CITY COUNCIL AGENDA

CITY COUNCIL CHAMBERS . 11465 WEST CIVIC CENTER DRIVE . AVONDALE, AZ 85323

WORK SESSION
October 10, 2011
6:00 PM

CALL TO ORDER BY MAYOR ROGERS

1 ROLL CALL BY THE CITY CLERK

2 ENTERPRISE FUND REVENUE ANALYSIS

Staff will present the findings of the latest revenue sufficiency analysis of the water, wastewater and sanitation enterprise funds. The report is presented for information and Council direction.

3 ADJOURNMENT

Respectfully submitted,

Carmen Martinez
City Clerk

Individuals with special accessibility needs, including sight or hearing impaired, large print, or interpreter, should contact the City Clerk at 623-333-1200 or TDD 623-333-0010 at least two business days prior to the Council Meeting.

Personas con necesidades especiales de accesibilidad, incluyendo personas con impedimentos de vista u oído, o con necesidad de impresión grande o interprete, deben comunicarse con la Secretaria de la Ciudad at 623-333-1200 o TDD 623-333-0010 cuando menos dos días hábiles antes de la junta del Concejo.

Notice is hereby given that pursuant to A.R.S. § 1-602.A.9, subject to certain specified statutory exceptions, parents have a right to consent before the State or any of its political subdivisions make a video or audio recording of a minor child. Meetings of the City Council may be audio and/or video recorded and, as a result, proceedings in which children are present may be subject to such recording. Parents, in order to exercise their rights may either file written consent with the City Clerk to such recording, or take personal action to ensure that their child or children are not present when a recording may be made. If a child is present at the time a recording is made, the City will assume that the rights afforded parents pursuant to A.R.S. § 1-602.A.9 have been waived.

De acuerdo con la ley A.R.S. § 1-602.A.9, y sujeto a ciertas excepciones legales, se da aviso que los padres tienen derecho a dar su consentimiento antes de que el Estado o cualquier otra entidad política haga grabaciones de video o audio de un menor de edad. Las juntas del Concejo de la Ciudad pueden ser grabadas y por consecuencia, existe la posibilidad de que si hay menores de edad presentes éstos aparezcan en estos videos o grabaciones de audio. Los padres puedan ejercitar su derecho si presentan su consentimiento por escrito a la Secretaria de la Ciudad, o pueden asegurarse que los niños no estén presentes durante la grabación de la junta. Si hay algún menor de edad presente durante la grabación, la Ciudad dará por entendido que los padres han renunciado sus derechos de acuerdo a la ley contenida A.R.S. § 1-602.A.9.

CITY COUNCIL REPORT

SUBJECT:
Enterprise Fund Revenue Analysis

MEETING DATE:
October 10, 2011

TO: Mayor and Council

FROM: Kevin Artz, Finance & Budget Director (623) 333-2011

THROUGH: Charlie McClendon, City Manager

PURPOSE:

Staff is providing information to City Council regarding the rate analysis for the water, wastewater and sanitation enterprise funds.

BACKGROUND:

One of the Council goals for Fiscal Year 2011-12 is to ensure the long-term financial stability of the City. The City's enterprise funds rely on user charges, and do not receive the benefit of tax revenues to fund operations. As a result, in order to ensure the financial stability of these funds, it is necessary to perform a revenue sufficiency analysis each year to determine if revenues are adequate to cover expenses.

Staff utilizes financial models developed in Microsoft Excel to conduct revenue and rate analysis. For the past two years, the City Council was committed to keeping rates from increasing and placing further financial burden on Avondale residents and business owners. The analysis each year has shown that with the cost cutting and efficiency measures implemented by staff, rates have been sufficient to cover the costs of operations. The history of rate increases is shown below.

Year	Water %	Sewer%	Sanitation $
2005	3%	3%	$2.25
2006	5.5%	0%	$0.25
2007	5.5%	0%	$1.50
2008	3.4%	2.4%	$1.00
2009	3.8%	1.76%	$1.00

DISCUSSION:

The financial analysis of the enterprise fund activity shows that the current level of services, plus moderate inflation, can be maintained at the current rates. A full report of the analysis is attached for the Sanitation enterprise fund and another for the Water and Wastewater enterprise funds. The Public Works Department, however, has identified new programs or increased service levels they would like the Council to consider, which will require an increase in monthly rates.

The Sanitation fund may require additional analysis once the fund is required to purchase all new containers and vehicles that were previously funded by development fees which have been eliminated by the State Legislature's passing of Senate Bill 1525. These fees will no longer be assessed on and after January 1, 2012.

The Public Works Department would like to implement a program to replace all containers every five years which would require an additional $100,000 over the study period which would also require an increase in the monthly sanitation rate by FY2014-15.

The Wastewater fund had previously shown that an increase was required to maintain the expenditure levels including the outstanding debt. However, the payment on the refunding bonds issued in 2010 drops significantly in 2014 thereby alleviating the need for rate increases in the wastewater rates. The Public Works Department's additional programs, staffing and capital projects are detailed in the attached report. Should Council agree to fund these new requests, an increase is required in both water and wastewater rates.

Additional Fees

In addition to the cost of service rates calculated by the City's model, staff was given direction to calculate fees to recover costs of recent mandates by other levels of government. Effective July 20, 2011, the State legislature enacted Senate Bill 1624 which established a new permanent municipality fee to be deposited in the State's Water Resources Fund. This fee is allocated to Arizona municipalities based on population. The fee for the City of Avondale for FY 2011-12 was calculated at $94,978.71. Based on the number of bills issued in FY 2010-11, the fee to be added to each bill to recover this cost is $0.33 per month/per customer.

In January of 2010, the Development Services and Engineering Department prepared an analysis of the cost of the environmental programs it administers that are mandated by the Federal government; the National Pollutant Discharge Elimination System (NPDES) and Air Quality (PM-10) programs. Based on the analysis, the department is recommending the addition of a $1.00 fee per utility customer per month. These fees are included in the customer impact analysis in the attached Water and Wastewater Revenue Analysis Report.

Timeline and process

In order to increase water and wastewater user fees, Arizona Revised Statute 9-511.01 requires that any municipality engaging in a domestic water or wastewater business shall comply with the following:

1. Prepare a written report or supply data supporting the increased rate or rate component, fee or service charge. A copy of the report shall be made available to the public by filing a copy in the office of the clerk of the municipality governing board at least thirty days prior to the public hearing described in paragraph 2 of this subsection (attachment A).
2. Adopt a notice of intention by motion at a regular council meeting to increase water or wastewater rates or rate components, fee or service charge and set a date for a public hearing on the proposed increase which shall be held not less than thirty days after adoption of the notice of intention. A copy of the notice of intention showing the date, time and place of such hearing shall be published one time in a newspaper of general circulation within the boundaries of the municipality not less than twenty days prior to the public hearing date.
3. After holding the public hearing, the governing body may adopt, by ordinance or resolution, the proposed rate or rate component, fee or service charge increase or any lesser increase.

The notice of intention to increase rates is scheduled to be presented to Council on October 17, 2011, and the public hearing on the proposed rate increase is scheduled to be held on December 5, 2011. The written report will be made available at the City Clerk's office upon adoption of the notice of intention.

RECOMMENDATION:

This report is for information and staff is seeking direction from Council on the desired rate action if any.

ATTACHMENTS:

Click to download

- Attachment A - Water and Wastewater Analysis Report
- Attachment B - Sanitation Fund Analysis Report

City of Avondale

Water and Wastewater Revenue Sufficiency Analysis

October 2011

Table of Contents

I. Introduction/Background 1
II. Update Methodology 1
A. Revenue Sufficiency Analysis 2
B. Cost of Service Analysis 8
C. Rate Design Analysis 8
III. Rate Scenarios 11
A. Water Rates 12
B. Sewer Rates 13
C. Other Fees 13
D. Estimated Impact on Customer Bills 14
IV. Recommendations 15
V. Appendices 17

I. Introduction/Background

The City of Avondale water and wastewater rates were last updated in January of 2009. With the economy lagging over the last two years, the Avondale City Council was committed to maintain rates at current levels to avoid further burden on utility customers. Costs have been contained and savings realized in several areas and therefore rates have been sufficient to recover the cost of operations and capital improvements funded with operating revenues. The following table shows the history of rate adjustments for both water and sewer.

Table 1 - Revenue Adjustment History

Year	Water	Sewer
2005	3%	3%
2006	5.5%	0%
2007	5.5%	0%
2008	3.4%	2.4%
2009	3.8%	1.76%

In July of 2009, the City entered into an agreement for services to complete a water resource master plan as well as a water infrastructure master plan. These plans were completed and adopted by Council on May 17, 2010. These plans are the basis for the water system capital program that has been incorporated in this update of the City's rate model.

The City currently utilizes a rate model developed by Red Oak Consulting in October of 2005. This model has been updated by staff each year to ensure expenses and revenue requirements are monitored closely. In conjunction with the master plan development, in April of 2010 a Request for Proposals was issued to competitively solicit consulting and rate modeling services. However, after review of the proposals, City staff determined that utilizing the current model was the most advantageous and cost effective solution. This report documents the analysis conducted by staff in updating the rate model. City staff has compiled and evaluated the necessary data to update revenue requirements and develop updated rates.

II. Update Methodology

This update was conducted in the following three phases:

- Revenue Sufficiency Analysis Phase – determined the annual rate revenue required over a five-year period to completely fund the water and wastewater system financial requirements, including the number and type of customers, operating expenses, debt service and the capital improvements program.

- Cost of Service Analysis Phase – determined the cost to serve water and wastewater customers and allocated those costs to rate components and customer classes based on a review of line-item operating, debt service and capital costs.

- Rate Design Phase – designed a system of rates and charges that are projected to recover the annual rate revenue requirement determined in the revenue sufficiency analysis phase of the study.

-

A. *Revenue Sufficiency Analysis*

In order to update the model, staff evaluates utility expenses, current budgets, capital projects, debt requirements and the impact on operations from the capital program. These expenses are then updated in the model to keep it current.

A critical driving factor is the need to fund the replacement of system components. As indicated in the City of Avondale's Municipal Code §24-117, the user charge rates for sewer should be revised as needed to pay for the total operations, maintenance and replacement costs for the system. Due to the aging system in some areas of the City, additional replacement funding is required to ensure the timely replacement of system components. The model currently assumes a reserve for system replacement should be at no less than 2% of net assets for each system.

Baseline Expense Projections

The model was updated to include all expense and other revenue needs for a five year study period. Baseline expense projections for the forecast period assumed the following:

- ✓ All operating expenses and transfers are assumed to remain constant during the study period with the exception of the following:
  - Salary related expenses – increase by 1.4% per year in each year of the forecast period, based on compensation plan trends including retirement and healthcare costs.
  - Utility costs increase by 2% per year.
  - Repair and maintenance costs increase by 1% per year.
- ✓ Annual debt service expenses and debt service coverage requirements were taken from the current outstanding debt information and only projected to increase in years in which additional debt is projected.

Baseline Revenue Projections

Baseline revenue projections were assumed to exclude additional revenue from rate increases. The following assumptions were used to project annual changes in baseline revenue during the period:

- ✓ Baseline water and wastewater rate revenue, that is, rate revenue increases that are exclusive of programmed rate increases, are projected to increase at 2% in FY 2013 and 3% annually thereafter to reflect projected annual growth in the water and wastewater customer base.
- ✓ FY 2011 actual miscellaneous revenue (turn on/off charges, late fees, etc.) was projected to remain constant during the forecast period.
- ✓ Development Fee revenue received over the last two years was used for water and wastewater development fee revenue projections.
- ✓ Interest income was calculated by the model based on projected fund balances during the period and assumed interest earnings rate of 1.0% per year.

Other Revenue Requirements

In addition to operating expenses, debt service and CIP related costs, the City must also maintain sufficient revenue to ensure that the annual debt service coverage ratio is met. Currently that ratio is 1.2 times the annual net income. Also, the City has set a management objective to maintain a working capital reserve in an amount equal to at least four months of operations and maintenance. This was previously set at six months. Both of these requirements were programmed into the financial model.

Financial Projections associated with the Revenue Sufficiency Analysis Phase

The results of the revenue sufficiency analysis are presented in **Table** 2 as the pro-forma and cash flow analysis.

Table 2 - Revenue Sufficiency Analysis

City of Avondale, Arizona
Revenue Sufficiency Analysis
Pro-Forma and Cash Flow Analysis - By Fund

Water Operating Fund	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**FY 17**
Beginning Unrestricted Balances	**22,708,024**	**22,302,278**	**21,332,948**	**20,651,450**	**18,582,875**	**19,343,940**
Water Rate Revenue	10,750,032	10,857,532	11,074,683	11,406,923	11,749,131	12,101,605
Plus: Growth	1%	2%	3%	3%	3%	3%
Water Rate Revenue After Growth	10,857,532	11,074,683	11,406,923	11,749,131	12,101,605	12,464,653
Pct Change in Water Rates	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
Pct of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%
Water Rate Revenue After Growth and Rate Increase	10,857,532	11,074,683	11,406,923	11,749,131	12,101,605	12,464,653
Other Revenue	211,767	211,767	211,767	211,767	211,767	211,767
Interest Income	225,052	218,176	188,930	176,554	170,671	175,342
Total Revenue	11,294,351	11,504,626	11,807,620	12,137,452	12,484,043	12,851,762
O&M	(10,002,910)	(10,180,117)	(10,220,728)	(10,262,246)	(10,304,700)	(10,348,119)
Debt Service	(138,996)	(150,511)	(116,584)	(38,072)	(37,921)	(37,986)
Capital Outlay	(562,760)	(562,760)	(562,760)	(562,760)	(562,760)	(562,760)
Cash Funded Capital	(995,430)	(1,580,569)	(1,589,045)	(3,342,950)	(817,597)	(1,625,956)
Net Cash Flow	**(405,745)**	**(969,331)**	**(681,498)**	**(2,068,575)**	**761,065**	**276,940**
Ending Unrestricted Balances	**22,302,278**	**21,332,948**	**20,651,450**	**18,582,875**	**19,343,940**	**19,620,880**

Sewer Operating Fund	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**FY 17**
Beginning Unrestricted Balances	**12,289,591**	**8,305,731**	**7,595,020**	**7,347,773**	**6,386,169**	**6,690,649**
Sewer Rate Revenue	7,025,929	7,096,188	7,238,112	7,455,255	7,678,913	7,909,280
Plus: Growth	1%	2%	3%	3%	3%	3%
Sewer Rate Revenue After Growth	7,096,188	7,238,112	7,455,255	7,678,913	7,909,280	8,146,559
Pct Change in Sewer Rates	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
Pct of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%
Sewer Rate Revenue After Growth and Rate Increase	7,096,188	7,238,112	7,455,255	7,678,913	7,909,280	8,146,559
Other Revenue	95,123	95,123	95,123	95,123	95,123	95,123
Interest Income	118,452	94,979	81,170	75,730	72,773	77,243
Total Revenue	7,309,763	7,428,214	7,631,549	7,849,767	8,077,177	8,318,925
O&M	(4,578,672)	(5,160,096)	(5,181,144)	(5,741,489)	(6,116,548)	(6,207,008)
Debt Service	(2,203,955)	(1,767,833)	(653,415)	(650,029)	(824,792)	(1,127,741)
Capital Outlay	(110,997)	(110,997)	(394,237)	(519,852)	(681,357)	(350,102)
Cash Funded Capital	(4,400,000)	(1,100,000)	(1,650,000)	(1,900,000)	(150,000)	(250,000)
Net Cash Flow	**(3,983,860)**	**(710,711)**	**(247,247)**	**(961,603)**	**304,480**	**384,074**
Ending Unrestricted Balances	**8,305,731**	**7,595,020**	**7,347,773**	**6,386,169**	**6,690,649**	**7,074,723**

Summary Results of Combined Water and Sewer Fund	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**FY 17**
Debt Service Coverage Calculation						
Rate Revenue	17,953,720	18,312,795	18,862,178	19,428,044	20,010,885	20,611,212
Other Revenue	306,891	306,891	306,891	306,891	306,891	306,891
Interest Income	343,503	313,155	270,100	252,285	243,444	252,584
Total Revenue	18,604,114	18,932,840	19,439,169	19,987,219	20,561,220	21,170,687
O&M	(14,581,582)	(15,340,213)	(15,401,872)	(16,003,735)	(16,421,248)	(16,555,128)
Net Income	4,022,532	3,592,627	4,037,297	3,983,484	4,139,972	4,615,559
Debt Service - Existing	2,342,951	1,918,344	769,999	688,101	862,712	1,165,727
Debt Service Coverage	**1.72**	**1.87**	**5.24**	**5.79**	**4.80**	**3.96**

Summary of Increase in Rate Revenue (excluding Growth related increases)						
Total Full Year Rate Revenue Increase (excluding Growth)	17,775,961	17,953,720	18,312,795	18,862,178	19,428,044	20,010,885
Total Rate Revenue Before Rate Increase	17,775,961	17,953,720	18,312,795	18,862,178	19,428,044	20,010,885
Annual Pct Rate Revenue Increase	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
Revenue Requirement Water Allocation	60.6%	60.4%	63.4%	60.8%	58.5%	58.4%
Revenue Requirement Sewer Allocation	39.4%	39.6%	36.6%	39.2%	41.5%	41.6%

As indicated, the revenue requirement with the baseline estimates remains sufficient for both water and wastewater. The large decline in the wastewater fund can be attributed to the cost of the Phoenix International Raceway (PIR) sewer line costs. That cost along with other capital transfers is shown in the cash flow analysis (Table 2) as “Cash Funded Capital”.

New Program Projections

The Public Works Department has identified several new programs and has estimated costs to implement the increased service levels. These programs include the items and additional staffing shown in Table 3.

Table 3 - New Program Costs

Year	New Program / Staffing	Capital Expenses	Operating Costs
Water System			
2012/2013	Community Water Upgrades		$ 50,000
	Rigby Retrofit and Rehabilitation		40,000
	Asset Management Technician (g10)		85,000
	GIS Analyst (g13)		100,000
	GIS Point Verification Program	$ 500,000	
	Recharge Site Fencing	100,000	
	SCADA Maintenance Work		50,000
	Tank Maintenance and Rehabilitation		50,000
	VFD and Motor Replacement		100,000
	Water Pump Replacement		50,000
	SUBTOTAL	**$ 600,000**	**$ 525,000**
2013/2014	Easement Machine	65,000	
	Water Optimization Analysis and Implementation		50,000
	CAP Water Recharge Supplies		400,000
	ARC Flash/Energy Efficiency Improvements		75,000
	Existing Well Rehabilitation		250,000
	Gateway Nitrate Treatment Purchase	260,000	
	SUBTOTAL	**$ 325,000**	**$ 775,000**
2014/2015			
	Meter Reading Program		250,000
	Compliance Inspector (g08)		70,000
	Water System Security Improvements		100,000
	Water Resources Mechanic (g08)		70,000
	SUBTOTAL	**$ -**	**$ 490,000**
Wastewater System			
2012/2013	Community Sewer Upgrades		$ 100,000
	Corrosion and Odor Control		200,000
	Sewer Line Rehabilitation		250,000
	Lift Station Pump Replacement		50,000
	SCADA Maintenance Work		100,000
	WOLF Aeration Basin Mixer Replacement		250,000
	SUBTOTAL	**$ -**	**$ 950,000**
2013/2014	CCTV Truck	200,000	
	10th St. Lift Station Backup Force Main	1,000,000	
	ARC Flash/Energy Efficiency Improvements		75,000
	WOLF Blower Replacement	300,000	
	WOLF Clarifier Rehabilitation	500,000	
	SUBTOTAL	**$2,000,000**	**$ 75,000**
2014/2015	Water Resources Operator (g08)		$ 70,000
	Sewer System Security Improvements		$ 100,000
	SUBTOTAL	**$ -**	**$ 170,000**

Additional Capital Improvements

Public Works staff also identified costs to be added to the capital improvement schedule. These costs increase the need to cash fund the capital program given the lack of development fee and bond revenues. The additional project needs are shown in Table 4.

Table 4 - Additional Capital Costs

Year		PROJECT	Cost
WASTEWATER CIP			
2012/2013		WOLF Tertiary Filters	$ 3,250,000
		PIR Sewer Lines/Lift Station	$ 2,000,000
		SUBTOTAL	**$5,250,000**
WATER CIP			
2012/2013		Well 22 Construction	$ 700,000
		SUBTOTAL	**$ 700,000**
2014/2015		Groundwater/Wellhead Treatment	$ 1,200,000
		Redundant PIR Water Line	$ 1,000,000
		Master Plan Water Line Implementation	$ 4,000,000
		SUBTOTAL	**$6,200,000**

Adjusted Revenue Requirement

The graphs on the following page show the impact of the additional programs and capital projects on the Water and Wastewater system financial plans. The baseline projections are shown on each graph in blue while the projections with the new programs and additional capital costs are shown in red. The rate revenue adjustments are shown as "Just-In-Time" adjustments and have not been leveled out over the study period.

As indicated in Figure 1, Water system revenues must increase by at least 16.1% over the study period to ensure reserves are met and working capital remain at target levels with the added costs. New debt is required to fund the $6.9 million added in projects to this fund. The cash and cash equivalents in the water fund decline by over $12 million in the study period even with the 15.4% revenue increase. To mitigate the negative cash flow each year, a greater increase may be required.

The Wastewater fund adjusted revenue sufficiency analysis is depicted in Figure 2. As the figure indicates, a 21.7% increase is needed over the study period to ensure reserves are met and working capital remains at the target levels. The working capital for this fund drops significantly below the desired four months of operations and maintenance due to the lack of sources available to fund additional capital projects.

Figure 1 - Revenue Sufficiency Analysis - Water Fund

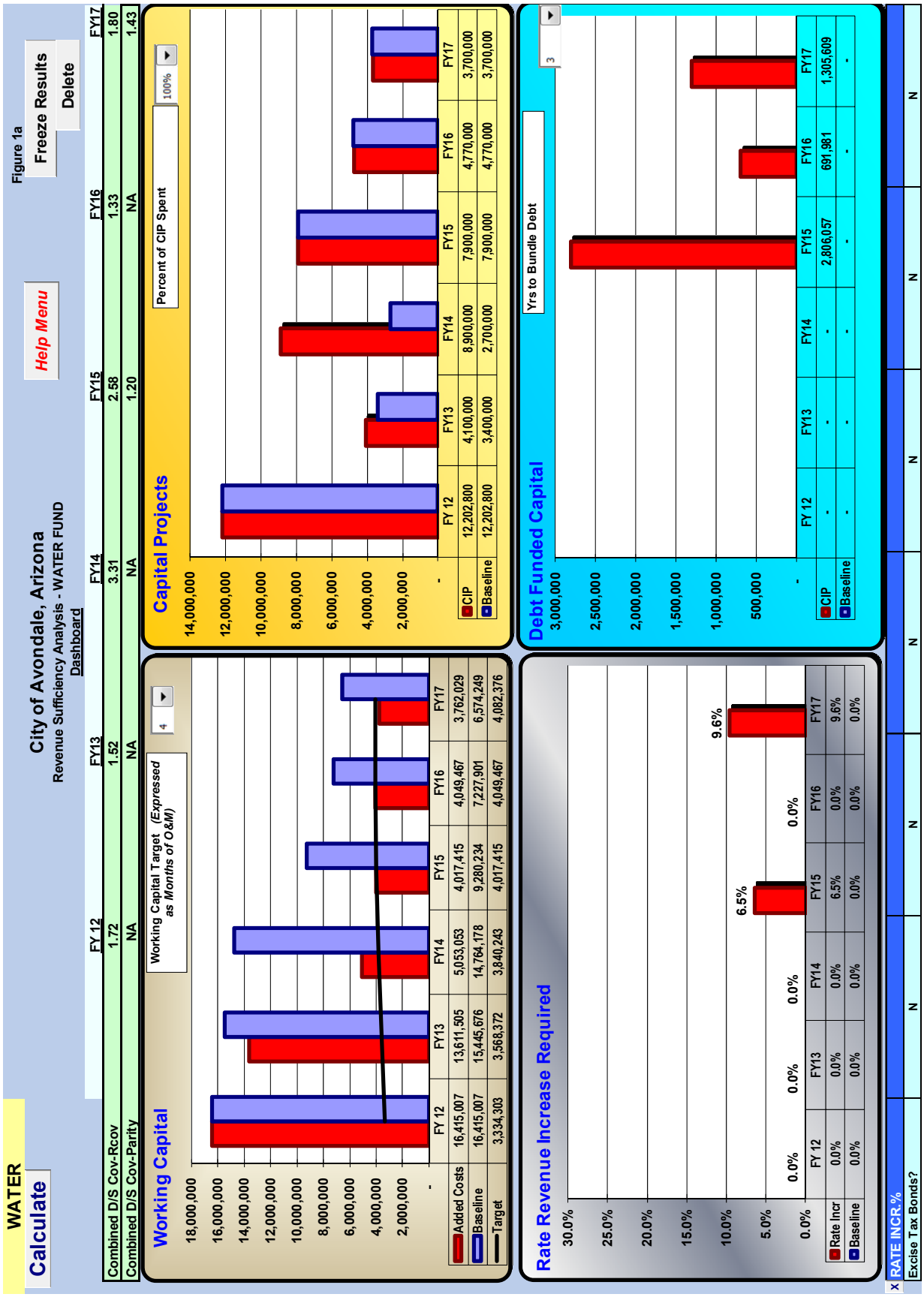
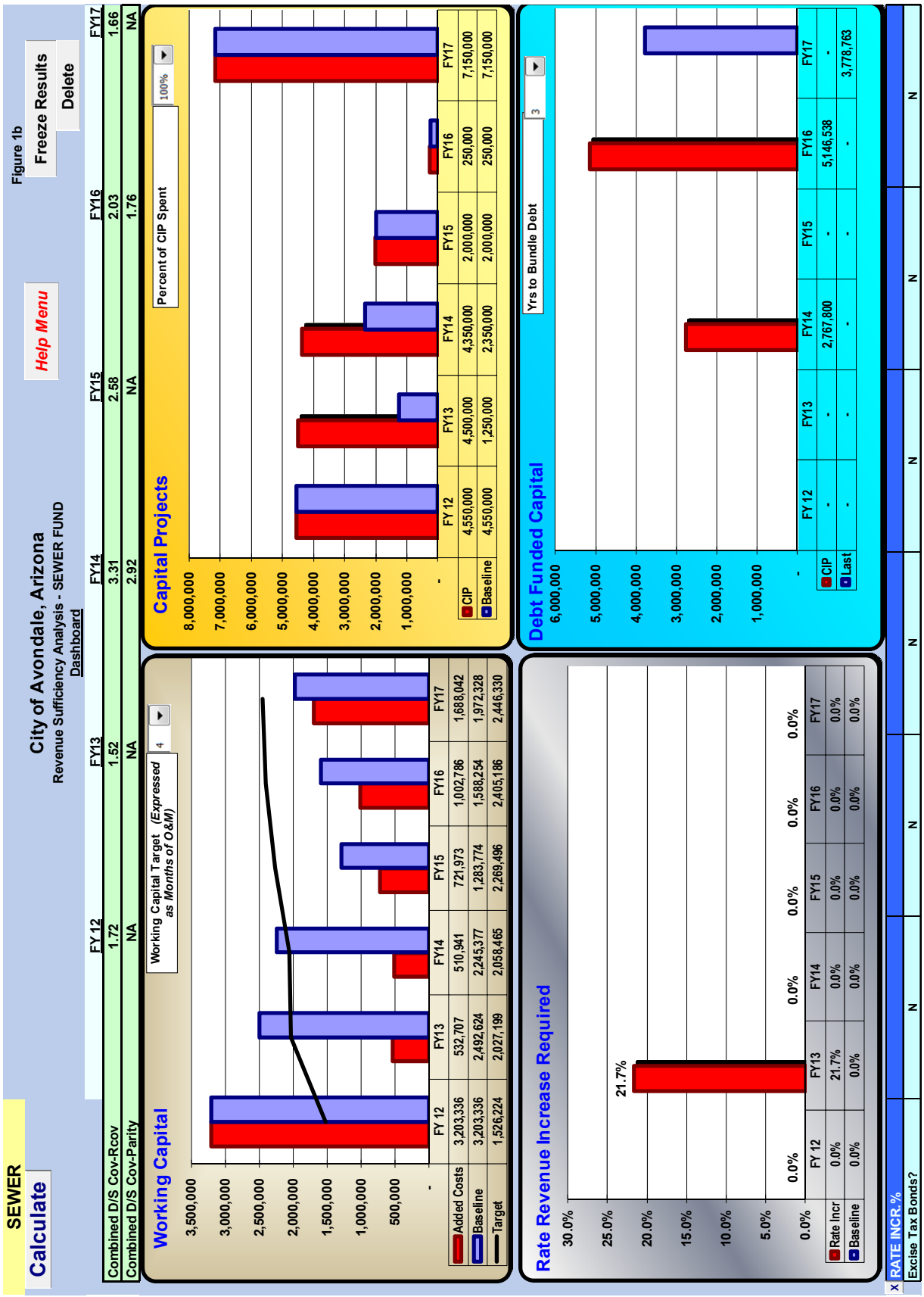


Figure 2 - Revenue Sufficiency Analysis - Sewer Fund



B. *Cost of Service Analysis*

Allocation of Costs to Water Cost Components

Customer related costs, such as billing, customer service costs and meter reading for water customers are allocated directly to the water customer charge rate component. Meter related costs, such as meter repair and replacement costs associated with maintaining the utility's readiness to serve customers are allocated to the meter, or *readiness to serve (RTS)*, charge. Other costs, such as transmission costs and treatment costs that are associated with flow-related activity, are allocated to the flow charge.

Allocation of Costs to Wastewater Cost Components

Customer related costs, such as billing and customer service costs, for wastewater customers are allocated directly to the wastewater customer charge rate component. The allocation of costs for the customer charge has been decreasing due to the shift in Public Works Administrative costs from the Wastewater Fund to the Water Fund. Costs related to the collection system are allocated to a volume charge and treatment costs are allocated to a strength charge both of which are then combined into a single flow charge.

The cost allocation process resulted in the percentage of the rate revenue requirement identified in the baseline revenue sufficiency analysis that is to be recovered through the following rate components for each Utility:

Table 5 – Baseline Cost/Rate Components

Water Rate Components		Wastewater Rate Components	
Customer charge	3%	Customer Charge	9%
Readiness to serve charge	24%	Flow Charge	91%
Flow Charge	73%		

However the addition of the new programs in each utility results in a change to the allocation to cost components which affects the design of the rates. The increase in the customer charge and readiness to serve charge allocations will affect minimum bill calculations.

Table 6 - Adjusted Cost/Rate Components

Water Rate Components		Wastewater Rate Components	
Customer charge	7%	Customer Charge	12%
Readiness to serve charge	23%	Flow Charge	88%
Flow Charge	70%		

C. *Rate Design Analysis*

The development of cost components sets the basis for actual rate development. The rate design considers different variables for each utility that determine the fairness and equity of the rate structure. For each utility, customer classes are identified in order to ensure the equitable allocation of costs.

The rates and charges developed during this rate update were developed using the same general rate-making objectives from the original study:

- ✓ Revenue stability
- ✓ Discouragement of wasteful water use

- ✓ Promotion of fairness and equity among rate-payers
- ✓ Understandability of rates

Assumptions used in the development of the rate structures presented include:

- ✓ Continuation of conservation rate structure for water customers
- ✓ Use of winter average water usage as the basis for sewer billings for residential customers
- ✓ Use of sewer return factor of 80% for all users except for multi-family for which a 100% return factor was used; and laundries and car washes, for which a 70% return factor was used in recognition that these types of users return less water to the wastewater system by the nature of their business.
- ✓ Allocation of costs of wastewater treatment based on estimated contribution to the wastewater system by user class.

<u>Allocation of Costs to Water Customers</u>

The rate revenue requirement for each rate component was apportioned by customer class in the following manner:

- ✓ Customer charge – The number of customers, by customer class, was compiled from the most recent fiscal year's utility billing data to determine the number of customers and number of bills issued per year. The total costs were allocated on a per bill basis to develop the monthly charge.
- ✓ Readiness to serve charge – In order to properly apportion the rate revenue requirement for the readiness to serve charge among customer classes, equivalent units for each customer class were calculated in the following manner:

    - o Equivalent Residential Units (ERUs) - The number of equivalent units for all customers, except multi-unit customers, was determined by calculating the equivalent residential units by meter size by class. Equivalent residential units for each class were calculated by multiplying the number of meters times the meter equivalency factor for each meter size. The meter equivalency factors used are established by the American Water Works Association (AWWA). The number of equivalent units was calculated by multiplying the number of units for multi-unit customers by the ratio of average monthly demand for multi-unit customers (4,700 gallons per month) as compared to single family residential customers (10,000 gallons per month), or 47%.

The rate revenue requirement for the readiness to serve charge was then apportioned based on the pro-rata portion of equivalent residential units for each class based on meter size.

- ✓ Flow rate – The water conservation component of the water rate design includes the development of four (4) blocks of water usage. The volume of water flow, by customer class, was compiled in order to determine the distribution of flow by class and rate block. The rate revenue requirement for the flow rate was then apportioned based on the pro-rata portion of customers for each class. One of the main objectives in the development of the current rate structure was to incorporate a conservation rate structure which alters the apportionment of the rate revenue requirement among customer classes based on their usage patterns.

The calculation of a user's monthly water bill is represented by the following formula:

Water Charge = CC + (R x M x U) + [(B1 x V1) + (B2 x V2) + (B3 x V3) + (B4 x V4)]

Where:

B1= Rate per 1,000 gallons in block one
B2= Rate per 1,000 gallons in block two
B3= Rate per 1,000 gallons in block three
B4= Rate per 1,000 gallons in block four
CC = Customer charge per bill
M=Meter equivalency factor
R=Readiness to serve charge for 0.75" Meter per unit
U=Number of units
V1= Water usage in thousands of gallons in block one
V2= Water usage in thousands of gallons in block two
V3= Water usage in thousands of gallons in block three
V4= Water usage in thousands of gallons in block four

The blocks for water usage are determined using the ¾" meter as the base. Except for hydrant meters and residential customers with a ¾" or 1" meter, all blocks are adjusted by the meter equivalency factor. Hydrant meters have relatively high capacity when compared to the standard meter and are therefore calculated separately.

Allocation of Costs to Wastewater Customers

The rate revenue requirement for each rate component for wastewater was apportioned by customer class in the following manner:

- ✓ Customer charge – The number of customers, by customer class, was compiled from the most recent fiscal year's utility billing data to determine the number of customers and number of bills issued per year. The total costs were allocated on a per bill basis to develop the monthly charge. As previously stated, the customer charge reflects a decrease based on Public Works Department cost shifting.

- ✓ Flow rate – The volume of wastewater flow, adjusted to reflect the assumed return factors by customer was compiled in order to determine the distribution of flow by class. The volume charge was developed using volume data from the last fiscal year's billing data. The costs of the collection system were reduced to a cost per 1,000 gallons based on total billed volumes. The second component is the allocation of treatment costs. Strength of wastewater is measured based on wastewater loadings of Biochemical Oxygen Demand (BOD) and Suspended Solids (SS). The costs of treatment were apportioned between the two categories based on the estimated pounds of BOD and SS removed from wastewater by user class. Except for the residential class, these estimated pounds were calculated based on typical (Industry Standards) user strength characteristics developed by the California State Water Resources Control Board in 1998. The residential strength characteristics are based on the local residential contributions estimated in 2005 by the wastewater treatment plant staff. These loadings by customer class are presented in Table 7.

Table 7-Typical User Strengths

Standard Classifications	BOD (mgl)	SS (mgl)
Residential	250	225
Auto Steam Cleaning	1,150	1,250
Bakery, wholesale	1,000	600
Bars without dining facilities	200	200
Car Wash	20	150
Department and Retail Store	150	150
Hospital and Convalescent	250	100
Hotel with dining facilities	500	600
Hotel/Motel without dining	310	120
Industrial Laundry	670	680
Laundromat	150	110
Laundry, commercial	450	240
Market with garbage grinders	800	800
Mortuary	800	800
Professional Office	130	80
Repair Shop and Service Station	180	280
Restaurant	1,000	600
School and College	130	100
Septage	5,400	12,000
Soft Water Service	3	55

The calculation of a user's monthly wastewater bill is represented by the following formula:

Wastewater Charge = CC + Vs[(Bc x 0.00834 x Bm) + (Sc x 0.00834 x Sm)]

Where:

Bc= Cost of treatment per unit of Biochemical Oxygen Demand (BOD)
Bm= Concentration of BOD in milligrams per liter
CC = Customer charge per bill
Sc= Cost of treatment per unit of Suspended Solids (SS)
Sm= Concentration of SS in milligrams per liter
Vs= Volume of wastewater in thousands of gallons

Volumes of wastewater are determined based on 80% of the average winter quarter (December, January and February) water usage for single family residential customers. Multi-family customer wastewater volumes are based on 100% of billed water volume. Laundries and Car Washes wastewater volumes are based on 70% of billed water usage each month. All other customer class wastewater volumes are based on 80% of billed water usage.

III. Rate Scenarios

The baseline projections indicate an increase in wastewater revenue is needed to help support the future costs of capital projects, system replacement and debt service. Under the baseline projections, revenue adjustments for water and wastewater are estimated at an average of 0% per year for five years. Table 8 presents the results of the baseline projections compared to the projections with added programs and projects.

Table 8-Comparison of Revenue Adjustment Options

	2012	2013	2014	2015	2016
Baseline Water Increase	0%	0%	0%	0%	0%
Baseline Wastewater Increase	0%	0%	0%	0%	0%
Baseline Total Increase	**0%**	**0%**	**0%**	**0%**	**0%**
New Programs – Water	2%	2%	2%	2%	2%
New Programs - Sewer	2.5%	3%	3%	2.5%	3%
New Programs Total Increase	**2.2%**	**2.4%**	**2.4%**	**2.2%**	**2.4%**

A. Water Rates

The current rates for water consumption are compared to the options presented in Table 9. The customer charge per bill will remain at $2.60, while the readiness to serve charge fee based on meter size and the rates per 1,000 gallons will be adjusted as shown in Table 4.

Table 9-Water Rate Comparison

Water Rates	Current	New Program
Customer Charge Per Bill - all users	$ 2.60	$ 2.90
Meter Size-Base Fee all users		
3/4" Meter	$ 7.90	$ 8.05
1" Meter	19.90	20.00
1 1/2" Meter	31.80	34.60
2" Meter	50.90	55.40
3" Meter	95.50	103.90
4" Meter	159.20	173.20
6" Meter	318.40	346.40
Hydrant Meter	318.40	346.40
Residential Usage Charge per 1,000 gallons		
0-4,000 gal	$ 0.94	$ 0.95
5,000-8,000 gal	1.44	1.52
9,000-12,000gal	2.16	2.21
13,000 + gal	3.30	3.47
Non-Residential Usage Charge per 1,000 gallons		
0-4,000 gal	$ 1.44	$ 1.52
5,000-8,000 gal	1.44	1.52
9,000-12,000gal	2.16	2.21
13,000 + gal	3.30	3.47
Hydrant Usage – all gal	3.30	3.47

Multi-family rates are adjusted by the 47% unit equivalency factor and rate blocks are adjusted by the meter equivalency factor.

B. *Sewer Rates*

The current rates for wastewater services are compared to the two rate options presented in Table 10. The costs for sewer treatment have been steadily increasing which is reflected in the volume charge per 1,000 gallons in the table.

Table 10 - Sewer Rate Comparison

	Current Rates	**New Program Rates**	
Customer Charge all users	$ 6.65	$ 4.50	
Customer Class	*Volume charge per 1,000 gal*	*Volume charge per 1,000 gal*	*Return Factor*
Residential	$ 3.17	$ 3.68	80%
Multi-family	3.17	3.68	100%
Mobile Home Park	3.17	3.68	80%
Auto Steam Cleaning	9.37	10.14	70%
Bakery Wholesale	7.30	7.89	80%
Hospital & Convalescent	2.90		80%
Markets with Garbage Disposal	6.84	7.39	80%
Repair Shop and Service Station	2.98	3.20	80%
Restaurant	7.30	7.89	80%
Schools & Colleges	2.37	2.53	80%
Bars W/O Dining	2.89	3.11	80%
Laundromat	2.48	2.65	70%
Commercial Laundry	4.09	4.40	70%
Car Wash	1.99	2.12	70%
Professional Office	2.32	2.48	80%
Department Store & Retail	2.56	2.75	80%
Hotel w/Dining	5.08	5.48	80%
Hotel w/o Dining	3.21	3.45	80%
Mortuaries	6.84	7.39	80%

*Residential charges are calculated using the average water usage for the months of December, January and February, adjusted by the listed return factor.

C. *Other Fees*

In addition to the cost of service rates calculated by the City's model, staff was given direction to calculate fees to recover costs of recent mandates by other levels of government. Effective July 20, 2011, the State legislature enacted Senate Bill 1624 which established a new permanent municipality fee to be deposited in the State's Water Resources Fund. This fee is allocated to Arizona municipalities based on population. The fee for the City of Avondale for FY 2011-12 was calculated at $94,978.71. Based on the number of bills issued in FY 2010-11, the fee to be added to each bill to recover this cost is $0.33 per month/per customer.

In January of 2010, the Development Services and Engineering Department prepared an analysis of the cost of the environmental programs it administers that are mandated by the Federal government; the National Pollutant Discharge Elimination System (NPDES) and Air Quality (PM-10) programs. Based on the analysis, the department is recommending the addition of a

$1.00 fee per utility customer per month. These fees are included in the customer impact analysis in the following section.

D. *Estimated Impact on Customer Bills*

The customer impact of these rate ad fee options are presented in the following figures for a few select customer types. . The average residential water consumption is between 9,000 and 10,000 gallons per month. The distribution of the bills for the City's largest customer class, residential with ¾" meter is shown in Figure 3. The most frequently issued residential bills for a ¾ inch meter are for 5,000 gallons per month.

Figure 3 - Residential 3/4" Meter Bill Counts

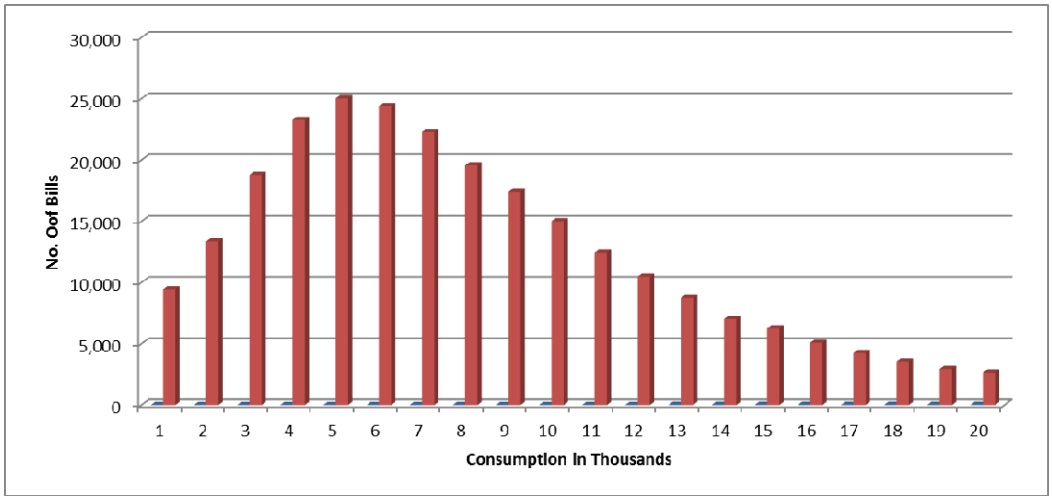


Figure 4 shows the impact of the additional programs on the monthly bill of a residential customer with a ¾" meter and 10,000 gallons water usage and wastewater based 8,000 winter average usage. As shown, customers with a ¾" meter will see a 6.4% or $4.48 increase in their monthly bill.

Figure 4-Average Residential Customer 3/4" Meter – Baseline Rates

Residential	Gallons Billed	Current	Option 2
Water	10		
Base Fee 3/4" Meter		$ 10.50	$ 10.95
Volume Charge		13.84	14.30
Sub-Total		24.34	25.25
Sewer (Winter Average)	8		
Base Fee		$ 6.25	$ 3.90
Volume Charge on 80%	6	17.58	22.08
Sub-Total		23.83	25.98
Sanitation		20.00	20.00
Environmental Fee			1.00
ADWR Fee			0.33
Taxes		2.23	2.32
Total		**$ 70.40**	**$ 74.88**
Total Bill Change			$ 4.48
% Bill Change			6.4%

The largest group of non-residential bills issued is for customers with a 2" meter. Figure 5 shows the impact of the new Public Works programs on the monthly bill of a restaurant with a 2" meter and average consumption.

Figure 5 - Non-Residential with 2" Meter - New Program Rates

Non-Residential	Gallons Billed	Current	Option 2
Restaurant			
Water	105		
Base Fee 2" Meter		$53.50	$58.30
Volume Charge		190.98	199.23
Sub-Total		244.48	257.53
Sewer	74		
Base Fee		$6.25	$ 3.90
Volume Charge		540.20	583.86
Sub-Total		546.45	587.76
Environmental Fee			1.00
ADWR Fee			0.33
Taxes		18.05	18.83
Total		**$ 808.98**	**$ 865.45**
Total Bill Change			$ 56.47
% Bill Change			7.0%

The non-residential customer with the average usage and meter size will see an increase of $56.47 or 7%.

IV. Recommendations

Based on the findings of the rate analysis, staff is requesting direction from City Council on the desired level of rate adjustment, if any.

V. Appendices

A... Comparison of Allocated Revenue Requirements and Calculated Revenue by Customer Class 19

B... Pro-Forma and Cash Flow Analysis by Fund with New Program Rates 25

C. Water Fund Capital Improvement Plan 26

D. Sewer Fund Capital Improvement Plan 27

E. Water Consumption by Rate Block 28

F. Calculation of Treatment Requirement by Customer Class 29

This page intentionally left blank.

City of Avondale, Arizona
Cost of Service Analysis
Allocation of Annual Costs to Cost Components

Allocation to Water/Sewer and Cost Components

Transfer Ops Costs

									Water														Sewer							
									Customer Charge		Base Charge		Volume Charge										Customer Charge		Base Charge					
									Billing, Collection, Meter Reading		Meter Repair and Maintenance		Wells		Pumping & Storage		Transmission/Distribution		Treatment		Total Water		Billing, Collection, Meter Reading		Meter Repair and Maintenance		Collection		Treatment		Total Sewer
Description	Description	Description	2012	2013	2014	2015	2016	5 Yr Average	%	$	%	$	%	$	%	$	%	$	%	$	Total	%	$	%	$	%	$	%	$	Total
Water Distribution	Salaries & Wages	Salaries and Wages	667,150	673,822	680,560	687,365	694,239	680,627	0%	-	75%	510,470	0%	-	0%	-	25%	170,157	0%	-	680,627	0%		0%		0%		0%		-
Water Distribution	Salaries & Wages	Cellular Phone Stipend	9,000	9,090	9,181	9,273	9,365	9,182	0%	-	75%	6,886	0%	-	0%	-	25%	2,295	0%	-	9,182	0%		0%		0%		0%		-
Water Distribution	Salaries & Wages	Overtime Pay	48,830	49,318	49,811	50,310	50,813	49,816	0%	-	75%	37,362	0%	-	0%	-	25%	12,454	0%	-	49,816	0%		0%		0%		0%		-
Water Distribution	Employee Benefits	O.A.S.D.I.	44,130	45,895	47,731	49,640	51,626	47,804	0%	-	75%	35,853	0%	-	0%	-	25%	11,951	0%	-	47,804	0%		0%		0%		0%		-
Water Distribution	Employee Benefits	Az State Retirement	76,450	79,508	82,688	85,996	89,436	82,816	0%	-	75%	62,112	0%	-	0%	-	25%	20,704	0%	-	82,816	0%		0%		0%		0%		-
Water Distribution	Employee Benefits	Workers' Compensation	12,970	13,489	14,028	14,589	15,173	14,050	0%	-	75%	10,537	0%	-	0%	-	25%	3,512	0%	-	14,050	0%		0%		0%		0%		-
Water Distribution	Employee Benefits	Medicare	10,320	10,733	11,162	11,609	12,073	11,179	0%	-	75%	8,384	0%	-	0%	-	25%	2,795	0%	-	11,179	0%		0%		0%		0%		-
Water Distribution	Employee Health & Dental	Short-Term Disability	2,900	2,929	2,958	2,988	3,018	2,959	0%	-	75%	2,219	0%	-	0%	-	25%	740	0%	-	2,959	0%		0%		0%		0%		-
Water Distribution	Employee Health & Dental	Health Insurance	101,420	102,434	103,459	104,493	105,538	103,469	0%	-	75%	77,602	0%	-	0%	-	25%	25,867	0%	-	103,469	0%		0%		0%		0%		-
Water Distribution	Employee Health & Dental	Life Insurance	3,580	3,616	3,652	3,688	3,725	3,652	0%	-	75%	2,739	0%	-	0%	-	25%	913	0%	-	3,652	0%		0%		0%		0%		-
Water Distribution	Employee Health & Dental	Dental Insurance	9,790	9,888	9,987	10,087	10,188	9,988	0%	-	75%	7,491	0%	-	0%	-	25%	2,497	0%	-	9,988	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Other Professional Svcs.	30,700	30,700	30,700	30,700	30,700	30,700	0%	-	75%	23,025	0%	-	0%	-	25%	7,675	0%	-	30,700	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Postage	-	-	-	-	-	-	0%	-	75%	-	0%	-	0%	-	25%	-	0%	-	-	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Rental Construction Equipment	10,000	10,000	10,000	10,000	10,000	10,000	0%	-	75%	7,500	0%	-	0%	-	25%	2,500	0%	-	10,000	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Uniform Rental	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	75%	3,000	0%	-	0%	-	25%	1,000	0%	-	4,000	0%		0%		0%		0%		-
Water Distribution	Utility Expenses	Telephone/Internet Service	1,400	1,400	1,400	1,400	1,400	1,400	0%	-	75%	1,050	0%	-	0%	-	25%	350	0%	-	1,400	0%		0%		0%		0%		-
Water Distribution	Utility Expenses	Long Distance Phone Service	780	780	780	780	780	780	0%	-	75%	585	0%	-	0%	-	25%	195	0%	-	780	0%		0%		0%		0%		-
Water Distribution	Repair and Maintenance	R&M Machinery and Equipment	30,000	30,000	30,000	30,000	30,000	30,000	0%	-	75%	22,500	0%	-	0%	-	25%	7,500	0%	-	30,000	0%		0%		0%		0%		-
Water Distribution	Repair and Maintenance	R&M Meter Boxes	-	-	-	-	-	-	0%	-	75%	-	0%	-	0%	-	25%	-	0%	-	-	0%		0%		0%		0%		-
Water Distribution	Repair and Maintenance	R&M Water Distribution System	125,000	125,000	125,000	125,000	125,000	125,000	0%	-	75%	93,750	0%	-	0%	-	25%	31,250	0%	-	125,000	0%		0%		0%		0%		-
Water Distribution	General Supplies	General Office Supplies	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	75%	750	0%	-	0%	-	25%	250	0%	-	1,000	0%		0%		0%		0%		-
Water Distribution	General Supplies	Computers and Software Licensing	15,000	15,000	15,000	15,000	15,000	15,000	0%	-	75%	11,250	0%	-	0%	-	25%	3,750	0%	-	15,000	0%		0%		0%		0%		-
Water Distribution	General Supplies	Uniform Purchase	1,500	1,500	1,500	1,500	1,500	1,500	0%	-	75%	1,125	0%	-	0%	-	25%	375	0%	-	1,500	0%		0%		0%		0%		-
Water Distribution	General Supplies	Safety Apparel/Equipment	3,000	3,000	3,000	3,000	3,000	3,000	0%	-	75%	2,250	0%	-	0%	-	25%	750	0%	-	3,000	0%		0%		0%		0%		-
Water Distribution	General Supplies	Paint and Painting Supplies	-	-	-	-	-	-	0%	-	75%	-	0%	-	0%	-	25%	-	0%	-	-	0%		0%		0%		0%		-
Water Distribution	General Supplies	Other Supplies	9,000	9,000	9,000	9,000	9,000	9,000	0%	-	75%	6,750	0%	-	0%	-	25%	2,250	0%	-	9,000	0%		0%		0%		0%		-
Water Distribution	Water & Sewer Supplies/Equipment	Chemicals	-	-	-	-	-	-	0%	-	75%	-	0%	-	0%	-	25%	-	0%	-	-	0%		0%		0%		0%		-
Water Distribution	Water & Sewer Supplies/Equipment	Water System Supplies	85,000	85,000	85,000	85,000	85,000	85,000	0%	-	75%	63,750	0%	-	0%	-	25%	21,250	0%	-	85,000	0%		0%		0%		0%		-
Water Distribution	Water & Sewer Supplies/Equipment	Meter Equipment	270,000	500,000	500,000	500,000	500,000	454,000	0%	-	75%	340,500	0%	-	0%	-	25%	113,500	0%	-	454,000	0%		0%		0%		0%		-
Water Distribution	Vehicle/Equipment Supplies	Small Tools and Instruments	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	75%	3,000	0%	-	0%	-	25%	1,000	0%	-	4,000	0%		0%		0%		0%		-
Water Distribution	Capital Equipment	Water System Construction	70,000	70,000	70,000	70,000	70,000	70,000	0%	-	75%	52,500	0%	-	0%	-	25%	17,500	0%	-	70,000	0%		0%		0%		0%		-
Water Distribution	Transfers	Transfer Out 530	104,740	104,740	104,740	104,740	104,740	104,740	0%	-	75%	78,555	0%	-	0%	-	25%	26,185	0%	-	104,740	0%		0%		0%		0%		-
Water Distribution	Interdepartmental Charges	Internal Printing/Copy Charges	2,480	2,480	2,480	2,480	2,480	2,480	0%	-	75%	1,860	0%	-	0%	-	25%	620	0%	-	2,480	0%		0%		0%		0%		-
Water Distribution	Interdepartmental Charges	Risk Management Charges	95,100	95,100	95,100	95,100	95,100	95,100	0%	-	75%	71,325	0%	-	0%	-	25%	23,775	0%	-	95,100	0%		0%		0%		0%		-
Water Distribution	Interdepartmental Charges	Equipment Management Charges	110,940	110,940	110,940	110,940	110,940	110,940	0%	-	75%	83,205	0%	-	0%	-	25%	27,735	0%	-	110,940	0%		0%		0%		0%		-
Water Distribution	Interdepartmental Charges	Administrative Charges	491,640	491,640	491,640	491,640	491,640	491,640	0%	-	75%	368,730	0%	-	0%	-	25%	122,910	0%	-	491,640	0%		0%		0%		0%		-
Water Distribution	Interdepartmental Charges	General Government Charge	51,960	51,960	51,960	51,960	51,960	51,960	0%	-	75%	38,970	0%	-	0%	-	25%	12,990	0%	-	51,960	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Training	12,330	12,330	12,330	12,330	12,330	12,330	0%	-	75%	9,248	0%	-	0%	-	25%	3,083	0%	-	12,330	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Printing	-	-	-	-	-	-	0%	-	75%	-	0%	-	0%	-	25%	-	0%	-	-	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Memberships	250	250	250	250	250	250	0%	-	75%	188	0%	-	0%	-	25%	63	0%	-	250	0%		0%		0%		0%		-
Water Distribution	Other Contractual	Meeting Expense	-	-	-	-	-	-	0%	-	75%	-	0%	-	0%	-	25%	-	0%	-	-	0%		0%		0%		0%		-
Water Administration	Salaries & Wages	Salaries and Wages	262,100	264,721	267,368	270,042	272,742	267,395	30%	80,218	20%	53,479	15%	40,109	15%	40,109	10%	26,739	10%	26,739	267,395	0%		0%		0%		0%		-
Water Administration	Salaries & Wages	Cellular Phone Stipend	4,800	4,848	4,896	4,945	4,995	4,897	30%	1,469	20%	979	15%	735	15%	735	10%	490	10%	490	4,897	0%		0%		0%		0%		-
Water Administration	Employee Benefits	O.A.S.D.I.	16,170	16,817	17,489	18,189	18,917	17,516	30%	5,255	20%	3,503	15%	2,627	15%	2,627	10%	1,752	10%	1,752	17,516	0%		0%		0%		0%		-
Water Administration	Employee Benefits	Az State Retirement	28,320	29,453	30,631	31,856	33,130	30,678	30%	9,203	20%	6,136	15%	4,602	15%	4,602	10%	3,068	10%	3,068	30,678	0%		0%		0%		0%		-
Water Administration	Employee Benefits	Workers' Compensation	1,290	1,342	1,395	1,451	1,509	1,397	30%	419	20%	279	15%	210	15%	210	10%	140	10%	140	1,397	0%		0%		0%		0%		-
Water Administration	Employee Benefits	Medicare	3,830	3,983	4,143	4,308	4,481	4,149	30%	1,245	20%	830	15%	622	15%	622	10%	415	10%	415	4,149	0%		0%		0%		0%		-
Water Administration	Employee Health & Dental	Short-Term Disability	970	980	989	999	1,009	990	30%	297	20%	198	15%	148	15%	148	10%	99	10%	99	990	0%		0%		0%		0%		-
Water Administration	Employee Health & Dental	Health Insurance	28,600	28,886	29,175	29,467	29,761	29,178	30%	8,753	20%	5,836	15%	4,377	15%	4,377	10%	2,918	10%	2,918	29,178	0%		0%		0%		0%		-
Water Administration	Employee Health & Dental	Life Insurance	1,620	1,636	1,653	1,669	1,686	1,653	30%	496	20%	331	15%	248	15%	248	10%	165	10%	165	1,653	0%		0%		0%		0%		-
Water Administration	Employee Health & Dental	Dental Insurance	2,240	2,262	2,285	2,308	2,331	2,285	30%	686	20%	457	15%	343	15%	343	10%	229	10%	229	2,285	0%		0%		0%		0%		-
Water Administration	Financial Services	Finance and Banking Fees	12,000	12,000	12,000	12,000	12,000	12,000	30%	3,600	20%	2,400	15%	1,800	15%	1,800	10%	1,200	10%	1,200	12,000	0%		0%		0%		0%		-
Water Administration	Other Contractual	Other Professional Svcs.	142,525	50,000	50,000	50,000	50,000	68,505	30%	20,552	20%	13,701	15%	10,276	15%	10,276	10%	6,851	10%	6,851	68,505	0%		0%		0%		0%		-
Water Administration	Other Contractual	Other Fees	2,000	2,000	2,000	2,000	2,000	2,000	30%	600	20%	400	15%	300	15%	300	10%	200	10%	200	2,000	0%		0%		0%		0%		-
Water Administration	Other Contractual	Postage	500	500	500	500	500	500	30%	150	20%	100	15%	75	15%	75	10%	50	10%	50	500	0%		0%		0%		0%		-
Water Administration	Other Contractual	Other Rents	-	-	-	-	-	-	30%	-	20%	-	15%	-	15%	-	10%	-	10%	-	-	0%		0%		0%		0%		-
Water Administration	Utility Expenses	Telephone/Internet Service	9,410	9,410	9,410	9,410	9,410	9,410	30%	2,823	20%	1,882	15%	1,412	15%	1,412	10%	941	10%	941	9,410	0%		0%		0%		0%		-
Water Administration	Maintenance Contracts	Contractual Maint./Office Equi	-	-	-	-	-	-	30%	-	20%	-	15%	-	15%	-	10%	-	10%	-	-	0%		0%		0%		0%		-
Water Administration	General Supplies	General Office Supplies	3,000	3,000	3,000	3,000	3,000	3,000	30%	900	20%	600	15%	450	15%	450	10%	300	10%	300	3,000	0%		0%		0%		0%		-
Water Administration	General Supplies	Uniform Purchase	2,126	2,126	2,126	2,126	2,126	2,126	30%	638	20%	425	15%	319	15%	319	10%	213	10%	213	2,126	0%		0%		0%		0%		-
Water Administration	General Supplies	Office Equipment	-	-	-	-	-	-	30%	-	20%	-	15%	-	15%	-	10%	-	10%	-	-	0%		0%		0%		0%		-
Water Administration	General Supplies	Computers and Software Licensing	48,349	48,349	48,349	48,349	48,349	48,349	30%	14,505	20%	9,670	15%	7,252	15%	7,252	10%	4,835	10%	4,835	48,349	0%		0%		0%		0%		-
Water Administration	General Supplies	Furnishings	1,000	1,000	1,000	1,000	1,000	1,000	30%	300	20%	200	15%	150	15%	150	10%	100	10%	100	1,000	0%		0%		0%		0%		-
Water Administration	Capital Equipment	Water Sys. Improve/Major Main.	300,000	300,000	300,000	300,000	300,000	300,000	30%	90,000	20%	60,000	15%	45,000	15%	45,000	10%	30,000	10%	30,000	300,000	0%		0%		0%		0%		-
Water Administration	Interdepartmental Charges	General Government Charge	24,020	24,020	24,020	24,020	24,020	24,020	30%	7,206	20%	4,804	15%	3,603	15%	3,603	10%	2,402	10%	2,402	24,020	0%		0%		0%		0%		-
Water Administration	Transfers	Transfer Out 530	14,600	14,600	14,600	14,600	14,600	14,600	30%	4,380	20%	2,920	15%	2,190	15%	2,190	10%	1,460	10%	1,460	14,600	0%		0%		0%		0%		-
Water Administration	Interdepartmental Charges	Internal Printing/Copy Charges	5,190	5,190	5,190	5,190	5,190	5,190	30%	1,557	20%	1,038	15%	779	15%	779	10%	519	10%	519	5,190	0%		0%		0%		0%		-
Water Administration	Interdepartmental Charges	Risk Management Charges	7,120	7,120	7,120	7,120	7,120	7,120	30%	2,136	20%	1,424	15%	1,068	15%	1,068	10%	712	10%	712	7,120	0%		0%		0%		0%		-
Water Administration	Interdepartmental Charges	Equipment Management Charges	6,570	6,570	6,570	6,570	6,570	6,570	30%	1,971	20%	1,314	15%	986	15%	986	10%	657	10%	657	6,570	0%		0%		0%		0%		-
Water Administration	Interdepartmental Charges	Administrative Charges	182,320	182,320	182,320	182,320	182,320	182,320	30%	54,696	20%	36,464	15%	27,348	15%	27,348	10%	18,232	10%	18,232	182,320	0%		0%		0%		0%		-
Water Administration	Interdepartmental Charges	Facilities Maintenance Charges	66,880	66,880	66,880	66,880	66,880	66,880	30%	20,064	20%	13,376	15%	10,032	15%	10,032	10%	6,688	10%	6,688	66,880	0%		0%		0%		0%		-
Water Administration	Debt Service	Bond Redemption	121,070	121,070	121,070	121,070	121,070	121,070	30%	36,321	20%	24,214	15%	18,161	15%	18,161	10%	12,107	10%	12,107	121,070	0%		0%		0%		0%		-
Water Administration	Debt Service	Bond Interest Payments	17,920	17,920	17,920	17,920	17,920	17,920	30%	5,376	20%	3,584	15%	2,688	15%	2,688	10%	1,792	10%	1,792	17,920	0%		0%		0%		0%		-
Water Administration	Contingency	Contingency	-	-	-	-	-	-	30%	-	20%	-	15%	-	15%	-	10%	-	10%	-	-	0%		0%		0%		0%		-
Water Administration	Transfers	Transfer Out 514--Water Development	-	-	-	-	-	-	30%	-	20%	-	15%	-	15%	-	10%	-	10%	-	-	0%		0%		0%		0%		-
Water Administration	Other Contractual	Training	8,000	8,000	8,000	8,000	8,000	8,000	30%	2,400	20%	1,600	15%	1,200	15%	1,200	10%	800	10%	800	8,000	0%		0%		0%		0%		-
Water Administration	Other Contractual	Printing	1,000	1,000	1,000	1,000	1,000	1,000	30%	300	20%	200	15%	150	15%	150	10%	100	10%	100	1,000	0%		0%		0%		0%		-
Water Administration	Other Contractual	Memberships	7,000	7,000	7,000	7,000	7,000	7,000	30%	2,100	20%	1,400	15%	1,050	15%	1,050	10%	700	10%	700	7,000	0%		0%		0%		0%		-
Water Administration	Other Contractual	Meeting Expense	500	500	500	500	500	500	30%	150	20%	100	15%	75	15%	75	10%	50	10%	50	500	0%		0%		0%		0%		-

Appendix A

City of Avondale, Arizona
Cost of Service Analysis
Allocation of Annual Costs to Cost Components

Allocation to Water/Sewer and Cost Components

Transfer Ops Costs

									Water														Sewer							
									Customer Charge		Base Charge		Volume Charge										Customer Charge		Base Charge					
									Billing, Collection, Meter Reading		Meter Repair and Maintenance		Wells		Pumping & Storage		Transmission/Distribution		Treatment		Total Water	Billing, Collection, Meter Reading		Meter Repair and Maintenance		Collection		Treatment		Total Sewer
Description	Description	Description	2012	2013	2014	2015	2016	5 Yr Average	%	$	%	$	%	$	%	$	%	$	%	$	Total	%	$	%	$	%	$	%	$	Total
GIS and Land Services	Salaries & Wages	Salaries and Wages	232,680	235,007	237,357	239,730	242,128	237,380	10%	23,738	40%	94,952	10%	23,738	10%	23,738	20%	47,476	10%	23,738	237,380	0%		0%		0%		0%		-
GIS and Land Services	Salaries & Wages	Cellular Phone Stipend	2,400	2,424	2,448	2,473	2,497	2,448	10%	245	40%	979	10%	245	10%	245	20%	490	10%	245	2,448	0%		0%		0%		0%		-
GIS and Land Services	Employee Benefits	O.A.S.D.I.	14,320	14,893	15,489	16,108	16,752	15,512	10%	1,551	40%	6,205	10%	1,551	10%	1,551	20%	3,102	10%	1,551	15,512	0%		0%		0%		0%		-
GIS and Land Services	Employee Benefits	Az State Retirement	24,830	25,823	26,856	27,930	29,048	26,897	10%	2,690	40%	10,759	10%	2,690	10%	2,690	20%	5,379	10%	2,690	26,897	0%		0%		0%		0%		-
GIS and Land Services	Employee Benefits	Workers' Compensation	1,110	1,154	1,201	1,249	1,299	1,202	10%	120	40%	481	10%	120	10%	120	20%	240	10%	120	1,202	0%		0%		0%		0%		-
GIS and Land Services	Employee Benefits	Medicare	3,340	3,474	3,613	3,757	3,907	3,618	10%	362	40%	1,447	10%	362	10%	362	20%	724	10%	362	3,618	0%		0%		0%		0%		-
GIS and Land Services	Employee Health & Dental	Short-Term Disability	870	879	887	896	905	888	10%	89	40%	355	10%	89	10%	89	20%	178	10%	89	888	0%		0%		0%		0%		-
GIS and Land Services	Employee Health & Dental	Health Insurance	26,760	27,028	27,298	27,571	27,847	27,301	10%	2,730	40%	10,920	10%	2,730	10%	2,730	20%	5,460	10%	2,730	27,301	0%		0%		0%		0%		-
GIS and Land Services	Employee Health & Dental	Life Insurance	990	1,000	1,010	1,020	1,030	1,010	10%	101	40%	404	10%	101	10%	101	20%	202	10%	101	1,010	0%		0%		0%		0%		-
GIS and Land Services	Employee Health & Dental	Dental Insurance	2,370	2,394	2,418	2,442	2,466	2,418	10%	242	40%	967	10%	242	10%	242	20%	484	10%	242	2,418	0%		0%		0%		0%		-
GIS and Land Services	Engineering Professionals	Engineering Fees	10,000	10,000	10,000	10,000	10,000	10,000	10%	1,000	40%	4,000	10%	1,000	10%	1,000	20%	2,000	10%	1,000	10,000	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Other Professional Svcs.	163,000	163,000	163,000	163,000	163,000	163,000	10%	16,300	40%	65,200	10%	16,300	10%	16,300	20%	32,600	10%	16,300	163,000	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Other Fees	17,000	17,000	17,000	17,000	17,000	17,000	10%	1,700	40%	6,800	10%	1,700	10%	1,700	20%	3,400	10%	1,700	17,000	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Postage	50	50	50	50	50	50	10%	5	40%	20	10%	5	10%	5	20%	10	10%	5	50	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Subscriptions	-	-	-	-	-	-	10%	-	40%	-	10%	-	10%	-	20%	-	10%	-	-	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Uniform Rental	400	400	400	400	400	400	10%	40	40%	160	10%	40	10%	40	20%	80	10%	40	400	0%		0%		0%		0%		-
GIS and Land Services	Utility Expenses	Telephone/Internet Service	1,100	1,100	1,100	1,100	1,100	1,100	10%	110	40%	440	10%	110	10%	110	20%	220	10%	110	1,100	0%		0%		0%		0%		-
GIS and Land Services	Interdepartmental Charges	Equipment Management Charges	8,090	8,090	8,090	8,090	8,090	8,090	10%	809	40%	3,236	10%	809	10%	809	20%	1,618	10%	809	8,090	0%		0%		0%		0%		-
GIS and Land Services	Interdepartmental Charges	General Government Charge	12,310	12,310	12,310	12,310	12,310	12,310	10%	1,231	40%	4,924	10%	1,231	10%	1,231	20%	2,462	10%	1,231	12,310	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	General Office Supplies	250	250	250	250	250	250	10%	25	40%	100	10%	25	10%	25	20%	50	10%	25	250	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Data Processing Supplies	1,000	1,000	1,000	1,000	1,000	1,000	10%	100	40%	400	10%	100	10%	100	20%	200	10%	100	1,000	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Maps and Charts	100	100	100	100	100	100	10%	10	40%	40	10%	10	10%	10	20%	20	10%	10	100	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Office Equipment	500	500	500	500	500	500	10%	50	40%	200	10%	50	10%	50	20%	100	10%	50	500	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Computers and Software Licensing	15,420	15,420	15,420	15,420	15,420	15,420	10%	1,542	40%	6,168	10%	1,542	10%	1,542	20%	3,084	10%	1,542	15,420	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Uniform Purchase	100	100	100	100	100	100	10%	10	40%	40	10%	10	10%	10	20%	20	10%	10	100	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Safety Apparel/Equipment	150	150	150	150	150	150	10%	15	40%	60	10%	15	10%	15	20%	30	10%	15	150	0%		0%		0%		0%		-
GIS and Land Services	General Supplies	Paint and Painting Supplies	1,000	1,000	1,000	1,000	1,000	1,000	10%	100	40%	400	10%	100	10%	100	20%	200	10%	100	1,000	0%		0%		0%		0%		-
GIS and Land Services	Vehicle/Equipment Supplies	Small Tools and Instruments	500	500	500	500	500	500	10%	50	40%	200	10%	50	10%	50	20%	100	10%	50	500	0%		0%		0%		0%		-
GIS and Land Services	Interdepartmental Charges	Internal Printing/Copy Charges	1,090	1,090	1,090	1,090	1,090	1,090	10%	109	40%	436	10%	109	10%	109	20%	218	10%	109	1,090	0%		0%		0%		0%		-
GIS and Land Services	Interdepartmental Charges	Risk Management Charges	6,300	6,300	6,300	6,300	6,300	6,300	10%	630	40%	2,520	10%	630	10%	630	20%	1,260	10%	630	6,300	0%		0%		0%		0%		-
GIS and Land Services	Interdepartmental Charges	Administrative Charges	34,390	34,390	34,390	34,390	34,390	34,390	10%	3,439	40%	13,756	10%	3,439	10%	3,439	20%	6,878	10%	3,439	34,390	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Training	5,500	5,500	5,500	5,500	5,500	5,500	10%	550	40%	2,200	10%	550	10%	550	20%	1,100	10%	550	5,500	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Printing	500	500	500	500	500	500	10%	50	40%	200	10%	50	10%	50	20%	100	10%	50	500	0%		0%		0%		0%		-
GIS and Land Services	Other Contractual	Memberships	1,000	1,000	1,000	1,000	1,000	1,000	10%	100	40%	400	10%	100	10%	100	20%	200	10%	100	1,000	0%		0%		0%		0%		-
GIS and Land Services	Transfers	Transfer Out 530--Water Replacement	17,650	17,650	17,650	17,650	17,650	17,650	10%	1,765	40%	7,060	10%	1,765	10%	1,765	20%	3,530	10%	1,765	17,650	0%		0%		0%		0%		-
Water Resources	Salaries & Wages	Salaries and Wages	86,130	86,991	87,861	88,740	89,627	87,870	0%	-	0%	-	100%	87,870	0%	-	0%	-	0%	-	87,870	0%		0%		0%		0%		-
Water Resources	Salaries & Wages	Cellular Phone Stipend	1,200	1,212	1,224	1,236	1,249	1,224	0%	-	0%	-	100%	1,224	0%	-	0%	-	0%	-	1,224	0%		0%		0%		0%		-
Water Resources	Salaries & Wages	Overtime Pay	-	-	-	-	-	-	0%	-	0%	-	100%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		-
Water Resources	Employee Benefits	O.A.S.D.I.	5,720	5,949	6,187	6,434	6,692	6,196	0%	-	0%	-	100%	6,196	0%	-	0%	-	0%	-	6,196	0%		0%		0%		0%		-
Water Resources	Employee Benefits	Az State Retirement	9,920	10,317	10,729	11,159	11,605	10,746	0%	-	0%	-	100%	10,746	0%	-	0%	-	0%	-	10,746	0%		0%		0%		0%		-
Water Resources	Employee Benefits	Workers' Compensation	260	270	281	292	304	282	0%	-	0%	-	100%	282	0%	-	0%	-	0%	-	282	0%		0%		0%		0%		-
Water Resources	Employee Benefits	Medicare	1,340	1,394	1,449	1,507	1,568	1,452	0%	-	0%	-	100%	1,452	0%	-	0%	-	0%	-	1,452	0%		0%		0%		0%		-
Water Resources	Employee Health & Dental	Short-Term Disability	320	323	326	330	333	326	0%	-	0%	-	100%	326	0%	-	0%	-	0%	-	326	0%		0%		0%		0%		-
Water Resources	Employee Health & Dental	Health Insurance	9,210	9,302	9,395	9,489	9,584	9,396	0%	-	0%	-	100%	9,396	0%	-	0%	-	0%	-	9,396	0%		0%		0%		0%		-
Water Resources	Employee Health & Dental	Life Insurance	370	374	377	381	385	377	0%	-	0%	-	100%	377	0%	-	0%	-	0%	-	377	0%		0%		0%		0%		-
Water Resources	Employee Health & Dental	Dental Insurance	900	909	918	927	937	918	0%	-	0%	-	100%	918	0%	-	0%	-	0%	-	918	0%		0%		0%		0%		-
Water Resources	Legal Services	Attorney Fees	15,000	15,000	15,000	15,000	15,000	15,000	0%	-	0%	-	100%	15,000	0%	-	0%	-	0%	-	15,000	0%		0%		0%		0%		-
Water Resources	Other Contractual	Other Professional Svcs.	22,800	22,800	22,800	22,800	22,800	22,800	0%	-	0%	-	100%	22,800	0%	-	0%	-	0%	-	22,800	0%		0%		0%		0%		-
Water Resources	Other Contractual	Other Fees	-	-	-	-	-	-	0%	-	0%	-	100%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		-
Water Resources	Other Contractual	Postage	-	-	-	-	-	-	0%	-	0%	-	100%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		-
Water Resources	Other Contractual	NAUSP	50,000	50,000	50,000	50,000	50,000	50,000	0%	-	0%	-	100%	50,000	0%	-	0%	-	0%	-	50,000	0%		0%		0%		0%		-
Water Resources	Utility Expenses	Telephone/Internet Service	880	880	880	880	880	880	0%	-	0%	-	100%	880	0%	-	0%	-	0%	-	880	0%		0%		0%		0%		-
Water Resources	Utility Expenses	Long Distance Phone Service	1,030	1,030	1,030	1,030	1,030	1,030	0%	-	0%	-	100%	1,030	0%	-	0%	-	0%	-	1,030	0%		0%		0%		0%		-
Water Resources	Water Purchases	C.A.P. Purch. Water & DWR Fee	1,091,000	1,091,000	1,091,000	1,091,000	1,091,000	1,091,000	0%	-	0%	-	100%	1,091,000	0%	-	0%	-	0%	-	1,091,000	0%		0%		0%		0%		-
Water Resources	General Supplies	General Office Supplies	-	-	-	-	-	-	0%	-	0%	-	100%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		-
Water Resources	Interdepartmental Charges	Equipment Management Charges	1,350	1,350	1,350	1,350	1,350	1,350	0%	-	0%	-	100%	1,350	0%	-	0%	-	0%	-	1,350	0%		0%		0%		0%		-
Water Resources	Interdepartmental Charges	General Government Charge	20,790	20,790	20,790	20,790	20,790	20,790	0%	-	0%	-	100%	20,790	0%	-	0%	-	0%	-	20,790	0%		0%		0%		0%		-
Water Resources	Transfers	Transfer Out 530--Water Replacement	4,100	4,100	4,100	4,100	4,100	4,100	0%	-	0%	-	100%	4,100	0%	-	0%	-	0%	-	4,100	0%		0%		0%		0%		-
Water Resources	Interdepartmental Charges	Internal Printing/Copy Charges	2,810	2,810	2,810	2,810	2,810	2,810	0%	-	0%	-	100%	2,810	0%	-	0%	-	0%	-	2,810	0%		0%		0%		0%		-
Water Resources	Interdepartmental Charges	Risk Management Charges	51,740	51,740	51,740	51,740	51,740	51,740	0%	-	0%	-	100%	51,740	0%	-	0%	-	0%	-	51,740	0%		0%		0%		0%		-
Water Resources	Interdepartmental Charges	Administrative Charges	36,150	36,150	36,150	36,150	36,150	36,150	0%	-	0%	-	100%	36,150	0%	-	0%	-	0%	-	36,150	0%		0%		0%		0%		-
Water Resources	Other Contractual	Mileage Reimbursement	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	0%	-	100%	1,000	0%	-	0%	-	0%	-	1,000	0%		0%		0%		0%		-
Water Resources	Other Contractual	Training	1,350	1,350	1,350	1,350	1,350	1,350	0%	-	0%	-	100%	1,350	0%	-	0%	-	0%	-	1,350	0%		0%		0%		0%		-
Water Resources	Other Contractual	Printing	-	-	-	-	-	-	0%	-	0%	-	100%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		-
Water Resources	Other Contractual	Memberships	43,200	43,200	43,200	43,200	43,200	43,200	0%	-	0%	-	100%	43,200	0%	-	0%	-	0%	-	43,200	0%		0%		0%		0%		-
Water Resources	Other Contractual	Meeting Expense	-	-	-	-	-	-	0%	-	0%	-	100%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		-
Water Quality	Salaries & Wages	Salaries and Wages	220,540	222,745	224,973	227,223	229,495	224,995	0%	-	0%	-	0%	-	0%	-	0%	-	100%	224,995	224,995	0%		0%		0%		0%		-
Water Quality	Salaries & Wages	Overtime Pay	6,000	6,060	6,121	6,182	6,244	6,121	0%	-	0%	-	0%	-	0%	-	0%	-	100%	6,121	6,121	0%		0%		0%		0%		-
Water Quality	Employee Benefits	O.A.S.D.I.	13,430	13,967	14,526	15,107	15,711	14,548	0%	-	0%	-	0%	-	0%	-	0%	-	100%	14,548	14,548	0%		0%		0%		0%		-
Water Quality	Employee Benefits	Az State Retirement	23,280	24,211	25,180	26,187	27,234	25,218	0%	-	0%	-	0%	-	0%	-	0%	-	100%	25,218	25,218	0%		0%		0%		0%		-
Water Quality	Employee Benefits	Workers' Compensation	3,370	3,505	3,645	3,791	3,942	3,651	0%	-	0%	-	0%	-	0%	-	0%	-	100%	3,651	3,651	0%		0%		0%		0%		-
Water Quality	Employee Benefits	Medicare	3,140	3,266	3,396	3,532	3,673	3,401	0%	-	0%	-	0%	-	0%	-	0%	-	100%	3,401	3,401	0%		0%		0%		0%		-
Water Quality	Employee Health & Dental	Short-Term Disability	820	828	836	845	853	837	0%	-	0%	-	0%	-	0%	-	0%	-	100%	837	837	0%		0%		0%		0%		-
Water Quality	Employee Health & Dental	Health Insurance	26,760	27,028	27,298	27,571	27,847	27,301	0%	-	0%	-	0%	-	0%	-	0%	-	100%	27,301	27,301	0%		0%		0%		0%		-
Water Quality	Employee Health & Dental	Life Insurance	1,060	1,071	1,081	1,092	1,103	1,081	0%	-	0%	-	0%	-	0%	-	0%	-	100%	1,081	1,081	0%		0%		0%		0%		-
Water Quality	Employee Health & Dental	Dental Insurance	2,160	2,182	2,203	2,225	2,248	2,204	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,204	2,204	0%		0%		0%		0%		-
Water Quality	Other Contractual	Laboratory Fees	115,000	115,000	115,000	115,000	115,000	115,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	115,000	115,000	0%		0%		0%		0%		-
Water Quality	Other Contractual	Other Professional Svcs.	30,000	30,000	30,000	30,000	30,000	30,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	30,000	30,000	0%		0%		0%		0%		-
Water Quality	Other Contractual	Other Fees	14,500	14,500	14,500	14,500	14,500	14,500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	14,500	14,500	0%		0%		0%		0%		-

City of Avondale, Arizona
Cost of Service Analysis
Allocation of Annual Costs to Cost Components

Allocation to Water/Sewer and Cost Components

Transfer Ops Costs

									Water													Sewer							
									Customer Charge		Base Charge		Volume Charge									Customer Charge		Base Charge					
									Billing, Collection, Meter Reading		Meter Repair and Maintenance		Wells		Pumping & Storage		Transmission/Distribution		Treatment		Total Water	Billing, Collection, Meter Reading		Meter Repair and Maintenance		Collection		Treatment		Total Sewer
Description	Description	Description	2012	2013	2014	2015	2016	5 Yr Average	%	$	%	$	%	$	%	$	%	$	%	$	Total	%	$	%	$	%	$	%	$	Total
Water Quality	Other Contractual	Postage	2,500	2,500	2,500	2,500	2,500	2,500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,500	2,500	0%		0%		0%		0%		-
Water Quality	Other Contractual	Uniform Rental	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Water Quality	Repair and Maintenance	R&M Backflow	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	1,000	1,000	0%		0%		0%		0%		-
Water Quality	General Supplies	General Office Supplies	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Water Quality	General Supplies	Computers and Software Licensing	1,200	1,200	1,200	1,200	1,200	1,200	0%	-	0%	-	0%	-	0%	-	0%	-	100%	1,200	1,200	0%		0%		0%		0%		-
Water Quality	General Supplies	Uniform Purchase	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	500	500	0%		0%		0%		0%		-
Water Quality	General Supplies	Safety Apparel/Equipment	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	500	500	0%		0%		0%		0%		-
Water Quality	Vehicle/Equipment Supplies	Parts	250	250	250	250	250	250	0%	-	0%	-	0%	-	0%	-	0%	-	100%	250	250	0%		0%		0%		0%		-
Water Quality	General Supplies	Other Supplies	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,000	2,000	0%		0%		0%		0%		-
Water Quality	Water & Sewer Supplies/Equipment	Water Conservation Supplies	42,200	42,200	42,200	42,200	42,200	42,200	0%	-	0%	-	0%	-	0%	-	0%	-	100%	42,200	42,200	0%		0%		0%		0%		-
Water Quality	Vehicle/Equipment Supplies	Small Tools and Instruments	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	500	500	0%		0%		0%		0%		-
Water Quality	Interdepartmental Charges	Risk Management Charges	4,930	4,930	4,930	4,930	4,930	4,930	0%	-	0%	-	0%	-	0%	-	0%	-	100%	4,930	4,930	0%		0%		0%		0%		-
Water Quality	Interdepartmental Charges	Equipment Management Charges	4,070	4,070	4,070	4,070	4,070	4,070	0%	-	0%	-	0%	-	0%	-	0%	-	100%	4,070	4,070	0%		0%		0%		0%		-
Water Quality	Other Contractual	Mileage Reimbursement	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Water Quality	Other Contractual	Training	6,000	6,000	6,000	6,000	6,000	6,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	6,000	6,000	0%		0%		0%		0%		-
Water Quality	Other Contractual	Printing	15,500	15,500	15,500	15,500	15,500	15,500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	15,500	15,500	0%		0%		0%		0%		-
Water Quality	Other Contractual	Publication of Legal Notices	150	150	150	150	150	150	0%	-	0%	-	0%	-	0%	-	0%	-	100%	150	150	0%		0%		0%		0%		-
Water Quality	Other Contractual	Memberships	9,500	9,500	9,500	9,500	9,500	9,500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	9,500	9,500	0%		0%		0%		0%		-
Water Quality	Other Contractual	Meeting Expense	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Water Quality	Interdepartmental Charges	Administrative Indirect Charges	3,200	3,200	3,200	3,200	3,200	3,200	0%	-	0%	-	0%	-	0%	-	0%	-	100%	3,200	3,200	0%		0%		0%		0%		-
Water Quality	Interdepartmental Charges	General Government Charge	13,450	13,450	13,450	13,450	13,450	13,450	0%	-	0%	-	0%	-	0%	-	0%	-	100%	13,450	13,450	0%		0%		0%		0%		-
Water Quality	Transfers	Transfer Out 530--Water Replacement	7,200	7,200	7,200	7,200	7,200	7,200	0%	-	0%	-	0%	-	0%	-	0%	-	100%	7,200	7,200	0%		0%		0%		0%		-
Wetlands Treatment	Salaries & Wages	Salaries and Wages	121,830	123,048	124,279	125,522	126,777	124,291	0%	-	0%	-	0%	-	0%	-	0%	-	100%	124,291	124,291	0%		0%		0%		0%		-
Wetlands Treatment	Salaries & Wages	Cellular Phone Stipend	3,000	3,030	3,060	3,091	3,122	3,061	0%	-	0%	-	0%	-	0%	-	0%	-	100%	3,061	3,061	0%		0%		0%		0%		-
Wetlands Treatment	Salaries & Wages	Overtime Pay	12,480	12,605	12,731	12,858	12,987	12,732	0%	-	0%	-	0%	-	0%	-	0%	-	100%	12,732	12,732	0%		0%		0%		0%		-
Wetlands Treatment	Employee Benefits	O.A.S.D.I.	8,330	8,663	9,010	9,370	9,745	9,024	0%	-	0%	-	0%	-	0%	-	0%	-	100%	9,024	9,024	0%		0%		0%		0%		-
Wetlands Treatment	Employee Benefits	Az State Retirement	14,430	15,007	15,607	16,232	16,881	15,632	0%	-	0%	-	0%	-	0%	-	0%	-	100%	15,632	15,632	0%		0%		0%		0%		-
Wetlands Treatment	Employee Benefits	Workers' Compensation	2,470	2,569	2,672	2,778	2,890	2,676	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,676	2,676	0%		0%		0%		0%		-
Wetlands Treatment	Employee Benefits	Medicare	1,940	2,018	2,098	2,182	2,270	2,102	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,102	2,102	0%		0%		0%		0%		-
Wetlands Treatment	Employee Health & Dental	Short-Term Disability	450	455	459	464	468	459	0%	-	0%	-	0%	-	0%	-	0%	-	100%	459	459	0%		0%		0%		0%		-
Wetlands Treatment	Employee Health & Dental	Health Insurance	22,590	22,816	23,044	23,274	23,507	23,046	0%	-	0%	-	0%	-	0%	-	0%	-	100%	23,046	23,046	0%		0%		0%		0%		-
Wetlands Treatment	Employee Health & Dental	Life Insurance	770	778	785	793	801	786	0%	-	0%	-	0%	-	0%	-	0%	-	100%	786	786	0%		0%		0%		0%		-
Wetlands Treatment	Employee Health & Dental	Dental Insurance	1,850	1,869	1,887	1,906	1,925	1,887	0%	-	0%	-	0%	-	0%	-	0%	-	100%	1,887	1,887	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Other Fees	5,000	5,000	5,000	5,000	5,000	5,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	5,000	5,000	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Other Professional Svcs.	22,000	22,000	22,000	22,000	22,000	22,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	22,000	22,000	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Postage	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Rental Construction Equipment	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Rental Space	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Uniform Rental	1,200	1,200	1,200	1,200	1,200	1,200	0%	-	0%	-	0%	-	0%	-	0%	-	100%	1,200	1,200	0%		0%		0%		0%		-
Wetlands Treatment	Utility Expenses	Telephone/Internet Service	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	500	500	0%		0%		0%		0%		-
Wetlands Treatment	Repair and Maintenance	R&M Wetlands	33,030	33,030	33,030	33,030	33,030	33,030	0%	-	0%	-	0%	-	0%	-	0%	-	100%	33,030	33,030	0%		0%		0%		0%		-
Wetlands Treatment	General Supplies	General Office Supplies	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%		0%		0%		0%		-
Wetlands Treatment	General Supplies	Nursery Supplies	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,000	2,000	0%		0%		0%		0%		-
Wetlands Treatment	General Supplies	Uniform Purchase	300	300	300	300	300	300	0%	-	0%	-	0%	-	0%	-	0%	-	100%	300	300	0%		0%		0%		0%		-
Wetlands Treatment	General Supplies	Safety Apparel/Equipment	1,500	1,500	1,500	1,500	1,500	1,500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	1,500	1,500	0%		0%		0%		0%		-
Wetlands Treatment	Water & Sewer Supplies/Equipment	Chemicals	5,000	5,000	5,000	5,000	5,000	5,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	5,000	5,000	0%		0%		0%		0%		-
Wetlands Treatment	Water & Sewer Supplies/Equipment	Wetlands Fish Stocking	13,000	13,000	13,000	13,000	13,000	13,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	13,000	13,000	0%		0%		0%		0%		-
Wetlands Treatment	Vehicle/Equipment Supplies	Parts	2,500	2,500	2,500	2,500	2,500	2,500	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,500	2,500	0%		0%		0%		0%		-
Wetlands Treatment	Vehicle/Equipment Supplies	Small Tools and Instruments	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,000	2,000	0%		0%		0%		0%		-
Wetlands Treatment	Transfers	Transfer Out 530	7,240	7,240	7,240	7,240	7,240	7,240	0%	-	0%	-	0%	-	0%	-	0%	-	100%	7,240	7,240	0%		0%		0%		0%		-
Wetlands Treatment	Interdepartmental Charges	Internal Printing/Copy Charges	4,610	4,610	4,610	4,610	4,610	4,610	0%	-	0%	-	0%	-	0%	-	0%	-	100%	4,610	4,610	0%		0%		0%		0%		-
Wetlands Treatment	Interdepartmental Charges	Risk Management Charges	5,910	5,910	5,910	5,910	5,910	5,910	0%	-	0%	-	0%	-	0%	-	0%	-	100%	5,910	5,910	0%		0%		0%		0%		-
Wetlands Treatment	Interdepartmental Charges	Equipment Management Charges	10,030	10,030	10,030	10,030	10,030	10,030	0%	-	0%	-	0%	-	0%	-	0%	-	100%	10,030	10,030	0%		0%		0%		0%		-
Wetlands Treatment	Interdepartmental Charges	Administrative Charges	28,600	28,600	28,600	28,600	28,600	28,600	0%	-	0%	-	0%	-	0%	-	0%	-	100%	28,600	28,600	0%		0%		0%		0%		-
Wetlands Treatment	Interdepartmental Charges	General Government Charge	9,010	9,010	9,010	9,010	9,010	9,010	0%	-	0%	-	0%	-	0%	-	0%	-	100%	9,010	9,010	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Training	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	100%	2,000	2,000	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Printing	200	200	200	200	200	200	0%	-	0%	-	0%	-	0%	-	0%	-	100%	200	200	0%		0%		0%		0%		-
Wetlands Treatment	Other Contractual	Memberships	150	150	150	150	150	150	0%	-	0%	-	0%	-	0%	-	0%	-	100%	150	150	0%	-	0%	-	0%	-	0%	-	-
Wetlands Treatment	Other Contractual	Meeting Expense	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	100%	-	-	0%	-	0%	-	0%	-	0%	-	-
Water Production	Salaries & Wages	Salaries and Wages	359,560	363,156	366,787	370,455	374,160	366,823	0%	-	0%	-	0%	-	40%	146,729	40%	146,729	20%	73,365	366,823	0%	-	0%	-	0%	-	0%	-	-
Water Production	Salaries & Wages	Cellular Phone Stipend	3,000	3,030	3,060	3,091	3,122	3,061	0%	-	0%	-	0%	-	40%	1,224	40%	1,224	20%	612	3,061	0%	-	0%	-	0%	-	0%	-	-
Water Production	Salaries & Wages	Overtime Pay	20,300	20,503	20,708	20,915	21,124	20,710	0%	-	0%	-	0%	-	40%	8,284	40%	8,284	20%	4,142	20,710	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Benefits	O.A.S.D.I.	23,330	24,263	25,234	26,243	27,293	25,273	0%	-	0%	-	0%	-	40%	10,109	40%	10,109	20%	5,055	25,273	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Benefits	Az State Retirement	40,420	42,037	43,718	45,467	47,286	43,786	0%	-	0%	-	0%	-	40%	17,514	40%	17,514	20%	8,757	43,786	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Benefits	Workers' Compensation	7,260	7,550	7,852	8,167	8,493	7,865	0%	-	0%	-	0%	-	40%	3,146	40%	3,146	20%	1,573	7,865	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Benefits	Medicare	5,450	5,668	5,895	6,131	6,376	5,904	0%	-	0%	-	0%	-	40%	2,362	40%	2,362	20%	1,181	5,904	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Health & Dental	Short-Term Disability	1,340	1,353	1,367	1,381	1,394	1,367	0%	-	0%	-	0%	-	40%	547	40%	547	20%	273	1,367	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Health & Dental	Health Insurance	49,840	50,338	50,842	51,350	51,864	50,847	0%	-	0%	-	0%	-	40%	20,339	40%	20,339	20%	10,169	50,847	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Health & Dental	Life Insurance	2,040	2,060	2,081	2,102	2,123	2,081	0%	-	0%	-	0%	-	40%	832	40%	832	20%	416	2,081	0%	-	0%	-	0%	-	0%	-	-
Water Production	Employee Health & Dental	Dental Insurance	4,960	5,010	5,060	5,110	5,161	5,060	0%	-	0%	-	0%	-	40%	2,024	40%	2,024	20%	1,012	5,060	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Other Professional Svcs.	50,000	50,000	50,000	50,000	50,000	50,000	0%	-	0%	-	0%	-	40%	20,000	40%	20,000	20%	10,000	50,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Rental Construction Equipment	-	-	-	-	-	-	0%	-	0%	-	0%	-	40%	-	40%	-	20%	-	-	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Uniform Rental	2,400	2,400	2,400	2,400	2,400	2,400	0%	-	0%	-	0%	-	40%	960	40%	960	20%	480	2,400	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	R&M Communication Equipment	177,090	177,090	177,090	177,090	177,090	177,090	0%	-	0%	-	0%	-	40%	70,836	40%	70,836	20%	35,418	177,090	0%	-	0%	-	0%	-	0%	-	-
Water Production	Utility Expenses	Telephone/Internet Service	650	650	650	650	650	650	0%	-	0%	-	0%	-	40%	260	40%	260	20%	130	650	0%	-	0%	-	0%	-	0%	-	-
Water Production	Utility Expenses	Long Distance Phone Service	2,220	2,220	2,220	2,220	2,220	2,220	0%	-	0%	-	0%	-	40%	888	40%	888	20%	444	2,220	0%	-	0%	-	0%	-	0%	-	-
Water Production	Utility Expenses	Electricity	990,000	990,000	990,000	990,000	990,000	990,000	0%	-	0%	-	0%	-	40%	396,000	40%	396,000	20%	198,000	990,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	Maintenance Contracts	Contractual Maint./Radio&Comm.	-	-	-	-	-	-	0%	-	0%	-	0%	-	40%	-	40%	-	20%	-	-	0%	-	0%	-	0%	-	0%	-	-
Water Production	Maintenance Contracts	Contractual Maint./Water System	487,000	487,000	487,000	487,000	487,000	487,000	0%	-	0%	-	0%	-	40%	194,800	40%	194,800	20%	97,400	487,000	0%	-	0%	-	0%	-	0%	-	-

Appendix A

City of Avondale, Arizona
Cost of Service Analysis
Allocation of Annual Costs to Cost Components

Allocation to Water/Sewer and Cost Components

Transfer Ops Costs

									Water														Sewer								
									Customer Charge		Base Charge		Volume Charge										Customer Charge		Base Charge						
									Billing, Collection, Meter Reading		Meter Repair and Maintenance		Wells		Pumping & Storage		Transmission/Distribution		Treatment		Total Water	Billing, Collection, Meter Reading		Meter Repair and Maintenance		Collection		Treatment		Total Sewer
Description	Description	Description	2012	2013	2014	2015	2016	5 Yr Average	%	$	%	$	%	$	%	$	%	$	%	$	Total	%	$	%	$	%	$	%	$	Total
Water Production	Repair and Maintenance	R&M Buildings	2,400	2,400	2,400	2,400	2,400	2,400	0%	-	0%	-	0%	-	40%	960	40%	960	20%	480	2,400	0%	-	0%	-	0%	-	0%	-	-
Water Production	Repair and Maintenance	R&M Wells	325,000	325,000	325,000	325,000	325,000	325,000	0%	-	0%	-	0%	-	40%	130,000	40%	130,000	20%	65,000	325,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	General Supplies	General Office Supplies	400	400	400	400	400	400	0%	-	0%	-	0%	-	40%	160	40%	160	20%	80	400	0%	-	0%	-	0%	-	0%	-	-
Water Production	General Supplies	Computers and Software Licensing	10,000	10,000	10,000	10,000	10,000	10,000	0%	-	0%	-	0%	-	40%	4,000	40%	4,000	20%	2,000	10,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	General Supplies	Uniform Purchase	600	600	600	600	600	600	0%	-	0%	-	0%	-	40%	240	40%	240	20%	120	600	0%	-	0%	-	0%	-	0%	-	-
Water Production	General Supplies	Safety Apparel/Equipment	3,000	3,000	3,000	3,000	3,000	3,000	0%	-	0%	-	0%	-	40%	1,200	40%	1,200	20%	600	3,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	General Supplies	Paint and Painting Supplies	1,500	1,500	1,500	1,500	1,500	1,500	0%	-	0%	-	0%	-	40%	600	40%	600	20%	300	1,500	0%	-	0%	-	0%	-	0%	-	-
Water Production	General Supplies	Other Supplies	20,000	20,000	20,000	20,000	20,000	20,000	0%	-	0%	-	0%	-	40%	8,000	40%	8,000	20%	4,000	20,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	Water & Sewer Supplies/Equipment	Chemicals	100,500	100,500	100,500	100,500	100,500	100,500	0%	-	0%	-	0%	-	40%	40,200	40%	40,200	20%	20,100	100,500	0%	-	0%	-	0%	-	0%	-	-
Water Production	Water & Sewer Supplies/Equipment	Water System Supplies	156,650	156,650	156,650	156,650	156,650	156,650	0%	-	0%	-	0%	-	40%	62,660	40%	62,660	20%	31,330	156,650	0%	-	0%	-	0%	-	0%	-	-
Water Production	Vehicle/Equipment Supplies	Gas, Oil, and Lubricants	15,000	15,000	15,000	15,000	15,000	15,000	0%	-	0%	-	0%	-	40%	6,000	40%	6,000	20%	3,000	15,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	Vehicle/Equipment Supplies	Small Tools and Instruments	3,500	3,500	3,500	3,500	3,500	3,500	0%	-	0%	-	0%	-	40%	1,400	40%	1,400	20%	700	3,500	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Water Sys. Improve/Major Main.	117,910	117,910	117,910	117,910	117,910	117,910	0%	-	0%	-	0%	-	40%	47,164	40%	47,164	20%	23,582	117,910	0%	-	0%	-	0%	-	0%	-	-
Water Production	Transfers	Transfer Out 530	37,230	37,230	37,230	37,230	37,230	37,230	0%	-	0%	-	0%	-	40%	14,892	40%	14,892	20%	7,446	37,230	0%	-	0%	-	0%	-	0%	-	-
Water Production	Interdepartmental Charges	Internal Printing/Copy Charges	140	140	140	140	140	140	0%	-	0%	-	0%	-	40%	56	40%	56	20%	28	140	0%	-	0%	-	0%	-	0%	-	-
Water Production	Interdepartmental Charges	Risk Management Charges	16,430	16,430	16,430	16,430	16,430	16,430	0%	-	0%	-	0%	-	40%	6,572	40%	6,572	20%	3,286	16,430	0%	-	0%	-	0%	-	0%	-	-
Water Production	Interdepartmental Charges	Equipment Management Charges	28,340	28,340	28,340	28,340	28,340	28,340	0%	-	0%	-	0%	-	40%	11,336	40%	11,336	20%	5,668	28,340	0%	-	0%	-	0%	-	0%	-	-
Water Production	Interdepartmental Charges	Administrative Charges	77,460	77,460	77,460	77,460	77,460	77,460	0%	-	0%	-	0%	-	40%	30,984	40%	30,984	20%	15,492	77,460	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Communication Equipment	20,000	20,000	20,000	20,000	20,000	20,000	0%	-	0%	-	0%	-	40%	8,000	40%	8,000	20%	4,000	20,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	Interdepartmental Charges	General Government Charge	49,470	49,470	49,470	49,470	49,470	49,470	0%	-	0%	-	0%	-	40%	19,788	40%	19,788	20%	9,894	49,470	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Training	6,000	6,000	6,000	6,000	6,000	6,000	0%	-	0%	-	0%	-	40%	2,400	40%	2,400	20%	1,200	6,000	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Memberships	100	100	100	100	100	100	0%	-	0%	-	0%	-	40%	40	40%	40	20%	20	100	0%	-	0%	-	0%	-	0%	-	-
Water Production	Other Contractual	Publication of Legal Notices	500	500	500	500	500	500	0%	-	0%	-	0%	-	40%	200	40%	200	20%	100	500	0%	-	0%	-	0%	-	0%	-	-
Wastewater Collection	Salaries & Wages	Salaries and Wages	338,570	341,956	345,375	348,829	352,317	345,409	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	345,409	0%	-	345,409
Wastewater Collection	Salaries & Wages	Cellular Phone Stipend	3,000	3,030	3,060	3,091	3,122	3,061	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	3,061	0%	-	3,061
Wastewater Collection	Salaries & Wages	Overtime Pay	14,500	14,645	14,791	14,939	15,089	14,793	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	14,793	0%	-	14,793
Wastewater Collection	Employee Benefits	O.A.S.D.I.	21,650	22,516	23,417	24,353	25,327	23,453	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	23,453	0%	-	23,453
Wastewater Collection	Employee Benefits	Az State Retirement	37,500	39,000	40,560	42,182	43,870	40,622	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	40,622	0%	-	40,622
Wastewater Collection	Employee Benefits	Workers' Compensation	7,200	7,488	7,788	8,099	8,423	7,800	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	7,800	0%	-	7,800
Wastewater Collection	Employee Benefits	Medicare	5,070	5,273	5,484	5,703	5,931	5,492	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	5,492	0%	-	5,492
Wastewater Collection	Employee Health & Dental	Short-Term Disability	1,240	1,252	1,265	1,278	1,290	1,265	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	1,265	0%	-	1,265
Wastewater Collection	Employee Health & Dental	Health Insurance	56,300	56,863	57,432	58,006	58,586	57,437	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	57,437	0%	-	57,437
Wastewater Collection	Employee Health & Dental	Life Insurance	1,810	1,828	1,846	1,865	1,883	1,847	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	1,847	0%	-	1,847
Wastewater Collection	Employee Health & Dental	Dental Insurance	4,840	4,888	4,937	4,987	5,037	4,938	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	4,938	0%	-	4,938
Wastewater Collection	Other Contractual	Other Professional Svcs.	10,000	10,000	10,000	10,000	10,000	10,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	10,000	0%	-	10,000
Wastewater Collection	Other Contractual	Other Fees	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Collection	Other Contractual	Rental Construction Equipment	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Collection	Other Contractual	Uniform Rental	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	2,000	0%	-	2,000
Wastewater Collection	Utility Expenses	Telephone/Internet Service	890	890	890	890	890	890	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	890	0%	-	890
Wastewater Collection	Utility Expenses	Refuse Collection	2,500	2,500	2,500	2,500	2,500	2,500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	2,500	0%	-	2,500
Wastewater Collection	Repair and Maintenance	R&M Machinery and Equipment	5,000	5,000	5,000	5,000	5,000	5,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	5,000	0%	-	5,000
Wastewater Collection	Repair and Maintenance	Wastewater Collection System	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Collection	Repair and Maintenance	Sewer Line Maintenance	45,000	45,000	45,000	45,000	45,000	45,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	45,000	0%	-	45,000
Wastewater Collection	General Supplies	General Office Supplies	460	460	460	460	460	460	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	460	0%	-	460
Wastewater Collection	General Supplies	Computers and Software Licensing	800	800	800	800	800	800	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	800	0%	-	800
Wastewater Collection	General Supplies	Uniform Purchase	700	700	700	700	700	700	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	700	0%	-	700
Wastewater Collection	General Supplies	Safety Apparel/Equipment	5,000	5,000	5,000	5,000	5,000	5,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	5,000	0%	-	5,000
Wastewater Collection	General Supplies	Paint and Painting Supplies	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Collection	General Supplies	Other Supplies	8,000	8,000	8,000	8,000	8,000	8,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	8,000	0%	-	8,000
Wastewater Collection	Water & Sewer Supplies/Equipment	Chemicals	100,000	100,000	100,000	100,000	100,000	100,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	100,000	0%	-	100,000
Wastewater Collection	Vehicle/Equipment Supplies	Parts	24,000	24,000	24,000	24,000	24,000	24,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	24,000	0%	-	24,000
Wastewater Collection	Vehicle/Equipment Supplies	Small Tools and Instruments	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	4,000	0%	-	4,000
Wastewater Collection	Transfers	Transfer Out 531	81,600	81,600	81,600	81,600	81,600	81,600	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	81,600	0%	-	81,600
Wastewater Collection	Interdepartmental Charges	Internal Printing/Copy Charges	100	100	100	100	100	100	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	100	0%	-	100
Wastewater Collection	Interdepartmental Charges	Risk Management Charges	35,530	35,530	35,530	35,530	35,530	35,530	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	35,530	0%	-	35,530
Wastewater Collection	Interdepartmental Charges	Equipment Management Charges	53,270	53,270	53,270	53,270	53,270	53,270	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	53,270	0%	-	53,270
Wastewater Collection	Interdepartmental Charges	Administrative Charges	366,360	366,360	366,360	366,360	366,360	366,360	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	366,360	0%	-	366,360
Wastewater Collection	Interdepartmental Charges	General Government Charge	26,540	26,540	26,540	26,540	26,540	26,540	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	26,540	0%	-	26,540
Wastewater Collection	Other Contractual	Training	7,000	7,000	7,000	7,000	7,000	7,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	7,000	0%	-	7,000
Wastewater Collection	Other Contractual	Meeting Expense	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Administration	Salaries & Wages	Salaries and Wages	121,080	122,291	123,514	124,749	125,996	123,526	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	123,526	0%	-	0%	-	0%	-	123,526
Wastewater Administration	Salaries & Wages	Cellular Phone Stipend	3,600	3,636	3,672	3,709	3,746	3,673	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	3,673	0%	-	0%	-	0%	-	3,673
Wastewater Administration	Employee Benefits	O.A.S.D.I.	7,470	7,769	8,080	8,403	8,739	8,092	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	8,092	0%	-	0%	-	0%	-	8,092
Wastewater Administration	Employee Benefits	Az State Retirement	13,250	13,780	14,331	14,904	15,501	14,353	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	14,353	0%	-	0%	-	0%	-	14,353
Wastewater Administration	Employee Benefits	Workers' Compensation	210	218	227	236	246	227	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	227	0%	-	0%	-	0%	-	227
Wastewater Administration	Employee Benefits	Medicare	1,790	1,862	1,936	2,014	2,094	1,939	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	1,939	0%	-	0%	-	0%	-	1,939
Wastewater Administration	Employee Health & Dental	Short-Term Disability	450	455	459	464	468	459	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	459	0%	-	0%	-	0%	-	459
Wastewater Administration	Employee Health & Dental	Health Insurance	10,090	10,191	10,293	10,396	10,500	10,294	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	10,294	0%	-	0%	-	0%	-	10,294
Wastewater Administration	Employee Health & Dental	Life Insurance	890	899	908	917	926	908	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	908	0%	-	0%	-	0%	-	908
Wastewater Administration	Employee Health & Dental	Dental Insurance	810	818	826	835	843	826	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	826	0%	-	0%	-	0%	-	826
Wastewater Administration	Financial Services	Finance and Banking Fees	29,870	29,870	29,870	29,870	29,870	29,870	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	29,870	0%	-	0%	-	0%	-	29,870
Wastewater Administration	Other Contractual	Other Professional Svcs.	100,900	100,900	100,900	100,900	100,900	100,900	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	100,900	0%	-	0%	-	0%	-	100,900
Wastewater Administration	Other Contractual	Other Fees	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	1,000	0%	-	0%	-	0%	-	1,000
Wastewater Administration	Utility Expenses	Telephone/Internet Service	8,340	8,340	8,340	8,340	8,340	8,340	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	8,340	0%	-	0%	-	0%	-	8,340
Wastewater Administration	General Supplies	General Office Supplies	490	490	490	490	490	490	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	490	0%	-	0%	-	0%	-	490
Wastewater Administration	General Supplies	Books and Pamphlets	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Administration	General Supplies	Office Equipment	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	1,000	0%	-	0%	-	0%	-	1,000
Wastewater Administration	General Supplies	Computers and Software Licensing	10,000	10,000	10,000	10,000	10,000	10,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	10,000	0%	-	0%	-	0%	-	10,000
Wastewater Administration	General Supplies	Uniform Purchase	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	500	0%	-	0%	-	0%	-	500

Appendix A

City of Avondale, Arizona
Cost of Service Analysis
Allocation of Annual Costs to Cost Components

Allocation to Water/Sewer and Cost Components

Transfer Ops Costs

									Water														Sewer								
									Customer Charge		Base Charge		Volume Charge										Customer Charge		Base Charge						
									Billing, Collection, Meter Reading		Meter Repair and Maintenance		Wells		Pumping & Storage		Transmission/Distribution		Treatment		Total Water	Billing, Collection, Meter Reading		Meter Repair and Maintenance		Collection		Treatment		Total Sewer
Description	Description	Description	2012	2013	2014	2015	2016	5 Yr Average	%	$	%	$	%	$	%	$	%	$	%	$	Total	%	$	%	$	%	$	%	$	Total
Wastewater Administration	capital equipment	Vehicles	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Administration	Interdepartmental Charges	Internal Printing/Copy Charges	1,060	1,060	1,060	1,060	1,060	1,060	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	1,060	0%	-	0%	-	0%	-	1,060
Wastewater Administration	Interdepartmental Charges	Risk Management Charges	3,040	3,040	3,040	3,040	3,040	3,040	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	3,040	0%	-	0%	-	0%	-	3,040
Wastewater Administration	Interdepartmental Charges	Administrative Charges	72,740	72,740	72,740	72,740	72,740	72,740	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	72,740	0%	-	0%	-	0%	-	72,740
Wastewater Administration	Interdepartmental Charges	Facilities Maintenance Charges	42,340	42,340	42,340	42,340	42,340	42,340	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	42,340	0%	-	0%	-	0%	-	42,340
Wastewater Administration	Interdepartmental Charges	General Government Charge	39,740	39,740	39,740	39,740	39,740	39,740	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	39,740	0%	-	0%	-	0%	-	39,740
Wastewater Administration	Debt Service	Bond Redemption	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Administration	Debt Service	Bond Interest Payments	310,530	310,530	310,530	310,530	310,530	310,530	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	310,530	0%	-	0%	-	0%	-	310,530
Wastewater Administration	Transfers	Transfer Out 513--Sewer Development	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Administration	Contingency	Contingency	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Administration	Other Contractual	Mileage Reimbursement	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Administration	Other Contractual	Training	3,000	3,000	3,000	3,000	3,000	3,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	3,000	0%	-	0%	-	0%	-	3,000
Wastewater Administration	Other Contractual	Printing	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	500	0%	-	0%	-	0%	-	500
Wastewater Administration	Other Contractual	Memberships	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	2,000	0%	-	0%	-	0%	-	2,000
Wastewater Administration	Other Contractual	Meeting Expense	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	-	0%	-	0%	-	0%	-	-
Wastewater Lift Stations	Other Contractual	Other Professional Svcs.	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	4,000	0%	-	4,000
Wastewater Lift Stations	Other Contractual	Rental Construction Equipment	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Lift Stations	Other Contractual	R&M Communication Equipment	31,340	31,340	31,340	31,340	31,340	31,340	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	31,340	0%	-	31,340
Wastewater Lift Stations	Utility Expenses	Electricity	45,000	45,000	45,000	45,000	45,000	45,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	45,000	0%	-	45,000
Wastewater Lift Stations	Utility Expenses	Gas	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	1,000	0%	-	1,000
Wastewater Lift Stations	Maintenance Contracts	Contractual Maint./Radio&Comm.	10,000	10,000	10,000	10,000	10,000	10,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	10,000	0%	-	10,000
Wastewater Lift Stations	Repair and Maintenance	Wastewater Collection System	8,000	8,000	8,000	8,000	8,000	8,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	8,000	0%	-	8,000
Wastewater Lift Stations	Repair and Maintenance	Sewer Line Maintenance	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Lift Stations	General Supplies	Electrical Supplies	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Lift Stations	General Supplies	Other Supplies	20,000	20,000	20,000	20,000	20,000	20,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	20,000	0%	-	20,000
Wastewater Lift Stations	Vehicle/Equipment Supplies	Gas, Oil, and Lubricants	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	-	0%	-	-
Wastewater Lift Stations	Vehicle/Equipment Supplies	Small Tools and Instruments	3,000	3,000	3,000	3,000	3,000	3,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	3,000	0%	-	3,000
Wastewater Lift Stations	Interdepartmental Charges	Risk Management Charges	1,390	1,390	1,390	1,390	1,390	1,390	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	1,390	0%	-	1,390
Wastewater Lift Stations	Interdepartmental Charges	Administrative Charges	8,690	8,690	8,690	8,690	8,690	8,690	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	8,690	0%	-	8,690
Wastewater Lift Stations	Interdepartmental Charges	General Government Charge	1,690	1,690	1,690	1,690	1,690	1,690	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	100%	1,690	0%	-	1,690
Water Reclamation Facility	Salaries & Wages	Salaries and Wages	536,100	541,461	546,876	552,344	557,868	546,930	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	109,386	80%	437,544	546,930
Water Reclamation Facility	Salaries & Wages	Cellular Phone Stipend	1,200	1,212	1,224	1,236	1,249	1,224	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	245	80%	979	1,224
Water Reclamation Facility	Salaries & Wages	Overtime Pay	70,000	70,700	71,407	72,121	72,842	71,414	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	14,283	80%	57,131	71,414
Water Reclamation Facility	Employee Benefits	O.A.S.D.I.	36,200	37,648	39,154	40,720	42,349	39,214	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	7,843	80%	31,371	39,214
Water Reclamation Facility	Employee Benefits	Az State Retirement	65,030	67,631	70,336	73,150	76,076	70,445	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	14,089	80%	56,356	70,445
Water Reclamation Facility	Employee Benefits	Workers' Compensation	13,350	13,884	14,439	15,017	15,618	14,462	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,892	80%	11,569	14,462
Water Reclamation Facility	Employee Benefits	Medicare	8,480	8,819	9,172	9,539	9,920	9,186	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	1,837	80%	7,349	9,186
Water Reclamation Facility	Employee Health & Dental	Short-Term Disability	1,890	1,909	1,928	1,947	1,967	1,928	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	386	80%	1,543	1,928
Water Reclamation Facility	Employee Health & Dental	Health Insurance	77,530	78,305	79,088	79,879	80,678	79,096	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	15,819	80%	63,277	79,096
Water Reclamation Facility	Employee Health & Dental	Life Insurance	2,680	2,707	2,734	2,761	2,789	2,734	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	547	80%	2,187	2,734
Water Reclamation Facility	Employee Health & Dental	Dental Insurance	7,260	7,333	7,406	7,480	7,555	7,407	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	1,481	80%	5,925	7,407
Water Reclamation Facility	Other Contractual	Laboratory Fees	70,000	70,000	70,000	70,000	70,000	70,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	14,000	80%	56,000	70,000
Water Reclamation Facility	Other Contractual	Other Professional Svcs.	350,000	350,000	350,000	350,000	350,000	350,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	70,000	80%	280,000	350,000
Water Reclamation Facility	Other Contractual	Other Fees	12,000	12,000	12,000	12,000	12,000	12,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,400	80%	9,600	12,000
Water Reclamation Facility	Other Contractual	Postage	500	500	500	500	500	500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	100	80%	400	500
Water Reclamation Facility	Other Contractual	Rental Construction Equipment	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Other Contractual	Uniform Rental	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	800	80%	3,200	4,000
Water Reclamation Facility	Other Contractual	Other Rents	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Other Contractual	R&M Other	202,000	202,000	202,000	202,000	202,000	202,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	40,400	80%	161,600	202,000
Water Reclamation Facility	Other Contractual	R&M Communication Equipment	44,900	44,900	44,900	44,900	44,900	44,900	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	8,980	80%	35,920	44,900
Water Reclamation Facility	Utility Expenses	Telephone/Internet Service	3,680	3,680	3,680	3,680	3,680	3,680	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	736	80%	2,944	3,680
Water Reclamation Facility	Utility Expenses	Long Distance Phone Service	2,210	2,210	2,210	2,210	2,210	2,210	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	442	80%	1,768	2,210
Water Reclamation Facility	Utility Expenses	Electricity	500,300	500,300	500,300	500,300	500,300	500,300	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	100,060	80%	400,240	500,300
Water Reclamation Facility	Utility Expenses	Gas	13,000	13,000	13,000	13,000	13,000	13,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,600	80%	10,400	13,000
Water Reclamation Facility	Utility Expenses	Water	13,000	13,000	13,000	13,000	13,000	13,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,600	80%	10,400	13,000
Water Reclamation Facility	Maintenance Contracts	Contractual Maint./Radio&Comm.	2,000	2,000	2,000	2,000	2,000	2,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	400	80%	1,600	2,000
Water Reclamation Facility	Maintenance Contracts	Contractual Maint/Bldg & Groun	10,000	10,000	10,000	10,000	10,000	10,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,000	80%	8,000	10,000
Water Reclamation Facility	Repair and Maintenance	R&M Machinery and Equipment	12,500	12,500	12,500	12,500	12,500	12,500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,500	80%	10,000	12,500
Water Reclamation Facility	Repair and Maintenance	R&M Buildings	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	800	80%	3,200	4,000
Water Reclamation Facility	General Supplies	General Office Supplies	1,500	1,500	1,500	1,500	1,500	1,500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	300	80%	1,200	1,500
Water Reclamation Facility	General Supplies	Books and Pamphlets	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	General Supplies	Janitorial Supplies	1,000	1,000	1,000	1,000	1,000	1,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	200	80%	800	1,000
Water Reclamation Facility	General Supplies	Computers and Software Licensing	1,500	1,500	1,500	1,500	1,500	1,500	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	300	80%	1,200	1,500
Water Reclamation Facility	General Supplies	Other Equipment	4,000	4,000	4,000	4,000	4,000	4,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	800	80%	3,200	4,000
Water Reclamation Facility	General Supplies	Uniform Purchase	900	900	900	900	900	900	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	180	80%	720	900
Water Reclamation Facility	General Supplies	Safety Apparel/Equipment	3,000	3,000	3,000	3,000	3,000	3,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	600	80%	2,400	3,000
Water Reclamation Facility	General Supplies	Electrical Supplies	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	General Supplies	Bldg & Construction Materials	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	General Supplies	Other Supplies	40,000	40,000	40,000	40,000	40,000	40,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	8,000	80%	32,000	40,000
Water Reclamation Facility	Water & Sewer Supplies/Equipment	Testing Materials/Lab Supplies	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Water & Sewer Supplies/Equipment	Chemicals	530,000	530,000	530,000	530,000	530,000	530,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	106,000	80%	424,000	530,000
Water Reclamation Facility	Water & Sewer Supplies/Equipment	Testing Materials/Lab Supplies	25,000	25,000	25,000	25,000	25,000	25,000	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	5,000	80%	20,000	25,000
Water Reclamation Facility	Vehicle/Equipment Supplies	Gas, Oil, and Lubricants	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Vehicle/Equipment Supplies	Small Tools and Instruments	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Transfers	Transfer Out 531	32,830	32,830	32,830	32,830	32,830	32,830	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	6,566	80%	26,264	32,830
Water Reclamation Facility	Interdepartmental Charges	Internal Printing/Copy Charges	190	190	190	190	190	190	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	38	80%	152	190
Water Reclamation Facility	Interdepartmental Charges	Risk Management Charges	56,350	56,350	56,350	56,350	56,350	56,350	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	11,270	80%	45,080	56,350
Water Reclamation Facility	Interdepartmental Charges	Equipment Management Charges	13,920	13,920	13,920	13,920	13,920	13,920	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	2,784	80%	11,136	13,920
Water Reclamation Facility	Interdepartmental Charges	Administrative Charges	102,440	102,440	102,440	102,440	102,440	102,440	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	20,488	80%	81,952	102,440

City of Avondale, Arizona
Cost of Service Analysis
Allocation of Annual Costs to Cost Components

Allocation to Water/Sewer and Cost Components

Transfer Ops Costs

									Water													Sewer								
									Customer Charge		Base Charge		Volume Charge									Customer Charge		Base Charge						
									Billing, Collection, Meter Reading		Meter Repair and Maintenance		Wells		Pumping & Storage		Transmission/Distribution		Treatment			Billing, Collection, Meter Reading		Meter Repair and Maintenance		Collection		Treatment		
Description	Description	Description	2012	2013	2014	2015	2016	5 Yr Average	%	$	%	$	%	$	%	$	%	$	%	$	Total	%	$	%	$	%	$	%	$	Total
Water Reclamation Facility	Interdepartmental Charges	Facilities Maintenance Charges	25,640	25,640	25,640	25,640	25,640	25,640	0%	-	0%		0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	5,128	80%	20,512	25,640
Water Reclamation Facility	Interdepartmental Charges	General Government Charge	47,480	47,480	47,480	47,480	47,480	47,480	0%	-	0%		0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	9,496	80%	37,984	47,480
Water Reclamation Facility	Other Contractual	Mileage Reimbursement	-	-	-	-	-	-	0%	-	0%		0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Other Contractual	Training	4,200	4,200	4,200	4,200	4,200	4,200	0%	-	0%		0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	840	80%	3,360	4,200
Water Reclamation Facility	Other Contractual	Printing	-	-	-	-	-	-	0%	-	0%		0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	-	80%	-	-
Water Reclamation Facility	Other Contractual	Memberships	250	250	250	250	250	250	0%	-	0%		0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	20%	50	80%	200	250
Water																														
One-Time O&M Costs from Capital Projects				-	-	-	-	-	10%	-	30%	-	10%	-	10%	-	10%	-	30%	-	-	0%		0%		0%		0%		-
Cumulative Ongoing O&M Costs from Capital Projects				650,000	650,000	650,000	650,000	650,000	10%	65,000	10%	65,000	10%	65,000	20%	130,000	20%	130,000	30%	195,000	650,000	0%		0%		0%		0%		-
One-Time O&M Costs from New Programs			-	600,000	325,000	-	-	185,000	65%	120,250	7%	12,950	0%	-	28%	51,800	0%	-	0%	-	185,000	0%		0%		0%		0%		-
Additional O&M From New Programs			-	525,000	1,300,000	1,790,000	1,843,700	1,091,740	30%	327,522	11%	120,091	36%	393,026	11%	120,091	8%	87,339	4%	43,670	1,091,740	0%		0%		0%		0%		-
Sewer																														
Cumulative Ongoing O&M Costs from Capital Projects-Sewer			-	578,180	578,180	1,133,667	1,497,636	757,533	0%		0%		0%		0%		0%		0%			10%	75,753	0%	-	40%	303,013	50%	378,766	757,533
Onetme Operating Capital			-	-	292,000	421,500	588,000	260,300	0%		0%		0%		0%		0%		0%			10%	26,030	0%	-	70%	182,210	20%	52,060	260,300
Cumulative Ongoing O&M Costs from New Programs			-	950,000	1,025,000	1,100,000	1,133,000	841,600	0%		0%		0%		0%		0%		0%			10%	84,160	0%	-	61%	513,376	29%	244,064	841,600
Additional Operating Capital for New Programs			-	-	-	-	-	-	0%		0%		0%		0%		0%		0%			10%	-	0%	-	50%	-	40%	-	-
Debt Service																														
Existing - Water Debt			138,996	150,511	116,584	38,072	37,921	96,417	0%	-	0%	-	25%	24,104	25%	24,104	25%	24,104	25%	24,104	96,417	0%	-	0%	-	0%	-	0%	-	-
Existing - Wastewater Debt			2,203,955	1,767,833	653,415	650,029	824,792	1,220,005	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%	-	0%	-	50%	610,002	50%	610,002	1,220,005
New - Water Revenue Bonds			-	-	-	-		-	10%	-	0%	-	40%	-	10%	-	30%	-	10%	-	-	0%	-	0%	-	0%	-	0%	-	-
New Wastewater Sewer Revenue Bonds			-	-	209,830	209,830	647,321	213,396	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	15%	32,009	0%	-	10%	21,340	75%	160,047	213,396
Cash Funded Capital Projects																														
Cash Funded Capital Projects - Water			-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		
Cash Funded Capital Projects - Wastewater			-	-	-	-	-	-	0%		0%		0%		0%		0%		0%		-	0%	-	0%	-	0%	-	0%	-	-
Recurring Non Rate Revenue Offsets																														
Avondale Water - Penalties-Utility Bills			-	-	-	-	-	-	100%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	0%		0%		0%		0%		
Avondale Water - Water Meter Installation			(20,290)	(20,696)	(21,317)	(21,956)	(22,615)	(21,375)	0%	-	100%	(21,375)	0%	-	0%	-	0%	-	0%	-	(21,375)	0%		0%		0%		0%		
Avondale Water - Turn-on Fees			(74,401)	(74,401)	(74,401)	(74,401)	(74,401)	(74,401)	100%	(74,401)	0%	-	0%	-	0%	-	0%	-	0%	-	(74,401)	0%		0%		0%		0%		
Avondale Water - Other Miscellaneous Revenue			(117,077)	(117,077)	(117,077)	(117,077)	(117,077)	(117,077)	100%	(117,077)	0%	-	0%	-	0%	-	0%	-	0%	-	(117,077)	0%		0%		0%		0%		
Avondale Wastewater - Sewer Taps			(12,900)	(12,900)	(12,900)	(12,900)	(12,900)	- (12,900)	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	-	100%	(12,900)	0%	-	0%	-	0%	-	(12,900)
			17,318,183	20,394,784	20,384,959	21,291,114	22,584,870	20,524,782	6.3%	763,667	22.6%	2,723,962	18%	2,196,109	16%	1,871,692	20%	2,467,627	17%	2,033,138	12,056,195	#####	996,400	0%	-	43%	3,644,583	45%	3,827,604	8,468,587
																Allocation of Rev Requirement to Water					**59.0%**				**Allocation of Rev Requirement to Sewer**					**41%**

City of Avondale, Arizona
Revenue Sufficiency Analysis
Pro-Forma and Cash Flow Analysis - By Fund

	Water Operating Fund	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**FY 17**
2	**Beginning Unrestricted Balances**	**22,708,024**	**22,411,399**	**19,945,130**	**11,972,851**	**9,904,687**	**9,936,738**
3							
4	Water Rate Revenue	10,750,032	11,074,683	11,522,100	12,105,118	12,717,637	13,361,149
5	Plus: Growth	1%	2%	3%	3%	3%	3%
6	Water Rate Revenue After Growth	10,857,532	11,296,176	11,867,763	12,468,271	13,099,166	13,761,984
7	**Pct Change in Water Rates**	**2.00%**	**2.00%**	**2.00%**	**2.00%**	**2.00%**	**0.65%**
8	Pct of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%
9	Water Rate Revenue After Growth and Rate Increase	10,966,107	11,409,138	11,986,440	12,592,954	13,230,158	13,806,685
10	Other Revenue	211,767	211,767	211,767	211,767	211,767	211,767
11	Interest Income	225,597	211,783	143,631	98,921	90,230	95,600
12	Total Revenue	11,403,472	11,832,688	12,341,839	12,903,642	13,532,155	14,114,052
13	O&M	(10,002,910)	(10,705,117)	(11,520,728)	(12,052,246)	(12,148,400)	(12,247,129)
14	Debt Service	(138,996)	(150,511)	(116,584)	(142,913)	(142,762)	(1,271,253)
15	Capital Outlay	(562,760)	(1,162,760)	(887,760)	(562,760)	(562,760)	(562,760)
16	Cash Funded Capital	(995,430)	(2,280,569)	(7,789,045)	(2,213,887)	(646,182)	(44,701)
17	**Net Cash Flow**	**(296,624)**	**(2,466,269)**	**(7,972,279)**	**(2,068,164)**	**32,051**	**(11,791)**
18							
19	**Ending Unrestricted Balances**	**22,411,399**	**19,945,130**	**11,972,851**	**9,904,687**	**9,936,738**	**9,924,947**
20							
21	**Sewer Operating Fund**	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**FY 17**
22	**Beginning Unrestricted Balances**	**12,289,591**	**8,394,879**	**5,230,331**	**3,062,139**	**3,273,170**	**2,993,234**
23							
24	Sewer Rate Revenue	7,025,929	7,273,593	7,641,637	8,107,012	8,558,978	9,080,220
25	Plus: Growth	1%	2%	3%	3%	3%	3%
26	Sewer Rate Revenue After Growth	7,096,188	7,419,065	7,870,886	8,350,223	8,815,748	9,352,627
27	**Pct Change in Sewer Rates**	**2.50%**	**3.00%**	**3.00%**	**2.50%**	**3.00%**	**2.56%**
28	Pct of Year Rate Increase Effective	50%	50%	50%	50%	50%	50%
29	Sewer Rate Revenue After Growth and Rate Increase	7,184,891	7,530,351	7,988,949	8,454,601	8,947,984	9,472,417
30	Other Revenue	95,123	95,123	95,123	95,123	95,123	95,123
31	Interest Income	118,898	83,601	52,188	44,325	45,984	48,748
32	Total Revenue	7,398,911	7,709,075	8,136,260	8,594,049	9,089,091	9,616,288
33	O&M	(4,578,672)	(6,081,596)	(6,175,394)	(6,808,489)	(7,215,558)	(7,338,989)
34	Debt Service	(2,203,955)	(1,767,833)	(863,245)	(859,859)	(1,472,112)	(1,470,427)
35	Capital Outlay	(110,997)	(110,997)	(394,237)	(519,852)	(681,357)	(350,102)
36	Cash Funded Capital	(4,400,000)	(2,913,198)	(2,871,577)	(194,817)	-	(119,790)
37	**Net Cash Flow**	**(3,894,712)**	**(3,164,548)**	**(2,168,192)**	**211,032**	**(279,937)**	**336,980**
38							
39	**Ending Unrestricted Balances**	**8,394,879**	**5,230,331**	**3,062,139**	**3,273,170**	**2,993,234**	**3,330,214**
40							
41	**Summary Results of Combined Water and Sewer Fund**	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**FY 17**
42	Debt Service Coverage Calculation						
43	Rate Revenue	18,150,998	18,939,489	19,975,389	21,047,555	22,178,142	23,279,101
44	Other Revenue	306,891	306,891	306,891	306,891	306,891	306,891
45	Interest Income	344,495	295,384	195,819	143,246	136,214	144,348
46	Total Revenue	18,802,383	19,541,763	20,478,099	21,497,691	22,621,246	23,730,340
47	O&M	(14,581,582)	(16,786,713)	(17,696,122)	(18,860,735)	(19,363,958)	(19,586,118)
48	Net Income	4,220,801	2,755,050	2,781,977	2,636,956	3,257,288	4,144,222
49	Debt Service - Existing	2,342,951	1,918,344	979,829	1,002,772	1,614,874	2,741,680
50	**Debt Service Coverage**	**1.80**	**1.44**	**2.84**	**2.63**	**2.02**	**1.51**
51							
52	**Summary of Increase in Rate Revenue (excluding Growth related increases)**						
53	Total Full Year Rate Revenue Increase (excluding Growth)	18,166,609	18,787,977	19,623,428	20,656,908	21,787,737	22,760,769
54	Total Rate Revenue Before Rate Increase	17,775,961	18,348,275	19,163,736	20,212,130	21,276,615	22,441,369
55	**Annual Pct Rate Revenue Increase**	**2.20%**	**2.40%**	**2.40%**	**2.20%**	**2.40%**	**1.42%**
56	Revenue Requirement Water Allocation	60.6%	59.8%	62.6%	60.7%	57.6%	60.4%
57	Revenue Requirement Sewer Allocation	39.4%	40.2%	37.4%	39.3%	42.4%	39.6%

City of Avondale, Arizona
Revenue Sufficiency Analysis
5 Year Capital Improvements Program

Raw Project Amounts

Project Type	Eligible Project Funding Sources: Oper Fund	Water Development Bond Funds	Restricted for Excise Tax Bo	% Related to Expansion of System Capacity	Project Desription	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17
DIST	**Y**	**Y**	**Y**	**Y**	100% WA1057-Citywide Water Improvements	800,000	400,000	400,000	400,000	400,000	400,000
GEN	Y	N	Y	Y	100% WA1061-Water System Security Implementation	300,000	-	-	-	-	-
DIST	Y	Y	Y	Y	100% WA1078-Water Oversize Buy-Ins/ Dev. Reimbursement	400,000	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1081-Central Arizona Project water purchase	200,000	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1090-AG Well South of I-10/East of Agua Fria	-	-	-	-	570,000	1,200,000
TRT	Y	Y	Y	Y	50% WA1068-Well Head Treatment	-	-	**1,200,000**	-	-	-
SOS	Y	Y	Y	Y	100% WA1131-Pylman Well at Lower Buckeye	-	-	-	-	500,000	1,500,000
DIST	Y	N	Y	Y	50% WA1132-Thomas Road - 103rd to 99th Water Line Improvement	1,200,000	-	-	-	-	-
DIST	Y	N	Y	Y	50% WA1133-99th Avenue Water Line - Thomas to McDowell	800,000	-	-	-	-	-
DIST	Y	Y	Y	Y	100% WA1135-McDowell Rd-El Mirage to Avondale Blvd Water Line	-	500,000	-	-	-	-
TRANS	Y	Y	Y	Y	100% WA1139-Water Line on Avondale Blvd.- Lower Buckeye to Gila River	2,800,000	-	**1,000,000**	-	-	-
TRANS	Y	Y	Y	Y	100% WA1140-Indian Springs Rd. Gila River to El Mirage Rd	500,000	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1141-SRP Paired Well at 119th and Whyman	650,000	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1142-Lakin Well at 112th and Buckeye	-	-	-	-	900,000	600,000
DIST	Y	Y	Y	Y	100% WA1153-127th Ave - Lower Buckeye to Dysart	-	900,000	-	-	-	-
DIST	Y	N	Y	Y	0% WA1162-CDBG Waterline Improvements		250,000	-	250,000	-	-
TRANS	Y	N	Y	Y	0% WA1169-Rio Vista Waterline Replacement	-	-	-	-	400,000	-
SOS	Y	Y	Y	Y	100% WA1201-Wieler Well - SWC Avondale / Van Buren	-	**700,000**	1,300,000	-	-	-
SOS	Y	Y	Y	Y	100% WA1212-Purchase of Rigby Water Company	2,372,800	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1216-Well 25 at Van Buren & El Mirage	1,090,000	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1214-MARWEST well	-	-	-	-	-	-
SOS	Y	Y	Y	Y	100% WA1216-Well 25 at Van Buren & El Mirage	1,090,000	-	-	-	-	-
TRANS	Y	Y	Y	Y	100% WA1231-Dysart Road - Harrison to Lower Buckeye Rd waterline project	-	-	400,000	-	-	-
DIST	Y	N	Y	Y	0% WA1282 Central Avenue Waterline Replacement	-	-	600,000	-	-	-
PMP	Y	N	Y	Y	0% WA1283 -Northside Booster Replacement	-	750,000	-	-	-	-
SOS	Y	N	Y	Y	0% WA1284 -Well Rehab / Bore Modifications	-	600,000	-	-	-	-
SOS	Y	Y	Y	Y	50% WA1285 -White Mountain Water Lease	-	-	-	2,000,000	-	-
SOS	Y	N	Y	Y	0% WA1298 -Well 7 Site Development	-	-	-	750,000	-	-
PMP	Y	Y	N	Y	100% WA1299 -Del Rio Lower Pressure Zone	-	-	-	3,500,000	-	-
PMP	Y	Y	N	Y	100% WA1300 -Coldwater Booster Zone	-	-	-	-	2,000,000	-
DIST	Y	Y	N	Y	100% WA1301 -Pressure Reducing Stations	-	-	-	-	-	-
DIST	Y	Y	N	Y	100% WA1302 -Southern Avenue / Dysart Waterline	-	-	-	1,000,000	-	-
SOS	Y	N	N	Y	100% Master Plan Water Line Implementation		-	**4,000,000**	-	-	-
SOS	Y	N	N	N	100%						
TRANS	Y	N	N	N	100%						
SOS	Y	N	N	N	100%						
					Total	$ 12,202,800	$ 4,100,000	$ 8,900,000	$ 7,900,000	$ 4,770,000	$ 3,700,000

Notes: Expansion Percentages provided by City staff
Items in Red text are additional projects and costs added by Public Works staff on 9/22/2011.

City of Avondale, Arizona
Revenue Sufficiency Analysis
5 Year Capital Improvements Program

Raw Project Amounts

Project Type	Eligible Project Funding Sources: Oper Fund	Sewer Development Bond Funds Restricted for	Excise Tax Bond	EPA, State, Tribal	GO Bonds	GF	8	9	10	% Related to Expansion of System Capacity	Project Desription	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17
GEN	N	Y	N	N	N	N	N	N	N	N	100%	**SW1001-Sewer Buy In/ Developer Reimbursed**	$ -	$ -	$ -	$ -	$ -	$ -
COLL	Y	N	N	N	N	Y	N	N	N	N	25%	**SW1047-City Wide Sewer Improvements**	100,000	150,000	150,000	150,000	150,000	150,000
COLL	Y	N	Y	Y	N	Y	N	N	N	N	0%	**SW1054-Collection System Capacity, Management, Operations & Maintenanc**	100,000	-	-	-	-	-
GEN	Y	N	Y	Y	N	Y	N	N	N	N	50%	**SW1106-Wastewater Security Implementation**	-	-	-	-	-	-
LS	Y	Y	Y	Y	N	Y	N	N	N	N	50%	**SW1108-10th St Lift Station Backup Force Main**	-	-	1,100,000	-	-	-
TRT	Y	Y	Y	Y	N	Y	N	N	N	N	100%	**SW1109-WRP PH I – Design/Construction Management/Construction**	-	**3,250,000**	-	-	-	-
GEN	Y	N	Y	Y	N	Y	N	N	N	N	0%	**SW1202-Manhole Rehabilitation**	100,000	100,000	100,000	100,000	100,000	100,000
LS	N	Y	Y	Y	N	Y	N	N	N	N	100%	**SW1233-Southern & Dysart Lift Station – Design & Construction**	-	-	-	-	-	2,400,000
COLL	N	Y	N	N	N	Y	N	N	N	N	100%	**SW1234-Southern Sewer Transmission Line**	-	-	-	-	-	4,500,000
TRT	Y	Y	Y	Y	Y	Y	N	N	N	N	100%	**SW1237-Water Reclamation Plant PH II – Construction**	-	-	-	-	-	-
COLL	N	N	N	Y	N	Y	N	N	N	N	0%	**SW1261 -City Center**	-	-	-	-	-	-
COLL	Y	N	N	Y	N	Y	N	N	N	N	50%	**SW1270-McDowell Sewer Replacement - Avondale - 119th Ave**	-	250,000	-	-	-	-
COLL	Y	N	N	N	N	N	N	N	N	N	25%	**SW1295-PIR Sewer Line**	3,500,000	750,000	**2,000,000**	-	-	-
TRT	Y	N	N	N	N	N	N	N	N	N	100%	**SW1303-Tertiary Filters at WRF**	750,000	-	1,000,000	1,750,000	-	-
											Total	$ 4,550,000	$ 4,500,000	$ 4,350,000	$ 2,000,000	$ 250,000	$ 7,150,000

Notes: Expansion Percentages provided by City staff
Items in Red text are additional costs added by Public Works staff on 9/22/2011.

WATER

	Account Type	Water Rate Code	Sewer Rate Code	Class 1	Class 2	Meter Size	Inside/Outside	Block Ranges: Block1	Block2	Block3	Block4	Block5	Block Range Identifiers: Block1	Block2	Block3	Block4	Block5	Usage by Block Ranges: Block1	Block2	Block3	Block4	Block5	Total	Check
2	01	101		Residentia	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	90145	61825	33798	35144	157	221,069	221,069
3	01	101		Residential	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	905863	602395	316926	366697	1540	2,193,421	2,193,421
4	01	102		Residential	1"	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	5791	1510	251	115	0	7,667	7,667
5	01	102		Residential	1"	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	58392	14026	2786	1196	0	76,400	76,400
6	01	103		Residential	1 1/2"	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	32	0	0	0	0	32	32
7	01	103		Residential	1 1/2"	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	359	10	0	0	0	369	369
8	01	104		Residential	2"	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	3	0	0	0	0	3	3
9	01	104		Residential	2"	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	17	0	0	0	0	17	17
10	01	202		Residential	1" Non-Residential	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	168	57	5	0	0	230	230
11	01	204		Residential	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	2	0	0	0	0	2	2
12	02	101		Multi-Family/Apt	3/4"	0.75	I	2	4	6	47	200	USE2	USE4	USE6	USE47	USE200	2	2	2	13	0	19	19
13	02	101		Multi-Family/Apt	3/4"	0.75	I	6	12	17	141	200	USE6	USE12	USE17	USE100	USE200	60	59	34	59	0	212	212
14	02	301		Multi-Family/Apt	Multi-Family	0.75	I	11694	23388	35081	292340	200	USE100	USE100	USE100	USE100	USE200	84834	0	0	0	70577	155,411	155,411
15	03	101		Commercial/Go	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	64	56	35	23	0	178	178
16	03	102		Commercial/Go	1"	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	63	0	0	0	0	63	63
17	03	201		Commercial/Go	3/4" Non-Residential	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	4489	3161	2655	13486	14703	38,494	38,494
18	03	202		Commercial/Go	1" Non-Residential	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	7302	4394	3079	8215	8965	31,955	31,955
19	03	203		Commercial/Go	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	25242	16197	11523	14832	35237	103,031	103,031
20	03	204		Commercial/Go	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	58132	37365	26526	2839	140364	265,226	265,226
21	03	205		Commercial/Go	3" Non-Residential	3	I	60	120	180	1500	200	USE60	USE100	USE100	USE100	USE200	712	264	0	0	65	1,041	1,041
22	03	206		Commercial/Go	4" Non-Residential	4	I	100	200	300	2500	200	USE100	USE100	USE100	USE100	USE200	4500	0	0	0	24778	29,278	29,278
23	03	301		Commercial/Go	Multi-Family	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	168	167	164	2038	6984	9,521	9,521
24	03	301		Commercial/Go	Multi-Family	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	16	16	16	164	827	1,039	1,039
25	04	201		Schools	3/4" Non-Residential	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	172	115	79	323	0	689	689
26	04	202		Schools	1" Non-Residential	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	165	64	20	70	0	319	319
27	04	203		Schools	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	1703	882	563	630	2332	6,110	6,110
28	04	204		Schools	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	8929	4741	3375	380	22520	39,945	39,945
29	04	205		Schools	3" Non-Residential	3	I	60	120	180	1500	200	USE60	USE100	USE100	USE100	USE200	3900	1638	0	0	7153	12,691	12,691
30	04	206		Schools	4" Non-Residential	4	I	100	200	300	2500	200	USE100	USE100	USE100	USE100	USE200	2395	0	0	0	3450	5,845	5,845
31	05	101		Churches	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	4	4	4	11	0	23	23
32	05	101		Churches	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	40	40	37	59	0	176	176
33	05	201		Churches	3/4" Non-Residential	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	895	642	397	575	0	2,509	2,509
34	05	202		Churches	1" Non-Residential	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	213	195	175	718	244	1,545	1,545
35	05	203		Churches	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	638	136	57	9	0	840	840
36	05	204		Churches	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	1051	133	6	0	0	1,190	1,190
37	06	203		Industry	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	99	12	0	0	0	111	111
38	06	204		Industry	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	261	7	0	0	0	268	268
39	06	206		Industry	4" Non-Residential	4	I	100	200	300	2500	200	USE100	USE100	USE100	USE100	USE200	1095	0	0	0	700	1,795	1,795
40	07	203		Laundries	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	605	585	482	663	229	2,564	2,564
41	07	204		Laundries	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	352	352	352	44	815	1,915	1,915
42	08	101		Mobile Home Pa	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	8	8	8	74	0	98	98
43	08	101		Mobile Home Pa	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	80	80	80	889	0	1,129	1,129
44	08	204		Mobile Home Pa	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	736	712	704	88	6334	8,574	8,574
45	08	301		Mobile Home Pa	Multi-Family	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	120	93	84	1462	7518	9,277	9,277
46	08	301		Mobile Home Pa	Multi-Family	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	12	8	8	120	636	784	784
47	08	302		Mobile Home Pa	Mobile Home Parks	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	681	676	671	13734	35228	50,990	50,990
48	08	302		Mobile Home Pa	Mobile Home Parks	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	52	52	52	891	1897	2,944	2,944
49	09	008		Hydrant Meters	Hydrant Meter	6	I	200	400	600	5000	200	USE100	USE100	USE100	USE100	USE200	2985	0	0	0	4422	7,407	7,407
50	09	008		Hydrant Meters	Hydrant Meter	6	I	200	400	600	5000	200	USE100	USE100	USE100	USE100	USE200	755	0	0	0	855	1,610	1,610
51	10	201		Car Wash	3/4" Non-Residential	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	48	48	48	1056	2811	4,011	4,011
52	10	203		Car Wash	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	220	193	53	23	0	489	489
53	10	204		Car Wash	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	2098	1644	1384	158	7057	12,341	12,341
54	13	101		Landscape Mete	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	1	0	0	0	0	1	1
55	13	101		Landscape Mete	3/4"	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	21	0	0	0	0	21	21
56	13	201		Landscape Mete	3/4" Non-Residential	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	2306	1738	1438	9437	3388	18,307	18,307
57	13	202		Landscape Mete	1" Non-Residential	1	I	10	20	30	250	200	USE10	USE20	USE30	USE100	USE200	8000	5803	4528	13275	7512	39,118	39,118
58	13	203		Landscape Mete	1 1/2" Non-Residential	1.5	I	20	40	60	500	200	USE20	USE40	USE60	USE100	USE200	22117	17801	14087	21908	78305	154,218	154,218
59	13	204		Landscape Mete	2" Non-Residential	2	I	32	64	96	800	200	USE32	USE64	USE96	USE100	USE200	45150	37656	31661	3588	202730	320,785	320,785
60	13	205		Landscape Mete	3" Non-Residential	3	I	60	120	180	1500	200	USE60	USE100	USE100	USE100	USE200	660	440	0	0	7954	9,054	9,054
61	13	206		Landscape Mete	4" Non-Residential	4	I	100	200	300	2500	200	USE100	USE100	USE100	USE100	USE200	1179	0	0	0	4594	5,773	5,773
62	13	207		Landscape Mete	6" Non-Residential	6	I	200	400	600	5000	200	USE100	USE100	USE100	USE100	USE200	993	0	0	0	19381	20,374	20,374
63	13	301		Landscape Mete	Multi-Family	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	84	84	84	1615	2981	4,848	4,848
64	13	301		Landscape Mete	Multi-Family	0.75	I	4	8	12	100	200	USE4	USE8	USE12	USE100	USE200	8	8	8	176	319	519	519
																		1,357,187	818,094	458,245	516,797	735,562	3,885,885	3,885,885

City of Avondale, Arizona
Cost of Service Analysis
Calculation of Estimated Pounds of BOD/SS Removed

									Calculation of Estimated Pounds of BOD Removed									Calculation of Estimated Pounds of SS Removed						
Account Type	Water Rate Code	Sewer Rate Code	Class	Class 2	Meter Size	Inside / Outside	Wastewater Flow (1,000 Gallons)	Wastewater Flow (Liters)	Industry Standard Loading Factor (mg/L)	Total Estimated BOD Removed (mg)	Total Estimated BOD Removed (Pounds)	Normal Strength Threshold (mg/L)	Estimated BOD Removed from Normal Strength Flows (mg)	Estimated BOD Removed from Normal Strength Flows (Pounds)	Estimated BOD Removed from Extra Strength Flows	Industry Standard Loading Factor (mg/L)	Total Estimated SS Removed (mg)	Total Estimated SS Removed (Pounds)	Normal Strength Threshold (mg/L)	Estimated SS Removed from Normal Strength Flows (mg)	Estimated SS Removed from Normal Strength Flows (Pounds)	Estimated SS Removed from Extra Strength Flows
01	101	101	Residentia	Residential	0.75	I	1,631,249	6,174,949,187	250	1,543,737,296,810	3,403,358	1500	1,543,737,296,810	3,403,358	-	225	1,389,363,567,129	3,063,022	1000	1,389,363,567,129	3,063,022	-
01	102	101	Residentia	Residential	1	I	60,557	229,233,181	250	57,308,295,351	126,343	1500	57,308,295,351	126,343	-	225	51,577,465,816	113,709	1000	51,577,465,816	113,709	-
01	103	101	Residentia	Residential	1.5	I	341	1,290,825	250	322,706,355	711	1500	322,706,355	711	-	225	290,435,719	640	1000	290,435,719	640	-
01	104	101	Residentia	Residential	2	I	40	151,416	250	37,854,118	83	1500	37,854,118	83	-	225	34,068,706	75	1000	34,068,706	75	-
01	204	101	Residentia	Residential	2	I	8	30,283	250	7,570,824	17	1500	7,570,824	17	-	225	6,813,741	15	1000	6,813,741	15	-
01	202	201	Residentia	Professional Office	1	I	130	492,104	130	63,973,459	141	1500	63,973,459	141	-	80	39,368,283	87	1000	39,368,283	87	-
01	204	201	Residentia	Professional Office	2	I	2	7,571	130	984,207	2	1500	984,207	2	-	80	605,666	1	1000	605,666	1	-
02	101	101	Multi-Famil	Residential	0.75	I	187	707,872	250	176,968,001	390	1500	176,968,001	390	-	225	159,271,201	351	1000	159,271,201	351	-
02	301	101	Multi-Famil	Residential	0.75	I	565	2,138,758	250	534,689,414	1,179	1500	534,689,414	1,179	-	225	481,220,473	1,061	1000	481,220,473	1,061	-
03	101	101	Commercia	Residential	0.75	I	136	514,816	250	128,704,001	284	1500	128,704,001	284	-	225	115,833,601	255	1000	115,833,601	255	-
03	202	101	Commercia	Residential	1	I	132	499,674	250	124,918,589	275	1500	124,918,589	275	-	225	112,426,730	248	1000	112,426,730	248	-
03	201	111	Commercia	Bakery Wholesale	0.75	I	253	957,709	1000	957,709,181	2,111	1500	957,709,181	2,111	-	600	574,625,509	1,267	1000	574,625,509	1,267	-
03	203	111	Commercia	Bakery Wholesale	1.5	I	203	768,439	1000	768,438,592	1,694	1500	768,438,592	1,694	-	600	461,063,155	1,016	1000	461,063,155	1,016	-
03	202	112	Commercia	Hospital & Convalescense	1	I	231	874,430	250	218,607,531	482	1500	218,607,531	482	-	100	87,443,012	193	1000	87,443,012	193	-
03	204	112	Commercia	Hospital & Convalescense	2	I	6,406	24,249,348	250	6,062,336,972	13,365	1500	6,062,336,972	13,365	-	100	2,424,934,789	5,346	1000	2,424,934,789	5,346	-
03	204	113	Commercia	Hotel w/Dining	2	I	575	2,176,612	500	1,088,305,888	2,399	1500	1,088,305,888	2,399	-	600	1,305,967,065	2,879	1000	1,305,967,065	2,879	-
03	203	114	Commercia	Hotel w/o Dining	1.5	I	271	1,025,847	310	318,012,444	701	1500	318,012,444	701	-	120	123,101,591	271	1000	123,101,591	271	-
03	204	114	Commercia	Hotel w/o Dining	2	I	254	961,495	310	298,063,324	657	1500	298,063,324	657	-	120	115,379,351	254	1000	115,379,351	254	-
03	201	115	Commercia	Markets with Garbage Disposal	0.75	I	714	2,702,784	800	2,162,227,211	4,767	1500	2,162,227,211	4,767	-	800	2,162,227,211	4,767	1000	2,162,227,211	4,767	-
03	203	115	Commercia	Markets with Garbage Disposal	1.5	I	1,355	5,129,233	800	4,103,386,374	9,046	1500	4,103,386,374	9,046	-	800	4,103,386,374	9,046	1000	4,103,386,374	9,046	-
03	204	115	Commercia	Markets with Garbage Disposal	2	I	6,059	22,935,810	800	18,348,647,999	40,452	1500	18,348,647,999	40,452	-	800	18,348,647,999	40,452	1000	18,348,647,999	40,452	-
03	201	117	Commercia	Repair Shop and Service Station	0.75	I	710	2,687,642	180	483,775,626	1,067	1500	483,775,626	1,067	-	280	752,539,863	1,659	1000	752,539,863	1,659	-
03	202	117	Commercia	Repair Shop and Service Station	1	I	691	2,615,720	180	470,829,518	1,038	1500	470,829,518	1,038	-	280	732,401,472	1,615	1000	732,401,472	1,615	-
03	203	117	Commercia	Repair Shop and Service Station	1.5	I	920	3,482,579	180	626,864,191	1,382	1500	626,864,191	1,382	-	280	975,122,076	2,150	1000	975,122,076	2,150	-
03	204	117	Commercia	Repair Shop and Service Station	2	I	4,519	17,106,276	180	3,079,129,653	6,788	1500	3,079,129,653	6,788	-	280	4,789,757,239	10,560	1000	4,789,757,239	10,560	-
03	201	118	Commercia	Restaurant	0.75	I	1,827	6,915,947	1000	6,915,947,329	15,247	1500	6,915,947,329	15,247	-	600	4,149,568,398	9,148	1000	4,149,568,398	9,148	-
03	202	118	Commercia	Restaurant	1	I	654	2,475,659	1000	2,475,659,307	5,458	1500	2,475,659,307	5,458	-	600	1,485,395,584	3,275	1000	1,485,395,584	3,275	-
03	203	118	Commercia	Restaurant	1.5	I	8,711	32,974,722	1000	32,974,722,050	72,697	1500	32,974,722,050	72,697	-	600	19,784,833,230	43,618	1000	19,784,833,230	43,618	-
03	204	118	Commercia	Restaurant	2	I	5,193	19,657,643	1000	19,657,643,394	43,338	1500	19,657,643,394	43,338	-	600	11,794,586,037	26,003	1000	11,794,586,037	26,003	-
03	204	120	Commercia	Schools & Colleges	2	I	520	1,968,414	130	255,893,837	564	1500	255,893,837	564	-	100	196,841,413	434	1000	196,841,413	434	-
03	201	121	Commercia	Bars W/O Dining	0.75	I	132	499,674	200	99,934,871	220	1500	99,934,871	220	-	200	99,934,871	220	1000	99,934,871	220	-
03	202	121	Commercia	Bars W/O Dining	1	I	81	306,618	200	61,323,671	135	1500	61,323,671	135	-	200	61,323,671	135	1000	61,323,671	135	-
03	201	178	Commercia	Commercial Laundry	0.75	I	343	1,298,396	450	584,278,309	1,288	1500	584,278,309	1,288	-	240	311,615,098	687	1000	311,615,098	687	-
03	202	179	Commercia	Car Wash	1	I	72	272,550	20	5,450,993	12	1500	5,450,993	12	-	150	40,882,447	90	1000	40,882,447	90	-
03	204	179	Commercia	Car Wash	2	I	1,612	6,102,084	20	122,041,676	269	1500	122,041,676	269	-	150	915,312,569	2,018	1000	915,312,569	2,018	-
03	101	201	Commercia	Professional Office	0.75	I	19	71,923	130	9,349,967	21	1500	9,349,967	21	-	80	5,753,826	13	1000	5,753,826	13	-
03	102	201	Commercia	Professional Office	1	I	55	208,198	130	27,065,694	60	1500	27,065,694	60	-	80	16,655,812	37	1000	16,655,812	37	-
03	201	201	Commercia	Professional Office	0.75	I	7,951	30,097,809	130	3,912,715,182	8,626	1500	3,912,715,182	8,626	-	80	2,407,824,728	5,308	1000	2,407,824,728	5,308	-
03	202	201	Commercia	Professional Office	1	I	5,679	21,497,354	130	2,794,655,958	6,161	1500	2,794,655,958	6,161	-	80	1,719,788,282	3,791	1000	1,719,788,282	3,791	-
03	203	201	Commercia	Professional Office	1.5	I	14,646	55,441,141	130	7,207,348,329	15,889	1500	7,207,348,329	15,889	-	80	4,435,291,279	9,778	1000	4,435,291,279	9,778	-
03	204	201	Commercia	Professional Office	2	I	41,948	158,790,454	130	20,642,758,957	45,509	1500	20,642,758,957	45,509	-	80	12,703,236,281	28,006	1000	12,703,236,281	28,006	-
03	205	201	Commercia	Professional Office	3	I	831	3,145,677	130	408,938,035	902	1500	408,938,035	902	-	80	251,654,175	555	1000	251,654,175	555	-
03	206	201	Commercia	Professional Office	4	I	10,834	41,011,151	130	5,331,449,665	11,754	1500	5,331,449,665	11,754	-	80	3,280,892,101	7,233	1000	3,280,892,101	7,233	-
03	201	202	Commercia	Department Store & Retail	0.75	I	1,783	6,749,389	150	1,012,408,382	2,232	1500	1,012,408,382	2,232	-	150	1,012,408,382	2,232	1000	1,012,408,382	2,232	-
03	202	202	Commercia	Department Store & Retail	1	I	1,103	4,175,309	150	626,296,380	1,381	1500	626,296,380	1,381	-	150	626,296,380	1,381	1000	626,296,380	1,381	-
03	203	202	Commercia	Department Store & Retail	1.5	I	1,507	5,704,616	150	855,692,334	1,886	1500	855,692,334	1,886	-	150	855,692,334	1,886	1000	855,692,334	1,886	-
03	204	202	Commercia	Department Store & Retail	2	I	18,264	69,136,761	150	10,370,514,123	22,863	1500	10,370,514,123	22,863	-	150	10,370,514,123	22,863	1000	10,370,514,123	22,863	-
04	201	120	Schools	Schools & Colleges	0.75	I	331	1,252,971	130	162,886,269	359	1500	162,886,269	359	-	100	125,297,130	276	1000	125,297,130	276	-
04	202	120	Schools	Schools & Colleges	1	I	108	408,824	130	53,147,181	117	1500	53,147,181	117	-	100	40,882,447	90	1000	40,882,447	90	-
04	203	120	Schools	Schools & Colleges	1.5	I	1,374	5,201,156	130	676,150,253	1,491	1500	676,150,253	1,491	-	100	520,115,579	1,147	1000	520,115,579	1,147	-
04	204	120	Schools	Schools & Colleges	2	I	23,768	89,971,667	130	11,696,316,747	25,786	1500	11,696,316,747	25,786	-	100	8,997,166,728	19,835	1000	8,997,166,728	19,835	-
04	205	120	Schools	Schools & Colleges	3	I	10,157	38,448,427	130	4,998,295,574	11,019	1500	4,998,295,574	11,019	-	100	3,844,842,749	8,476	1000	3,844,842,749	8,476	-
04	206	120	Schools	Schools & Colleges	4	I	4,677	17,704,371	130	2,301,568,219	5,074	1500	2,301,568,219	5,074	-	100	1,770,437,091	3,903	1000	1,770,437,091	3,903	-
04	201	201	Schools	Professional Office	0.75	I	219	829,005	130	107,770,673	238	1500	107,770,673	238	-	80	66,320,414	146	1000	66,320,414	146	-
05	201	201	Churches	Professional Office	0.75	I	1,905	7,211,209	130	937,457,228	2,067	1500	937,457,228	2,067	-	80	576,896,756	1,272	1000	576,896,756	1,272	-
05	203	201	Churches	Professional Office	1.5	I	672	2,543,797	130	330,693,573	729	1500	330,693,573	729	-	80	203,503,738	449	1000	203,503,738	449	-
05	204	201	Churches	Professional Office	2	I	953	3,607,497	130	468,974,666	1,034	1500	468,974,666	1,034	-	80	288,599,794	636	1000	288,599,794	636	-
06	203	201	Industry	Professional Office	1.5	I	90	340,687	130	44,289,318	98	1500	44,289,318	98	-	80	27,254,965	60	1000	27,254,965	60	-
07	203	177	Laundries	Laundromat	1.5	I	1,795	6,794,814	150	1,019,222,123	2,247	1500	1,019,222,123	2,247	-	110	747,429,557	1,648	1000	747,429,557	1,648	-
07	204	177	Laundries	Laundromat	2	I	1,340	5,072,452	150	760,867,769	1,677	1500	760,867,769	1,677	-	110	557,969,697	1,230	1000	557,969,697	1,230	-
08	101	101	Mobile Hom	Residential	0.75	I	616	2,331,814	250	582,953,415	1,285	1500	582,953,415	1,285	-	225	524,658,073	1,157	1000	524,658,073	1,157	-
08	301	101	Mobile Hom	Residential	0.75	I	9,702	36,726,065	250	9,181,516,282	20,242	1500	9,181,516,282	20,242	-	225	8,263,364,654	18,218	1000	8,263,364,654	18,218	-
08	302	101	Mobile Hom	Residential	0.75	I	37,037	140,200,296	250	35,050,074,061	77,272	1500	35,050,074,061	77,272	-	225	31,545,066,655	69,545	1000	31,545,066,655	69,545	-
10	204	179	Car Wash	Car Wash	2	I	8,640	32,705,958	20	654,119,156	1,442	1500	654,119,156	1,442	-	150	4,905,893,672	10,816	1000	4,905,893,672	10,816	-
10	201	201	Car Wash	Professional Office	0.75	I	3,208	12,143,601	130	1,578,668,130	3,480	1500	1,578,668,130	3,480	-	80	971,488,080	2,142	1000	971,488,080	2,142	-
13	201	201	Landscape	Professional Office	0.75	I	82	310,404	130	40,352,490	89	1500	40,352,490	89	-	80	24,832,301	55	1000	24,832,301	55	-

City of Avondale

Residential Sanitation
Rate and Cost of Service Analysis

Prepared by
Finance & Budget Staff

Table of Contents

Summary **1**
Background **1**
Purpose and Scope **2**
Sanitation Operations **2**
Revenues **3**
Expenses **3**
ALLOCATION OF COSTS 4
Automated Residential Collection *4*
Uncontained Refuse Collection *4*
Education and Enforcement *5*
Cash Flow Analysis **6**
Cost Components **6**
Rate Recommendation **7**
Rate Comparisons **7**
Appendix **9**

Summary

The City of Avondale currently charges $20.00 per month for residential sanitation services. The last rate adjustment approved by council was effective in January of 2009. This rate has been sufficient over the last two fiscal years to recover the cost of providing service. After evaluating expenses and revenues, projections indicate that the growth in customers will generate sufficient revenue to cover costs in the short term. The major costs for a sanitation operation stem from the labor requirements, fuel costs and vehicle maintenance costs.

Public Works staff has made every attempt to reduce costs and maximize efficiency. This report details all revenues, expenses and evaluation of operations.

Background

Avondale currently services approximately 19,771 single family residential accounts. According to billing records and work orders, new customers are being added to the system at a rate of 10 to 16 new customers per month. This rate is significantly less than just a few years ago, when the economy was expanding and new homes were being constructed at a rate of over 100 per month. Customers receive once a week refuse collection, once a week recycling collection and uncontained trash collection once per month. Customers receive two (2) ninety (90) gallon containers; one for regular refuse and the other for recyclables.

As stated the current rate for residential collection is $20 per month. Rates have also been set for additional pickups and additional containers. The following table shows residential sanitation rates since 2005.

Effective Date	Fee
March 20, 2005	$16.25
March 20, 2006	$16.50
January 3, 2007	$18.00
January 2, 2008	$19.00
January 1, 2009	$20.00

Revenues for residential sanitation are currently projected to total approximately $5,020,540 for fiscal year 2011-12. This is based on the current customers and projected growth through the end of the fiscal year. Expenses and transfers out for fiscal year 2011-12 are projected to total $4,333,690 based on the current budget. This, combined with a beginning balance of $5,323,660, results in an ending balance of approximately $6,010,510.

Purpose and Scope

The primary goal of this study was to evaluate residential sanitation services and ensure costs are being recovered through the service fees. Staff completed the following tasks to ensure a comprehensive evaluation:

- Analyze historical and projected revenues
- Analyze historical and projected expenditures
- Project future staffing and equipment needs
- Identify total revenue requirements
- Design rates based on cost of service and reserve requirements
- Analyze City comparison data

Sanitation Operations

Public Works staff conducts an ongoing assessment of the current fleet requirements, staffing needs and current route setup. Efficiency is assessed for both automated collection and uncontained collection.

The installation of automated can-counters in each truck helps evaluate route, operator and equipment efficiencies. Route sizes are continually being re-aligned to obtain maximum efficiency for each day. In the past, staff has done benchmarking to compare route standards within the valley to enable staff to use best practices in developing efficient routes, leading to savings in time and fuel. These efforts also helped establish the required staffing ratios for maximum service delivery.

Staff has completed the process of replacing the single axle trucks with larger capacity dual axle trucks. This was done to improve the efficiency of the sanitation routes. The larger capacities allow the driver to pick up an increased number of cans before having to make a trip to the landfill. The actual savings in fuel costs recognized by increasing the capacity of the trucks is difficult to determine due to the realignment of routes, the fluctuations in fuel costs, as well as the differences in fuel efficiency obtained by the new and old trucks.

The recycling program continues to divert over 5,000 tons of refuse from the city's waste stream. This is approximately 20% of total refuse collections. The program continues to increase in tonnage through participation and our education efforts. The result is a savings of about $125,000 annually in landfill tipping fees, assuming the current tipping fee of $25.

The inspection and residential education program helps keep the recyclable collections within an acceptable rate of contamination. Public Works staff continues to provide customer assistance and guidance to help increase awareness of acceptable recycling items. The education and enforcement program also requires yearly inspection and permitting of commercial sanitation vehicles operating in the city. The inspectors monitor business locations to ensure service levels are sufficient to meet health and safety standards. Inspectors are also responsible for keeping residents in compliance with city code. Common violations are overfilled containers and bulk trash over the 3 cubic yard limit.

Revenues

As previously indicated, revenue for FY 2012 is estimated to total $5,020,740. Historical and projected rate, commercial hauler permits and recycling revenue under the current rate schedule is shown in Table 1.

Table 1 – Sanitation Revenue

	FY 10-11 Actuals	FY 11-12 Estimate	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Revenue Under Existing Rates	4,816,864	4,824,690	4,828,040	4,869,220	4,908,390	4,951,510
Recycling Revenue Share	164,261	164260	130,000	130,000	130,000	130,000
Commercial Permits	27,562	23,490	23,490	23,490	23,490	23,490
Interest	2,353	1,820	2,400	2,430	2,270	2,190
Other	5,906	6,280	4,070	6,860	5,180	5,470
	5,016,946	**5,020,740**	**4,988,000**	**5,032,000**	**5,069,330**	**5,112,660**

Projections assume the same rate of growth which we have been experiencing over the last few years which is averaging less than 1% increase in customers. With the unpredictable nature of the recyclables market, recycling revenue has been averaged over the last five years to account for potential price fluctuations.

Recent legislation signed in 2011 established new guidelines for the collection of development fees in Arizona. Sanitation development fees were among those that were eliminated. Although this revenue was not recorded in the Sanitation operating fund, this fund will now have to fund the acquisition of new customer containers and vehicles for new routes.

Expenses

Revenue requirements include operation and maintenance expense, indirect costs, departmental administrative costs, insurance, vehicle replacement and reserve requirements. Table 2 shows one year of actual expenses, along with expense projections for the five year study period.

Table 2 – Sanitation Expenses

	FY 10-11 Actuals	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Personal Services	1,169,262	1,312,130	1,362,670	1,442,740	1,458,540	1,474,120
Contractual Services	176,878	218,940	231,020	232,970	234,820	236,860
Landfill Fees	596,675	620,000	730,860	778,810	827,140	834,400
Commodities	82,814	162,350	188,870	199,960	200,460	202,480
Vehicle Maint & Replacem.	1,050,398	1,078,020	1,382,000	1,406,430	1,441,380	1,444,640
Capital Outlay	1,721	-	-	275,000	-	-
Other	579,690	942,250	953,940	965,150	976,180	987,580
	3,657,437	**4,333,690**	**4,849,360**	**5,301,060**	**5,138,520**	**5,180,080**

Allocation of Costs

Curbside Residential Collection

The curbside residential collection service includes all costs associated with the weekly collection of both refuse and recyclable materials. This service currently requires 12 equipment operators and 12 curbside vehicles. Costs also include a supervisor, two pickup trucks and disposal of approximately 24,000 tons of refuse. Included is the landfill tipping fee of $25.00 for the current year. The total estimated expenses for this service are shown in Table 3.

Table 3 – Curbside Residential Collection Expense Estimates

	FY 10-11 Actuals	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Personal Services	894,293	943,450	978,930	1,053,580	1,064,800	1,075,840
Contractual Services	140,670	142,300	143,660	144,880	146,040	147,310
Landfill Fees	507,674	525,000	639,720	681,690	723,990	730,350
Commodities	76,493	153,900	173,350	184,320	184,710	186,600
Vehicle Maint & Repl	875,550	889,060	1,094,560	1,118,050	1,152,110	1,154,390
Capital Outlay	1,721	-	-	275,000	-	-
Other	452,240	821,600	832,130	842,310	852,370	862,690
	2,948,639	**3,475,310**	**3,862,350**	**4,299,830**	**4,124,020**	**4,157,180**

These costs include all salaries, benefits, landfill fees, and vehicle costs including fuel, maintenance and replacement costs. During the FY 10-11 and FY 11-12 budget cycles, vehicle replacement costs were adjusted by a temporary credit to help reduce costs city wide. This helped keep the cost of service down thereby deferring any need for rate increases. The full funding of replacement is expected to resume in FY 12-13 to ensure there will be sufficient funds available to replace all sanitation equipment at the end of its useful life. Based on the most recent estimates for sideload sanitation trucks, the purchase price has increased by 26% or over $50,000 per truck since our last purchase in 2008.

Projections for curbside collection also include the contractual tipping fee increases over the next three years ($1.50/year) and the addition of one new full time equivalent (FTE) position and collection route in FY 2013-2014. As previously stated, the ability to collect development fees for the purchase of new containers and vehicles for new homes has been preempted by the State legislature. These costs include the purchase of two (2) new containers for each new home and the vehicle required in FY13-14. The current rate structure does not provide funding for major equipment purchases for new development and a new home fee may be unavoidable in the near future.

Uncontained Refuse Collection

The costs of uncontained refuse collection include the expenses associated with the monthly collection of loose trash for residents. This includes personnel costs for three employees, associated vehicles, and disposal of approximately 3,150 tons of refuse. The estimated expenses are shown in
Table 4.

Table 4 – Uncontained Refuse Expense Estimates

	FY 10-11 Actuals	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Personal Services	136,785	220,490	213,220	215,840	218,070	220,260
Contractual Services	15,372	31,640	31,940	32,210	32,460	32,740
Landfill Fees	89,001	95,000	91,140	97,120	103,150	104,050
Commodities	4,524	5,500	12,550	12,650	12,750	12,860
Vehicle Maint. & Replacem.	153,004	168,080	264,960	265,790	266,580	267,450
Other	65,260	62,260	62,860	63,390	63,890	64,450
	463,946	**582,970**	**676,670**	**687,000**	**696,900**	**701,810**

The projected costs for uncontained collection do not include any new FTE or vehicles. The vehicle replacement costs are also restored to full funding in FY12-13 to replenish the replacement fund.

Education and Enforcement

The costs for Education and Enforcement include inspection and recycling education. This includes personnel costs for two employees, two vehicles, and other incidental program costs. The estimated expenses are shown in Table 5.

Table 5 – Education and Enforcement Expense Estimates

	FY 10-11 Actuals	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Personal Services	138,184	148,190	170,520	173,320	175,670	178,020
Contractual Services	20,836	45,000	55,420	55,880	56,320	56,810
Commodities	1,797	2,950	2,970	2,990	3,000	3,020
Vehicle Maint. & Replacem.	21,844	20,880	22,480	22,590	22,690	22,800
Other	62,190	58,390	58,950	59,450	59,920	60,440
	244,852	**275,410**	**310,340**	**314,230**	**317,600**	**321,090**

The projected costs do not include any additional costs or increased service levels.

Cash Flow Analysis

Table 6 displays the base projected revenue and revenue requirements for the sanitation fund for the five year study period.

Table 6 – Sanitation Fund Cash Flow Analysis

	FY 10-11 Actuals	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Sources:						
Beginning Balance	**$ 3,960,811**	**$ 5,323,660**	**$ 6,010,510**	**$ 6,149,150**	**$ 5,860,790**	**$ 5,755,180**
Months Increase Effective	0	0	0	0	0	0
Revenue Under Existing Rates	4,816,864	4,824,690	4,828,040	4,869,220	4,908,390	4,951,510
Misc	7,442	6,280	4,070	6,860	5,180	5,470
Recycling Revenue Share	164,261	164,260	130,000	130,000	130,000	130,000
Commercial Permits	27,562	23,490	23,490	23,490	23,490	23,490
Penalties on Utilities	(1,536)	0				
Interest	2,353	1,820	2,400	2,460	2,340	2,300
Sale of Assets	-	-	-	-	-	-
Sub-Total Revenue	**5,016,946**	**5,020,540**	**4,988,000**	**5,032,030**	**5,069,400**	**5,112,770**
Total Sources	**$ 8,977,757**	**$ 10,344,200**	**$ 10,998,510**	**$ 11,181,180**	**$ 10,930,190**	**$ 10,867,950**
Uses:						
Curbside Collection	**2,945,299**	**3,475,310**	**3,862,350**	**4,319,160**	**4,160,510**	**4,209,990**
Monthly Cost	12.94	14.03	14.95	15.57	15.91	15.96
Uncontained Collection	**463,946**	**582,970**	**676,670**	**687,000**	**696,900**	**701,810**
Monthly Cost	2.08	2.57	2.80	2.82	2.84	2.83
Enforcement & Education	**244,852**	**275,410**	**310,340**	**314,230**	**317,600**	**321,090**
Monthly Cost	1.04	1.16	1.29	1.29	1.29	1.30
Total Expenses	**$ 3,654,097**	**$ 4,333,690**	**$ 4,849,360**	**$ 5,320,390**	**$ 5,175,010**	**$ 5,232,890**
Total Cost per Month	**16.06**	**17.76**	**19.04**	**19.68**	**20.04**	**20.09**
Net Surplus/(Loss) Under existing rates	1,162,767	491,000	(21,320)	(451,170)	(266,620)	(281,380)
Estimated Ending Balance	**5,323,660**	**6,010,510**	**6,149,150**	**5,860,790**	**5,755,180**	**5,635,060**

When calculating the cost per month, contingencies and capital purchases are excluded to ensure only recurring expenses recovered. With the reductions made in the sanitation fund budget during the last few years, ongoing costs have declined about 8% over the last two years. Fluctuations in the price of fuel also have a significant effect on expenses in this fund. Historical figures for expenditures are included in Appendix B which shows the historical and projected cost detail.

As shown in the table, the total cost of service for ongoing expenses is less than the current rate of $20.00 per month and remains within this range for the entire study period. However, the annual cash flow is negative due to the inclusion of purchases for new development and increased costs of vehicle replacement.

During the FY 11-12 budget process an additional $75,000 was added to fund the replacement of refuse and recycling containers, however the Public Works Department has indicated that over the next few years an additional $100,000 is needed to enhance this program. Table 7 shows the impact on the monthly cost with the additional expense. In order to accommodate this program, an increase of approximately $0.50 will be needed in FY 14-15.

Table 7 - Sanitation Expenses and Monthly Cost with Additional Containers

	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Total Expenses	$4,333,690	$4,899,360	$5,395,390	$5,275,010	$5,332,890
Monthly Cost	17.76	19.25	19.99	20.45	20.50

Cost Components

The cost of residential sanitation services tracked by the following categories: automated curbside collection, monthly uncontained collection and education and enforcement (recycling). Based on the total number of customers and recurring expenses estimated for the 2011-2012 fiscal year, the calculation of customer costs is shown in Table 8.

Table 8 – Customer Costs per Month

	Automated Collection	Uncontained Collection	Education/ Enforcement	Total
Total Costs	$ 3,354,610	$ 613,400	$ 277,290	$4,243,420
Total Customers	**20,000**			
Monthly Cost per Customer	$ 14.03	$ 2.57	$ 1.16	$ 17.76

The Curbside Automated Collection component accounts for roughly 79% of the sanitation program's costs. The Uncontained Collection services account for about 14% of the total costs. The costs of service are allocated proportionately among all customers since utilization of uncontained refuse collection by customers may vary from month to month. On average, 20% of residential customers use the uncontained collection services each month. If utilization of the uncontained refuse collection service increases, there will also be a corresponding increase in costs. Currently, the Education and Enforcement program cost is approximately 7% of the total.

Rate Recommendation

The cost of service allocations show that operating expenses are covered by the current rate charged per customer per month. Based on the available fund balance and reserve requirements, it is proposed that the fixed monthly base charge of $20.00 for residential sanitation remain static for the current fiscal year.

Rate Comparisons

As a measure of reasonableness, the proposed rates are compared to other Arizona municipalities' rates for the same service. As Table 9 indicates, the proposed rates are not out of

line with the other cities. All municipalities are providing recycling, regular refuse and uncontained trash collection.

Table 9 – Sanitation Rate Comparison with Valley Cities

Municipality	Rate	Recycling	Bulk Trash Collection
Phoenix	$ 26.80	✓	Quarterly
Mesa	$ 23.34	✓	Additional Fee
Goodyear	$ 22.80	✓	Weekly
Avondale	$ 20.00	✓	**Monthly**
Tempe	$ 19.98	✓	**Monthly**
Average	$ 19.19		
Surprise	$ 16.63	✓	**Monthly**
Glendale	$ 16.30	✓	**Monthly**
Scottsdale	$ 15.96	✓	**Monthly**
Peoria	$ 15.06	✓	Annually
Buckeye	$ 15.00	✓	Quarterly

As shown in Table 9, most valley cities provide similar services with variations in the frequency of bulk trash collection.

Appendices

Appendix A – Customer Bills Issued and Projections 10

Appendix B – Cashflow Detail..... 11

Appendix A – Customer Bills Issued & Projections

Sanitation Accounts

Number of bills issued

Fiscal Year	July	August	September	October	November	December	January	February	March	April	May	June	Total Bills	Increase	Avg p/ month
2002	10,521	10,748	10,930	11,219	11,432	11,542	11,592	11,823	11,963	12,093	12,166	12,300	138,329		162
2003	12,940	12,493	12,640	12,805	13,087	12,801	9,728	9,855	12,861	12,994	13,078	13,227	148,509	10,180	77
2004	13,356	13,506	13,669	13,772	13,868	13,997	14,163	14,272	14,397	14,576	14,710	15,090	169,376	20,867	155
2005	15,270	15,348	15,542	15,705	15,868	16,013	16,148	16,313	16,462	16,605	16,792	16,959	193,025	23,649	164
2006	17,118	17,294	17,456	17,568	17,642	17,693	17,804	17,842	18,015	18,089	18,176	18,269	212,966	19,941	138
2007	18,765	18,740	18,919	19,070	19,150	19,209	19,232	19,337	19,361	19,553	19,259	19,312	229,907	16,941	118
2008	19,219	19,279	19,309	19,280	18,913	19,258	19,210	19,229	19,237	19,290	19,270	19,283	230,777	870	6
2009	19,258	19,227	19,253	19,251	19,211	19,247	19,251	19,206	19,212	19,337	19,333	19,385	231,171	394	3
2010	19,424	19,490	19,499	19,490	19,477	19,535	19,603	19,610	19,617	19,746	19,772	19,775	235,038	3,867	27
2011	19,809	19,834	19,777	19,789	19,790	19,727	19,737	19,770	19,797	19,798	19,800	19,826	237,454	2,416	17
2012 Est.	19,841	19,856	19,871	19,886	19,901	19,916	19,931	19,946	19,961	19,976	19,991	20,006	239,083	1,629	11
2013 Est.	20,023	20,040	20,057	20,074	20,091	20,108	20,125	20,142	20,159	20,176	20,193	20,210	241,402	2,319	16
2014 Est.	20,222	20,234	20,246	20,258	20,270	20,282	20,294	20,306	20,318	20,330	20,342	20,354	243,461	2,059	14
2015 Est.	20,369	20,384	20,399	20,414	20,429	20,444	20,459	20,474	20,489	20,504	20,519	20,534	245,419	1,958	14
2016 Est.	20,549	20,564	20,579	20,594	20,609	20,624	20,639	20,654	20,669	20,684	20,699	20,714	247,575	2,156	15
2017 Est.	20,728	20,742	20,756	20,770	20,784	20,798	20,812	20,826	20,840	20,854	20,868	20,882	249,657	2,082	14

Appendix B – Cash Flow Detail

City of Avondale
Sanitation Fund
Projected Revenues & Expenditures

	FY 07-08 Actuals	FY 08-09 Actuals	FY 09-10 Actuals	FY 10-11 Actuals	FY 11-12 Budget	FY 12-13 Estimate	FY 13-14 Estimate	FY 14-15 Estimate	FY 15-16 Estimate
Sources:									
Beginning Balance	**$ 2,744,422**	**$ 3,033,239**	**$ 3,501,392**	**$ 3,960,811**	**$ 5,323,660**	**$ 6,010,510**	**$ 6,099,150**	**$ 5,735,770**	**$ 5,530,110**
Months Increase Effective	6		0	0	0	0	0	0	0
Revenue Under Existing Rates	4,346,895	4,600,979	4,779,641	4,816,864	4,824,690	4,828,040	4,869,220	4,908,390	4,951,510
Misc	10,803	11,385	694	7,442	6,280	4,070	6,860	5,180	5,470
Recycling Revenue Share	121,440	104,560	95,485	164,261	164,260	130,000	130,000	130,000	130,000
Commercial Permits	17,051	29,000	20,333	27,562	23,490	23,490	23,490	23,490	23,490
Penalties on Utilities	(14)	-	-	(1,536)	0				
Interest	20,173	6,901	752	2,353	1,820	2,400	2,440	2,290	2,210
Sale of Assets	-	-	-	-	-	-	-	-	-
Sub-Total Revenue	**4,516,347**	**4,752,825**	**4,896,905**	**5,016,946**	**5,020,540**	**4,988,000**	**5,032,010**	**5,069,350**	**5,112,680**
Total Sources	**$ 7,260,769**	**$ 7,786,063**	**$ 8,398,297**	**$ 8,977,757**	**$ 10,344,200**	**$ 10,998,510**	**$ 11,131,160**	**$ 10,805,120**	**$ 10,642,790**
Uses:									
Curbside Collection									
Personal Services	1,037,809	945,511	876,142	894,293	943,450	978,930	1,053,580	1,064,800	1,075,840
Contractual Services	51,960	253,261	109,483	112,450	41,620	42,010	42,370	42,710	43,080
Landfill Fees	507,446	491,225	497,771	507,674	525,000	639,720	681,690	723,990	730,350
Administrative Charges	564,030	517,550	497,310	436,020	553,540	561,500	569,400	577,280	585,210
Vehicle Maintenance	494,872	608,389	578,203	570,410	585,500	587,760	589,990	624,050	626,330
Facilities Maintenance	15,070	22,300	21,010	16,220	18,060	18,230	18,380	18,530	18,690
Commodities	150,182	28,503	55,996	76,493	153,900	223,350	278,650	321,200	339,410
Capital	-	-	-	1,721	-	-	275,000	-	-
Vehicle Replacement	461,670	506,620	456,110	301,800	303,560	506,800	528,060	528,060	528,060
Insurance/Risk Mgt	41,800	33,680	42,980	28,220	100,680	101,650	102,510	103,330	104,230
Contingency					250,000	252,400	254,530	256,560	258,790
Curbside Collection	**3,324,839**	**3,407,038**	**3,135,004**	**2,945,299**	**3,475,310**	**3,912,350**	**4,394,160**	**4,260,510**	**4,309,990**
Monthly Cost	14.41	14.74	13.34	12.94	14.03	15.16	15.87	16.31	16.36
Uncontained Collection									
Personal Services	211,190	214,349	152,322	136,785	220,490	213,220	215,840	218,070	220,260
Contractual Services	3,473	17,594	5,504	6,022	7,770	7,840	7,910	7,970	8,040
Landfill Fees	66,322	57,231	81,896	89,001	95,000	91,140	97,120	103,150	104,050
Administrative Charges	116,880	95,050	85,670	65,260	62,260	62,860	63,390	63,890	64,450
Vehicle Maintenance	106,873	98,281	79,758	81,994	97,070	98,000	98,830	99,620	100,490
Commodities	3,655	11,564	3,616	4,524	5,500	12,550	12,650	12,750	12,860
Capital	25,029	-	-	-	-	-	-	-	-
Vehicle Replacement	91,880	99,560	90,300	71,010	71,010	166,960	166,960	166,960	166,960
Insurance	18,520	13,420	14,450	9,350	23,870	24,100	24,300	24,490	24,700
Contingency	-	-	-	-	-	-	-	-	-
Uncontained Collection	**643,821**	**607,049**	**513,517**	**463,946**	**582,970**	**676,670**	**687,000**	**696,900**	**701,810**
Monthly Cost	2.79	2.63	2.18	2.08	2.57	2.80	2.82	2.84	2.83
	0.02								
Enforcement Education									
Personal Services	138,316	145,962	138,422	138,184	148,190	170,520	173,320	175,670	178,020
Contractual Services	31,571	9,331	10,719	9,676	25,330	35,560	35,850	36,130	36,440
Administrative Charges	48,540	74,900	72,830	62,190	58,390	58,950	59,450	59,920	60,440
Vehicle Maintenance	10,005	8,605	11,312	12,904	12,540	12,660	12,770	12,870	12,980
Commodities	5,817	1,997	2,467	1,797	2,950	2,970	2,990	3,000	3,020
Capital	19,271	-	-	-	-	-	-	-	-
Vehicle Replacement	5,350	15,290	3,570	8,940	8,340	9,820	9,820	9,820	9,820
Insurance	-	14,500	12,770	11,160	19,670	19,860	20,030	20,190	20,370
Contingency	-	-	-	-	-	-	-	-	-
Enforcement & Education	**258,870**	**270,585**	**252,090**	**244,852**	**275,410**	**310,340**	**314,230**	**317,600**	**321,090**
Monthly Cost	1.14	1.17	1.07	1.04	1.16	1.29	1.29	1.29	1.30
Total Expenses	**$ 4,227,530**	**$ 4,284,672**	**$ 3,900,611**	**$ 3,654,097**	**$ 4,333,690**	**$ 4,899,360**	**$ 5,395,390**	**$ 5,275,010**	**$ 5,332,890**
Total Cost per Month	**18.34**	**18.53**	**16.60**	**16.06**	**17.76**	**19.25**	**19.99**	**20.45**	**20.50**
Net Surplus/(Loss) Under existing rates	119,365	316,307	879,030	1,162,767	491,000	(71,320)	(526,170)	(366,620)	(381,380)
Estimated Ending Balance	**3,033,239**	**3,501,392**	**4,497,686**	**5,323,660**	**6,010,510**	**6,099,150**	**5,735,770**	**5,530,110**	**5,309,900**