metrics:</b>							
	<b>Target</b>						
Unrestricted Operating Funds (Min)	10%	24%	26%	26%	28%	37%	
Debt Service Coverage (Min)	1.40	-	-	-	-	-	
Debt Service Threshold (Max)	20%	0%	0%	0%	0%	0%	

Note: Additional detail associated with this table can be found in Appendix D1 in Stormwater Schedule A - 1

### 6.5.4 Results of the Stormwater Revenue Sufficiency Analysis – Option 2

The results of Option 2 for the Stormwater Revenue Sufficiency Analysis are presented below. In order to fund a capital plan of approximately \$600,000 per year annual revenue increases of 6% will be required in each year of the forecast period.

A more detail presentation of the data, analysis and results of this scenario is presented in Appendix C2.

Table SW-2 Stormwater Summary Pro Forma		Option 2					
Description	2015	2016	2017	2018	2019	2020	
<b>Operating Fund - Stormwater</b>							
<b>Beginning Unrestricted Fund Balance</b>	\$ 819,728	\$ 400,486	\$ 245,587	\$ 174,857	\$ 181,370	\$ 287,934	
<b>Stormwater Rate Revenue Increases</b>	0.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
<b>% of Year Rate Increase Effective</b>	50%	50%	50%	50%	50%	50%	
Rate Revenue	\$ 1,460,541	\$ 1,519,401	\$ 1,626,670	\$ 1,741,513	\$ 1,864,464	\$ 1,996,095	
Operating Revenue	230,000	30,000	30,000	30,000	30,000	30,000	
Interest Income	4,000	2,000	1,000	1,000	1,000	1,000	
<b>Total Revenue</b>	<b>\$ 1,694,541</b>	<b>\$ 1,551,401</b>	<b>\$ 1,657,670</b>	<b>\$ 1,772,513</b>	<b>\$ 1,895,464</b>	<b>\$ 2,027,095</b>	
Operating Expense	\$ 1,600,683	\$ 1,121,300	\$ 1,143,400	\$ 1,166,000	\$ 1,188,900	\$ 1,212,400	
Minor Capital	-	-	-	-	-	-	
Major Capital Funded with Existing Reserves/Current Cash	513,100	585,000	585,000	600,000	600,000	600,000	
Transfers Out	-	-	-	-	-	-	
Non Operating Expenses	-	-	-	-	-	-	
Existing Revenue Bond Debt Service	-	-	-	-	-	-	
New Revenue Bond Debt Service	-	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ 2,113,783</b>	<b>\$ 1,706,300</b>	<b>\$ 1,728,400</b>	<b>\$ 1,766,000</b>	<b>\$ 1,788,900</b>	<b>\$ 1,812,400</b>	
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 400,486</b>	<b>\$ 245,587</b>	<b>\$ 174,857</b>	<b>\$ 181,370</b>	<b>\$ 287,934</b>	<b>\$ 502,629</b>	
<b>Transfers from GF for Projects</b>							
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Sources of Funds (1)	3,538,796	-	-	-	-	-	
Uses of Funds	3,538,796	-	-	-	-	-	
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Summary of Key Metrics:</b>							
	<b>Target</b>						
Unrestricted Operating Funds (Min)	10%	24%	16%	11%	10%	25%	
Debt Service Coverage (Min)	1.40	-	-	-	-	-	
Debt Service Threshold (Max)	20%	0%	0%	0%	0%	0%	

Note: Additional detail associated with this table can be found in Appendix D2 in Stormwater Schedule A - 1

### 6.5.5 Results of the Stormwater Revenue Sufficiency Analysis – Option 3

The results of Option 3 for the Stormwater Revenue Sufficiency Analysis are presented below. In order to fund a capital plan of approximately \$1,000,000 per year annual revenue increases of 6% will be required in FY’s 15-19 and then 3% in FY 20. Note that the use of debt as a supplemental funding source allows us to fund approximately \$400,000 per year more capital than in Option 2 for essentially the same level of rates.

A more detail presentation of the data, analysis and results of this scenario is presented in Appendix C3.

Table SW-3 Stormwater Summary Pro Forma		Option 3					
Description	2015	2016	2017	2018	2019	2020	
<b>Operating Fund - Stormwater</b>							
Beginning Unrestricted Fund Balance	\$ 819,728	\$ 400,486	\$ 155,140	\$ 165,767	\$ 177,251	\$ 189,546	
Stormwater Rate Revenue Increases	0.0%	6.0%	6.0%	6.0%	6.0%	3.0%	
% of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%	
Rate Revenue	\$ 1,460,541	\$ 1,519,401	\$ 1,626,670	\$ 1,741,513	\$ 1,864,464	\$ 1,967,026	
Operating Revenue	230,000	30,000	30,000	30,000	30,000	30,000	
Interest Income	4,000	2,000	1,000	1,000	1,000	1,000	
<b>Total Revenue</b>	<b>\$ 1,694,541</b>	<b>\$ 1,551,401</b>	<b>\$ 1,657,670</b>	<b>\$ 1,772,513</b>	<b>\$ 1,895,464</b>	<b>\$ 1,998,026</b>	
Operating Expense	\$ 1,600,683	\$ 1,121,300	\$ 1,143,400	\$ 1,166,000	\$ 1,188,900	\$ 1,212,400	
Minor Capital	-	-	-	-	-	-	
Major Capital Funded with Existing Reserves/Current Cash	513,100	646,547	426,965	471,533	525,556	561,613	
Transfers Out	-	-	-	-	-	-	
Non Operating Expenses	-	-	-	-	-	-	
Existing Revenue Bond Debt Service	-	-	-	-	-	-	
New Revenue Bond Debt Service	-	28,900	76,678	123,496	168,713	213,757	
<b>Total Expenses</b>	<b>\$ 2,113,783</b>	<b>\$ 1,796,747</b>	<b>\$ 1,647,043</b>	<b>\$ 1,761,029</b>	<b>\$ 1,883,169</b>	<b>\$ 1,987,770</b>	
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 400,486</b>	<b>\$ 155,140</b>	<b>\$ 165,767</b>	<b>\$ 177,251</b>	<b>\$ 189,546</b>	<b>\$ 199,803</b>	
<b>Transfers from GF for Projects</b>							
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Sources of Funds (1)	3,538,796	-	-	-	-	-	
Uses of Funds	3,538,796	-	-	-	-	-	
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Summary of Key Metrics:</b>							
	<b>Target</b>						
Unrestricted Operating Funds (Min)	10%	24%	10%	10%	10%	10%	
Debt Service Coverage (Min)	1.40	-	14.88	6.71	4.91	3.68	
Debt Service Threshold (Max)	20%	0%	2%	5%	7%	11%	

Note: Additional detail associated with this table can be found in Appendix D3 in Stormwater Schedule A - 1

### 6.5.6 Results of the Stormwater Revenue Sufficiency Analysis – Option 4

The results of Option 4 for the Stormwater Revenue Sufficiency Analysis are presented below.

In order to fund a capital plan of approximately \$400,000 per year plus approximately \$15,000,000 of Rio de Flag capital, annual revenue increases of 15% will be required in FY’s 15-19 and then 3% in FY 20. Much of the capital plan under this scenario would need to be funded with debt in order to mitigate higher rate increases than those presented in this scenario.

A more detail presentation of the data, analysis and results of this scenario is presented in Appendix C4.

Table SW-4 Stormwater Summary Pro Forma		Option 4					
Description	2015	2016	2017	2018	2019	2020	
<b>Operating Fund - Stormwater</b>							
Beginning Unrestricted Fund Balance	\$ 819,728	\$ 400,486	\$ 484,968	\$ 187,389	\$ 217,035	\$ 251,586	
Stormwater Rate Revenue Increases	0.0%	15.0%	15.0%	15.0%	15.0%	3.0%	
% of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%	
Rate Revenue	\$ 1,460,541	\$ 1,585,782	\$ 1,841,886	\$ 2,139,351	\$ 2,484,856	\$ 2,725,072	
Operating Revenue	230,000	30,000	30,000	30,000	30,000	30,000	
Interest Income	4,000	2,000	2,000	1,000	1,000	1,000	
<b>Total Revenue</b>	<b>\$ 1,694,541</b>	<b>\$ 1,617,782</b>	<b>\$ 1,873,886</b>	<b>\$ 2,170,351</b>	<b>\$ 2,515,856</b>	<b>\$ 2,756,072</b>	
Operating Expense	\$ 1,600,683	\$ 1,121,300	\$ 1,143,400	\$ 1,166,000	\$ 1,188,900	\$ 1,212,400	
Minor Capital	-	-	-	-	-	-	
Major Capital Funded with Existing Reserves/Current Cash	513,100	412,000	817,850	523,971	598,359	571,623	
Transfers Out	-	-	-	-	-	-	
Non Operating Expenses	-	-	-	-	-	-	
Existing Revenue Bond Debt Service	-	-	-	-	-	-	
New Revenue Bond Debt Service	-	-	210,215	450,734	694,047	948,027	
<b>Total Expenses</b>	<b>\$ 2,113,783</b>	<b>\$ 1,533,300</b>	<b>\$ 2,171,465</b>	<b>\$ 2,140,705</b>	<b>\$ 2,481,306</b>	<b>\$ 2,732,050</b>	
<b>Ending Unrestricted Fund Balance</b>	<b>\$ 400,486</b>	<b>\$ 484,968</b>	<b>\$ 187,389</b>	<b>\$ 217,035</b>	<b>\$ 251,586</b>	<b>\$ 275,607</b>	
<b>Transfers from GF for Projects</b>							
Beginning Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Sources of Funds (1)	3,538,796	-	-	-	-	-	
Uses of Funds	3,538,796	-	-	-	-	-	
Ending Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Summary of Key Metrics:</b>							
	<b>Target</b>						
Unrestricted Operating Funds (Min)	10%	24%	30%	10%	10%	10%	
Debt Service Coverage (Min)	1.40	-	-	3.47	2.23	1.91	
Debt Service Threshold (Max)	20%	0%	0%	11%	21%	28%	

Note: Additional detail associated with this table can be found in Appendix D4 in Stormwater Schedule A - 1



## 6.6. Stormwater Cost of Service Analysis

During our discussions with the City, it was discussed that the City had no updated database of impervious surface which would be required to update the Cost of Service Analysis for stormwater. This is typical, after a stormwater billing database is established, there typically is not a material change in impervious surface characteristics of the existing customer base. With that said, it is key the City continue to track new stormwater customers or customers which initiate large scale projects which might increase their impervious surface.

## 6.7. Stormwater Rates

### 6.7.1 Stormwater Rates Under Option 1

The proposed Stormwater rates presented in table SW-5 below are projected to fund the operating and capital costs presented in Option 1. It is important to note that this scenario assumes funding of the Capital Plan with cash only.

Table SW-5		Option 1					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.34	\$ 1.39	\$ 1.44	\$ 1.49	\$ 1.54
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.02	\$ 4.17	\$ 4.32	\$ 4.47	\$ 4.62
Monthly \$ Change			\$ 0.12	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

### 6.7.2 Stormwater Rates Under Option 2

The proposed Stormwater rates presented in table SW-6 below are projected to fund the operating and capital costs presented in Option 2. It is important to note that this scenario assumes funding of the Capital Plan with cash only.

Table SW-6		Option 2					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.38	\$ 1.47	\$ 1.56	\$ 1.66	\$ 1.76
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.14	\$ 4.41	\$ 4.68	\$ 4.98	\$ 5.28
Monthly \$ Change			\$ 0.24	\$ 0.27	\$ 0.27	\$ 0.30	\$ 0.30

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.

### 6.7.3 Stormwater Rates Under Option 3

The proposed Stormwater rates presented in table SW-7 below are projected to fund the operating and capital costs presented in Option 3. It is important to note that this scenario assumes funding of the Capital Plan with both cash and new debt.

Table SW-7		Option 3					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.38	\$ 1.47	\$ 1.56	\$ 1.66	\$ 1.71
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.14	\$ 4.41	\$ 4.68	\$ 4.98	\$ 5.13
Monthly \$ Change			\$ 0.24	\$ 0.27	\$ 0.27	\$ 0.30	\$ 0.15

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.



#### 6.7.4 Stormwater Rates Under Option 4

The proposed Stormwater rates presented in table SW-8 below are projected to fund the operating and capital costs presented in Option 4. It is important to note that this scenario assumes funding of the Capital Plan with both cash and new debt.

Table SW-8		Option 4					
Stormwater							
Stormwater Rates per ERU							
		Stormwater Rate per ERU					
		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1 ERU	\$	1.30	\$ 1.50	\$ 1.73	\$ 1.99	\$ 2.29	\$ 2.36
Avg. Single Family Residential (3 ERUs)	\$	3.90	\$ 4.50	\$ 5.19	\$ 5.97	\$ 6.87	\$ 7.08
Monthly \$ Change			\$ 0.60	\$ 0.69	\$ 0.78	\$ 0.90	\$ 0.21

\*\*Rates presented in this table could differ slightly from % increases quoted in report due to rounding.



1440 E. Missouri Avenue, Suite C170  
Phoenix, Arizona 85014-2460  
602.870.7600 | Fax: 602.870.7601  
[www.willdan.com](http://www.willdan.com)

27368 Via Industria, Suite 200  
Temecula, California 92590-4856  
951.587.3500 | Fax: 951.587.3510  
[www.willdan.com](http://www.willdan.com)