

*City of*  
**FLAGSTAFF**

**UTILITIES RATE STUDY**  
**CITY COUNCIL PRESENTATION**



October 6, 2015

# Purpose/Objective

Purpose: develop rates that are sufficient to fund the Operation, Maintenance and Replacement of essential utility infrastructure while maintaining a commitment to affordability, transparency and water conservation.

Objective: Ensure the City can responsibly invest in the infrastructure needed to provide round-the-clock, safe and reliable utility services to ensure the public's health and economic vitality of our community today and into the future.

# Outreach

- ✓ 1-15-15 to 7-16-15      *Water Commission*
- ✓ 6-30-15    *City Council:      Introduction, Timeline Stakeholder & Outreach*
- ✓ 7-14-15    *City Council:      Assessment of the Need*
- ✓ 8-25-15    *City Council :      Notice of Intent to consider rate adjustments*
- ✓ *Stakeholder Outreach:*
  - 7-30-15    *Noon Lions Club*
  - 7-30-15    *Open House – City Hall*
  - 8-18-15    *Arizona Hydrological Society*
  - 8-20-15    *Liberty Alliance*
  - 8-25-15    *Large Reclaimed Irrigators*
  - 9-09-15    *Northern Az Homebuilders Association*
  - 9-09-15    *Northern Az Realtors*
  - 9-16-15    *Chamber of Commerce*
  - 9-17-15    *Southside Community Association*
  - 9-29-15    *Morning Lions Club*
  - 10-07-15    *Arizona Society of Civil Engineers*
  - 10-08-15    *Sierra Club*

# BACKGROUND

- Willdan retained by the City to conduct a Utilities Rate Study
- Development of a financial plan / rates / fees for:
  - Water,
  - Sewer,
  - Reclaimed Water, and
  - Stormwater
- Final Draft analysis complete after many review sessions with Staff and the Water Commission
- Final Draft Report of the Utilities Rate Study presented for City Council consideration



# BACKGROUND



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- Development of a financial plan / rates / fees for:
  - Water,
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  - Stormwater
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- Final Draft Report of the Utilities Rate Study presented for City Council consideration

# KEY ITEMS OF NOTE

- Financial Plan scenarios presented in Utilities Rates and Charges Report are related to Financial Policy A1.1 which states:

*“The annual payment of debt service should not exceed 20% of total annual Operating Revenues.”*

- Option 1

- assumes the phrase “should not exceed” is a guideline, and not a strict mandate that the 20% is never to be exceeded – even at the cost of higher rates.

- Option 2

- assumes the 20% threshold is never exceeded. Result of Option 2 is that rates will need to be marginally higher than those in Option 1.

# KEY ITEMS OF NOTE

- Rate Design Scenarios for Water include the following options for consideration:
  - Continue with existing water rate structure and apply the same level of % increase in rates to all rates
    - % increase would vary by financial plan scenario
  - Adjust residential water rate tiers
  - Add a tiered water rate structure for non-residential customers and keep existing residential water tiers



# RATE STUDY PROCESS



# OVERVIEW OF THE RATE STUDY PROCESS

- Scope of the Rate Study:
  - Water, Wastewater, Reclaimed Water and Stormwater
- Key goals of the Rate Study:
  - Stable revenue stream to fund:
    - Operations & Maintenance
    - Transfers
    - Capital Projects (Debt Service and Cash Funded Capital)
  - Cost of Service-based rates (fair and equitable)
  - Rates designed to meet the requirements set forth in the City's Water Policies
    - Policy A1.1 Debt service < 20% of Operating Revenue
    - Policy A1.2 Reserve >25% of Operating Revenue
    - Policy A3.1 Minimum of 25% of Revenues from Fixed Cost

# OVERVIEW OF RATE STUDY PROCESS

The Approach to all Utility Rate Studies is Remarkably Similar – Regardless of the Service

The 3 Common Phases to All Utility Rate Studies are:

## Revenue Sufficiency Analysis

- Water
- Sewer
- Reclaimed water
- Stormwater

### Purpose of the Analysis:

Development of financial plan which ensures adequate revenue to fund operating / capital expenses, maintain debt service coverage, maintain sufficient fund balances

## Cost of Service Analysis

- Water
- Sewer
- Reclaimed water
- Stormwater

### Purpose of the Analysis:

Development of analysis which assigns net costs to functional / customer cost components to ensure equity among customer classes

## Rate Design Analysis

- Water
- Sewer
- Reclaimed water
- Stormwater

### Purpose of the Analysis:

Development of analysis which assigns rates and charges to customers based on their usage / benefit characteristics



# REVENUE SUFFICIENCY ANALYSIS / FINANCIAL PLAN RESULTS



# REVENUE SUFFICIENCY ANALYSIS RESULTS

## Key Assumptions

- Annual Growth in New Customers
  - ~1% per year
- Annual Cost Escalation Factors
  - 3% for electricity
  - 2% for other applicable costs
- New Debt
  - 30 year term
  - 5.5% interest rate
- Unrestricted Reserve Target
  - $\geq 25\%$  of Operating Revenue for Water, Sewer, Reclaimed
  - $\geq 10\%$  of Operating Revenue for Stormwater
- Debt Service Coverage Target
  - $\geq 1.40x$
  - Policy is 1.20x
- Debt Service Threshold (Debt Service / Operating Revenue)
  - Option 1 - Allow to exceed policy of 20%
  - Option 2 - Does not exceed policy of 20%

# WATER, SEWER AND RECLAIMED WATER OPTIONS

## Option 1

- 3% Annual Revenue Increases
- Fund all projected expenses
- Meets all financial policies, EXCEPT:

– Debt Service Policy which states:

*“The annual payment of debt service should not exceed 20% of total annual Operating Revenues.”*

- Exceeds 20%, to a high of 28%, during 3 of 5 years of the forecast period

## Option 2

- 7% Annual Revenue Increases
- Fund all projected expenses
- Meets all financial policies, including:

– Debt Service Policy which states:

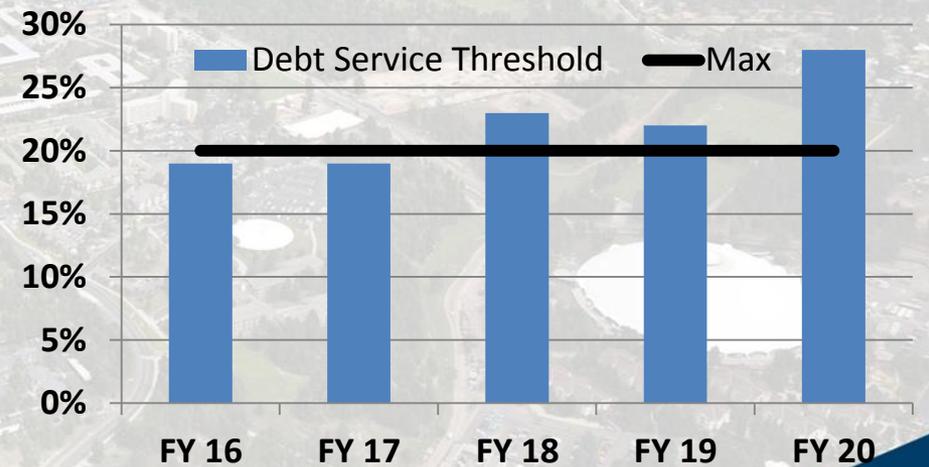
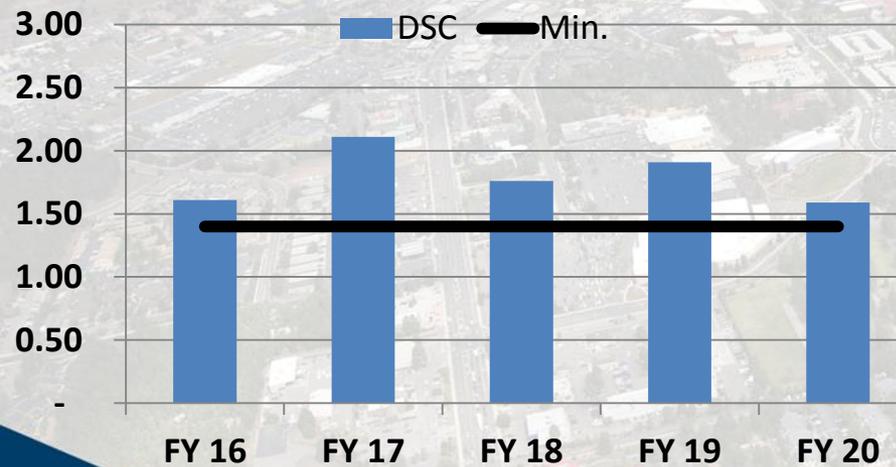
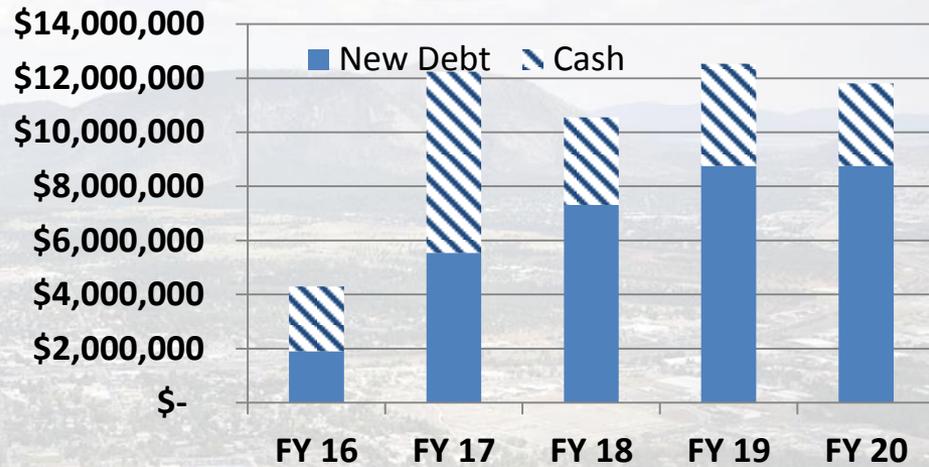
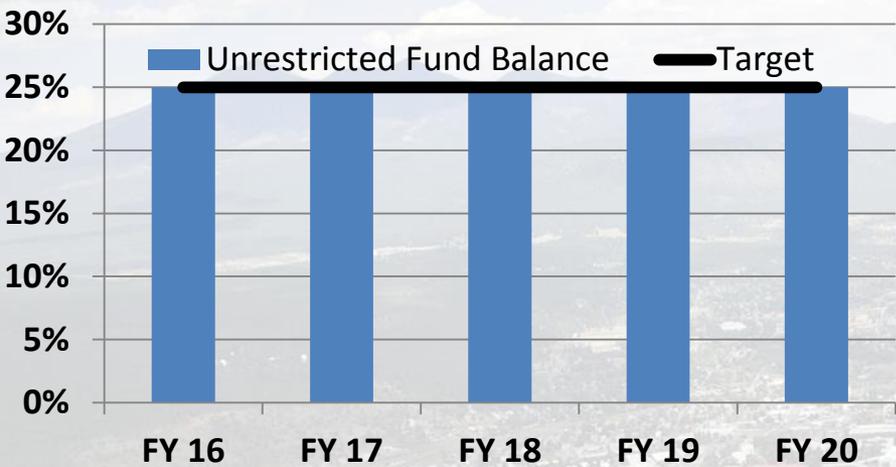
*“The annual payment of debt service should not exceed 20% of total annual Operating Revenues.”*

- Debt service threshold at, or slightly lower than, 20% for forecast period.

# WATER REVENUE SUFFICIENCY ANALYSIS

## OPTION 1

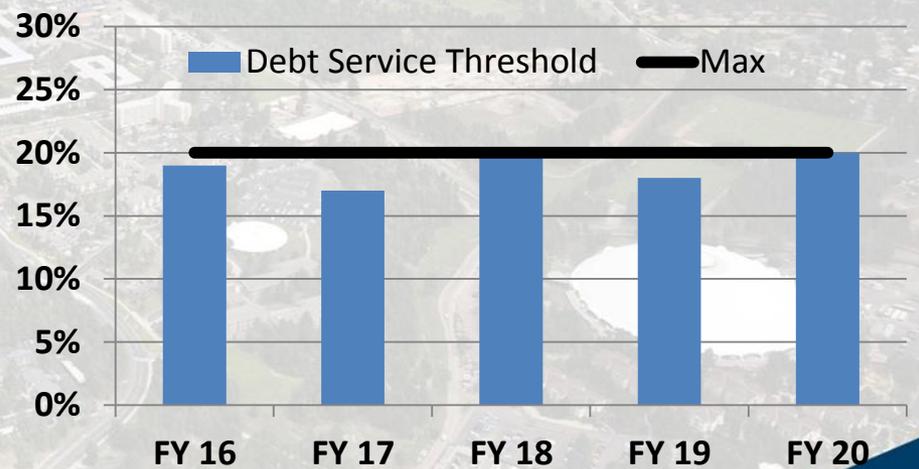
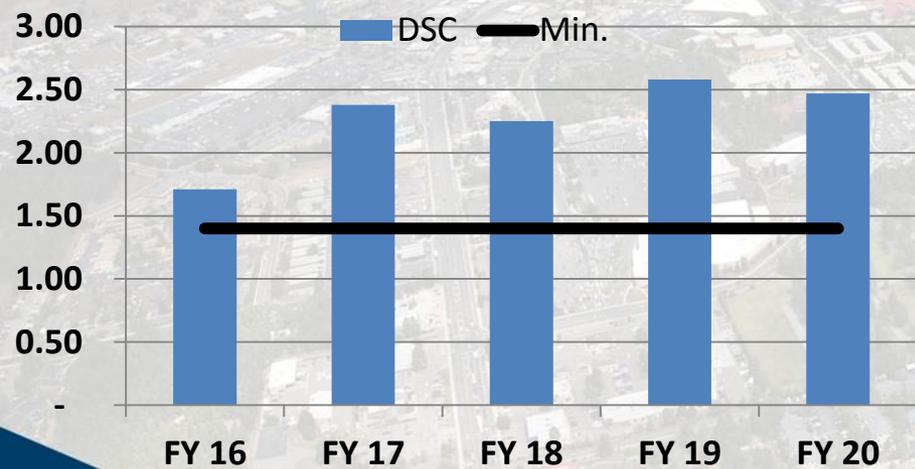
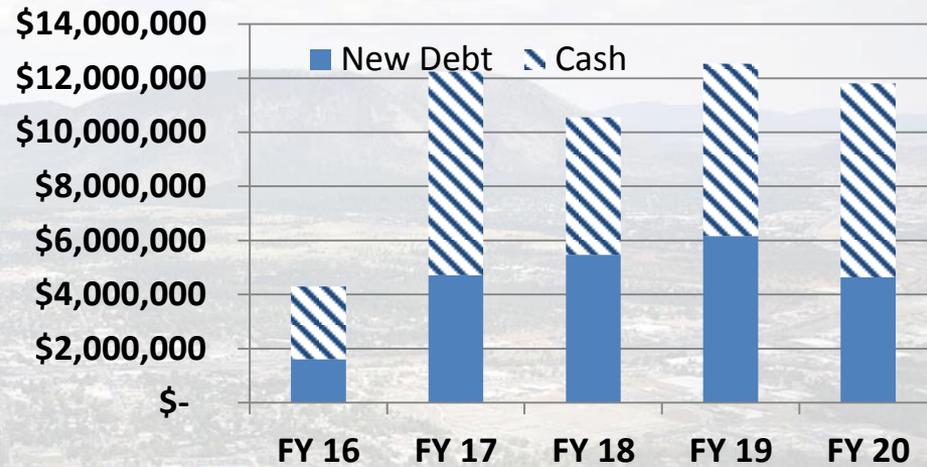
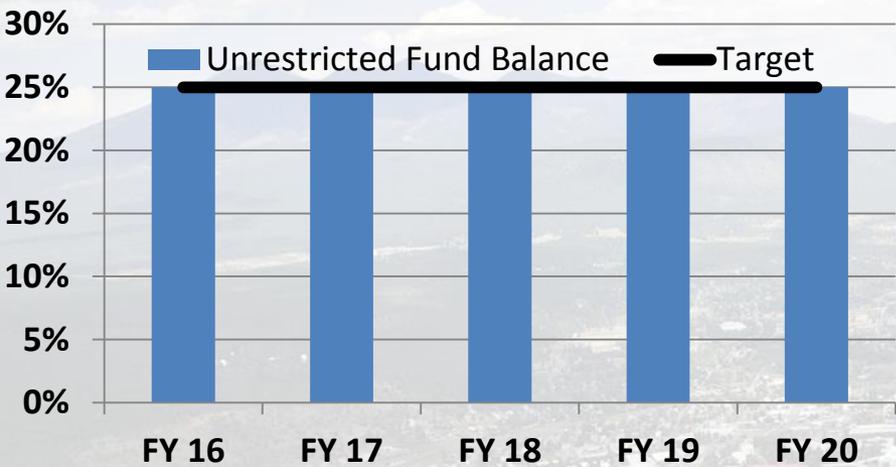
### 3% ANNUAL REVENUE INCREASES



# WATER REVENUE SUFFICIENCY ANALYSIS

## OPTION 2

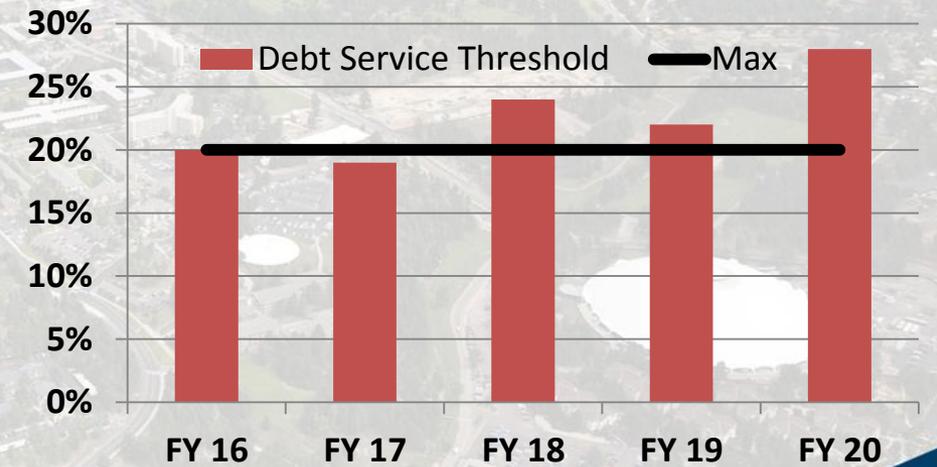
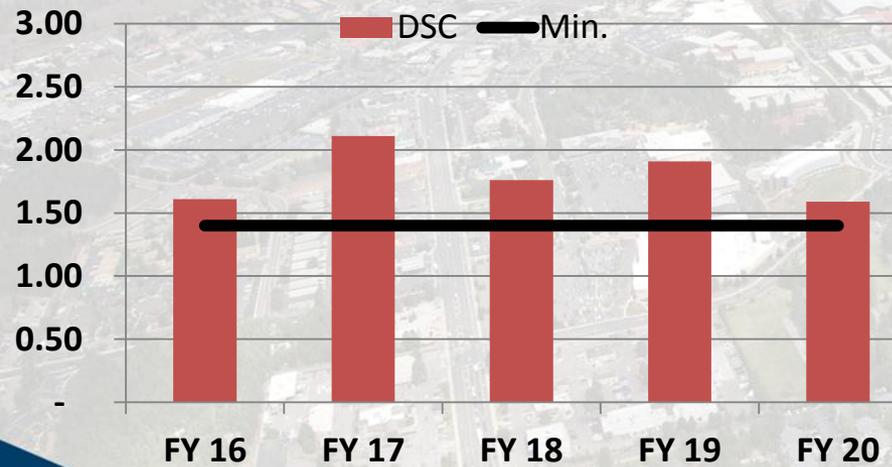
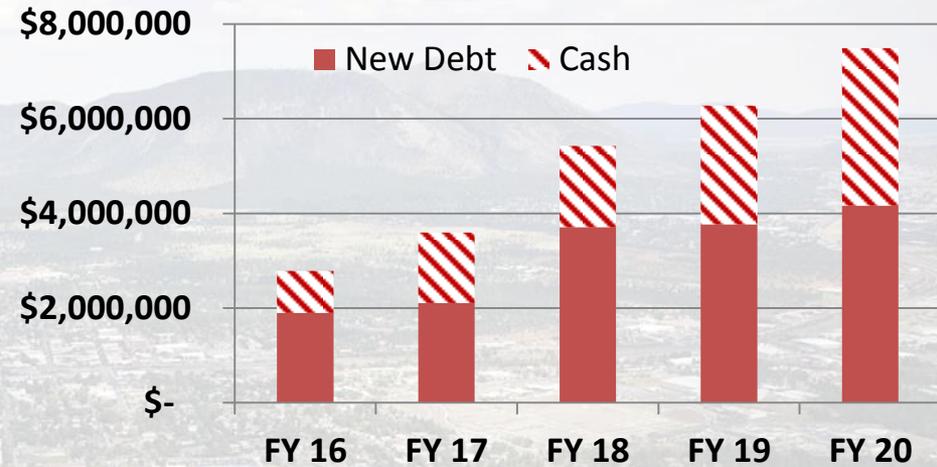
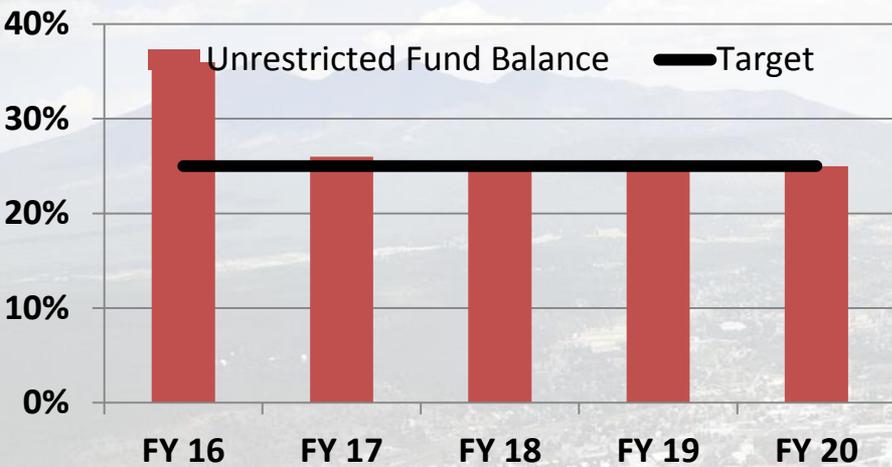
### 7% ANNUAL REVENUE INCREASES



# SEWER REVENUE SUFFICIENCY ANALYSIS

## OPTION 1

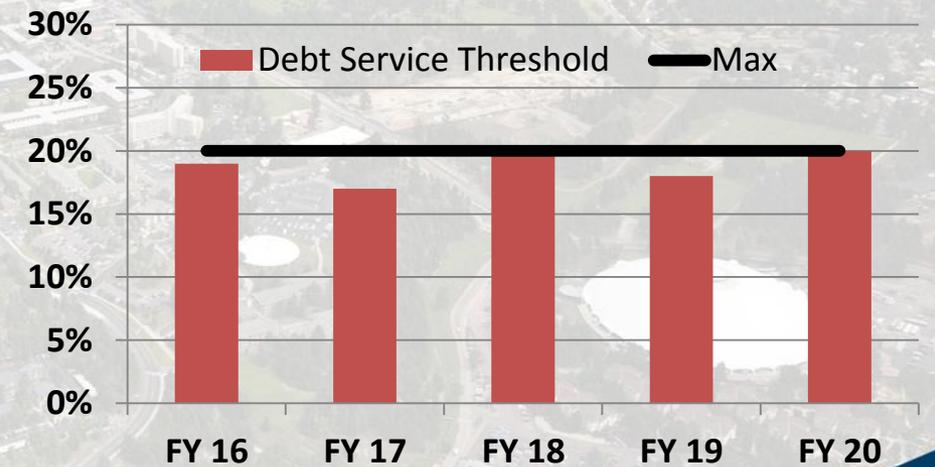
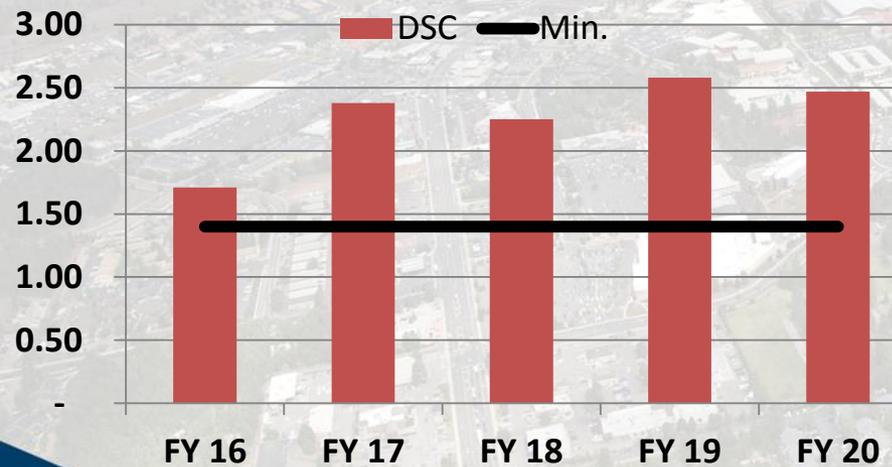
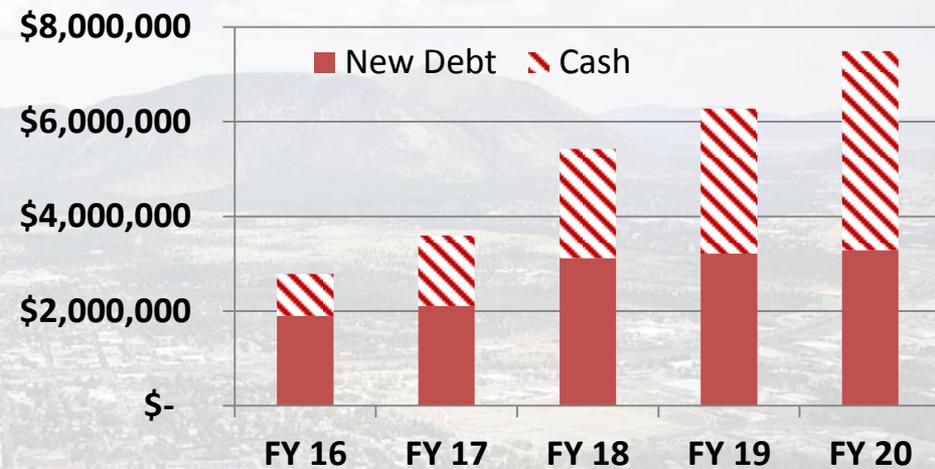
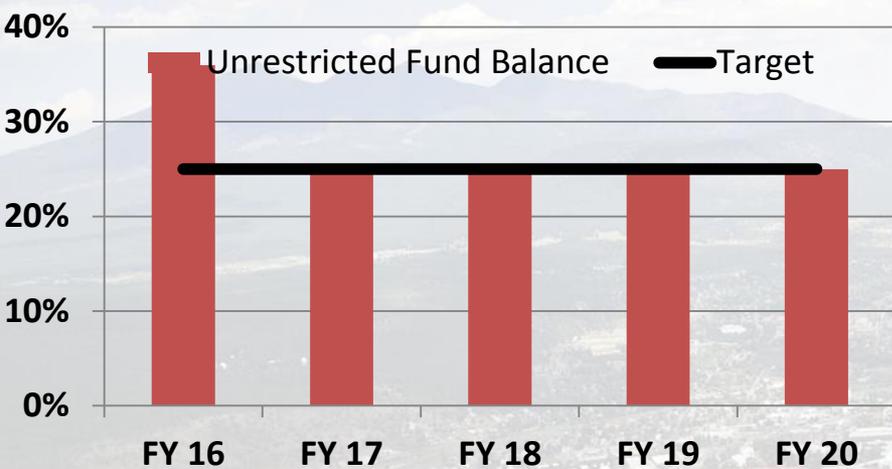
### 5.5% ANNUAL REVENUE INCREASES



# SEWER REVENUE SUFFICIENCY ANALYSIS

## OPTION 2

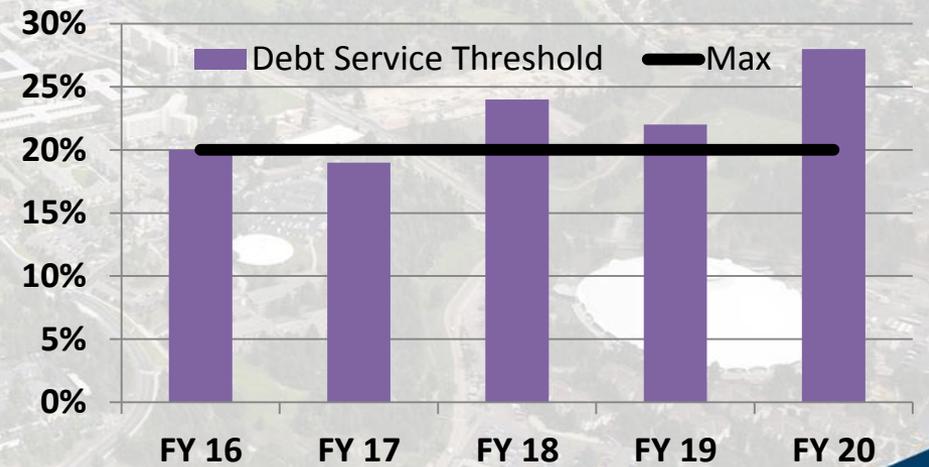
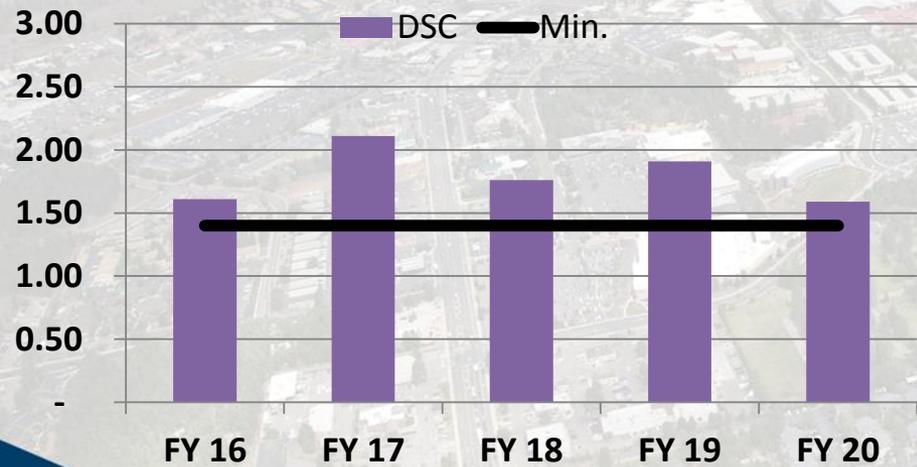
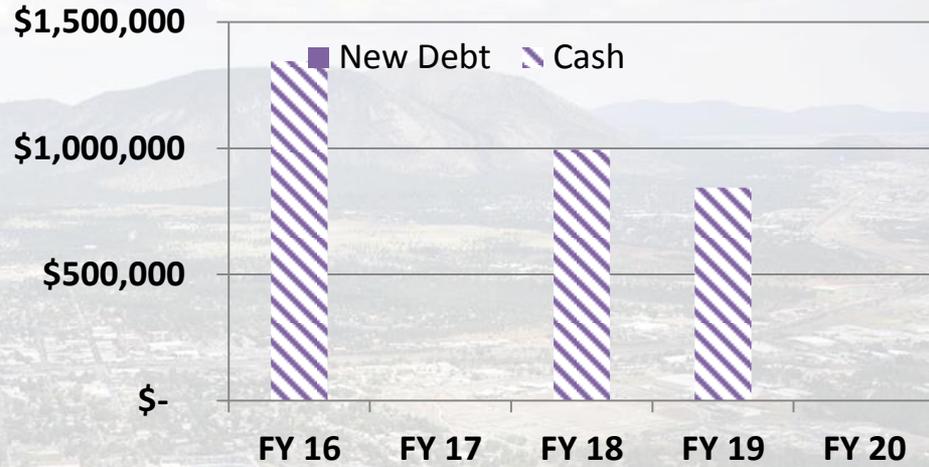
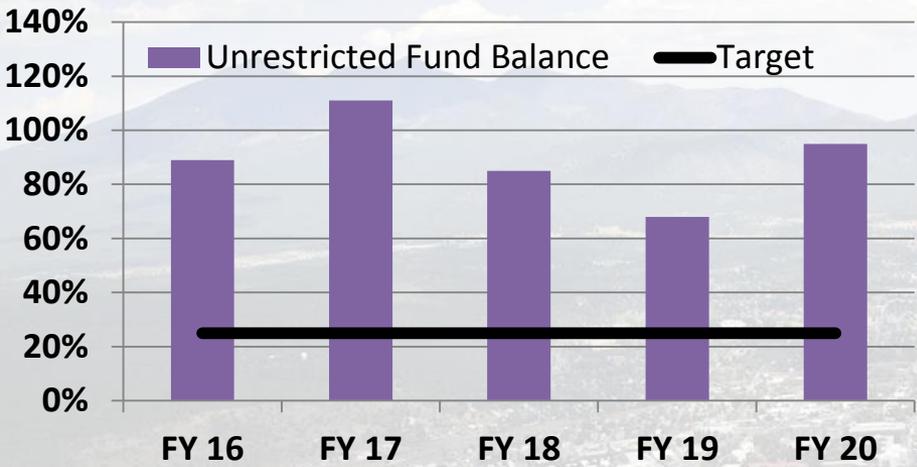
### 7% ANNUAL REVENUE INCREASES



# RECLAIMED WATER REVENUE SUFFICIENCY ANALYSIS

## OPTION 1

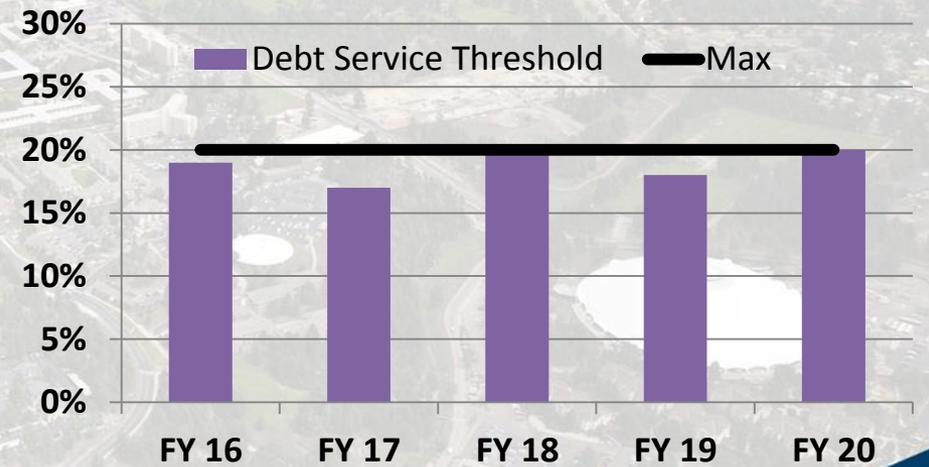
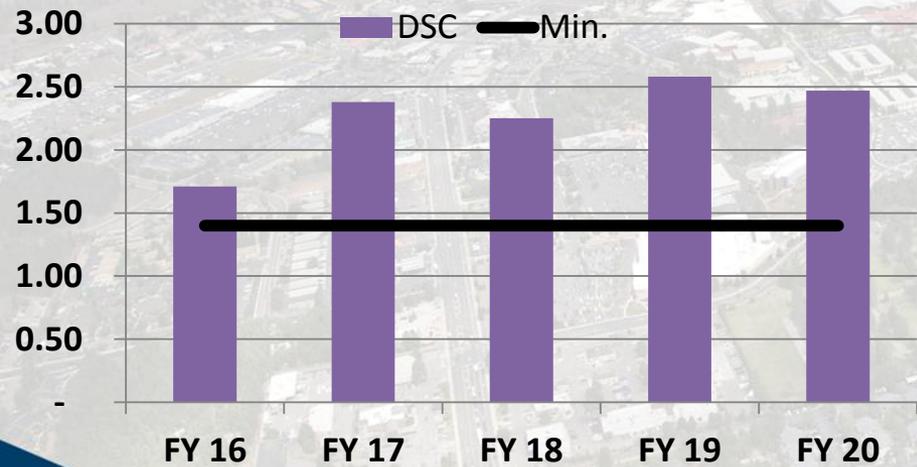
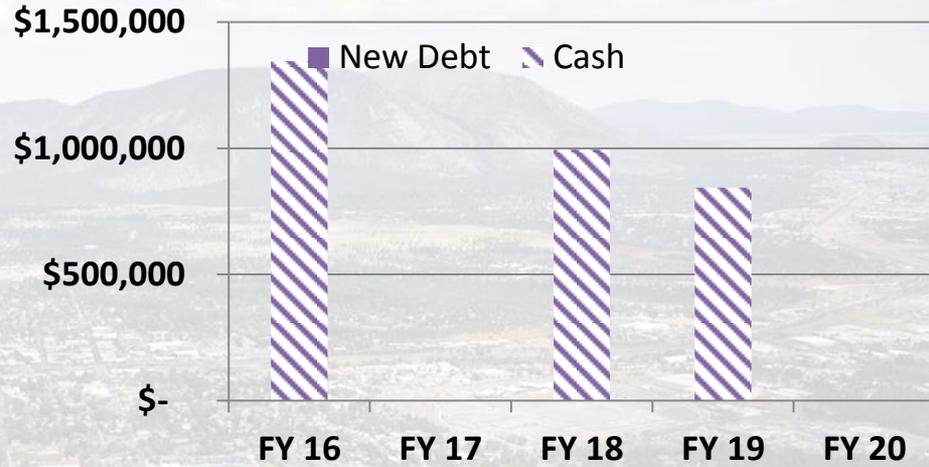
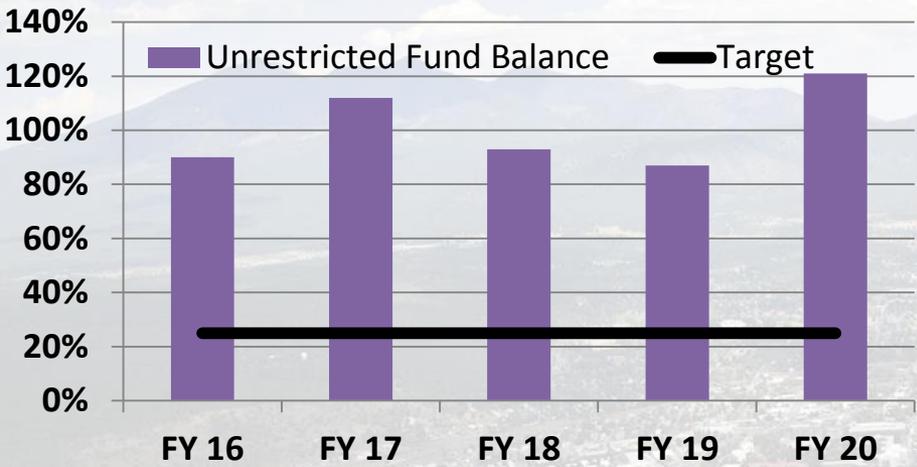
### 3% ANNUAL REVENUE INCREASES



# RECLAIMED WATER REVENUE SUFFICIENCY ANALYSIS

## OPTION 2

### 7% ANNUAL REVENUE INCREASES



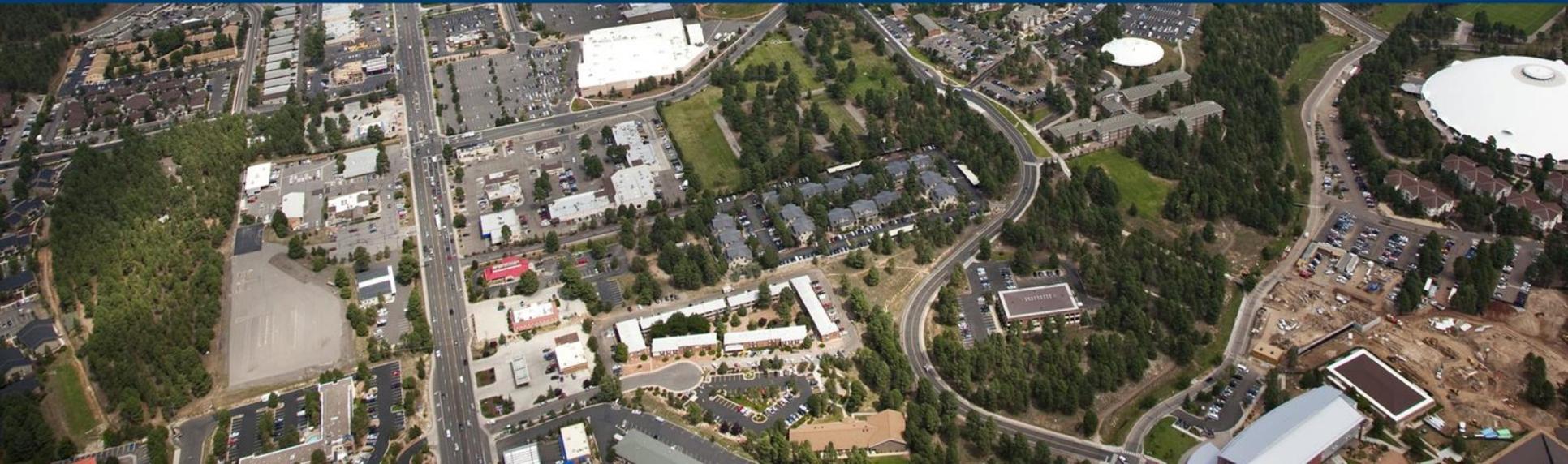


# RATE DESIGN RESULTS





# WATER RATE DESIGN RESULTS



# WATER RATES

## Options 1A, 1B and 1C

### Water Rates – Option 1A – 3% Annual Revenue Increase – No Structure Change

	Fixed Monthly Charges					
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>0.75</b>	\$13.42	\$13.83	\$14.25	\$14.68	\$15.13	\$15.59
<b>1</b>	15.80	16.28	16.77	17.28	17.80	18.34
<b>1.5</b>	21.75	22.41	23.09	23.79	24.51	25.25
<b>2</b>	28.90	29.77	30.67	31.60	32.55	33.53
<b>3</b>	45.57	46.94	48.35	49.81	51.31	52.85
<b>4</b>	69.38	71.47	73.62	75.83	78.11	80.46
<b>6</b>	128.91	132.78	136.77	140.88	145.11	149.47
<b>8</b>	200.34	206.36	212.56	218.94	225.51	232.28
<b>10</b>	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 due to rounding.

# WATER RATES

## Option 1A

### Water Rates – Option 1A – 3% Annual Revenue Increase – No Structure Change

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Single Family</b> (R1/R4)							
Tier 1	0-3,700 Gal/Mo	\$ 2.77	\$ 2.92	\$3.03	\$3.14	\$3.25	\$3.36
Tier 2	3,701 – 6,400 Gal/Mo	3.59	3.76	3.90	4.04	4.17	4.31
Tier 3	6,401 – 11,700 Gal/Mo	5.53	5.76	5.96	6.16	6.36	6.56
Tier 4	11,701 + Gal/Mo	11.06	11.46	11.83	12.21	12.59	12.98
<b>Multi-Family</b> (R2/R3)	All Flow	3.56	3.73	3.86	4.00	4.13	4.27
<b>Comm/Schools</b> (C)	All Flow	3.78	3.96	4.10	4.25	4.39	4.54
<b>NAU</b> (NA)	All Flow	3.47	3.64	3.77	3.91	4.04	4.18
<b>Manufacturing</b> (MN)	All Flow	3.73	3.91	4.05	4.19	4.33	4.47
<b>Lawn Meters</b> (LM)	All Flow	3.78	3.96	4.10	4.25	4.39	4.54
<b>Hydrant Meter</b> (HM)	All Flow	5.78	6.02	6.22	6.43	6.64	6.85
<b>Standpipe</b> (SP)	All Flow	5.78	6.02	6.22	6.43	6.64	6.85
<b>Energy Charge per 1,000 Gal</b>	All Flow	** Estimate – subject to revision					
		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 due to rounding.

# WATER RATES

## Option 1B

### Water Rates – Option 1B – 3% Annual Revenue Increase – Adjust Residential Tiers

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Single Family</b> (R1/R4)							
Tier 1	0 - 4,000 Gal/Mo	\$ 2.77	\$ 2.95	\$3.06	\$3.17	\$3.28	\$3.39
Tier 2	4,001 – 7,000 Gal/Mo	3.59	3.80	3.94	4.08	4.22	4.36
Tier 3	7,001 – 12,000 Gal/Mo	5.53	5.82	6.02	6.22	6.42	6.63
Tier 4	12,001 + Gal/Mo	11.06	11.57	11.94	12.32	12.70	13.10
<b>Multi-Family</b> (R2/R3)	All Flow	3.56	3.71	3.85	3.99	4.12	4.26
<b>Comm/Schools</b> (C)	All Flow	3.78	3.93	4.07	4.22	4.36	4.50
<b>NAU</b> (NA)	All Flow	3.47	3.59	3.72	3.85	3.98	4.11
<b>Manufacturing</b> (MN)	All Flow	3.73	3.86	4.00	4.14	4.28	4.42
<b>Lawn Meters</b> (LM)	All Flow	3.78	3.92	4.06	4.20	4.34	4.48
<b>Hydrant Meter</b> (HM)	All Flow	5.78	6.05	6.26	6.47	6.68	6.89
<b>Standpipe</b> (SP)	All Flow	5.78	6.05	6.26	6.47	6.68	6.89
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

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\*\* Slight percentage differences in rates above from year to year due to rounding.

# WATER RATES

## Option 1C

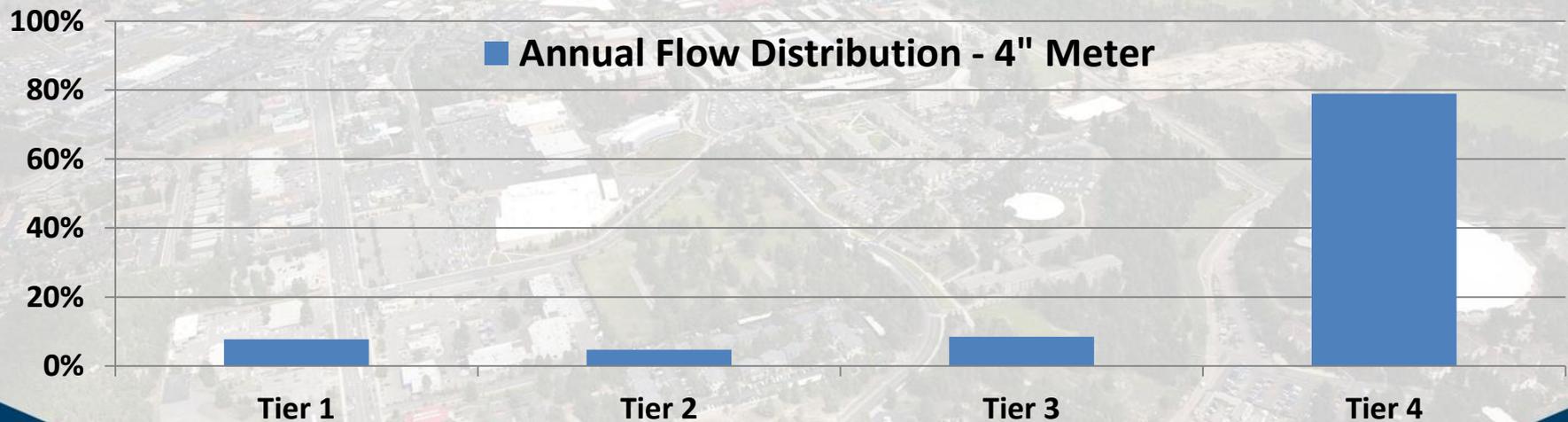
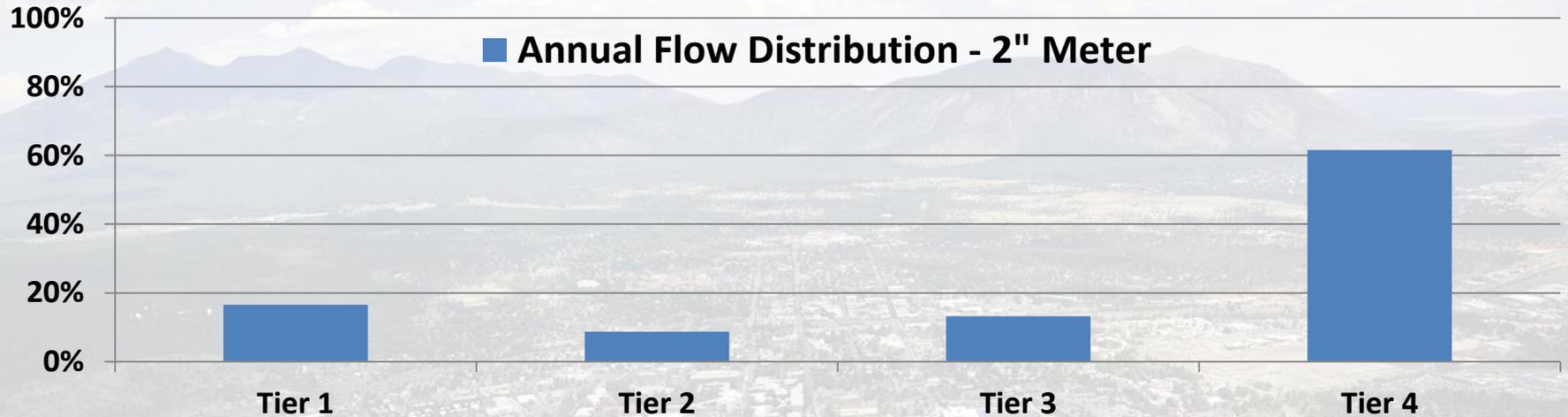
### Water Rates – Option 1C – 3% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Single Family</b> (R1/R4)							
Tier 1	0-3,700 Gal/Mo	\$ 2.77	\$ 2.92	\$3.03	\$3.14	\$3.25	\$3.36
Tier 2	3,701 – 6,400 Gal/Mo	3.59	3.76	3.90	4.04	4.17	4.31
Tier 3	6,401 – 11,700 Gal/Mo	5.53	5.76	5.96	6.16	6.36	6.56
Tier 4	11,701 + Gal/Mo	11.06	11.46	11.83	12.21	12.59	12.98
<b>Multi-Family</b> (R2/R3)	All Flow	3.56	3.73	3.86	4.00	4.13	4.27
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

\*Outside City rates 1.10x higher

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# FLOW DISTRIBUTION – BY WATER TIER LARGER NON RESIDENTIAL METER SIZES



# WATER RATES

## Option 1C

### Water Rates – Option 1C – 3% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Comm/Schools (C)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.78	\$ 1.10	\$ 1.14	\$ 1.18	\$ 1.22	\$ 1.26
Tier 2	3,701 – 6,400 Gal/Mo	3.78	1.55	1.60	1.65	1.70	1.76
Tier 3	6,401 – 11,700 Gal/Mo	3.78	2.60	2.68	2.77	2.86	2.95
Tier 4	11,701 + Gal/Mo	3.78	5.61	5.78	5.96	6.14	6.33
<b>NAU (NA)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.47	\$ 0.66	\$ 0.69	\$ 0.97	\$ 0.75	\$ 0.78
Tier 2	3,701 – 6,400 Gal/Mo	3.47	1.01	1.05	1.41	1.13	1.17
Tier 3	6,401 – 11,700 Gal/Mo	3.47	1.84	1.90	2.42	2.02	2.09
Tier 4	11,701 + Gal/Mo	3.47	4.20	4.33	5.31	4.60	4.74
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

# WATER RATES

## Option 1C

### Water Rates – Option 1C – 3% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Manufacturing (MN)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.73	\$ 0.71	\$ 0.74	\$ 0.77	\$ 0.80	\$ 0.83
Tier 2	3,701 – 6,400 Gal/Mo	3.73	1.07	1.11	1.15	1.19	1.23
Tier 3	6,401 – 11,700 Gal/Mo	3.73	1.93	1.99	2.05	2.12	2.19
Tier 4	11,701 + Gal/Mo	3.73	4.36	4.50	4.64	4.78	4.93
<b>Lawn Meters (LM)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.78	\$ 0.91	\$ 0.94	\$ 0.97	\$ 1.00	\$ 1.03
Tier 2	3,701 – 6,400 Gal/Mo	3.78	1.31	1.36	1.41	1.46	1.51
Tier 3	6,401 – 11,700 Gal/Mo	3.78	2.27	2.34	2.42	2.50	2.58
Tier 4	11,701 + Gal/Mo	3.78	5.00	5.15	5.31	5.47	5.64
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

# WATER RATES

## Option 1C

### Water Rates – Option 1C – 3% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Hydrant Meter (HM)</b>	All Flow	\$ 5.78	\$ 6.01	\$ 6.20	\$ 6.39	\$ 6.59	\$ 6.79
<b>Standpipe (SP)</b>	All Flow	5.78	6.01	6.20	6.39	6.59	6.79
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

\*Outside City rates 1.10x higher

\*\* Slight percentage differences in rates above from year to year due to rounding.

# WATER RATES

## Option 2A, 2B and 2C

### Water Rates – Option 2A – 7% Annual Revenue Increase – No Structure Change

	Fixed Monthly Charges					
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>0.75</b>	\$13.42	\$ 14.36	\$ 15.37	\$ 16.45	\$ 17.61	\$ 18.85
<b>1</b>	15.80	16.91	18.10	19.37	20.73	22.19
<b>1.5</b>	21.75	23.28	24.91	26.66	28.53	30.53
<b>2</b>	28.90	30.93	33.10	35.42	37.90	40.56
<b>3</b>	45.57	48.76	52.18	55.84	59.75	63.94
<b>4</b>	69.38	74.24	79.44	85.01	90.97	97.34
<b>6</b>	128.91	137.94	147.60	157.94	169.00	180.83
<b>8</b>	200.34	214.37	229.38	245.44	262.63	281.02
<b>10</b>	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 due to rounding.

# WATER RATES

## Option 2A

### Water Rates – Option 2A – 7% Annual Revenue Increase – No Structure Change

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Single Family</b> (R1/R4)							
Tier 1	0-3,700 Gal/Mo	\$ 2.77	\$ 3.07	\$ 3.34	\$ 3.63	\$ 3.94	\$ 4.27
Tier 2	3,701 – 6,400 Gal/Mo	3.59	3.94	4.28	4.64	5.02	5.42
Tier 3	6,401 – 11,700 Gal/Mo	5.53	6.02	6.50	7.02	7.56	8.14
Tier 4	11,701 + Gal/Mo	11.06	11.94	12.84	13.80	14.82	15.91
<b>Multi-Family</b> (R2/R3)	All Flow	3.56	3.91	4.24	4.60	4.97	5.37
<b>Comm/Schools</b> (C)	All Flow	3.78	4.15	4.50	4.88	5.27	5.69
<b>NAU</b> (NA)	All Flow	3.47	3.82	4.15	4.50	4.87	5.26
<b>Manufacturing</b> (MN)	All Flow	3.73	4.09	4.44	4.81	5.20	5.62
<b>Lawn Meters</b> (LM)	All Flow	3.78	4.15	4.50	4.88	5.27	5.69
<b>Hydrant Meter</b> (HM)	All Flow	5.78	6.29	6.79	7.33	7.89	8.50
<b>Standpipe</b> (SP)	All Flow	5.78	6.29	6.79	7.33	7.89	8.50
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

\*Outside City rates 1.10x higher

\*\* Slight percentage differences in rates above from year to year due to rounding.

# WATER RATES

## Option 2B

### Water Rates – Option 2B – 7% Annual Revenue Increase – Adjust Residential Tiered Rates

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Single Family</b> (R1/R4)							
Tier 1	0 - 4,000 Gal/Mo	\$ 2.77	\$ 3.10	\$ 3.38	\$ 3.68	\$ 3.99	\$ 4.32
Tier 2	4,001 – 7,000 Gal/Mo	3.59	3.99	4.33	4.69	5.07	5.48
Tier 3	7,001 – 12,000 Gal/Mo	5.53	6.08	6.57	7.09	7.64	8.23
Tier 4	12,001 + Gal/Mo	11.06	12.05	12.95	13.92	14.95	16.05
<b>Multi-Family</b> (R2/R3)	All Flow	3.56	3.89	4.22	4.58	4.95	5.35
<b>Comm/Schools</b> (C)	All Flow	3.78	4.12	4.47	4.84	5.23	5.65
<b>NAU</b> (NA)	All Flow	3.47	3.77	4.09	4.44	4.80	5.19
<b>Manufacturing</b> (MN)	All Flow	3.73	4.05	4.39	4.76	5.14	5.55
<b>Lawn Meters</b> (LM)	All Flow	3.78	4.11	4.46	4.83	5.22	5.64
<b>Hydrant Meter</b> (HM)	All Flow	5.78	6.32	6.82	7.36	7.93	8.54
<b>Standpipe</b> (SP)	All Flow	5.78	6.32	6.82	7.36	7.93	8.54
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

\*Outside City rates 1.10x higher

\*\* Slight percentage differences in rates above from year to year due to rounding.

# WATER RATES

## Option 2C

### Water Rates – Option 2C – 7% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Single Family</b> (R1/R4)							
Tier 1	0-3,700 Gal/Mo	\$ 2.77	\$ 3.07	\$ 3.34	\$ 3.63	\$ 3.94	\$ 4.27
Tier 2	3,701 – 6,400 Gal/Mo	3.59	3.94	4.28	4.64	5.02	5.42
Tier 3	6,401 – 11,700 Gal/Mo	5.53	6.02	6.50	7.02	7.56	8.14
Tier 4	11,701 + Gal/Mo	11.06	11.94	12.84	13.80	14.82	15.91
<b>Multi-Family</b> (R2/R3)	All Flow	3.56	3.91	4.24	4.60	4.97	5.37
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

\*Outside City rates 1.10x higher

\*\* Slight percentage differences in rates above from year to year due to rounding.

# WATER RATES

## Option 2C

### Water Rates – Option 2C – 7% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Comm/Schools (C)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.78	\$ 1.18	\$1.32	\$ 1.47	\$ 1.62	\$ 1.79
Tier 2	3,701 – 6,400 Gal/Mo	3.78	1.65	1.83	2.02	2.21	2.42
Tier 3	6,401 – 11,700 Gal/Mo	3.78	2.74	2.99	3.26	3.54	3.84
Tier 4	11,701 + Gal/Mo	3.78	5.87	6.34	6.84	7.37	7.94
<b>NAU (NA)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.47	\$ 0.73	\$ 0.84	\$ 0.96	\$ 1.08	\$ 1.21
Tier 2	3,701 – 6,400 Gal/Mo	3.47	1.09	1.23	1.38	1.53	1.69
Tier 3	6,401 – 11,700 Gal/Mo	3.47	1.95	2.15	2.36	2.58	2.81
Tier 4	11,701 + Gal/Mo	3.47	4.40	4.77	5.16	5.57	6.01
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

# WATER RATES

## Option 2C

### Water Rates – Option 2C – 7% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Manufacturing (MN)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.73	\$ 0.78	\$ 0.89	\$ 1.01	\$ 1.13	\$ 1.26
Tier 2	3,701 – 6,400 Gal/Mo	3.73	1.16	1.30	1.45	1.60	1.76
Tier 3	6,401 – 11,700 Gal/Mo	3.73	2.04	2.24	2.46	2.68	2.92
Tier 4	11,701 + Gal/Mo	3.73	4.57	4.95	5.36	5.79	6.25
<b>Lawn Meters (LM)</b>	Tier Ranges Adjusted by AWWA Meter Equivalency Factors						
Tier 1	0-3,700 Gal/Mo	\$ 3.78	\$ 0.99	\$1.12	\$ 1.26	\$ 1.40	\$ 1.55
Tier 2	3,701 – 6,400 Gal/Mo	3.78	1.41	1.57	1.74	1.91	2.10
Tier 3	6,401 – 11,700 Gal/Mo	3.78	2.40	2.63	2.87	3.12	3.39
Tier 4	11,701 + Gal/Mo	3.78	5.23	5.66	6.12	6.60	7.11
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

# WATER RATES

## Option 2C

### Water Rates – Option 2C – 7% Annual Revenue Increase – Add Tiered Rates for Non Residential

		Flow Charges per 1,000 Gallons					
Customer Class		FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Hydrant Meter (HM)</b>	All Flow	\$ 5.78	\$ 6.28	\$ 6.78	\$ 7.32	\$ 7.88	\$ 8.48
<b>Standpipe (SP)</b>	All Flow	5.78	6.28	6.78	7.32	7.88	8.48
<b>Energy Charge per 1,000 Gal</b>	All Flow	<b>0.96</b>	<b>0.93</b>	<b>0.94</b>	<b>0.95</b>	<b>0.97</b>	<b>0.99</b>

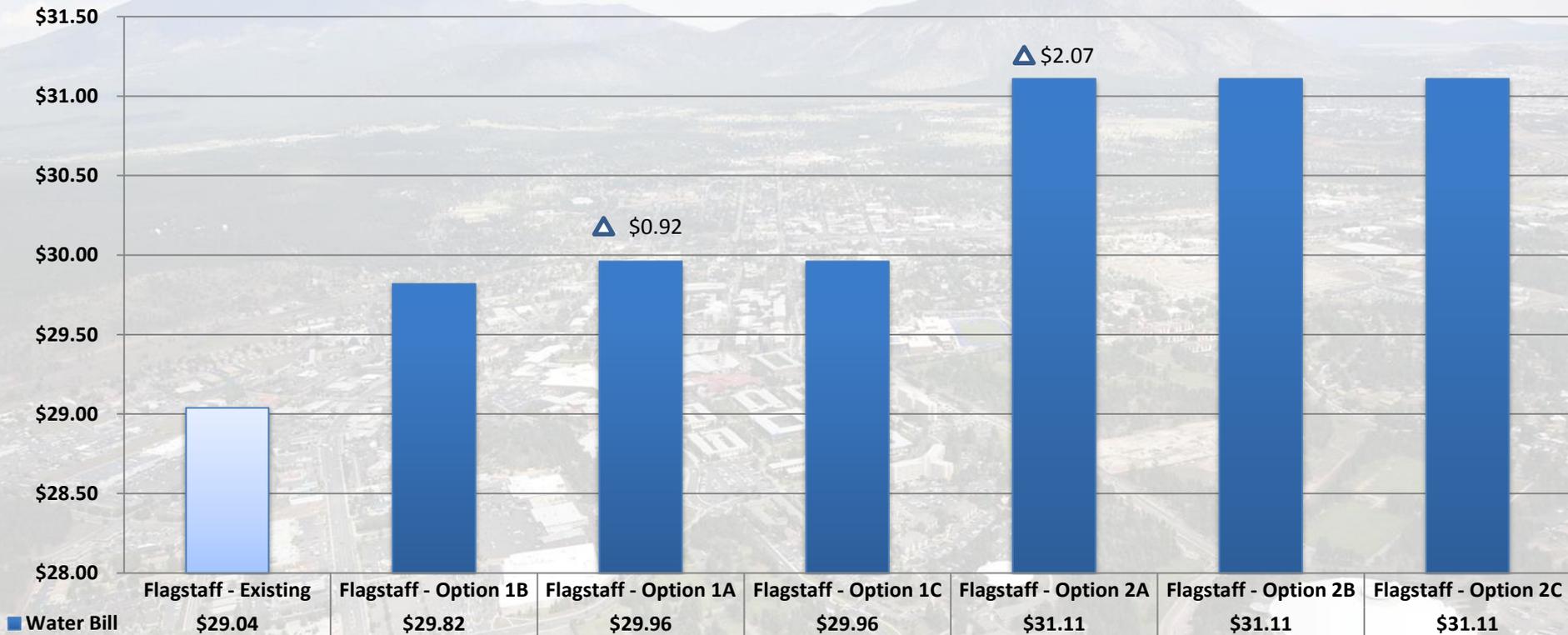
\*Outside City rates 1.10x higher

\*\* Slight percentage differences in rates above from year to year due to rounding.

# SUMMARY OF WATER RATE OPTIONS

## AVERAGE SINGLE FAMILY RESIDENTIAL WATER BILL

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





# SEWER RATE DESIGN RESULTS



# SEWER RATES

## Option 1

### Sewer Rates – Option 1 – 5.5% Annual Revenue Increase

	Fixed Monthly Charges					
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
0.75	<b>No Fixed Charges for Sewer</b>					
1						
1.5						
2						
3						
4						
6						
8						
10						

# SEWER RATES

## Option 1

### Sewer Rates – Option 1 – 5.5% Annual Revenue Increase

Customer Class	Flow Charges per 1,000 Gallons					
	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Residential</b> (R1 - R4)	\$3.80	\$4.01	\$4.24	\$4.48	\$4.73	\$5.00
<b>Car Washes</b> (CW)	3.82	4.04	4.27	4.51	4.76	5.03
<b>Laundromats</b> (L)	3.92	4.14	4.37	4.62	4.88	5.15
<b>Commercial</b> (C)	4.02	4.25	4.49	4.74	5.01	5.29
<b>Hotels &amp; Motels</b> (H)	5.38	5.68	6	6.33	6.68	7.05
<b>Restaurants</b> (RF)	6.46	6.82	7.2	7.6	8.02	8.47
<b>Industrial Laundries</b> (IL)	5.94	6.27	6.62	6.99	7.38	7.79
<b>Manufacturing</b> (MN)	4.32	4.56	4.82	5.09	5.37	5.67
<b>Pet Food Manufacturers</b> (PF)	9.48	10.01	10.57	11.16	11.78	12.43
<b>Soft Drink Bottling</b> (SD)	7.51	7.93	8.37	8.84	9.33	9.85
<b>Ice Cream Cone Man.</b> (IC)	11.73	12.38	13.07	13.79	14.55	15.36
<b>NAU</b> (NA)	3.48	3.68	3.89	4.11	4.34	4.58
<b>Energy Charge per 1,000 Gal</b> (in addition to rates above)	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

# SEWER RATES

## Option 2

### Sewer Rates – Option 2 – 7% Annual Revenue Increase

	Fixed Monthly Charges					
Meter Size	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
0.75	<b>No Fixed Charges for Sewer</b>					
1						
1.5						
2						
3						
4						
6						
8						
10						

# SEWER RATES

## Option 2

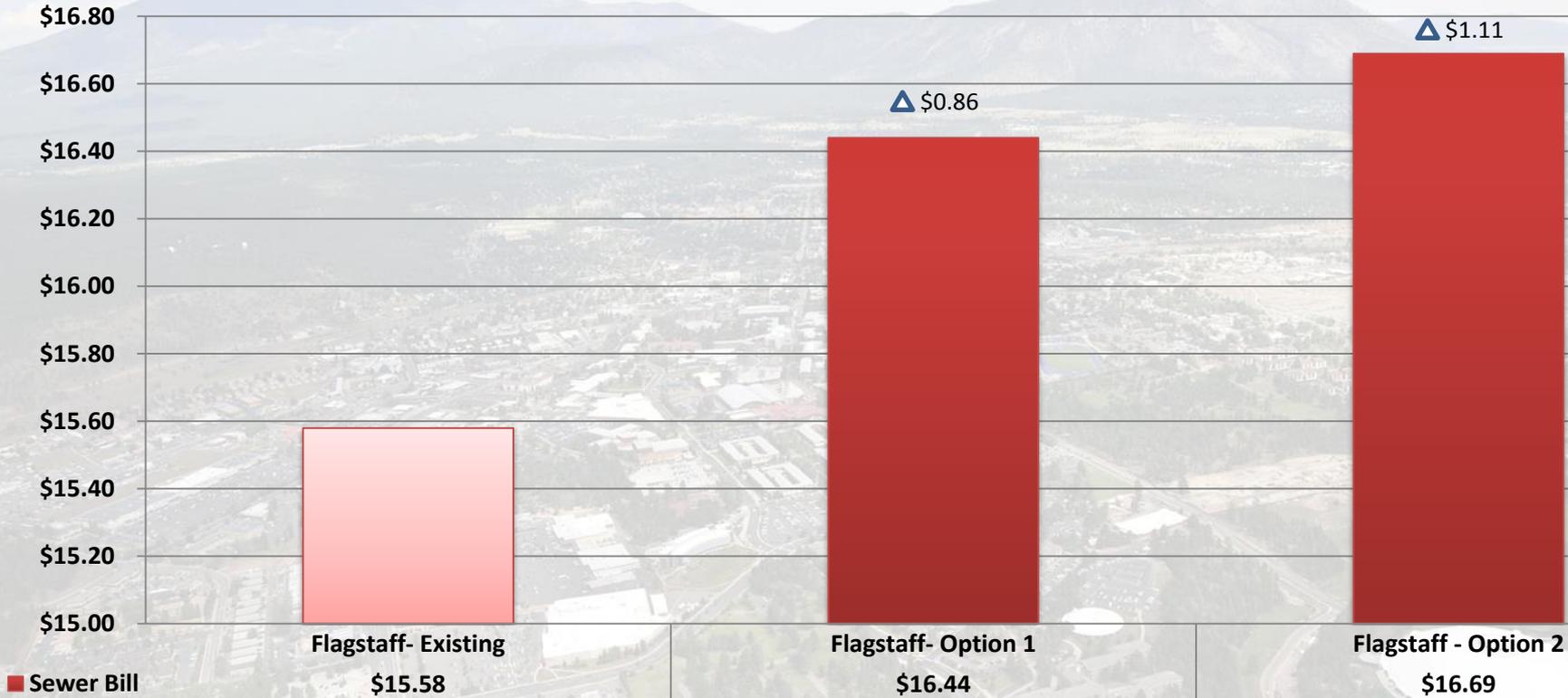
### Sewer Rates – Option 2 – 7% Annual Revenue Increase

Customer Class	Flow Charges per 1,000 Gallons					
	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Residential</b> (R1 - R4)	\$3.80	\$ 4.07	\$ 4.36	\$ 4.67	\$ 5.00	\$ 5.35
<b>Car Washes</b> (CW)	3.82	4.09	4.38	4.69	5.02	5.38
<b>Laundromats</b> (L)	3.92	4.20	4.50	4.82	5.16	5.53
<b>Commercial</b> (C)	4.02	4.31	4.62	4.95	5.30	5.68
<b>Hotels &amp; Motels</b> (H)	5.38	5.76	6.17	6.61	7.08	7.58
<b>Restaurants</b> (RF)	6.46	6.92	7.41	7.93	8.49	9.09
<b>Industrial Laundries</b> (IL)	5.94	6.36	6.81	7.29	7.81	8.36
<b>Manufacturing</b> (MN)	4.32	4.63	4.96	5.31	5.69	6.09
<b>Pet Food Manufacturers</b> (PF)	9.48	10.15	10.87	11.64	12.46	13.34
<b>Soft Drink Bottling</b> (SD)	7.51	8.04	8.61	9.22	9.87	10.57
<b>Ice Cream Cone Man.</b> (IC)	11.73	12.56	13.44	14.39	15.40	16.48
<b>NAU</b> (NA)	3.48	3.73	4.00	4.28	4.58	4.91
<b>Energy Charge per 1,000 Gal</b> (in addition to rates above)	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

# SUMMARY OF WATER RATE OPTIONS

## AVERAGE SINGLE FAMILY RESIDENTIAL WATER BILL

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





# RECLAIMED WATER RATE RESULTS



# RECLAIMED WATER RATES

## Option 1

### Reclaimed Water Rates – Option 1 – 3% Annual Revenue Increase

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

# RECLAIMED WATER RATES

## Option 1

### Reclaimed Water Rates – Option 1 – 3% Annual Revenue Increase

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

# RECLAIMED WATER RATES

## Option 2

### Reclaimed Water Rates – Option 2 – 7% Annual Revenue Increase

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

# RECLAIMED WATER RATES

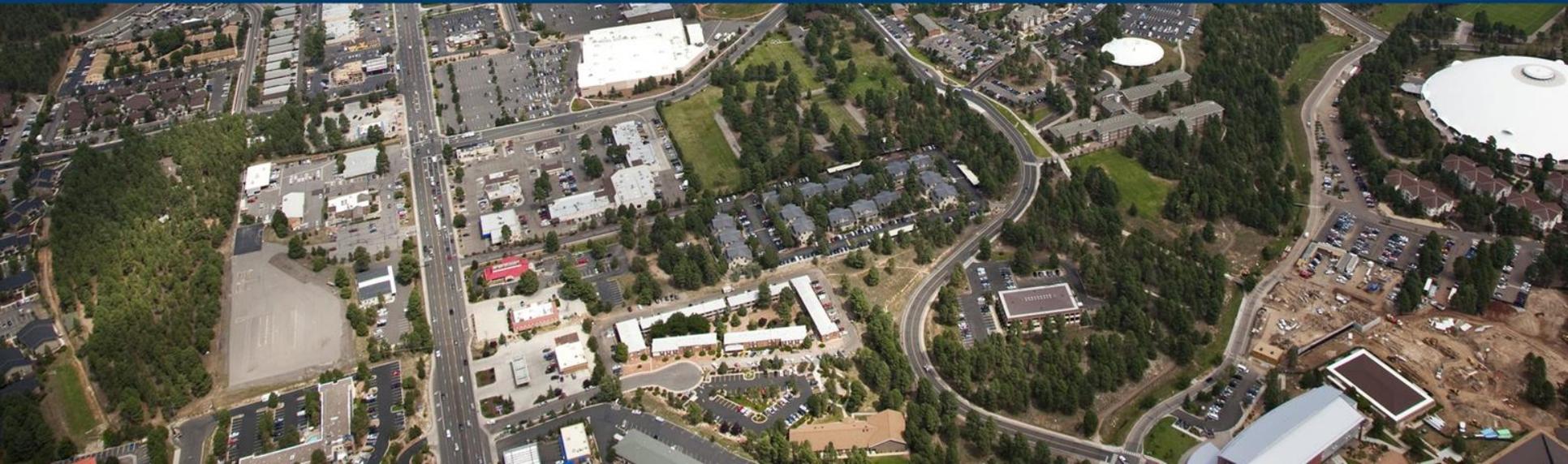
## Option 2

### Reclaimed Water Rates – Option 2 – 7% Annual Revenue Increase

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



# STORMWATER RATE RESULTS



# STORMWATER RATES

## Options 1 and 2

### Stormwater Rates – Comparison of Options

	Stormwater Rates					
	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Option 1 – Baseline CIP @ \$400k / Year</b>						
Annual Rate Increase	0%	3%	3%	3%	3%	3%
<b>Avg. Res Bill (3 ERUs)</b>	<b>\$ 3.90</b>	<b>\$ 4.02</b>	<b>\$ 4.17</b>	<b>\$ 4.32</b>	<b>\$ 4.47</b>	<b>\$ 4.62</b>
Total New Debt	\$0	\$0	\$0	\$0	\$0	\$0
<b>Option 2 – Baseline CIP @ \$600k / Year</b>						
Annual Rate Increase	0%	6%	6%	6%	6%	6%
<b>Avg. Res Bill (3 ERUs)</b>	<b>\$ 3.90</b>	<b>\$ 4.14</b>	<b>\$ 4.41</b>	<b>\$ 4.68</b>	<b>\$ 4.98</b>	<b>\$ 5.28</b>
Total New Debt	\$0	\$0	\$0	\$0	\$0	\$0

# STORMWATER RATES

## Options 3 and 4

### Stormwater Rates – Comparison of Options

	Stormwater Rates					
	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
<b>Option 3 – Baseline CIP @ \$1 Million / Year</b>						
Annual Rate Increase	0%	6%	6%	6%	6%	3%
<b>Avg. Res Bill (3 ERUs)</b>	<b>\$ 3.90</b>	<b>\$ 4.14</b>	<b>\$ 4.41</b>	<b>\$ 4.68</b>	<b>\$ 4.98</b>	<b>\$ 5.13</b>
Total New Debt	\$ -	\$ 380,000	\$ 630,000	\$ 620,000	\$ 590,000	\$ 590,000
<b>Option 4 – Rio de Flag Projects and Baseline CIP @ \$400k / Year</b>						
Annual Rate Increase	0%	15%	15%	15%	15%	3%
<b>Avg. Res Bill (3 ERUs)</b>	<b>\$3.90</b>	<b>\$ 4.50</b>	<b>\$ 5.19</b>	<b>\$ 5.97</b>	<b>\$ 6.87</b>	<b>\$ 7.08</b>
Total New Debt	\$ -	\$ -	\$2,780,000	\$3,190,000	\$3,220,000	\$3,360,000



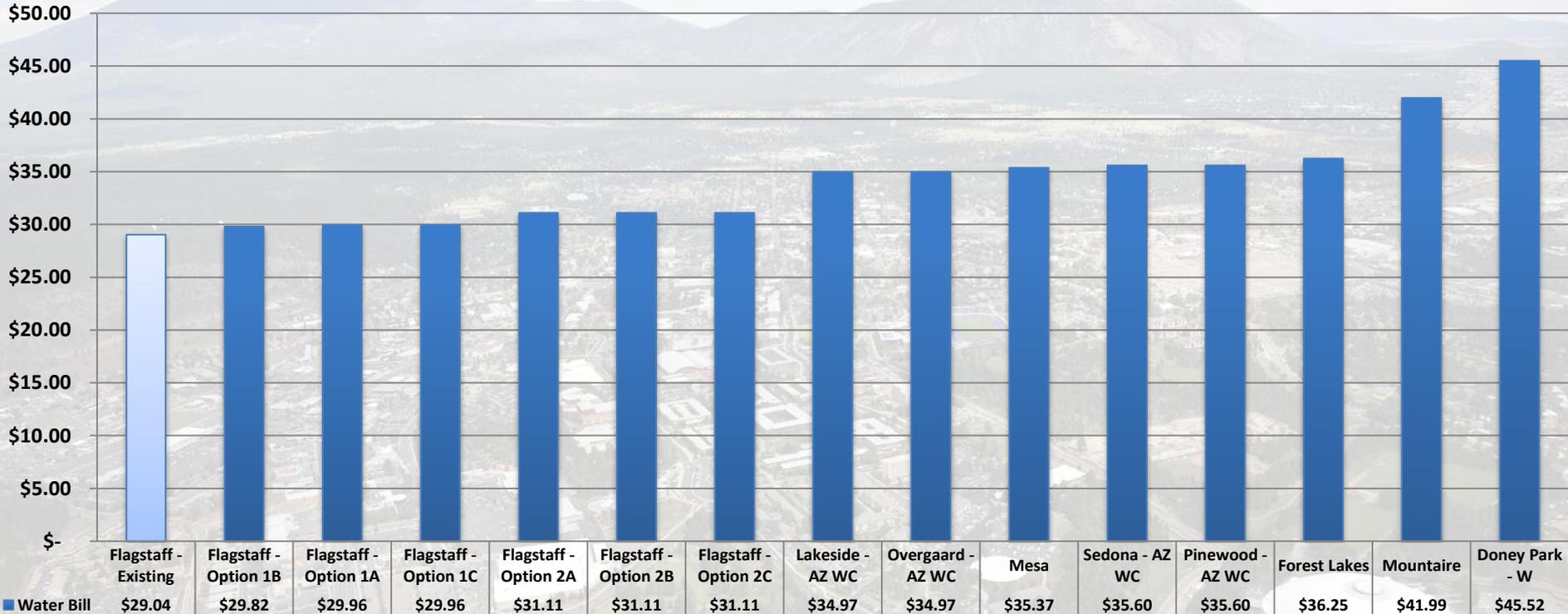
# RATE SURVEY



# RATE SURVEY

## AVERAGE SINGLE FAMILY RESIDENTIAL WATER BILL

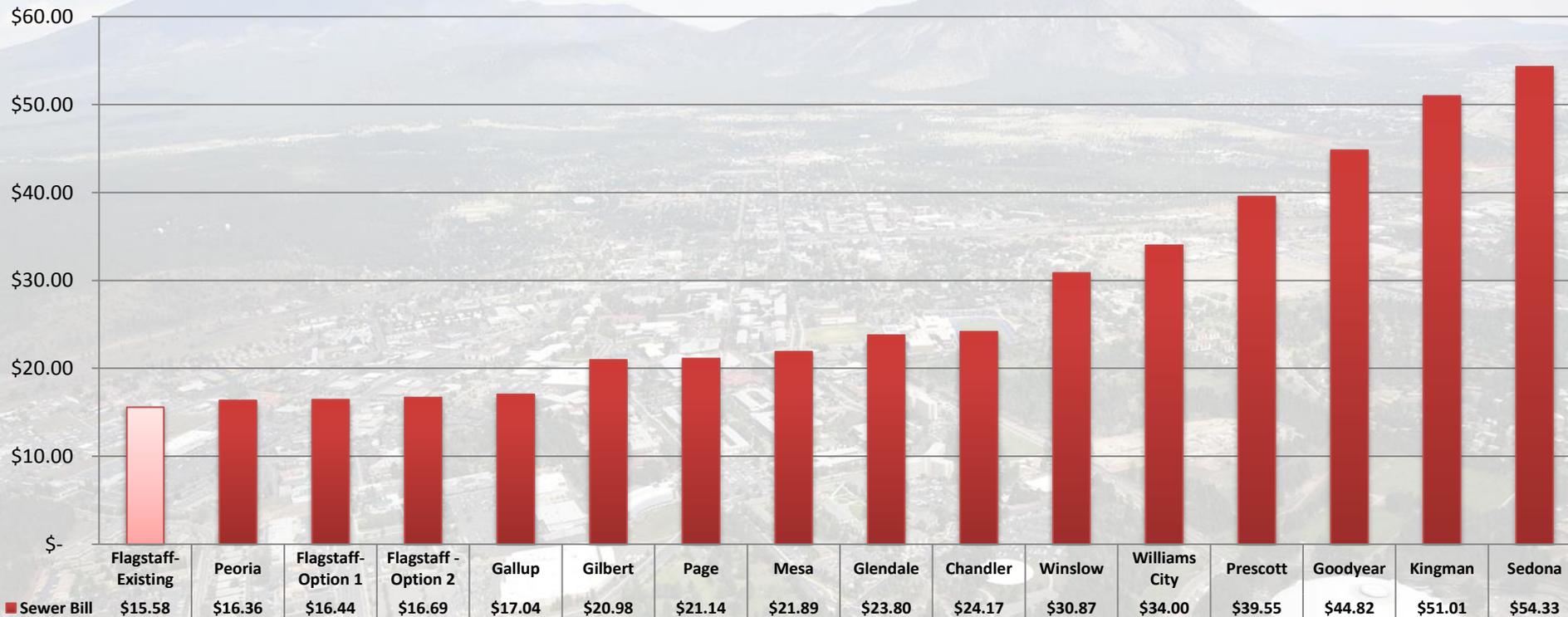
Survey of Monthly Water Bills @ 4,100 Gal/Mo  
Single Family Residential



# RATE SURVEY

## AVERAGE SINGLE FAMILY RESIDENTIAL SEWER BILL

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





# CAPACITY FEE ANALYSIS



# Capacity Fees

- One-time payments
- Reflect the demands and costs created by new development for additional utility capacity
- Will be used to fund infrastructure capacity that will benefit new development
- Must be a rational nexus between the amount of the fee and the cost to serve new development
- City has had capacity fees since the 1970's

# Assumptions about Future Development

Each component of each utility system is evaluated

What is the best measure of the demand created by new development for additional infrastructure capacity? 3 methodologies considered:

## Buy-in

- Existing infrastructure which has capacity available for new development

## Plan based

- Planned projects which add capacity to serve new development

## Hybrid

- Combination of buy-in and plan based methodologies

*Planned projects which are for routine maintenance and replacement or are to serve only existing development are not eligible for capacity fee funding and are included in the rates.*

## Capacity (gallons)

Buy-in: Capacity of completed project

Plan-based: Planned capacity or years of capacity to be provided

## Cost

Buy-in: Original cost

Plan-based: Planned costs

Minus credit for "double payment"

Cost/capacity (gallons) = cost per gallon

•Gallons consumed per residential connection multiplied by

•Total cost per gallon for capacity multiplied by

•Capacity ratio for different size and type of water meter equals

•Capacity fee by size and type of water meter

# Water Capacity Fee Components FY2016-FY2025

- Water Resources - \$23,150,000\*
- Production - \$16,640,000
- Storage - \$2,200,000
- Distribution - \$7,223,000
- Studies and Planning Efforts - \$306,000
- Reclaimed Water - \$1,620,000

\* Includes \$10,450,00 for Red Gap pipeline/pump station **design**

# Water Capacity Fee Cost Summary

Function	Base (cost per gallon)	Option 2 <sup>(1)</sup> (cost per gallon)
Water Resources	\$1.19	\$2.17
Water Production	7.70	7.70
Water Storage	0.96	0.96
Water Distribution	4.70	4.70
Study and Planning Efforts	0.39	0.39
Reclaimed Water	<u>5.06</u>	<u>5.06</u>
Total Cost	<b>\$20.00</b>	<b>\$20.98</b>

(1) Includes **design** costs for Red Gap Ranch

# Water Capacity Fee Demand Summary

	Capacity
Gallons per Day per Residential Connection	179
Residential Peaking Factor	<u>1.60</u>
Gallons per Peak Day per Residential Connection	286

# Water Capacity Fee Summary

Meter Size (inches)	Base Fee	Option 2 Fee	Current Fee
¾	\$5,728	\$6,007	\$5,891
1	9,566	10,032	9,819
1 ½	19,074	20,004	19,638
2	30,530	32,019	31,420
3	57,279	60,073	58,913
4	95,484	100,141	98,188
6	190,910	200,222	196,376
8	305,468	320,367	314,201
10	439,157	460,576	451,664

# Sewer Capacity Fee Components

## FY2016-FY2025

- Planned Treatment Upgrades - \$3,736,000
- Interceptors - \$2,460,000
- Collection - \$3,100,182
- Studies and Planning Efforts- \$234,000

# Sewer Capacity Fee Cost Summary

Function		Cost per Gallon
Treatment Upgrades		
	Buy-in for Treatment Plants <sup>(1)</sup>	\$5.80
	Planned Treatment Plant Upgrades	7.51
	Less Credit for Future Debt Service Payments	<u>(2.46)</u>
Treatment Subtotal		10.85
Interceptors		1.48
Collection		1.72
Studies		<u>0.39</u>
Total Cost		\$14.44

(1) Existing plant is valued at \$61,725,574

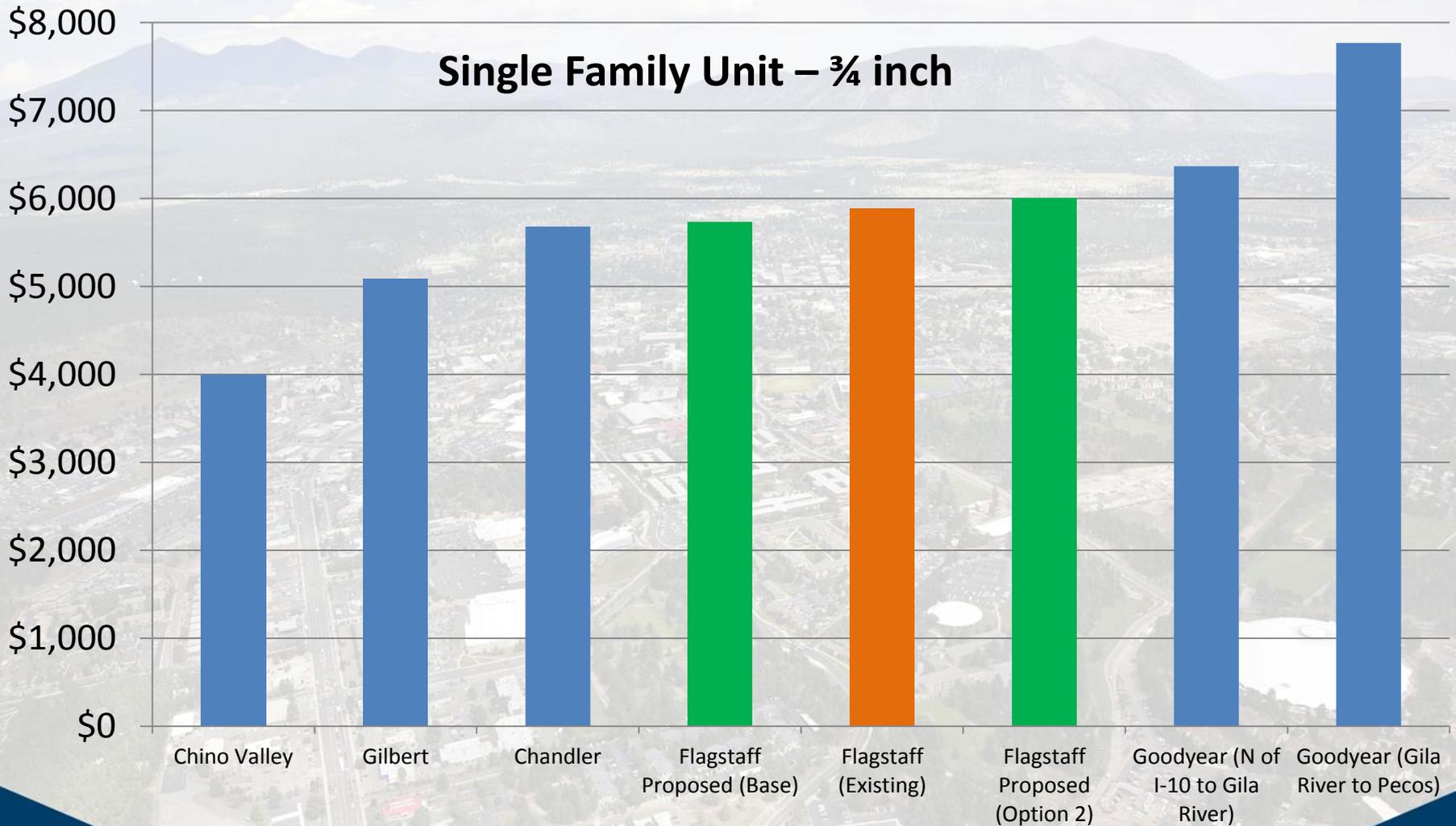
# Sewer Capacity Fee Demand Summary

	Capacity
Gallons of Peak Day Water per Residential Connection	286
Percentage of Water Returned to Wastewater System	<u>90%</u>
Gallons per Peak Day per Residential Connection	258

# Sewer Capacity Fees

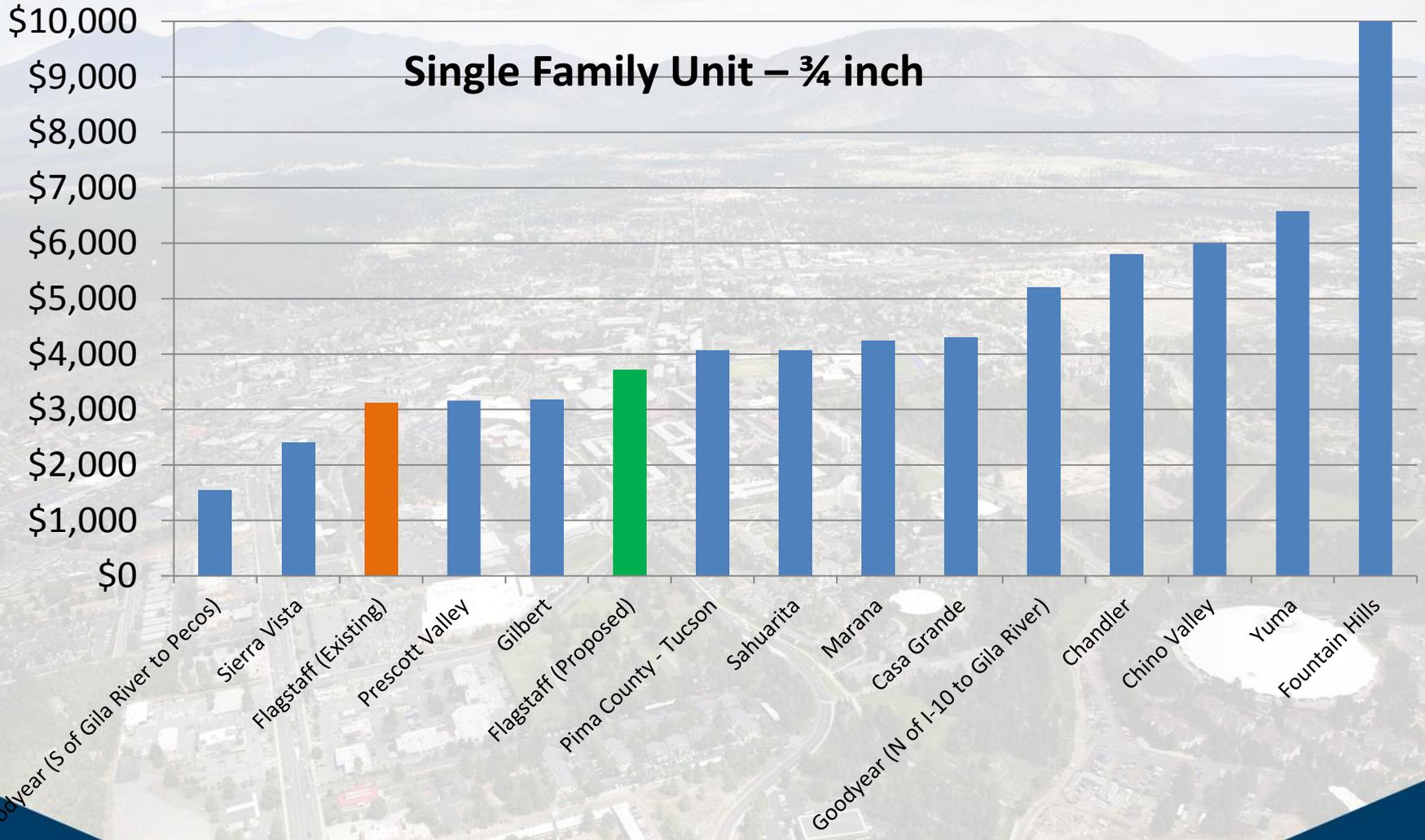
Meter Size (inches)	Proposed Fee	Current Fee
¾	\$3,723	\$3,126
1	6,218	5,210
1 ½	12,399	10,419
2	19,845	16,671
3	37,233	31,257
4	62,068	52,095
6	124,099	104,191
8	198,566	166,705
10	285,468	239,639

# Comparison of Water Development Fees - AZ



# Comparison of Sewer Development Fees - AZ

Single Family Unit – ¾ inch



# POSSIBLE REASONS FOR DIFFERENCES IN DEVELOPMENT FEES

- Persons per household and water use
- Lot size
- Age of system
- Changes in elevation
- Surface water versus ground water
- Depth of wells
- Treatment standards/methods
- Area (acres) covered by the system
- Subsidization through rates or other revenue sources



# NEXT STEPS



# NEXT STEPS

- *10-6-2015 – City Council Public Hearing*
  - 10-13-2015 – additional meeting*
  - 10-20-2015 – additional meeting*
  - 11-03-2015 – 1<sup>st</sup> Read of Ordinance, upon Council direction*
- *Early 2016 - Proposed Rates Effective*



# QUESTIONS

