MEMORANDUM

TO: **UTILITIES ADVISORY COMMISSION**

6

FROM: **UTILITIES DEPARTMENT**

DATE: **June 3, 2015**

SUBJECT: **Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council Adopt two Resolutions Effective September 1, 2015: 1) Amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service) to Increase Rates 4% and Add Drought Surcharges; and 2) Activating Drought Surcharges at the 20% Level in Response to Mandatory Potable Water Use Restrictions Imposed by the State Water Resources Control Board**

REQUEST

Staff requests that the Utilities Advisory Commission (UAC) recommend that Council:

1) Adopt a resolution (Attachment A) amending rate schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service) to add drought surcharges and increase rates 4% effective September 1, 2015; and
2) Adopt a resolution (Attachment C) activating the drought surcharges at the 20% reduction level effective September 1, 2015.

EXECUTIVE SUMMARY

The Fiscal Year (FY) 2016 Water Financial Plan recommended for Council approval by the Finance Committee on April 7, 2015 concluded that a 12% water rate increase was necessary in FY 2016. However, as a result of an update to the water cost of service analysis that was completed subsequent to the Financial Plan, Council is only able to adopt an 8% water rate increase effective July 1, 2015 (see Staff Report #5814 on the June 8, 2014 Council agenda). An additional 4% water rate increase, which is necessary to cover increasing costs in the Water Fund, is proposed for implementation on September 1, 2015.

At the same time, staff proposes that the Council amend the rate schedules to add drought surcharges. These surcharges would not apply in a normal year, but could be imposed by action of the City Council in the event of a drought or other water shortage situation. The primary purpose of the surcharges is to recover some or all of the revenue lost due to water consumption reductions. They are not intended to be the primary tool for achieving conservation goals during a drought.

Given the 24% water use reduction mandate established for Palo Alto by the State Water Resources Control Board, staff expects that customers will reduce their water use, requiring a rate increase to recover the largely fixed costs of providing water service. Staff recommends activating the new drought surcharges on September 1, 2015, the same day that the proposed 4% rate increase would be effective.

In summary, the two attached resolutions are intended to accomplish three objectives:

1. Complete the 12% rate increase recommended to Council by the Finance Committee on April 7, 2015. Staff has recommended to Council that this 12% increase be broken into two parts, with an 8% increase effective July 1, 2015 and the remaining 4% increase effective September 1, 2015. The 8% increase will be considered by the Council during the water rate hearings on June 8 and continuing if needed to June 15. The first resolution (Attachment A) implements the remaining 4% increase.
2. Add drought surcharges to the water rate schedules. These surcharges will not become active unless Council activates them by resolution. Three levels of surcharge are included, one for the 10/15% reduction level, one for a 20% reduction level, and one for a 25% reduction level. The first resolution (Attachment A) includes all three potential surcharges as part of the proposed rate schedule amendments, but does not seek Council authorization to apply them.
3. Activate the drought surcharges at the 20% reduction level, effective September 1, 2015. The second resolution (Attachment C) implements this action by activating the drought surcharges at the 20% reduction level.

The increase to the underlying rate schedules (12% total, 8% on July 1, 2015 and 4% on September 1, 2015) is intended to generate additional revenue required to fund daily operations. The drought surcharges are only intended to be used temporarily under drought conditions or other water shortage situations, to recover revenue lost due to temporarily low sales volumes.

The effect of the 4% rate increase is an increase of $2.89 per month for the median residential customer using 9 CCF/month. Note that the changes will take effect on September 1, after the summer irrigation season, when water usage is normally reduced. The impact of the imposition of the drought surcharges will depend on whether a customer reduces water use.

BACKGROUND

Last year, in response to the ongoing drought, staff began the process of developing drought surcharges. The City's current rate setting methodology is based on the 2012 Palo Alto Water Cost of Service and Rate Study by Raftelis Financial Consultants, Inc. (RFC) (Staff Report 2676). Prior to updating the 2012 Water Utility Cost of Service Analysis (COSA) to include additional rates or surcharges for use in an extended drought, staff sought policy direction in the form of guidelines for the COSA. The guidelines (Attachment D) were approved by Council on November 10, 2014 (Staff Report 5171) and state that:

- Surcharges should be based on the cost to serve customers. This was the overriding principle for the analysis.
- The demand targets and indoor and outdoor use reductions underlying the rate design should be consistent with the water shortage response plan evaluation criteria in Appendix G of the City's 2010 Urban Water Management Plan (UWMP).
- Staff should evaluate the feasibility of adding a third tier to the residential rate (W-1) and a second tier to the general non-residential rate (W-4).
- Water purchase costs should be passed through directly on the bill as a separate rate component.
- Variances should be evaluated for customers needing additional water for medical necessity, health and safety, and other critical needs.

At the same time staff was completing the COSA for the drought surcharges, the annual budgeting and financial forecasting process was in progress. The FY 2016 Water Utility Financial Plan projected the need for a 12% rate increase on July 1, 2015. The primary driver for this increase is wholesale water rate increases. On March 4, 2015 the Utilities Advisory Commission recommended that the Council approve the 12% rate increase, and on April 7, 2015 the Finance Committee also unanimously recommended approval (Staff Report 5591). Staff mailed notices of the rate increase to all water utility customers, as required by Article XIIID of the State Constitution (added by Proposition 218 in 1996).

Shortly after the City mailed the notices, the California Court of Appeal published a decision providing additional guidance on constitutionally compliant water rate design. Staff asked RFC to review the City's water rate methodology and structure to ensure that they continued to equitably recover the City's costs to provide water service. RFC examined and validated both the City's methodology and rate structure as fundamentally sound, and recommended minor adjustments to ensure that peaking costs are equitably allocated to each customer class and residential rate tier.

Since Council may not adopt rates higher than those in the Proposition 218 notice that was sent to customers, staff recommended that Council approve an 8% rate increase effective July 1, 2015, the maximum rate increase that both aligned with the updated COSA and was within the notice requirements. Council will consider the recommendation for the 8% rate increase at its budget hearings on June 8, 2015 and June 15, 2015 (Staff Report 5814). The remaining 4% rate increase needed can be adopted along with the drought surcharges. This increase is included in

the attached rate schedules, and a Prop 218 notice of the 4% increase and the range of potential drought surcharges Council may activate will be sent to customers in July.

DISCUSSION

Overview of 4% Rate Increase

The attached rate schedules include a 4% rate increase, effective September 1, 2015. The rates are summarized in Tables 1 through 3, below. The tables show the existing rates, the rates proposed for July 1, 2015 (an 8% increase from existing rates), the rates proposed for September 1, 2015 (a 4% increase), and the change in rates. Note that the proposed rates for July 1, 2015 shown in Tables 1 through 3 are an 8% overall rate increase, not the 12% rate increase proposed at the March 3, 2015 UAC meeting. The 4% rate increase effective September 1, 2015, when combined with the 8% increase effective July 1, 2015, will result in an overall 12% rate increase, in line with the proposal in the FY 2016 Water Utility Financial Plan.

All rate increases are based on the cost of service methodology established in the 2012 "Palo Alto Water Cost of Service and Rate Study" by Raftelis Financial Consultants as modified by the attached memo titled "Proposed Water Rates" by Raftelis Financial Consultants (Attachment F).

Table 1: Water Commodity Charges (Current and Proposed)

	Current Rates (7/1/13)	Proposed Rates (7/1/15)[1]	Proposed Rates (9/1/15)	Change from July 2015 (Proposed) Rates	
				$/CCF	%
W-1 (Residential) Volumetric Rates ($/CCF)					
Tier 1 Rates	4.99	5.70	5.93	0.23	4%
Tier 2 Rates	7.58	8.08	8.38	0.30	4%
W-2 (Construction) Volumetric Rates ($/CCF)					
Uniform Rate	6.15	6.66	6.92	0.26	4%
W-4 (Commercial) Volumetric Rates ($/CCF)					
Uniform Rate	6.15	6.66	6.92	0.26	4%
W-7 (Irrigation) Volumetric Rates ($/CCF)					
Uniform Rate	7.52	7.99	8.29	0.30	4%

[1] The July 1, 2015 proposed rates shown in Tables 1 through 3 are for the 8% overall rate increase, that staff recommends be effective on July 1, 2015, instead of the 12% rate increase proposed earlier.

Table 2: Current and Proposed Monthly Water Service Charge

Meter Size	Monthly Service Charge ($/month based on meter size)			Change from July 2015 (Proposed) Rates	
	Current (7/1/13)	Proposed (7/1/15) [2]	Proposed (9/1/15)	$/mo	%
5/8"	14.67	15.54	16.03	0.49	3%
3/4"	19.51	20.88	21.50	0.62	3%
1"	29.18	31.58	32.45	0.87	3%
1 ½"	53.37	58.32	59.83	1.51	3%
2"	82.39	90.40	92.67	2.27	3%
3"	174.29	192.01	196.70	4.69	2%
4"	309.72	341.74	350.00	8.26	2%
6"	633.80	700.04	716.82	16.78	2%
8"	1,165.86	1,288.28	1,319.07	30.79	2%
10"	1,843.02	2,036.96	2,085.57	48.61	2%
12"	2,423.45	2,678.68	2,742.56	63.88	2%

Table 3: Current and Proposed Monthly Fire Service Charges

Meter Size	Monthly Fire Service Charge ($/month based on meter size)			Change from July 2015 (Proposed) Rates	
	Current (7/1/13)	Proposed (7/1/15)[2]	Proposed (9/1/15)	$/mo	%
2"	3.03	3.38	3.43	0.05	1%
4"	18.78	20.94	21.22	0.28	1%
6"	54.55	60.82	61.63	0.81	1%
8"	116.24	129.61	131.34	1.73	1%
10"	209.03	233.09	236.20	3.11	1%
12"	337.65	376.51	381.52	5.01	1%

Table 4 shows the impact of the proposed September 1, 2015 rate changes (excluding any drought surcharges) on the median residential bill. This comparison assumes that customers do not reduce their consumption. Historically, however, customers have looked for ways to conserve after their bills have increased, so not all customers will experience the same bill increase. The average increase is roughly 4% compared to the July 1, 2015 proposed rates and roughly 12% compared to the current rates, but residential customers with lower usage will see higher percentage increases due to the adjustment to peaking factors in the proposed July 1, 2015 rate schedules.

[2] The July 1, 2015 proposed rates shown in Tables 1 through 3 are for the 8% overall rate increase, instead of the 12% rate increase proposed earlier, that staff recommends be effective on July 1, 2015.

Table 4: Impact of Proposed Water Rate Changes on Residential Bills

Usage (CCF/month)	Bill under Existing Rates	Bill under Proposed 7/1/15 Rates	Bill under Proposed 9/1/15 Rates	Change from July 2015 (Proposed)	
				$/mo	%
4	34.63	38.34	39.75	1.41	4%
(Winter median) 7	52.19	57.82	59.99	2.17	4%
(Annual median) 9	67.35	73.98	76.75	2.77	4%
(Summer median) 14	105.25	114.38	118.65	4.27	4%
25	188.63	203.26	210.83	7.57	4%

Table 5 shows the impact of the proposed September 1, 2015 rate changes (excluding any drought surcharges) on various representative commercial customer bills. As with residents, this comparison assumes that customers do not decrease consumption.

Table 5: Impact of Proposed Water Rate Changes on Commercial Bills

Usage (CCF/month)	Bill under Existing Rates	Bill under Proposed 7/1/15 Rates	Bill under Proposed 9/1/15 Rates	Change from July 2015 (Proposed)	
				$/mo	%
Commercial (W-4) (5/8" meters)					
(Annual median) 12	88.47	95.46	99.07	3.61	4%
(Annual average) 64	408.27	441.78	458.91	17.13	4%
Irrigation (W-7) (1 ½" meters)					
(Winter median) 9	121	130	134	4	3%
(Summer median) 37	332	354	367	13	4%
(Winter average) 56	474	506	524	18	4%
(Summer average) 199	1,550	1,648	1710	62	4%

Overview of the Drought Surcharge Proposal

The proposed drought surcharges for each rate schedule are shown in Table 6. The drought surcharges are based on the cost of service methodology established in the 2012 "Palo Alto Water Cost of Service and Rate Study" by Raftelis Financial Consultants as modified by the attached memo titled "Proposed Drought Surcharges" by Raftelis Financial Consultants (Attachment G).

Table 6: Recommended Drought Surcharges ($/CCF)

Rate Class	10%/15%[3] Reduction	20% Reduction	25% Reduction
W-1 Residential (Tier 1)	0.19	0.39	0.59
W-1 Residential (Tier 2)	0.55	1.14	1.76
W-4 (Non-residential and Master Metered Multi-Family, General Use)	0.24	0.49	0.72
W-7 (Non-residential and Master Metered Multi-Family, Irrigation)	0.51	1.18	1.93

[3] Water use reduction targets for the 10% and 15% reduction targets are identical because of CPAU's supply guarantee under its 2009 Water Supply Agreement with the SFPUC. The supply guarantee, which is higher than CPAU's normal year demand, is a factor in the water use reduction targets.

As set forth in the attached rate schedules, these surcharges may be activated by Council's adoption of a resolution. The Council may opt to activate the surcharge at a lower level than necessary to fully recover all lost revenue. For example, if the City's water supplier imposed a mandatory reduction of 20% on Palo Alto, the City Council could adopt surcharges at a 10/15% level or a 20% level. This gives the Council the freedom to adopt a lower surcharge to make up part of the lost revenue, and offset any remaining revenue shortfall by making temporary cost reductions or drawing down reserves. Once adopted, the surcharges will remain in effect until Council takes action to remove or amend them.

Since the State has imposed a 24% mandatory reduction on Palo Alto effective June 1, 2015 staff recommends that Council adopt a resolution activating the drought surcharges. In the FY 2016 Water Utility Financial Plan, staff projected a continuation of SFPUC's request for a 10% voluntary water use reduction, but no mandatory reductions. The financial plan anticipated that the revenue loss associated with the 10% reduction in water sales would be offset by drawing down reserves, with no activation of drought surcharges. Now that Palo Alto is subject to a 24% mandatory water use reduction, staff recommends activating the drought surcharges at the 20% reduction level. Because they will take effect at the end of the summer irrigation season, the surcharges are only estimated to recover roughly 80% of the projected $2.8 million in lost revenue for FY 2016. The remaining lost revenue will be offset by drawing down reserves.

Impact on Customer Bills

Tables 7 and 8 show the impact the proposed surcharges, if activated at the 20% reduction level, would have on various sample customer bills. Customers who conserve[4] would see a lower bill compared to a normal year, while customers who do not conserve would see an increased bill. High use customers see greater savings when they conserve and higher costs when they do not. This is because higher users are expected to reduce consumption more than lower users, an expectation that is factored into the consumption projections underpinning the rate design. Additional tables are included in Attachment E showing the bill impacts for other reduction scenarios.

Customers who are already conserving may see increases to their bills as a result of the surcharges. Some customers may perceive this as "being punished for conserving," even though they will still save money relative to a normal year. Staff intends to communicate the reason for the surcharges (that the utility's cost to deliver water is mainly fixed), and that the impact of the surcharges will be felt more dearly by those customers who are not reducing consumption.[5]

[4] Bills shown in Tables 7 and 8 assume that conserving customers use 10% less water under the drought surcharges.

[5] These bill calculations assume the SFPUC does not raise rates to recover lost revenue. This assumption may hold in the short term, but in an extended drought the SFPUC will increase rates as needed. In this event, the City would adjust rates to pass the cost through to customers.

Table 7: Impact of Proposed Drought Surcharges (20% Reduction Level) on Residential Bills for both Conserving and Non-Conserving Customers

Usage (CCF/month)	Bill under Normal Year Rates*	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo	Bill	%	$/mo
4	39.75	39.03	-2%	-0.72	41.31	4%	1.56
(Winter median) 7	59.99	58.15	-3%	-1.84	63.47	6%	3.48
(Annual median) 9	76.75	73.39	-4%	-3.36	82.51	8%	5.76
(Summer median) 14	118.65	111.47	-6%	-7.18	130.11	10%	11.46
25	210.83	186.20	-12%	-24.63	234.83	11%	24.00

** Proposed rates effective September 1, 2015*

Table 8: Impact of Proposed Drought Surcharges, Non-Residential Bills, 20% Reduction Level

Usage (CCF/month)	Bill under Normal Year Rates*	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo	Bill	%	$/mo
Commercial (W-4) (5/8" meters)							
(Annual median) 12	99.07	96.95	-2%	-2.12	104.95	6%	5.88
(Annual average) 64	458.91	447.59	-2%	-11.32	490.27	7%	31.36
Irrigation (W-7) (1 ½" meters)							
(Winter median) 9	134	124	-8%	-11	145	8%	11
(Summer median) 37	367	323	-12%	-44	410	12%	43
(Winter average) 56	524	458	-13%	-66	590	13%	66
(Summer average) 199	1710	1473	-14%	-236	1944	14%	234

** Proposed rates effective September 1, 2015*

Drought Surcharge Rate Design, Alignment With Design Guidelines

The design for the drought surcharges are mostly in line with the rate design guidelines adopted by Council, with deviations from Guidelines 5, 6, and 7 as discussed below.

Guideline 1: Rates to be based on the cost of service

The drought surcharges are based on the memo titled "Proposed Drought Surcharges" by Raftelis Financial Consultants (Attachment G). The surcharges use the same cost of service methodology as the City's normal year rates, but assume reductions in sales commensurate with the water use reductions required. The model assumes that, during a drought, greater water use reductions occur in the rate classes more associated with irrigation (Tier 2 W-1, W-7), which results in higher increases in the rates. These surcharges are not "penalty rates" designed to punish overuse; instead, they are intended only to recover revenue lost due to water use reductions, although they may have the side effect of sending a price signal to encourage

conservation. While the surcharges may have some impact on customer conservation, they are not the primary tool for the City to achieve drought reduction targets, nor is that their intended purpose.

Guidelines 2 through 4: Consistency of Overall Demand Targets and Indoor and Outdoor Use Reductions with Design Criteria in Appendix G of the UWMP

The UWMP lists several criteria to use when evaluating the water allocations that form the basis for any rate design. These are included in Attachment H and are summarized below. They state that the allocations underlying any rate design should:

a. Reduce overall City consumption to the reduction target required
b. Provide sufficient water available for personal use
c. Have a design that is acceptable to the community
d. Be designed to minimize unemployment and business loss
e. Minimize landscaping investment losses
f. Be cost-effective, enforceable, and achievable in the given timeline
g. Allow for flexibility
h. Take into account for new water services
i. Recover penalties applied by suppliers

The proposed rate design accomplishes these goals. The demand targets and allocations used as the basis for the rate design are shown in Attachment D. By assuming greater cuts in outdoor use than indoor use, and designing rates on that basis, the demand targets and indoor/outdoor allocations preserve sufficient water for personal use and minimize the impacts on business use. However, no individual allocations are established, which means people have the opportunity to choose whether they focus their savings goals on indoor or outdoor use. This provides flexibility to the consumer, allowing them the flexibility to allocate their water use as needed to minimize landscape investment losses, and makes it more likely the rate design will be acceptable to the community. Since individual allocations are not established, the rate design automatically takes into account new water services.

Guidelines 5 and 6: Adding a Tier to the Residential (W-1) and General Non-residential (W-4) Rate Schedules

As part of this study staff evaluated a three tier system for residential rates (W-1) and a two tier system for general non-residential consumption (W-4), but does not recommend adopting additional tiers at this time. Staff's analysis of customer usage suggests that such an approach may be feasible and cost-justified, but it requires more legal and technical analysis than staff can currently accommodate, given the June 1 effective date of the state's mandatory 24% use reduction.

Guideline 7: Create a Separate Water Supply Rate Component

Staff recommends against proceeding with this rate design feature at this time. Staff is currently projecting little change to the SFPUC's water rates over the next three years given the large rate increase that will go into effect July 1, 2015. However, if the drought continues

beyond the upcoming winter, the SFPUC may increase its rates higher than anticipated, prompting staff to revisit this feature as part of a future rate change.

Guideline 8: Evaluate the Need for Variance Processes
The proposed cost-based surcharges do not include extraordinarily large increases or penalty rates for second tier users, so staff is recommending against creating a variance process at this time. However, if it becomes apparent that a variance process is necessary, staff will re-evaluate the feasibility of such a process.

NEXT STEPS

The Finance Committee will review this proposal on June 16, 2015. Assuming the Finance Committee supports staff's recommendation, notification of the rate increases, including the range of potential drought surcharges Council may activate, will be sent to customers as required by Article XIIID of the State Constitution (added by Proposition 218, 1996). The rate schedules will then go to the City Council in August, at which time the public hearing required by Article XIIID of the State Constitution will be held. Assuming the Council adopts the rate changes, they will become effective September 1, 2015.

RESOURCE IMPACT

The attached rate schedules include a 4% increase over the rates that are proposed to be adopted July 1, 2015. The proposed July 1, 2015 rates are 8% higher than the existing rates and will generate roughly $3 million in additional revenue during a normal year. The additional 4% increase will generate an additional $1.5 million during a normal year, though it will generate less in FY 2016 due to the late adoption date. Actual revenue from both rate changes will be lower in the short term because sales volumes are lower due to drought restrictions. The entire revenue increase will be offset by an increase in wholesale water supply costs, as discussed in the FY 2016 Water Utility Financial Plan.

In addition to the 4% rate increase, the attached rate schedules include the addition of drought surcharges that could be imposed by Council as needed. Table 9 shows the estimated revenue that would be recovered by the attached drought surcharges under various drought scenarios, if they were kept in place for an entire fiscal year. Note that this revenue is not extra revenue above the utility's cost of operation. It only replaces revenue lost due to decreased sales associated with the drought. Staff is recommending activation of the drought surcharges at the 20% level effective September 1, 2015.

Table 9: Revenue Recovered by Drought Surcharges

Reduction in Available Supply	Estimated Lost Revenue Recovered by Drought Surcharges
10/15%	$1.3 million
20%	$2.7 million
25%	$4.1 million

The Fiscal Year 2016 Proposed Budget assumes a rate increase of 12% consistent with the approved Water Utility Financial Plan. Due to the two-step process to achieve a 12% rate increase to cover the utilities costs and the uncertainty of water usage due to the drought and drought rates, staff anticipates returning to the City Council as part of the Fiscal Year 2016 Midyear Budget review report with a recommendation to adjust the water fund's revenues and align it with actual experience during the first six months of fiscal year 2016.

POLICY IMPLICATIONS

As discussed above, the proposed drought surcharges and underlying rates are consistent with the Design Guidelines for the 2014 Water Utility Drought Rate Cost of Service Study and Appendix G of the UWMP, except as noted above. In addition, they are consistent with Article XIIID of the State Constitution in that they reflect only the cost to serve customers under normal conditions and under various drought scenarios.

ENVIRONMENTAL REVIEW

Adoption of these rate changes is exempt from the California Environmental Quality Act, pursuant to California Public Resources Code Sec. 21080(b)(8), (adoption of rates to meet operating expenses, purchase supplies, meet reserve needs and obtain capital improvement funds), thus no environmental review is required.

ATTACHMENTS

A. Resolution of the Council of the City of Palo Alto Adopting a Water Rate Increase and Amending Rate Schedules W-1, W-2, W-3, W-4, and W-7 to include Drought Surcharges
B. Amended Rate Schedules W-1, W-2, W-3, W-4, and W-7
C. Resolution Activating Drought Surcharges at the 20% Reduction Level Effective September 1, 2015
D. Adopted Design Guidelines for the 2014 Water Utility Drought Rate Cost of Service Study
E. Bill Impacts of Drought Surcharges
F. May 20, 2015 Memo from Raftelis Financial Consultants, "Proposed Water Rates"
G. May 20, 2015 Memo from Raftelis Financial Consultants, "Proposed Drought Surcharges"
H. Appendix G of the Urban Water Management Plan

PREPARED BY: **JONATHAN ABENDSCHEIN,** Senior Resource Planner

REVIEWED BY: **JANE RATCHYE,** Assistant Director, Resource Management

APPROVED BY: Jane O. Ratchye for VOF

VALERIE O. FONG
Director of Utilities

* NOT YET APPROVED *

Resolution No. _____
Resolution of the Council of the City of Palo Alto Amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service) to Increase Water Rates 4% and Add Drought Surcharges

R E C I T A L S

A. On January 17, 2014 the Governor of the State of California proclaimed a State of Emergency due to severe drought conditions. On April 1, 2015 the Governor issued Executive Order proclaiming that severe drought conditions continue to exist, and ordering the State Water Resources Control Board to adopt regulations imposing mandatory water use restrictions on water suppliers to achieve a 20% reduction in statewide potable water use through February 28, 2016.

B. On May 5, 2015, the State Water Resources Control Board adopted regulations imposing upon Palo Alto a mandatory 24% reduction in potable water consumption from June 1, 2015 through February 28, 2016.

C. The City's costs of distributing water and managing its operations are mostly fixed, and will not decrease despite decreases in water consumption during a drought. Customer response to this call for mandatory reductions will result in reductions in water sales revenue. The City intends to add drought surcharges to its rate schedules that may be used to recover these fixed costs during current and future droughts.

D. The City, on June 15, adopted the FY 2016 Water Utility Financial Plan (Staff Report #5813), which determined an additional 12% increase in revenue was needed for FY 2016 due to increased water supply costs. On June 15 the City adopted an 8% increase to its water rates effective July 1, 2015. An additional 4% increase to normal year water rates is necessary to achieve adequate revenue to fund operations for FY 2016.

E. Pursuant to Chapter 12.20.010 of the Palo Alto Municipal Code, the Council of the City of Palo Alto may by resolution adopt rules and regulations governing utility services, fees and charges.

F. On July _____, 2015, the City mailed notice of the proposed water rate amendments and drought surcharges to all City of Palo Alto Utilities water customers. The notice contained a description of the 4% overall increase in water rates, as well as each of the three levels of drought surcharges that Council may activate in response to a drought or other water shortage situation.

* NOT YET APPROVED *

G. Pursuant to Article XIIID Sec. 6 of the California Constitution, on August 17, 2015, the City of Palo Alto held a public hearing to consider all protests against the proposed water rate amendments, including the drought surcharges.

H. The total number of written protests presented by the close of the public hearing was _____ fifty percent (50%) of the total number of customers and property owners subject to the proposed water rate amendments.

The Council of the City of Palo Alto does hereby RESOLVE as follows:

SECTION 1. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-1 (General Residential Water Service) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-1, as amended, shall become effective September 1, 2015.

SECTION 2. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-2 (Water Service from Fire Hydrants) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-2, as amended, shall become effective September 1, 2015.

SECTION 3. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-3 (Fire Service Connections) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-3, as amended, shall become effective September 1, 2015.

SECTION 4. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-4 (Residential Master-Metered and General Non-Residential Water Service) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-4, as amended, shall become effective September 1, 2015.

SECTION 5. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-7 (Non-Residential Irrigation Water Service) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-7, as amended, shall become effective September 1, 2015.

SECTION 6. The Council finds that the revenue derived from the adoption of this resolution shall be used only for the purpose set forth in Article VII, Section 2, of the Charter of the City of Palo Alto.

SECTION 7. The Council finds that the fees and charges adopted by this resolution are charges imposed for a specific government service or product provided directly to the payor that are not provided to those not charged, and do not exceed the reasonable costs to the City of providing the service or product.

* NOT YET APPROVED *

SECTION 8. Council may later find it necessary to activate one of the drought surcharge levels described in the August 2015 public notice. Pursuant to Government Code 53750(h)(2)(B), Council's later activation of any one of the properly noticed and Council-approved drought surcharge levels is not a rate increase for purposes of Article XIII C and Article XIII D of the California Constitution and Government Code 53750.

SECTION 9. The Council finds that the adoption of this resolution changing water rates to meet operating expenses, purchase supplies and materials, meet financial reserve needs and obtain funds for capital improvements necessary to maintain service is not subject to the California Environmental Quality Act (CEQA), pursuant to California Public Resources Code Sec. 21080(b)(8) and Title 14 of the California Code of Regulations Sec. 15273(a). After reviewing the staff report and all attachments presented to Council, the Council incorporates these documents herein and finds that sufficient evidence has been presented setting forth with specificity the basis for this claim of CEQA exemption.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

_____
Senior Deputy City Attorney

APPROVED:

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

GENERAL RESIDENTIAL WATER SERVICE

UTILITY RATE SCHEDULE W-1

A. APPLICABILITY:

This schedule applies to all separately metered single family residential water services.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides water services.

C. RATES:

Monthly Service Charge:	Per Meter Per Month
For 5/8-inch meter	$ ~~15.54~~16.03
For 3/4 inch meter	~~20.88~~21.50
For 1 inch meter	~~31.58~~32.45
For 1 1/2 inch meter	~~58.32~~59.83
For 2-inch meter	~~90.40~~92.67
For 3-inch meter	~~192.01~~196.70
For 4-inch meter	~~341.74~~350.00
For 6-inch meter	~~700.04~~716.82
For 8-inch meter	~~1,288.28~~1,319.07
For 10-inch meter	~~2,036.96~~2,085.57
For 12-inch meter	~~2,678.68~~2,742.56

Commodity Rate: (To be added to Service Charge and applicable to all pressure zones.)

Per Hundred Cubic Feet (ccf) Per Month	All Pressure Zones
Tier 1 usage	$~~5.70~~5.93
Tier 2 usage (All usage over 100% of Tier 1)	~~8.08~~8.38

Drought Surcharges:

If adopted by City Council resolution as described in Section D.3, one of the three designated drought surcharge reduction levels will be added to the Customer's applicable Commodity Rate for Tier 1 and Tier 2 water usage. The drought surcharges in the table below are measured in dollars per hundred cubic feet (ccf).

System-wide Water Usage Reduction level	**10/15%**	**20%**	**25%**
Tier 1	0.19	0.39	0.59
Tier 2	0.55	1.14	1.76

Temporary unmetered service to residential subdivision developers, per connection $6.00

D. SPECIAL NOTES:

1. Calculation of Cost Components

The actual bill amount is calculated based on the applicable rates in Section C above and adjusted for any applicable discounts, surcharges and/or taxes. On a customer's bill statement, the bill amount may be broken down into appropriate components as calculated under Section C.

2. Calculation of Usage Tiers

Tier 1 water usage shall be calculated and billed based upon a level of 0.2 ccf per day rounded to the nearest whole ccf, based on meter reading days of service. As an example, for a 30 day bill, the Tier 1 level would be 0 through 6 ccf. For further discussion of bill calculation and proration, refer to Rule and Regulation 11.

3. Drought Surcharge

During periods of water shortage or restrictions on local water use, the City Council may adopt a resolution activating a Drought Surcharge at the 10/15%, 20% or 25% level, as needed to recover the water utility's costs of providing water service. The purpose of the Drought Surcharge is to recover revenues lost as a result of reduced consumption.

{End}

A. APPLICABILITY:

This schedule applies to all water taken from fire hydrants for construction, maintenance, and other uses in conformance with provisions of a Hydrant Meter Permit.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides water services.

C. RATES:

1. Monthly Service Charge.

METER SIZE

5/8 inch	50.00
3 inch	125.00

2. Commodity Rate: (per hundred cubic feet) ..... $~~6.66~~6.92

3. Drought Surcharges:

If adopted by City Council resolution as described in Section D.5, one of the three designated drought surcharge reduction levels will be added to the Customer's Commodity Rate.

System-wide Water Usage Reduction level	**10/15%**	**20%**	**25%**
Surcharge (dollars per hundred cubic feed)	0.24	0.49	0.72

D. SPECIAL NOTES:

1. Monthly charges shall include the applicable monthly service charge in addition to usage billed at the commodity rate.

2. Any applicant using a hydrant without obtaining a Hydrant Meter Permit or any permittee using a hydrant without a Hydrant Meter Permit shall pay a fee of $50.00 for each day of such use in addition to all other costs and fees provided in this schedule. A hydrant permit may be denied or

revoked for failure to pay such fee.

3. A meter deposit of $750.00 may be charged any applicant for a Hydrant Meter Permit as a prerequisite to the issuance of a permit and meter(s). A charge of $50.00 per day will be added for delinquent return of hydrant meters. A fee will be charged for any meter returned with missing or damaged parts.

4. Any person or company using a fire hydrant improperly or without a permit, or who draws water from a hydrant without a meter installed and properly recording usage shall, in addition to all other applicable charges be subject to criminal prosecution pursuant to the Palo Alto Municipal Code.

5. During periods of water shortage or restrictions on local water use, the City Council may adopt a resolution activating a Drought Surcharge at the 10/15%, 20% or 25% level, as needed to recover the water utility's costs of providing water service. The purpose of the Drought Surcharge is to recover revenues lost as a result of reduced consumption.

{End}

FIRE SERVICE CONNECTIONS

UTILITY RATE SCHEDULE W-3

A. APPLICABILITY:

This schedule applies to all public fire hydrants and private fire service connections.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides water services.

C. RATES:

1. Monthly Service Charges

Public Fire Hydrant	$5.00

Private Fire Service:

2-inch connection	~~$3.38~~3.43
4-inch connection	~~20.94~~21.22
6-inch connection	~~60.82~~61.63
8-inch connection	~~129.61~~131.34
10-inch connection	~~233.09~~236.20
12-inch connection	~~376.51~~381.52

2. Commodity (To be added to Service Charge unless water is used for fire extinguishing or testing purposes.)

	Per Hundred Cubic Feet
All water usage	$10.00

D. SPECIAL NOTES:

1. Service under this schedule may be discontinued if water is used for any purpose other than fire extinguishing or testing and repairing the fire extinguishing facilities. Using hydrants and fire services for other purposes is illegal and will be subject to the commodity charge as noted above, fines, and criminal prosecution pursuant to the Palo Alto Municipal Code.

2. For a combination water and fire service, the general water service schedule shall apply.

3. Utilities Rule and Regulation No. 21 provides additional information on Automatic Fire Services.

4. Repairs and testing of fire extinguishing facilities are not considered unauthorized use of water if records and documentation are supplied by the customer.

{End}

RESIDENTIAL MASTER-METERED AND GENERAL NON-RESIDENTIAL WATER SERVICE

UTILITY RATE SCHEDULE W-4

A. APPLICABILITY:

This schedule applies to non-residential water service in the City of Palo Alto and its distribution area. This schedule is also applicable to multi-family residential customers served through a master meter.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides water services.

C. RATES:

Monthly Service Charge	Per Meter Per Month
For 5/8-inch meter	$ ~~15.54~~16.03
For 3/4-inch meter	~~20.88~~21.50
For 1-inch meter	~~31.58~~32.45
For 1 ½-inch meter	~~58.32~~59.83
For 2-inch meter	~~90.40~~92.67
For 3-inch meter	~~192.01~~196.70
For 4-inch meter	~~341.74~~350.00
For 6-inch meter	~~700.04~~716.82
For 8-inch meter	~~1,288.28~~1,319.07
For 10-inch meter	~~2,036.96~~2,085.57
For 12-inch meter	~~2,678.68~~2,742.56

Commodity Rates: (to be added to Service Charge)

Per Hundred Cubic Feet (ccf) Per Month	All Pressure Zones
Per ccf	$ ~~6.66~~6.92

Drought Surcharges:

If adopted by City Council resolution as described in Section D.2, one of the three designated drought surcharge reduction levels will be added to the Customer's Commodity Rate.

System-wide Water Usage Reduction level	**10/15%**	**20%**	**25%**
Surcharge (dollars per hundred cubic feed)	0.24	0.49	0.72

D. SPECIAL NOTES:

1. Calculation of Cost Components

The actual bill amount is calculated based on the applicable rates in Section C above and adjusted for any applicable discounts, surcharges and/or taxes. On a customer's bill statement, the bill amount may be broken down into appropriate components as calculated under Section C.

2. Drought Surcharge

During periods of water shortage or restrictions on local water use, the City Council may adopt a resolution activating a Drought Surcharge at the 10/15%, 20% or 25% level, as needed to recover the water utility's costs of providing water service. The purpose of the Drought Surcharge is to recover revenues lost as a result of reduced consumption.

{End}

NON-RESIDENTIAL IRRIGATION WATER SERVICE

UTILITY RATE SCHEDULE W-7

A. APPLICABILITY:

This schedule applies to non-residential water service supplying dedicated irrigation meters in the City of Palo Alto and its distribution area.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides water services.

C. RATES:

Monthly Service Charge	Per Meter Per Month
For 5/8-inch meter	$ ~~15.54~~16.03
For 3/4-inch meter	~~20.88~~21.50
For 1-inch meter	~~31.58~~32.45
For 1 1/2 inch meter	~~58.32~~59.83
For 2-inch meter	~~90.40~~92.67
For 3-inch meter	~~192.01~~196.70
For 4-inch meter	~~341.74~~350.00
For 6-inch meter	~~700.04~~716.82
For 8-inch meter	~~1,288.28~~1,319.07
For 10-inch meter	~~2,036.96~~2,085.57
For 12-inch meter	~~2,678.68~~2,742.56

Commodity Rates: (to be added to Service Charge)

Per Hundred Cubic Feet (ccf) Per Month	All Pressure Zones
Per ccf	$ ~~8.08~~8.29

Drought Surcharges:

If adopted by City Council resolution as described in Section D.2, one of the three designated drought surcharge reduction levels will be added to the Customer's Commodity Rate.

System-wide Water Usage Reduction level	**10/15%**	**20%**	**25%**
Surcharge (dollars per hundred cubic feed)	0.51	1.18	1.93

D. SPECIAL NOTES:

1. Calculation of Cost Components

The actual bill amount is calculated based on the applicable rates in Section C above and adjusted for any applicable discounts, surcharges and/or taxes. On a customer's bill statement, the bill amount may be broken down into appropriate components as calculated under Section C.

2. Drought Surcharge

During periods of water shortage or restrictions on local water use, the City Council may adopt a resolution activating a Drought Surcharge at the 10/15%, 20% or 25% level, as needed to recover the water utility's costs of providing water service. The purpose of the Drought Surcharge is to recover revenues lost as a result of reduced consumption.

{End}

Attachment C

Resolution No. _____

Resolution of the Council of the City of Palo Alto Adopting Drought Surcharges at the 20% Reduction Level in Response to Mandatory Potable Water Use Restrictions Imposed by the State Water Resources Control Board

R E C I T A L S

A. The state of California is experiencing record dry conditions. On January 17, 2014 the Governor of the State of California proclaimed a State of Emergency due to severe drought conditions. On April 1, 2015 the Governor issued an Executive Order proclaiming that severe drought conditions continue to exist, and ordering the State Water Resources Control Board to adopt regulations imposing mandatory water use restrictions on water suppliers to achieve a 20% reduction in statewide potable water use through February 28, 2016.

B. On May 5, 2015, the State Water Resources Control Board adopted regulations imposing upon Palo Alto a mandatory 24% reduction in potable water consumption from June 1, 2015 through February 28, 2016.

C. Customer response to this call for mandatory reductions will result in reductions in water sales revenue. The City's costs of distributing water and managing its operations are mostly fixed, and will not decrease despite decreases in water consumption. The drought surcharges are necessary to recover these fixed costs.

D. The City wishes to activate the drought surcharges for all of its water rate schedules at the 20% level. In light of the State's mandate that Palo Alto reduce its overall potable water consumption by 24%, activation of local surcharges at the 20% level is projected to recover no more than the City's fixed costs of operations, and is not projected to collect revenue above and beyond the cost to serve the City's water customers under drought conditions.

E. Pursuant to Chapter 12.20.010 of the Palo Alto Municipal Code, the Council of the City of Palo Alto may by resolution adopt rules and regulations governing utility services, fees and charges.

F. On July _____, 2015, the City mailed notice of the proposed water rate amendments and drought surcharges to all City of Palo Alto Utilities water customers. The notice contained a description of the 4% overall increase in water rates, as well as each of the three levels of drought surcharges that Council may activate in response to a drought or other water shortage situation. The notice further informed customers that in August 2015, staff plans to recommend that Council activate the 20% drought surcharge level.

G. Pursuant to Article XIIID Sec. 6 of the California Constitution, on August 17, 2015, the City of Palo Alto held a public hearing to consider all protests against the proposed water rate amendments, including the drought surcharges.

H. The total number of written protests presented by the close of the public hearing was _____ fifty percent (50%) of the total number of customers and property owners subject to the proposed water rate amendments.

The Council of the City of Palo Alto does hereby RESOLVE as follows:

SECTION 1. As authorized by Chapter 12.20.010 of the Palo Alto Municipal Code, the drought surcharges listed in Section C under the 20% reduction level for the W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-4 (Residential Master-Metered and General Non-Residential Service), W-7 (Non-residential Irrigation Water Service) will apply to all City of Palo Alto Utilities water customer bills as of September 1, 2015,.

SECTION 2. In light of the State's mandate that Palo Alto reduce its overall potable water consumption by 24%, activation of local drought surcharges at the 20% level is projected to recover no more than the City's fixed costs of operations, and is not projected to collect revenue above and beyond the cost to serve the City's water customers under drought conditions.

SECTION 3. The drought surcharges will continue to apply until the City Council acts to remove or amend them. Council may later find it necessary to activate one of the other drought surcharge levels described in the August 2015 public notice. Pursuant to Government Code 53750(h)(2)(B), Council's later activation of any one of the properly noticed and Council-approved drought surcharge levels is not a rate increase for purposes of Article XIII C and Article XIII D of the California Constitution and Government Code 53750.

SECTION 4. The Council finds that the adoption of this resolution changing water rates to meet operating expenses, purchase supplies and materials, meet financial reserve needs and obtain funds for capital improvements necessary to maintain service is not subject to the California Environmental Quality Act (CEQA), pursuant to California Public Resources Code Sec. 21080(b)(8) and Title 14 of the California Code of Regulations Sec. 15273(a). After

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/ /

reviewing the staff report and all attachments presented to Council, the Council incorporates these documents herein and finds that sufficient evidence has been presented setting forth with specificity the basis for this claim of CEQA exemption.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

_____
Senior Deputy City Attorney

APPROVED:

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

Design Guidelines for the 2014 Water Utility Drought Rate Cost of Service Study

1. Drought rates must be based on the cost to serve customers. This is the overriding principle for this study; all other rate design considerations must fall within this basic premise.

2. The drought rate design should be consistent with the water shortage response plan evaluation criteria in Appendix G of the City's 2010 Urban Water Management Plan, summarized as follows:
   a. Reduce overall City consumption to reduction target required
   b. Provide sufficient water available for personal use
   c. Design should be acceptable to the community
   d. Unemployment and business loss should be minimized
   e. Landscaping investment losses should be minimized
   f. Plan should be cost-effective, enforceable, and achievable in the given timeline
   g. Plan should allow for flexibility
   h. Plan should take into account for new water services
   i. Plan should recover penalties applied by suppliers

   These criteria are discussed in more detail in the 2010 Urban Water Management Plan.

3. Rates will be designed for the following demand targets:

San Francisco Public Utilities Commission System-wide Demand Reduction	Target Palo Alto Demand (CCF)	Projected Sales (CCF)
10/15%	4.976 million	4.571 million
20%	4.586 million	4.213 million
25%	4.261 million	3.914 million

4. Rates will be designed assuming the following allocation of water between indoor and outdoor (irrigation) use.

SFPUC System-wide Reduction in Available Supply	CPAU Sales (CCF)	Indoor Use		Outdoor Use	
		(CCF)	% reduction over normal year	(CCF)	% reduction over normal year
None	4.946 million	3.134 million	-	1.812 million	-
10/15%	4.571 million	2.977 million	5%	1.589 million	12%
20%	4.213 million	2.852 million	9%	1.359 million	25%
25%	3.914 million	2.758 million	12%	1.160 million	36%

5. Rates for residential customers should provide an allowance for efficient landscaping through the use of three tiers, if feasible, and should otherwise be based on two tiers.

6. Rates for commercial customers should provide an individual baseline allocation representing indoor use (based on winter use in a pre-drought year) and a second tier for outdoor use.

7. Water purchase costs should be passed through directly on the bill as a separate rate component.

8. Evaluate variance processes for customers needing additional water for medical necessity, health and safety, and other critical needs.

Estimated Impact of Proposed Drought Surcharges on Customer Bills

The charts below show the impact of drought surcharges on customer bills. Note that the bill calculations below assume that the City's wholesale supplier, the SFPUC, does not raise rates to recover lost revenue. This assumption may hold in the short term, but in an extended drought the SFPUC will increase rates as needed. In this event, the City would adjust rates to pass the cost through to customers.

10% / 15% REDUCTION LEVEL

Residential Bills

Usage (CCF/month)	Bill under Normal Year Rates	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo.	Bill	%	$/mo.
4	39.75	39.29	-1%	-0.46	40.51	2%	0.76
(Winter median) 7	59.99	58.95	-2%	-1.04	61.68	3%	1.69
(Annual median) 9	76.75	75.03	-2%	-1.73	79.54	4%	2.79
(Summer median) 14	118.65	115.21	-3%	-3.44	124.19	5%	5.54
25	210.83	200.22	-5%	-10.61	222.42	5%	11.59

Commercial Bills

Usage (CCF/month)	Bill under Normal Year Rates	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo.	Bill	%	$/mo.
Commercial (W-4) (5/8" meters)							
(Annual median) 12	99.07	97.65	-1%	-1.42	101.95	3%	2.88
(Annual average) 64	458.91	451.36	-2%	-7.55	474.27	3%	15.36
Irrigation (W-7) (1 ½" meters)							
(Winter median) 9	134	130	-3%	-4	139	4%	5
(Summer median) 37	367	346	-6%	-21	385	5%	18
(Winter average) 56	524	493	-6%	-31	553	6%	29
(Summer average) 199	1710	1601	-6%	-109	1811	6%	101

20% REDUCTION LEVEL

Residential Bills

Usage (CCF/month)	Bill under Normal Year Rates	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo.	Bill	%	$/mo.
4	39.75	39.03	-2%	-0.72	41.31	4%	1.56
(Winter median) 7	59.99	58.15	-3%	-1.84	63.47	6%	3.48
(Annual median) 9	76.75	73.39	-4%	-3.36	82.51	8%	5.76
(Summer median) 14	118.65	111.47	-6%	-7.18	130.11	10%	11.46
25	210.83	186.20	-12%	-24.63	234.83	11%	24.00

Commercial Bills

Usage (CCF/month)	Bill under Normal Year Rates	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo.	Bill	%	$/mo.
Commercial (W-4) (5/8” meters)							
(Annual median) 12	99.07	96.95	-2%	-2.12	104.95	6%	5.88
(Annual average) 64	458.91	447.59	-2%	-11.32	490.27	7%	31.36
Irrigation (W-7) (1 ½” meters)							
(Winter median) 9	134	124	-7%	-10	145	8%	11
(Summer median) 37	367	323	-12%	-44	410	12%	43
(Winter average) 56	524	458	-13%	-66	590	13%	66
(Summer average) 199	1710	1473	-14%	-237	1944	14%	234

25% REDUCTION LEVEL

Residential Bills

Usage (CCF/month)	Bill under Normal Year Rates	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo.	Bill	%	$/mo.
4	39.75	38.98	-2%	-0.77	42.11	6%	2.36
(Winter median) 7	59.99	57.55	-4%	-2.44	65.29	9%	5.30
(Annual median) 9	76.75	71.75	-7%	-5.00	85.57	11%	8.82
(Summer median) 14	118.65	107.24	-10%	-11.41	136.27	15%	17.62
25	210.83	173.76	-18%	-37.07	247.81	18%	36.98

Commercial Bills

Usage (CCF/month)	Bill under Normal Year Rates	Bill with Surcharges, Conserving Customer			Bill with Surcharges, Non-Conserving Customer		
			Change in Bill			Change in Bill	
		Bill	%	$/mo.	Bill	%	$/mo.
Commercial (W-4) (5/8” meters)							
(Annual median) 12	99.07	96.71	-2%	-2.36	107.71	9%	8.64
(Annual average) 64	458.91	446.31	-3%	-12.60	504.99	10%	46.08
Irrigation (W-7) (1 ½” meters)							
(Winter median) 9	134	119	-11%	-15	152	13%	18
(Summer median) 37	367	302	-18%	-65	438	19%	71
(Winter average) 56	524	426	-19%	-98	632	21%	108
(Summer average) 199	1710	1361	-20%	-349	2094	22%	384

RAFTELIS
FINANCIAL CONSULTANTS, INC.

201 S. Lake Avenue
Suite 301
Pasadena, CA 91101

Phone 626 . 583 . 1894
Fax 626 . 583 . 1411

www.raftelis.com

ATTACHMENT F

Raftelis Financial Consultants

Memorandum

TO: Jon Abendschein, Senior Resource Planner

FROM: Sudhir Pardiwala/Hannah Phan

DATE: May 20, 2015

SUBJECT: Proposed Water Rates

The City of Palo Alto (City) engaged Raftelis Financial Consultants, Inc. (RFC) to review the cost of service methodology and water rate structure described in our 2012 rate study[1] to ensure its continued compliance with Proposition 218. This memo summarizes the methodology and development of the proposed water rate methodology and tiered rate structure.

Proposed Water Rates

The following subsections detail the methodology and calculation related to the proposed water rates for fiscal year (FY) 2016.

Cost of Service Analysis Adjustments

At the City' request, RFC reviewed the cost of service analysis methodology used in its 2012 rate study, to ensure its continued compliance with Proposition 218's substantive requirements for water rates. The methodology and rate structure described in the 2012 cost of service study remains fundamentally sound. Upon review, we have refined our analysis and recommend that the following adjustments be made to ensure that the rates proposed continue to equitably recover the City's costs of providing water service:

1. RFC updated the customer class peaking factors using FY 2014 data. Peaking costs are one of the elements used to differentiate rates amongst different classes of customers. Different customers impose different demands on the system, and the portion of the costs related to peaking are applied proportionally to the peaking factors. As discussed below, peaking factors for the customer classes have shifted since the last study, and the new peaking factors should be reflected in the proposed rates.
2. RFC analyzed the usage characteristics for residential Tiers 1 and 2 usage in order to update the peaking-related costs to be allocated to each tier. The boundary between Tier 1 and Tier 2 use, 6 CCF, represents the median winter monthly usage for residential customers (winter is consider January through March). Analyzing winter usage is a common way to calculate indoor, year-

[1] Palo Alto Water Cost of Service and Rate Study Report dated March 2012

round, base load use. Usage above this level typically is related to irrigation. As a result, the 2012 cost of service study did not allocate any peaking factors to Tier 1, because the customers with usage solely in that tier were presumed not to have a usage peak. Upon further study, RFC has determined that Tier 1 customers do have a small peaking factor that occurs as a result of their slightly higher summer use. As a result, RFC recommends refining the 2012 cost of service analysis to allocate a small share of peaking factor costs to Tier 1. This change will more equitably recover system design and operational costs associated with Tier 1 customers' peak demands upon the system.

3. RFC adjusted the model to more clearly delineate the difference between base (delivery), peaking, and the cost of purchased water from San Francisco Public Utilities Commission (SFPUC). While this does not necessarily affect the cost allocation between customer classes, it does more clearly show the costs being allocated among customer classes and residential tiers.

The adjustments were made to the model used to calculate the City's existing rates, which has been updated to reflect FY 2016 budget requirements.

Adjustment 1: Peaking Factors for Customer Classes

Table 1 shows the peaking factors by customer class, based on the maximum month factors calculated from each customer class' water usage in FY 2014, compared to the peaking factors used in the 2012 study. These were calculated using the same methodology as in the 2012 cost of service study. The primary differentiator of rates amongst different customer classes is based on the demand that they put on the system. This demand is expressed in terms of the maximum day and maximum hour factors. These are the demands expressed as a ratio of the maximum demand to the average demand for each customer class. For example, if the maximum demand for a customer class were 10,000 CCF per day, and the average annual demand were 5,000 CCF per day, the peaking ratio would be 2.0.

Residential customers generally have higher peaking factors than commercial customers, and irrigation customers have the highest peaking factors. The max day factor for each customer class is based on the maximum month demands. The ratio of the max hour and max day for the whole system is used to estimate the max hour factor for each customer class. Since usage in the Construction – W2 class is intermittent and varies based on the construction activity in the City, customers in the Construction – W2 class are considered to be the same as the Commercial – W4 class for the purpose of calculating variable charges. These two classes are differentiated only in the fact that temporary hydrant meters are used for construction customers, while commercial customers have permanent services.

Table 1
Revised Peaking Factors by Customer Class

Customer Specific Peaking Factors	2012 Max Day (MD)	2012 Max Hour (MH)	2014 Max Day (MD)	2014 Max Hour (MH)
Residential - W1	1.49	2.34	1.45	2.27
Master MFR/Commercial - W4	1.30	2.04	1.27	1.99
Irrigation - W7	2.25	3.53	1.81	2.84
Construction - W2	1.30	2.04	1.27	1.99

Customer Specific Peaking Factors	2012 MD Normalized	2012 MH Normalized	2014 MD Normalized	2014 MH Normalized
Residential - W1	2.00	3.14	2.00	3.14
Master MFR/Commercial - W4	1.75	2.75	1.75	2.75
Irrigation - W7	3.00	4.71	2.50	3.92
Construction - W2	1.75	2.75	1.75	2.75

The change to the peaking factors by customer class shifts the capacity or peaking-related costs among the customer classes, to equitably reflect their demands on the system and recover the City's cost of providing service. The peaking factors for the W-4 customer class has remained the same (when normalized).[2] The peaking factor for the W-1 customer class as a whole has also remained the same, though the peaking factors for the residential tiers have been adjusted as discussed below. The W-7 customer class peaking factor has changed.

Adjustment 2: Peaking Factors for Residential Rate Tiers

In order to equitably allocate the peaking related costs to residential Tiers 1 and 2, RFC analyzed the water usage per month per account for FY 2014. Since the maximum month usage for residential customers occurs in August, the August usage in each tier was compared with the average usage in each tier to determine the relative peaking factor for each tier. Table 2 shows the calculation of the peaking factor for each tier, representing the amount of extra capacity needed on the system to serve customers in that tier. The peaking factor for Tier 1 is 1.06 (i.e., the peak is 1.06 times the average or 6 percent above the average Tier 1 usage.) Similarly, the peak for Tier 2 is 69 percent above the average for Tier 2 usage. The delivery cost, or average cost of providing service, is recovered from the average component, and the peak cost recovered from the peak component. Based on the analysis, Tier 2 requires approximately 12 times (0.69/0.06) more peaking capacity than Tier 1. Conversely, in the 2012 study, no peaking cost was allocated to Tier 1, thus putting 100 percent of the peaking costs on Tier 2.

[2] Normalization is done so that W-1 equals 2.0. This normalization is performed to make it easier to see differences between customer class peaking factors and how those peaking factors change over time. Using the normalized peaking factors results in the same cost allocation as would result if the non-normalized peaking factors were used.

Table 2
Peaking Factors for Tiers 1 and 2

Peaking Factor Analysis for W1 Customers	Max Month Usage	Bills in Tier	Usage per Bill	Average Usage	Peaking Factor
Tier 1 - 0-6 CCF	73,173	13,124	5.58	5.27	1.06
Tier 2 - over 6 CCF	154,329	11,739	13.15	7.78	1.69

Adjustment 3: Presentation of Underlying Rate Components

These changes discussed above result in the calculated rates shown in Table 3 for FY 2016, assuming a 12 percent revenue increase. Each rate has three components: supply rate, delivery rate, and peaking rate. The supply rate represents the cost of purchased water from the SFPUC, which is applied to all customer classes and tiers equally since the City only has one source of water. Note that the supply rate component includes the fixed meter costs (about 2 percent of total costs) and losses (about 8 percent of purchased water). The delivery rate represents the City's fixed costs of operating the water system to serve year-round base load consumption, excluding any peaking related costs. This component is also applied to all customer classes and tiers equally. The peaking rate represents the capacity related costs of the system necessary to serve peak load, and it differs per customer class and tier based on the calculated peaking factors for each customer class and tier, as shown in Tables 1 and 2. Table 4 shows the existing rates and how they underlying rate components were previously displayed.

Table 3
Proposed FY 2016 Commodity Rate

Customer Class	Tier (ccf)	Supply Rate ($/ccf)	Delivery Rate ($/ccf)	Peaking Rate ($/ccf)	Rate ($/ccf)
Residential - W1					
Tier 1	6	$4.61	$1.10	$0.22	$5.93
Tier 2	over 6	$4.61	$1.10	$2.67	$8.38
Average Rate					$7.36
Master MFR/Commercial - W4		$4.61	$1.10	$1.21	$6.92
Irrigation - W7		$4.61	$1.10	$2.58	$8.29
Construction - W2		$4.61	$1.10	$1.21	$6.92

Table 4
Existing Commodity Rate Components

Customer Class	Tier (ccf)	Supply Rate ($/ccf)	Delivery Rate ($/ccf)	Peaking Rate ($/ccf)	Rate ($/ccf)
Residential - W1					
Tier 1	6	$3.41	$1.58	$0.00	$4.99
Tier 2	over 6	$3.41	$1.58	$2.59	$7.58
Average Rate					$6.41
Master MFR/Commercial - W4		$3.41	$1.58	$1.16	$6.15
Irrigation - W7		$3.41	$1.58	$2.53	$7.52
Construction - W2		$3.41	$1.58	$1.16	$6.15

The proposed rates are shown in Table 5 for both an 8 percent and a 12 percent revenue increase. The monthly meter service charge includes customer service, metering, and billing charges as well as the costs associated with the service connection and a portion of the distribution system capacity. Fire service meter charges include costs associated with maintaining system capacity to serve firefighting flows for private fire meters.

Table 5
Proposed FY 2016 Water Rates

General Monthly Meter Service Charge

Meter Size	Existing Rates	Updated COS Rates (8.2%)	Updated COS Rates (12.1%)
5/8"	$14.67	$15.54	$16.03
3/4"	$19.51	$20.88	$21.50
1"	$29.18	$31.58	$32.45
1 1/2"	$53.37	$58.32	$59.83
2"	$82.39	$90.40	$92.67
3"	$174.29	$192.01	$196.70
4"	$309.72	$341.74	$350.00
6"	$633.80	$700.04	$716.82
8"	$1,165.86	$1,288.28	$1,319.07
10"	$1,843.02	$2,036.96	$2,085.57
12"	$2,423.45	$2,678.68	$2,742.56

Monthly Fire Meter Service Charge

Meter Size	Existing Rates	Updated COS Rates (8.2%)	Updated COS Rates (12.1%)
2"	$3.03	$3.38	$3.43
4"	$18.78	$20.94	$21.22
6"	$54.55	$60.82	$61.63
8"	$116.24	$129.61	$131.34
10"	$209.03	$233.09	$236.20
12"	$337.65	$376.51	$381.52

Commodity Rate ($/ccf)

		Existing Rates	Updated COS Rates (8.2%)	Updated COS Rates (12.1%)
Residential - W1				
Tier 1	0 - 6 ccf	$4.99	$5.70	$5.93
Tier 2	over 6 ccf	$7.58	$8.08	$8.38
Master MFR/Commercial - W4		$6.15	$6.66	$6.92
Irrigation - W7		$7.52	$7.99	$8.29
Construction - W2		$6.15	$6.66	$6.92

RAFTELIS
FINANCIAL CONSULTANTS, INC.

201 S. Lake Avenue
Suite 301
Pasadena, CA 91101

Phone 626 . 583 . 1894
Fax 626 . 583 . 1411

www.raftelis.com

ATTACHMENT G

Raftelis Financial Consultants

Memorandum

TO: Jon Abendschein, Senior Resource Planner

FROM: Sudhir Pardiwala/Hannah Phan

DATE: May 20, 2015

SUBJECT: Proposed Drought Rates

The City of Palo Alto (City) engaged Raftelis Financial Consultants, Inc. (RFC) to develop a drought rate structure that is Proposition 218-compliant, fair and equitable while encouraging conservation. This memo summarizes the methodology for the proposed drought rates.

Proposed Water Drought Rates

The following subsections detail the methodology and calculation related to the proposed drought rates for FY 2016.

Demand Scenarios

The City receives its potable water supply from SFPUC, which is currently asking its wholesale customers for a 10 percent voluntary reduction. If the drought worsens, SFPUC will ask for mandatory cutbacks. RFC modeled three supply reduction scenarios, which were provided by the City as supplied by SFPUC: a 10/15% reduction scenario, a 20% reduction scenario, and a 25% reduction scenario. Table 1 shows the projected purchases and sales in acre feet (AF) of water for each drought scenario for FY 2016, including a water loss factor of approximately 8.1 percent as well as projected reductions in usage.

Table 1
Drought Scenarios

Drought Scenarios – FY 2016	Purchases (AF)	Sales (AF)
Normal	11,404	10,477
10/15% reduction	10,535	9,679
20% reduction	9,710	8,920
25% reduction	9,022	8,288

Proposed Drought Surcharge Calculation

The proposed drought rates are calculated to be revenue neutral, net of SFPUC costs, compared to the revenue generated from the FY 2016 rates shown in Table 2.

Table 2
Proposed FY 2016 Water Commodity Rates

		Updated COS Rates (12.1%)
Residential - W1		
Tier 1	0 - 6 ccf	$5.93
Tier 2	over 6 ccf	$8.38
Master MFR/Commercial - W4		$6.92
Irrigation - W7		$8.29
Construction - W2		$6.92

Reduced sales result in reduced revenues as well as reduced purchased water costs. However, the net result is inadequate revenue to recover costs since a significant amount of the water system costs are fixed. As a result, rates need to be increased during drought and other shortage situations, to ensure financial stability and sufficient revenue recovery.

In times of drought, it is important to ensure that basic health and sanitation needs are provided for first. This is considered to be essential usage. The City has set reduction targets for each type of consumption for each drought scenario, as shown in Table 3, in order to achieve the total target reduction set by SFPUC. Indoor usage is required to conserve less than outdoor usage. While it is not practical to set a target reduction for construction usage, for purposes of the analysis in order to calculate drought rates, construction usage is projected to have the same reduction as commercial customers.

Table 3
Assumed Water Reduction in Each Scenario

Requested Reductions:	10/15%	20%	25%
Residential			
Indoor Reduction (0 - 6 CCF)	5%	9%	12%
Outdoor Reduction (7 - 30 CCF)	10%	18%	26%
Outdoor Reduction (30+ CCF)	15%	30%	36%
Reduction Goal	8%	15%	21%
Non-Residential			
Indoor Reduction	5%	9%	12%
Outdoor Reduction	12%	25%	36%

Table 4 shows the indoor and outdoor reductions (from a normal year) assumed under each reduction scenario and the usage reductions assumed for each customer group and billing tier based on the percentages shown in Table 3.

Table 4
Projected Water Usage in Each Scenario

		Normal	10/15% Reduction		20% Reduction		25% Reduction	
Customer Class	Tier (ccf)	Total Usage (ccf)	Reduction %	Total Usage (ccf)	Reduction %	Total Usage (ccf)	Reduction %	Total Usage (ccf)
Residential - W1								
Tier 1	6	894,536	-1.2%	883,519	-2.2%	874,706	-3.0%	868,096
Tier 2	over 6	1,260,973	-13.5%	1,090,204	-24.8%	948,351	-34.2%	829,401
Master MFR/Commercial - W4		1,798,207	-6.3%	1,685,653	-11.9%	1,584,610	-16.3%	1,504,785
Irrigation - W7		428,161	-12.0%	376,781	-25.0%	321,120	-36.0%	274,023
Construction - W2		6,694	-6.3%	6,275	-11.9%	5,899	-16.3%	5,601
TOTAL		**4,388,571**		**4,042,432**		**3,734,687**		**3,481,906**

When usage is reduced in a drought, water purchase costs decrease as well. Therefore, water purchase costs were separated out before calculating the revenue requirement for the drought surcharges. Table 5 shows the estimated SFPUC supply costs for each drought scenario. Because of the fixed costs that SFPUC charges the City, the unit cost increases as the usage decreases.

Table 5
SFPUC Supply Unit Cost in Each Drought Scenario - ($)

FY 2016	SFPUC Costs	Usage (ccf)	Unit cost ($/ccf)
Normal	$20,189,435	4,388,571	$4.61
10/15%	$18,858,590	4,042,432	$4.67
20%	$17,679,924	3,734,687	$4.74
25%	$16,711,773	3,481,906	$4.80

The total water enterprise cost in FY 2016, excluding the cost of water purchased from SFPUC, is approximately $11.7 million, as shown in Table 6. To determine the cost to serve each customer class, net of water purchase costs, in FY 2016, RFC determined the total commodity revenue, based on the FY 2016 rates, less purchased water costs. Fixed meter charges are excluded from this analysis since those are unaffected by the drought. RFC used the same cost allocation methodology discussed in the previous section to determine the cost allocation to each customer class by cost component. Delivery costs are costs associated with providing service to customers during average conditions. Peaking costs are costs associated with providing service at peak conditions, which differ based on customer class since they peak at different levels.

Table 6
Allocation of City's Costs to Customer Class

COS Allocation	Delivery	Peaking	Total
Residential - W1	$2,360,813	$3,566,028	$5,926,841
Master MFR/Commercial - W4	$1,969,480	$2,182,259	$4,151,739
Irrigation - W7	$468,941	$1,104,723	$1,573,665
Construction - W2	$7,331	$8,123	$15,454
Total	**$4,806,566**	**$6,861,134**	**$11,667,699**

Table 7 shows the delivery unit cost in each drought scenario based on the projected water usage in Table 4 and the cost in Table 6. Since these costs are fixed, the unit cost increases as usage decreases.

Table 7
Calculation of Delivery Unit Cost in Each Drought Scenario

Delivery Cost	10/15%	20%	25%
Total Cost	$4,806,566	$4,806,566	$4,806,566
Usage (CCF)	4,042,432	3,734,687	3,481,906
Average Unit Cost ($/CCF)	$1.19	$1.29	$1.38

Table 8 shows the calculation of each rate component for each customer class in each drought scenario. The calculation is based on the data presented in Tables 5 through 7. Since the City only has one source of water, everyone pays the same unit cost for supply. That principle applies to the fixed delivery cost of the system. Since this cost is fixed, the unit rate increases as the usage decreases. The differentiation between the prices for the tiers comes from the peaking related costs. Since customer usage peaks at different levels, the peaking cost is used to differentiate between customer classes and tier prices. The difference in peaking costs between residential Tiers 1 and 2 is based on the same methodology and ratio shown in Table 2. In all scenarios, the revenue collected from the delivery and peaking components equals $11.7 million, meaning the drought surcharges only collect revenue equal to the normal year revenue requirement for delivery and peaking costs.

Table 8
Calculation of Rate Component in Each Drought Scenario[1]

10/15% Reduction		Supply (SFPUC)	Delivery	Peaking	Total
Residential - W1					
Tier 1	6	$4.67	$1.19	$0.26	**$6.12**
Tier 2	over 6	$4.67	$1.19	$3.06	**$8.93**
Master MFR/Commercial - W4		$4.67	$1.19	$1.29	**$7.16**
Irrigation - W7		$4.67	$1.19	$2.93	**$8.80**
Construction - W2		$4.67	$1.19	$1.29	**$7.16**

20% Reduction		Supply (SFPUC)	Delivery	Peaking	Total
Residential - W1					
Tier 1	6	$4.74	$1.29	$0.29	**$6.32**
Tier 2	over 6	$4.74	$1.29	$3.49	**$9.52**
Master MFR/Commercial - W4		$4.74	$1.29	$1.38	**$7.41**
Irrigation - W7		$4.74	$1.29	$3.44	**$9.47**
Construction - W2		$4.74	$1.29	$1.38	**$7.41**

25% Reduction		Supply (SFPUC)	Delivery	Peaking	Total
Residential - W1					
Tier 1	6	$4.80	$1.38	$0.33	**$6.52**
Tier 2	over 6	$4.80	$1.38	$3.95	**$10.14**
Master MFR/Commercial - W4		$4.80	$1.38	$1.45	**$7.64**
Irrigation - W7		$4.80	$1.38	$4.03	**$10.22**
Construction - W2		$4.80	$1.38	$1.45	**$7.64**

Table 9 shows the proposed drought surcharges for each drought scenario from the FY 2016 normal rates, shown in Table 2. These are calculated as the difference between the normal rates and the rates shown in Table 8 for each customer class and rate category.

[1] Totals may not add due to rounding.

Table 9
Proposed Drought Surcharges

Commodity Rate ($/ccf)		Normal	10/15%	20%	25%
Residential - W1					
Tier 1	6	$5.93	+$0.19	+$0.39	+$0.59
Tier 2	over 6	$8.38	+$0.55	+$1.14	+$1.76
Master MFR/Commercial - W4		$6.92	+$0.24	+$0.49	+$0.72
Irrigation - W7		$8.29	+$0.51	+$1.18	+$1.93
Construction - W2		$6.92	+$0.24	+$0.49	+$0.72

CRITERIA TO EVALUATE WATER SHORTAGE RESPONSE PLAN

This appendix lists criteria expected to guide the selection of allocation/allotment strategies whenever water use reductions are needed. Not all of them may be applicable to every strategy but customer perception of equity is important in achieving the necessary reductions.

1. Reduce overall City consumption by reduction target required – this is the effective goal of any plan. To accomplish this goal the percentage reduction for the various customer classes will necessarily vary because their ratios of indoor / outdoor use varies.

2. Sufficient water available for personal use – the most important use of water is for basic drinking, health, and sanitary uses, and therefore, this is given the highest priority of use. This prioritization will drive both rate schedules and water use restrictions. However, within allowed limits (i.e., water use restriction ordinances), customers will be able to choose how they use their allotment between indoor and outdoor uses.

3. Acceptance by the community – many people tend to evaluate or accept a particular water-rationing plan in terms of how it would directly affect them. It is this aspect which makes it difficult to gain a popular consensus on any one plan. However, any plan must be generally accepted by the community to be successful. One important aspect of acceptance is the public's understanding of the program; thus, it is viewed as important to make the plan as uncomplicated as possible.

4. Minimize unemployment or business loss – water is extensively used in both commercial and industrial functions. If water is severely limited to these consumers, increased unemployment and business losses could result. Staff intends that, wherever possible, this should be avoided. Still, outside water use must be sacrificed greatly if only minimal indoor reductions are required. Cooling tower use for air conditioning must also be considered.

5. Landscaping investment losses – in cases of critical or severe shortage of water, it is expected that significant landscaping losses may arise. The use of recycled water should be encouraged for certain applications. In some cases, using the City's well system to augment the SFPUC supply will be an option to provide a minimum amount of water for landscaping. In this case, the goal should be to keep valuable and mature trees and plantings alive. Shrubs and lawns will be considered a lower priority.

6. Workable plan – the plan must be workable in order to accomplish its goal. It must take the following factors into account:

   a. Cost - the cost of any water plan to the public should be minimized.

b. Enforcement - enforcement is viewed as a key component of any plan. Those plans requiring fewer resources for enforcement would be preferable. However, the success of a plan is contingent upon effective enforcement and the utility must be provided the resources to meet the enforcement objective. The current staff can only absorb a certain level of additional responsibilities without unreasonably impacting service to the customer.

c. The plan must be practical and feasible from a data processing viewpoint and not subject to erroneous results due to incomplete or inaccurate databases. A realistic timeframe must be allowed to perform any necessary data entry or customer programming functions.

9. Flexibility – the water shortage is a dynamic situation and may get better or worse. Thus, it is necessary that any plan be adaptable to changes in targets or adjustable if original expectations are not being met.

10. Allowance for new services – some provision must be made in any plan to serve new establishments or those under construction.

12. Recover penalties applied by suppliers – revenue should be collected to the extent necessary to recover any penalties that may be charged by suppliers.