Water and Wastewater Capital Improvement Plan Options and Revenue Requirements

November 15, 2012



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Introduction

For City Commission consideration this report presents seven Capital Improvement Plans (CIPs) based on recently completed Master Plans for Lawrence's Water and Wastewater Utilities. Previously, staff presented two scenarios. Staff updated these with the latest information and formulated an additional five scenarios based on City Commission comments and questions. The scenarios help compare benefits relative to costs of the various CIP plans, determine rate impacts to customers, and compare those to what is happening nationally and within our region.

Lawrence has an opportunity to expand wastewater capacity to support economic development, initiate programs that will address deferred infrastructure maintenance and upcoming maintenance needs, comply with expected new regulatory requirements, and improve the quality of water and services for the customer with rate increases below those of our peers. This can be accomplished for less than a total \$15.56 increase spread out over five years to a typical monthly bill. The table on page 3 summarizes the scenarios' costs and relative levels of services provided.

Lawrence is seeing the benefits of adoption and implementation of several previous five-year CIP's that initiated programs and addressed utility needs. In addition, operational efficiency efforts and use of technology have allowed the department to increase services provided while reducing budgeted FTE's by five over the last 3 years. Current water treatment capacity is sufficient to meet community growth for the next two decades. Improvements in the mechanical reliability of the wastewater plant and lift stations, plus sewer line maintenance and rehabilitation programs, have resulted in significant reductions in sanitary sewer overflows. As with other communities, Lawrence still has infrastructure needs to address. For Lawrence this includes water lines, old equipment, and structures at the Kaw water plant, and rapid wastewater inflow and infiltration. Several of the scenarios presented address these issues and expand capacities of the systems to provide for community growth and at rate increases that are less than surrounding communities.

Staff recommends adoption of the 5-Year CIP and Rate Plan outlined in Scenario 1 and the Master Plans to meet the needs of the Utility. While implementation will require adjustments to both the CIP and rates annually, having plan adoption for a five-year period allows customers and developers to have predictability with future costs. It also helps with implementation of projects and programs since many span years or even decades.

Scenario	Population WWTP Capacity Could Support in 2017	Total Increase in Typical Monthly Bill From 2012 to 2017	Total Additional Cost Over the 5 Year Period	Growth Supported Outside Existing City Limits	Water & Wastewater Master Plan Objectives Met	Regulatory Compliance**
1 - Recommended	122,000	\$13.66	\$453.60	Yes	Yes	Yes
2 - Reduced Water	122,000	\$11.01	\$384.12	Yes	No	Yes
3 - Deferred Maintenance/Reliability	122,000	\$12.10	\$404.52	Yes	Yes	Yes
4 - Deferred Maintenance/Reliability & Wakarusa WWTP	105,000	\$8.54	\$291.48		No	No
5 - Taste, Odor, & Toxins	122,000	\$15.56	\$519.96	Yes	Yes	Yes
6 - Delay Wakarusa WWTP & Accelerate Rapid I/I	105,000	\$11.70	\$368.76	No*		No
7 - Roadway Relocations Only - No Wakarusa WWTP	105,000	\$1.38	\$72.48	No*	No	No

* Annexation is not supported west of K-10, south of west 6th, and Southeast Lawrence. ** As it applies to wet weather overloading in the collection system and at the existing WWTP.

Community Growth and Population Projections

The Master Plans evaluated the latest population projections as summarized in the table below. The recommended Scenario 1 is based on Lawrence having a population of 119,529 in the year 2030. This follows a rate of growth between Horizon 2020's low and medium growth projections. The Planning Staff indicates the current growth rate is above the low growth rate estimates from Horizon 2020.

Population Projections	2010	2020	2030
Low (Horizon 2020)	88,961	100,076	111,191
Medium (Horizon 2020)	95,178	110,406	125,635
High (Horizon 2020)	99,013	122,394	151,296
Master Plan Service Area Populations	92,727	106,667	119,529

Based on actual wastewater loading in 2010 the Master Plan determined the existing wastewater treatment plant has the ability to serve an additional population of about 13,000 people in addition to the population at the time¹. The Master plan projects remaining existing capacity (excluding wet weather treatment that currently exceeds treatment capacity) will be fully utilized around 2018.

CIP Scenarios

Based on City Commission comments received during the budget study session staff has developed five new CIP scenarios and updated the two originally presented to help evaluate options and rate impacts. A summary description of each scenario follows:

• <u>Scenario 1 – Recommended</u>

This CIP scenario represents the most recent and updated staff and master plan recommendations. For the purposes of project timing, it reflects project timing based on the Planning Department's population projections between the Low and Medium Population Projections from Horizon 2020. This CIP includes major projects and programs that address water and wastewater system needs related to reliability, regulatory requirements, and growth.

These include:

- o Construction of the Wakarusa WWTP with completion in 2018
- Programs and projects (Rapid I&I and Wakarusa WWTP) to address current wet weather overloading at the Kaw WWTP
- Sanitary Sewer Rehabilitation Program
- o Water Line Replacement Program
- Construction and renovation of Kaw water plant intake(s)
- Construction of the Kaw Transmission Main Phase I which is a second transmission main to North Lawrence that is also sized to eventually provide additional transmission capacity to South East Lawrence including Farmland

¹ The remaining capacity estimated is based on load and translated to population equivalents. There is not more or less capacity if actual 2010 population is different from the value used.

- Renovation and or replacement of the 1931 and 1954 Oread water tanks
- Other projects as outlined in the detailed project listing

• <u>Scenario 2 – Reduced Water</u>

This CIP scenario extends and or reduces projects for the water utility. The wastewater CIP is the same as in Scenario 1. The Reduced Water CIP addresses wastewater system needs but does not address water system needs related to reliability, regulatory requirements, and growth. It shows the rate impacts of projects primarily related to the water utility.

This CIP includes water projects related to roadway relocations and funds the 33-year, \$72 million dollar water main rehabilitation program at \$0.5 million annually. This is onehalf of the historical level of funding and less than 25% of what is needed. It does not deal with Kaw Water Plant intake issues, the aging Oread Water Tanks, the need for a second water transmission main for North Lawrence, nor expansion of transmission capacity to serve the South East Lawrence (Kaw Transmission Main Phase I).

• <u>Scenario 3 – Deferred Maintenance/Reliability</u>

This CIP scenario modifies Scenario 1 by extending the Rapid I/I Reduction Program by 5 years to 2025 and deferring to 2015 the co-generation and backup power project at the WWTP. On the water side the Kaw Transmission Main Phase I (second transmission source for North Lawrence and transmission capacity for the South East Lawrence) is delayed by 4 years until 2017 and the water main replacement program is spread out over an additional 5 years extending the program to 2050.

• Scenario 4 – Deferred Maintenance/Reliability & Wakarusa WWTP (Low Growth)

This CIP scenario modifies Scenario 3 and adjusts the Wakarusa WWTP for completion in 2022 based on the population estimates for the Low Growth Population Projections from Horizon 2020. The Wakarusa WWTP expansion in conjunction with the Rapid I&I Removal Program provides for relief of current wet weather overloading of the existing treatment plant and of Lift Station 5A/5B on the Haskell campus. This scenario may result in reduction in the ability to serve additional growth through the Wakarusa Valley and areas to the West. The model also indicates bypassing will occur under design conditions, which does not comply with state and federal regulations.

• <u>Scenario 5 – Taste, Odor & Microtoxins</u>

This CIP scenario modifies Scenario 1 with the acceleration of projects to begin in 2013 that would enhance treatment capability to further control Taste, Odor, and Microtoxins. The Master Plan schedules this project for 2025. Staff has received responses to RFPs for evaluating enhanced treatment options. Staff will interview firms this month.

Over the last year, treatment staff has improved effectiveness of the existing powder activated carbon (PAC) technology. They achieved 90% removal of the taste and odor causing compounds consistently. In most cases, this is sufficient to reduce taste and odor causing compounds to levels below those detectable by sensitive individuals. However, there could be periods when the severity of the outbreak is beyond the ability of the existing system to manage completely and some portions of the taste and odor causing compounds pass through to the finished water.

• Scenario 6 – Delay Wakarusa WWTP & Accelerate Rapid I/I

This CIP scenario modifies Scenario 1 by deferring the start of the Wakarusa WWTP by 3 years to 2016 and accelerates the Rapid I/I Program by 3 years for completion in 2017 instead of 2020.

Achieving the goals of the Rapid I/I Program 3 years sooner would help to mitigate current wet weather overloading at the WWTP. However, since the Wakarusa WWTP is integral to alleviating the wet weather overloading at Lift Station 5A/5B, this station and the area it serves would continue to be overloaded for an additional 3 years. Just as with Scenario 4, deferral of the Wakarusa WWTP may limit the ability to serve additional growth through the Wakarusa Valley and areas to the West due to collection system limitations, not just treatment capacity limitations. The model indicates bypassing will occur under design conditions unless and until projects are initiated and completed to either expand 5A/5B and its downstream sewers, or divert flows to the Wakarusa WWTP.

• <u>Scenario 7 – Roadway Relocations Only – No Wakarusa WWTP</u>

This CIP Scenario only addresses utility relocations in advance of roadway projects. It does no major projects including the Wakarusa WWTP, Rapid I/I Removal Program, Kaw Intake, Oread Storage Tanks, water main rehabilitation, and treatment plant maintenance. This scenario provides a baseline for comparing other scenarios.

Rate Model Adjustments and Fiscal Requirements

Lawrence's rate model calculates the revenue needed to support the Operations & Maintenance (O & M) and Capital Budgets of the Department. The model follows American Water Works Association's practices for establishing reasonable costs of service for the various classes of water and wastewater customers for a five-year period. For the seven scenarios evaluated, the model calculates revenue needs and the corresponding water and wastewater rates. For each scenario, the model uses the same values for operations and maintenance costs, water use characteristics, and growth. The model adjusts utilization of cash, debt financing, and debt service to ensure there is adequate bond coverage and reserve funds.

As of December 31, 2011, the Water and Wastewater Fund had \$32,634,608 in cash and investments. Of this amount, \$13,089,415² was from bond proceeds for current capital projects and \$5,990,033 allocated to cash finance current and future capital improvement projects. The remaining \$13,555,160 was available for operating expenses. Purchase orders encumbered a total of \$1,380,262. In addition, bond covenants require the City to maintain a three-month operating reserve, which is equal to just over \$5,000,000. As a result, as of December 31, 2011, approximately \$7.1 million was available for future operating expenses. These were the inputs to the model to begin the 2013 rate model runs.

All of the scenarios use the same beginning cash balances. A common goal of the scenarios is to maintain at least \$1.0 million in cash available for both water and wastewater operating expenses and the same for capital projects. This provides a total of \$4.0 million in cash available for unplanned events. All of the scenarios approximate this goal with the exception of

² As of October 31, 2012 the balance of bond proceeds is \$2,721,796

scenario 7. This scenario projects available cash in 2018 of \$10.2 million for wastewater operations and \$3.0 million for wastewater capital projects despite no increase in rates.

The City must maintain a debt coverage ratio of 1.25 to stay in compliance with our bond covenants. The calculation for debt coverage ratio is revenues minus expenses divided by debt expense. All of the scenarios meet this requirement when combining water and wastewater. However, the water utility alone only meets the coverage requirements under Scenarios 2 and 3. Under the other scenarios, the debt coverage ratio when looking at just the water operations is less than 1.25 and reduces the amount of cash available for water operations.

Scenario Rate Results

The table and graph below show a summary of the increase in a typical³ residential bill from 2012 to 2017 for each scenario. In 2012, a typical bill is \$47.64 per month. The recommended scenario 1 will cost a customer paying a typical bill an additional \$453.60 over the five years.

Scenario	Total Increase in Monthly Bill From 2012 to 2017	Average Yearly Increase in Monthly Bill	Total Additional Cost Over the 5 Year Period
1 - Recommended	\$13.66	\$2.73	\$453.60
2 - Reduced Water	\$11.01	\$2.20	\$384.12
3 - Deferred Maintenance/Reliability	\$12.10	\$2.42	\$404.52
4 - Deferred Maintenance/Reliability & Wakarusa WWTP	\$8.54	\$1.71	\$291.48
5 - Taste, Odor, & Toxins	\$15.56	\$3.11	\$519.96
6 - Delay Wakarusa WWTP & Accelerate Rapid I/I	\$11.70	\$2.34	\$368.76
7 - Roadway Relocations Only - No Wakarusa WWTP	\$1.38	\$0.28	\$72.48



³ The median water usage for all billings over the year defines "Typical" for this comparison. Over the course of a year, generally half of monthly bills use less than the 4,000-gallon quantity and half of bills use more than 4,000 gallons. Residential bills will vary based on actual metered water usage (water) and winter average water usage (wastewater).

Many combinations of customer class, meter size, and usage affect the increase a particular customer may realize in their bill. <u>Appendix 11</u> contains tables detailing rate changes over the 5-year rate plan for all customer classes.

The table below shows the yearly percentage revenue increase for 2013 through 2018 required for the seven scenarios.

ſ		Scenario 1		Scer	Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6		Scenario 7	
		Water	Wastewater	Water	Wastewater	Water	Wastewater	Water	Wastewater	Water	Wastewater	Water	Wastewater	Water	Wastewater	
ſ	2013	3.0%	4.0%	3.0%	4.0%	3.0%	4.0%	3.0%	4.0%	5.0%	3.0%	3.0%	0.0%	0.0%	0.0%	
	2014	5.0%	1.0%	3.0%	1.0%	3.0%	1.0%	3.0%	0.0%	6.0%	3.0%	5.0%	3.0%	0.0%	0.0%	
	2015	6.0%	6.0%	3.0%	6.0%	4.0%	6.0%	4.0%	0.0%	8.0%	4.0%	6.0%	3.0%	0.0%	0.0%	
	2016	6.0%	5.0%	3.0%	5.0%	5.0%	4.0%	5.0%	0.0%	8.0%	6.0%	6.0%	4.0%	0.0%	0.0%	
	2017	7.0%	6.0%	3.0%	6.0%	7.0%	6.0%	7.0%	6.0%	6.0%	7.0%	7.0%	6.0%	0.0%	0.0%	
	2018	3.0%	7.0%	1.0%	7.0%	6.0%	6.0%	6.0%	5.0%	3.0%	6.0%	3.0%	6.0%	2.0%	0.0%	

Full Year Revenue Increase

System Development Charges (SECTION UNDER DEVELOPMENT)

Area and National Rate Trends

Addressing aging water and wastewater infrastructure is an issue that requires a continuous investment to maintain the quality of service expected by customers and required by regulations. Many of the water and wastewater providers surveyed in this region increased rates for 2013 and anticipate annual increases in the coming years to pay for infrastructure replacement and maintenance, comply with regulatory requirements, and meet operational needs. Regional trends are consistent with the findings of a survey completed by <u>USA Today</u> on water and wastewater rates across the country.

Many of the area utilities have completed the budget process for 2013 including water and wastewater rate changes. A summary of utility rate changes follows.

- Johnson County Wastewater approved a 7.3% revenue increase to pay for regulatory requirements, capital projects, salaries, maintenance, and rate increases for wastewater treated by KCMO. Property tax assessments generate most of their revenue used for capital projects.
- Johnson County WaterOne approved a 4.9% increase in revenue.
- Lee's Summit increased their water and sewer rates 6% in April 2012. Discussion of a 6% revenue increase will begin in early 2013.
- Olathe approved increases of 6.9% for both water and wastewater for 2013. They anticipate future annual increases of up to 7% for sewer and 4-6% for water to fund their 5-year capital plan.

- Manhattan increased wastewater rates by 15% and third tier and higher water rates by 7% in 2012 to fund expansion of both water and wastewater facilities. For 2013, Manhattan is requesting revenue increases of 7% for water and 3% for wastewater.
- Topeka has proposed revenue increases of 3% for water and 4% for wastewater. Prior to approval Topeka is planning to perform a detailed rate study in response to numerous recent water line leaks and infrastructure needs.
- Independence, MO increased the minimum charge for water by 9% for 2012 with the same expected for 2013 and 2014. Wastewater revenues will increase by 4.5% annually until 2015. In addition to these increases there is a special charge funding work mandated by an EPA wet weather consent order. This charge increased by 50% to \$6.00 per month in July 2012. The charge will increase by another 50% to \$9.00 per month in 2014.
- KCMO increased water rates by 12% and wastewater rates by 17% for a combined increase of about 14% effective May 1, 2012. Additional wastewater increases are planned for the near future to pay for infrastructure improvements required to comply with a \$2.4 billion wet weather EPA consent order. Discussion on 2013 adjustments will begin in early 2013.
- Both the Unified Government, which provides wastewater services to Kansas City, Kansas, and the Kansas City Board of Public Utilities, which provides water treatment, have approved 5% rate increases effective 1/1/13.

The graphs on pages 10 and 11 compare the area's residential utility bills for 8,000 gallon and 3,000-gallon usage. The 2013 proposed rates for the seven CIP scenarios are included.



2013 Typical Residential Monthly Utility Bill Comparison (8,000 gal.)



2013 Typical Residential Monthly Utility Bill Comparison (3,000 gal.)

2013 Monthly Bill Water (3,000 gal.)

\$13.01

\$14.49

\$15.84

\$15.16

\$15.63

\$17.10

\$20.37

\$15.63

\$15.63

\$15.63

\$15.63

\$15.93

\$16.47

\$21.96

\$25.57

\$28.14

\$34.95

\$27.00

Supporting Staff Reports

Wastewater Treatment Capacity and Project Drivers for Wakarusa WWTP Staff Report – City of Lawrence Department of Utilities November 14, 2012

Current Loading and Treatment Capacity

The 2012 wastewater loading for wet weather, suspended solids, and nitrogen exceeds the existing Wastewater Treatment Plant (WWTP) design capacity and the current organic loading is at or near rated design capacity. Only average day hydraulic loading and population are below current design values. Plant performance indicates that most treatment units, (excluding wet weather units) can treat pollutant loads beyond their rated design. Based on performance and current loads, the master plan indicates sufficient capacity at the existing WWTP for an additional 13,000 people, excluding wet weather treatment. This assumes that the distribution and characteristics of waste sources between residential, commercial, and industrial remains consistent with historical experience. The master plan indicates peak wet weather loading of the existing WWTP is at or near 81 MGD and exceeds the design capacity of 65 MGD.

Wet Weather Solutions

The Wastewater Master Plan recommends two actions to reduce peak wet weather flows to a level within the capacity of the existing facilities and to meet future wet weather treatment and conveyance needs. These are:

- 1) Construct the Wakarusa WWTP, influent pump station, and wet weather storage.
- 2) Reduce inflow and infiltration both from public and private system sources into the collection system by 35%. This program would focus on the area that drains to the existing WWTP by gravity. The First step would be to perform a detailed Sanitary Sewer Evaluation (SSES) to identify the public and private sources of I/I in the collection system, refine the program scope, and prioritize site-specific work to correct deficiencies.

The objective of these improvements is to:

- 1) Reduce the current 81 million gallons per day (MGD) peak flow to the existing WWTP to 59 MGD.
- 2) Alleviate surcharging in the collection system near 31st St. and Louisiana and downstream of Pump Station 5A/5B by diverting flows to the Wakarusa WWTP.
- 3) Avoid having to add interceptor capacity between Pump Station 5A/5B and the WWTP.
- 4) Justify to EPA the continued use of Actiflo to manage wet weather flows⁴

⁴ Since 2008, EPA has objected to the reissuance of the City's NPDES permit based on their interpretation that treated wet weather discharges from Actiflo are illegal sanitary sewer overflows (SSOs). . EPA contends the Clean Water Act requires reducing wet weather flows so that Actiflo is not needed (unless no feasible alternative exists). The City has taken the position these are not SSOs and our programs to manage inflow and infiltration, combined with wet weather treatment are best management practices. Due to EPA's objections, the City is operating on an administrative extension of the expired permit. The current Master Plan assumes that the EPA will allow the City to use Actiflo to manage 40 MGD of wet weather flows. At this time, there are no clear answers or direction as to how the EPA is planning to resolve wet weather permit objections.

Without the diversion of wet weather flows provided by the Wakarusa WWTP in the area of 31st and Louisiana, additional projects, such as expansion of pump station 5A/5B, the interceptors along Burroughs Creek Trail, and additional wet weather treatment at the existing WWTP would be required to manage current wet weather flows and serve growth within the Wakarusa watershed. KDHE does review all design plans for sewer extensions ensuring minimum design standards are met. This includes making sure there is sufficient downstream capacity to collect and transport the sewage. If there is insufficient collection system capacity, KDHE may withhold approval until sufficient capacity is available by adding relief sewers or achieving better control of peak flows.

Effectiveness of Water Conservation on Wastewater Load

Water conservation and reductions of wet weather flows will not significantly reduce overall organic, nutrient, and solids loadings. Therefore, those measures do not help defer the timing of additional treatment capacity. In addition, since the collection system is designed to handle volumes of flow under wet weather conditions, the reduced volumes resulting from water conservation do not appreciably reduce the scope or timing of collection system projects.

Planning for Economic Development

The latest master plan assumes a proportional growth in industrial loads based on existing community demographics. It does not plan for a large industry that would generate large amounts of organic or nutrient loads⁵. Currently industries use about 11% of the available organic wastewater treatment capacity. Assessing the impact of additional industrial expansion requires knowing the detailed characterizations of the wastewater discharges. Even within like industries, owner specific choices of processes and pretreatment options can change the wastewater load and treatment requirements. Servicing a large wastewater generating industry would require a wastewater treatment process specifically designed to handle that industry's wastewater.

Wakarusa Project Status and Prior Project Development

The Wakarusa siting is based on the lowest costs and preferred option presented in the 2004 Master plan and confirmed in the subsequent siting study. The site has been acquired and significant assessment work has been done to ensure the site is suitable. It is annexed and zoned appropriately for the use. The National Pollution Discharge Elimination Permit (NPDES) has been issued by KDHE and approved by the EPA and is current (unlike the existing WWTP's)⁴.

This site was selected based on cost and non-cost factors using detailed evaluations and public input. It has significant long-term advantages in having the ability to be expanded and can serve a very large area via gravity that encompasses a significant portion of Douglas County.

⁵ The City of Lawrence industrial organic load (Biochemical Oxygen Demand (BOD)) averages 1,675 lbs/day and industries contribute about 18 million gallons of wastewater per year or less than 0.4% of the hydraulic capacity. As a comparison, the City of St Joseph, MO, has an average industrial organic load of 41,700 lbs BOD/day and treats approximately 1.2 billion gallons per year from industries that include corn processing (ethanol), meat processing, and meatpacking. With the construction of the Wakarusa WWTP, as called for in the master plan, the combined organic treatment capacity of the existing Kansas WWTP and the Wakarusa WWTP would be 18,800 lbs BOD/day. Accommodating loads similar to those of St Joseph's, or even a single large industrial user would require significant expansion of wastewater treatment processes beyond those considered in the master plan.

Evaluation of expanding the existing WWTP showed it had a higher cost based on a present worth analysis. Further expansion of the existing WWTP is problematic due to wastewater conveyance limitations through the Burroughs Creek, Haskell Indian Nations University, and Baker Wetlands. Also with any increase in capacity, a revised permit would require enhanced treatment to remove additional nutrients. While we expect KDHE to impose this regulatory requirement in several permit cycles, expansion would trigger this requirement sooner and for a larger overall flow initially. Installation of Biological Nutrient Removal at the existing plant will require significant re-pumping and thus energy costs as compared to a new facility designed with these processes in mind.

Project Timing

Based on the current capacity utilization, projected growth, and the objectives of the community to support economic development, the recommendation is to proceed with design and construction of the Wakarusa WWTP for a targeted completion by 2017. Staff recommends completion of the Wakarusa WWTP by 2018 or earlier because:

- By their nature, there is uncertainty in growth and population projections.
- It takes at least 5 years to design and construct additional treatment capacity using conventional Design-Bid-Build processes.
- The existing WWTP facility is overloaded under wet weather conditions.
- The existing pump station 5A/5B on the Haskell campus is overloaded under wet weather conditions.
- Additional treatment capacity is needed in order to attract economic development opportunities.
- Additional treatment capacity is needed to serve community growth.
- Continued growth combined without capacity expansion may result in permit violations and potential regulatory interventions to address permit violations, sanitary sewer overflows, and inflow and infiltration control or a moratorium on sewer extensions by KDHE.

Efficiency and Operational Cost Controls Staff Report – City of Lawrence Department of Utilities November 14, 2012

The Utilities Department strives continually to increase efficiency and reliability. The Department uses savings to repair and replace critical and aging infrastructure and absorb increases for services and resources used in the production of water and treatment of wastewater. As a result, the Department is able to curtail requested budget increases for the last several years despite increases for personnel costs, general fund transfers, energy, and commodities. Utilities staff continue to look for efficiencies in the day-to-day operations and maintenance of the facilities and activities. Some of these efficiencies include:

Chemical Usage

The chemical cost per unit of water treated has decreased over the past three years in both water and wastewater treatment. This decrease has been the result of optimizing the chemical dosing through the use of plant automation and laboratory testing, use of the GCMS analyzer results for faster chemical adjustment, and increasing the staff's knowledge of processes through advanced training.

The graph below shows a reduction in chemical costs per million gallons at all three treatment facilities over the last three years of \$36 to \$50 per million gallons treated. This generates an annual savings of \$350,000.



Energy Usage

All of the department water and wastewater facilities have a base energy demand plus a demand that is influenced by the volume and rate of production. Energy demand increases as both the volume and rate of treatment increase. In general, the energy used on a per volume basis will decrease as volume treated increases.

The graph below indicates the water plants are treating an additional 33 gallons of water for every kWh used in 2011 compared with two year ago. This represents a 7.5% increase in energy utilization. Annual electrical bills for both water treatment facilities are around \$700,000 annually. A 7.5% savings represents a savings of about \$52,000 annually. Some of that savings results from increases in production and some due to energy efficiency efforts.



Energy Efficiency Measures

Some of the steps taken to improve energy efficiency and control related environmental impacts include:

- Expanding the use of low distortion variable frequency drives to regulate pump speeds. The ability to adjust the pump's speed to less than 100 percent saves energy when lower water and wastewater flows occur. This also provides a unity power factor that reduces energy costs and reduces wear and tear on internal electrical distribution equipment.
- Continued specification of high efficiency electric motors.

- Replacement of the current T-12 interior lighting fixtures as they fail with T-5 fixtures and replacement of exterior door and basin lights with LED fixtures for improved and more energy efficient lighting⁶.
- Addition of biogas storage with the recent anaerobic digester expansion. The biogas is used in place of natural gas to operate the sludge heaters that were replaced with larger units as part of the expansion and to provide building heat.
- Digester complex modification to provide space for a future micro turbine to generate electricity on-site using biogas.
- Modification of field crews hours to four 10-hour days per week decreasing fuel usage by approximately 20%.
- Use of an electric car, gator, and industrial tricycle at the wastewater treatment plant in place of full size vehicles to save on fuel usage.

Internal Water Conservation

The Utilities Department uses water for operational needs on a routine base. By decreasing the use of potable water within the department, it decreases the need to treat more water and decreases expenses. Examples of ways that the department has decreased the use of water internally include:

- Circulation water to cool pumps at the wastewater treatment plant uses treated plant effluent (TPE) instead of potable water.
- Irrigation of the front lawn and landscaping at the wastewater treatment plant uses TPE instead of potable water.
- An increase in filter run time at the Clinton Water Treatment Plant may result in a savings of 177 million gallons of potable water or \$350,000 per year.
- The wastewater treatment plant is working with the Parks & Recreation Department to provide TPE for watering of trees, medians, and landscaping on park and city owned areas that receive minimal public exposure.
- The department needs to flush hydrants periodically, especially on lines that receive low flows. Parks & Recreation has been given a schedule for hydrant flushing so they can use the water typically wasted to fill their trucks for irrigation, watering of trees, and landscaping.

⁶ The utility department's facilities have over 1,500 light fixtures with in excess of 3,500 bulbs. New basin LED lighting puts out 3 times the light at a fraction of the energy usage. A significant benefit is these bulbs have an estimated 50 year life that reduces the resources need to change out bulbs and helps ensure they remain lit. Increased and more light output in industrial settings creates a safer work environment reducing risk of injury.

Personnel and Staff Time

The Utilities Department has decreased staffing by five FTE's in the last three years and continues to look for ways to use staff time more efficiently. Despite the decrease in staff, the department was able to take on additional workload, such as hydrant flow testing, answering customer service calls after hours, additional internal data analysis and usage, education of food service providers on FOG, and additional laboratory analysis.

Expansion and rehabilitation of department infrastructure also increased the responsibility and work for utilities employees. This includes the expansions of the Clinton Water Treatment Plant, anaerobic digester facility at the wastewater treatment plant, two lift stations, the Stoneridge Water Tank, and extension of water and sewer lines. Some of the changes implemented by the department, which have resulted in improved use of time include:

• Collections system preventive maintenance programs, including the 4-year section cleaning, chemical root control, TV inspection of the sewer lines, and monthly/3-month/6-month cleaning of specific trouble areas. These programs have decreased the number of service calls, specifically related to city main blockage, which not only decrease the likelihood of a compliance issue due to a sanitary sewer overflow, but also decrease the staff time necessary to attend to these service calls. Staff can then be redirected to other tasks and projects. The graph below shows there has been a significant reduction in the number of sanitary sewer service calls over the past 18 years.



- Replacement of the TV truck has resulted in faster and more comprehensive review and analysis of sewer lines for more accurate and effective identification of sewer line failures.
- Altering field crew shifts to four 10-hour days per week has decreased the site set up and tear down time by allowing the crews to stay on the job for the additional 2 hours each workday.
- Implementation and use of automation and control systems to redirect employee time away from manual operation and monitoring of the various facilities and structures, including plant, lift stations, and water towers to tasks that are more technical in nature.
- Overall, preventive, and predictive maintenance of equipment has resulted in increased reliability of the system, as well as decreased time and money spent on unplanned repairs.
- Overall, improved cause analysis of equipment and infrastructure failures has resulted in a decrease in repeat failures.
- Cross training between water and wastewater operations staff, water and wastewater maintenance staff, and collections and distributions staff has increased the flexibility of the work units to provide adequate resources to the areas needed.
- Enhanced staff training and certification incentive programs has advanced the overall knowledge of the department to work smarter and faster using fewer resources to get the job done.
- More effective use of operational data has resulted in better operational decisions.
- Implementing comprehensive inventory best management practices department wide as well as delivery of supplies to the job site has decreased the amount of time spent in gathering supplies and equipment for job completion as well as improved the accounting for inventory parts and costs.

The outlined modifications to Utilities Department activities have resulted in significant progress in making the water and wastewater treatment processes more efficient. The Department continues to look for additional ways to become more effective and efficient at providing a great quality product and service to our customers. Appendix I – Detailed Capital Improvement Plans

2013 CIP Scenario 1 - Recommended 10/19/2012

Water CIP

Line										
No.	Description	2012		2013	2014	2015	2016	2017	Total	2018
		\$		\$	\$	\$	\$	\$	\$	\$
1				4 770 500					4 770 500	
1	Kaw WIP Supply Improvements (a) (c)			4,770,500	0 704 600				4,770,500	
2	Oread Storage & BPS Replacement (c)			1,248,000	2,704,600				3,952,600	
3	19th & Kasold Pump Station (b) (c)				411,000				411,000	
4	Harper Booster Pump Station (b) (c)			624,000					624,000	
5	Tower Protective Coatings (c)			1,040,000			1,684,600	876,000	3,600,600	
6	Kaw 36" WM to North Lawrence (One 30" river crossings) - Phase 1	(a) (c)		7,836,400				0	7,836,400	0
7	Concrete Main Assessment (c)				648,960			0	648,960	0
8	Pipeline Replacement Program (c)		0	2,338,600	2,432,100	2,529,400	2,630,600	2,735,800	12,666,500	2,845,200
9	Water Main Relocation for Road Projects (a)			1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
10	Small Water Main Replacement Program (c)		0	968,500	1,007,200	1,047,500	1,089,400	1,133,000	5,245,600	1,178,300
11	Kaw Structural, Electrical, Process (b) (c)			723,800	811,200		166,700		1,701,700	
12	Clinton Intake (a) (c)		0	0	1,297,900	517,400			1,815,300	
13	Clinton Process (b) (c)				108,200		187,200		295,400	
14	Clinton Basin Coatings (c)							1,374,800	1,374,800	
15	Plant Maintenance (c)			150,000	156,000	600,000	624,000	649,000	2,179,000	675,000
16	31st St extend 12" to O'Connell (a)			685,400					685,400	
17	31st St. & O'Connell - Extend 16" to WWTP (includes River crossing) (a)		1,852,700					1,852,700	
	X U								0	
18	Bowersock Dam Improvements (c)			425,000					425,000	
19	Clinton Backup Generator (15MGD) (a) (c)					849,300			849,300	
21	Total		0	24,647,900	10,077,160	6,063,600	6,923,300	7,331,000	55,042,960	5,283,400

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

(c) Project required to improve system reliability or transmission capacity.

Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
	Collection System	_							
1	PS 32 Expansion & Force Main (a)		832,000					832,000	
2	21" Gravity Sewer to Eliminate PS 8 (c)						425,800	425,800	4,002,800
3	KR-5B 12" Relief Sewer (c)		0				973,300	973,300	
	KR-6B 21" Relief Sewer (c)	0	0					0	885,700
4	PS 23 Expansion (a) (c)	0	208,000	0				208,000	
5	Rapid I/I Reduction Program (b) (c)		1,872,000	2,720,200	2,829,000	2,942,200	3,059,900	13,423,300	3,182,300
6	Sewer Rehabilitation, Replacement, CIPP & MHs		416,000	432,600	449,900	467,900	486,700	2,253,100	1,265,300
8	Subtotal	0	3,328,000	3,152,800	3,278,900	3,410,100	4,945,700	18,115,500	9,336,100
	Treatment System								
	Kansas River WWTP								
9	Co-generation & Backup Power		600,000	481,600				1,081,600	
	Wakarusa River WWTP	0							
10	Wakarusa River WWTP Treatment Plant (a) (b)		3,784,000	6,489,600	10,686,200	11,698,600	2,920,000	35,578,400	
11	Wakarusa Peak Flow Storage (a) (b)		499,200		2,249,700	3,509,600	632,700	6,891,200	
12	Roads & Utilities (a) (b)		499,200	2,995,200	3,125,000			6,619,400	
13	Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)		924,600	5,408,000	5,624,300	2,118,600		14,075,500	
15	Subtotal	0	6,307,000	15,374,400	21,685,200	17,326,800	3,552,700	64,246,100	0
	Other								
								0	
16	General Pumping Station Improvements (c)		100,000	104,000	108,200	112,500	117,000	541,700	121,700
17	General WWTP Improvements (c)		300,000	312,000	324,500	337,500	351,000	1,625,000	365,000
18	Sanitary Sewer Relocations (a)		1,000,000	312,000	500,000	337,500	351,000	2,500,500	365,000
20	Subtotal	0	1,400,000	728,000	932,700	787,500	819,000	4,667,200	851,700
22	Total	0	11,035,000	19,255,200	25,896,800	21,524,400	9,317,400	87,028,800	10,187,800

(a) Project required to meet anticipated growth related requirements.(b) Project required by EPA and KDHE regulations.

(c) Project required to improve system reliability or transmission capacity.

Wastewater CIP

2013 CIP Scenario 2 - Reduced Water 10/22/2012

Water CIP

Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
1	Kaw WTP Supply Improvements (a) (c)							0	
	Oread Storage & BPS Replacement (c)							0	
	19th & Kasold Pump Station (b) (c)							0	
	Harper Booster Pump Station (b) (c)		0					0	
	Tower Protective Coatings (c)							0	1,822,063
	Kaw 36" WM to North Lawrence (One 30" river crossings) - Ph	ase 1 (a) (c)						0	0
	Concrete Main Assessment (c)						0	0	0
2	Pipeline Replacement Program (c)	0	2,338,600	520,000	540,800	562,432	584,929	4,546,761	608,326
3	Water Main Relocation for Road Projects (a)		1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
	Small Water Main Replacement Program (c)	0						0	
	Kaw Structural, Electrical, Process (b) (c)							0	
	Clinton Intake (a) (c)	0	0					0	
	Clinton Process (b) (c)							0	
	Clinton Basin Coatings (c)							0	
4	Plant Maintenance (c)		400,000	156,000	600,000	624,000	649,000	2,429,000	675,000
5	31st St extend 12" to O'Connell (a)		685,400					685,400	
6	31st St. & O'Connell - Extend 16" to WWTP (includes River cro	ossing) (a)	1,852,700					1,852,700	
								0	
7	Bowersock Dam Improvements (c)		425,000					425,000	
	Clinton Backup Generator (15MGD) (a) (c)							0	
9	Total	0	7,686,700	1,176,000	1,660,800	1,727,232	1,796,329	14,047,061	3,690,289

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

т.

(c) Project required to improve system reliability or transmission capacity.

Wastewater CIP

Lin	e			-					
No	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
	Collection System								
1	PS 32 Expansion & Force Main (a)		832,000					832,000	
2	21" Gravity Sewer to Eliminate PS 8 (c)						425,800	425,800	4,002,800
3	KR-5B 12" Relief Sewer (c)		0				973,300	973,300	
	KR-6B 21" Relief Sewer (c)	0	0					0	885,700
4	PS 23 Expansion (a) (c)	0	208,000	0				208,000	
5	Rapid I/I Reduction Program (b) (c)		1,872,000	2,720,200	2,829,000	2,942,200	3,059,900	13,423,300	3,182,300
6	Sewer Rehabilitation, Replacement, CIPP & MHs		416,000	432,600	449,900	467,900	486,700	2,253,100	1,265,300
8	Subtotal	0	3,328,000	3,152,800	3,278,900	3,410,100	4,945,700	18,115,500	9,336,100
	Treatment System								
	Kansas River WWTP								
9	Co-generation & Backup Power		600,000	481,600				1,081,600	
	Wakarusa River WWTP	0		c 100 c00					
10	Wakarusa River WWTP Treatment Plant (a) (b)		3,784,000	6,489,600	10,686,200	11,698,600	2,920,000	35,578,400	
11	Wakarusa Peak Flow Storage (a) (b)		499,200		2,249,700	3,509,600	632,700	6,891,200	
12	Roads & Utilities (a) (b)		499,200	2,995,200	3,125,000			6,619,400	
13	Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)		924,600	5,408,000	5,624,300	2,118,600		14,075,500	
15	Subtotal	0	6,307,000	15,374,400	21,685,200	17,326,800	3,552,700	64,246,100	0
	Other							0	
16	Canaral Duraning Station Improvements (a)		100.000	104.000	108 200	112 500	117.000	0 541 700	121 700
10	Concerct WW/TD Improvements (c)		100,000	104,000	108,200	112,500	251,000	541,700	121,700
1/	General w w IP Improvements (c)		300,000	312,000	524,500	337,500	351,000	1,025,000	365,000
18	Santary Sewer Relocations (a)		1,000,000				351,000	2,500,500	
20	Subtotal	0	1,400,000	728,000	932,700	787,500	819,000	4,667,200	851,700
	Total	0	11,035,000	19,255,200	25,896,800	21,524,400	9,317,400	87,028,800	10,187,800

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

2013 CIP Scenario 3 - Deferred Maintenance/Reliability 10/22/2012

Water CIP

Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
1	Kon WTD Sumply Immersion onto (a) (a)		4 770 500					4 770 500	
2	Cread Storage & PDS Bankagement (a)		4,770,300	2 704 600				4,770,300	
2	10th & Kasald Dump Station (b) (a)		1,248,000	2,704,000				5,952,000	
3	19th & Kasold Pump Station (b) (c) (c)		0	411,000	(74.010			411,000	
4	Harper Booster Pump Station (b) (c)		0		674,918			674,918	
5	Tower Protective Coatings (c)				1,124,864			1,124,864	1,822,063
6	Kaw 36" WM to North Lawrence (One 30" river crossings) - Ph	ase 1 (a) (c)					9,167,500	9,167,500	0
7	Concrete Main Assessment (c)			648,960			0	648,960	0
8	Pipeline Replacement Program (c)	0	1,830,200	1,903,400	1,979,500	2,058,700	2,141,100	9,912,900	2,226,700
9	Water Main Relocation for Road Projects (a)		1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
10	Small Water Main Replacement Program (c)	0	596,000	619,800	644,600	670,400	725,100	3,255,900	754,100
11	Kaw Structural, Electrical, Process (b) (c)		723,800	811,200		166,700		1,701,700	
12	Clinton Intake (a) (c)	0	0	1,297,900	517,400			1,815,300	
13	Clinton Process (b) (c)			108,200		187,200		295,400	
14	Clinton Basin Coatings (c)						1,374,800	1,374,800	
15	Plant Maintenance (c)		400,000	156,000	600,000	624,000	649,000	2,429,000	675,000
16	31st St extend 12" to O'Connell (a)		685,400					685,400	
17	31st St. & O'Connell - Extend 16" to WWTP (includes River cro	ossing) (a)	1,852,700					1,852,700	
	· · · · · · · · · · · · · · · · · · ·	8/ (4/	,,					0	
18	Bowersock Dam Improvements (c)		425,000					425,000	
19	Clinton Backup Generator (15MGD) (a) (c)		,				918.603	918.603	
21		0	14 516 600	0 161 060	6 061 282	4 247 800	15 529 502	10 525 245	(0(2 7(2
21	Total	0	14,516,600	9,101,060	0,001,282	4,247,800	15,558,503	49,525,245	0,002,763

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

(c) Project required to improve system reliability or transmission capacity.

Wastewater CIP

Line	2								
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
	Collection System								
1	PS 32 Expansion & Force Main (a)		832,000					832,000	
2	21" Gravity Sewer to Eliminate PS 8 (c)						425,800	425,800	4,002,800
3	KR-5B 12" Relief Sewer (c)		0				973,300	973,300	
	KR-6B 21" Relief Sewer (c)	0	0					0	885,700
4	PS 23 Expansion (a) (c)	0	208,000	0				208,000	
5	Rapid I/I Reduction Program (b) (c)		1,872,000	1,590,000	1,653,600	1,719,700	1,788,500	8,623,800	1,860,000
6	Sewer Rehabilitation, Replacement, CIPP & MHs		416,000	432,600	449,900	467,900	486,700	2,253,100	1,265,300
8	Subtotal	0	3,328,000	2,022,600	2,103,500	2,187,600	3,674,300	13,316,000	8,013,800
	Treatment System								
	Kansas River WWTP								
9	Co-generation & Backup Power				648,960	520,899		1,169,859	
	Wakarusa River WWTP	0							
10	Wakarusa River WWTP Treatment Plant (a) (b)		3,784,000	6,489,600	10,686,200	11,698,600	2,920,000	35,578,400	
11	Wakarusa Peak Flow Storage (a) (b)		499,200		2,249,700	3,509,600	632,700	6,891,200	
12	Roads & Utilities (a) (b)		499,200	2,995,200	3,125,000			6,619,400	
13	Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)		924,600	5,408,000	5,624,300	2,118,600		14,075,500	
15	Subtotal	0	5,707,000	14,892,800	22,334,160	17,847,699	3,552,700	64,334,359	0
	Other								
								0	
16	General Pumping Station Improvements (c)		100,000	104,000	108,200	112,500	117,000	541,700	121,700
17	General WWTP Improvements (c)		300,000	312,000	324,500	337,500	351,000	1,625,000	365,000
18	Sanitary Sewer Relocations (a)		1,000,000	312,000	500,000	337,500	351,000	2,500,500	365,000
20	Subtotal	0	1,400,000	728,000	932,700	787,500	819,000	4,667,200	851,700
22	Total	0	10,435,000	17,643,400	25,370,360	20,822,799	8,046,000	82,317,559	8,865,500

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

2013 CIP Scenario 4 - Deferred Maintenance/Reliability & Wakarusa WWTP (Low Growth) 10/22/2012

			Water CIF)					
Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
1	Kaw WTP Supply Improvements (a) (c)		4,770,500					4,770,500	
2	Oread Storage & BPS Replacement (c)		1,248,000	2,704,600				3,952,600	
3	19th & Kasold Pump Station (b) (c)			411,000				411,000	
4	Harper Booster Pump Station (b) (c)		0		674,918			674,918	
5	Tower Protective Coatings (c)				1,124,864			1,124,864	1,822,063
6	Kaw 36" WM to North Lawrence (One 30" river crossings) - Ph	ase 1 (a) (c)					9,167,500	9,167,500	0
7	Concrete Main Assessment (c)			648,960			0	648,960	0
8	Pipeline Replacement Program (c)	0	1,830,200	1,903,400	1,979,500	2,058,700	2,141,100	9,912,900	2,226,700
9	Water Main Relocation for Road Projects (a)		1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
10	Small Water Main Replacement Program (c)	0	596,000	619,800	644,600	670,400	725,100	3,255,900	754,100
11	Kaw Structural, Electrical, Process (b) (c)		723,800	811,200		166,700		1,701,700	
12	Clinton Intake (a) (c)	0	0	1,297,900	517,400			1,815,300	
13	Clinton Process (b) (c)			108,200		187,200		295,400	
14	Clinton Basin Coatings (c)						1,374,800	1,374,800	
15	Plant Maintenance (c)		400,000	156,000	600,000	624,000	649,000	2,429,000	675,000
16	31st St extend 12" to O'Connell (a)		685,400					685,400	
17	31st St. & O'Connell - Extend 16" to WWTP (includes River cro	ossing) (a)	1,852,700					1,852,700	
								0	
18	Bowersock Dam Improvements (c)		425,000					425,000	
19	Clinton Backup Generator (15MGD) (a) (c)						918,603	918,603	
21	Total	0	14,516,600	9,161,060	6,061,282	4,247,800	15,538,503	49,525,245	6,062,763

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

(c) Project required to improve system reliability or transmission capacity.

Wastewater CIP

Line	2								
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
	Collection System								
1	PS 32 Expansion & Force Main (a)		832,000					832,000	
2	21" Gravity Sewer to Eliminate PS 8 (c)						425,800	425,800	4,002,800
3	KR-5B 12" Relief Sewer (c)		0				973,300	973,300	
	KR-6B 21" Relief Sewer (c)	0	0					0	885,700
4	PS 23 Expansion (a) (c)	0	208,000	0				208,000	
5	Rapid I/I Reduction Program (b) (c)		1,872,000	1,590,000	1,653,600	1,719,700	1,788,500	8,623,800	1,860,000
6	Sewer Rehabilitaiton, Replacement, CIPP & MHs		416,000	432,600	449,900	467,900	486,700	2,253,100	1,265,300
8	Subtotal	0	3,328,000	2,022,600	2,103,500	2,187,600	3,674,300	13,316,000	8,013,800
	Treatment System								
	Kansas River WWTP								
9	Co-generation & Backup Power				648,960	520,899		1,169,859	
	Wakarusa River WWTP	0							
10	Wakarusa River WWTP Treatment Plant (a) (b)						4,155,000	4,155,000	7,591,900
11	Wakarusa Peak Flow Storage (a) (b)						584,000	584,000	
12	Roads & Utilities (a) (b)						584,000	584,000	3,796,000
13	Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)						1,081,600	1,081,600	6,326,600
15	Subtotal	0	0	0	648,960	520,899	6,404,600	7,574,459	17,714,500
	Other								
								0	
16	General Pumping Station Improvements (c)		100,000	104,000	108,200	112,500	117,000	541,700	121,700
17	General WWTP Improvements (c)		300,000	312,000	324,500	337,500	351,000	1,625,000	365,000
18	Sanitary Sewer Relocations (a)		1,000,000	312,000	500,000	337,500	351,000	2,500,500	365,000
20	Subtotal	0	1,400,000	728,000	932,700	787,500	819,000	4,667,200	851,700
22	Total	0	4,728,000	2,750,600	3,685,160	3,495,999	10,897,900	25,557,659	26,580,000

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

2013 CIP Scenario 5 - Taste, Odor, & Microtoxins 10/22/2012

Water CIP

Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
1	Kaw WTP Supply Improvements (a) (c)		4,770,500					4,770,500	
2	Oread Storage & BPS Replacement (c)		1,248,000	2,704,600				3,952,600	
3	19th & Kasold Pump Station (b) (c)			411,000				411,000	
4	Harper Booster Pump Station (b) (c)		624,000					624,000	
5	Tower Protective Coatings (c)		1,040,000			1,684,600	876,000	3,600,600	
6	Kaw 36" WM to North Lawrence (One 30" river crossings) - Ph	ase 1 (a) (c)	7,836,400				0	7,836,400	0
7	Concrete Main Assessment (c)			648,960			0	648,960	0
8	Pipeline Replacement Program (c)	0	2,338,600	2,432,100	2,529,400	2,630,600	2,735,800	12,666,500	2,845,200
9	Water Main Relocation for Road Projects (a)		1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
10	Small Water Main Replacement Program (c)	0	968,500	1,007,200	1,047,500	1,089,400	1,133,000	5,245,600	1,178,300
11	Kaw Structural, Electrical, Process (b) (c)		723,800	811,200		166,700		1,701,700	
12	Clinton Intake (a) (c)	0	0	1,297,900	517,400			1,815,300	
13	Clinton Process (b) (c)			108,200		187,200		295,400	
14	Clinton Basin Coatings (c)						1,374,800	1,374,800	
15	Plant Maintenance (c)		150,000	156,000	600,000	624,000	649,000	2,179,000	675,000
16	31st St extend 12" to O'Connell (a)		685,400					685,400	
17	31st St. & O'Connell - Extend 16" to WWTP (includes River cro	ossing) (a)	1,852,700					1,852,700	
18	Taste & Odor and Microtoxins at Clinton & Kaw WTPs		1,440,000	17,900,000				19,340,000	
19	Bowersock Dam Improvements (c)		425,000					425,000	
20	Clinton Backup Generator (15MGD) (a) (c)				849,300			849,300	
22	Total	0	26,087,900	27,977,160	6,063,600	6,923,300	7,331,000	74,382,960	5,283,400

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

(c) Project required to improve system reliability or transmission capacity.

Wastewater CIP

Lin	e								
No	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
	Collection System								
1	PS 32 Expansion & Force Main (a)		832,000					832,000	
2	21" Gravity Sewer to Eliminate PS 8 (c)						425,800	425,800	4,002,800
3	KR-5B 12" Relief Sewer (c)		0				973,300	973,300	
	KR-6B 21" Relief Sewer (c)	0	0					0	885,700
4	PS 23 Expansion (a) (c)	0	208,000	0				208,000	
5	Rapid I/I Reduction Program (b) (c)		1,872,000	2,720,200	2,829,000	2,942,200	3,059,900	13,423,300	3,182,300
6	Sewer Rehabilitation, Replacement, CIPP & MHs		416,000	432,600	449,900	467,900	486,700	2,253,100	1,265,300
8	Subtotal	0	3,328,000	3,152,800	3,278,900	3,410,100	4,945,700	18,115,500	9,336,100
	Treatment System								
	Kansas River WWTP								
9	Co-generation & Backup Power		600,000	481,600				1,081,600	
	Wakarusa River WWTP	0							
10	Wakarusa River WWTP Treatment Plant (a) (b)		3,784,000	6,489,600	10,686,200	11,698,600	2,920,000	35,578,400	
11	Wakarusa Peak Flow Storage (a) (b)		499,200		2,249,700	3,509,600	632,700	6,891,200	
12	Roads & Utilities (a) (b)		499,200	2,995,200	3,125,000			6,619,400	
13	Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)		924,600	5,408,000	5,624,300	2,118,600		14,075,500	
15	Subtotal	0	6,307,000	15,374,400	21,685,200	17,326,800	3,552,700	64,246,100	0
	Other								
								0	
16	General Pumping Station Improvements (c)		100,000	104,000	108,200	112,500	117,000	541,700	121,700
17	General WWTP Improvements (c)		300,000	312,000	324,500	337,500	351,000	1,625,000	365,000
18	Sanitary Sewer Relocations (a)		1,000,000	312,000	500,000	337,500	351,000	2,500,500	365,000
20	Subtotal	0	1,400,000	728,000	932,700	787,500	819,000	4,667,200	851,700
22	Total	0	11,035,000	19,255,200	25,896,800	21,524,400	9,317,400	87,028,800	10,187,800

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

2013 CIP Scenario 6 - Delay Wakarusa WWTP & Accelerate Rapid I/I 10/23/2012

			Water CI	P					
Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
1	Kaw WTP Supply Improvements (a) (c)		4,770,500					4,770,500	
2	Oread Storage & BPS Replacement (c)		1,248,000	2,704,600				3,952,600	
3	19th & Kasold Pump Station (b) (c)			411,000				411,000	
4	Harper Booster Pump Station (b) (c)		624,000					624,000	
5	Tower Protective Coatings (c)		1,040,000			1,684,600	876,000	3,600,600	
6	Kaw 36" WM to North Lawrence (One 30" river crossings) - Pha	se 1 (a) (c)	7,836,400				0	7,836,400	0
7	Concrete Main Assessment (c)			648,960			0	648,960	0
8	Pipeline Replacement Program (c)	0	2,338,600	2,432,100	2,529,400	2,630,600	2,735,800	12,666,500	2,845,200
9	Water Main Relocation for Road Projects (a)		1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
10	Small Water Main Replacement Program (c)	0	968,500	1,007,200	1,047,500	1,089,400	1,133,000	5,245,600	1,178,300
11	Kaw Structural, Electrical, Process (b) (c)		723,800	811,200		166,700		1,701,700	
12	Clinton Intake (a) (c)	0	0	1,297,900	517,400			1,815,300	
13	Clinton Process (b) (c)			108,200		187,200		295,400	
14	Clinton Basin Coatings (c)						1,374,800	1,374,800	
15	Plant Maintenance (c)		150,000	156,000	600,000	624,000	649,000	2,179,000	675,000
16	31st St extend 12" to O'Connell (a)		685,400					685,400	
17	31st St. & O'Connell - Extend 16" to WWTP (includes River cross	ssing) (a)	1,852,700					1,852,700	
								0	
18	Bowersock Dam Improvements (c)		425,000					425,000	
19	Clinton Backup Generator (15MGD) (a) (c)				849,300			849,300	
21	Total	0	24,647,900	10,077,160	6,063,600	6,923,300	7,331,000	55,042,960	5,283,400

(a) Project required to meet anticipated growth related requirements.(b) Project required by EPA and KDHE regulations.(c) Project required to improve system reliability or transmission capacity.

			Wastewater (CIP					
Line									
No.	Description	2012	2013	2014	2015	2016	2017	Total	2018
		\$	\$	\$	\$	\$	\$	\$	\$
	Collection System								
1	PS 32 Expansion & Force Main (a)		832,000					832,000	
2	21" Gravity Sewer to Eliminate PS 8 (c)						425,800	425,800	4,002,800
3	KR-5B 12" Relief Sewer (c)		0				973,300	973,300	
	KR-6B 21" Relief Sewer (c)	0	0					0	885,700
4	PS 23 Expansion (a) (c)	0	208,000	0				208,000	
5	Rapid I/I Reduction Program (b) (c)		1,872,000	4,759,000	4,949,400	5,147,400	5,353,300	22,081,100	
6	Sewer Rehabilitation, Replacement, CIPP & MHs		416,000	432,600	449,900	467,900	486,700	2,253,100	1,265,300
8	Subtotal	0	3,328,000	5,191,600	5,399,300	5,615,300	7,239,100	26,773,300	6,153,800
	Treatment System								
	Kansas River WWTP								
9	Co-generation & Backup Power		600,000	481,600				1,081,600	
	Wakarusa River WWTP	0							
10	Wakarusa River WWTP Treatment Plant (a) (b)					4,056,700	7,299,900	11,356,600	12,020,500
11	Wakarusa Peak Flow Storage (a) (b)					561,500		561,500	2,530,600
12	Roads & Utilities (a) (b) $P_{1} = P_{2} = P_{1} = P_{2}$					561,500	3,650,000	4,211,500	3,796,000
13	Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)					1,040,000	6,083,300	7,123,300	6,326,600
15	Subtotal	0	600,000	481,600	0	6,219,700	17,033,200	24,334,500	24,673,700
	04								
	Other							0	
16	Comment Durania a Station Immenuente (a)		100,000	104.000	108 200	112 500	117.000	0 541 700	121 700
10	General WWTP Improvements (c)		300,000	104,000	108,200	337 500	351,000	1 625 000	365,000
18	Sanitary Sewer Relocations (a)		1 000 000	312,000	500,000	337,500	351,000	2 500 500	365,000
10	Sumary Sewer Relocations (a)		1,000,000	512,000	500,000	557,500	551,000	2,550,500	505,000
19			1 400 000						
20	Subtotal	0	1,400,000	728,000	932,700	787,500	819,000	4,667,200	851,700
22	Total	0	5,328,000	6,401,200	6,332,000	12,622,500	25,091,300	55,775,000	31,679,200

(a) Project required to meet anticipated growth related requirements.

(b) Project required by EPA and KDHE regulations.

2013 CIP Scenario 7 - Roadway Relocations Only - No Wakarusa WWTP 10/22/2012

			N	ater CIP						
Lin	e									
No	. Description	2012		2013	2014	2015	2016	2017	Total	2018
		\$		\$	\$	\$	\$	\$	\$	\$
I	Kaw WTP Supply Improvements (a) (c)								0	
	Oread Storage & BPS Replacement (c)								0	
	19th & Kasold Pump Station (b) (c)								0	
	Harper Booster Pump Station (b) (c)			0					0	
	Tower Protective Coatings (c)								0	
	Kaw 36" WM to North Lawrence (One 30" river crossings) - Phase 1	(a) (c)							0	0
	Concrete Main Assessment (c)							0	0	0
	Pipeline Replacement Program (c)	(0						0	
2	Water Main Relocation for Road Projects (a)			1,985,000	500,000	520,000	540,800	562,400	4,108,200	584,900
	Small Water Main Replacement Program (c)	(0						0	
	Kaw Structural, Electrical, Process (b) (c)								0	
	Clinton Intake (a) (c)	(0	0					0	
	Clinton Process (b) (c)								0	
	Clinton Basin Coatings (c)								0	
	Plant Maintenance (c)								0	
	31st St extend 12" to O'Connell (a)								0	
	31st St. & O'Connell - Extend 16" to WWTP (includes River crossing)	(a)							0	
									0	
3	Bowersock Dam Improvements (c)			425,000					425,000	
	Clinton Backup Generator (15MGD) (a) (c)			,					0	
5	Total	(0	2 410 000	500.000	520,000	540 800	562 400	4 533 200	584 900
5	1000	(0	2,410,000	500,000	520,000	540,000	502,400	+,555,200	504,500

(a) Project required to meet anticipated growth related requirements.(b) Project required by EPA and KDHE regulations.

(c) Project required to improve system reliability or transmission capacity.

	Wa	stewater CIF						
Line								
No. Description	2012	2013	2014	2015	2016	2017	Total	2018
	\$	\$	\$	\$	\$	\$	\$	\$
Collection System								
 PS 32 Expansion & Force Main (a) 21" Gravity Sewer to Eliminate PS 8 (c) KR-5B 12" Relief Sewer (c) KR-6B 21" Relief Sewer (c) PS 23 Expansion (a) (c) 	0	0 0	0				0 0 0 0	
Rapid I/I Reduction Program (b) (c) Sewer Rehabilitation, Replacement, CIPP & MHs	v						0	
Subtotal	0	0	0	0	0	0	0	0
Treatment System Kansas River WWTP Co-generation & Backup Power	_						0	
Wakarusa River WWTP Wakarusa River WWTP Treatment Plant (a) (b) Wakarusa Peak Flow Storage (a) (b) Roads & Utilities (a) (b) Wakarusa PS 5C, 2 - 16" Force Mains (a) (b)	0						0 0 0 0	
Subtotal Other	0	0	0	0	0	0	0	0
General Pumping Station Improvements (c) General WWTP Improvements (c)							0 0 0	
4 Sanitary Sewer Relocations (a)		1,000,000	312,000	500,000	337,500	351,000	2,500,500	365,000
6 Subtotal	0	1,000,000	312,000		337,500	351,000	2,500,500	
Total (a) Project required to meet anticipated growth related requirements.	0	1,000,000	312,000	500,000	337,500	351,000	2,500,500	365,000

(a)

(a) Project required to meet anticipated growth related requirements.(b) Project required by EPA and KDHE regulations.(c) Project required to improve system reliability or transmission capacity.

Appendix II – Rate Tables for CIP Scenarios

Scenario 1 – Recommended

		Und	der Existing a	nd Proposed	2013 Rates - 9	Scenario 1			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%
5/8	1	6.93	14.31	21.24	7.31	15.33	22.64	1.40	6.6%
5/8	2	10.71	19.33	30.04	11.47	20.44	31.91	1.87	6.2%
5/8	4	18.27	29.37	47.64	19.79	30.66	50.45	2.81	5.9%
5/8	6	25.83	39.41	65.24	28.11	40.88	68.99	3.75	5.7%
5/8	10	40.95	59.49	100.44	44.75	61.32	106.07	5.63	5.6%
5/8	15	59.85	84.59	144.44	65.55	86.87	152.42	7.98	5.5%
5/8	20	78.75	109.69	188.44	86.35	112.42	198.77	10.33	5.5%
Multifamily									
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%
5/8	1	6.44	14.31	20.75	6.41	15.33	21.74	0.99	4.8%
5/8	2	9.73	19.33	29.06	9.67	20.44	30.11	1.05	3.6%
5/8	4	16.31	29.37	45.68	16.19	30.66	46.85	1.17	2.6%
5/8	6	22.89	39.41	62.30	22.71	40.88	63.59	1.29	2.1%
5/8	10	36.05	59.49	95.54	35.75	61.32	97.07	1.53	1.6%
5/8	15	52.50	84.59	137.09	52.05	86.87	138.92	1.83	1.3%
5/8	20	68.95	109.69	178.64	68.35	112.42	180.77	2.13	1.2%
Commercial									
2	50	153.80	260.29	414.09	170.00	265.72	435.72	21.63	5.2%
2	100	301.80	511.29	813.09	334.50	521.22	855.72	42.63	5.2%
3	200	609.00	1,013.29	1,622.29	673.50	1,032.22	1,705.72	83.43	5.1%
3	300	905.00	1,515.29	2,420.29	1,002.50	1,543.22	2,545.72	125.43	5.2%
4	500	1,501.00	2,519.29	4,020.29	1,664.50	2,565.22	4,229.72	209.43	5.2%
4	1000	2,981.00	5,029.29	8,010.29	3,309.50	5,120.22	8,429.72	419.43	5.2%
Industrial									
3	200	591.00	1,013.29	1,604.29	589.50	1,032.22	1,621.72	17.43	1.1%
3	300	878.00	1,515.29	2,393.29	876.50	1,543.22	2,419.72	26.43	1.1%
4	2500	7,196.00	12,559.29	19,755.29	7,194.50	12,785.22	19,979.72	224.43	1.1%
6	5000	14,381.00	25,109.29	39,490.29	14,378.00	25,560.22	39,938.22	447.93	1.1%

The charges shown are for customers inside the City Limits.

Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 1													
	Monthly		Existing			Proposed		Total	Percent				
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase				
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$					
Residential													
5/8	0	3.15	10.22	13.37	3.15	10.35	13.50	0.13	1.0%				
5/8	1	7.31	15.33	22.64	7.56	15.51	23.07	0.43	1.9%				
5/8	2	11.47	20.44	31.91	11.97	20.67	32.64	0.73	2.3%				
5/8	4	19.79	30.66	50.45	20.79	30.99	51.78	1.33	2.6%				
5/8	6	28.11	40.88	68.99	29.61	41.31	70.92	1.93	2.8%				
5/8	10	44.75	61.32	106.07	47.25	61.95	109.20	3.13	3.0%				
5/8	15	65.55	86.87	152.42	69.30	87.75	157.05	4.63	3.0%				
5/8	20	86.35	112.42	198.77	91.35	113.55	204.90	6.13	3.1%				
Multifamily													
5/8	0	3.15	10.22	13.37	3.15	10.35	13.50	0.13	1.0%				
5/8	1	6.41	15.33	21.74	6.49	15.51	22.00	0.26	1.2%				
5/8	2	9.67	20.44	30.11	9.83	20.67	30.50	0.39	1.3%				
5/8	4	16.19	30.66	46.85	16.51	30.99	47.50	0.65	1.4%				
5/8	6	22.71	40.88	63.59	23.19	41.31	64.50	0.91	1.4%				
5/8	10	35.75	61.32	97.07	36.55	61.95	98.50	1.43	1.5%				
5/8	15	52.05	86.87	138.92	53.25	87.75	141.00	2.08	1.5%				
5/8	20	68.35	112.42	180.77	69.95	113.55	183.50	2.73	1.5%				
Commercial													
2	50	170.00	265.72	435.72	181.60	268.35	449.95	14.23	3.3%				
2	100	334.50	521.22	855.72	357.60	526.35	883.95	28.23	3.3%				
3	200	673.50	1,032.22	1,705.72	720.00	1,042.35	1,762.35	56.63	3.3%				
3	300	1,002.50	1,543.22	2,545.72	1,072.00	1,558.35	2,630.35	84.63	3.3%				
4	500	1,664.50	2,565.22	4,229.72	1,780.00	2,590.35	4,370.35	140.63	3.3%				
4	1000	3,309.50	5,120.22	8,429.72	3,540.00	5,170.35	8,710.35	280.63	3.3%				
									•				
Industrial													
3	200	589.50	1,032.22	1,621.72	610.00	1,042.35	1,652.35	30.63	1.9%				
3	300	876.50	1,543.22	2,419.72	907.00	1,558.35	2,465.35	45.63	1.9%				
4	2500	7,194.50	12,785.22	19,979.72	7,445.00	12,910.35	20,355.35	375.63	1.9%				
6	5000	14,378.00	25,560.22	39,938.22	14,879.00	25,810.35	40,689.35	751.13	1.9%				

The charges shown are for customers inside the City Limits.

		Under	Proposed 201	4 and Propo	osed 2015 Rate	s - Scenario 1			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	10.35	13.50	3.30	10.88	14.18	0.68	5.0%
5/8	1	7.56	15.51	23.07	7.97	16.37	24.34	1.27	5.5%
5/8	2	11.97	20.67	32.64	12.64	21.86	34.50	1.86	5.7%
5/8	4	20.79	30.99	51.78	21.98	32.84	54.82	3.04	5.9%
5/8	6	29.61	41.31	70.92	31.32	43.82	75.14	4.22	6.0%
5/8	10	47.25	61.95	109.20	50.00	65.78	115.78	6.58	6.0%
5/8	15	69.30	87.75	157.05	73.35	93.23	166.58	9.53	6.1%
5/8	20	91.35	113.55	204.90	96.70	120.68	217.38	12.48	6.1%
Multifamilv									
, 5/8	0	3.15	10.35	13.50	3.30	10.88	14.18	0.68	5.0%
5/8	1	6.49	15.51	22.00	6.79	16.37	23.16	1.16	5.3%
5/8	2	9.83	20.67	30.50	10.28	21.86	32.14	1.64	5.4%
5/8	4	16.51	30.99	47.50	17.26	32.84	50.10	2.60	5.5%
5/8	6	23.19	41.31	64.50	24.24	43.82	68.06	3.56	5.5%
5/8	10	36.55	61.95	98.50	38.20	65.78	103.98	5.48	5.6%
5/8	15	53.25	87.75	141.00	55.65	93.23	148.88	7.88	5.6%
5/8	20	69.95	113.55	183.50	73.10	120.68	193.78	10.28	5.6%
Commercial	[
2	50	181.60	268.35	449.95	192.80	285.38	478.18	28.23	6.3%
2	100	357.60	526.35	883.95	379.80	559.88	939.68	55.73	6.3%
3	200	720.00	1,042.35	1,762.35	765.00	1,108.88	1,873.88	111.53	6.3%
3	300	1,072.00	1,558.35	2,630.35	1,139.00	1,657.88	2,796.88	166.53	6.3%
4	500	1,780.00	2,590.35	4,370.35	1,891.00	2,755.88	4,646.88	276.53	6.3%
4	1000	3,540.00	5,170.35	8,710.35	3,761.00	5,500.88	9,261.88	551.53	6.3%
Industrial	I								
3	200	610.00	1.042.35	1.652.35	649.00	1,108 88	1.757.88	105.53	6.4%
3	300	907.00	1,558.35	2,465,35	965.00	1,657.88	2.622.88	157.53	6.4%
4	2500	7,445,00	12,910,35	20.355.35	7,921.00	13,735,88	21.656.88	1.301.53	6.4%
6	5000	14,879.00	25,810.35	40,689.35	15,830.00	27,460.88	43,290.88	2,601.53	6.4%

The charges shown are for customers inside the City Limits.

		Under	Proposed 201	15 and Propo	osed 2016 Rate	s - Scenario 1			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.30	10.88	14.18	3.40	11.29	14.69	0.51	3.6%
5/8	1	7.97	16.37	24.34	8.35	17.08	25.43	1.09	4.5%
5/8	2	12.64	21.86	34.50	13.30	22.87	36.17	1.67	4.8%
5/8	4	21.98	32.84	54.82	23.20	34.45	57.65	2.83	5.2%
5/8	6	31.32	43.82	75.14	33.10	46.03	79.13	3.99	5.3%
5/8	10	50.00	65.78	115.78	52.90	69.19	122.09	6.31	5.4%
5/8	15	73.35	93.23	166.58	77.65	98.14	175.79	9.21	5.5%
5/8	20	96.70	120.68	217.38	102.40	127.09	229.49	12.11	5.6%
Multifamily									
5/8	0	3.30	10.88	14 18	3 40	11 29	14 69	0.51	3.6%
5/8	1	6 79	16.37	23.16	7 12	17.08	24.20	1.04	4.5%
5/8	2	10.28	21.86	32.14	10.84	22.87	33.71	1.57	4.9%
5/8	4	17.26	32.84	50.10	18.28	34.45	52.73	2.63	5.2%
5/8	6	24.24	43.82	68.06	25.72	46.03	71.75	3.69	5.4%
5/8	10	38.20	65.78	103.98	40.60	69.19	109.79	5.81	5.6%
5/8	15	55.65	93.23	148.88	59.20	98.14	157.34	8.46	5.7%
5/8	20	73.10	120.68	193.78	77.80	127.09	204.89	11.11	5.7%
Commercial									
2	50	192.80	285.38	478.18	204.50	300.79	505.29	27.11	5.7%
2	100	379.80	559.88	939.68	403.00	590.29	993.29	53.61	5.7%
3	200	765.00	1,108.88	1,873.88	811.50	1,169.29	1,980.79	106.91	5.7%
3	300	1,139.00	1,657.88	2,796.88	1,208.50	1,748.29	2,956.79	159.91	5.7%
4	500	1,891.00	2,755.88	4,646.88	2,006.50	2,906.29	4,912.79	265.91	5.7%
4	1000	3,761.00	5,500.88	9,261.88	3,991.50	5,801.29	9,792.79	530.91	5.7%
Industrial									
3	200	649.00	1,108.88	1,757.88	691.50	1,169.29	1,860.79	102.91	5.9%
3	300	965.00	1,657.88	2,622.88	1.028.50	1,748.29	2,776.79	153.91	5.9%
4	2500	7,921.00	13,735.88	21,656.88	8,446.50	14,486.29	22,932.79	1,275.91	5.9%
6	5000	15,830.00	27,460.88	43,290.88	16,881.00	28,961.29	45,842.29	2,551.41	5.9%

The charges shown are for customers inside the City Limits.

		Under	Proposed 201	16 and Propo	osed 2017 Rate	s - Scenario 1			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.40	11.29	14.69	3.50	11.88	15.38	0.69	4.7%
5/8	1	8.35	17.08	25.43	8.83	18.03	26.86	1.43	5.6%
5/8	2	13.30	22.87	36.17	14.16	24.18	38.34	2.17	6.0%
5/8	4	23.20	34.45	57.65	24.82	36.48	61.30	3.65	6.3%
5/8	6	33.10	46.03	79.13	35.48	48.78	84.26	5.13	6.5%
5/8	10	52.90	69.19	122.09	56.80	73.38	130.18	8.09	6.6%
5/8	15	77.65	98.14	175.79	83.45	104.13	187.58	11.79	6.7%
5/8	20	102.40	127.09	229.49	110.10	134.88	244.98	15.49	6.7%
									•
Multifamily									
5/8	0	3.40	11.29	14.69	3.50	11.88	15.38	0.69	4.7%
5/8	1	7.12	17.08	24.20	7.50	18.03	25.53	1.33	5.5%
5/8	2	10.84	22.87	33.71	11.50	24.18	35.68	1.97	5.8%
5/8	4	18.28	34.45	52.73	19.50	36.48	55.98	3.25	6.2%
5/8	6	25.72	46.03	71.75	27.50	48.78	76.28	4.53	6.3%
5/8	10	40.60	69.19	109.79	43.50	73.38	116.88	7.09	6.5%
5/8	15	59.20	98.14	157.34	63.50	104.13	167.63	10.29	6.5%
5/8	20	77.80	127.09	204.89	83.50	134.88	218.38	13.49	6.6%
_									1
Commercial									
2	50	204.50	300.79	505.29	220.70	319.38	540.08	34.79	6.9%
2	100	403.00	590.29	993.29	435.20	626.88	1,062.08	68.79	6.9%
3	200	811.50	1,169.29	1,980.79	876.00	1,241.88	2,117.88	137.09	6.9%
3	300	1,208.50	1,748.29	2,956.79	1,305.00	1,856.88	3,161.88	205.09	6.9%
4	500	2,006.50	2,906.29	4,912.79	2,167.50	3,086.88	5,254.38	341.59	7.0%
4	1000	3,991.50	5,801.29	9,792.79	4,312.50	6,161.88	10,474.38	681.59	7.0%
La de la Cal									
Industrial	000	001 50	1 100 00	1 000 70	744.00	1 0 4 1 0 0	1 005 00	105.00	0.70/
3	200	691.50	1,169.29	1,860.79	/44.00	1,241.88	1,985.88	125.09	6.7%
3	300	1,028.50	1,748.29	2,776.79	1,107.00	1,856.88	2,963.88	187.09	6.7%
4	2500	8,446.50	14,486.29	22,932.79	9,097.50	15,386.88	24,484.38	1,551.59	6.8%
6	5000	16,881.00	28,961.29	45,842.29	18,182.00	30,761.88	48,943.88	3,101.59	6.8%

The charges shown are for customers inside the City Limits.

Scenario 2 – Reduced Water
Comparison of Typical Monthly Bills Under Existing and Proposed 2013 Rates - Scenario 2											
	Manthle		Eviatia a	-		Duanaaad		Tatal	Deveent		
Motor Sizo	Monthly	Wotor	Existing	Combined	Wator	Proposed	Combined	l otal	Percent		
Inchos	Usage	water	wastewater	¢	valer	wastewater	¢	Increase ¢	Increase		
Besidential	1,000 gai.	φ	φ	φ	φ	φ	φ	φ			
5/8	0	3 15	0.20	12 //	3 15	10.22	13 37	0.93	7 5%		
5/8	1	6.93	14 31	21 24	7 31	15.22	22.64	1 40	6.6%		
5/8	2	10.30	19.33	30.04	11 47	20.44	31 91	1.40	6.2%		
5/8	4	18.27	29.37	47 64	19.79	30.66	50.45	2.81	5.9%		
5/8	6	25.83	39.41	65.24	28.11	40.88	68.99	3 75	5.0%		
5/8	10	40.95	59.49	100.44	44.75	61.32	106.07	5.63	5.6%		
5/8	15	59.85	84.59	144.44	65.55	86.87	152.42	7.98	5.5%		
5/8	20	78.75	109.69	188.44	86.35	112.42	198.77	10.33	5.5%		
	-										
Multifamily											
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%		
5/8	1	6.44	14.31	20.75	6.41	15.33	21.74	0.99	4.8%		
5/8	2	9.73	19.33	29.06	9.67	20.44	30.11	1.05	3.6%		
5/8	4	16.31	29.37	45.68	16.19	30.66	46.85	1.17	2.6%		
5/8	6	22.89	39.41	62.30	22.71	40.88	63.59	1.29	2.1%		
5/8	10	36.05	59.49	95.54	35.75	61.32	97.07	1.53	1.6%		
5/8	15	52.50	84.59	137.09	52.05	86.87	138.92	1.83	1.3%		
5/8	20	68.95	109.69	178.64	68.35	112.42	180.77	2.13	1.2%		
Commercial											
2	50	153.80	260.29	414.09	170.00	265.72	435.72	21.63	5.2%		
2	100	301.80	511.29	813.09	334.50	521.22	855.72	42.63	5.2%		
3	200	609.00	1,013.29	1,622.29	673.50	1,032.22	1,705.72	83.43	5.1%		
3	300	905.00	1,515.29	2,420.29	1,002.50	1,543.22	2,545.72	125.43	5.2%		
4	500	1,501.00	2,519.29	4,020.29	1,664.50	2,565.22	4,229.72	209.43	5.2%		
4	1000	2,981.00	5,029.29	8,010.29	3,309.50	5,120.22	8,429.72	419.43	5.2%		
Industrial											
3	200	591.00	1,013.29	1,604.29	589.50	1,032.22	1,621.72	17.43	1.1%		
3	300	878.00	1,515.29	2,393.29	876.50	1,543.22	2,419.72	26.43	1.1%		
4	2500	7,196.00	12,559.29	19,755.29	7,194.50	12,785.22	19,979.72	224.43	1.1%		
6	5000	14,381.00	25,109.29	39,490.29	14,378.00	25,560.22	39,938.22	447.93	1.1%		

Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 2											
	Monthly		Existing			Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.15	10.22	13.37	3.15	10.35	13.50	0.13	1.0%		
5/8	1	7.31	15.33	22.64	7.45	15.51	22.96	0.32	1.4%		
5/8	2	11.47	20.44	31.91	11.75	20.67	32.42	0.51	1.6%		
5/8	4	19.79	30.66	50.45	20.35	30.99	51.34	0.89	1.8%		
5/8	6	28.11	40.88	68.99	28.95	41.31	70.26	1.27	1.8%		
5/8	10	44.75	61.32	106.07	46.15	61.95	108.10	2.03	1.9%		
5/8	15	65.55	86.87	152.42	67.65	87.75	155.40	2.98	2.0%		
5/8	20	86.35	112.42	198.77	89.15	113.55	202.70	3.93	2.0%		
Multifamily											
5/8	0	3.15	10.22	13.37	3.15	10.35	13.50	0.13	1.0%		
5/8	1	6.41	15.33	21.74	6.43	15.51	21.94	0.20	0.9%		
5/8	2	9.67	20.44	30.11	9.71	20.67	30.38	0.27	0.9%		
5/8	4	16.19	30.66	46.85	16.27	30.99	47.26	0.41	0.9%		
5/8	6	22.71	40.88	63.59	22.83	41.31	64.14	0.55	0.9%		
5/8	10	35.75	61.32	97.07	35.95	61.95	97.90	0.83	0.9%		
5/8	15	52.05	86.87	138.92	52.35	87.75	140.10	1.18	0.8%		
5/8	20	68.35	112.42	180.77	68.75	113.55	182.30	1.53	0.8%		
Commercial											
2	50	170.00	265.72	435.72	177.60	268.35	445.95	10.23	2.3%		
2	100	334.50	521.22	855.72	349.60	526.35	875.95	20.23	2.4%		
3	200	673.50	1,032.22	1,705.72	704.00	1,042.35	1,746.35	40.63	2.4%		
3	300	1,002.50	1,543.22	2,545.72	1,048.00	1,558.35	2,606.35	60.63	2.4%		
4	500	1,664.50	2,565.22	4,229.72	1,740.00	2,590.35	4,330.35	100.63	2.4%		
4	1000	3,309.50	5,120.22	8,429.72	3,460.00	5,170.35	8,630.35	200.63	2.4%		
Industrial											
3	200	589.50	1,032.22	1,621.72	596.00	1,042.35	1,638.35	16.63	1.0%		
3	300	876.50	1,543.22	2,419.72	886.00	1,558.35	2,444.35	24.63	1.0%		
4	2500	7,194.50	12,785.22	19,979.72	7,270.00	12,910.35	20,180.35	200.63	1.0%		
6	5000	14,378.00	25,560.22	39,938.22	14,529.00	25,810.35	40,339.35	401.13	1.0%		

		Under	Proposed 201	14 and Propo	osed 2015 Rate	s - Scenario 2			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	10.35	13.50	3.25	10.88	14.13	0.63	4.7%
5/8	1	7.45	15.51	22.96	7.67	16.37	24.04	1.08	4.7%
5/8	2	11.75	20.67	32.42	12.09	21.86	33.95	1.53	4.7%
5/8	4	20.35	30.99	51.34	20.93	32.84	53.77	2.43	4.7%
5/8	6	28.95	41.31	70.26	29.77	43.82	73.59	3.33	4.7%
5/8	10	46.15	61.95	108.10	47.45	65.78	113.23	5.13	4.7%
5/8	15	67.65	87.75	155.40	69.55	93.23	162.78	7.38	4.7%
5/8	20	89.15	113.55	202.70	91.65	120.68	212.33	9.63	4.8%
Multifamily									
5/8	0	3.15	10.35	13.50	3.25	10.88	14.13	0.63	4.7%
5/8	1	6.43	15.51	21.94	6.59	16.37	22.96	1.02	4.6%
5/8	2	9.71	20.67	30.38	9.93	21.86	31.79	1.41	4.6%
5/8	4	16.27	30.99	47.26	16.61	32.84	49.45	2.19	4.6%
5/8	6	22.83	41.31	64.14	23.29	43.82	67.11	2.97	4.6%
5/8	10	35.95	61.95	97.90	36.65	65.78	102.43	4.53	4.6%
5/8	15	52.35	87.75	140.10	53.35	93.23	146.58	6.48	4.6%
5/8	20	68.75	113.55	182.30	70.05	120.68	190.73	8.43	4.6%
Commercial									
2	50	177.60	268.35	445.95	182.80	285.38	468.18	22.23	5.0%
2	100	349.60	526.35	875.95	359.80	559.88	919.68	43.73	5.0%
3	200	704.00	1,042.35	1,746.35	724.50	1,108.88	1,833.38	87.03	5.0%
3	300	1,048.00	1,558.35	2,606.35	1,078.50	1,657.88	2,736.38	130.03	5.0%
4	500	1,740.00	2,590.35	4,330.35	1,790.50	2,755.88	4,546.38	216.03	5.0%
4	1000	3,460.00	5,170.35	8,630.35	3,560.50	5,500.88	9,061.38	431.03	5.0%
Industrial									
3	200	596.00	1,042.35	1,638.35	612.50	1,108.88	1,721.38	83.03	5.1%
3	300	886.00	1,558.35	2,444.35	910.50	1,657.88	2,568.38	124.03	5.1%
4	2500	7,270.00	12,910.35	20,180.35	7,470.50	13,735.88	21,206.38	1,026.03	5.1%
6	5000	14,529.00	25,810.35	40,339.35	14,930.00	27,460.88	42,390.88	2,051.53	5.1%

The charges shown are for customers inside the City Limits.

Comparison of Typical Monthly Bills Under Proposed 2015 and Proposed 2016 Bates - Scenario 2											
									-		
	Monthly		Existing			Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.25	10.88	14.13	3.35	11.29	14.64	0.51	3.6%		
5/8	1	7.67	16.37	24.04	7.90	17.08	24.98	0.94	3.9%		
5/8	2	12.09	21.86	33.95	12.45	22.87	35.32	1.37	4.0%		
5/8	4	20.93	32.84	53.77	21.55	34.45	56.00	2.23	4.1%		
5/8	6	29.77	43.82	73.59	30.65	46.03	76.68	3.09	4.2%		
5/8	10	47.45	65.78	113.23	48.85	69.19	118.04	4.81	4.2%		
5/8	15	69.55	93.23	162.78	71.60	98.14	169.74	6.96	4.3%		
5/8	20	91.65	120.68	212.33	94.35	127.09	221.44	9.11	4.3%		
Multifamily											
5/8	0	3.25	10.88	14.13	3.35	11.29	14.64	0.51	3.6%		
5/8	1	6.59	16.37	22.96	6.77	17.08	23.85	0.89	3.9%		
5/8	2	9.93	21.86	31.79	10.19	22.87	33.06	1.27	4.0%		
5/8	4	16.61	32.84	49.45	17.03	34.45	51.48	2.03	4.1%		
5/8	6	23.29	43.82	67.11	23.87	46.03	69.90	2.79	4.2%		
5/8	10	36.65	65.78	102.43	37.55	69.19	106.74	4.31	4.2%		
5/8	15	53.35	93.23	146.58	54.65	98.14	152.79	6.21	4.2%		
5/8	20	70.05	120.68	190.73	71.75	127.09	198.84	8.11	4.3%		
Commercial											
2	50	182.80	285.38	468.18	188.40	300.79	489.19	21.01	4.5%		
2	100	359.80	559.88	919.68	370.90	590.29	961.19	41.51	4.5%		
3	200	724.50	1.108.88	1.833.38	747.00	1.169.29	1.916.29	82.91	4.5%		
3	300	1.078.50	1.657.88	2,736,38	1.112.00	1,748.29	2.860.29	123.91	4.5%		
4	500	1,790,50	2.755.88	4,546,38	1.846.00	2,906.29	4,752,29	205.91	4.5%		
4	1000	3,560,50	5,500,88	9,061.38	3,671.00	5.801.29	9,472.29	410.91	4.5%		
		0,000.00	0,000.00	0,001100	0,011100	0,001.20	0,112120				
Industrial											
3	200	612.50	1,108.88	1,721.38	633.00	1,169.29	1,802.29	80.91	4.7%		
3	300	910.50	1,657.88	2,568.38	941.00	1,748.29	2,689.29	120.91	4.7%		
4	2500	7,470.50	13,735.88	21,206.38	7,721.00	14,486.29	22,207.29	1,000.91	4.7%		
6	5000	14,930.00	27,460.88	42,390.88	15,431.00	28,961.29	44,392.29	2,001.41	4.7%		

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		Under	Proposed 201	16 and Propo	osed 2017 Rate	s - Scenario 2			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.35	11.29	14.64	3.45	11.88	15.33	0.69	4.7%
5/8	1	7.90	17.08	24.98	8.13	18.03	26.16	1.18	4.7%
5/8	2	12.45	22.87	35.32	12.81	24.18	36.99	1.67	4.7%
5/8	4	21.55	34.45	56.00	22.17	36.48	58.65	2.65	4.7%
5/8	6	30.65	46.03	76.68	31.53	48.78	80.31	3.63	4.7%
5/8	10	48.85	69.19	118.04	50.25	73.38	123.63	5.59	4.7%
5/8	15	71.60	98.14	169.74	73.65	104.13	177.78	8.04	4.7%
5/8	20	94.35	127.09	221.44	97.05	134.88	231.93	10.49	4.7%
Multifamily									
5/8	0	3.35	11.29	14.64	3.45	11.88	15.33	0.69	4.7%
5/8	1	6.77	17.08	23.85	6.97	18.03	25.00	1.15	4.8%
5/8	2	10.19	22.87	33.06	10.49	24.18	34.67	1.61	4.9%
5/8	4	17.03	34.45	51.48	17.53	36.48	54.01	2.53	4.9%
5/8	6	23.87	46.03	69.90	24.57	48.78	73.35	3.45	4.9%
5/8	10	37.55	69.19	106.74	38.65	73.38	112.03	5.29	5.0%
5/8	15	54.65	98.14	152.79	56.25	104.13	160.38	7.59	5.0%
5/8	20	71.75	127.09	198.84	73.85	134.88	208.73	9.89	5.0%
Commercial									
2	50	188.40	300.79	489.19	194.10	319.38	513.48	24.29	5.0%
2	100	370.90	590.29	961.19	382.10	626.88	1,008.98	47.79	5.0%
3	200	747.00	1,169.29	1,916.29	769.50	1,241.88	2,011.38	95.09	5.0%
3	300	1,112.00	1,748.29	2,860.29	1,145.50	1,856.88	3,002.38	142.09	5.0%
4	500	1,846.00	2,906.29	4,752.29	1,901.50	3,086.88	4,988.38	236.09	5.0%
4	1000	3,671.00	5,801.29	9,472.29	3,781.50	6,161.88	9,943.38	471.09	5.0%
Industrial									
3	200	633.00	1,169.29	1,802.29	653.50	1,241.88	1,895.38	93.09	5.2%
3	300	941.00	1,748.29	2,689.29	971.50	1,856.88	2,828.38	139.09	5.2%
4	2500	7,721.00	14,486.29	22,207.29	7,971.50	15,386.88	23,358.38	1,151.09	5.2%
6	5000	15,431.00	28,961.29	44,392.29	15,931.00	30,761.88	46,692.88	2,300.59	5.2%

The charges shown are for customers inside the City Limits.

Scenario 3 – Deferred Maintenance/Reliability

		Und	ler Existing a	nd Proposed	2013 Rates - S	Scenario 3			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%
5/8	1	6.93	14.31	21.24	7.31	15.33	22.64	1.40	6.6%
5/8	2	10.71	19.33	30.04	11.47	20.44	31.91	1.87	6.2%
5/8	4	18.27	29.37	47.64	19.79	30.66	50.45	2.81	5.9%
5/8	6	25.83	39.41	65.24	28.11	40.88	68.99	3.75	5.7%
5/8	10	40.95	59.49	100.44	44.75	61.32	106.07	5.63	5.6%
5/8	15	59.85	84.59	144.44	65.55	86.87	152.42	7.98	5.5%
5/8	20	78.75	109.69	188.44	86.35	112.42	198.77	10.33	5.5%
Multifamily									
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%
5/8	1	6.44	14.31	20.75	6.41	15.33	21.74	0.99	4.8%
5/8	2	9.73	19.33	29.06	9.67	20.44	30.11	1.05	3.6%
5/8	4	16.31	29.37	45.68	16.19	30.66	46.85	1.17	2.6%
5/8	6	22.89	39.41	62.30	22.71	40.88	63.59	1.29	2.1%
5/8	10	36.05	59.49	95.54	35.75	61.32	97.07	1.53	1.6%
5/8	15	52.50	84.59	137.09	52.05	86.87	138.92	1.83	1.3%
5/8	20	68.95	109.69	178.64	68.35	112.42	180.77	2.13	1.2%
Commercial									
2	50	153.80	260.29	414.09	170.00	265.72	435.72	21.63	5.2%
2	100	301.80	511.29	813.09	334.50	521.22	855.72	42.63	5.2%
3	200	609.00	1,013.29	1,622.29	673.50	1,032.22	1,705.72	83.43	5.1%
3	300	905.00	1,515.29	2,420.29	1,002.50	1,543.22	2,545.72	125.43	5.2%
4	500	1,501.00	2,519.29	4,020.29	1,664.50	2,565.22	4,229.72	209.43	5.2%
4	1000	2,981.00	5,029.29	8,010.29	3,309.50	5,120.22	8,429.72	419.43	5.2%
Industrial									
3	200	591.00	1,013.29	1,604.29	589.50	1,032.22	1,621.72	17.43	1.1%
3	300	878.00	1,515.29	2,393.29	876.50	1,543.22	2,419.72	26.43	1.1%
4	2500	7,196.00	12,559.29	19,755.29	7,194.50	12,785.22	19,979.72	224.43	1.1%
6	5000	14,381.00	25,109.29	39,490.29	14,378.00	25,560.22	39,938.22	447.93	1.1%

	Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 3											
	Monthly		Existing			Proposed		Total	Percent			
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase			
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$				
Residential												
5/8	0	3.15	10.22	13.37	3.15	10.35	13.50	0.13	1.0%			
5/8	1	7.31	15.33	22.64	7.45	15.51	22.96	0.32	1.4%			
5/8	2	11.47	20.44	31.91	11.75	20.67	32.42	0.51	1.6%			
5/8	4	19.79	30.66	50.45	20.35	30.99	51.34	0.89	1.8%			
5/8	6	28.11	40.88	68.99	28.95	41.31	70.26	1.27	1.8%			
5/8	10	44.75	61.32	106.07	46.15	61.95	108.10	2.03	1.9%			
5/8	15	65.55	86.87	152.42	67.65	87.75	155.40	2.98	2.0%			
5/8	20	86.35	112.42	198.77	89.15	113.55	202.70	3.93	2.0%			
Multifamily												
5/8	0	3.15	10.22	13.37	3.15	10.35	13.50	0.13	1.0%			
5/8	1	6.41	15.33	21.74	6.45	15.51	21.96	0.22	1.0%			
5/8	2	9.67	20.44	30.11	9.75	20.67	30.42	0.31	1.0%			
5/8	4	16.19	30.66	46.85	16.35	30.99	47.34	0.49	1.0%			
5/8	6	22.71	40.88	63.59	22.95	41.31	64.26	0.67	1.1%			
5/8	10	35.75	61.32	97.07	36.15	61.95	98.10	1.03	1.1%			
5/8	15	52.05	86.87	138.92	52.65	87.75	140.40	1.48	1.1%			
5/8	20	68.35	112.42	180.77	69.15	113.55	182.70	1.93	1.1%			
Commercial												
2	50	170.00	265.72	435.72	177.60	268.35	445.95	10.23	2.3%			
2	100	334.50	521.22	855.72	349.60	526.35	875.95	20.23	2.4%			
3	200	673.50	1,032.22	1,705.72	704.00	1,042.35	1,746.35	40.63	2.4%			
3	300	1,002.50	1,543.22	2,545.72	1,048.00	1,558.35	2,606.35	60.63	2.4%			
4	500	1,664.50	2,565.22	4,229.72	1,740.00	2,590.35	4,330.35	100.63	2.4%			
4	1000	3,309.50	5,120.22	8,429.72	3,460.00	5,170.35	8,630.35	200.63	2.4%			
Industrial												
3	200	589.50	1,032.22	1,621.72	596.00	1,042.35	1,638.35	16.63	1.0%			
3	300	876.50	1,543.22	2,419.72	886.00	1,558.35	2,444.35	24.63	1.0%			
4	2500	7,194.50	12,785.22	19,979.72	7,270.00	12,910.35	20,180.35	200.63	1.0%			
6	5000	14,378.00	25,560.22	39,938.22	14,529.00	25,810.35	40,339.35	401.13	1.0%			

		Under	Proposed 201	4 and Propo	osed 2015 Rate	s - Scenario 3			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	10.35	13.50	3.25	10.89	14.14	0.64	4.7%
5/8	1	7.45	15.51	22.96	7.75	16.38	24.13	1.17	5.1%
5/8	2	11.75	20.67	32.42	12.25	21.87	34.12	1.70	5.2%
5/8	4	20.35	30.99	51.34	21.25	32.85	54.10	2.76	5.4%
5/8	6	28.95	41.31	70.26	30.25	43.83	74.08	3.82	5.4%
5/8	10	46.15	61.95	108.10	48.25	65.79	114.04	5.94	5.5%
5/8	15	67.65	87.75	155.40	70.75	93.24	163.99	8.59	5.5%
5/8	20	89.15	113.55	202.70	93.25	120.69	213.94	11.24	5.5%
Multifamily									
5/8	0	3.15	10.35	13.50	3.25	10.89	14.14	0.64	4.7%
5/8	1	6.45	15.51	21.96	6.62	16.38	23.00	1.04	4.7%
5/8	2	9.75	20.67	30.42	9.99	21.87	31.86	1.44	4.7%
5/8	4	16.35	30.99	47.34	16.73	32.85	49.58	2.24	4.7%
5/8	6	22.95	41.31	64.26	23.47	43.83	67.30	3.04	4.7%
5/8	10	36.15	61.95	98.10	36.95	65.79	102.74	4.64	4.7%
5/8	15	52.65	87.75	140.40	53.80	93.24	147.04	6.64	4.7%
5/8	20	69.15	113.55	182.70	70.65	120.69	191.34	8.64	4.7%
Commercial									
2	50	177.60	268.35	445.95	184.80	285.39	470.19	24.24	5.4%
2	100	349.60	526.35	875.95	363.80	559.89	923.69	47.74	5.5%
3	200	704.00	1,042.35	1,746.35	732.50	1,108.89	1,841.39	95.04	5.4%
3	300	1,048.00	1,558.35	2,606.35	1,090.50	1,657.89	2,748.39	142.04	5.4%
4	500	1,740.00	2,590.35	4,330.35	1,810.50	2,755.89	4,566.39	236.04	5.5%
4	1000	3,460.00	5,170.35	8,630.35	3,600.50	5,500.89	9,101.39	471.04	5.5%
Industrial									
3	200	596.00	1,042.35	1,638.35	622.50	1,108.89	1,731.39	93.04	5.7%
3	300	886.00	1,558.35	2,444.35	925.50	1,657.89	2,583.39	139.04	5.7%
4	2500	7,270.00	12,910.35	20,180.35	7,595.50	13,735.89	21,331.39	1,151.04	5.7%
6	5000	14,529.00	25,810.35	40,339.35	15,180.00	27,460.89	42,640.89	2,301.54	5.7%

		Under	Proposed 201	15 and Propo	osed 2016 Rate	s - Scenario 3			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.25	10.89	14.14	3.35	11.21	14.56	0.42	3.0%
5/8	1	7.75	16.38	24.13	8.05	16.94	24.99	0.86	3.6%
5/8	2	12.25	21.87	34.12	12.75	22.67	35.42	1.30	3.8%
5/8	4	21.25	32.85	54.10	22.15	34.13	56.28	2.18	4.0%
5/8	6	30.25	43.83	74.08	31.55	45.59	77.14	3.06	4.1%
5/8	10	48.25	65.79	114.04	50.35	68.51	118.86	4.82	4.2%
5/8	15	70.75	93.24	163.99	73.85	97.16	171.01	7.02	4.3%
5/8	20	93.25	120.69	213.94	97.35	125.81	223.16	9.22	4.3%
Multifamily									
5/8	0	3.25	10.89	14.14	3.35	11.21	14.56	0.42	3.0%
5/8	1	6.62	16.38	23.00	6.88	16.94	23.82	0.82	3.6%
5/8	2	9.99	21.87	31.86	10.41	22.67	33.08	1.22	3.8%
5/8	4	16.73	32.85	49.58	17.47	34.13	51.60	2.02	4.1%
5/8	6	23.47	43.83	67.30	24.53	45.59	70.12	2.82	4.2%
5/8	10	36.95	65.79	102.74	38.65	68.51	107.16	4.42	4.3%
5/8	15	53.80	93.24	147.04	56.30	97.16	153.46	6.42	4.4%
5/8	20	70.65	120.69	191.34	73.95	125.81	199.76	8.42	4.4%
Commercial									
2	50	184.80	285.39	470.19	194.40	297.71	492.11	21.92	4.7%
2	100	363.80	559.89	923.69	382.90	584.21	967.11	43.42	4.7%
3	200	732.50	1,108.89	1,841.39	771.00	1,157.21	1,928.21	86.82	4.7%
3	300	1,090.50	1,657.89	2,748.39	1,148.00	1,730.21	2,878.21	129.82	4.7%
4	500	1,810.50	2,755.89	4,566.39	1,906.00	2,876.21	4,782.21	215.82	4.7%
4	1000	3,600.50	5,500.89	9,101.39	3,791.00	5,741.21	9,532.21	430.82	4.7%
Industrial									
3	200	622.50	1,108.89	1,731.39	657.00	1,157.21	1,814.21	82.82	4.8%
3	300	925.50	1,657.89	2,583.39	977.00	1,730.21	2,707.21	123.82	4.8%
4	2500	7,595.50	13,735.89	21,331.39	8,021.00	14,336.21	22,357.21	1,025.82	4.8%
6	5000	15,180.00	27,460.89	42,640.89	16,031.00	28,661.21	44,692.21	2,051.32	4.8%

		Under	Proposed 201	16 and Propo	osed 2017 Rate	s - Scenario 3			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.35	11.21	14.56	3.45	11.77	15.22	0.66	4.5%
5/8	1	8.05	16.94	24.99	8.49	17.86	26.35	1.36	5.4%
5/8	2	12.75	22.67	35.42	13.53	23.95	37.48	2.06	5.8%
5/8	4	22.15	34.13	56.28	23.61	36.13	59.74	3.46	6.1%
5/8	6	31.55	45.59	77.14	33.69	48.31	82.00	4.86	6.3%
5/8	10	50.35	68.51	118.86	53.85	72.67	126.52	7.66	6.4%
5/8	15	73.85	97.16	171.01	79.05	103.12	182.17	11.16	6.5%
5/8	20	97.35	125.81	223.16	104.25	133.57	237.82	14.66	6.6%
Multifamily									
5/8	0	3.35	11.21	14.56	3.45	11.77	15.22	0.66	4.5%
5/8	1	6.88	16.94	23.82	7.26	17.86	25.12	1.30	5.5%
5/8	2	10.41	22.67	33.08	11.07	23.95	35.02	1.94	5.9%
5/8	4	17.47	34.13	51.60	18.69	36.13	54.82	3.22	6.2%
5/8	6	24.53	45.59	70.12	26.31	48.31	74.62	4.50	6.4%
5/8	10	38.65	68.51	107.16	41.55	72.67	114.22	7.06	6.6%
5/8	15	56.30	97.16	153.46	60.60	103.12	163.72	10.26	6.7%
5/8	20	73.95	125.81	199.76	79.65	133.57	213.22	13.46	6.7%
Commercial									
2	50	194.40	297.71	492.11	209.10	316.27	525.37	33.26	6.8%
2	100	382.90	584.21	967.11	412.10	620.77	1,032.87	65.76	6.8%
3	200	771.00	1,157.21	1,928.21	829.50	1,229.77	2,059.27	131.06	6.8%
3	300	1,148.00	1,730.21	2,878.21	1,235.50	1,838.77	3,074.27	196.06	6.8%
4	500	1,906.00	2,876.21	4,782.21	2,052.00	3,056.77	5,108.77	326.56	6.8%
4	1000	3,791.00	5,741.21	9,532.21	4,082.00	6,101.77	10,183.77	651.56	6.8%
Industrial									
3	200	657.00	1,157.21	1,814.21	707.50	1,229.77	1,937.27	123.06	6.8%
3	300	977.00	1,730.21	2,707.21	1,052.50	1,838.77	2,891.27	184.06	6.8%
4	2500	8,021.00	14,336.21	22,357.21	8,647.00	15,236.77	23,883.77	1,526.56	6.8%
6	5000	16,031.00	28,661.21	44,692.21	17,282.00	30,461.77	47,743.77	3,051.56	6.8%

Scenario 4 – Deferred Maintenance/Reliability & Wakarusa WWTP (Low Growth)

		Und	der Existing a	nd Proposed	2013 Rates - S	Scenario 4			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%
5/8	1	6.93	14.31	21.24	7.31	15.33	22.64	1.40	6.6%
5/8	2	10.71	19.33	30.04	11.47	20.44	31.91	1.87	6.2%
5/8	4	18.27	29.37	47.64	19.79	30.66	50.45	2.81	5.9%
5/8	6	25.83	39.41	65.24	28.11	40.88	68.99	3.75	5.7%
5/8	10	40.95	59.49	100.44	44.75	61.32	106.07	5.63	5.6%
5/8	15	59.85	84.59	144.44	65.55	86.87	152.42	7.98	5.5%
5/8	20	78.75	109.69	188.44	86.35	112.42	198.77	10.33	5.5%
Multifamily									
5/8	0	3.15	9.29	12.44	3.15	10.22	13.37	0.93	7.5%
5/8	1	6.44	14.31	20.75	6.41	15.33	21.74	0.99	4.8%
5/8	2	9.73	19.33	29.06	9.67	20.44	30.11	1.05	3.6%
5/8	4	16.31	29.37	45.68	16.19	30.66	46.85	1.17	2.6%
5/8	6	22.89	39.41	62.30	22.71	40.88	63.59	1.29	2.1%
5/8	10	36.05	59.49	95.54	35.75	61.32	97.07	1.53	1.6%
5/8	15	52.50	84.59	137.09	52.05	86.87	138.92	1.83	1.3%
5/8	20	68.95	109.69	178.64	68.35	112.42	180.77	2.13	1.2%
Commercial									
2	50	153.80	260.29	414.09	170.00	265.72	435.72	21.63	5.2%
2	100	301.80	511.29	813.09	334.50	521.22	855.72	42.63	5.2%
3	200	609.00	1,013.29	1,622.29	673.50	1,032.22	1,705.72	83.43	5.1%
3	300	905.00	1,515.29	2,420.29	1,002.50	1,543.22	2,545.72	125.43	5.2%
4	500	1,501.00	2,519.29	4,020.29	1,664.50	2,565.22	4,229.72	209.43	5.2%
4	1000	2,981.00	5,029.29	8,010.29	3,309.50	5,120.22	8,429.72	419.43	5.2%
Industrial									
3	200	591.00	1,013.29	1,604.29	589.50	1,032.22	1,621.72	17.43	1.1%
3	300	878.00	1,515.29	2,393.29	876.50	1,543.22	2,419.72	26.43	1.1%
4	2500	7,196.00	12,559.29	19,755.29	7,194.50	12,785.22	19,979.72	224.43	1.1%
6	5000	14,381.00	25,109.29	39,490.29	14,378.00	25,560.22	39,938.22	447.93	1.1%

Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 4											
	Monthly		Existing			Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.15	10.22	13.37	3.15	10.25	13.40	0.03	0.2%		
5/8	1	7.31	15.33	22.64	7.45	15.36	22.81	0.17	0.8%		
5/8	2	11.47	20.44	31.91	11.75	20.47	32.22	0.31	1.0%		
5/8	4	19.79	30.66	50.45	20.35	30.69	51.04	0.59	1.2%		
5/8	6	28.11	40.88	68.99	28.95	40.91	69.86	0.87	1.3%		
5/8	10	44.75	61.32	106.07	46.15	61.35	107.50	1.43	1.3%		
5/8	15	65.55	86.87	152.42	67.65	86.90	154.55	2.13	1.4%		
5/8	20	86.35	112.42	198.77	89.15	112.45	201.60	2.83	1.4%		
Multifamily											
5/8	0	3.15	10.22	13.37	3.15	10.25	13.40	0.03	0.2%		
5/8	1	6.41	15.33	21.74	6.45	15.36	21.81	0.07	0.3%		
5/8	2	9.67	20.44	30.11	9.75	20.47	30.22	0.11	0.4%		
5/8	4	16.19	30.66	46.85	16.35	30.69	47.04	0.19	0.4%		
5/8	6	22.71	40.88	63.59	22.95	40.91	63.86	0.27	0.4%		
5/8	10	35.75	61.32	97.07	36.15	61.35	97.50	0.43	0.4%		
5/8	15	52.05	86.87	138.92	52.65	86.90	139.55	0.63	0.5%		
5/8	20	68.35	112.42	180.77	69.15	112.45	181.60	0.83	0.5%		
Commercial											
2	50	170.00	265.72	435.72	177.60	265.75	443.35	7.63	1.8%		
2	100	334.50	521.22	855.72	349.60	521.25	870.85	15.13	1.8%		
3	200	673.50	1,032.22	1,705.72	704.00	1,032.25	1,736.25	30.53	1.8%		
3	300	1,002.50	1,543.22	2,545.72	1,048.00	1,543.25	2,591.25	45.53	1.8%		
4	500	1,664.50	2,565.22	4,229.72	1,740.00	2,565.25	4,305.25	75.53	1.8%		
4	1000	3,309.50	5,120.22	8,429.72	3,460.00	5,120.25	8,580.25	150.53	1.8%		
Industrial											
3	200	589.50	1,032.22	1,621.72	596.00	1,032.25	1,628.25	6.53	0.4%		
3	300	876.50	1,543.22	2,419.72	886.00	1,543.25	2,429.25	9.53	0.4%		
4	2500	7,194.50	12,785.22	19,979.72	7,270.00	12,785.25	20,055.25	75.53	0.4%		
6	5000	14,378.00	25,560.22	39,938.22	14,529.00	25,560.25	40,089.25	151.03	0.4%		

		Under	Proposed 201	14 and Propo	osed 2015 Rate	s - Scenario 4			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	10.25	13.40	3.25	10.27	13.52	0.12	0.9%
5/8	1	7.45	15.36	22.81	7.75	15.38	23.13	0.32	1.4%
5/8	2	11.75	20.47	32.22	12.25	20.49	32.74	0.52	1.6%
5/8	4	20.35	30.69	51.04	21.25	30.71	51.96	0.92	1.8%
5/8	6	28.95	40.91	69.86	30.25	40.93	71.18	1.32	1.9%
5/8	10	46.15	61.35	107.50	48.25	61.37	109.62	2.12	2.0%
5/8	15	67.65	86.90	154.55	70.75	86.92	157.67	3.12	2.0%
5/8	20	89.15	112.45	201.60	93.25	112.47	205.72	4.12	2.0%
Multifamily									
5/8	0	3.15	10.25	13.40	3.25	10.27	13.52	0.12	0.9%
5/8	1	6.45	15.36	21.81	6.62	15.38	22.00	0.19	0.9%
5/8	2	9.75	20.47	30.22	9.99	20.49	30.48	0.26	0.9%
5/8	4	16.35	30.69	47.04	16.73	30.71	47.44	0.40	0.9%
5/8	6	22.95	40.91	63.86	23.47	40.93	64.40	0.54	0.8%
5/8	10	36.15	61.35	97.50	36.95	61.37	98.32	0.82	0.8%
5/8	15	52.65	86.90	139.55	53.80	86.92	140.72	1.17	0.8%
5/8	20	69.15	112.45	181.60	70.65	112.47	183.12	1.52	0.8%
Commercial									
2	50	177.60	265.75	443.35	184.80	265.77	450.57	7.22	1.6%
2	100	349.60	521.25	870.85	363.80	521.27	885.07	14.22	1.6%
3	200	704.00	1,032.25	1,736.25	732.50	1,032.27	1,764.77	28.52	1.6%
3	300	1,048.00	1,543.25	2,591.25	1,090.50	1,543.27	2,633.77	42.52	1.6%
4	500	1,740.00	2,565.25	4,305.25	1,810.50	2,565.27	4,375.77	70.52	1.6%
4	1000	3,460.00	5,120.25	8,580.25	3,600.50	5,120.27	8,720.77	140.52	1.6%
Industrial									
3	200	596.00	1,032.25	1,628.25	622.50	1,032.27	1,654.77	26.52	1.6%
3	300	886.00	1,543.25	2,429.25	925.50	1,543.27	2,468.77	39.52	1.6%
4	2500	7,270.00	12,785.25	20,055.25	7,595.50	12,785.27	20,380.77	325.52	1.6%
6	5000	14,529.00	25,560.25	40,089.25	15,180.00	25,560.27	40,740.27	651.02	1.6%

		Under	Proposed 201	15 and Propo	osed 2016 Rate	s - Scenario 4			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.25	10.27	13.52	3.35	10.27	13.62	0.10	0.7%
5/8	1	7.75	15.38	23.13	8.05	15.38	23.43	0.30	1.3%
5/8	2	12.25	20.49	32.74	12.75	20.49	33.24	0.50	1.5%
5/8	4	21.25	30.71	51.96	22.15	30.71	52.86	0.90	1.7%
5/8	6	30.25	40.93	71.18	31.55	40.93	72.48	1.30	1.8%
5/8	10	48.25	61.37	109.62	50.35	61.37	111.72	2.10	1.9%
5/8	15	70.75	86.92	157.67	73.85	86.92	160.77	3.10	2.0%
5/8	20	93.25	112.47	205.72	97.35	112.47	209.82	4.10	2.0%
Multifamily									
5/8	0	3.25	10.27	13.52	3.35	10.27	13.62	0.10	0.7%
5/8	1	6.62	15.38	22.00	6.88	15.38	22.26	0.26	1.2%
5/8	2	9.99	20.49	30.48	10.41	20.49	30.90	0.42	1.4%
5/8	4	16.73	30.71	47.44	17.47	30.71	48.18	0.74	1.6%
5/8	6	23.47	40.93	64.40	24.53	40.93	65.46	1.06	1.6%
5/8	10	36.95	61.37	98.32	38.65	61.37	100.02	1.70	1.7%
5/8	15	53.80	86.92	140.72	56.30	86.92	143.22	2.50	1.8%
5/8	20	70.65	112.47	183.12	73.95	112.47	186.42	3.30	1.8%
Commercial									
2	50	184.80	265.77	450.57	194.40	265.77	460.17	9.60	2.1%
2	100	363.80	521.27	885.07	382.90	521.27	904.17	19.10	2.2%
3	200	732.50	1,032.27	1,764.77	771.00	1,032.27	1,803.27	38.50	2.2%
3	300	1,090.50	1,543.27	2,633.77	1,148.00	1,543.27	2,691.27	57.50	2.2%
4	500	1,810.50	2,565.27	4,375.77	1,906.00	2,565.27	4,471.27	95.50	2.2%
4	1000	3,600.50	5,120.27	8,720.77	3,791.00	5,120.27	8,911.27	190.50	2.2%
Industrial									
3	200	622.50	1,032.27	1,654.77	657.00	1,032.27	1,689.27	34.50	2.1%
3	300	925.50	1,543.27	2,468.77	977.00	1,543.27	2,520.27	51.50	2.1%
4	2500	7,595.50	12,785.27	20,380.77	8,021.00	12,785.27	20,806.27	425.50	2.1%
6	5000	15,180.00	25,560.27	40,740.27	16,031.00	25,560.27	41,591.27	851.00	2.1%

		Under	Proposed 201	16 and Propo	osed 2017 Rate	s - Scenario 4			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.35	10.27	13.62	3.45	11.05	14.50	0.88	6.5%
5/8	1	8.05	15.38	23.43	8.49	16.43	24.92	1.49	6.4%
5/8	2	12.75	20.49	33.24	13.53	21.81	35.34	2.10	6.3%
5/8	4	22.15	30.71	52.86	23.61	32.57	56.18	3.32	6.3%
5/8	6	31.55	40.93	72.48	33.69	43.33	77.02	4.54	6.3%
5/8	10	50.35	61.37	111.72	53.85	64.85	118.70	6.98	6.2%
5/8	15	73.85	86.92	160.77	79.05	91.75	170.80	10.03	6.2%
5/8	20	97.35	112.47	209.82	104.25	118.65	222.90	13.08	6.2%
									-
Multifamily									
5/8	0	3.35	10.27	13.62	3.45	11.05	14.50	0.88	6.5%
5/8	1	6.88	15.38	22.26	7.26	16.43	23.69	1.43	6.4%
5/8	2	10.41	20.49	30.90	11.07	21.81	32.88	1.98	6.4%
5/8	4	17.47	30.71	48.18	18.69	32.57	51.26	3.08	6.4%
5/8	6	24.53	40.93	65.46	26.31	43.33	69.64	4.18	6.4%
5/8	10	38.65	61.37	100.02	41.55	64.85	106.40	6.38	6.4%
5/8	15	56.30	86.92	143.22	60.60	91.75	152.35	9.13	6.4%
5/8	20	73.95	112.47	186.42	79.65	118.65	198.30	11.88	6.4%
Commercial									
2	50	194.40	265.77	460.17	209.10	280.05	489.15	28.98	6.3%
2	100	382.90	521.27	904.17	412.10	549.05	961.15	56.98	6.3%
3	200	771.00	1,032.27	1,803.27	829.50	1,087.05	1,916.55	113.28	6.3%
3	300	1,148.00	1,543.27	2,691.27	1,235.50	1,625.05	2,860.55	169.28	6.3%
4	500	1,906.00	2,565.27	4,471.27	2,052.00	2,701.05	4,753.05	281.78	6.3%
4	1000	3,791.00	5,120.27	8,911.27	4,082.00	5,391.05	9,473.05	561.78	6.3%
Industrial									
3	200	657.00	1,032.27	1,689.27	707.50	1,087.05	1,794.55	105.28	6.2%
3	300	977.00	1,543.27	2,520.27	1,052.50	1,625.05	2,677.55	157.28	6.2%
4	2500	8,021.00	12,785.27	20,806.27	8,647.00	13,461.05	22,108.05	1,301.78	6.3%
6	5000	16,031.00	25,560.27	41,591.27	17,282.00	26,911.05	44,193.05	2,601.78	6.3%

The charges shown are for customers inside the City Limits.

Scenario 5 – Taste, Odor & Microtoxins

Comparison of Typical Monthly Bills Under Existing and Proposed 2013 Rates - Scenario 5											
									-		
	Monthly		Existing	<u> </u>		Proposed	<u> </u>	l otal	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential				10.11	0.45	10.11	10.00		0.00/		
5/8	0	3.15	9.29	12.44	3.15	10.14	13.29	0.85	6.8%		
5/8	1	6.93	14.31	21.24	7.41	15.20	22.61	1.37	6.5%		
5/8	2	10.71	19.33	30.04	11.67	20.26	31.93	1.89	6.3%		
5/8	4	18.27	29.37	47.64	20.19	30.38	50.57	2.93	6.2%		
5/8	6	25.83	39.41	65.24	28.71	40.50	69.21	3.97	6.1%		
5/8	10	40.95	59.49	100.44	45.75	60.74	106.49	6.05	6.0%		
5/8	15	59.85	84.59	144.44	67.05	86.04	153.09	8.65	6.0%		
5/8	20	78.75	109.69	188.44	88.35	111.34	199.69	11.25	6.0%		
Multifamily											
5/8	0	3.15	9.29	12.44	3.15	10.14	13.29	0.85	6.8%		
5/8	1	6.44	14.31	20.75	6.41	15.20	21.61	0.86	4.1%		
5/8	2	9.73	19.33	29.06	9.67	20.26	29.93	0.87	3.0%		
5/8	4	16.31	29.37	45.68	16.19	30.38	46.57	0.89	1.9%		
5/8	6	22.89	39.41	62.30	22.71	40.50	63.21	0.91	1.5%		
5/8	10	36.05	59.49	95.54	35.75	60.74	96.49	0.95	1.0%		
5/8	15	52.50	84.59	137.09	52.05	86.04	138.09	1.00	0.7%		
5/8	20	68.95	109.69	178.64	68.35	111.34	179.69	1.05	0.6%		
I	1										
Commercial											
2	50	153.80	260.29	414.09	176.00	263.14	439.14	25.05	6.0%		
2	100	301.80	511.29	813.09	346.50	516.14	862.64	49.55	6.1%		
3	200	609.00	1.013.29	1.622.29	698.00	1.022.14	1.720.14	97.85	6.0%		
3	300	905.00	1.515.29	2,420,29	1.039.00	1,528,14	2,567,14	146.85	6.1%		
4	500	1.501.00	2,519,29	4.020.29	1,724,50	2,540,14	4,264,64	244.35	6.1%		
4	1000	2 981 00	5 029 29	8 010 29	3 429 50	5 070 14	8 499 64	489.35	6.1%		
•	1000	2,001.00	0,020.20	0,010.20	0,120.00	0,070771	0,100101	100100	01170		
Industrial											
3	200	591.00	1 013 29	1 604 29	590.00	1 022 14	1 612 14	7 85	0.5%		
<u> </u>	300	878.00	1 515 29	2 393 29	877 00	1 528 14	2 405 14	11 85	0.0%		
4	2500	7 196 00	12 559 29	19 755 29	7 194 50	12 660 14	19 854 64	99.35	0.0%		
6	5000	14.381.00	25.109.29	39.490.29	14,378.00	25,310,14	39.688.14	197.85	0.5%		

Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 5											
	Monthly		Existing			Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.15	10.14	13.29	3.15	10.43	13.58	0.29	2.2%		
5/8	1	7.41	15.20	22.61	7.72	15.65	23.37	0.76	3.4%		
5/8	2	11.67	20.26	31.93	12.29	20.87	33.16	1.23	3.9%		
5/8	4	20.19	30.38	50.57	21.43	31.31	52.74	2.17	4.3%		
5/8	6	28.71	40.50	69.21	30.57	41.75	72.32	3.11	4.5%		
5/8	10	45.75	60.74	106.49	48.85	62.63	111.48	4.99	4.7%		
5/8	15	67.05	86.04	153.09	71.70	88.73	160.43	7.34	4.8%		
5/8	20	88.35	111.34	199.69	94.55	114.83	209.38	9.69	4.9%		
Multifamily											
5/8	0	3.15	10.14	13.29	3.15	10.43	13.58	0.29	2.2%		
5/8	1	6.41	15.20	21.61	6.57	15.65	22.22	0.61	2.8%		
5/8	2	9.67	20.26	29.93	9.99	20.87	30.86	0.93	3.1%		
5/8	4	16.19	30.38	46.57	16.83	31.31	48.14	1.57	3.4%		
5/8	6	22.71	40.50	63.21	23.67	41.75	65.42	2.21	3.5%		
5/8	10	35.75	60.74	96.49	37.35	62.63	99.98	3.49	3.6%		
5/8	15	52.05	86.04	138.09	54.45	88.73	143.18	5.09	3.7%		
5/8	20	68.35	111.34	179.69	71.55	114.83	186.38	6.69	3.7%		
									-		
Commercial											
2	50	176.00	263.14	439.14	188.20	271.43	459.63	20.49	4.7%		
2	100	346.50	516.14	862.64	370.70	532.43	903.13	40.49	4.7%		
3	200	698.00	1,022.14	1,720.14	746.50	1,054.43	1,800.93	80.79	4.7%		
3	300	1,039.00	1,528.14	2,567.14	1,111.50	1,576.43	2,687.93	120.79	4.7%		
4	500	1,724.50	2,540.14	4,264.64	1,845.00	2,620.43	4,465.43	200.79	4.7%		
4	1000	3,429.50	5,070.14	8,499.64	3,670.00	5,230.43	8,900.43	400.79	4.7%		
Industrial											
3	200	590.00	1,022.14	1,612.14	632.50	1,054.43	1,686.93	74.79	4.6%		
3	300	877.00	1,528.14	2,405.14	940.50	1,576.43	2,516.93	111.79	4.6%		
4	2500	7,194.50	12,660.14	19,854.64	7,720.00	13,060.43	20,780.43	925.79	4.7%		
6	5000	14,378.00	25,310.14	39,688.14	15,429.00	26,110.43	41,539.43	1,851.29	4.7%		

		Under	Proposed 201	14 and Propo	osed 2015 Rate	s - Scenario 5			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	10.43	13.58	3.30	10.82	14.12	0.54	4.0%
5/8	1	7.72	15.65	23.37	8.24	16.25	24.49	1.12	4.8%
5/8	2	12.29	20.87	33.16	13.18	21.68	34.86	1.70	5.1%
5/8	4	21.43	31.31	52.74	23.06	32.54	55.60	2.86	5.4%
5/8	6	30.57	41.75	72.32	32.94	43.40	76.34	4.02	5.6%
5/8	10	48.85	62.63	111.48	52.70	65.12	117.82	6.34	5.7%
5/8	15	71.70	88.73	160.43	77.40	92.27	169.67	9.24	5.8%
5/8	20	94.55	114.83	209.38	102.10	119.42	221.52	12.14	5.8%
Multifamily									
5/8	0	3.15	10.43	13.58	3.30	10.82	14.12	0.54	4.0%
5/8	1	6.57	15.65	22.22	7.00	16.25	23.25	1.03	4.6%
5/8	2	9.99	20.87	30.86	10.70	21.68	32.38	1.52	4.9%
5/8	4	16.83	31.31	48.14	18.10	32.54	50.64	2.50	5.2%
5/8	6	23.67	41.75	65.42	25.50	43.40	68.90	3.48	5.3%
5/8	10	37.35	62.63	99.98	40.30	65.12	105.42	5.44	5.4%
5/8	15	54.45	88.73	143.18	58.80	92.27	151.07	7.89	5.5%
5/8	20	71.55	114.83	186.38	77.30	119.42	196.72	10.34	5.5%
Commercial									
2	50	188.20	271.43	459.63	203.40	282.32	485.72	26.09	5.7%
2	100	370.70	532.43	903.13	400.90	553.82	954.72	51.59	5.7%
3	200	746.50	1,054.43	1,800.93	807.00	1,096.82	1,903.82	102.89	5.7%
3	300	1,111.50	1,576.43	2,687.93	1,202.00	1,639.82	2,841.82	153.89	5.7%
4	500	1,845.00	2,620.43	4,465.43	1,996.00	2,725.82	4,721.82	256.39	5.7%
4	1000	3,670.00	5,230.43	8,900.43	3,971.00	5,440.82	9,411.82	511.39	5.7%
Industrial									
3	200	632.50	1,054.43	1,686.93	687.00	1,096.82	1,783.82	96.89	5.7%
3	300	940.50	1,576.43	2,516.93	1,022.00	1,639.82	2,661.82	144.89	5.8%
4	2500	7,720.00	13,060.43	20,780.43	8,396.00	13,585.82	21,981.82	1,201.39	5.8%
6	5000	15,429.00	26,110.43	41,539.43	16,781.00	27,160.82	43,941.82	2,402.39	5.8%

		Under	Proposed 201	15 and Propo	osed 2016 Rate	s - Scenario 5			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.30	10.82	14.12	3.45	11.29	14.74	0.62	4.4%
5/8	1	8.24	16.25	24.49	8.82	17.09	25.91	1.42	5.8%
5/8	2	13.18	21.68	34.86	14.19	22.89	37.08	2.22	6.4%
5/8	4	23.06	32.54	55.60	24.93	34.49	59.42	3.82	6.9%
5/8	6	32.94	43.40	76.34	35.67	46.09	81.76	5.42	7.1%
5/8	10	52.70	65.12	117.82	57.15	69.29	126.44	8.62	7.3%
5/8	15	77.40	92.27	169.67	84.00	98.29	182.29	12.62	7.4%
5/8	20	102.10	119.42	221.52	110.85	127.29	238.14	16.62	7.5%
Multifamily									
5/8	0	3.30	10.82	14.12	3.45	11.29	14.74	0.62	4.4%
5/8	1	7.00	16.25	23.25	7.45	17.09	24.54	1.29	5.5%
5/8	2	10.70	21.68	32.38	11.45	22.89	34.34	1.96	6.1%
5/8	4	18.10	32.54	50.64	19.45	34.49	53.94	3.30	6.5%
5/8	6	25.50	43.40	68.90	27.45	46.09	73.54	4.64	6.7%
5/8	10	40.30	65.12	105.42	43.45	69.29	112.74	7.32	6.9%
5/8	15	58.80	92.27	151.07	63.45	98.29	161.74	10.67	7.1%
5/8	20	77.30	119.42	196.72	83.45	127.29	210.74	14.02	7.1%
Commercial									
2	50	203.40	282.32	485.72	220.20	301.29	521.49	35.77	7.4%
2	100	400.90	553.82	954.72	434.20	591.29	1,025.49	70.77	7.4%
3	200	807.00	1,096.82	1,903.82	874.00	1,171.29	2,045.29	141.47	7.4%
3	300	1,202.00	1,639.82	2,841.82	1,302.00	1,751.29	3,053.29	211.47	7.4%
4	500	1,996.00	2,725.82	4,721.82	2,162.50	2,911.29	5,073.79	351.97	7.5%
4	1000	3,971.00	5,440.82	9,411.82	4,302.50	5,811.29	10,113.79	701.97	7.5%
Industrial									
3	200	687.00	1,096.82	1,783.82	740.00	1,171.29	1,911.29	127.47	7.1%
3	300	1,022.00	1,639.82	2,661.82	1,101.00	1,751.29	2,852.29	190.47	7.2%
4	2500	8,396.00	13,585.82	21,981.82	9,047.50	14,511.29	23,558.79	1,576.97	7.2%
6	5000	16,781.00	27,160.82	43,941.82	18,083.00	29,011.29	47,094.29	3,152.47	7.2%

		Under	Proposed 201	16 and Propo	osed 2017 Rate	s - Scenario 5			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	<u>3</u> .45	11.29	14.74	3.55	11.97	15.52	0.78	5.3%
5/8	1	8.82	17.09	25.91	9.25	18.19	27.44	1.53	5.9%
5/8	2	14.19	22.89	37.08	14.95	24.41	39.36	2.28	6.1%
5/8	4	24.93	34.49	59.42	26.35	36.85	63.20	3.78	6.4%
5/8	6	35.67	46.09	81.76	37.75	49.29	87.04	5.28	6.5%
5/8	10	57.15	69.29	126.44	60.55	74.17	134.72	8.28	6.5%
5/8	15	84.00	98.29	182.29	89.05	105.27	194.32	12.03	6.6%
5/8	20	110.85	127.29	238.14	117.55	136.37	253.92	15.78	6.6%
Multifamily									
5/8	0	3.45	11.29	14.74	3.55	11.97	15.52	0.78	5.3%
5/8	1	7.45	17.09	24.54	7.81	18.19	26.00	1.46	5.9%
5/8	2	11.45	22.89	34.34	12.07	24.41	36.48	2.14	6.2%
5/8	4	19.45	34.49	53.94	20.59	36.85	57.44	3.50	6.5%
5/8	6	27.45	46.09	73.54	29.11	49.29	78.40	4.86	6.6%
5/8	10	43.45	69.29	112.74	46.15	74.17	120.32	7.58	6.7%
5/8	15	63.45	98.29	161.74	67.45	105.27	172.72	10.98	6.8%
5/8	20	83.45	127.29	210.74	88.75	136.37	225.12	14.38	6.8%
Commercial									
2	50	220.20	301.29	521.49	234.00	322.97	556.97	35.48	6.8%
2	100	434.20	591.29	1,025.49	461.50	633.97	1,095.47	69.98	6.8%
3	200	874.00	1,171.29	2,045.29	929.00	1,255.97	2,184.97	139.68	6.8%
3	300	1,302.00	1,751.29	3,053.29	1,384.00	1,877.97	3,261.97	208.68	6.8%
4	500	2,162.50	2,911.29	5,073.79	2,298.50	3,121.97	5,420.47	346.68	6.8%
4	1000	4,302.50	5,811.29	10,113.79	4,573.50	6,231.97	10,805.47	691.68	6.8%
Industrial									
3	200	740.00	1,171.29	1,911.29	789.00	1,255.97	2,044.97	133.68	7.0%
3	300	1,101.00	1,751.29	2,852.29	1,174.00	1,877.97	3,051.97	199.68	7.0%
4	2500	9,047.50	14,511.29	23,558.79	9,648.50	15,561.97	25,210.47	1,651.68	7.0%
6	5000	18,083.00	29,011.29	47,094.29	19,284.00	31,111.97	50,395.97	3,301.68	7.0%

Scenario 6 – Delay Wakarusa WWTP & Accelerate Rapid I/I

		Und	der Existing a	nd Proposed	2013 Rates - S	Scenario 6			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.15	9.29	12.44	3.15	9.93	13.08	0.64	5.1%
5/8	1	6.93	14.31	21.24	7.31	14.83	22.14	0.90	4.2%
5/8	2	10.71	19.33	30.04	11.47	19.73	31.20	1.16	3.9%
5/8	4	18.27	29.37	47.64	19.79	29.53	49.32	1.68	3.5%
5/8	6	25.83	39.41	65.24	28.11	39.33	67.44	2.20	3.4%
5/8	10	40.95	59.49	100.44	44.75	58.93	103.68	3.24	3.2%
5/8	15	59.85	84.59	144.44	65.55	83.43	148.98	4.54	3.1%
5/8	20	78.75	109.69	188.44	86.35	107.93	194.28	5.84	3.1%
Multifamily									
5/8	0	3.15	9.29	12.44	3.15	9.93	13.08	0.64	5.1%
5/8	1	6.44	14.31	20.75	6.41	14.83	21.24	0.49	2.4%
5/8	2	9.73	19.33	29.06	9.67	19.73	29.40	0.34	1.2%
5/8	4	16.31	29.37	45.68	16.19	29.53	45.72	0.04	0.1%
5/8	6	22.89	39.41	62.30	22.71	39.33	62.04	(0.26)	-0.4%
5/8	10	36.05	59.49	95.54	35.75	58.93	94.68	(0.86)	-0.9%
5/8	15	52.50	84.59	137.09	52.05	83.43	135.48	(1.61)	-1.2%
5/8	20	68.95	109.69	178.64	68.35	107.93	176.28	(2.36)	-1.3%
Commercial									
2	50	153.80	260.29	414.09	170.00	254.93	424.93	10.84	2.6%
2	100	301.80	511.29	813.09	334.50	499.93	834.43	21.34	2.6%
3	200	609.00	1,013.29	1,622.29	673.50	989.93	1,663.43	41.14	2.5%
3	300	905.00	1,515.29	2,420.29	1,002.50	1,479.93	2,482.43	62.14	2.6%
4	500	1,501.00	2,519.29	4,020.29	1,664.50	2,459.93	4,124.43	104.14	2.6%
4	1000	2,981.00	5,029.29	8,010.29	3,309.50	4,909.93	8,219.43	209.14	2.6%
Industrial									
3	200	591.00	1,013.29	1,604.29	589.50	989.93	1,579.43	(24.86)	-1.5%
3	300	878.00	1,515.29	2,393.29	876.50	1,479.93	2,356.43	(36.86)	-1.5%
4	2500	7,196.00	12,559.29	19,755.29	7,194.50	12,259.93	19,454.43	(300.86)	-1.5%
6	5000	14,381.00	25,109.29	39,490.29	14,378.00	24,509.93	38,887.93	(602.36)	-1.5%

Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 6											
	Monthly		Existing			Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.15	9.93	13.08	3.15	10.20	13.35	0.27	2.1%		
5/8	1	7.31	14.83	22.14	7.56	15.25	22.81	0.67	3.0%		
5/8	2	11.47	19.73	31.20	11.97	20.30	32.27	1.07	3.4%		
5/8	4	19.79	29.53	49.32	20.79	30.40	51.19	1.87	3.8%		
5/8	6	28.11	39.33	67.44	29.61	40.50	70.11	2.67	4.0%		
5/8	10	44.75	58.93	103.68	47.25	60.70	107.95	4.27	4.1%		
5/8	15	65.55	83.43	148.98	69.30	85.95	155.25	6.27	4.2%		
5/8	20	86.35	107.93	194.28	91.35	111.20	202.55	8.27	4.3%		
Multifamily											
5/8	0	3.15	9.93	13.08	3.15	10.20	13.35	0.27	2.1%		
5/8	1	6.41	14.83	21.24	6.49	15.25	21.74	0.50	2.4%		
5/8	2	9.67	19.73	29.40	9.83	20.30	30.13	0.73	2.5%		
5/8	4	16.19	29.53	45.72	16.51	30.40	46.91	1.19	2.6%		
5/8	6	22.71	39.33	62.04	23.19	40.50	63.69	1.65	2.7%		
5/8	10	35.75	58.93	94.68	36.55	60.70	97.25	2.57	2.7%		
5/8	15	52.05	83.43	135.48	53.25	85.95	139.20	3.72	2.7%		
5/8	20	68.35	107.93	176.28	69.95	111.20	181.15	4.87	2.8%		
Commercial											
2	50	170.00	254.93	424.93	181.60	262.70	444.30	19.37	4.6%		
2	100	334.50	499.93	834.43	357.60	515.20	872.80	38.37	4.6%		
3	200	673.50	989.93	1,663.43	720.00	1,020.20	1,740.20	76.77	4.6%		
3	300	1,002.50	1,479.93	2,482.43	1,072.00	1,525.20	2,597.20	114.77	4.6%		
4	500	1,664.50	2,459.93	4,124.43	1,780.00	2,535.20	4,315.20	190.77	4.6%		
4	1000	3,309.50	4,909.93	8,219.43	3,540.00	5,060.20	8,600.20	380.77	4.6%		
Industrial											
3	200	589.50	989.93	1,579.43	610.00	1,020.20	1,630.20	50.77	3.2%		
3	300	876.50	1,479.93	2,356.43	907.00	1,525.20	2,432.20	75.77	3.2%		
4	2500	7,194.50	12,259.93	19,454.43	7,445.00	12,635.20	20,080.20	625.77	3.2%		
6	5000	14,378.00	24,509.93	38,887.93	14,879.00	25,260.20	40,139.20	1,251.27	3.2%		

		Under	Proposed 201	14 and Propo	osed 2015 Rate	s - Scenario 6			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	<u>3</u> .15	10.20	13.35	3.30	10.53	13.83	0.48	3.6%
5/8	1	7.56	15.25	22.81	7.97	15.73	23.70	0.89	3.9%
5/8	2	11.97	20.30	32.27	12.64	20.93	33.57	1.30	4.0%
5/8	4	20.79	30.40	51.19	21.98	31.33	53.31	2.12	4.1%
5/8	6	29.61	40.50	70.11	31.32	41.73	73.05	2.94	4.2%
5/8	10	47.25	60.70	107.95	50.00	62.53	112.53	4.58	4.2%
5/8	15	69.30	85.95	155.25	73.35	88.53	161.88	6.63	4.3%
5/8	20	91.35	111.20	202.55	96.70	114.53	211.23	8.68	4.3%
Multifamily									
5/8	0	3.15	10.20	13.35	3.30	10.53	13.83	0.48	3.6%
5/8	1	6.49	15.25	21.74	6.79	15.73	22.52	0.78	3.6%
5/8	2	9.83	20.30	30.13	10.28	20.93	31.21	1.08	3.6%
5/8	4	16.51	30.40	46.91	17.26	31.33	48.59	1.68	3.6%
5/8	6	23.19	40.50	63.69	24.24	41.73	65.97	2.28	3.6%
5/8	10	36.55	60.70	97.25	38.20	62.53	100.73	3.48	3.6%
5/8	15	53.25	85.95	139.20	55.65	88.53	144.18	4.98	3.6%
5/8	20	69.95	111.20	181.15	73.10	114.53	187.63	6.48	3.6%
Commercial									
2	50	181.60	262.70	444.30	192.80	270.53	463.33	19.03	4.3%
2	100	357.60	515.20	872.80	379.80	530.53	910.33	37.53	4.3%
3	200	720.00	1,020.20	1,740.20	765.00	1,050.53	1,815.53	75.33	4.3%
3	300	1,072.00	1,525.20	2,597.20	1,139.00	1,570.53	2,709.53	112.33	4.3%
4	500	1,780.00	2,535.20	4,315.20	1,891.00	2,610.53	4,501.53	186.33	4.3%
4	1000	3,540.00	5,060.20	8,600.20	3,761.00	5,210.53	8,971.53	371.33	4.3%
Industrial									
3	200	610.00	1,020.20	1,630.20	649.00	1,050.53	1,699.53	69.33	4.3%
3	300	907.00	1,525.20	2,432.20	965.00	1,570.53	2,535.53	103.33	4.2%
4	2500	7,445.00	12,635.20	20,080.20	7,921.00	13,010.53	20,931.53	851.33	4.2%
6	5000	14,879.00	25,260.20	40,139.20	15,830.00	26,010.53	41,840.53	1,701.33	4.2%

The charges shown are for customers inside the City Limits.

		Under	Proposed 201	15 and Propo	osed 2016 Rate	s - Scenario 6			
	Monthly		Existing			Proposed		Total	Percent
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$	
Residential									
5/8	0	3.30	10.53	13.83	3.40	10.93	14.33	0.50	3.6%
5/8	1	7.97	15.73	23.70	8.35	16.34	24.69	0.99	4.2%
5/8	2	12.64	20.93	33.57	13.30	21.75	35.05	1.48	4.4%
5/8	4	21.98	31.33	53.31	23.20	32.57	55.77	2.46	4.6%
5/8	6	31.32	41.73	73.05	33.10	43.39	76.49	3.44	4.7%
5/8	10	50.00	62.53	112.53	52.90	65.03	117.93	5.40	4.8%
5/8	15	73.35	88.53	161.88	77.65	92.08	169.73	7.85	4.8%
5/8	20	96.70	114.53	211.23	102.40	119.13	221.53	10.30	4.9%
Multifamily									
5/8	0	3.30	10.53	13.83	3.40	10.93	14.33	0.50	3.6%
5/8	1	6.79	15.73	22.52	7.12	16.34	23.46	0.94	4.2%
5/8	2	10.28	20.93	31.21	10.84	21.75	32.59	1.38	4.4%
5/8	4	17.26	31.33	48.59	18.28	32.57	50.85	2.26	4.7%
5/8	6	24.24	41.73	65.97	25.72	43.39	69.11	3.14	4.8%
5/8	10	38.20	62.53	100.73	40.60	65.03	105.63	4.90	4.9%
5/8	15	55.65	88.53	144.18	59.20	92.08	151.28	7.10	4.9%
5/8	20	73.10	114.53	187.63	77.80	119.13	196.93	9.30	5.0%
Commercial									
2	50	192.80	270.53	463.33	205.00	281.43	486.43	23.10	5.0%
2	100	379.80	530.53	910.33	404.00	551.93	955.93	45.60	5.0%
3	200	765.00	1,050.53	1,815.53	813.50	1,092.93	1,906.43	90.90	5.0%
3	300	1,139.00	1,570.53	2,709.53	1,211.50	1,633.93	2,845.43	135.90	5.0%
4	500	1,891.00	2,610.53	4,501.53	2,011.50	2,715.93	4,727.43	225.90	5.0%
4	1000	3,761.00	5,210.53	8,971.53	4,001.50	5,420.93	9,422.43	450.90	5.0%
Industrial									
3	200	649.00	1,050.53	1,699.53	689.50	1,092.93	1,782.43	82.90	4.9%
3	300	965.00	1,570.53	2,535.53	1,025.50	1,633.93	2,659.43	123.90	4.9%
4	2500	7,921.00	13,010.53	20,931.53	8,421.50	13,535.93	21,957.43	1,025.90	4.9%
6	5000	15,830.00	26,010.53	41,840.53	16,831.00	27,060.93	43,891.93	2,051.40	4.9%

Under Proposed 2016 and Proposed 2017 Rates - Scenario 6											
	Monthly	Existing				Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.40	10.93	14.33	3.50	11.60	15.10	0.77	5.4%		
5/8	1	8.35	16.34	24.69	8.83	17.33	26.16	1.47	6.0%		
5/8	2	13.30	21.75	35.05	14.16	23.06	37.22	2.17	6.2%		
5/8	4	23.20	32.57	55.77	24.82	34.52	59.34	3.57	6.4%		
5/8	6	33.10	43.39	76.49	35.48	45.98	81.46	4.97	6.5%		
5/8	10	52.90	65.03	117.93	56.80	68.90	125.70	7.77	6.6%		
5/8	15	77.65	92.08	169.73	83.45	97.55	181.00	11.27	6.6%		
5/8	20	102.40	119.13	221.53	110.10	126.20	236.30	14.77	6.7%		
Multifamily											
5/8	0	3.40	10.93	14.33	3.50	11.60	15.10	0.77	5.4%		
5/8	1	7.12	16.34	23.46	7.50	17.33	24.83	1.37	5.8%		
5/8	2	10.84	21.75	32.59	11.50	23.06	34.56	1.97	6.0%		
5/8	4	18.28	32.57	50.85	19.50	34.52	54.02	3.17	6.2%		
5/8	6	25.72	43.39	69.11	27.50	45.98	73.48	4.37	6.3%		
5/8	10	40.60	65.03	105.63	43.50	68.90	112.40	6.77	6.4%		
5/8	15	59.20	92.08	151.28	63.50	97.55	161.05	9.77	6.5%		
5/8	20	77.80	119.13	196.93	83.50	126.20	209.70	12.77	6.5%		
Commercial											
2	50	205.00	281.43	486.43	220.70	298.10	518.80	32.37	6.7%		
2	100	404.00	551.93	955.93	435.20	584.60	1,019.80	63.87	6.7%		
3	200	813.50	1,092.93	1,906.43	876.00	1,157.60	2,033.60	127.17	6.7%		
3	300	1,211.50	1,633.93	2,845.43	1,305.00	1,730.60	3,035.60	190.17	6.7%		
4	500	2,011.50	2,715.93	4,727.43	2,167.50	2,876.60	5,044.10	316.67	6.7%		
4	1000	4,001.50	5,420.93	9,422.43	4,312.50	5,741.60	10,054.10	631.67	6.7%		
Industrial											
3	200	689.50	1,092.93	1,782.43	744.00	1,157.60	1,901.60	119.17	6.7%		
3	300	1,025.50	1,633.93	2,659.43	1,107.00	1,730.60	2,837.60	178.17	6.7%		
4	2500	8,421.50	13,535.93	21,957.43	9,097.50	14,336.60	23,434.10	1,476.67	6.7%		
6	5000	16,831.00	27,060.93	43,891.93	18,182.00	28,661.60	46,843.60	2,951.67	6.7%		

Scenario 7 – Roadway Relocations Only – No Wakarusa WWTP

	Comparison of Typical Monthly Bills											
		Une	der Existing a	ind Propose	d 2013 Rates - 3	Scenario 7						
	Monthly		Existing			Proposed	Total	Percent				
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase			
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$				
Residential												
5/8	0	3.15	9.29	12.44	3.10	9.92	13.02	0.58	4.7%			
5/8	1	6.93	14.31	21.24	7.12	14.82	21.94	0.70	3.3%			
5/8	2	10.71	19.33	30.04	11.14	19.72	30.86	0.82	2.7%			
5/8	4	18.27	29.37	47.64	19.18	29.52	48.70	1.06	2.2%			
5/8	6	25.83	39.41	65.24	27.22	39.32	66.54	1.30	2.0%			
5/8	10	40.95	59.49	100.44	43.30	58.92	102.22	1.78	1.8%			
5/8	15	59.85	84.59	144.44	63.40	83.42	146.82	2.38	1.6%			
5/8	20	78.75	109.69	188.44	83.50	107.92	191.42	2.98	1.6%			
Multifamily												
5/8	0	3.15	9.29	12.44	3.10	9.92	13.02	0.58	4.7%			
5/8	1	6.44	14.31	20.75	6.11	14.82	20.93	0.18	0.9%			
5/8	2	9.73	19.33	29.06	9.12	19.72	28.84	(0.22)	-0.8%			
5/8	4	16.31	29.37	45.68	15.14	29.52	44.66	(1.02)	-2.2%			
5/8	6	22.89	39.41	62.30	21.16	39.32	60.48	(1.82)	-2.9%			
5/8	10	36.05	59.49	95.54	33.20	58.92	92.12	(3.42)	-3.6%			
5/8	15	52.50	84.59	137.09	48.25	83.42	131.67	(5.42)	-4.0%			
5/8	20	68.95	109.69	178.64	63.30	107.92	171.22	(7.42)	-4.2%			
Commercial												
2	50	153.80	260.29	414.09	166.00	254.92	420.92	6.83	1.6%			
2	100	301.80	511.29	813.09	326.50	499.92	826.42	13.33	1.6%			
3	200	609.00	1,013.29	1,622.29	657.50	989.92	1,647.42	25.13	1.5%			
3	300	905.00	1,515.29	2,420.29	978.50	1,479.92	2,458.42	38.13	1.6%			
4	500	1,501.00	2,519.29	4,020.29	1,624.50	2,459.92	4,084.42	64.13	1.6%			
4	1000	2,981.00	5,029.29	8,010.29	3,229.50	4,909.92	8,139.42	129.13	1.6%			
Industrial												
3	200	591.00	1,013.29	1,604.29	557.50	989.92	1,547.42	(56.87)	-3.5%			
3	300	878.00	1,515.29	2,393.29	828.50	1,479.92	2,308.42	(84.87)	-3.5%			
4	2500	7,196.00	12,559.29	19,755.29	6,794.50	12,259.92	19,054.42	(700.87)	-3.5%			
6	5000	14,381.00	25,109.29	39,490.29	13,578.00	24,509.92	38,087.92	(1,402.37)	-3.6%			

Comparison of Typical Monthly Bills Under Proposed 2013 and Proposed 2014 Rates - Scenario 7										
	Monthly		Existing			Proposed	Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase	
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$		
Residential										
5/8	0	3.10	9.92	13.02	3.16	9.97	13.13	0.11	0.8%	
5/8	1	7.12	14.82	21.94	7.18	14.86	22.04	0.10	0.5%	
5/8	2	11.14	19.72	30.86	11.20	19.75	30.95	0.09	0.3%	
5/8	4	19.18	29.52	48.70	19.24	29.53	48.77	0.07	0.1%	
5/8	6	27.22	39.32	66.54	27.28	39.31	66.59	0.05	0.1%	
5/8	10	43.30	58.92	102.22	43.36	58.87	102.23	0.01	0.0%	
5/8	15	63.40	83.42	146.82	63.46	83.32	146.78	(0.04)	0.0%	
5/8	20	83.50	107.92	191.42	83.56	107.77	191.33	(0.09)	0.0%	
Multifamily										
5/8	0	3.10	9.92	13.02	3.16	9.97	13.13	0.11	0.8%	
5/8	1	6.11	14.82	20.93	6.16	14.86	21.02	0.09	0.4%	
5/8	2	9.12	19.72	28.84	9.16	19.75	28.91	0.07	0.2%	
5/8	4	15.14	29.52	44.66	15.16	29.53	44.69	0.03	0.1%	
5/8	6	21.16	39.32	60.48	21.16	39.31	60.47	(0.01)	0.0%	
5/8	10	33.20	58.92	92.12	33.16	58.87	92.03	(0.09)	-0.1%	
5/8	15	48.25	83.42	131.67	48.16	83.32	131.48	(0.19)	-0.1%	
5/8	20	63.30	107.92	171.22	63.16	107.77	170.93	(0.29)	-0.2%	
Commercial										
2	50	166.00	254.92	420.92	165.50	254.47	419.97	(0.95)	-0.2%	
2	100	326.50	499.92	826.42	325.50	498.97	824.47	(1.95)	-0.2%	
3	200	657.50	989.92	1,647.42	656.00	987.97	1,643.97	(3.45)	-0.2%	
3	300	978.50	1,479.92	2,458.42	976.00	1,476.97	2,452.97	(5.45)	-0.2%	
4	500	1,624.50	2,459.92	4,084.42	1,619.50	2,454.97	4,074.47	(9.95)	-0.2%	
4	1000	3,229.50	4,909.92	8,139.42	3,219.50	4,899.97	8,119.47	(19.95)	-0.2%	
Industrial										
3	200	557.50	989.92	1,547.42	556.00	987.97	1,543.97	(3.45)	-0.2%	
3	300	828.50	1,479.92	2,308.42	826.00	1,476.97	2,302.97	(5.45)	-0.2%	
4	2500	6,794.50	12,259.92	19,054.42	6,769.50	12,234.97	19,004.47	(49.95)	-0.3%	
6	5000	13,578.00	24,509.92	38,087.92	13,528.00	24,459.97	37,987.97	(99.95)	-0.3%	

Under Proposed 2014 and Proposed 2015 Rates - Scenario 7											
	Monthly	ly Existing				Proposed	Total	Percent			
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.16	9.97	13.13	3.22	10.04	13.26	0.13	1.0%		
5/8	1	7.18	14.86	22.04	7.24	14.91	22.15	0.11	0.5%		
5/8	2	11.20	19.75	30.95	11.26	19.78	31.04	0.09	0.3%		
5/8	4	19.24	29.53	48.77	19.30	29.52	48.82	0.05	0.1%		
5/8	6	27.28	39.31	66.59	27.34	39.26	66.60	0.01	0.0%		
5/8	10	43.36	58.87	102.23	43.42	58.74	102.16	(0.07)	-0.1%		
5/8	15	63.46	83.32	146.78	63.52	83.09	146.61	(0.17)	-0.1%		
5/8	20	83.56	107.77	191.33	83.62	107.44	191.06	(0.27)	-0.1%		
Multifamily											
5/8	0	3.16	9.97	13.13	3.22	10.04	13.26	0.13	1.0%		
5/8	1	6.16	14.86	21.02	6.21	14.91	21.12	0.10	0.5%		
5/8	2	9.16	19.75	28.91	9.20	19.78	28.98	0.07	0.2%		
5/8	4	15.16	29.53	44.69	15.18	29.52	44.70	0.01	0.0%		
5/8	6	21.16	39.31	60.47	21.16	39.26	60.42	(0.05)	-0.1%		
5/8	10	33.16	58.87	92.03	33.12	58.74	91.86	(0.17)	-0.2%		
5/8	15	48.16	83.32	131.48	48.07	83.09	131.16	(0.32)	-0.2%		
5/8	20	63.16	107.77	170.93	63.02	107.44	170.46	(0.47)	-0.3%		
Commercial											
2	50	165.50	254.47	419.97	164.60	253.54	418.14	(1.83)	-0.4%		
2	100	325.50	498.97	824.47	323.60	497.04	820.64	(3.83)	-0.5%		
3	200	656.00	987.97	1,643.97	652.00	984.04	1,636.04	(7.93)	-0.5%		
3	300	976.00	1,476.97	2,452.97	970.00	1,471.04	2,441.04	(11.93)	-0.5%		
4	500	1,619.50	2,454.97	4,074.47	1,610.00	2,445.04	4,055.04	(19.43)	-0.5%		
4	1000	3,219.50	4,899.97	8,119.47	3,200.00	4,880.04	8,080.04	(39.43)	-0.5%		
Industrial											
3	200	556.00	987.97	1,543.97	554.00	984.04	1,538.04	(5.93)	-0.4%		
3	300	826.00	1,476.97	2,302.97	823.00	1,471.04	2,294.04	(8.93)	-0.4%		
4	2500	6,769.50	12,234.97	19,004.47	6,745.00	12,185.04	18,930.04	(74.43)	-0.4%		
6	5000	13,528.00	24,459.97	37,987.97	13,479.00	24,360.04	37,839.04	(148.93)	-0.4%		

The charges shown are for customers inside the City Limits.

Under Proposed 2015 and Proposed 2016 Rates - Scenario 7										
	Monthly	Existing				Proposed	Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase	
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$		
Residential										
5/8	0	3.22	10.04	13.26	3.28	10.09	13.37	0.11	0.8%	
5/8	1	7.24	14.91	22.15	7.30	14.96	22.26	0.11	0.5%	
5/8	2	11.26	19.78	31.04	11.32	19.83	31.15	0.11	0.4%	
5/8	4	19.30	29.52	48.82	19.36	29.57	48.93	0.11	0.2%	
5/8	6	27.34	39.26	66.60	27.40	39.31	66.71	0.11	0.2%	
5/8	10	43.42	58.74	102.16	43.48	58.79	102.27	0.11	0.1%	
5/8	15	63.52	83.09	146.61	63.58	83.14	146.72	0.11	0.1%	
5/8	20	83.62	107.44	191.06	83.68	107.49	191.17	0.11	0.1%	
Multifamily										
5/8	0	3.22	10.04	13.26	3.28	10.09	13.37	0.11	0.8%	
5/8	1	6.21	14.91	21.12	6.25	14.96	21.21	0.09	0.4%	
5/8	2	9.20	19.78	28.98	9.22	19.83	29.05	0.07	0.2%	
5/8	4	15.18	29.52	44.70	15.16	29.57	44.73	0.03	0.1%	
5/8	6	21.16	39.26	60.42	21.10	39.31	60.41	(0.01)	0.0%	
5/8	10	33.12	58.74	91.86	32.98	58.79	91.77	(0.09)	-0.1%	
5/8	15	48.07	83.09	131.16	47.83	83.14	130.97	(0.19)	-0.1%	
5/8	20	63.02	107.44	170.46	62.68	107.49	170.17	(0.29)	-0.2%	
Commercial										
2	50	164.60	253.54	418.14	163.80	253.59	417.39	(0.75)	-0.2%	
2	100	323.60	497.04	820.64	321.80	497.09	818.89	(1.75)	-0.2%	
3	200	652.00	984.04	1,636.04	648.00	984.09	1,632.09	(3.95)	-0.2%	
3	300	970.00	1,471.04	2,441.04	964.00	1,471.09	2,435.09	(5.95)	-0.2%	
4	500	1,610.00	2,445.04	4,055.04	1,600.00	2,445.09	4,045.09	(9.95)	-0.2%	
4	1000	3,200.00	4,880.04	8,080.04	3,180.00	4,880.09	8,060.09	(19.95)	-0.2%	
Industrial										
3	200	554.00	984.04	1,538.04	554.00	984.09	1,538.09	0.05	0.0%	
3	300	823.00	1,471.04	2,294.04	823.00	1,471.09	2,294.09	0.05	0.0%	
4	2500	6,745.00	12,185.04	18,930.04	6,745.00	12,185.09	18,930.09	0.05	0.0%	
6	5000	13,479.00	24,360.04	37,839.04	13,479.00	24,360.09	37,839.09	0.05	0.0%	

The charges shown are for customers inside the City Limits.

Under Proposed 2016 and Proposed 2017 Rates - Scenario 7											
	Monthly	/ Existing				Proposed		Total	Percent		
Meter Size	Usage	Water	Wastewater	Combined	Water	Wastewater	Combined	Increase	Increase		
Inches	1,000 gal.	\$	\$	\$	\$	\$	\$	\$			
Residential											
5/8	0	3.28	10.09	13.37	3.35	10.23	13.58	0.21	1.6%		
5/8	1	7.30	14.96	22.26	7.37	15.07	22.44	0.18	0.8%		
5/8	2	11.32	19.83	31.15	11.39	19.91	31.30	0.15	0.5%		
5/8	4	19.36	29.57	48.93	19.43	29.59	49.02	0.09	0.2%		
5/8	6	27.40	39.31	66.71	27.47	39.27	66.74	0.03	0.0%		
5/8	10	43.48	58.79	102.27	43.55	58.63	102.18	(0.09)	-0.1%		
5/8	15	63.58	83.14	146.72	63.65	82.83	146.48	(0.24)	-0.2%		
5/8	20	83.68	107.49	191.17	83.75	107.03	190.78	(0.39)	-0.2%		
									-		
Multifamily											
5/8	0	3.28	10.09	13.37	3.35	10.23	13.58	0.21	1.6%		
5/8	1	6.25	14.96	21.21	6.32	15.07	21.39	0.18	0.8%		
5/8	2	9.22	19.83	29.05	9.29	19.91	29.20	0.15	0.5%		
5/8	4	15.16	29.57	44.73	15.23	29.59	44.82	0.09	0.2%		
5/8	6	21.10	39.31	60.41	21.17	39.27	60.44	0.03	0.0%		
5/8	10	32.98	58.79	91.77	33.05	58.63	91.68	(0.09)	-0.1%		
5/8	15	47.83	83.14	130.97	47.90	82.83	130.73	(0.24)	-0.2%		
5/8	20	62.68	107.49	170.17	62.75	107.03	169.78	(0.39)	-0.2%		
Commercial											
2	50	163.80	253.59	417.39	163.40	252.23	415.63	(1.76)	-0.4%		
2	100	321.80	497.09	818.89	320.90	494.23	815.13	(3.76)	-0.5%		
3	200	648.00	984.09	1,632.09	646.50	978.23	1,624.73	(7.36)	-0.5%		
3	300	964.00	1,471.09	2,435.09	961.50	1,462.23	2,423.73	(11.36)	-0.5%		
4	500	1,600.00	2,445.09	4,045.09	1,595.50	2,430.23	4,025.73	(19.36)	-0.5%		
4	1000	3,180.00	4,880.09	8,060.09	3,170.50	4,850.23	8,020.73	(39.36)	-0.5%		
Industrial											
3	200	554.00	984.09	1,538.09	552.50	978.23	1,530.73	(7.36)	-0.5%		
3	300	823.00	1,471.09	2,294.09	820.50	1,462.23	2,282.73	(11.36)	-0.5%		
4	2500	6,745.00	12,185.09	18,930.09	6,720.50	12,110.23	18,830.73	(99.36)	-0.5%		
6	5000	13,479.00	24,360.09	37,839.09	13,430.00	24,210.23	37,640.23	(198.86)	-0.5%		

The charges shown are for customers inside the City Limits.

Appendix III – System Development Charges - Tables for CIP Scenarios UNDER DEVELOPMENT