



City of Clovis

WATER USER RATES & FEE STUDY

FINAL REPORT
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TABLE OF CONTENTS

SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY	1
1.1 Study Overview.....	1
1.2 Current Water Rate Structure	1
1.3 Procedural Requirements of Proposition 218.....	2
1.4 Rate Study Process	3
1.5 Findings and Recommendations	4
1.5.1 Revenue Requirement.....	4
1.5.2 Cost Allocation.....	5
1.5.3 Rate Design.....	5
1.5.4 Miscellaneous Fees.....	7
1.5.5 Conclusions and Proposed Rates.....	7
SECTION 2: CURRENT RATE REVENUES.....	10
SECTION 3: REVENUE REQUIREMENT.....	13
SECTION 4: COST ALLOCATION	15
4.1 Non-capacity Costs	19
4.2 Capacity Costs.....	19
4.2.1 Residential Base and Peaking	20
4.2.2 Commercial Base and Peak	22
4.2.3 Allocation of Capacity Costs	23
SECTION 5: RATE DESIGN	24
5.1 Customer Service, Quality, and Recycled Water Rates	24
5.2 Average Day Demand Charges	25
5.3 Total Fixed Charges.....	26
5.4 Non-drought Volume Rates.....	27
5.4.1 Non-drought Recycled Water Volume Rate Adjustment	28
5.4.2 Non-drought Peaking Adders	30
5.4.3 Total Non-drought Volume Rates.....	31
5.5 Non-drought Tarpey Rates	32
5.6 Drought Volume Rates	34
5.6.1 Water Conservation.....	34
5.6.2 Drought Rate Calculations.....	37
5.7 Drought Tarpey Rates.....	41
5.8 Full Drought Rate Schedule	42
5.9 Proposed Rate Schedules	44
5.10 Rate Design Alternatives.....	46
5.10.1 Commercial Meter Charges.....	46
5.10.2 Commercial Volume Rates	46
SECTION 6: BILL IMPACTS	47
6.1 Residential Non-drought Bill Impacts.....	47
6.2 Residential Drought Bill Impacts	51
6.3 Commercial Bill Impacts	56
SECTION 7: MISCELLANEOUS FEES.....	60

SECTION 8: CONCLUSIONS AND RECOMMENDATIONS.....	63
8.1 Conclusions.....	63
8.2 Recommendations.....	63

APPENDIX A: Non-drought Rates and Revenues

APPENDIX B: Drought Rates and Revenues

LIST OF TABLES

Table 1-1: Current and Proposed Miscellaneous Fees	7
Table 1-2: Current and Proposed Water Rates.....	8
Table 1-3: Average Single Family Residential Bill Impacts.....	9
Table 2-1: FY2015 Water Service Charge Revenues	11
Table 2-2: FY2015 Rate Revenue Summary	12
Table 3-1: Cost of Service.....	14
Table 4-1: Cost Allocation	16
Table 4-2: Allocation of Staffing Costs	17
Table 4-3: Recycled Water Cost Allocation.....	18
Table 4-4: Residential Base and Peak Capacity.....	21
Table 4-5: Commercial Base and Peak Capacity	22
Table 4-6: Allocation of Capacity Costs.....	23
Table 5-1: Customer Service, Quality, and Recycled Water Volume Rate Calculations.....	25
Table 5-2: Average Day Capacity Charge	26
Table 5-3: Residential Fixed Charge.....	27
Table 5-4: Commercial Fixed Charges.....	27
Table 5-5: Non-drought Functional Cost Category Volume Rate Calculation	28
Table 5-6: Non-drought Recycled Water Revenue Responsibility.....	29
Table 5-7: Non-drought Recycled Water Rate Adjustments	30
Table 5-8: Non-drought Commercial Peaking Adder.....	31
Table 5-9: Non-drought Total Metered Water Volume Rates.....	31
Table 5-10: Non-drought Average Rate Comparison	32
Table 5-11: Non-drought Tarpey Single Family Residential Bill.....	33
Table 5-12: Non-drought Tarpey Average Rate.....	33
Table 5-13: Projected Metered Water Use Under Drought Conditions.....	36
Table 5-14: Drought Residential Water Use	37
Table 5-15: Drought Functional Cost Category Volume Rate Calculation	38
Table 5-16: Drought Recycled Water Revenue Responsibility	39
Table 5-17: Drought Recycled Water Rate Adjustments.....	40
Table 5-18: Drought Residential Peaking Adder.....	40
Table 5-19: Drought Commercial Peaking Adder	40
Table 5-20: Drought Total Metered Water Volume Rates	41

Table 5-21: Drought Tarpey Single Family Residential Bill	41
Table 5-22: Drought Tarpey Average Rate Adjustment.....	42
Table 5-23: Proposed Rates with Tarpey Adjustment	42
Table 5-24: Drought Average Rate Comparison	43
Table 5-25: Current and Proposed Water Rates.....	44
Table 5-26: Rate Scenario Revenue Summary.....	45
Table 6-1: Current and Proposed Non-drought Typical Single Family Residential Bills	49
Table 6-2: Current and Proposed Non-drought Typical Multiple Family Residential Bills	51
Table 6-3: Current and Proposed Drought Typical Single Family Residential Bills	53
Table 6-4: Current and Proposed Drought Typical Multiple Family Residential Bills.....	55
Table 6-5: Current and Proposed Non-drought Commercial Bills	56
Table 6-6: Current and Proposed Drought Commercial Bills.....	58
Table 7-1: Staffing Costs	61
Table 7-2: Meter Testing Cost of Service.....	61
Table 7-3: After Hours Turn On Fee Cost of Service	61
Table 7-4: Same Day Turn On Fee Cost of Service.....	61
Table 7-5: Proposed Fees.....	62

LIST OF FIGURES

Figure 1: Comprehensive Cost of Service Study Process	3
Figure 2: Summary of Cost Allocation.....	5
Figure 3: Non-drought Single Family Residential Bill Survey.....	50

SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Study Overview

The City of Clovis (City) provides water service to a population of approximately 102,000 in an area encompassing more than 23 square miles in northeastern Fresno County, just west of the Sierra Nevada foothills and northeast of the City of Fresno. The City retained Bartle Wells Associates (BWA) to develop a water rate and miscellaneous fee study. BWA reviewed the City's current cost allocation and revenue recovery and developed recommendations for the City's tiered rate structure.

The water rates presented in this report were developed through a collaborative process with considerable input from City staff. The study incorporates American Water Works Association (AWWA) recommended methodologies tailored to meet the City's unique characteristics and develops water rates that proportionately allocate the cost of providing water service to each customer class. The objectives of the water rate study are to:

- Recover the City's annual revenue requirement and cost of providing water service
- Develop a water rate structure that proportionately allocates the cost of service to all customers and encourages water use efficiency and conservation
- Comply with the legal requirements of Proposition 218

This executive summary describes the procedural requirements of Proposition 218, details the rate study process, and provides conclusions and rate recommendations.

1.2 Current Water Rate Structure

The current water rates are based on a rate structure which includes both fixed charges based on meter size or number of dwelling units and a volumetric component based on bimonthly water consumption.

1. **Fixed Rates** – Fixed rates are levied regardless of water consumption. Each residential customer pays a fixed dwelling unit charge, which includes the first 10,000 gallons of water used during the bimonthly billing period. The fixed charge for each commercial customer varies based on meter size. The fixed commercial charges also include the first 10,000 gallons of water used in the billing period.

2. **Volumetric Rates** – Volumetric rates are billed to each thousand gallons of metered water use consumed over the first 10,000 in the bimonthly billing period. The City has an inclining block rate structure, in which use at higher level is billed a higher rate. The City’s residential volumetric rate has four inclining block tiers, and the commercial volumetric rate has two inclining block tiers.

1.3 Procedural Requirements of Proposition 218

Proposition 218, the “Right to Vote on Taxes Act”, was approved by California voters in November 1996 and is codified as Articles XIII C and XIII D of the California Constitution. Proposition 218 establishes requirements for imposing any new or increasing any existing property-related fees and charges. For many years, there was no legal consensus on whether water service fees met the definition of “property-related fees.” In July 2007, the California Supreme Court essentially confirmed that Proposition 218 applies to water service fees.

The City must follow the procedural requirements of Proposition 218 for all water rate increases. These requirements include:

1. **Noticing Requirement** – The City must mail a notice of the proposed rate increases to all affected property owners. The notice must specify the amount of the fee, the basis upon which it was calculated, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
2. **Public Hearing** – The City must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
3. **Rate Increases Subject to Majority Protest** - At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established a number of substantive requirements that apply to water rates and charges, including:

1. **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** - The amount of the fee or charge levied on any customer

shall not exceed the proportional cost of service attributable to that customer.

4. **Availability of Service** - No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **General Government Services** - No fee or charge may be imposed for general governmental services where the service is available to the public at large.

Charges for water, sewer, and refuse collection are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted pursuant to procedural requirements of Proposition 218.

1.4 Rate Study Process

This section details the development of the City’s water rates and compliance with Proposition 218 through a comprehensive cost of service and rate design study process as shown in the following figure.

Figure 1: Comprehensive Cost of Service Study Process



The following is a brief description of the water rate study process:

- **Revenue Requirement** – The water fund revenue requirement was developed from the City budget and in consultation with staff. Based on the best information currently available, the revenue requirement is funding recovered through water rates needed to cover the costs of operations, maintenance, debt service, capital improvements, and to maintain water fund reserves.
- **Cost of Service Allocation** - The cost of service allocation assigns the revenue requirement to functional cost components which are then allocated to the various customer classes. The functional cost components are customer service, capacity, water volume, water quality, and recycled water. This process is intended to proportionately allocate costs associated with each customer class based on the demand that they place on the system.
- **Rate Design** - Rate design involves developing a rate structure that proportionately recovers costs from water system customers. Final rate recommendations are designed to (a) fund the utility’s short- and long-term costs of providing service; (b) proportionately allocate costs to all customers and customer classes; (c) provide a prudent balance of revenue stability and conservation incentive; and (d) comply with the substantive requirements of Proposition 218.

1.5 Findings and Recommendations

The findings and recommendations presented in this report were developed with substantial input and overview from City staff. The rate recommendations include modifications to the cost of service allocation and water rates. The final rates are designed to recover the water utility’s cost of service and proportionately recover costs from all customer classes.

1.5.1 Revenue Requirement

The rate proposal described in this report is revenue neutral. Fiscal year (FY) 2015, the water fund collected about \$13.7 million in revenue from fixed charges, volume rates, and miscellaneous fees. This rate study proposes to collect the same amount of revenue in FY2017. Although the revenue requirement is the same, the water rates are proposed to increase for most customers. Due to projected drought conditions, the City must collect the same amount of revenue over a smaller base of water use.

1.5.2 Cost Allocation

BWA proposes the base-extra capacity cost allocation method for the City of Clovis' water rates. Under this method, costs are assigned to average day demand, peak day demand (peak day), peak hour demand (peak hour). In addition, this rate study also assigns costs to water quality, customer service, and recycled water. A summary of the treated water functional cost components, units of service, and the corresponding rate or charge is shown in Figure 2.

Figure 2: Summary of Cost Allocation

Functional Cost Component	Unit of Service	Rate or Charge
Customer service	Number of meters or dwelling units	Fixed charge
Quality	Number of dwelling units or meter equivalents	Fixed charge
Volume	Metered water use	Tiered water rates (all tiers)
Average day demand	Number of dwelling units or meter equivalents	Fixed charge
Peak day demand	Peaking day metered water use	Residential tier 2 water rate Commercial tier 2 water rate
Peak hour demand	Peak hour metered water use	Residential tier 3 water rate Commercial tier 2 water rate
Recycled water	Recycled water metered use	Recycled water rate

The result of the cost allocation is a shift in cost from commercial customers to residential customers and higher cost recovery from fixed charges. The proposed fixed charges are intended to recover the costs of customer service, water quality, and average day demand. The volumetric based water rates are intended to recover the costs of volume related costs (water pumping and treatment) and peaking costs.

1.5.3 Rate Design

This rate study proposes three rate design changes:

- 1) A new schedule of drought rates.
- 2) Elimination of the 10,000 gallon water allowance included with the minimum charge.
- 3) Adjustment of the water usage tiers.

This rate study provides both drought and non-drought proposed rates. In response to the drought, it is proposed that the City adopt drought rates (higher rates) based on reduced water use. If drought conditions improve and water use returns to 2013 levels, the City can transition to the non-drought rates. Proposition 218 describes a process for public agencies to adopt legal maximum water rates through noticing and a public hearing. Agencies have the option to implement lower rates than those approved via the Proposition 218 process without conducting additional noticing or public hearings.

Currently, the first 10,000 gallons of water use each bimonthly billing period is included in the minimum fixed charge. The water allowance is proposed to be eliminated such that every 1,000 gallons of water use is charged a metered rate. This rate change improves equity for low water users. Under the current rate structure, a low water user pays the fixed charge for 10,000 gallons bimonthly whether or not the customer actually uses that water.

Tiered water rates have come under increased legal scrutiny in California. Each tier breakpoint must be justified based on water usage patterns and the rate for each tier must be cost justified. For the residential customer class, BWA proposes three tiers: tier 1 – base volume rate, tier 2 – volume rate plus peak day demand costs, and tier 3 – volume rate plus peak hour demand costs. For the commercial customer class, BWA proposes to maintain the two tier rate structure: tier 1 – base volume rate and tier 2 – volume rate plus peaking costs.

1.5.4 Miscellaneous Fees

This study also provides a review of the water fund’s miscellaneous fees including the water meter testing, after hours turn-on, and same day turn-on for water shutoffs. These fees are proposed to be increased based on the actual staffing and materials costs of providing these services, see Table 1-1.

**Table 1-1: Current and Proposed Miscellaneous Fees
Water User Rates and Fee Study
City of Clovis**

Service Fees and Collection Charges	Current Fee	Proposed Fee
Meter testing	\$60.00	\$84.00
After hours turn on	\$125.00	\$174.00
Same day turn-on for water shutoffs	\$50.00	\$60.00

1.5.5 Conclusions and Proposed Rates

Industry standard practice generally recommends that water agencies conduct cost of service analyses every five years. This corresponds with the five year rate horizon permitted under Proposition 218. A five-year planning horizon can encompass shifts in the customer base, water consumption patterns, conservation needs, capital improvement planning, and legal requirements.

This 2016 Water User Rates & Fees Study documents the City’s cost of service allocation and rate design principles. It is BWA’s opinion that the rates and charges proposed in this report meet Proposition 218’s substantive requirements that rates must be fairly apportioned to customers based on cost. The proposed rates recover a larger portion of revenues from fixed service charges and a smaller portion of revenues from volume rates. This benefits the City by stabilizing revenues and mitigating the loss of revenue due to conservation. However, this shift results in higher bills for low water users.

The current, proposed non-drought, and proposed drought rates are shown below in Table 1-2. The drought and non-drought fixed charges are the same. Under the drought scenario, the volume rates are higher than the non-drought rate scenario reflecting the recovery of costs over a smaller base of water use. Table 1-3 provides bill impacts for the typical single family customer. Under the non-drought rate scenario, the typical single family residential customer would pay \$0.93 more bimonthly. The typical bill under the drought scenario is dependent upon how much the customer conserves. If the typical customer reduces water use by 15%, the resulting bill would be \$0.73 less than the non-conserving typical bill under current rates.

**Table 1-2: Current and Proposed Water Rates
Water User Rates and Fee Study
City of Clovis**

	Current	Proposed Non-drought	Proposed Drought
Residential			
Dwelling Unit Charge	\$16.80	\$21.22	\$21.22
Water Use			
Current			
Tier 1 (0-10) (\$/kgal)	\$0.00		
Tier 2 (10-35) (\$/kgal)	\$1.71		
Tier 3 (35-70) (\$/kgal)	\$2.14		
Tier 4 (70+) (\$/kgal)	\$2.57		
Proposed			
Tier 1 (0-23) (\$/kgal)		\$0.86	\$1.04
Tier 2 (23-40) (\$/kgal)		\$1.45	\$2.10
Tier 3 (40+) (\$/kgal)		\$1.78	\$2.66
	(70kgal)	(63kgal)	(63kgal)
Tarpey Unmetered	\$100.20	\$106.58	\$132.70
Tarpey Large Lot	\$4.66	\$5.12	\$5.12
Tarpey Excess Use Charges (\$/kgal)	\$1.73	\$1.78	\$2.49
Commercial & Recycled Water			
1" or smaller	\$16.80	\$17.10	\$17.10
1 1/2"	\$28.32	\$22.74	\$22.74
2"	\$42.16	\$31.40	\$31.40
3"	\$79.06	\$62.18	\$62.18
4"	\$120.62	\$156.42	\$156.42
6"	\$466.66	\$623.90	\$623.90
8"	\$812.70	\$1,105.96	\$1,105.96
10"	\$1,274.12	\$1,732.64	\$1,732.64
Commercial Water Use			
Current			
Tier 1 (0-10) (\$/kgal)	\$0.00		
Tier 2 (10+) (\$/kgal)	\$1.47		
Proposed			
Tier 1 (0-23) (\$/kgal)		\$0.86	\$1.04
Tier 2 (23+) (\$/kgal)		\$1.17	\$1.40
Recycled Water			
Current			
Tier 1 (0-10) (\$/kgal)	\$0.00		
Tier 2 (10+) (\$/kgal)	\$0.74		
Proposed All Use (\$/kgal)		\$0.53	\$0.56
Construction Water	\$91.58	\$106.58	\$132.70

**Table 1-3: Average Single Family Residential Bill Impacts
Water User Rates and Fee Study
City of Clovis**

Typical Single Family Residential Bill
27,000 gallons bimonthly water use

Current				Proposed – Non-drought			
	Rate	Units	Total		Rate	Units	Total
Fixed Charge	\$16.80	x 1	\$16.80	Fixed Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 23	\$19.78
Tier 2 (10-35)	\$1.71	x 17	\$29.07	Tier 2 (23-40)	\$1.45	x 4	\$5.80
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$1.78	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$45.87	Total Bill			\$46.80
						Change	\$0.93

Typical Single Family Residential Bill
27,000 gallons bimonthly water use reduced to 23,000 gallons bimonthly

Current				Proposed - Drought			
	Rate	Units	Total		Rate	Units	Total
Fixed Charge	\$16.80	x 1	\$16.80	Fixed Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 23	\$23.92
Tier 2 (10-35)	\$1.71	x 17	\$29.07	Tier 2 (23-40)	\$2.10	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$45.87	Total Bill			\$45.14
						Change	(\$0.73)

SECTION 2: CURRENT RATE REVENUES

The following section provides an overview of the City's current water rates, customers, water usage, and revenues.

FY2015, the City collected about \$13.7 million in water service charges comprised of both fixed water charges and volume water rates, see Table 2-1. The residential customer class includes single family, multifamily, and Tarpey residential unmetered customers. Single family and multifamily customers are billed a fixed minimum charge of \$16.80 bimonthly that includes a water allowance of 10,000 gallons for each dwelling unit. For example, a duplex would pay a fixed charge of \$33.60 bimonthly, which includes 20,000 gallons of water use. Water use above the water allowance per dwelling unit is billed per thousand gallons (kgal). Water use above 10,000 gallons up to 35,000 gallons is billed \$1.71/kgal; water use above 35,000 gallons up to 70,000 gallons is billed \$2.14/kgal; and water use above 70,000 gallons bimonthly is billed \$2.57/kgal.

The water rates listed above apply to metered single family residential and multifamily residential customers. The residential customer class also includes 428 unmetered residential customers in the Tarpey service area. The City provides one master metered service connection for all 428 customers. Each Tarpey parcel up to 17,500 square feet is billed \$100.20 bimonthly for water use up to 70,000. Larger parcels are billed an additional fixed charge of \$4.66 bimonthly per 7,500 square feet. If the average use per dwelling unit in the Tarpey service area exceeds 70,000 bimonthly, the City bills the excess use at a rate of \$1.73/kgal.

The commercial customer class is made up of businesses, landscape customers, standby fire meters, and recycled water customers. Commercial customers are billed fixed charges based on the size of the meter ranging from \$16.80 bimonthly for a 1" meter or smaller to \$1,274.12 bimonthly for a 10" meter. Commercial customers are also provided a water allowance of 10,000 gallons bimonthly, which is included in the base fixed charge. Water use above 10,000 gallons bimonthly is billed at a rate of \$1.47/kgal.

Recycled water service is a relatively new service for the City of Clovis. In FY2015, the City had only a handful of customers and minimal recycled water rate revenues. Into the future, the City expects additional landscape customers to transition from treated water service to recycled water service. Recycled water service provides benefit to the utility and to the customer. Recycled water demand offsets peak treated water potable demand and is thus charged a lower metered rate than commercial potable service.

**Table 2-1: FY2015 Water Service Charge Revenues
Water User Rates and Fee Study
City of Clovis**

	Current - FY2015		
	Rate	Units	Revenue
Residential			
Dwelling Unit Charge	\$16.80	231,253	\$3,885,050
Water Use			
Tier 1 (0-10)	\$0.00	2,089,571	\$0
Tier 2 (10-35)	\$1.71	2,372,347	\$4,056,713
Tier 3 (35-70)	\$2.14	753,228	\$1,611,908
Tier 4 (70+)	\$2.57	<u>176,126</u>	<u>\$452,644</u>
Total Metered Residential		5,391,272	\$6,121,265
Tarpey Unmetered	\$100.20	2,599	\$260,420
Tarpey Large Lot	\$4.66	180	\$839
Tarpey Excess Use Charges	\$1.73	20,685	\$35,786
Total Unmetered Residential			\$297,044
Total Residential			\$10,303,360
Potable Commercial			
1" or smaller	\$16.80	3,491	\$58,649
1 1/2"	\$28.32	1,920	\$54,374
2"	\$42.16	5,354	\$225,725
3"	\$79.06	353	\$27,908
4"	\$120.62	3,145	\$379,350
6"	\$466.66	31	\$14,466
8"	\$812.70	0	\$0
10"	\$1,274.12	12	\$15,289
Commercial adjustments and back charges			<u>\$168,686</u>
			\$944,448
Water Use			
Tier 1 (0-10)	\$0.00	78,780	\$0
Tier 2 (10+)	\$1.47	<u>1,374,813</u>	<u>\$2,020,975</u>
		1,453,593	\$2,020,975
Total Potable Commercial			\$2,965,423
Recycled Water			
2"	\$42.16	49	\$2,066
3"	\$79.06	26	\$2,016
4"	\$120.62	31	\$3,679
6"	\$466.66	3	\$1,167
8"	\$812.70	5	\$4,064
10"	\$1,274.12	0	\$0
			\$12,991
Water Use			
Tier 1 (0-10)	\$0.00	84	\$0
Tier 2 (10+)	\$0.74	<u>56,771</u>	<u>\$42,011</u>
		56,855	\$42,011
Total Recycled Water			\$55,001
Construction Water	\$91.58	805	\$73,722
3" Meters (billed separately)	\$79.06	206	\$16,286
Subtotal			\$13,413,792
Miscellaneous fees and other charges			\$297,554
Total Service Charges			\$297,554
Actual FY2015			\$13,711,346

Table 2-2 provides a summary of the FY2015 rate revenues separated by customer class and fixed and volume service charges. Residential rate revenues make up over 75% of the total rate revenues, commercial rate revenues make up above 22%, and miscellaneous and other service

charge make up over 2% of rate revenues. Fixed service charges make up 40% of the total service charges and volume rate revenues make up 60%. Most public water utilities in California collect between 50% and 70% of their service charge revenues through volume rates. By collecting a higher percent of revenues through volume rates, agencies provide a stronger conservation price signal to customers. However, agencies that collect a higher percent of revenues through fixed charges promote greater revenue stability.

**Table 2-2: FY2015 Rate Revenue Summary
Water User Rates and Fee Study
City of Clovis**

Rate Category	Residential		Commercial	Misc. & Other Service Charges	Total	
Fixed Service Charges	\$4,146,309	[1]	\$1,047,447	\$297,554	\$5,491,310	40.0%
Volume Service Charges	\$6,157,051	[2]	\$2,062,986		\$8,220,036	60.0%
Total	\$10,303,360		\$3,110,433	\$297,554	\$13,711,346	100.0%
	75.1%		22.7%	2.2%	100.0%	

[1] Includes Tarpey unmetered base and large lot service charge revenues

[2] Includes Tarpey excess use charges

SECTION 3: REVENUE REQUIREMENT

This section develops the water fund revenue requirement. The rates proposed in this report were developed using generally accepted cost-based principles and methodologies for establishing water rates, charges, and fees contained and discussed in the AWWA's *M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012*. In developing water rates, it is important to know that there is no "one-size-fits-all" approach for establishing cost-based water rates. "Rather, as the first edition of the M1 Manual noted "the (M1 Manual) is aimed at outlining the basic elements involved in water rates and suggesting alternative rules of procedure for formulating rates, thus permitting the exercise of judgment and preference to meet local conditions and requirements."¹ The rates and cost of service approach recommended in this report are unique to the City and are the result of an extensive review process with staff.

BWA finds that the City's current water fund revenue requirement to be reasonable and appropriate. In FY2015, the City collected about \$13.7 million in water rate revenues and \$1.65 million from other revenue sources resulting in total water fund revenues of about \$15.3 million. About \$1.7 million was added to reserves, see Table 3-1.

Table 3-1 also projects the revenue requirement for FY2017. The City recently phased out its conservation penalties, which collected about \$200,000 in revenues in FY2015. This study proposes increases to the miscellaneous fee schedule and the miscellaneous fee revenue is estimated to increase from \$72,000 to \$75,000. Total non-rate revenues are projected to be about \$1.45 million.

The City projects a \$20,000 operating cost increase due to reclassification of recycled water expenses. Currently, about \$20,000 in recycled water pumping costs are imbedded in wastewater budget line items and cost responsibility will be shifted to the water fund. The City wishes to continue contributing annually to its reserves to fund a rate stabilization account, future groundwater recharge, and future capital infrastructure replacements. For FY2017, contribution to reserves is estimated to be \$1.44 million and the total rate revenue requirement is \$13.65 million. As costs increase into the future, the City should review and update the water fund revenue requirement.

¹ AWWA Manual M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012, page 5.

**Table 3-1: Cost of Service
Water User Rates and Fee Study
City of Clovis**

	FY2014/15 Actuals (unaudited)	Projected FY2016/17
Non-Rate Revenues		
Land Rental	\$41,000	\$41,000
Legal Settlements (treatment)	\$291,000	\$291,000
Entitlement, Inspection, Misc	\$40,000	\$40,000
New Service Installations	\$337,000	\$337,000
Water Service Penalties	\$670,000	\$670,000
Conservation Penalties	\$197,000	\$0
Misc Service Fees	<u>\$72,000</u>	<u>\$75,000</u>
Total Non-Rate Revenues	\$1,648,000	\$1,454,000
Operating Expenses		
Salaries, Benefits, Training	\$4,100,000	\$4,100,000
Vehicles	\$443,000	\$443,000
Well Energy	\$1,861,000	\$1,861,000
FID Surface Water Purchase	\$499,000	\$499,000
Treatment		
Treatment Energy	\$465,000	\$465,000
Treatment, Chlorine, GAC	\$661,000	\$661,000
Lab Services, DBCP Legal, Monitoring	\$218,000	\$218,000
General, Admin, Property, Services	\$978,000	\$978,000
Impact/Easement	\$518,000	\$518,000
Meters and Boxes	\$622,000	\$622,000
Recycled Water [1]	\$4,000	\$24,000
Repairs, Maint., Services and Supplies	\$464,000	\$464,000
Marketing	\$23,000	\$23,000
Other/Misc.	<u>\$82,000</u>	<u>\$82,000</u>
Operating Expenses	\$10,938,000	\$10,958,000
Transfers - Ongoing Capital		
Surface Water Treatment Debt	\$750,000	\$750,000
Membrane Replacement	\$290,000	\$290,000
Well Replacements	\$470,000	\$470,000
Main Replacements	\$200,000	\$200,000
Drought Contingency	<u>\$1,000,000</u>	<u>\$1,000,000</u>
Total	\$2,710,000	\$2,710,000
Net Expenses (Expenses Less Non-Rate Revenue)	\$12,000,000	\$12,214,000
Contribution to Reserves [2]	\$1,711,000	\$1,441,000
Total Rate Revenue Requirement	\$13,711,000	\$13,655,000

[1] Actual FY2015 recycled water cost was \$4,000. However, an additional \$20,000 in recycled water pumping expenses will be paid via the water fund annually

[2] Funding for rate stabilization, future groundwater recharge, and/or capital infrastructure replacement

SECTION 4: COST ALLOCATION

BWA proposes to allocate the \$13.65 million revenue requirement using base-extra capacity method. The American Water Works Association recommends two primary methods to classify costs among various customers: (1) the base-extra capacity method in which costs are allocated to the different customer classes proportionate to their use of the water system; and (2) the commodity-demand method in which costs are proportionately allocated to each customer class based on their peak demand. Although the two methods vary in the way that costs are allocated, both result in rates designed to recover the reasonable cost of service during periods of both average and peak demands. To determine the proportionate allocation of revenue recovery, this study allocates treated and untreated water system costs using the base-extra capacity method.

The base-extra capacity method is appropriate for the City of Clovis because a significant portion of engineering design and operational criteria are attributable to average day demand. As such, costs are first allocated between residential and commercial customers based on their contributions to average day demand. Second, costs are allocated to each customer class based on the class contribution to peak demands. BWA found that commercial customers had lower than expected average day demand due to unused standby fire meters.

In the AWWA's base-extra capacity method, costs are separated into four components: (a) base costs, (b) extra capacity costs, (c) customer costs, and (d) direct fire protection costs. However, the AWWA M1 encourages water purveyors to tailor the cost components to their specific characteristics. BWA recommends the following functional cost categories: (a) Average Day Demand, (b) Peak Day Demand, (c) Peak Hour Demand, (d) customer service, (e) volume, (f) water quality and (g) recycled water. The City's revenue requirements is allocated to base-extra capacity functional cost components based on AWWA guidance, industry standard practice, and the City's operations and engineering expertise. The proposed cost allocation was developed by City staff and is shown in Table 4-1 and is based on normal year (non-drought) water conditions. Several revenue requirement line items were allocated based on the staffing needs. Cost allocation based on staffing is provided in Table 4-2.

**Table 4-1: Cost Allocation
Water User Rates and Fee Study
City of Clovis**

Line #	FY2014/15 Actuals (unaudited)	Allocation					Recycled Water	Allocation Methodology
		Customer Service	Capacity	Volume	Quality			
Non-Rate Revenues								
1	Land Rental	\$41,000	0%	100%	0%	0%	0%	Capacity revenue
2	Legal Settlements (treatment)	\$291,000	0%	0%	0%	100%	0%	Water Quality revenue
3	Entitlement, Inspection, Misc	\$40,000	0%	100%	0%	0%	0%	Capacity revenue
4	New Service Installations	\$337,000	100%	0%	0%	0%	0%	Customer Service revenue
5	Water Service Penalties	\$670,000	100%	0%	0%	0%	0%	Customer Service revenue
6	Total Non-Rate Revenues	\$1,379,000	\$1,007,000	\$81,000	\$0	\$291,000	\$0	
Operating Expenses								
7	Salaries, Benefits, Training	\$4,100,000	21.1%	51.5%	14.6%	12.8%	0%	Based on staffing
8	Vehicles	\$443,000	21.1%	51.5%	14.6%	12.8%	0%	Based on staffing
9	Well Energy	\$1,861,000	0%	0%	100%	0%	0%	Volume expense
10	FID Surface Water Purchase	\$499,000	0%	100%	0%	0%	0%	Capacity cost
Treatment								
11	Treatment Energy	\$465,000	0%	0%	100%	0%	0%	Volume expense
12	Treatment, Chlorine, GAC	\$661,000	0%	0%	100%	0%	0%	Volume expense
13	Lab Services, DBCP Legal, Monitoring	\$218,000	0%	0%	0%	100%	0%	Water Quality expense
14	General, Admin, Property, Services	\$978,000	100%	0%	0%	0%	0%	Customer Service revenue
15	Impact/Easement	\$518,000	0%	100%	0%	0%	0%	Capacity cost
16	Meters and Boxes	\$622,000	100%	0%	0%	0%	0%	Customer Service revenue
17	Recycled Water	\$24,000	0%	0%	0%	0%	100%	Recycled water
18	Repairs, Maint., Services and Supplies	\$464,000	0%	100%	0%	0%	0%	Capacity cost
19	Marketing	\$23,000	0%	0%	100%	0%	0%	Volume expense
20	Other/Misc.	\$82,000	25%	75%	0%	0%	0%	Staff judgement
21	Operating Expenses	\$10,958,000	\$2,577,616	\$3,883,661	\$3,674,420	\$798,302	\$24,000	
Transfers - Ongoing Capital								
22	Surface Water Treatment Debt	\$750,000	0%	100%	0%	0%	0%	Capacity cost
23	Membrane Replacement	\$290,000	0%	0%	100%	0%	0%	Volume expense
24	Well Replacements	\$470,000	0%	0%	100%	0%	0%	Volume expense
25	Main Replacements	\$200,000	0%	100%	0%	0%	0%	Capacity cost
26	Drought Contingency	\$1,000,000	0%	0%	100%	0%	0%	Volume expense
27	Total	\$2,710,000	\$0	\$950,000	\$1,760,000	\$0	\$0	
Net Expenses								
28	(Expenses Less Non-Rate Revenue)	\$12,289,000	\$1,570,616	\$4,752,661	\$5,434,420	\$507,302	\$24,000	
29	Cost Allocation	100.00%	12.8%	38.7%	44.2%	4.1%	0.2%	
	Proposed Revenue Requirement	\$13,655,000	\$1,745,200	\$5,280,950	\$6,038,490	\$563,692	\$26,668	

**Table 4-2: Allocation of Staffing Costs
Water User Rates and Fee Study
City of Clovis**

Water Staff	Salary	FTEs	Total Staffing Cost	Customer Service	Capacity	Volume	Quality
	\$162,780						
Public Utilities Director	0	0.3	\$48,834	25%	25%	25%	25%
	\$136,560						
Assistant Public Works Director	0	0.45	\$61,452	25%	25%	25%	25%
	\$102,360						
Utilities Manager	0	0.5	\$51,180	33%	33%	33%	0%
	\$102,360						
Construction Manager	0	0.3	\$30,708	50%	50%	0%	0%
	\$102,360						
Water Production Manager	0	1	\$102,360	0%	33%	33%	33%
Associate Civil Engineer	\$97,992	0.25	\$24,498	25%	25%	25%	25%
Management Analyst	\$84,972	0.2	\$16,994	25%	25%	25%	25%
Junior Engineer	\$79,440	1	\$79,440	25%	25%	25%	25%
Water Service Technician	\$73,800	1	\$73,800	0%	33%	33%	33%
Water Treatment Plant Operator	\$73,800	3	\$221,400	0%	33%	33%	33%
Maintenance Line Worker	\$72,348	3	\$217,044	33%	67%	0%	0%
Assistant Water Technician	\$65,856	4	\$263,424	0%	33%	33%	33%
Senior/Maintenance Worker [1]	\$59,196	10.6	\$627,478	9%	91%	0%	0%
Engineering Technician	\$58,716	1.25	\$73,395	33%	33%	33%	0%
Meter Reader	\$54,480	4	\$217,920	100%	0%	0%	0%
POA	\$51,264	0.45	\$23,069	25%	25%	25%	25%
Office Administrator	\$41,088	0.25	\$10,272	25%	25%	25%	25%
Utility Worker	\$36,144	2.75	\$99,396	0%	100%	0%	0%
			\$2,242,664		\$1,155,720	\$327,993	\$286,468
Total		34	4	\$472,483	0	3	8
Allocation			100%	21.1%	51.5%	14.6%	12.8%

[1] 1 FTE allocated to customer service/meter costs and 9.6 FTEs are allocated to capacity costs

Table 4-1 provides a general cost of service allocation that applies to the City’s potable water customer base. The general cost of service includes costs for water treatment and water quality. These costs do not apply to recycled water customers who take non-potable water service. Table 4-3 develops a cost allocation for recycled water customers that removes costs associated with water quality and water treatment.

**Table 4-3: Recycled Water Cost Allocation
Water User Rates and Fee Study
City of Clovis**

Line #	FY2014/15 Actuals (unaudited)	Allocation				Recycled Water	Allocation Methodology
		Customer Service	Capacity	Volume	Quality		
Non-Rate Revenues							
1	Land Rental	\$41,000	0%	100%	0%	0%	Capacity revenue
2	Legal Settlements (treatment)	\$291,000	0%	0%	0%	0%	Water Quality revenue
3	Entitlement, Inspection, Misc	\$40,000	0%	100%	0%	0%	Capacity revenue
4	New Service Installations	\$337,000	100%	0%	0%	0%	Customer Service revenue
5	Water Service Penalties	<u>\$670,000</u>	100%	0%	0%	0%	Customer Service revenue
6	Total Non-Rate Revenues	\$1,379,000	\$1,007,000	\$81,000	\$0	\$0	
Operating Expenses							
7	Salaries, Benefits, Training	\$4,100,000	21.1%	51.5%	14.6%	0%	Based on staffing
8	Vehicles	\$443,000	21.1%	51.5%	14.6%	0%	Based on staffing
9	Well Energy	\$1,861,000	0%	0%	0%	0%	Volume expense
10	FID Surface Water Purchase Treatment	\$499,000	0%	100%	0%	0%	Capacity cost
11	Treatment Energy	\$465,000	0%	0%	0%	0%	Volume expense
12	Treatment, Chlorine, GAC	\$661,000	0%	0%	0%	0%	Volume expense
13	Lab Services, DBCP Legal, Monitoring	\$218,000	0%	0%	0%	0%	Water Quality expense
14	General, Admin, Property, Services	\$978,000	100%	0%	0%	0%	Customer Service revenue
15	Impact/Easement	\$518,000	0%	100%	0%	0%	Capacity cost
16	Meters and Boxes	\$622,000	100%	0%	0%	0%	Customer Service revenue
17	Recycled Water	\$24,000	0%	0%	0%	100%	Recycled water
18	Repairs, Maint., Services and Supplies	\$464,000	0%	100%	0%	0%	Capacity cost
19	Marketing	\$23,000	0%	0%	100%	0%	Volume expense
20	Other/Misc.	<u>\$82,000</u>	25%	75%	0%	0%	Staff judgement
21	Operating Expenses	\$10,958,000	\$2,577,616	\$3,883,661	\$687,420	\$0	\$24,000
Transfers - Ongoing Capital							
22	Surface Water Treatment Debt	\$750,000	0%	0%	0%	0%	Capacity cost
23	Membrane Replacement	\$290,000	0%	0%	0%	0%	Volume expense
24	Well Replacements	\$470,000	0%	0%	0%	0%	Volume expense
25	Main Replacements	\$200,000	0%	100%	0%	0%	Capacity cost
26	Drought Contingency	<u>\$1,000,000</u>	0%	0%	0%	0%	Volume expense
27	Total	\$2,710,000	\$0	\$200,000	\$0	\$0	
Net Expenses							
28	(Expenses Less Non-Rate Revenue)	\$12,289,000	\$1,570,616	\$4,002,661	\$687,420	\$0	\$24,000
29	Cost Allocation	100.00%	12.8%	32.6%	5.6%	0.0%	0.2%
Proposed Revenue Requirement		\$13,655,000	\$1,745,200	\$4,447,582	\$763,831	\$0	\$26,668
Recycled Water Discount				(\$833,367) -16%	(\$5,274,659) -87%	(\$563,692) -100%	Compared with Table 4-1

4.1 Non-capacity Costs

The City's non-capacity related costs include customer service, volume, water quality, and recycled water. A brief description of each cost category is provided below:

Customer service: Customer costs include a portion of general, overhead, and administrative costs as well as customer accounting costs such as billing. Customer service revenues fees such as returned check fees, late payment fees, and service installation fees. The customer service revenue requirement is allocated based on number of dwelling units for the residential customer class and number of meters for the commercial customer class including 805 construction water accounts. The number of construction water accounts is based on FY2015 records.

Volume: Water volume costs relate directly to the amount of water produced and supplied to customers including well energy, surface water treatment, replacement of membranes and wells, drought contingency and marketing costs, and a portion of salaries and vehicles. The volume revenue requirement is allocated equally to all water use.

Water quality: Water quality costs are fixed costs related to monitoring, permitting, and laboratory costs to maintain drinking water quality. Water quality costs are allocated based on number of dwelling units for the residential customer class and number of meters for the commercial customer class including 805 construction water accounts.

Recycled water: Recycled water costs are expenses identified by City staff related to the provision of recycled water including pumping costs. Recycled water is allocated to all recycled water use.

4.2 Capacity Costs

The City allocates approximately 39% of its revenue requirement to the capacity cost category consisting of base and peaking costs. The base capacity cost includes costs associated with providing service under average or steady load conditions absent any peaking. Recycled water use offsets potable water use and is not charged peaking costs. The AWWA M1 Manual defines extra capacity as peak or variable capacity above the average base capacity. The M1 Manual advises that the extra capacity functional category can be further subdivided into maximum day and maximum hour functional categories.

As a first step in the capacity allocation process, BWA reviewed the water system's peaking factors and water consumption data for the residential and commercial customer classes.

4.2.1 Residential Base and Peaking

The residential base water use includes the water use of single family, multifamily, and Tarpey service area customers. The current water rate structure assumes average bimonthly water use of 70,000 gallons per Tarpey parcel. However, FY2015 water use indicates that the current average bimonthly use is 63,000 gallons per parcel. Because individual parcels in the Tarpey service area are unmetered, this rate study apportions cost based on an assumed average use of 63,000 gallons bimonthly across the 428 unmetered parcels in the Tarpey service area. Water use above the average bimonthly threshold of 63,000 gallons would be charged an excess use charge. The estimated FY2017 Tarpey non-drought excess use is greater than the FY2015 excess use because the threshold was decreased from 70,000 to 63,000 gallons bimonthly.

BWA determined the base capacity of metered residential customers by reviewing the City's billing records. The average residential metered water use was 23,000 gallons bimonthly per dwelling unit. This average includes both single family residential and multiple family residential customers. The average single family metered use is 27,000 gallons bimonthly and the average meter use per multiple family dwelling unit is 13,000 gallons bimonthly. Multiple family customers typically have less outdoor irrigation water demand and fewer people per dwelling unit than single family residential customers. 23,000 gallons is the average bimonthly residential demand and is therefore used as the first water usage tier threshold. About 67% of residential water use occurs in the first tier.

Residential peak day and peak hour demands were determined based on 2013 system-wide peaking factors calculated by the City. Ideally, peaking data would be available for each customer class. However, given that the residential customer class makes up the vast majority of the City's customer base (both number of accounts and water use), BWA assumes the system-wide peaking factors are indicative of residential water consumption patterns. To calculate the residential peak day demand, the annual residential water use is multiplied by the peak day factor of 1.71. The peak day estimated use is divided by the number of dwelling units to determine the peak day (tier 2) breakpoint of 40,000 gallons bimonthly. Peak hour demand defines tier 3 and encompasses residential water use above the peak day demand.

**Table 4-4: Residential Base and Peak Capacity
Water User Rates and Fee Study
City of Clovis**

Demand	gpm [1]	Peaking Factor	Customer Class			Residential Water Use (kgal)
Average day	16,814	1.00	Residential Metered			5,391,272
Peak day	28,696	1.71	Tarpey (63kgal/DU)			161,784
Peak hour	44,500	2.65	Tarpey Excess Use			29,029
			Total			5,582,085
Base Capacity			Metered Use	Tarpey	Total	% of Total Annual Use
Total Annual Use	5,391,272	kgal	0-23 kgal	0-23 kgal		
Dwelling units	231,253	Billed bimonthly	3,697,077	59,064	3,756,141	67.29%
Use per DU	23	avg bimonthly use				
Peak Day Demand			Metered Use	Tarpey	Total	% of Total Annual Use
Peaking Factor	1.7		23-40 kgal	23-40 kgal		
Peak Day Use	9,201,138	kgal	973,138	43,656	1,016,794	18.22%
Dwelling Units	231,253	Billed bimonthly				
Use per DU	40	peak day bimonthly use				
Peak Hour Demand			Metered Use	Tarpey	Total	% of Total Annual Use
Peaking Factor			40+ kgal	40+ kgal		
Peak Hour Use			721,057	88,093	809,150	14.50%

DU – dwelling unit

[1] gpm - gallons per minute; peaking factors developed by the City based on 2013 data

4.2.2 Commercial Base and Peak

The commercial base demand and peaking is developed in Table 4-5. As a first step, the average bimonthly use per active meter was determined. The average use of the smallest meter size (50,000 gallons bimonthly) is considered one meter equivalent. The average use of the larger meter sizes is scaled to 50,000 gallons bimonthly to determine the schedule of meter equivalents. The number of meter equivalents is used to calculate the base capacity charge. Table 4-5 also provides the commercial class peak use. Use above the average bimonthly demand is considered peak use. For example a 2" commercial customer using 145,000 gallons in one billing period would have 142,000 gallons base use plus 3,000 gallons peak use. Recycled water customers are not included in the table below because they are a relatively new customer class with only limited water usage history.

**Table 4-5: Commercial Base and Peak Capacity
Water User Rates and Fee Study
City of Clovis**

Potable Commercial Customers	Bimonthly Customer Count [1]	Annual Water Use (kgal)	Average Billing Period Demand per customer (Column A)	Average Day Capacity Factor Adjusted Average Day Capacity Factor	Peak Use [2]
1" (or smaller)	3,219	161,284	50	1.00	93,624
1 1/2"	1,235	106,500	86	1.72	49,777
2"	3,984	564,088	142	2.83	291,343
3"	326	110,325	338	6.75	51,299
4"	394	370,837	941	18.79	7,797
6"	24	94,352	3,931	78.46	51,814
8" [3]	0	0	7,015	140.00	
10" [3]	<u>12</u>	<u>46,167</u>	11,023	220.00	
	9,194	1,453,553			545,654

[1] Includes commercial and landscape customers. Does not include recycled water, prorated customers or customers with 0 use. Prorated customers accounted for 40,000 gallons of water use.

[2] Water use above the average use per billing period (Column A)

[3] Typical capacity factor used. The City has limited billing records for the two 10" customers (represented by 6 bimonthly billing periods each) and no peak water use is assumed. AWWA meter capacity equivalents were used as the average day capacity factors for the 8" and 10" meter sizes. An 8" meter is assumed to have 140 times the capacity of a 1" meter and a 10" meter is assumed to have 220 times the capacity of a 1" meter.

4.2.3 Allocation of Capacity Costs

The residential and commercial base demand and peak water use are summarized in Table 4-6. The residential customer class makes up about 80% of the base water demand and lower proportional peak demand of 77% of the total. Table 4-6 also allocates the capacity revenue requirement between base and peak demands and to each customer class based on their usage patterns. Recycled water customers are assumed to offset peak potable water demand and thus are not allocated any peaking costs.

**Table 4-6: Allocation of Capacity Costs
Water User Rates and Fee Study
City of Clovis**

Customer Class	Average Day Demand Allocation		Peak Day Demand Allocation [1]		Total Water Use (avg day + peak)
Residential	3,756,141	79.6%	1,825,944	77.0%	5,582,085
Commercial	907,939	19.2%	545,654	23.0%	1,453,593
Recycled Water	<u>56,855</u>	<u>1.2%</u>	<u>0</u>	<u>0.0%</u>	<u>56,855</u>
Total	4,720,935	100.0%	2,371,598	100.0%	7,092,533
System-wide Allocation	66.6%		33.4%		100.0%

Capacity	Allocation	Revenue Requirement [2]	Residential	Potable Commercial	Recycled Water [3]
			79.6%	19.2%	1.2%
Average Day Demand	66.6%	\$3,515,108	\$2,796,743	\$676,032	\$42,333
Peaking Demand	<u>33.4%</u>	<u>\$1,765,841</u>	<u>\$1,359,559</u>	<u>\$406,282</u>	
Total	100.0%	\$5,280,950	\$4,156,303	\$1,082,315	\$42,333

[1] Residential peak day demand is developed in Table 4-4; commercial peak demand is developed in Table 4-5

[2] Total capacity revenue requirement of \$5.28 million is developed in Table 4-1

[3] Recycled water is not charged peaking costs

SECTION 5: RATE DESIGN

This section calculates the proposed water rates to recover the functional costs described in the previous section. Customer service, water quality, and base capacity costs are proposed to be recovered from fixed charges. Volume, recycled water, and peaking costs are proposed to be recovered from metered water volume rates.

This rate study develops both drought and non-drought proposed rates. The fixed charges are proposed to remain the same under both scenarios. Under drought conditions, the City must collect water use related costs from a smaller base of water use; thus the metered rates are higher than under non-drought rate scenario. Implementation of drought and non-drought rates is presented in Section 8: Conclusions and Recommendations.

5.1 Customer Service, Quality, and Recycled Water Rates

Table 5-1 presents the calculations of the proposed rates associated with the customer service, water quality, and recycled water functional costs. The customer service and water quality revenue requirements are divided by the total number of dwelling units plus the total number of commercial water meters billed bimonthly.² The customer service and water quality rate calculations shown below include recycled water meter counts. Recycled water customers receive non-potable water and do not benefit from the City's water quality-related functions. Adjustments to the recycled water rates are provided in a subsequent section. Tarpey extra large lots are not included in the customer service charge or water quality charge calculations. It is assumed that customer service and water quality costs would not increase based on the size of the parcel. For customer service and water quality charges, one Tarpey parcel (large or small) represents one customer.

² Each stable customer is represented as six. For example, a stable single family residential customer would be counted as six bimonthly dwelling units - for each of the six annual bimonthly billing periods. Some of the customer counts shown in this report are odd numbers, which reflect mid-year connections and disconnections.

**Table 5-1: Customer Service, Quality, and Recycled Water Volume Rate Calculations
Water User Rates and Fee Study
City of Clovis**

Cost Category	Annual Revenue Requirement [1]	Billing Units	Rate	
Customer Service	\$1,745,200	249,144	\$7.00	\$/account (commercial) or \$/dwelling unit (residential) per billing period
Quality	\$563,692	249,144	\$2.26	\$/account (commercial) or \$/dwelling unit (residential) per billing period
Recycled Water	\$26,668	56,855	\$0.47	\$/kgal recycled water use

[1] From Table 4-1

5.2 Average Day Demand Charges

Table 5-2 calculates the average day capacity charge for residential and commercial customers. The average day revenue requirement allocated to the residential customer class is divided by the number of bimonthly dwelling units. Tarpey extra large lots are included in the average day capacity calculation because it is assumed that larger lots place greater demands on the water system.

The commercial average day capacity charges are calculated using the average day capacity factors developed in the previous section. The factors represent the average day or base water use of larger meters relative to the base water use of the 1" or smaller commercial water meter. The capacity factor of each water meter multiplied by the meter count provides the number of meter equivalents. The commercial average day/base capacity revenue requirement divided by the number of meter equivalents calculates the 1" meter base capacity charge of \$7.83 bimonthly, see Table 5-2. The base capacity charge of larger meter sizes is scaled based on the average day capacity factor. For example, the 8" base capacity charge is \$1,096.69 (\$7.83 multiplied by the 140.00 capacity factor).

Although average day demand will change under drought conditions, BWA proposes that the City maintain the same average day capacity charges under both drought and non-drought conditions. The average day demand charges reflect the City's fixed costs of maintaining capacity in the system under normal water conditions. These costs are not eliminated or reduced during water cutbacks. Normal water-year average day demand factors are a fair method of apportioning base capacity costs.

**Table 5-2: Average Day Capacity Charge
Water User Rates and Fee Study
City of Clovis**

Customer Class	Average Day Revenue Requirement [1]	Billing Units	Rate	
Residential [2]	\$2,796,743	233,898	\$11.96	\$/dwelling unit per billing period
Commercial	\$718,365	91,704	\$7.83	\$/equivalent per billing period
Total	\$3,515,108			

Meter Size	Customer Count [3]	Average Day Capacity Factor [4]	Equivalents
1" (or smaller)	3,491	1.00	3,491
1 1/2"	1,920	1.72	3,305
2"	5,354	2.83	15,130
3"	531	6.75	3,583
4"	3,176	18.79	59,652
6"	24	78.46	1,883
8"	5	140.00	700
10"	18	220.00	3,960
Total	14,518		91,704

Commercial Average Day Capacity Revenue Requirement	\$718,365
\$/commercial equivalent per billing period	\$7.83

[1] From Table 4-6, commercial water use includes potable and recycled water use

[2] Includes single family residential, multifamily residential, Tarpey unmetered, and Tarpey large lot. Each Tarpey large lot is assumed to be 0.43 dwelling units based on the ratio of the large/extra lot 7,500 sq ft to the base lot size of 17,500 sq ft.

[3] Includes prorated and recycled water customers

[4] From Table 4-5

5.3 Total Fixed Charges

As described above, the City proposes to recover customer service, water quality, and average day capacity costs as fixed water service charges. The total proposed residential bimonthly fixed charge is summed in Table 5-3. It should be noted that the proposed fixed charge does not include the current water allowance of 10,000 gallons bimonthly. The “free” water allowance is proposed to be eliminated. The proposed bimonthly residential fixed charge is \$21.22, which is an increase from the current charge of \$16.80. Table 5-4 presents the total commercial fixed charge.

**Table 5-3: Residential Fixed Charge
Water User Rates and Fee Study
City of Clovis**

Residential Fixed Charges	Charge per Dwelling Unit	Reference
Customer Service	\$7.00	Table 5-1
Quality	\$2.26	Table 5-1
Average Day Capacity	<u>\$11.96</u>	Table 5-2
Total Fixed Charge per Dwelling Unit	\$21.22	
Tarpey Large Lot		
Large Lot	7,500	Square feet
Standard Lot	17,500	Square feet
Ratio	0.429	
Tarpey Large Lot Average Day Capacity Charge	\$5.12	

**Table 5-4: Commercial Fixed Charges
Water User Rates and Fee Study
City of Clovis**

Meter Size	Customer Service	Quality	Average Day Capacity		Total Fixed Charge [1]
			Equivalent	Average Day Charge	
5/8" or 3/4"	\$7.00	\$2.26	1.00	\$7.83	\$17.10
1"	\$7.00	\$2.26	1.00	\$7.83	\$17.10
1 1/2"	\$7.00	\$2.26	1.72	\$13.48	\$22.74
2"	\$7.00	\$2.26	2.83	\$22.14	\$31.40
3"	\$7.00	\$2.26	6.75	\$52.91	\$62.18
4"	\$7.00	\$2.26	18.79	\$147.15	\$156.42
6"	\$7.00	\$2.26	78.46	\$614.65	\$623.90
8"	\$7.00	\$2.26	140.00	\$1,096.69	\$1,105.96
10"	\$7.00	\$2.26	220.00	\$1,723.37	\$1,732.64

[1] The total fixed charge is rounded to the nearest \$0.02 to comply with the City's billing software.

5.4 Non-drought Volume Rates

The volume, peaking, and recycled water functional costs are proposed to be recovered from metered rates. For residential and commercial customers, the volume functional cost category is proposed to be collected from all water use and billed as the tier 1 metered rate. The volume functional cost rate is calculated in Table 5-5.

**Table 5-5: Non-drought Functional Cost Category Volume Rate Calculation
Water User Rates and Fee Study
City of Clovis**

Volume Functional Cost Revenue Requirement	\$6,038,490	Table 4-1
Water Use	7,092,533	Table 4-6
Volume Functional Cost Rate (\$/kgal)	\$0.85	

5.4.1 Non-drought Recycled Water Volume Rate Adjustment

As discussed throughout this report, recycled water customers take non-potable water service from the City and should not pay costs related to water quality or water treatment. Therefore, these costs must be removed from the recycled water rate calculations. As described above and shown in Table 4-1 and Table 4-3, the commercial fixed charges recover functional costs that include water quality costs and treatment costs. Although these are fixed costs, the City proposes to reduce the recycled water volume rates to provide a water quality and treatment discount. The City prefers all commercial customers, businesses, landscape meters, standby fire meters, and recycled water customers, to have one schedule of fixed meter charges.

Table 5-6 calculates the recycled water customer class revenue responsibility net of discounts for water quality and treatment. As a first step, the annual recycled revenue is calculated based on the standard commercial rates, which totals about \$90,000. As a second step, discounts are applied for water quality and treatment based on the recycled water cost allocation from Table 4-3. The ending recycled water cost responsibility is reduced by about half to approximately \$45,000. The value of the recycled water discounts are proposed to reduce the recycled water rate and be recovered from an increase to the volume rate of all other customer classes, see Table 5-7.

**Table 5-6: Non-drought Recycled Water Revenue Responsibility
Water User Rates and Fee Study
City of Clovis**

Recycled Water	Billing Units	Cust. Serv. Rate	Cust. Serv. Revenue	Quality Rate	Quality Revenue	Avg Day Demand Rate	Avg Day Demand Revenue
2"	49	\$7.00	\$343	\$2.26	\$111	\$22.14	\$1,085
3"	26	\$7.00	\$179	\$2.26	\$58	\$52.91	\$1,349
4"	31	\$7.00	\$214	\$2.26	\$69	\$147.15	\$4,488
6"	3	\$7.00	\$18	\$2.26	\$6	\$614.65	\$1,537
8"	5	\$7.00	\$35	\$2.26	\$11	\$1,096.69	\$5,483
10"	0	\$7.00	\$0	\$2.26	\$0	\$1,723.37	\$0
Total			\$788		\$255		\$13,942
		Water Use	Rate	Volume Rev			
	Volume	56,855	\$0.85	\$48,406			

	Beginning Revenue	Recycled Water Discount	Ending Revenue
Customer Service	\$788	0%	\$788
Quality Revenue	\$255	-100%	\$0
Avg Day Demand Revenue	\$13,942	-16%	\$11,742
Volume Revenue	\$48,406	-87%	\$6,123
Recycled Water Revenue	<u>\$26,668</u>	0%	<u>\$26,668</u>
Total	\$90,058		\$45,321

**Table 5-7: Non-drought Recycled Water Rate Adjustments
Water User Rates and Fee Study
City of Clovis**

Customer Class	Water Use (kgal)	Allocated Revenue
M&I Service	7,035,678	\$5,990,085
Recycled Water	<u>56,855</u>	<u>\$48,406</u>
Total	7,092,533	\$6,038,490
Recycled Water Service		
Volume Allocated Revenue		\$48,406
Recycled Water Adjustment		<u>(\$44,737)</u>
Total		\$3,668
Water Use (kgal)		56,855
Rate (\$/kgal)		\$0.06
M&I Service		
Volume Allocated Revenue		\$5,990,085
Recycled Water Adjustment		<u>\$44,737</u>
Total		\$6,034,822
Water Use (kgal)		7,035,678
Rate (\$/kgal)		\$0.86

M&I service – municipal and industrial potable water service

5.4.2 Non-drought Peaking Adders

Residential peaking costs are proposed to be recovered from the peaking adder applied to the volume rate. Peak day costs are proposed to be collected from tier 2 rate and peak hour costs are proposed to be collected from tier 3 rate. The tier breakpoints are based on water usage patterns as described in Section 4.2.1. To calculate the peaking adder, the peak day and peak hour water use is multiplied by the peaking factors to determine equivalent use. The water system is designed and engineered to meet peak hour demand plus emergency fire flow. Peak demand is more costly for the City to serve due to increased pumping and treatment costs. Furthermore, peak hour demand is more costly to serve than peak day demand due to the need to design, operate, and maintain an upsized transmission and distribution system. Equivalent use represents the relative cost impacts that peak day and peak hour demands have on the water system. Peak day water use is determined to be \$0.60/kgal more costly to serve than non-peak water use. Peak hour water use is determined to be \$0.93/kgal more costly to serve than non-peak water use.

Table 10: Non-drought Residential Peaking Adder

**Water User Rates and Fee Study
City of Clovis**

Residential Peaking	Water Use (kgal) [1]	Peaking Factor [1]	Equivalent Use
Peak Day Demand	1,016,794	1.71	1,735,335
Peak Hour Demand	809,150	2.65	2,141,499
			3,876,834
Residential Peaking Revenue Requirement		\$1,359,559	Table 4-6
Residential Equivalent Use Rate		3,876,834	
		\$0.351	
			peaking adder
			\$/kgal
Peak Day	1.71	x 0.351	\$0.60
Peak Hour	2.65	x 0.351	\$0.93

[1] From Table 4-4

For the commercial customer class, the City proposes to maintain a two tiered rate structure and for commercial and residential customers to have the same tier 1 breakpoint of 23,000 gallons bimonthly. About 11% of commercial water (not including recycled water) occurs in tier 1 and about 89% of commercial water use occurs in tier 2. The commercial peak revenue requirement is divided by the tier 2 water use to calculate the tier 2 commercial peaking adder.

**Table 5-8: Non-drought Commercial Peaking Adder
Water User Rates and Fee Study
City of Clovis**

Level of Use	Annual Use in Tier	Peaking Revenue Requirement	Peaking Adder \$/kgal
Tier 1 (0-23)	157,049	\$0	
Tier 2 (23+)	1,296,544	\$406,282	\$0.31
	1,453,593	Table 4-6	

5.4.3 Total Non-drought Volume Rates

The total metered water volume rates are presented in Table 5-9. The residential and commercial rates include the volume rate (volume functional cost category) plus peaking adders. The recycled water rate includes the adjusted volume rate plus the recycled water rate (recycled water functional cost category).

**Table 5-9: Non-drought Total Metered Water Volume Rates
Water User Rates and Fee Study
City of Clovis**

Customer Class	Volume Rate	Peaking Adder	Total Rate (\$/kgal) [1]
Residential			
Tier 1 (0-23)	\$0.86	\$0.00	\$0.86
Tier 2 (23-40)	\$0.86	\$0.60	\$1.45
Tier 3 (40+)	\$0.86	\$0.93	\$1.78
Commercial			
Tier 1 (0-23)	\$0.86	\$0.00	\$0.86
Tier 2 (23+)	\$0.86	\$0.31	\$1.17
Recycled Water			
Recycled Water	Volume Rate	Adder [2]	Total Rate (\$/kgal)
All Use	\$0.06	\$0.47	\$0.53

[1] Volume rate plus peaking adder rounded down to nearest \$0.01

[2] From Table 5-1

Although the residential tier 2 and tier 3 rates are higher than the commercial tier 2 rate. Commercial customers are proposed to pay a higher average rate. About 2/3 of residential water use falls in tier 1, the lowest cost tier. In contrast, only about 11% of commercial water use falls in tier 1. Over all, a much higher portion of commercial water use occurs in the higher cost tier 2 resulting in a higher average rate.

**Table 5-10: Non-drought Average Rate Comparison
Water User Rates and Fee Study
City of Clovis**

Customer Class	Use	Rate	Revenue	Average Rate
Residential [1]				
Tier 1 (0-23)	3,697,077	\$0.86	\$3,179,486	
Tier 2 (23-40)	973,138	\$1.45	\$1,411,050	
Tier 3 (40+)	<u>721,057</u>	\$1.78	<u>\$1,283,481</u>	
	5,391,272		\$5,874,018	\$1.09
Commercial [2]				
Tier 1 (0-23)	157,049	\$0.86	\$135,062	
Tier 2 (23+)	<u>1,296,544</u>	\$1.17	<u>\$1,516,956</u>	
	1,453,593		\$1,652,019	\$1.14

[1] Includes single family and multifamily use. Does not include Tarpey water use

[2] Does not include recycled water use

5.5 Non-drought Tarpey Rates

The proposed Tarpey single family residential service charge includes customer service, water quality, and average day capacity costs plus water use charges for 63,000 gallons of consumption. The non-drought Tarpey single family bimonthly bill is proposed to be \$106.58 (see Table 5-11), which is slightly higher than the current bill of \$100.20.

The City is contractually obligated to offer Tarpey an average rate that is \$0.16/kgal less than the average single family residential metered rate. Under the proposed non-drought rates, the Tarpey customers would pay approximately \$0.19/kgal less on average than single family residential metered customers.

**Table 5-11: Non-drought Tarpey Single Family Residential Bill
Water User Rates and Fee Study
City of Clovis**

Charge Category	Rate or Charge		Count	Total
Customer Service	\$7.00	x	1	\$7.00
Quality	\$2.26	x	1	\$2.26
Average Day Capacity	\$11.96	x	1	\$11.96
Water Use (63 kgal bimonthly use)		x		
Tier 1 (0-23)	\$0.86	x	23	\$19.78
Tier 2 (23-40)	\$1.45	x	17	\$24.65
Tier 3 (40+)	\$1.78	x	23	\$40.94
Rounding				(\$0.01)
Total Bill				\$106.58

**Table 5-12: Non-drought Tarpey Average Rate
Water User Rates and Fee Study
City of Clovis**

	Rate	Units	Revenue	Avg Rate
Single Family ONLY (no multifamily) Dwelling Unit Charge	\$21.22	171,842	\$3,646,487	

Water Use				
Tier 1 (0-23)	\$0.86	2,994,759	\$2,575,493	
Tier 2 (23-40)	\$1.45	942,562	\$1,366,715	
Tier 3 (40+)	\$1.78	<u>712,940</u>	<u>\$1,269,033</u>	
Total Metered Residential		4,650,261	\$8,857,728	\$1.90
Tarpey				
Tarpey Unmetered (63kgal)	\$106.58	2,568	\$273,697	
Tarpey Large Lot	\$5.12	180	\$922	
Tarpey Excess Use Charges	\$1.78	29,029	<u>\$51,671</u>	
Total Tarpey			\$326,290	
Tarpey Estimated Water Use			190,813	\$1.71
Single family average rate less Tarpey average rate				\$0.19

5.6 Drought Volume Rates

5.6.1 Water Conservation

The first step in developing drought water rates is to estimate water conservation. The non-drought rate scenario assumes that water use in FY2017 will remain the same as water use in FY2015. FY2015 water use reflected some water conservation compared to prior years but the City did not experience the full impact of drought cutbacks until Summer and Fall of 2015 (fiscal year 2016) when the City briefly implemented water conservation penalties. The City and BWA believe that FY2015 water use may represent a “new normal” in which the residents maintain some water conserving behaviors. Water use may never return to the 2013 demands.

To estimate water use under drought conditions, BWA reviewed the City’s conservation target and recent water use. The City’s current conservation target is a 34% reduction in per capita water use compared to 2013 water use.³ The conservation target is assessed on a month-to-month basis (for example, October 2015 water use is compared to October 2013 water use). May 2015 the City met its conservation target and June 2015 the City nearly met the conservation target (about 30% conservation). Thus, BWA assumes that the actual water usage data from the May/June billing period reflects drought conditions and no further conservation would occur. To estimate July/August and September/October water use, BWA reviewed actual water usage data from 2015. During this period, the City charged conservation penalties and water use decreased accordingly. BWA assumes the actual July-October 2015 water consumption data reflects drought usage.

BWA estimated November through April water use based on the conservation factors shown in Table 5-13. Residential tier 1 and tier 2 conservation of 6.8% and 36.8%, respectively, from the September/October 2015 billing period are applied to the November 2014 to April 2015 actual water use. Tier 3 reflects elimination of the top 10% of water use plus 55% reduction in the

³ The City’s original conservation target was 36% (7/17/15) and was adjusted to 34% (2/2/16)

next 15% of top water use. In regards to the Tarpey water use, it is assumed that the excess use would decrease by 25%. About 13% overall water conservation is assumed for the commercial customer class. In total, the water use shown in Table 5-13 would achieve the City's water conservation goal.

Table 5-13: Projected Metered Water Use Under Drought Conditions
Water User Rates and Fee Study
City of Clovis

Customer Class	Actual Calendar Year 2015			Estimated			Annual Total	
	Jul/Aug	Sep/Oct	Nov/Dec	Jan/Feb	Mar/April	May/June [1]		
Residential								
Tier 1 (0-23)	666,014	674,035	611,517	428,843	454,714	625,115	3,460,238	
Tier 2 (23-40)	174,605	183,447	105,078	23,344	26,160	123,859	636,492	
Tier 3 (40+)	<u>97,179</u>	<u>113,885</u>	<u>38,151</u>	<u>5,021</u>	<u>4,701</u>	<u>47,249</u>	<u>306,187</u>	
Total Residential	937,798	971,367	754,745	457,209	485,575	796,223	4,402,917	
Commercial								
Tier 1 (0-23)	26,821	27,214	26,890	22,805	25,085	26,920	155,735	
Tier 2 (23+)	<u>255,696</u>	<u>284,586</u>	<u>175,796</u>	<u>76,786</u>	<u>102,620</u>	<u>208,543</u>	<u>1,104,026</u>	
Total Commercial	282,517	311,800	202,686	99,590	127,705	235,463	1,259,761	
			Change in Water Use from FY2015					
Customer Class	Jul/Aug	Sep/Oct	Nov/Dec	Jan/Feb	Mar/April	May/June [1]	Annual Total	
Residential								
Tier 1 (0-23)	-10.5%	-6.8%	-6.8%	-6.8%	-6.8%	0.0%	-6.4%	
Tier 2 (23-40)	-44.4%	-36.8%	-36.8%	-36.8%	-36.8%	0.0%	-34.6%	
Tier 3 (40+)	<u>-66.4%</u>	<u>-57.5%</u>	<u>-56.8%</u>	<u>-68.9%</u>	<u>-66.0%</u>	<u>0.0%</u>	<u>-35.3%</u>	
Total Residential	-30.4%	-24.2%	-17.2%	-10.9%	-10.6%	0.0%	-18.4%	
Commercial								
Tier 1 (0-23)	-4%	0%	0%	0%	0%	0%	-1%	
Tier 2 (23+)	<u>-22%</u>	<u>-18%</u>	<u>-15%</u>	<u>-14%</u>	<u>-14%</u>	<u>0%</u>	<u>-15%</u>	
Total Commercial	-20%	-16%	-14%	-11%	-12%	0%	-13%	

[1] May/June 2015, the City nearly met its conservation target; no additional conservation is assumed for this billing period going forward

The metered residential water use shown in Table 5-13 is combined with the Tarpey water use in Table 5-14. Under drought conditions, much less proportional water use is consumed in tier 3.

**Table 5-14: Drought Residential Water Use
Water User Rates and Fee Study
City of Clovis**

Demand	gpm [1]	Peaking Factor	Customer Class			Total FY2017 Estimated Residential Water Use (kgal)
Average day	16,814	1.00	Residential Metered			4,402,917
Peak day	28,696	1.71	Tarpey (63kgal/DU)			161,784
Peak hour	44,500	2.65	Tarpey Excess Use			21,772
			Total			4,586,473
Base Capacity			Metered Use	Tarpey	Total	% of Total Annual Use
Total Annual Use	5,391,272	kgal	0-23 kgal	0-23 kgal		
Dwelling units	231,253	Billed bimonthly	3,460,238	59,064	3,519,302	77%
Use per DU	23	avg bimonthly use				
Peak Day Demand			Metered Use	Tarpey	Total	% of Total Annual Use
Peaking Factor	1.7		23-40 kgal	23-40 kgal		
Peak Day Use	9,201,138	kgal	636,492	43,656	680,148	15%
Dwelling Units	231,253	Billed bimonthly				
Use per DU	40	peak day bimonthly use				
Peak Hour Demand			Metered Use	Tarpey	Total	% of Total Annual Use
Peaking Factor			40+ kgal	40+ kgal		
Peak Hour Use			306,187	80,836	387,022	8%

DU – dwelling unit

[1] gpm - gallons per minute; peaking factors developed by the City based on 2013 data

5.6.2 Drought Rate Calculations

The drought rate calculations follow the same methodology as the non-drought rate calculations but collect the allocated revenues over a smaller base of water use. The drought calculation for the volume functional cost category is shown in Table 5-15. The recycled water revenue adjustments under the drought scenario are provided in Table 5-16 and the final volume rate calculation is provided in Table 5-17.

**Table 5-15: Drought Functional Cost Category
Volume Rate Calculation
Water User Rates and Fee Study
City of Clovis**

Customer Class	Use (kgal)
Residential Metered	4,402,917
Tarpey (63kgal)	161,784
Tarpey Excess Use	21,772
Commercial	1,259,761
Recycled Water	<u>56,855</u>
Total	5,903,089
Volume Revenue Requirement	\$6,038,490 Table 4-1
Unadjusted Base Rate	\$1.02

**Table 5-16: Drought Recycled Water Revenue Responsibility
Water User Rates and Fee Study
City of Clovis**

Recycled Water	Billing Units	Cust. Serv. Rate	Cust. Serv. Revenue	Quality Rate	Quality Revenue	Avg Day Demand Rate	Avg Day Demand Revenue
2"	49	\$7.00	\$343	\$2.26	\$111	\$22.14	\$1,085
3"	26	\$7.00	\$179	\$2.26	\$58	\$52.91	\$1,349
4"	31	\$7.00	\$214	\$2.26	\$69	\$147.15	\$4,488
6"	3	\$7.00	\$18	\$2.26	\$6	\$614.65	\$1,537
8"	5	\$7.00	\$35	\$2.26	\$11	\$1,096.69	\$5,483
10"	0	\$7.00	\$0	\$2.26	\$0	\$1,723.37	\$0
Total			\$788		\$255		\$13,942
		Water Use	Rate	Volume Rev			
	Volume	56,855	\$1.02	\$58,159			

	Beginning Revenue	Recycled Water Discount	Ending Revenue
Customer Service	\$788	0%	\$788
Quality Revenue	\$255	-100%	\$0
Avg Day Demand Revenue	\$13,942	-16%	\$11,742
Volume Revenue	\$58,159	-87%	\$7,357
Recycled Water Revenue	<u>\$26,668</u>	0%	<u>\$26,668</u>
Total	\$99,812	\$46,006	\$46,555

**Table 5-17: Drought Recycled Water Rate Adjustments
Water User Rates and Fee Study
City of Clovis**

Customer Class	Water Use (kgal)	Allocated Revenue
M&I Service	5,846,234	\$5,980,331
Recycled Water	<u>56,855</u>	<u>\$58,159</u>
Total	5,903,089	\$6,038,490
Recycled Water Service		
Volume Allocated Revenue		\$58,159
Recycled Water Adjustment		<u>(\$53,257)</u>
Total		\$4,902
Water Use (kgal)		56,855
Rate (\$/kgal)		\$0.09
M&I Service		
Volume Allocated Revenue		\$5,980,331
Recycled Water Adjustment		<u>\$53,257</u>
Total		\$6,033,588
Water Use (kgal)		5,846,234
Rate (\$/kgal)		\$1.03

M&I service – municipal and industrial potable water service

Table 5-18 and Table 5-19 calculate the drought scenario peaking adders for residential and commercial customers. Under the drought scenario, peaking costs are collected over a smaller amount of peak water use resulting in higher rates than the non-drought scenario. This provides a strong conservation price signal to high water use customers.

**Table 5-18: Drought Residential Peaking Adder
Water User Rates and Fee Study
City of Clovis**

Residential Peaking	Water Use (kgal) [1]	Peaking Factor [1]	Equivalent Use
Peak Day Demand	680,148	1.71	1,160,791
Peak Hour Demand	387,022	2.65	<u>1,024,294</u>
			2,185,085
Residential Peaking Revenue Requirement		\$1,359,559	Table 4-6
Residential Equivalent Use		2,185,085	
Rate		\$0.622	
			peaking adder
			\$/kgal
Peak Day	1.71	x \$0.622	\$1.06
Peak Hour	2.65	x \$0.622	\$1.65

[1] From Table 5-14

**Table 5-19: Drought Commercial Peaking Adder
Water User Rates and Fee Study**

City of Clovis

Level of Use	Annual Use in Tier	Peaking Revenue Requirement	Peaking Adder \$/kgal
Tier 1 (0-23)	155,735	\$0	
Tier 2 (23+)	1,104,026	\$406,282	\$0.37
	1,259,761	Table 4-6	

The total metered volume rates are provided in Table 5-20.

**Table 5-20: Drought Total Metered Water Volume Rates
Water User Rates and Fee Study
City of Clovis**

Customer Class	Volume Rate	Peaking Adder	Rounded Total Rate (\$/kgal) [1]
Residential			
Tier 1 (0-23)	\$1.03	\$0.00	\$1.03
Tier 2 (23-40)	\$1.03	\$1.06	\$2.09
Tier 3 (40+)	\$1.03	\$1.65	\$2.68
Commercial			
Tier 1 (0-23)	\$1.03	\$0.00	\$1.03
Tier 2 (23+)	\$1.03	\$0.37	\$1.40
Recycled Water			
Recycled Water	Volume Rate	Recycled Water Adder [2]	Total Rate (\$/kgal)
All Use	\$0.09	\$0.47	\$0.56

[1] Volume rate plus peaking adder rounded down to nearest \$0.01

[2] From Table 5-1

5.7 Drought Tarpey Rates

The proposed Tarpey single family residential bill under the allocated drought rates is \$142.08, see Table 5-21. Table 5-22 calculates the average Tarpey drought water rate and the average single family residential metered water rate. Under the drought rates, an adjustment is needed to reduce the Tarpey average rate to meet the City’s contractual agreement with Tarpey to provide Tarpey with a \$0.16/kgal discount. The Tarpey revenue requirement must be reduced by about \$28,000 to comply with the contractual agreement. This revenue is proposed to be re-allocated to the volume rates of all other customers, see Table 5-23.

**Table 5-21: Drought Tarpey Single Family Residential Bill
Water User Rates and Fee Study
City of Clovis**

Charge Category	Rate or Charge	Count	Total
------------------------	-----------------------	--------------	--------------

Customer Service	\$7.00	x	1	\$7.00
Quality	\$2.26	x	1	\$2.26
Average Day Capacity	\$11.96	x	1	\$11.96
Water Use (63 kgal bimonthly use)		x		
Tier 1 (0-23)	\$1.03	x	23	\$23.69
Tier 2 (23-40)	\$2.09	x	17	\$35.53
Tier 3 (40+)	\$2.68	x	23	\$61.64
Total Bill				\$142.08

**Table 5-22: Drought Tarpey Average Rate Adjustment
Water User Rates and Fee Study
City of Clovis**

	Rate	Units	Revenue	Avg Rate
Single Family ONLY (no multifamily)				
Dwelling Unit Charge	\$21.22	171,842	\$3,646,487	
Water Use				
Tier 1 (0-23)	\$1.03	2,804,129	\$2,888,253	
Tier 2 (23-40)	\$2.09	619,034	\$1,293,780	
Tier 3 (40+)	\$2.68	292,785	\$784,664	
Total Metered Residential		3,715,948	\$8,613,184	\$2.32
Tarpey				
Tarpey Unmetered (63kgal)	\$142.08	2,568	\$364,861	
Tarpey Large Lot	\$5.12	180	\$922	
Tarpey Excess Use Charges	\$2.68	21,772	\$58,348	
Total Tarpey			\$424,131	
Tarpey Estimated Water Use			183,556	\$2.31
Subtotal Tarpey			\$424,131	
Tarpey Discount per contractual agreement			(\$28,037)	
Total Tarpey Revenue Requirement			\$396,094	\$2.16
				Discount from Single Family Residential \$0.160

5.8 Full Drought Rate Schedule

The full drought rate schedule with Tarpey adjustments is provided in Table 5-23. With the proposed adjustment, the Tarpey residential bill is proposed to be \$132.70 bimonthly.

**Table 5-23: Proposed Rates with Tarpey Adjustment
Water User Rates and Fee Study
City of Clovis**

	Estimated FY2017 drought conditions			Tarpey Adjust.	Rate	Revenue
	Rate	Units	Revenue			
Residential						

Dwelling Unit Charge	\$21.22	231,253	\$4,907,189		\$21.22	\$4,907,189
Water Use						
Tier 1 (0-23)	\$1.03	3,460,238	\$3,564,045	0.55%	\$1.04	\$3,598,648
Tier 2 (23-40)	\$2.09	636,492	\$1,330,269	0.55%	\$2.10	\$1,336,634
Tier 3 (40+)[1]	\$2.68	<u>306,187</u>	<u>\$820,580</u>	0.55%	\$2.66	<u>\$814,457</u>
Total Metered Residential		4,402,917	\$5,714,895			\$5,749,738
Tarpey Unmetered (63kgal)	\$142.08	2,568	\$364,861	-6.65%	\$132.70	\$340,774
Tarpey Large Lot	\$5.12	180	\$922		\$5.12	\$922
Tarpey Excess Use Charges	\$2.66	21,772	<u>\$58,348</u>	-6.65%	\$2.49	<u>\$54,211</u>
Total Unmetered Residential			\$424,131			\$395,906
Total Residential			\$11,046,214			\$11,052,833
Potable Commercial						
1" or smaller	\$17.10	3,491	\$59,696		\$17.10	\$59,696
1 1/2"	\$22.74	1,920	\$43,680		\$22.74	\$43,661
2"	\$31.40	5,305	\$166,577		\$31.40	\$166,577
3"	\$62.18	505	\$31,401		\$62.18	\$31,401
4"	\$156.42	3,145	\$491,941		\$156.42	\$491,941
6"	\$623.90	22	\$13,414		\$623.90	\$13,414
8"	\$1,105.96	0	\$0		\$1,105.96	\$0
10"	\$1,732.64	<u>18</u>	<u>\$31,188</u>		\$1,732.64	<u>\$31,188</u>
		14,406	\$837,896			\$837,877
Water Use						
Tier 1 (0-23)	\$1.03	155,735	\$160,407	0.55%	\$1.04	\$161,964
Tier 2 (23+)	\$1.40	<u>1,104,026</u>	<u>\$1,545,637</u>	0.55%	\$1.40	<u>\$1,545,637</u>
		1,259,761	\$1,706,043			\$1,707,601
Total Potable Commercial			\$2,543,940			\$2,545,478
Recycled Water						
2"	\$31.40	49	\$1,539		\$31.40	\$1,539
3"	\$62.18	26	\$1,586		\$62.18	\$1,586
4"	\$156.42	31	\$4,771		\$156.42	\$4,771
6"	\$623.91	3	\$1,560		\$623.90	\$1,560
8"	\$1,105.96	5	\$5,530		\$1,105.96	\$5,530
10"	\$1,732.64	<u>0</u>	<u>\$0</u>		\$1,732.64	<u>\$0</u>
		113	\$14,985			\$14,985
Water Use	\$0.56	56,855	\$31,839	0.55%	\$0.56	\$31,839
Total Recycled Water			\$46,823			\$46,823
Construction Water	\$142.08		unknown		\$132.70	Estimate \$9,866
Total			\$13,636,977			\$13,655,000

NOTE: volume rates are rounded to the nearest \$0.01 and the fixed charges to the nearest \$0.02 (for bimonthly billing). The tier 3 rate is shifted down by \$.02 such that total revenue does not exceed the cost of service. The Tarpey revenue requirement is \$396,094. However, the proposed drought rates result in Tarpey revenue of \$395,906 due to rounding. The recycled water revenue requirement is also adjusted due to rounding.

Table 5-24 provides the average rate calculation for residential and commercial customers under drought conditions with the Tarpey adjustments.

**Table 5-24: Drought Average Rate Comparison
Water User Rates and Fee Study
City of Clovis**

Customer Class	Use	Rate	Revenue	Average Rate
Residential [1]				
Tier 1 (0-23)	3,460,238	\$1.04	\$3,598,648	

Tier 2 (23-40)	636,492	\$2.10	\$1,336,634	
Tier 3 (40+)	<u>306,187</u>	\$2.66	<u>\$814,457</u>	
	4,402,917		\$5,749,738	\$1.31
Commercial [2]				
Tier 1 (0-23)	155,735	\$1.04	\$161,964	
Tier 2 (23+)	<u>1,104,026</u>	\$1.40	<u>\$1,545,637</u>	
	1,259,761		\$1,707,601	\$1.36

[1] Does not include Tarpey water use

[2] Does not include recycled water use

5.9 Proposed Rate Schedules

The full drought and non-drought rate schedules of all customers is provided in Table 5-25, see also Appendix A and B. Table 5-26 provides a summary of the FY2015 rate revenues, FY2017 non-drought revenues, and FY2017 drought scenario revenues. The drought and non-drought rate proposals include higher cost recovery from fixed service charges. This provides the City with greater revenue stability but has the disadvantage of providing customers with a weaker conservation price signal. It should be noted that the City proposes to charge construction water customers the same charge as the Tarpey unmetered rate. Construction water customers are temporary, unmetered customers that primarily take water service for homes under construction. It is unknown how much revenue will be collected from construction water customers in the future.

Both the drought and non-drought proposed rates would recover a greater amount of revenue from residential customers. Currently, residential customers pay about \$10.3 million in service charges and the proposed rates would increase the residential service charges to recover about \$11 million. Currently, commercial customers pay about \$3.1 million in water service charges, which would decrease to about \$2.5 million under the proposed rates.

The shift in cost recovery between the customer classes is due to the cost allocation described in this report. Base capacity costs were found to be higher than the costs current reflected in the City's existing water rates. Bases capacity costs impact residential customers to a higher degree than commercial customers because residential customers make up the majority of the water system and thus contribute heavily to average day demand.

**Table 5-25: Current and Proposed Water Rates
Water User Rates and Fee Study
City of Clovis**

	Current	Proposed Non-drought	Proposed Drought
Residential			
Dwelling Unit Charge	\$16.80	\$21.22	\$21.22
Water Use			

Current			
Tier 1 (0-10) (\$/kgal)	\$0.00		
Tier 2 (10-35) (\$/kgal)	\$1.71		
Tier 3 (35-70) (\$/kgal)	\$2.14		
Tier 4 (70+) (\$/kgal)	\$2.57		
Proposed			
Tier 1 (0-23) (\$/kgal)		\$0.86	\$1.04
Tier 2 (23-40) (\$/kgal)		\$1.45	\$2.10
Tier 3 (40+) (\$/kgal)		\$1.78	\$2.66
	(70kgal)	(63kgal)	(63kgal)
Tarpey Unmetered (63kgal)	\$100.20	\$106.58	\$132.70
Tarpey Large Lot	\$4.66	\$5.12	\$5.12
Tarpey Excess Use Charges (\$/kgal)	\$1.73	\$1.78	\$2.49
Commercial & Recycled Water			
1" or smaller	\$16.80	\$17.10	\$17.10
1 1/2"	\$28.32	\$22.74	\$22.74
2"	\$42.16	\$31.40	\$31.40
3"	\$79.06	\$62.18	\$62.18
4"	\$120.62	\$156.42	\$156.42
6"	\$466.66	\$623.90	\$623.90
8"	\$812.70	\$1,105.96	\$1,105.96
10"	\$1,274.12	\$1,732.64	\$1,732.64
Commercial Water Use			
Current			
Tier 1 (0-10) (\$/kgal)	\$0.00		
Tier 2 (10+) (\$/kgal)	\$1.47		
Proposed			
Tier 1 (0-23) (\$/kgal)		\$0.86	\$1.04
Tier 2 (23+) (\$/kgal)		\$1.17	\$1.40
Recycled Water			
Current			
Tier 1 (0-10) (\$/kgal)	\$0.00		
Tier 2 (10+) (\$/kgal)	\$0.74		
Proposed All Use (\$/kgal)		\$0.53	\$0.56
Construction Water	\$91.58	\$106.58	\$132.70

**Table 5-26: Rate Scenario Revenue Summary
Water User Rates and Fee Study
City of Clovis**

FY2015 Rate Revenue Summary

Rate Category	Residential	Commercial	Misc. & Other	Total	
Fixed Service Charges	\$4,146,309	\$1,047,447	\$297,554	\$5,491,310	40.0%
Volume Rates	\$6,157,051	\$2,062,986		\$8,220,036	60.0%
Total	\$10,303,360	\$3,110,433	\$297,554	\$13,711,346	100.0%
	75.1%	22.7%	2.2%	100.0%	

FY2017 Non-drought Revenue Summary

Rate Category	Residential	Commercial	Misc. & Other [1]	Total	
Fixed Service Charges	\$5,181,808	\$852,862	\$12,490	\$6,047,159	44.3%
Volume Rates	<u>\$5,925,689</u>	<u>\$1,682,152</u>	<u>\$0</u>	<u>\$7,607,841</u>	<u>55.7%</u>
Total	\$11,107,497	\$2,535,013	\$12,490	\$13,655,000	100.0%
	81.3%	18.6%	0.1%	100.0%	

FY2017 Drought Revenue Summary

Rate Category	Residential	Commercial	Misc. & Other [1]	Total	
Fixed Service Charges	\$5,248,884	\$852,862	\$9,866	\$6,111,611	44.8%
Volume Rates	<u>\$5,803,949</u>	<u>\$1,739,440</u>	<u>\$0</u>	<u>\$7,543,389</u>	<u>55.2%</u>
Total	\$11,052,833	\$2,592,301	\$9,866	\$13,655,000	100.0%
	80.9%	19.0%	0.1%	100.0%	

[1] Construction water revenue

5.10 Rate Design Alternatives

The rates calculated in this report are designed to fairly recover the proportional cost of service from each customer taking water service from the City of Clovis. Rates were designed with staff input to meet the administrative needs of the City and to conform to the City's billing software requirements. This subsection provides rate design alternatives that the City could consider.

5.10.1 Commercial Meter Charges

For ease of billing, all commercial customers (businesses, landscape meters, standby fire meters, and recycled water meters) are charged the same fixed charges. The City could develop separate fixed charges for each commercial sub-group. For instance, water quality costs are recovered through a fixed charge and then deducted from the recycled water volume rate. The City could offer recycled water customers a discount to their meter charges rather than the volume rate. Similarly, the City could conduct an engineering and financial review of fire flow demands vs. average day demands. Standby fire meters could potentially be offered separate rate.

5.10.2 Commercial Volume Rates

Commercial customers are proposed to have the same tier 1 breakpoint of 23,000 gallons as residential customers for ease of billing. An alternative rate option is a single average rate for all potable commercial use. The advantage of an average commercial rate is that it accounts for heterogeneity of the commercial class. As shown in Table 4-5, average day commercial water use varies greatly by meter size and a tiered rate structure may not reflect the usage patterns of larger water users.

SECTION 6: BILL IMPACTS

The overall revenue impact of the proposed rate change to each customer class is provided in Section 5.9. This section provides a review of the bill impacts on typical customers.

6.1 Residential Non-drought Bill Impacts

The proposed residential rate changes include an increase to the fixed charge and elimination of the current 10,000 gallon water allowance. This changes impact low water users to a greater degree than high residential water users. The typical winter water use under non-drought conditions averages 14,000 gallons bimonthly per single family residential customer. Under the proposed rates, the average winter bill would increase. The annual average single residential water use across all six bimonthly billing periods is 27,000 gallons. Under the proposed rates,

the average residential bill would increase slightly by \$0.93. Higher water use customers would receive bill decreases under the proposed rates, see Table 6-1.

Multifamily residential customers use much less water per dwelling unit than single family residential customers. The average winter water use per multifamily dwelling unit is 9,000 gallons bimonthly and the average summer water use per multifamily dwelling unit is 17,000 gallons bimonthly. The average multifamily dwelling unit will pay more under the proposed non-drought rates during each billing period, Table 6-2.

**Table 6-1: Current and Proposed Non-drought Typical Single Family Residential Bills
Water User Rates and Fee Study
City of Clovis**

Typical Winter Single Family Residential Bill
14,000 gallons bimonthly water use

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 14	\$12.04
Tier 2 (10-35)	\$1.71	x 4	\$6.84	Tier 2 (23-40)	\$1.45	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$1.78	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$23.64	Total Bill			\$33.26
						Change	\$9.62

Typical Average Single Family Residential Bill
27,000 gallons bimonthly water use

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 23	\$19.78
Tier 2 (10-35)	\$1.71	x 17	\$29.07	Tier 2 (23-40)	\$1.45	x 4	\$5.80
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$1.78	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$45.87	Total Bill			\$46.80
						Change	\$0.93

Typical Summer Single Family Residential Bill
44,000 gallons bimonthly water use

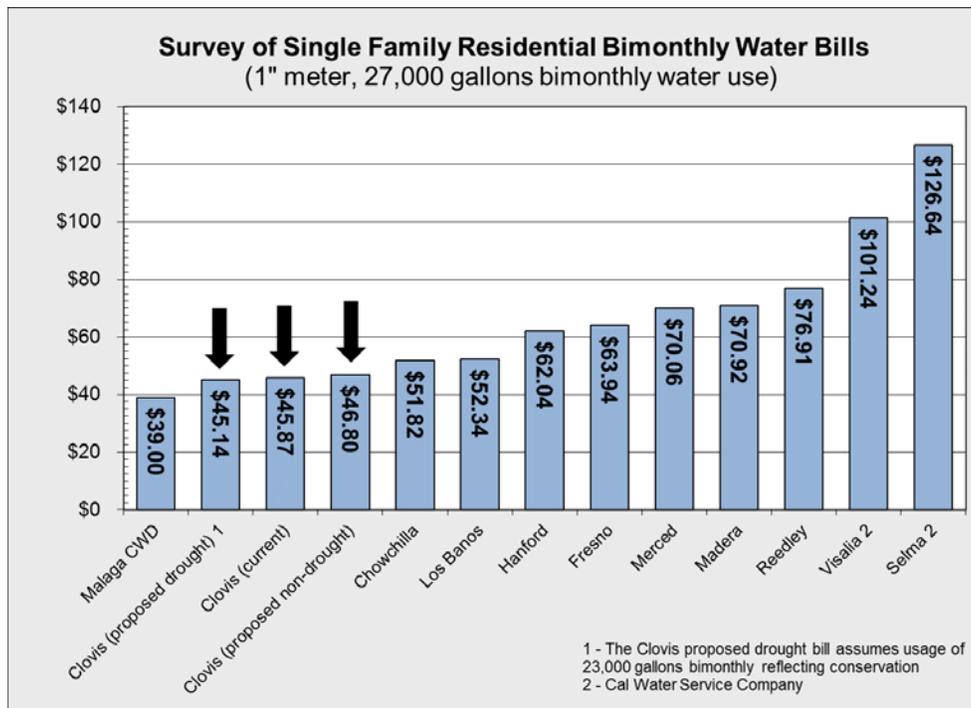
Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 23	\$19.78
Tier 2 (10-35)	\$1.71	x 25	\$42.75	Tier 2 (23-40)	\$1.45	x 17	\$24.65
Tier 3 (35-70)	\$2.14	x 9	\$19.26	Tier 3 (40+)	\$1.78	x 4	\$7.12
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$78.81	Total Bill			\$72.77
						Change	(\$6.04)

Single Family Residential High Water User Residential Bill
70,000 gallons bimonthly water use

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 23	\$19.78
Tier 2 (10-35)	\$1.71	x 25	\$42.75	Tier 2 (23-40)	\$1.45	x 17	\$24.65
Tier 3 (35-70)	\$2.14	x 35	\$74.90	Tier 3 (40+)	\$1.78	x 30	\$54.40
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$134.45	Total Bill			\$119.05
						Change	(\$15.40)

Figure 3 provides a bill survey comparing the City’s average single family residential bimonthly bill with the bills charged by other local water agencies. The City’s current and proposed non-drought bills are nearly the lowest in the region. The proposed drought bill is not included in the survey. It is unknown if other local agencies will adopt drought rates into the future.

Figure 3: Non-drought Single Family Residential Bill Survey



**Table 6-2: Current and Proposed Non-drought Typical Multiple Family Residential Bills
Water User Rates and Fee Study
City of Clovis**

Typical Winter Multiple Family Residential Bill
9,000 gallons bimonthly water use – Use per dwelling unit

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 9	\$0.00	Tier 1 (0-23)	\$0.86	x 9	\$7.74
Tier 2 (10-35)	\$1.71	x 0	\$0.00	Tier 2 (23-40)	\$1.45	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$1.78	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$16.80	Total Bill			\$28.96
						Change	\$12.16

Typical Average Multiple Family Residential Bill
13,000 gallons bimonthly water use

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 13	\$11.18
Tier 2 (10-35)	\$1.71	x 3	\$5.13	Tier 2 (23-40)	\$1.45	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$1.78	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$21.93	Total Bill			\$32.40
						Change	\$10.47

Typical Summer Residential Bill
17,000 gallons bimonthly water use

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$0.86	x 17	\$14.62
Tier 2 (10-35)	\$1.71	x 7	\$11.97	Tier 2 (23-40)	\$1.45	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$1.78	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$28.77	Total Bill			\$35.84
						Change	\$7.07

6.2 Residential Drought Bill Impacts

The residential bill impacts under the drought rates depend heavily on water conservation. If residential customers meet their conservation targets, they will pay approximately the same bill under the drought and non-drought scenarios. For example, the proposed average single family winter bimonthly bill would be \$33.26 under the non-drought scenario and \$32.66 under the drought scenario. The proposed annual average bimonthly bill would be \$46.80 under the non-drought scenario and \$45.14 under the drought scenario. The multiple family average bill impacts are shown in Table 6-4.

**Table 6-3: Current and Proposed Drought Typical Single Family Residential Bills
Water User Rates and Fee Study
City of Clovis**

Typical Winter Single Family Residential Bill
14,000 gallons bimonthly water use reduced to 11,000 gallons

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 11	\$11.44
Tier 2 (10-35)	\$1.71	x 4	\$6.84	Tier 2 (23-40)	\$2.10	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$23.64	Total Bill			\$32.66
						Change	\$9.13

Typical Average Single Family Residential Bill
27,000 gallons bimonthly water use reduced to 23,000 gallons

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 23	\$23.92
Tier 2 (10-35)	\$1.71	x 17	\$29.07	Tier 2 (23-40)	\$2.10	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$45.87	Total Bill			\$45.14
						Change	(\$0.73)

Typical Summer Single Family Residential Bill
44,000 gallons bimonthly water use reduced to 36,000 gallons

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 23	\$23.92
Tier 2 (10-35)	\$1.71	x 25	\$42.75	Tier 2 (23-40)	\$2.10	x 13	\$27.30
Tier 3 (35-70)	\$2.14	x 9	\$19.26	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$78.81	Total Bill			\$72.44
						Change	(\$6.37)

Single Family Residential High Water User Residential Bill
70,000 gallons bimonthly water use reduced to 50,000 gallons

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 23	\$23.92
Tier 2 (10-35)	\$1.71	x 25	\$42.75	Tier 2 (23-40)	\$2.10	x 17	\$35.70
Tier 3 (35-70)	\$2.14	x 35	\$74.90	Tier 3 (40+)	\$2.66	x 10	\$26.60
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$134.45	Total Bill			\$107.44
						Change	(\$27.01)

**Table 6-4: Current and Proposed Drought Typical Multiple Family Residential Bills
Water User Rates and Fee Study
City of Clovis**

Typical Winter Multiple Family Residential Bill

9,000 gallons bimonthly water use reduced to 7,000 gallons – Use per dwelling unit

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 9	\$0.00	Tier 1 (0-23)	\$1.04	x 7	\$7.28
Tier 2 (10-35)	\$1.71	x 0	\$0.00	Tier 2 (23-40)	\$2.10	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$16.80	Total Bill			\$28.50
						Change	\$11.70

Typical Average Multiple Family Residential Bill

13,000 gallons bimonthly water use reduced to 10,000 gallons

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 10	\$10.40
Tier 2 (10-35)	\$1.71	x 3	\$5.13	Tier 2 (23-40)	\$2.10	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$21.93	Total Bill			\$31.62
						Change	\$9.69

Typical Summer Residential Bill

17,000 gallons bimonthly water use reduced to 13,000 gallons

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Dwelling Unit Charge	\$16.80	x 1	\$16.80	Dwelling Unit Charge	\$21.22	x 1	\$21.22
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 10	\$0.00	Tier 1 (0-23)	\$1.04	x 13	\$13.52
Tier 2 (10-35)	\$1.71	x 7	\$11.97	Tier 2 (23-40)	\$2.10	x 0	\$0.00
Tier 3 (35-70)	\$2.14	x 0	\$0.00	Tier 3 (40+)	\$2.66	x 0	\$0.00
Tier 4 (70+)	\$2.57	x 0	<u>\$0.00</u>				
Total Bill			\$28.77	Total Bill			\$34.74
						Change	\$5.97

6.3 Commercial Bill Impacts

As described throughout this report, the majority of commercial rates and charges are proposed to decrease under both drought and non-drought scenarios. Sample commercial bills are shown in Table 6-5 and Table 6-6. Under the drought scenario, it is assumed that commercial customers would conserve by 13%.

**Table 6-5: Current and Proposed Non-drought Commercial Bills
Water User Rates and Fee Study
City of Clovis**

Water assumed to decrease by 13%

Grocery Store

1" meter, 3,018,000 annual water use (503,000 avg bimonthly use)

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Meter Charge	\$16.80	x 6	\$100.80	Meter Charge	\$17.10	x 6	\$102.60
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 60	\$0.00	Tier 1 (0-23)	\$0.86	x 138	\$118.68
Tier 2 (10+)	\$1.47	x <u>2,958</u>	<u>\$4,348.26</u>	Tier 2 (23+)	\$1.17	x <u>2,880</u>	<u>\$3,369.60</u>
Total Bill		3,018	\$4,449.06	Total Bill		3,018	\$3,590.88
Avg Bill			\$741.51				\$598.48
						Change	(\$143.03)

Mexican Restaurant

1" meter, 328,000 annual water use (55,000 avg bimonthly use)

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Meter Charge	\$16.80	x 6	\$100.80	Meter Charge	\$17.10	x 6	\$102.60
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 60	\$0.00	Tier 1 (0-23)	\$0.86	x 138	\$118.68
Tier 2 (10+)	\$1.47	x <u>268</u>	<u>\$393.96</u>	Tier 2 (23+)	\$1.17	x <u>190</u>	<u>\$222.30</u>
Total Bill		328	\$494.76	Total Bill		328	\$443.58
Avg Bill			\$82.46				\$73.93
						Change	(\$8.53)

Landscape Account Senior Living

1 1/2" meter, 3,157,000 annual water use (526,000 avg bimonthly use)

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Meter Charge	\$28.32	x 6	\$169.92	Meter Charge	\$22.74	x 6	\$136.44
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 60	\$0.00	Tier 1 (0-23)	\$0.86	x 138	\$118.68
Tier 2 (10+)	\$1.47	x <u>3,097</u>	<u>\$4,552.59</u>	Tier 2 (23+)	\$1.17	x <u>3,019</u>	<u>\$3,532.23</u>
Total Bill		3,157	\$4,722.51	Total Bill		3,157	\$3,787.35
Avg Bill			\$787.09				\$631.23
						Change	(\$155.86)

Big Box Retail Store

2" meter, 1,043,000 annual water use (174,000 avg bimonthly use)

Current				Proposed			
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	Rate		Units	Total		Rate		Units	Total
Meter Charge	\$42.16	x	6	\$252.96	Meter Charge	\$31.40	x	6	\$188.40
Water Use					Water Use				
Tier 1 (0-10)	\$0.00	x	60	\$0.00	Tier 1 (0-23)	\$0.86	x	138	\$118.68
Tier 2 (10+)	\$1.47	x	<u>983</u>	<u>\$1,445.01</u>	Tier 2 (23+)	\$1.17	x	<u>905</u>	<u>\$1,058.85</u>
Total Bill			1,043	\$1,697.97	Total Bill			1,043	\$1,365.93
Avg Bill				\$283.00				Change	\$227.66
									(\$55.34)

Hotel
 4" meter, 2,605,000 annual water use (434,000 avg bimonthly use)
 4" fire meter

Current				Proposed					
	Rate		Units	Total		Rate		Units	Total
Meter Charge	\$120.62	x	12	\$1,447.44	Meter Charge	\$156.42	x	12	\$1,877.04
Water Use					Water Use				
Tier 1 (0-10)	\$0.00	x	60	\$0.00	Tier 1 (0-23)	\$0.86	x	138	\$118.68
Tier 2 (10+)	\$1.47	x	<u>2,545</u>	<u>\$3,741.15</u>	Tier 2 (23+)	\$1.17	x	<u>2,467</u>	<u>\$2,886.39</u>
Total Bill			2,605	\$5,188.59	Total Bill			2,605	\$4,882.11
Avg Bill				\$864.77				Change	\$813.69
									(\$51.08)

Elementary School
 4" meter, 11,881,000 annual water use (1,980,000 avg bimonthly use)

Current				Proposed					
	Rate		Units	Total		Rate		Units	Total
Meter Charge	\$120.62	x	6	\$723.72	Meter Charge	\$156.42	x	6	\$938.52
Water Use					Water Use				
Tier 1 (0-10)	\$0.00	x	60	\$0.00	Tier 1 (0-23)	\$0.86	x	138	\$118.68
Tier 2 (10+)	\$1.47	x	<u>11,821</u>	<u>\$17,376.87</u>	Tier 2 (23+)	\$1.17	x	<u>11,743</u>	<u>\$13,739.31</u>
Total Bill			11,881	\$18,100.59	Total Bill			11,881	\$14,796.51
Avg Bill				\$3,016.77				Change	\$2,466.09
									(\$550.68)

**Table 6-6: Current and Proposed Drought Commercial Bills
Water User Rates and Fee Study
City of Clovis**

Water use assumed to decrease by 13%

Grocery Store

1" meter, 3,018,000 annual water use (503,000 avg bimonthly use)

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Meter Charge	\$16.80	x 6	\$100.80	Meter Charge	\$17.10	x 6	\$102.60
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 60	\$0.00	Tier 1 (0-23)	\$1.04	x 138	\$143.52
Tier 2 (10+)	\$1.47	x <u>2,958</u>	<u>\$4,348.26</u>	Tier 2 (23+)	\$1.40	x <u>2,488</u>	<u>\$3,483.20</u>
Total Bill		3,018	\$4,449.06	Total Bill		2,626	\$3,729.32
Avg Bill			\$741.51				\$621.55
					Change		(\$119.96)

Mexican Restaurant

1" meter, 328,000 annual water use (55,000 avg bimonthly use)

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Meter Charge	\$16.80	x 6	\$100.80	Meter Charge	\$17.10	x 6	\$102.60
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 60	\$0.00	Tier 1 (0-23)	\$1.04	x 138	\$143.52
Tier 2 (10+)	\$1.47	x <u>268</u>	<u>\$393.96</u>	Tier 2 (23+)	\$1.40	x <u>147</u>	<u>\$205.80</u>
Total Bill		328	\$494.76	Total Bill		285	\$451.92
Avg Bill			\$82.46				\$75.32
					Change		(\$7.14)

Landscape Account Senior Living

1 1/2" meter, 3,157,000 annual water use (526,000 avg bimonthly use)

Current				Proposed			
	Rate	Units	Total		Rate	Units	Total
Meter Charge	\$28.32	x 6	\$169.92	Meter Charge	\$22.74	x 6	\$136.44
Water Use				Water Use			
Tier 1 (0-10)	\$0.00	x 60	\$0.00	Tier 1 (0-23)	\$1.04	x 138	\$143.52
Tier 2 (10+)	\$1.47	x <u>3,097</u>	<u>\$4,552.59</u>	Tier 2 (23+)	\$1.40	x <u>2,609</u>	<u>\$3,652.60</u>
Total Bill		3,157	\$4,722.51	Total Bill		2,747	\$3,932.56
Avg Bill			\$787.09				\$655.43
					Change		(\$131.66)

Big Box Retail Store
2" meter, 1,043,000 annual water use (174,000 avg bimonthly use)

Current				Proposed					
	Rate		Units	Total		Rate	Units	Total	
Meter Charge	\$42.16	x	6	\$252.96	Meter Charge	\$31.40	x	6	\$188.40
Water Use					Water Use				
Tier 1 (0-10)	\$0.00	x	60	\$0.00	Tier 1 (0-23)	\$1.04	x	138	\$143.52
Tier 2 (10+)	\$1.47	x	<u>983</u>	<u>\$1,445.01</u>	Tier 2 (23+)	\$1.40	x	<u>769</u>	<u>\$1,076.60</u>
Total Bill			1,043	\$1,697.97	Total Bill			907	\$1,408.52
Avg Bill				\$283.00					\$234.75
									Change (\$48.25)

Hotel
4" meter, 2,605,000 annual water use (434,000 avg bimonthly use)
4" fire meter

Current				Proposed					
	Rate		Units*	Total		Rate	Units*	Total	
Meter Charge	\$120.62	x	12	\$1,447.44	Meter Charge	\$156.42	x	12	\$1,877.04
Water Use					Water Use				
Tier 1 (0-10)	\$0.00	x	60	\$0.00	Tier 1 (0-23)	\$1.04	x	138	\$143.52
Tier 2 (10+)	\$1.47	x	<u>2,545</u>	<u>\$3,741.15</u>	Tier 2 (23+)	\$1.40	x	<u>2,128</u>	<u>\$2,979.20</u>
Total Bill			2,605	\$5,188.59	Total Bill			2,266	\$4,999.76
Avg Bill				\$864.77					\$833.29
*Includes fire meter									Change (\$31.48)

Elementary School
4" meter, 11,881,000 annual water use (1,980,000 avg bimonthly use)

Current				Proposed					
	Rate		Units	Total		Rate	Units	Total	
Meter Charge	\$120.62	x	6	\$723.72	Meter Charge	\$156.42	x	6	\$938.52
Water Use					Water Use				
Tier 1 (0-10)	\$0.00	x	60	\$0.00	Tier 1 (0-23)	\$1.04	x	138	\$143.52
Tier 2 (10+)	\$1.47	x	<u>11,821</u>	<u>\$17,376.87</u>	Tier 2 (23+)	\$1.40	x	<u>10,198</u>	<u>\$14,277.20</u>
Total Bill			11,881	\$18,100.59	Total Bill			10,336	\$15,359.24
Avg Bill				\$3,016.77					\$2,559.87
									Change (\$456.90)

SECTION 7: MISCELLANEOUS FEES

As part of the rate study process, BWA evaluated the City's meter testing fee, after hours turn on fee, and same day turn-on for water shutoffs. These fees are subject to Proposition 218. Fees and charges levied by state and local governmental agencies must meet the requirements of Proposition 26, a Constitutional Amendment that was narrowly approved by California voters on the November 2010 ballot. Proposition 26 redefines fees and charges levied by local agencies as "taxes", which are subject to voter approval. However, Proposition 26 included seven exceptions under which local fees are not considered taxes and are therefore not subject to voter approval. All of the fees imposed by the City meet one or more of these criteria to be exempted from voter approval as a tax. These exceptions include:

- A fee that is imposed for a special benefit or privilege provided to an individual, does not exceed the reasonable cost of service, and does not provide broad, general benefits to others in the community;
- A fee imposed for a specific government service or product provided directly to the person paying the fee, that does not exceed the reasonable cost of providing service;
- A charge imposed for reasonable regulatory costs (i.e. licenses, audits, inspections, permits) that does not exceed the reasonable cost of service;
- Rental or lease fees charged for the use of or entrance to governmental property;
- Fines or penalties imposed for violations of the law;
- A charge imposed as a condition of property development (such charges are governed by California Government Code Section 66000 et. seq. with Water and Sewer Capacity Charges governed specifically by Section 66013);
- Assessments and property-related fees imposed under the provisions of Proposition 218, such as the City's water and sewer service charges.

For fees that cannot exceed the reasonable cost of service, the City can charge up to the cost of providing service, but also has the option of charging less than the cost of service at its discretion. The City's meter testing fee, after hours turn on fee, and same day turn-on for water shutoffs fall into this category.

To calculate the cost of service for each fee, the City estimated the number of staff hours needed to complete each service, the hourly rate for each staff member, and the cost of materials and supplies. Table 7-1 provides the water utility staff and hourly rates. The salary cost for each staff member is adjusted to by a benefits loader to reflect the costs of worker's compensation, overtime, and health benefits. As a second step, a productive hourly rate is calculated assuming ten paid holidays and 6.5 hours of productive time daily. Productive time is the workday less management, administration, and training time.

**Table 7-1: Staffing Costs
Water User Rates and Fee Study
City of Clovis**

Benefits Loader		46%	
Productive Hours			81%
Water Enterprise Staff	Salary	Encumbered Cost	Hourly Rate
Maintenance Worker/Senior Maintenance Worker	\$62,160	\$90,734	\$55.84
Meter Reader/Utility Worker	\$57,204	\$83,499	\$51.38

The City estimated the staff time and materials to provide each type of service. The final cost of service also includes a 10% administrative markup, see Table 7-2, Table 7-3, and Table 7-4.

**Table 7-2: Meter Testing Cost of Service
Water User Rates and Fee Study
City of Clovis**

	Hours	Hourly rate	Total Cost
Meter Reader/Utility Worker	1.5	\$51.38	\$77.08
Administrative Charge		10%	<u>\$7.71</u>
Total			\$84.78

**Table 7-3: After Hours Turn On Fee Cost of Service
Water User Rates and Fee Study
City of Clovis**

	Hours	Hourly rate	Total Cost
Maintenance Worker/Senior Maintenance Worker	3	\$44.83	\$134.49
Vehicles	1	\$24.09	<u>\$24.09</u>
Subtotal			\$158.58
Administrative Charge		10%	\$15.86
Total			\$174.44

**Table 7-4: Same Day Turn On Fee Cost of Service
Water User Rates and Fee Study
City of Clovis**

	Hours	Hourly rate	Total Cost
Maintenance Worker/Senior Maintenance Worker	1	\$55.84	\$55.84
Administrative Charge		10%	\$5.58
Total			\$61.42

For ease of billing, the final proposed fees are rounded down and are slightly below the actual cost of providing service, see Table 7-5. The City’s proposed fees will be similar to the fees charged by other local agencies.

**Table 7-5: Proposed Fees
Water User Rates and Fee Study
City of Clovis**

Miscellaneous Service Fees	Current Fee	Proposed Fee	Comparable Agency Fees
Meter testing	\$60.00	\$84.00	Los Banos: \$25 Malaga: \$121.36
After hours turn on	\$125.00	\$174.00	Fresno: \$169 Modesto: \$60 Coalinga: \$105
Same day turn-on for water shutoffs	\$50.00	\$60.00	Coalinga: \$45 Modesto: \$42.50 Malaga: \$60.69

SECTION 8: CONCLUSIONS AND RECOMMENDATIONS

Water rates and fees in California have come under increased legal scrutiny. Rates and charges must be supported by a detailed cost of service analysis. Proposition 218 is the statute governing how California public agencies may set rates for water, sewer, and refuse service. Proposition 218 requires that rates be based on the cost of providing service and proportional to the benefit received by each customer taking service. The judge's ruling in the recent *Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano* court case further specified that each water rate tier breakpoint (i.e. the consumption used in each tier) and the price of each tier must be individually cost-justified.

The City's water rates and charges must also encourage water conservation. April 1, 2015, Governor Brown issued Executive Order B-29-15 that directs the State Water Resources Control Board to impose restrictions to achieve reductions in urban water use as compared to 2013 use. The conservation target for the City of Clovis is 34%.

8.1 Conclusions

The purpose of this report is to provide an administrative record that allocates the cost of service to customers, and fairly and equitably designs the water rates and charges while promoting the efficient use of water. As described in previous sections, some rates and charges are proposed to increase and other rates and charges are proposed to decrease. This shift in cost recovery will impact various customers differently. Ultimately, the proposed rates better align with the City's actual cost of providing water service.

8.2 Recommendations

BWA recommends that the City adopt the drought scenario water rates proposed in this report. Under Proposition 218, public agencies adopt water rates via a public noticing and approval process. Agencies must mail noticing describing the rate increase and the maximum proposed rates to each property owner or rate payer within the service area. After holding a public hearing, agencies may adopt the rates shown in the public notice absent a majority protest of the residents. Rates approved under the Proposition 218 process are the legal maximum rates that an agency may implement. Agencies have the option to adopt lower rates than those approved under Proposition 218 at a later time without having to conduct additional noticing or hearings. Therefore, BWA recommends that the City adopt the proposed drought rates and transition to the lower, non-drought rates at a later date should drought conditions improve.

BWA generally recommends that public agencies conduct cost of service reviews every five years to account for changes in operation of the water system and changes in the customer base. In particular, BWA recommends that the City monitor the recycled water customer class and adjust the recycled water cost of service when the customer class is more mature.

The City will be conducting a Water Master Plan in the near future. The City should review its water demand peaking factors. If possible, separate peaking factors should be developed for the residential and commercial customer classes and used to update the rates. An engineering and financial review of fire flow demand costs should also be conducted to better define the cost of serving fire meters.

APPENDIX A: Non-drought Rates and Revenues

	Estimated FY2017		
	Rate	Units	Revenue
Residential			
Dwelling Unit Charge	\$21.22	231,253	\$4,907,189
Water Use			
Tier 1 (0-23)	\$0.86	3,697,077	\$3,179,486
Tier 2 (23-40)	\$1.45	973,138	\$1,411,050
Tier 3 (40+)	\$1.78	<u>721,057</u>	<u>\$1,283,481</u>
Total Metered Residential		5,391,272	\$5,874,018
Tarpey Unmetered (63kgal)	\$106.58	2,568	\$273,697
Tarpey Large Lot	\$5.12	180	\$922
Tarpey Excess Use Charges	\$1.78	29,029	<u>\$51,671</u>
Total Unmetered			\$326,290
Total Residential			\$11,107,497
Potable Commercial			
1" or smaller	\$17.10	3,491	\$59,696
1 1/2"	\$22.74	1,920	\$43,661
2"	\$31.40	5,305	\$166,577
3"	\$62.18	505	\$31,401
4"	\$156.42	3,145	\$491,941
6"	\$623.90	22	\$13,414
8"	\$1,105.96	0	\$0
10"	\$1,732.64	<u>18</u>	<u>\$31,188</u>
		14,406	\$837,877
Water Use			
Tier 1 (0-23)	\$0.86	157,049	\$135,062
Tier 2 (23+)	\$1.17	<u>1,296,544</u>	<u>\$1,516,956</u>
		1,453,593	\$1,652,019
Total Potable Commercial			\$2,489,896
Recycled Water			
2"	\$31.40	49	\$1,539
3"	\$62.18	26	\$1,586
4"	\$156.42	31	\$4,771
6"	\$623.90	3	\$1,560
8"	\$1,105.96	5	\$5,530
10"	\$1,732.64	<u>0</u>	<u>\$0</u>
		113	\$14,985
Water Use	\$0.53	56,855	\$30,133
Total Recycled Water			\$45,118
Construction Water	\$106.58	Unknown/estimate	\$12,490
Total			\$13,655,000

APPENDIX B: Drought Rates and Revenues

	Estimated FY2017 - drought conditions		
	Rate	Units	Revenue
Residential			
Dwelling Unit Charge	\$21.22	231,253	\$4,907,189

Water Use			
Tier 1 (0-23)	\$1.04	3,460,238	\$3,598,648
Tier 2 (23-40)	\$2.10	636,492	\$1,336,634
Tier 3 (40+)	\$2.66	306,187	<u>\$814,457</u>
Total Metered Residential		4,402,917	\$5,749,738
Tarpey Unmetered (63kgal)	\$132.70	2,568	\$340,774
Tarpey Large Lot	\$5.12	180	\$922
Tarpey Excess Use Charges	\$2.49	21,772	<u>\$54,211</u>
Total Unmetered Residential			\$395,906
Total Residential			\$11,052,833
Potable Commercial			
1" or smaller	\$17.10	3,491	\$59,696
1 1/2"	\$22.74	1,920	\$43,661
2"	\$31.40	5,305	\$166,577
3"	\$62.18	505	\$31,401
4"	\$156.42	3,145	\$491,941
6"	\$623.90	22	\$13,414
8"	\$1,105.96	0	\$0
10"	\$1,732.64	<u>18</u>	<u>\$31,188</u>
		14,406	\$837,877
Water Use			
Tier 1 (0-23)	\$1.04	155,735	\$161,964
Tier 2 (23+)	\$1.40	<u>1,104,026</u>	<u>\$1,545,637</u>
		1,259,761	\$1,707,601
Total Potable Commercial			\$2,545,478
Recycled Water			
2"	\$31.40	49	\$1,539
3"	\$62.18	26	\$1,586
4"	\$156.42	31	\$4,771
6"	\$623.90	3	\$1,560
8"	\$1,105.96	5	\$5,530
10"	\$1,732.64	<u>0</u>	<u>\$0</u>
		113	\$14,985
Water Use	\$0.56	56,855	\$31,839
Total Recycled Water			\$46,823
Construction Water	\$132.70	Unknown/estimate	\$9,866
Total			\$13,655,000