Amador Water Agency

System-Wide Cost of Service and Water Rate Study

Draft Report

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I. Executive Summary

Introduction and Background

In the fall of 2010, the Amador Water Agency (Agency) contracted with The Reed Group, Inc. to develop a system-wide approach to its water rates. The Agency owns and operates water supplies and facilities serving four separate water service areas, which were formed and evolved as the water needs within the County grew and matured. These water service areas include: (1) the Amador Water System (AWS), (2) the Central Amador Water Project (CAWP), (3) the Lake Camanche water service area (Camanche), and (4) the La Mel Heights water service area (La Mel). The CAWP water service area in particular is an amalgamation of previously independent water systems. The CAWP-Wholesale water facilities (CAWP-W) now provide treated water on a wholesale basis to the Agency's CAWP-Retail water service area (CAWP-R), and three independent retail water agencies. CAWP-Retail is the result of a consolidation of about a half-dozen previous water systems. AWS, the largest water service area, provides retail water service in Sutter Creek, Ione, Amador City, Martell, and surrounding areas, and provides wholesale water service to the Cities of Jackson and Plymouth, and to the Drytown County Water District (CWD).

Purpose of System-Wide Water Rates

At present, the water rates within each water service area are intended to reflect and recover the costs of providing water service within each service area. When all rates reflect the cost of service then the Agency, as a whole, is financially stable and service to all customers can be secure and reliable. The Agency has historically acted to adopt new water rates for each service area in separate, independent actions. However, this practice creates a financial vulnerability in that if rates in one area do not reflect the cost of service, for any reason, the financial deficit can threaten the financial stability of the Agency as a whole. When this has occurred, the Agency has had to fund operations within some service areas from reserves of other service areas. This practice not only poses a threat to cost of service requirements, it is unsustainable and places the Agency's overall ability to meet financial and service obligations at significant risk.

This situation is not new. In 2002, the Amador County Grand Jury said: *It is recommended that AWA adopt a single rate for potable water and a single rate for waste*

water. Since then, the Agency has consolidated seven service areas into the current CAWP-Retail service area and nine wastewater service areas. The development of system-wide water rates is a continuation of this direction.

The Agency believes that a single system-wide and uniform set of water rates, reflecting the fact that many of the costs of providing water service are uniform, Agency-wide costs, would provide many benefits to the Agency and its customers. The co-equal goals of improved equity in the water rates and greater financial stability prompted this system-wide cost of service and water rate study. Cost savings associated with simplified accounting, financial planning, and rate analyses offer additional benefits.

Community Facilities Districts

Conducted in parallel with the water rate study are efforts to form two new community facilities districts (CFDs) for the benefit of water service customers in the AWS and CAWP-Wholesale water service areas.

Amador Water System CFD

The proposed AWS CFD would authorize special taxes to help the Agency recover costs related to the Amador transmission pipeline (primarily debt service) and pay for future water treatment plant improvements from parcels that may be developed in the future within the AWS service area. The AWS CFD would immediately lessen the financial burden of debt service related to the 2006 Certificates of Participation (COPs) currently borne by ratepayers due to reduced participation fee revenue in a depressed economy. Formation proceedings related to the AWS CFD are in progress.

Central Amador Water Project CFD

A second CFD is proposed to help cover the costs of the gravity supply line (GSL) project to serve the CAWP-Wholesale water service area. The CAWP CFD would create a special tax on both developed and undeveloped parcels within the area that could be served by the CAWP-Wholesale water facilities. Special tax revenue would then be used to repay a US Department of Agriculture (USDA) loan approved to finance the GSL project. The USDA has approved a grant of up to $5.07 million as well as a loan for up to $8.33 million to pay for the GSL project. If voters approve the CFD, the GSL would benefit CAWP customers with lower operating costs, improved service reliability, improved fire suppression capabilities, an equitable means of financing the GSL project, and lower overall costs associated with water service. Because the election to form the

CAWP CFD will not occur until summer of 2012, the water rates presented in this report reflect outcomes of both (1) approval of the CFD with special taxes repaying the USDA loan for the GSL project, as proposed by the Agency, and (2) rejection of the CAWP CFD with an alternative project to upgrade existing pump stations and replace the existing high-pressure pipeline that convey water to the Buckhorn water treatment plant (WTP) serving the CAWP water service areas.

Recent engineering studies have shown that the existing Tiger Creek and Silver Lake Pines pump stations and the high-pressure pipeline that deliver water to the Buckhorn WTP are both at the end of their useful lives. As described later in this report, replacing those facilities (rather than constructing the GSL) would be much more costly for both the Agency and CAWP customers.

FY 12-13 Water Rate Revenue Requirement

The proposed system-wide water rates are intended to meet the water rate revenue needs of the Agency as estimated for fiscal year (FY) 12-13. The water rate revenue requirement is that amount of revenue needed to: (1) cover ongoing operation and maintenance costs, (2) meet all debt service obligations, including repayment of principal and interest, (3) support rehabilitation and replacement projects contained in the capital improvement program (CIP), and (4) begin to re-establish required and prudent financial reserves. The determination of the water rate revenue requirement also considers the effects of non-rate revenues, such as contract payments from PG&E, revenues from CFDs, participation fee revenues, interest earnings, and other miscellaneous revenues.

The Agency is beginning the formal budget process for FY 12-13. For purposes of this water rate study, it has been assumed that the operating and maintenance costs contained in the FY 11-12 budget would generally increase by 2.0 percent for FY 12-13, with exceptions noted in Section II of this report. Agency staff concur that this is a reasonable assumption. In addition, debt service costs for the upcoming year are indicated by debt repayment schedules, and rehabilitation and replacement project needs are identified in the Agency's five-year CIP.

The Agency is at a critical financial juncture. Financial reserves have been at an all time low, and it has been necessary to provide loans from legally and contractually restricted reserves to fund operations. In order to continue to operate in a sound and responsible manner, the Agency must begin to replenish financial reserves. Failure to do so could

result in the Agency's inability to make scheduled debt service payments, and potentially could lead to litigation, bankruptcy, and/or conservatorship of the Agency's operations. The ability to maintain expected levels of service and to respond to emergencies is also hampered by the current financial situation.

Recognizing the customer sensitivity to water rate increases, the proposed water rates reflect a path with a four-year transition to re-establish an operating reserve consistent with past policy direction and practices, as well as consideration for maintaining funding of required debt service reserves. Details of service requirements and financial criteria are presented in Section II of this report.

The overall annual system-wide water rate revenue requirement for FY 12-13 is approximately $6.81 million, which is about $0.33 million (5 percent) higher than the current overall level of water rate revenues. This relatively modest increase is due, in part, to estimates of new revenues from the proposed AWS CFD and CAWP CFD. In addition, the Agency's efforts to reduce staff levels, cut costs, and improve efficiencies have all contributed to helping keep the proposed rates as low as possible. As a result of the Agency's efforts, the overall level of current water rate revenues is sufficient to cover anticipated operation and maintenance costs, as well as existing debt service costs, with consideration of offsetting revenues. The proposed increase in the overall level of rate revenues is necessary primarily to:

- Help fund a portion of planned replacement and rehabilitation projects at one-quarter of the annual amount needed based on the 5-year CIP
- Help re-establish a two-month operating reserve over a 4-year period.

This revenue requirement would be the proposed water revenue requirement if CAWP water facility improvements did not also need to be considered. The need to upgrade and/or replace CAWP pumping and conveyance facilities, in the absence of the CAWP CFD, adds costs that need to be considered in the rate analysis. If voters reject the CAWP CFD, the water rate revenue requirement for FY 12-13 would total about $7.49 million. The additional revenue would cover the costs associated with the upgrade of Tiger Creek and Silver Lake Pines pump stations and replacement of the high-pressure pipeline that convey water to the Buckhorn WTP. These costs would be entirely borne by CAWP-Retails customers, as well as the retail agencies served by CAWP-Wholesale water facilities. A further explanation of this project and the impacts on customers of the CAWP-Retail and CAWP-Wholesale service areas are included in the body of this report.

The FY 12-13 water rate revenue requirement, as use in water rate calculations, is $7.49 million, as summarized below.

Operation and maintenance	$5,207,300
Debt service	$3,314,900
Transfer for CIP projects	$160,000
Additions to reserves	$220,000
Non-rate revenue offsets	($1,409,800)
Total Water Rate Revenue Requirement	$7,492,400

Details of the determination of the FY 12-13 water rate revenue requirement are presented in Section II of this report. This revenue requirement does not, however, reflect the full cost of providing water service to customers, including providing for the long-term rehabilitation and replacement of the Agency's water facilities. In particular, the revenue requirement does not fully fund:

- Planned water system rehabilitation and replacement projects appropriately paid for through water rates
- Prompt re-establishment of both required and prudent reserves
- Annual costs associated with retiree health benefit liability.

Nevertheless, Agency staff believes the proposed overall level of water rates is sufficient to continue ongoing operations and places the Agency on a path toward greater financial stability. Additional water rate increases may be needed in future years, and continued vigilance of costs and cash flow management are required.

Proposed System-Wide Water Rates

The proposed system-wide water rates bring increased uniformity in charges for water service across all water service areas. However, differences continue to exist where necessary to appropriately reflect differences in the cost of providing service.

Water Rates for FY 12-13

The proposed system-wide water rate schedule for FY 12-13 is presented in **Exhibit I-1**. All water bills will include a water usage charge determined by water usage, a service charge, and a debt service charge. Service charges and debt service charges generally vary with meter size. Monthly flat rates, incorporating all three charges into the flat monthly total, affect about 120 AWS customers.

Exhibit I-1
Amador Water Agency
Proposed System-Wide Water Rate Schedule

Water Usage Rates ($/CCF)

		Treated Water
Single Family Residential		
Tier 1	0-10 CCF/mo.	$ 1.92
Tier 2	11-40 CCF/mo.	$ 2.40
Tier 3	>40 CCF/mo.	$ 3.00
Multi-Family and Commercial		$ 2.19
Mule Creek State Prison		$ 1.61
Drytown, Plymouth, Jackson		$ 1.21

	Untreated Water
Untreated Irrigation	$ 0.61
Untreated Indus. & Publ. Agen.	$ 0.61

	Pump. Surch.
CAWP Retail Customers Only (1)	$ 0.79

Monthly Service Charges

	Untreated Water	Treated Water
5/8" meter	$ 7.35	$ 12.55
3/4" meter	$ 8.90	$ 16.71
1" meter	$ 12.00	$ 25.01
1 1/2" meter	$ 19.75	$ 45.78
2" meter	$ 29.06	$ 70.70
3" meter	$ 53.87	$ 137.15
4" meter	$ 81.78	$ 211.92
6" meter	$ 159.31	$ 419.58
2" Indus./Public meter	$ 103.49	
3" Indus./Public meter	$ 202.73	
4" Indus./Public meter	$ 314.38	
6" Indus./Public meter	$ 624.51	
Mule Creek State Prison		$ 11,430
Drytown CWD		$ 643
City of Plymouth		$ 2,406
City of Jackson		$ 10,548

Monthly Debt Service Charges by Service Area

	CAWP-Retail Service Area				
	Amador Water System Service Area	CAWP CFD Not Approved by Voters (2)	CAWP CFD Approved by Voters (2)	Lake Camanche Service Area	La Mel Heights Service Area
5/8" meter	$ 12.85	$ 32.47	$ 12.39	$ 4.93	$ 31.20
3/4" meter	$ 19.28	$ 48.70	$ 18.59	$ 7.39	$ 46.80
1" meter	$ 32.13	$ 81.17	$ 30.98	$ 12.32	$ 78.00
1 1/2" meter	$ 64.26	$ 162.35	$ 61.95	$ 24.64	$ 155.99
2" meter	$ 102.81	$ 259.75	$ 99.13	$ 39.43	$ 249.58
3" meter	$ 205.62	$ 519.51	$ 198.26		
4" meter	$ 321.28	$ 811.73	$ 309.77		
6" meter	$ 642.57	$ 1,623.46	$ 619.55		
2" Indus./Public meter	$ 411.24				
3" Indus./Public meter	$ 822.48				
4" Indus./Public meter	$ 1,285.13				
6" Indus./Public meter	$ 2,570.26				
Mule Creek State Prison	$ 10,281				
Drytown CWD	$ 1,028				
City of Plymouth	$ 4,648				
City of Jackson	$ 16,707				

AWS Monthly Flat Water Rates (3)

	Up to 7,000 Sq. Ft.	7,001 to 16,000 Sq. Ft.	Over 16,000 Sq. Ft.	Additional Units
Treated Water	$ 69.20	$ 91.10	$ 276.14	$ 42.92
Untreated Water	$ 34.28	$ 46.48	$ 137.26	$ 33.06

Notes:
(1) CAWP Retail pumping surcharge would be eliminated once the GSL pipeline becomes fully operational.
(2) CAWP Retail debt service charges are shown based on whether or not the CAWP CFD is approved by voters. CAWP CFD approval would result in significantly lower debt service charges for CAWP-Retail customers.
(3) Includes a water usage charge, a service charge, and the AWS debt service charge.

Water usage rates apply uniformly across all water service areas. The proposed rates include a 3-tier water usage rate structure for single family residential customers, and a uniform usage rate for other customer classes. Three of the four water service areas currently have tiered rates for residential customers (though they differ in each service area), and the Agency had begun efforts to develop tiered rates within the AWS water service area a couple years ago. Separate water usage rates apply to resale customers and untreated water customers.

A pumping surcharge is proposed to cover the extraordinary and unique pumping-related costs of conveying water to the Buckhorn WTP. The pumping surcharge would only apply to customers within the CAWP-Retail water service area. In all other respects the operating and maintenance costs within each water service area are generally similar and do not warrant distinctions by service area.

Monthly water service charges are intended to recover the portion of operating and maintenance costs not recovered through water usage charges. Service charges vary by meter size, except for the Agency's largest customers with individually determined service charges

Monthly fixed debt service charges vary by meter size, but also by water service area, as the debt obligations of each service area are unique and they remain obligations of each area. Two debt service charge schedules are included in Exhibit I-1 for the CAWP-Retail service area. One schedule reflects the debt charges that would be required if the proposed CAWP CFD is rejected by voters, and the second reflects debt charges that would be required if the CAWP CFD is approved. It is recommended that the Agency adopt both schedules, and implement one or the other based on the outcome of the CFD election.

Water rates for the three retail water agencies served by CAWP-Wholesale water facilities are not included in Exhibit I-1. Those rates and charges are determined annually based on the specific terms of water service contracts (CAWP contracts). Estimates of CAWP-Wholesale rates were included in the water rate analyses, as well as resulting revenues. Roughly 25 percent of CAWP-Wholesale costs are recovered through charges to the three retail agencies. The Agency's CAWP-Retail water service area represents about 75 percent of the demand placed on CAWP-Wholesale water facilities.

All water service customers of the Agency will benefit from the proposed water rates through greater equity achieved through improvements in the uniform and consistent allocation of costs to all customers and customer classes. The change in an individual customer's water bill resulting from the proposed rates will vary depending on the water service area, customer class, meter size, and water usage. Section IV of this report provides information on how "typical" single family customers would be affected by the proposed water rates.

Future Adjustments to Water Rates

As noted earlier in this section, and described more fully in Section II of this report, the proposed water rates for FY 12-13 only partially meet the financial obligations of the Agency. The proposed water rates are a first-step towards financial stability and revenue sufficiency.

In the fall of 2008, the Governor signed into law Assembly Bill (AB) 3030. AB 3030 authorizes the Agency to adopt water rate schedules that authorize automatic adjustment formulas to reflect the effects of inflation. It is recommended that the Agency adopt a formula for automatic adjustments to the fixed monthly service charges and to water usage rates based on changes in the San Francisco consumer price index (SF-CPI), as allowed by AB 3030. Automatic adjustments may be made for up to five years, and then the adjustment formula needs to be re-approved. The inflationary adjustment would not apply to debt service charges, which reflect specific annual debt service payment obligations.

Automatic rate adjustments to counter the effects of inflation would help maintain revenue sufficiency, however, it may be insufficient to meet all financial obligations of the Agency's water service areas. Additional water rate increases might need to be considered within the next five years, and would have to be approved through a formal rate-setting process.

Monthly debt service charges should be reduced, and eventually eliminated, as existing debt obligations are retired. The timing of incremental reductions in each of the debt service charges is presented in Section IV of this report. If the Agency incurs new long-term debt, and wishes to increase any of the debt service charges, such increases would need to be approved through a formal rate setting process.

Benefits of Proposed System-Wide Water Rates

The benefits to the Agency and all customers of the proposed system-wide approach to water rates include, but are not limited to, the following:

- System-wide water rates will help provide financial stability and viability, and help ensure that all of the Agency's financial and service obligations can be met with reduced risk and uncertainty
- Constitutional requirements for establishing water rates that reflect the cost of providing service, and that each customer's utility bills reflect a proportionate and equitable share of costs, will be met in a more comprehensive, uniform, and defensible manner
- System-wide water rates would be consistent with a recommendation of the Amador County Grand Jury, which in 2002 said: *It is recommended that AWA adopt a single rate for potable water and a single rate for waste water.*
- The Agency's rate setting process will be streamlined with a single process that is more efficient and cost-effective than multiple, duplicative processes
- Water rates are subject to a uniform set of cost allocation principles, thereby improving equity for customers across service areas
- Customers will benefit from improved financial stability and certainty for the Agency, and improved equity in water rates and water bills
- Administrative and customer service costs will be reduced through simplification and increased consistency in the water rates
- The new system-wide rate approach provides an opportunity to reduce costs by streamlining and improving budgeting and cost accounting practices.

Effects of the GSL Project on Water Rates

The Agency has been approved for a $5.07 million grant and an $8.33 million low-interest loan from the USDA for the GSL project. However, the Agency must meet certain USDA conditions, including demonstrating the ability to repay the loan, by the fall of 2012 or the Agency risks losing this very attractive financing.

Agency staff and the Board of Directors believe the GSL project is in the near-term and long-term best interest of CAWP customers. A new CFD for the CAWP-Wholesale water service area has been proposed that would establish a special tax on both developed and undeveloped parcels within the CAWP service area. Annual tax revenue would cover the cost of annual loan payments to the USDA. Unlike water rates, the CFD would result in collecting revenues from parcels not now connected to the Agency's water system. This effectively reduces the cost of the project to parcels currently receiving water service in the CAWP-Wholesale water service area.

Preliminary estimates suggest the special tax for the CAWP CFD may be between $45 and $55 annually for a single family residential parcel. The special tax revenue would be sufficient to repay the USDA loan.

As indicated in Exhibit I-1, proposed water rates include a $0.79 per CCF pumping surcharge to customers served within the CAWP-Retail water service area. This pumping surcharge reflects the current extraordinary pumping-related costs associated with the Tiger Creek and Silver Lake Pines pump stations to the Buckhorn WTP. Once the GSL becomes operational, the proposed pumping surcharge for CAWP-Retail customers would be eliminated. Avoiding the significant pumping costs would provide a material reduction in all water bills for customers within the CAWP water service area. For a typical single family customer, the avoided pumping costs would be about $66 annually.

Not proceeding with the GSL project could have adverse consequences for the Agency and CAWP customers. To assist with the planning, evaluation, and design of the GSL project, the Agency obtained an interim loan from Amador County's Water Development Fund (interim WDF loan). If voters approve the CAWP CFD, then USDA grant and loan proceeds would be used to repay the interim WDF loan. If voters reject the CAWP CFD, the Agency would need to repay the interim WDF loan. This repayment would increase the debt service charge within the CAWP-Retail water service area by $3.55 per month (about $43 annually) for a 5/8" water meter (the amount increases with larger meter sizes). The retail agencies served by CAWP-Wholesale facilities would face a similar rate increase.

In addition, in the absence of the GSL project, the Agency would need to upgrade the existing Tiger Creek and Silver Lake Pines pump stations and replace the high-pressure pipeline to the Buckhorn WTP. That project is estimated to cost about $9.7 million. The USDA has not supported this project, and traditional water revenue bonds or certificates of participation (COPs), with higher interest rates and shorter repayment period, would likely be necessary. Debt service payments on this financing would need to be supported with an increase to the CAWP-Retail debt service charge at an estimated $16.53 per month (about $198 annually) for a 5/8" water meter.

As presented in Exhibit I-1, two separate debt service charge schedules are proposed for the CAWP-Retail water service area. The first schedule (with higher charges) reflects the estimated costs associated with WDF loan repayment and financing of pump station

upgrades and pipeline replacement. The second schedule (with lower charges) reflects approval of the CAWP CFD and construction of the GSL funded through the special tax.

Additional information on the potential financial costs and benefits of the GSL to CAWP-Retail customers is included throughout this report.

II. Water Rate Revenue Requirement

This section of the report describes the analysis used to determine the system-wide water rate revenue requirement for FY 12-13. The water rate revenue requirement is the overall level of water rate revenue needed to cover ongoing operation and maintenance costs, debt service obligations, water system rehabilitation and replacement needs, and replenishment of reserves, with consideration of other non-rate revenues.

System-Wide Water Rate Approach

The Agency is authorized to provide water and wastewater services throughout Amador County. It owns, operates, and maintains water and wastewater facilities serving several service areas within Amador County. Over the years, the Agency has been asked to take over the operation of several small water and wastewater systems, including county service areas (CSAs) by the County. Gradually, the Agency has aggregated many of these service areas.

While a separate budget and chart of accounts is maintained for each water and wastewater service area, the division of labor across each area is not well delineated and is difficult to track. The same is true for many non-labor operating costs such as equipment, tools, supplies and materials, fuel and chemicals, and other costs. Operation and maintenance staff often work across various water and/or wastewater service areas, with a focus on operational requirements at any given time, rather than being dedicated to a single area. The needs of each service area can change weekly, monthly, and annually, and an analysis of the distribution of staff resources at any one time is necessarily limited and may not be reflective of long-term resource distribution. The allocation of administrative staff costs to various service areas under the current framework is similarly challenging and unsatisfactory.

Current accounting and rate-setting practices have led to concern over potential disparity in water rates. Some believe that increased precision will lead to greater accuracy in accounting. However, precision is not practically achievable within the Agency's operating realm, nor would such precision necessarily lead to greater accuracy. The current situation, however, has resulted in perceived inequity and unfairness in the rates. Current rate-setting practices also require multiple processes, each with incurred costs and staff time requirements. The process is inefficient and not satisfactory.

This situation is not new. In 2002, the Amador County Grand Jury said: *It is recommended that AWA adopt a single rate for potable water and a single rate for waste water.*

In light of these conditions, as well as the financial bind that the Agency is in, the Agency decided to streamline the rate setting process by taking a broad approach to water rates for all water service areas in a single consolidated system-wide rate setting process. A similar process may also be warranted for the Agency's wastewater service areas at a later date. The benefits to the Agency and its customers of the proposed system-wide approach to water rates include, but are not limited to, the following:

- System-wide water rates will help provide financial stability and viability, and help ensure that all of the Agency's financial and service obligations can be met with reduced risk and uncertainty
- Constitutional requirements for establishing water rates that reflect the cost of providing service and that each customer's utility bills reflect a proportionate and equitable share of costs will be met in a more comprehensive, uniform, and defensible manner
- The Agency's rate setting process will be streamlined with a single process that is more efficient and cost-effective than multiple duplicative processes
- Water rates are subject to a uniform set of cost allocation principles, thereby improving equity for customers across service areas
- Customers will benefit from improved financial stability and certainty for the Agency, and improved equity in water rates and water bills
- Administrative and customer service costs will be reduced through simplification and increased consistency in the water rates
- The new system-wide rate approach provides an opportunity to reduce costs by streamlining and improving budgeting and cost accounting practices.

Current Water Rate Revenues

Current water rates applicable to the Agency's water service areas are estimated to generate about $6.48 million annually based on FY 10-11 customer account and water usage data, as summarized below.

Amador Water System	$4,412,000
CAWP - Retail	$1,709,000
Lake Camanche	$318,300
La Mel Heights	$37,700
Total	$6,477,000

The current rates and charges for each of the water service area were adopted as follows: (1) Amador Water System – October 2010, (2) CAWP-Retail – July 2006, (3) Lake Camanche – July 2006, and (4) La Mel Heights – July 2007.

The Agency also expects to receive an estimated additional $345,100 in FY 11-12 from the three retail water agencies served by the CAWP-Wholesale water facilities. Charges to those agencies are determined under existing water service contracts, and are not a focus of this report. CAWP-Wholesale water rates are updated annually, in accordance with the water supply contracts. CAWP-Retail water rate revenues are intended to cover the retail area's portion of CAWP-Wholesale costs (roughly 75 percent of CAWP-Wholesale costs), as well as local distribution costs.

Water rate revenues shown above for AWS include sales to the City of Jackson, City of Plymouth, the Drytown CWD, and Mule Creek State Prison. It also includes both treated and untreated water service to retail customers within the AWS service area.

Determining the FY 12-13 Water Rate Revenue Requirement

The annual water rate revenue requirement is the amount of revenue needed from water rates in order to cover ongoing operation and maintenance costs, debt service obligations, water system rehabilitation and replacement needs, and replenishment of reserves with consideration of other revenues. The Agency has not completed the preparation of its FY 12-13 budget. Therefore, the revenue requirement herein is based on consideration of the FY 11-12 budget supplemented by discussions with staff, scheduled debt service payment obligations, the five-year CIP, and other information.

The recommended water rate revenue requirement and water rate analyses presented in this report are based on information provided by the Agency, and assumptions reviewed with Agency staff. Efforts have been made to make the analyses as complete and accurate as possible. However, the Agency's water system operates in a dynamic environment in which economic conditions, customer demands, external costs, and other factors are outside of the Agency's direct control. Future conditions and events cannot be fully known at this time. In addition, there are obligations, such as keeping up with the long-term replacement and rehabilitation needs of the water system, that the Agency likely cannot meet at this time, due to concern about economic conditions and the impact of water rate increases.

The recommended revenue requirement and rate analyses contained in this report are intended to provide the Agency with water rates that provide a proportionate distribution of costs to all customers, even though not all costs are fully incorporated into the rate analysis. From this standpoint, all water rates contained herein are less than the full cost of providing service. Items not fully reflected in the rate analysis include:

- Water system rehabilitation and replacement needs as reflected in the current 5-year CIP, which should be supported through water rates
- Full replenishment of restricted and unrestricted reserves that have been loaned to meet operating needs
- Full funding of future retiree health benefit costs.

The extent to which each of these costs has been limited in the rate analyses presented herein is described elsewhere in this report. In time, the Agency will need to address these needs in order to ensure the long-term sustainability of water system facilities and operations, as well as the financial stability of the Agency.

Ongoing Operation and Maintenance Costs

Because the Agency has not yet completed preparation of the FY 12-13 budget, water rate analyses contained herein rely on the FY 11-12 budget for estimates of operating and maintenance costs, excluding debt service. Based on discussions with Agency staff, it has been assumed that the FY 12-13 operating and maintenance expenditure budget will generally be 2 percent higher than the FY 11-12 budget, exclusive of two cost reductions.

The FY 11-12 budgeted operating and maintenance expenditures are summarized as follows:

	Amador Water Agency Total	Water Service Areas Combined
Salaries and Benefits	$3,910,713	$2,927,637
Operation and Maintenance	1,720,175	1,254,882
Administration	1,168,754	867,697
Fixed Assets	18,000	15,750
Retiree Health Benefits	450,280	353,112
Total	$7,267,922	$5,419,078

Debt service payment obligations are excluded from this presentation of operating and maintenance costs because they are specifically scheduled with principal and interest

payments due each year. Water system rehabilitation and replacement needs, non-rate revenues, and reserve considerations are also separately addressed.

In two instances budgeted operating and maintenance costs have been reduced for FY 12-13, as follows:

- Retiree health benefit costs, budgeted at $450,280 (Agency total), have been reduced to $150,000 for FY 12-13, at the suggestion of staff. This includes about $100,000 for current insurance premiums and about $50,000 to be placed in a restricted reserve for future liabilities. Agency staff levels have been reduced by nearly 40 percent since the last actuarial study was performed. While the future liability is not fully funded, a new actuarial study is expected to reduce the amount of the liability. The water system portion of the $450,280 in FY 11-12 was about $353,100, which has been reduced to about $112,200 for FY 12-13 for a reduced water system cost of $240,900.
- Water system consultant costs in the FY 11-12 budget have been reduced by about $123,400 for FY 12-13 as non-recurring.

While this report and the rate analyses presented herein focus on the costs and water rates for the Agency's water service areas, the analysis also considers the Agency's overall costs and the distribution of those costs across the water system, the wastewater system, Agency general activities, and outside services. This is particularly necessary with respect to the distribution of staff and staff-related costs (including retiree health benefits) and to administrative costs. In addition, a portion of the Agency's staff-related costs are capitalized each year as part of the cost of the water system improvements. Capitalized staff-related costs are removed from operational costs.

Details of how staff-related costs and administrative costs are allocated among the water service areas, wastewater service areas and other Agency activities are described in Section III of this report. In the cost allocation process, the way certain operating and maintenance costs are categorized is also modified so that costs can be viewed on more of a functional basis.

The FY 12-13 operating and maintenance costs reflected in the FY 12-13 water rate revenue requirements are summarized below. Even with the 2 percent increase in most budget items, the two reductions cited above result in a reduction of the overall operation and maintenance costs for the water service areas.

	FY 12-13 Estimated Combined Water Service Area O&M Costs
Salaries, Benefits, & Retiree Health Benefits	$3,117,200
Administrative Costs	790,700
Supply/Transmission Costs	433,900
Water Treatment Costs	528,800
Water Distribution Costs	79,600
Other Operating Costs	240,600
Fixed Asset Costs	16,500
Total	$5,207,300

The presentation of cost information has been modified to accommodate cost of service analysis and rate calculations. The resulting water system operation and maintenance costs for FY 12-13 is about $212,000 or 3.9 percent ***lower*** than the budget for FY 11-12.

Exhibit A-1, in Appendix A, provides additional details on how the FY 11-12 budget was adjusted to provide estimates for FY 12-13, as well as how Agency costs were allocated to the water system for system-wide water rate analysis. Further explanations are also included in Section III of this report.

Capital Improvement Program

Exhibit II-1 presents the Agency's capital improvement program (CIP) of water projects for FY 12-13 through FY 16-17. The program totals about $26.1 million over the five-year period. The Agency anticipates using a variety of revenues and funding sources for the CIP. These may include water rates, property taxes, participation (capacity) fees, grants, loans, the proposed AWS CFD, and/or other sources. Major projects, such as the GSL project, would be funded with grants and loans, with loans repaid over time. Participation fees, paid by new development, are used to help pay for projects that provide capacity benefits for new development. However, in the current economy, new participation fee revenues are limited.

While external funding sources and non-rate revenues are anticipated to pay for a majority of planned CIP expenditures, a portion of the program will need to be funded through water rates. Of the $26.1 million CIP, about $3.2 million would be paid for through water rates to cover water system rehabilitation and replacement project costs. This amounts to an annual average of $640,000 from water rates to meet rehabilitation and replacement needs. Water rates, at present, do not provide any material or consistent funding for water system rehabilitation and replacement needs.

Exhibit II-1
Amador Water Agency
Capital Improvement Program Summary (1)

	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Funding Source
Amador Water Agency						
Lower Bear Reservoir	$ -	$ -	$ -	$ 50,000	$ 50,000	Prop. Taxes
IRCUP	$ 10,000	$ 10,000	$ 20,000	$ 50,000	$ 50,000	Prop. Taxes
Master Planning	$ -	$ -	$ -	$ 250,000	$ 250,000	Prop. Taxes/Part. Fees
Reclamation Master Planning	$ -	$ -	$ -	$ 50,000	$ 100,000	Prop. Taxes
Sub-Total	$ 10,000	$ 10,000	$ 20,000	$ 400,000	$ 450,000	
Amador Water System						
Amador City Bridge Utility Reloc.	$ 75,000	$ -	$ -	$ -	$ -	Water Rates
Distribution System Improv.	$ -	$ -	$ -	$ 150,000	$ 150,000	Water Rates
Fire Hydrant Replacement	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	Water Rates
Hydropower Generation	$ 750,000	$ 750,000	$ -	$ -	$ -	Grant
Ione Backwash Improvements	$ -	$ 75,000	$ 75,000	$ -	$ -	Water Rates
Ione Canal Abandonment	$ -	$ -	$ -	$ 150,000	$ -	Water Rates
Ione Clearwell Cover Replac.	$ -	$ 50,000	$ -	$ -	$ -	Water Rates
Ione WTP Interim Capacity	$ 100,000	$ 500,000	$ 500,000	$ -	$ -	Participation Fees
Ione WTP PLC Upgrade	$ -	$ -	$ 50,000	$ 100,000	$ -	Water Rates
Small Diameter Pipeline	$ -	$ 350,000	$ 2,000,000	$ 2,000,000	$ -	80% Grant/20% Rates
Sutter Creek Bridge Utility Reloc.	$ 11,000	$ 150,000	$ -	$ -	$ -	Water Rates
Tanner Backwash Improvments	$ -	$ -	$ 75,000	$ 75,000	$ -	Water Rates
Tanner WTP Interim Capacity	$ -	$ -	$ 100,000	$ 500,000	$ 500,000	Participation Fees
Sub-Total	$ 951,000	$ 1,890,000	$ 2,815,000	$ 2,990,000	$ 665,000	
CAWP Wholesale						
Backwash Disposal Improv.	$ -	$ -	$ 50,000	$ 50,000	$ -	Water Rates
Buckhorn DBP Permitting	$ 150,000	$ -	$ -	$ -	$ -	Water Rates
Gravity Supply Line (3)	$ 3,700,000	$ 9,700,000	$ -	$ -	$ -	USDA/CFD
Mt. Crossman Treated Water Stor.	$ -	$ -	$ -	$ 1,000,000	$ -	70% PFs/30% Rates
Water Rights Application	$ 25,000	$ 50,000	$ 37,500	$ -	$ -	Water Rates
CAWP Replacement	$ -	$ -	$ -	$ 100,000	$ -	Water Rates
Sub-Total	$ 3,875,000	$ 9,750,000	$ 87,500	$ 1,150,000	$ -	
CAWP Retail						
Distribution Main Replacements	$ -	$ -	$ 25,000	$ 30,000	$ 70,000	Water Rates
Fire Hydrant Replacement	$ 6,000	$ 8,000	$ 10,000	$ 10,000	$ 10,000	Water Rates
Sub-Total	$ 6,000	$ 8,000	$ 35,000	$ 40,000	$ 80,000	
Lake Camanche						
Tank Liners	$ 160,000	$ -	$ -	$ -	$ -	Prop 84 Grant
200 Service Lateral Replac.	$ 133,375	$ 133,375	$ 133,375	$ -	$ -	Prop 84 Grant
Rehabilitate Well #14	$ 30,000	$ -	$ -	$ -	$ -	County Grant
Fire Hydrant Repair	$ 10,000	$ 10,000	$ -	$ -	$ -	County Grant
Service Line Replac. (On-Going)	$ -	$ -	$ -	$ 20,000	$ 20,000	Water Rates
Booster Pump Station Improv.	$ 75,000	$ -	$ -	$ -	$ -	County Grant
Emergency Generator	$ 30,000	$ -	$ -	$ -	$ -	County Grant
SCADA Alarm Improvement	$ -	$ 10,000	$ -	$ -	$ 20,000	Water Rates
Sub-Total	$ 438,375	$ 153,375	$ 133,375	$ 20,000	$ 40,000	
La Mel Heights						
Fire Pump	$ -	$ -	$ -	$ -	$ 75,000	Water Rates
Sub-Total	$ -	$ -	$ -	$ -	$ 75,000	
Total CIP Costs	**$ 5,280,375**	**$ 11,811,375**	**$ 3,090,875**	**$ 4,600,000**	**$ 1,310,000**	

CIP Funding Summary	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	5-Yr Total
Project Costs To Be Funded Through Water Rates						
Amador Water System	$ 101,000	$ 360,000	$ 615,000	$ 890,000	$ 165,000	**$ 2,131,000**
CAWP Wholesale	$ 175,000	$ 50,000	$ 87,500	$ 450,000	$ -	**$ 762,500**
CAWP Retail	$ 6,000	$ 8,000	$ 35,000	$ 40,000	$ 80,000	**$ 169,000**
Lake Camanche	$ -	$ 10,000	$ -	$ 20,000	$ 40,000	**$ 70,000**
La Mel Heights	$ -	$ -	$ -	$ -	$ 75,000	**$ 75,000**
Total	$ 282,000	$ 428,000	$ 737,500	$ 1,400,000	$ 360,000	**$ 3,207,500**
Project Costs To Be Funded Through Other Sources (2)						
Amador Water Agency	$ 10,000	$ 10,000	$ 20,000	$ 400,000	$ 450,000	**$ 890,000**
Amador Water System	$ 850,000	$ 1,530,000	$ 2,200,000	$ 2,100,000	$ 500,000	**$ 7,180,000**
CAWP Wholesale	$ 3,700,000	$ 9,700,000	$ -	$ 700,000	$ -	**$ 14,100,000**
CAWP Retail	$ -	$ -	$ -	$ -	$ -	**$ -**
Lake Camanche	$ 438,375	$ 143,375	$ 133,375	$ -	$ -	**$ 715,125**
La Mel Heights	$ -	$ -	$ -	$ -	$ -	**$ -**
Total	$ 4,998,375	$ 11,383,375	$ 2,353,375	$ 3,200,000	$ 950,000	**$ 22,885,125**

Notes:
(1) Projects anticipated beyond the 5-year planning period are not listed.
(2) Other sourcesmay include property taxes, participation fees, grants, loans, AWS and CAWP CFDs, or other sources.
(3) See body of report for the discussion of the alternative to the GSL project.

Water Rate Support of the Rehabilitation and Replacement Projects

Based on discussions with staff, and concern about the overall effects of an increase in water rates on customers' willingness to support proposed water rates, the rate analysis contained in this report includes a modest $160,000 for water system rehabilitation and replacement projects. By only including one-quarter of the amount needed to fully meet these needs, the proposed water rates are effectively less than the full cost of providing service. It is staff's desire that the amount for rehabilitation and replacement projects be increased in future years as the Agency moves into a more stable financial condition, or that projects be deferred that are not critical at their scheduled time of construction.

With limited funds available for capital improvements, the Agency will necessarily need to defer certain rehabilitation and replacement projects or seek other forms of funding. It is important to recognize, however, that the deferral of needed replacement and rehabilitation projects (normally funded through water rates) can lead to higher maintenance costs, increased future project costs, less reliable water service, and the need for even higher water rates in the future. The adverse consequences of project deferral, however, need to be balanced with concerns regarding the current economy and the acceptability of proposed rate increases.

As described later in this section, proposed water rates also include $220,000 annually to rebuild a two-month operating reserve. Once that reserve if funded, this amount could be directed to increase funding for rehabilitation and replacement projects, without an additional increase in water rates.

Gravity Supply Line Project

The Agency has long planned for the construction of the Gravity Supply Line (GSL) project, which will convey water by gravity to the Buckhorn WTP. The Buckhorn WTP serves the CAWP-Wholesale water service area. Current facilities include the Tiger Creek and Silver Lake Pines pump stations and a high-pressure pipeline that convey water from the North Fork of the Mokelumne River to the Buckhorn WTP, an elevation rise of about 1,300 feet. Recent engineering investigations have found the Tiger Creek and Silver Lake Pines pump stations are in need of major upgrades or replacement and the high-pressure pipeline is at or near then end of its useful life.

The GSL project has an estimated cost of $13.4 million, including past reimbursable planning and design costs. The USDA approved the Agency's application for financial

assistance, and may receive a $5.07 million grant and an $8.33 million low-interest loan to pay for the GSL project. Annual loan payments to the USDA would be about $412,600 with this project, including required annual contributions into a debt service reserve. Once operational, the GSL would enable delivery of water to the Buckhorn WTP without pumping, resulting in an immediate and significant reduction in power and pumping-related costs.

The Agency has initiated efforts to form a CAWP Community Facilities District (CFD) to create a special tax that would be imposed on both developed and undeveloped parcels within the CAWP service area. Creation of a special tax requires two-thirds voter approval by registered voters in the affected area. It is estimated that the special tax would be between $45 and $55 per year for single family residential parcels (amounts vary for other types of parcels). A typical existing single family customer of the CAWP-Retail water service area would see a reduction in pumping costs reflected in their water bills of about $66 per year. In addition, USDA grant and loan funds would be used to repay the $900,000 owed to Amador County's Water Development Fund (WDF), which was borrowed to help pay for GSL planning and engineering studies, rather than recovering these funds through water rates. However, if the Agency has to repay the load directly, increased water rates would cost residential CAWP-Retail customers about $43 annually. Therefore, formation of the CAWP CFD could have a benefit of about $54 to $64 per year for a typical existing CAWP-Retail single family customer (residential customers would pay about $45 to $55 annually in a special tax, but avoid about $109 annually on water bills).

Tiger Creek and Silver Lake Pines Pump Station Upgrades and High Pressure Pipeline Replacement Project

If voters do not approve the CAWP CFD, an alternative project to the GSL may be required to upgrade the Tiger Creek and Silver Lake Pines pump stations and replace the high-pressure pipeline that conveys water to the Buckhorn WTP. This project has an estimated cost of $9.7 million. The USDA has indicated it does not favor this project over the GSL. In the absence of a grant, a more traditional water revenue bond or certificate of participation may be required to finance this alternative project. Annual debt service costs related to this project is estimated at $750,000. In addition, in the absence of the GSL project, the Agency is faced with repaying a loan from the County's Water Development Fund (WDF) for $900,000, at an estimated annual cost of $161,200.

Incorporating these costs into the water rates is estimated to increase the annual cost to existing single family customers in the CAWP-Retail water service area by about $241 annually, with no benefit of reduced power costs.

For purposes of proposing water rates, rate schedules that reflect: (1) the estimated costs to upgrade the Tiger Creek and Silver Lake Pines pump stations and replace the high-pressure transmission pipeline, and (2) funding the GSL through the proposed CAWP CFD, are both included in this report. It is recommended that the Board of Directors adopt both rate schedules, with the provision to implement one or the other schedule based on the outcome of the CAWP CFD election.

Debt Service Obligations

The Agency has both external and internal debt obligations associated with the water service area. Each are described and summarized below.

External Debt Obligations

At present, the Agency has eleven outstanding long-term debt obligations. Ten of these are related to water service areas, and one is related to wastewater. Two of the water obligations, related to the Hillside and Ridge water facilities within AWS, are paid for through property assessments and other sources independent of water rates. The wastewater debt obligation and the Hillside and Ridge obligations have no impact on water rate analyses, and are therefore excluded from the presentation and analyses herein. The eight other long-term water system debt obligations are summarized as shown below, with payment and outstanding balance information for the next five years summarized in **Exhibit II-2**. Each of the debt obligations is specifically related to a particular water service area, and the repayment of each debt has been an obligation of that service area.

- ***AWS 2006 COPs*** – In 2006, the Agency issued $23.24 million in Certificates of Participation (COPs) to help finance the Amador Transmission Pipeline. At present, the outstanding balance on the COPs is about $22 million and annual debt service payments are about $1.525 million.
- ***AWS 2009 USDA Loans (#1 and #2)*** – In 2009, the Agency received two separate loans totaling $5.0 million from the US Department of Agriculture (USDA) to help finance the Plymouth Pipeline. At present, the outstanding balance on the two loans totals about $4.85 million and annual debt service payments, including a required reserve contribution, total about $290,000. The City of Plymouth pays the Agency for 65 percent of the annual debt service through a contractual arrangement related to this financing.

Exhibit II-2
Amador Water Agency
Summary of Debt Service Schedules

	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	End Date
EXTERNAL LOANS								
Amador Water System (04) - 2006 Series A COP - Amador Transmission Pipeline								
Principal Payment	485,000	505,000	525,000	550,000	570,000	590,000	615,000	
Interest Payment	1,047,225	1,027,825	1,007,625	986,625	964,625	941,825	918,225	
Total Payment	1,532,225	1,532,825	1,532,625	1,536,625	1,534,625	1,531,825	1,533,225	FY 35-36
Outstanding Balance	22,010,000	21,505,000	20,980,000	20,430,000	19,860,000	19,270,000	18,655,000	
Amador Water System (04) - USDA Loan #1 - Plymouth Pipeline (1)								
Principal Payment	30,000	30,000	35,000	35,000	40,000	40,000	45,000	
Interest Payment	132,975	131,625	130,163	128,588	126,900	125,100	123,188	
DS Reserve Contribution	16,298	16,163	16,516	16,359	16,690	16,510	16,819	
Total Payment	179,273	177,788	181,679	179,946	183,590	181,610	185,006	FY 48-49
Outstanding Balance	2,940,000	2,910,000	2,875,000	2,840,000	2,800,000	2,760,000	2,715,000	
Amador Water System (04) - USDA Loan #2 - Plymouth Pipeline (1)								
Principal Payment	20,000	20,000	20,000	20,000	20,000	20,000	20,000	
Interest Payment	81,263	80,438	79,613	78,788	77,963	77,138	76,313	
DS Reserve Contribution	10,126	10,044	9,961	9,879	9,796	9,714	9,631	
Total Payment	111,389	110,481	109,574	108,666	107,759	106,851	105,944	FY 48-49
Outstanding Balance	1,960,000	1,940,000	1,920,000	1,900,000	1,880,000	1,860,000	1,840,000	
CAWP Wholesale (06) - 1985 Water Development Fund Loan								
Principal Payment	29,352	30,937	32,607	34,368	36,224	38,180		
Interest Payment	10,890	9,305	7,634	5,874	4,018	2,062		
Total Payment	40,242	40,242	40,242	40,242	40,242	40,242		FY 15-16
Outstanding Balance	172,315	141,379	108,772	74,404	38,180	0		
CAWP Wholesale (06) - 2004 USDA Loan #1 - Buckhorn Treatment Plant								
Principal Payment	65,000	65,000	70,000	70,000	75,000	80,000	80,000	
Interest Payment	197,094	194,331	191,463	188,488	185,406	182,113	178,713	
DS Reserve Contribution	26,209	25,933	26,146	25,849	26,041	26,211	25,871	
Total Payment	288,303	285,264	287,609	284,336	286,447	288,324	284,584	FY 43-44
Outstanding Balance	4,605,000	4,540,000	4,470,000	4,400,000	4,325,000	4,245,000	4,165,000	
CAWP Wholesale (06) - 2004 USDA Loan #2 - Buckhorn Treatment Plant								
Principal Payment	10,000	10,000	12,000	12,000	12,000	13,000	14,000	
Interest Payment	34,519	34,081	33,600	33,075	32,550	32,003	31,413	
DS Reserve Contribution	4,452	4,408	4,560	4,508	4,455	4,500	4,541	
Total Payment	48,971	48,489	50,160	49,583	49,005	49,503	49,954	FY 44-45
Outstanding Balance	784,000	774,000	762,000	750,000	738,000	725,000	711,000	
CAWP Wholesale (06) - WDF Interim Loan for GSL (2)								
Principal Payment		-	107,200	113,700	120,500	127,700	135,400	
Interest Payment		18,000	54,000	47,600	40,700	33,500	25,900	
Total Payment	-	18,000	161,200	161,300	161,200	161,200	161,300	FY 18-19
Outstanding Balance	900,000	900,000	(107,200)	(220,900)	(341,400)	(469,100)	(604,500)	
La Mel Water System (09) - 2006 USDA Loan - Tank Land Acquisition and Construction								
Principal Payment	2,551	2,657	2,766	2,880	2,999	3,123	3,252	
Interest Payment	8,361	8,255	8,146	8,032	7,913	7,789	7,660	
Total Payment	10,912	10,912	10,912	10,912	10,912	10,912	10,912	FY 45-46
Outstanding Balance	200,128	197,472	194,705	191,825	188,826	185,703	182,451	
CAWP Wholesale (06) - PS Upgrades and Pipeline Replacement Project								
Principal Payment			150,500	158,800	167,500	176,700	186,400	
Interest Payment			599,500	591,200	582,500	573,300	563,600	
Total Payment			750,000	750,000	750,000	750,000	750,000	FY 42-43
Outstanding Balance		10,900,000	10,749,500	10,590,700	10,423,200	10,246,500	10,060,100	

Notes:
(1) Sixty-five percent of Plymouth Pipeline loans is paid by the City of Plymouth.
(2) If GSL project not commences by the fall of 2012, it is assumed the Interim WDF loan will be repaid through CAWP-W water rates over a 7-year period at 6.0 percent.

- ***CAWP-Wholesale 1985 WDF Loan*** – In 1985, the Agency received a $623,300 loan from the County's Water Development Fund (WDF). At present, the loan has an outstanding balance of about $141,000, and the annual loan payment is about $40,200.
- ***CAWP-Wholesale 2004 USDA Loans (#1 and #2)*** – In 2004, the Agency received two separate loans totaling $5.84 million from the USDA to help finance the Buckhorn water treatment plant. At present, the outstanding balance for the two loans totals about $5.31 million, and the annual debt service payment, including a required reserve contribution, totals about $338,000.
- ***CAWP-Wholesale WDF Interim Loan*** – The Agency borrowed $900,000 from Amador County's Water Development Fund (WDF) to help pay for planning and engineering costs associated with the GSL project. At present, without commencing of that project, the Agency will need to repay this loan in FY 12-13. Agency staff estimates that WDF repayment may be achieved with a commercial loan to be repaid over seven years with a 6.0 percent interest rate. Annual loan payments would be about $161,200. If the GSL project is constructed and financed with the USDA grant and low-interest loan, then the WDF Interim Loan would be repaid through the USDA grant and loan and effectively repaid over 40 years at a lower interest rate. In that case, the WDF Interim Loan payments shown in Exhibit II-2 could be removed from the water rate analysis.
- ***La Mel Heights 2006 USDA Loan*** – In 2006, the Agency received a $212,000 loan from the USDA to finance the construction of a water storage tank and distribution system. At present, the outstanding balance for the loan is about $197,000 and the annual debt service payment totals about $10,900.

All combined, the eight external long-term debt obligations that impact water rate calculations total about $2,374,000 in annual debt service payments. The three other external loans that do not have a bearing on the system-wide water rate study have a combined outstanding balance of about $1.7 million.

A ninth external loan is also included in Exhibit II-2. The reflects the estimated financing costs related to the upgrade of the Tiger Creek and Silver Lake Pines pump stations and replacement of the high-pressure transmission pipeline that convey water to the Buckhorn WTP. Those improvements have an estimated cost of $9.7 million. The USDA has not supported this project, and more traditional financing with water revenue bonds or certificates of participation may be required. Rate analyses assume this financing would include a 30-year term and a 5.5 percent interest rate, with a par amount of $10.9 million to cover issuance costs and establishment of a debt service reserve. It is estimated that annual principal and interest payments would be about $750,000 for this financing.

Debt Service Coverage Requirements

One of the security requirements associated with the AWS 2006 COPs requires the Agency to maintain revenues within the Amador Water System such that net revenues (defined as gross revenues minus operating and maintenance costs) exceed 1.20 times annual debt service, and also that net revenues exclusive of participation fees exceed 1.00 times annual debt service. This requirement is called debt service coverage, and it is intended to help assure investors that the Agency will maintain sufficient revenues to make annual debt service payments. Capital program expenditures are excluded from the coverage calculation under the presumption that the Agency would forego capital projects before it would miss a debt payment.

Because the repayment of the 2006 COPs is an obligation of the AWS service area, the coverage calculation should be made based on AWS service area revenues and operating and maintenance costs. Furthermore, in developing the water rate recommendations, meeting the debt service requirement is one of the tests of the adequacy of the proposed water rates.

It is estimated that the proposed water rates would provide sufficient revenues within the AWS service area to provide debt service coverage of 1.21. This is a very slim margin over the minimum requirement, and is another indicator of the lean financial condition of the Agency, as well as the importance of the proposed increase in the overall level of water rates.

Internal Loans

In recent years, the Agency has formalized a number of internal loans from one water or wastewater service area to another in order to provide the necessary cash for continued operations and maintenance when cash reserves for the affected service area have been insufficient. Resolutions formalizing these internal loans include repayment terms and identify which service area is to be repaid as loan payments are made. Money has come from, and will be repaid to, the reserve capital funds of the loaning water or wastewater service area.

There are a total of 13 internal loans. Three of the loans involve only wastewater service areas and have no bearing on the water rate analyses. Four of the loans involve payments from wastewater service areas to the AWS reserve capital fund, but again have no bearing on water rates. The remaining six loans involve loans to the CAWP-

Retail, Lake Camanche, or La Mel Heights water service areas that need to be repaid to the AWS reserve capital fund. Payments from these water service areas affect the calculation of water rates.

The six internal loans affecting water rate calculations are summarized in **Exhibit II-3**. These six loans have a current outstanding balance of about $2.00 million. Annual payments on these internal loans currently total about $91,200. Interest rates on the internal loans vary from 0.5 to 5.0 percent with terms of 20 to 30 years. As directed by the Board of Directors, the repayment of these loans is included as a debt service cost of each service area benefiting from the loan.

Other Revenues

In addition to water rate revenue, the Agency receives a variety of other revenues. Some of these revenues can be used to offset costs that would otherwise be covered through water rates. The non-rate revenues available to the Agency are summarized below, and the estimated amounts that can be used to help offset water rate revenue needs are identified.

- ***City of Plymouth Payments Towards Plymouth Pipeline Debt Service*** – The City of Plymouth pays sixty-five percent of the annual debt service payments, including debt service reserve contributions, related to the two USDA loans that helped finance the Plymouth pipeline project. The City's payments related to these loans are about $189,300 annually.
- ***PG&E Contract Payments*** – PG&E contract payments are related to AWS water diversions from the Mokelumne River. The annual payments vary based on a variety of factors, and have been estimated to be about $173,000 in FY 12-13. Because these payments are related to the Amador Transmission Pipeline this revenue is used to offset the annual debt service costs of the AWS 2006 COPs.
- ***Participation Fees Applied to AWS 2006 COP Debt Service*** – With the current economic conditions, the Agency expects limited participation fee revenue. However, because of existing development agreements, the Agency anticipates receiving about $240,000 in participation fee revenue for the AWS. Approximately 17 percent of the AWS participation fee is related to debt service costs associated with the Amador transmission pipeline. Therefore, it is reasonable to assume that 17 percent of the participation fee revenue would be directed to debt service payments on the pipeline. Water rate analyses include $41,000 of AWS participation fee revenue will offset a portion of AWS 2006 COP debt service costs.

Exhibit II-3
Amador Water Agency
Summary of Internal Loan Repayment Schedules

	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	End Date
INTERNAL LOANS								
To CAWP Retail (14) from AWS (04) - 1994								
Principal Payment	7,629	8,011	8,411	8,766				
Interest Payment	1,641	1,259	859	438				
Total Payment	9,270	9,270	9,270	9,205				FY 13-14
Outstanding Balance	25,188	17,177	8,766	0				
To CAWP Retail (14) from AWS (04) - Dec. 2010								
Principal Payment	21,080	21,502	21,932	22,371	22,818	23,274	23,740	
Interest Payment	17,104	16,682	16,252	15,813	15,366	14,910	14,444	
Total Payment	38,184	38,184	38,184	38,184	38,184	38,184	38,184	FY 39-40
Outstanding Balance	834,105	812,603	790,671	768,300	745,482	722,208	698,468	
To Camanche Water System (13) from AWS (04) - Dec. 2010								
Principal Payment	19,227	19,612	20,004	20,404	20,812	21,228	21,653	
Interest Payment	15,600	15,215	14,823	14,423	14,015	13,599	13,174	
Total Payment	34,827	34,827	34,827	34,827	34,827	34,827	34,827	FY 39-40
Outstanding Balance	760,773	741,161	721,158	700,754	679,942	658,714	637,061	
To La Mel Water System (09) from AWS (04) - Dec. 2010								
Principal Payment	4,930	5,029	5,129	5,232	5,336	5,443	5,552	
Interest Payment	4,000	3,901	3,801	3,698	3,594	3,487	3,378	
Total Payment	8,930	8,930	8,930	8,930	8,930	8,930	8,930	FY 39-40
Outstanding Balance	195,070	190,041	184,912	179,680	174,344	168,901	163,349	
To CAWP Retail (14) from AWS (04)								
Principal Payment			3,452	3,469	3,487	3,504	3,522	
Interest Payment			362	345	328	310	293	
Total Payment			3,814	3,814	3,814	3,814	3,814	FY 31-32
Outstanding Balance		72,424	68,972	65,502	62,016	58,511	54,990	
To Camanche Water System (13) from AWS (04)								
Principal Payment			7,985	8,025	8,065	8,106	8,146	
Interest Payment			838	798	758	717	677	
Total Payment			8,823	8,823	8,823	8,823	8,823	FY 31-32
Outstanding Balance		167,521	159,536	151,511	143,446	135,340	127,194	

- ***AWS Community Facilities District*** – The Agency is in the midst of forming a community facilities district (CFD) within the AWS service area. The AWS CFD would establish a special tax on undeveloped parcels that would provide funds to (1) help repay the AWS 2006 COPs, and (2) provide funding for future water treatment improvements. It is estimated that the annual amount that will be provided by the AWS CFD for debt service will be about $300,000 annually. This amount is used in the water rate analysis as an offset to annual AWS 2006 COP costs. It reduces the amount of the monthly debt service charge for a 5/8" meter (standard residential customer) by $3.42.
- ***CAWP-Wholesale Water Rates and Charges*** – The three retail agencies served by the CAWP-Wholesale water facilities pay for water service under the terms of water service contracts. The rates and charges cover costs associated with operation and maintenance, reimbursement of capital replacement costs, and debt service obligations, and may include amounts to maintain certain specified reserves. Revenues derived from CAWP-Wholesale rates and charges related to operation and maintenance of the water facilities and to debt repayment obligations help to reduce the water rate revenue requirement. As described in Section III of this report it is estimated that the three retail agencies served by CAWP-Wholesale facilities will pay about $294,000 to cover operation and maintenance costs. In addition, CAWP-Wholesale rates paid by the three retail agencies may either include $321,400 in annual debt service costs (with pump station upgrades and pipeline replacement), or $94,300 in annual debt service costs (with GSL funded through the CAWP CFD).
- ***Miscellaneous Revenue*** – The Agency receives a small amount of revenue from various miscellaneous sources such as capital facility fees, standby fees, construction water sales, other service fees, and interest earnings. A portion of capital facility fee revenue is intended to repay loans related to Ridge and Hillside water facility improvements. Other miscellaneous revenue is estimated at about $91,100 annually. This amount is used to help offset water system costs generally in the water rate analysis.

In aggregate, a total of $1,409,800 in non-rate revenue has been applied to offset water system costs and thereby help reduce the overall water rate revenue requirement. This covers about 16 percent of estimated FY 12-13 costs.

Financial Reserves

Beyond covering costs, water rates should assist the Agency in maintaining adequate and prudent financial reserves.

Water System Operating Reserves

In past water rate studies, the Agency has sought to maintain a two-month operating reserve within each of the water service areas. This benchmark has been applied in developing the system-wide water rates.

At the end of the last fiscal year (June 30, 2011), the Agency had total cash, Agency-wide, of just $616,880. This was at a time when restricted debt service reserves should have totaled about $694,000, and reserve capital funds from accumulated participation fee revenues should have been about $4 million. In addition, the Agency has previously used an operating reserve target equal to two-months of the annual operating and maintenance budget (exclusive of debt service costs). Based on the FY 11-12 budget, the operating reserve should be about $900,000. The Agency has no operating reserves at this time.

With inadequate revenues from water rates, the Agency has been forced to loan reserve capital funds to pay its bills. This situation is unsustainable, and the critical nature of the current situation cannot be over stated. Remaining cash matches, more or less, the required funds for restricted debt service reserves. The repayment of internal loans (previously described) is expected to gradually replenish restricted reserve capital funds. However, water rate revenues should be set at a level sufficient to establish, and then maintain, an adequate operating reserve, while still satisfying contractually required debt reserve requirements. The Agency will continue in a dire financial situation until this situation is corrected.

Balancing an offsetting interest in keeping water rates as low as possible with the urgent need to re-establish operating reserves, in consultation with Agency staff, the rate analysis presented herein includes revenues sufficient to rebuild a two-month operating reserve over a 4-year period. This effectively adds $220,000 to the annual revenue requirement. In other words, the proposed overall water rate revenue requirement has been determined such that the rate revenue would cover estimated costs (after consideration of other revenues) and provide positive cash inflow of about $220,000 annually. By the end of FY 15-16, it is estimated that the Agency would then have a water system operating reserve equal to about two months of operating and maintenance costs.

At that time, the additional revenue could be directed to supporting water system rehabilitation and replacement needs, which, as indicated previously, is underfunded at this time even with the proposed rates.

CAWP-Wholesale Reserves

CAWP-Wholesale reserves have been depleted in recent years to cover replacement project costs and other needs of CAWP-Wholesale water service. The Agency intends to work with the three retail agencies to develop a plan for re-establishing CAWP-Wholesale reserves to desired levels. However, a portion of the CAWP-Wholesale reserves is appropriately an obligation for the CAWP-Retail water service area. As presented in Section III of this report, CAWP-Retail should contribute an estimated $261,300 as reimbursement of past replacement costs and replenishment of required debt service reserves. For rate setting purposes, it is assumed that this amount would be provided through the CAWP-Retail water rates over a three-year period, or at an amount of $87,100 per year. This cost is included in the monthly debt service charge applicable to CAWP-Retail customers.

Reserve Capital Funds

As described earlier in this section, the repayment of internal loans between various water and wastewater service areas is to provide funds for the replenishment of reserve capital funds, particularly in the AWS service area. Reserve capital funds are used to account for participation fee revenues. No other provision is included in the water rate analysis for the repayment of reserve capital funds. The repayment of internal loans reflected in the debt service charges associated with each water service area combined will provide about $104,000 annually on six internal loans with a combined outstanding balance of about $2 million. Other internal loans, not affecting the water rate calculations, are not reflected in these figures.

Debt Service Reserves

Loans provided by the USDA for the Buckhorn WTP and the Plymouth Pipeline include requirements for building, over a ten-year period, a debt service reserve equal to one annual debt service payment. The debt service reserve related to loans for the Buckhorn WTP is an obligation of the CAWP-Wholesale customers, and the Agency intends to work with the three retail agencies served by CAWP-Wholesale water facilities to ensure required reserves are in place, and that any deficiency is corrected. The CAWP-Retail share of future debt service reserve contributions is reflected in the debt service charge for CAWP-Retail customers.

The Agency is also required to maintain a debt service reserve related to the USDA loans for the Plymouth Pipeline. The City of Plymouth has been contributing its share of this reserve. Reserve contributions are included in rate calculations for the future, but any existing deficiency has not been reconciled.

Summary of FY 12-13 Water Rate Revenue Requirement

The overall annual system-wide water rate revenue requirement for FY 12-13 is approximately $6.81 million, which is about $0.33 million (5 percent) higher than the current overall level of water rate revenues. Because of the Agency's efforts to reduce staff levels, cut costs, and improve efficiencies, the overall level of current water rate revenues is sufficient to cover all anticipated operation and maintenance costs, as well as debt service costs, with consideration of other revenues (including estimated new revenues from the proposed AWS CFD). The increase in the overall level of rate revenues is necessary primarily to provide:

- $160,000 to help fund a portion of planned replacement and rehabilitation projects at one-quarter of the amount needed based on the 5-year CIP
- $220,000 to re-establish the two-month operating reserve over a 4-year period.

This revenue requirement is summarized in **Exhibit II-4**. This would be the proposed water revenue requirement if CAWP water facility improvements did not also need to be considered. The need to upgrade and/or replace CAWP pumping and conveyance facilities, in the absence of the CAWP CFD, adds costs that need to be considered in the rate analysis. If voters reject the CAWP CFD, the water rate revenue requirement for FY 12-13 would total about $7.49 million. The additional revenue would provide:

- $121,000 as the CAWP-Retail share of the cost to repay the interim WDF loan
- $563,000 as the CAWP-Retail share of the cost to fund planned pump station upgrades and replacement of the high-pressure pipeline to the Buckhorn WTP

These costs would be entirely borne by CAWP-Retails customers. The three retail agencies served by CAWP-Wholesale facilities would also have their proportional share of additional costs reflected in CAWP-Wholesale rates and charges. These potential additional costs are reflected in the alternative water rate revenue requirement presented in **Exhibit II-5**.

The above revenue requirements do not fully address all of the financial needs of the Agency's water system. In particular, the revenue requirement does not:

Exhibit II-4
Amador Water Agency
Summary of Proposed FY 12-13 Water Rate Revenue Requirements
If Voters Approve the CAWP CFD for the Proposed GSL

	Staff Related Costs (1)	Other Costs	Total Rev. Rqmt.	% of Total
FY 12-13 Revenue Requirement Summary				
Oper. & Maint. Costs (2)				
Customer Costs	$ 192,200	$ 110,200	$ 302,400	4%
Administrative Costs	$ 1,311,700	$ 680,500	$ 1,992,200	29%
Supply/Transmission Costs	$ 174,000	$ 433,900	$ 607,900	9%
Water Treatment Costs	$ 696,000	$ 528,800	$ 1,224,800	18%
Distribution Costs	$ 743,300	$ 79,600	$ 822,900	12%
Other Operating Costs		$ 240,600	$ 240,600	4%
Fixed Asset Costs		$ 16,500	$ 16,500	0.2%
Oper. & Maint. Sub-Total	$ 3,117,200	$ 2,090,100	$ 5,207,300	76%
Debt Service (3)		$ 2,403,700	$ 2,403,700	35%
Rehabilitation/Replacement Projects (4)		$ 160,000	$ 160,000	2%
Additions to Reserves (5)		$ 220,000	$ 220,000	3%
CAWP Wholesale Payments (6)		$ (388,300)	$ (388,300)	-6%
Other Revenues (7)		$ (794,400)	$ (794,400)	-12%
Total Rate Rev. Rqmt.	**$ 3,117,200** 46%	**$ 3,691,100** 54%	**$ 6,808,300**	**100%**

Notes:
(1) Includes salaries, benefits, and a portion of the retiree health benefit liability.
(2) Assumes operating and maintenance costs increase by 2% from FY 11-12 budget, less specified reductions.
(3) Includes external debt obligations, as well as internal loan payments. Also includes the CAWP-Retail portion of replenishing CAWP-Wholesale reserves and replacement project reimbursement.
(4) The water rate portion of 5-year CIP is about $3.2 million.
(5) Intended to re-establish a 2-month operating reserve over a 4-year period.
(6) Estimated payments from retail agencies served by CAWP-Wholesale for O&M and debt service costs. Excludes any payments intended for CAWP-Wholesale reserves or replacement project reimbursement.
(7) Includes PG&E contract payments, proposed AWS CFD revenue, participation fee revenue applied to AWS debt service, Plymouth pipeline loan payments from Plymouth, and miscellaneous revenues.

- Allow for growth in the operating budget beyond 2 percent from the FY 11-12 budget (less specified cost reductions)
- Fully support the planned projects to rehabilitate and replace aging water system facilities
- Promptly replenish required debt service reserves at levels required by loan contracts
- Immediately re-establish a prudent operating reserve, but does so over a four-year period
- Fully reflect long-term retiree health benefit costs.

Nevertheless, it is believed that the proposed water rates will assist the Agency in improving its financial condition and enabling it to meet essential financial obligations.

The $7.49 million revenue requirement reflects costs associated with upgrades to the Tiger Creek and Silver Lake Pines pump stations and replacement of the high-pressure pipeline to convey water to the Buckhorn WTP. If voters approve the proposed CAWP CFD the revenue requirement would be reduced by approximately $684,000. These additional costs, or their removal, as the case may be, would only affect water rates for CAWP-Retail customers. Rate schedules reflecting both of these potential outcomes are presented in this report.

Exhibit II-5
Amador Water Agency
Summary of Proposed FY 12-13 Water Rate Revenue Requirements
If Voters Reject the CAWP CFD for the Proposed GSL

	Staff Related Costs (1)	Other Costs	Total Rev. Rqmt.	% of Total
FY 12-13 Revenue Requirement Summary				
Oper. & Maint. Costs (2)				
Customer Costs	$ 192,200	$ 110,200	$ 302,400	4%
Administrative Costs	$ 1,311,700	$ 680,500	$ 1,992,200	27%
Supply/Transmission Costs	$ 174,000	$ 433,900	$ 607,900	8%
Water Treatment Costs	$ 696,000	$ 528,800	$ 1,224,800	16%
Distribution Costs	$ 743,300	$ 79,600	$ 822,900	11%
Other Operating Costs		$ 240,600	$ 240,600	3%
Fixed Asset Costs		$ 16,500	$ 16,500	0.2%
Oper. & Maint. Sub-Total	$ 3,117,200	$ 2,090,100	$ 5,207,300	70%
Debt Service (3)		$ 3,314,900	$ 3,314,900	44%
Rehabilitation/Replacement Projects (4)		$ 160,000	$ 160,000	2%
Additions to Reserves (5)		$ 220,000	$ 220,000	3%
CAWP Wholesale Payments (6)		$ (615,400)	$ (615,400)	-8%
Other Revenues (7)		$ (794,400)	$ (794,400)	-11%
Total Rate Rev. Rqmt.	**$ 3,117,200** 42%	**$ 4,375,200** 58%	**$ 7,492,400**	**100%**

Notes:
(1) Includes salaries, benefits, and a portion of the retiree health benefit liability.
(2) Assumes operating and maintenance costs increase by 2% from FY 11-12 budget, less specified reductions.
(3) Includes external debt obligations, as well as internal loan payments. Also includes the CAWP-Retail portion of replenishing CAWP-Wholesale reserves and replacement project reimbursement.
(4) The water rate portion of 5-year CIP is about $3.2 million.
(5) Intended to re-establish a 2-month operating reserve over a 4-year period.
(6) Estimated payments from retail agencies served by CAWP-Wholesale for O&M and debt service costs. Excludes any payments intended for CAWP-Wholesale reserves or replacement project reimbursement.
(7) Includes PG&E contract payments, proposed AWS CFD revenue, participation fee revenue applied to AWS debt service, Plymouth pipeline loan payments from Plymouth, and miscellaneous revenues.

III. Cost of Service Analysis

This section of the report presents and describes the cost of service analysis that supports the water rate recommendations developed in Section IV on water rate design. The cost of service analysis is the second step, following determination of the revenue requirement, in the three-step rate setting process.

The cost of service analysis presents the manner in which water system costs are proportionately allocated to each customer class served by the Agency. While it may at first appear straightforward to simply allocate costs across all water service areas, several important considerations made this task fairly complex. As the Agency re-aligns its accounting and budget structures, the cost allocation process is likely to become simpler.

Section II, on the annual revenue requirement, described how the FY 12-13 water rate revenue requirement was determined, in part, by escalating FY 11-12 budgeted revenues and expenses by 2 percent. However, even determining the water system revenue requirement required consideration of the allocation of staff-related costs, administrative costs, and certain other factors among the Agency's water system operation, wastewater system operation, and Agency general functions. So, even the revenue requirement determination involved cost allocation steps.

This section begins with a summary of customer account, water usage, and other information that helps to characterize the demands placed on the water system, which then become the bases for cost allocations. Key issues that were considered in the cost of service analysis, and are described in this section, included:

- Analysis of staff functions and the allocation of staff-related costs including:
  - Separation of staff costs between water, wastewater, and Agency general functions
  - Segregation of estimated capitalized salary and benefit costs from operating costs
  - Allocation of costs by function within water operations
  - Identification of costs to be allocated to CAWP-Wholesale rates in accordance with water service contracts
- Separation of central administrative costs between water, wastewater, and Agency general functions
- Identification of operating and maintenance costs to be allocated to CAWP-Wholesale rates in accordance with water service contracts, and the estimated

returning revenue from the three retail agencies served by the CAWP-Wholesale water facilities

- Identification of extraordinary costs that are sufficiently unique to any water service area and should be addressed as a direct cost to an individual service area, rather than generally allocated. These include:
    - Debt service obligations that have been the direct responsibility of each water service area
    - Extraordinary costs of conveying water to the Buckhorn WTP from the Mokelumne River through CAWP-Wholesale water facilities
- Allocation of costs among treated water, untreated water, and resale customers.

Some of the above issues are intertwined with one another. The cost of service analysis did not always proceed in a linear manner. While the presentation and description of the cost of service analysis contained in this section at first appears linear, it is not always so.

Customer and Water Use Characteristics

Information on customers and water usage can be presented in a number of different ways, with each serving a different purpose. Purposes include providing information to illustrate what the customer base looks like, and providing information in a manner that aids in the allocation of costs for cost of service analysis.

Exhibit III-1 summarizes the number of customers and annual water usage for each of the water service areas served by the Agency. The AWS is the largest water service area, with the greatest diversity in terms of customer class and service types. Service types include untreated water, treated water, and resale water service, as well as about 120 flat-rate customers. CAWP-Wholesale water facilities provide wholesale water service (delivery of treated water for retail distribution) to three independent retail agencies, as well as to the CAWP-Retail water service area.

The three retail agencies served by the CAWP-Wholesale water facilities together serve nearly 900 accounts and, as a group, represent approximately 25 percent of CAWP-Wholesale demands.

- Pine Grove CSD 362 accounts
- Mace Meadows MWC 417 accounts
- Rabb Park CSD 108 accounts

Exhibit III-1
Amador Water Agency
Summary of Customer Accounts and Water Usage (1)

Service Area / Service Class	No. of Accounts	Annual Water Use (CCF)
Amador Water System		
Untreated Irrigation Customers	177	200,000
Untreated Indus./Public Customers	4	165,000
Treated Water Customers (2)	3,305	721,000
Mule Creek State Prison	1	276,000
Resale		
Drytown	1	15,000
Plymouth	1	68,000
Jackson	1	410,000
Central Amador Water Project		
CAWP - Retail (3)	2,612	244,000
CAWP - Wholesale (4)		
Pine Grove CSD	1	55,300
Mace Meadows MWC	1	35,800
Rabb Park CSD	1	5,200
Lake Camanche (3)	729	86,000
Le Mel Heights (5)	53	7,200
Totals	6,887	2,288,500

Notes:
(1) Water usage data is from FY 10-11 as reported by utility billing records.
(2) Includes single family, multi-family, and commercial accounts.
(3) Predominately single family with some commercial accounts.
(4) Wholesale water sales to the CAWP-Retail service area is about 278,000 CCF.
(5) Exclusively single family residential accounts.

In aggregate, the CAWP-Wholesale customer base (including all retail customers) is slightly larger than the Agency's AWS retail customer base, although without the diversity of customers and service types. Aggregate water use within the CAWP-Wholesale service area is less than the AWS retail service area due to its primarily residential nature. Both the Lake Camanche and the La Mel Heights water service areas are smaller than AWS and CAWP service areas, and are predominately or exclusively residential.

In addition to providing water service, the Agency provides wastewater service in several wastewater service areas. In aggregate, slightly more than 900 separate accounts are served by the Agency's wastewater system.

Exhibit III-2 provides a different summary of customer accounts and water usage characteristics. Here each customer class is identified and the identification of water service area has been excluded. In addition, information related to size of water meters, and peaking characteristics for each customer class are provided. As the Agency transitions to system-wide water rates, the customer and usage characteristics of each customer class become more important than the geographic proximity. Many of the allocation factors used in the cost of service analysis are derived from the information in this exhibit.

Cost Categorization and Functional Allocation

The cost of service analysis begins by breaking down the overall revenue requirement (i.e., costs to be recovered from water rates) into cost categories. This is largely achieved through the budget structure. However, for some cost categories, such as salary and benefit costs, and operation and maintenance costs, it is necessary to split these broad groups of costs along functional lines as well. The five primary functional distinctions used in the rate study include supply/transmission, water treatment, water distribution, customer, and administration. Descriptions of the cost categories used in the cost of service analysis are provided below. The next sub-sections provide details on how salary and benefit costs were further split along functional lines.

- ***Salary and Benefit Costs*** – All salary and benefit costs, including retiree health benefits, are included in a single cost category. The subtraction of capitalized salary and benefit costs is also reflected in this category. Salary and benefit costs are allocated along the five functional lines described above. Because of the detailed analysis that went into this allocation, it is separately described in the next sub-section.
- ***Administrative Costs*** – Most administrative costs are currently centrally budgeted, and grouped as administrative expenses, director expenses, and office expenses. Central budgeting occurs through the Agency General Fund (Fund 05) and then is assigned to individual water or wastewater service areas through inter-fund transfers. A few administrative items are directly budgeted by the Agency, and that structure is maintained in the cost of service analysis.

Exhibit III-2
Amador Water Agency
Summary of Water System Customers (1)

Customer Class	Meter Size 5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	Total Accts.	Equiv. Meters	Annual Wtr Use	Peaking Factor	Max. Month Wtr Use
General Treated Water Service													
Single Family Residential	6,248	21	52						6,321	6,410	789,000	1.73	114,000
Multi-Family & Commercial	228	13	67	30	29	3	5	3	378	1,120	269,000	1.61	36,000
Sub-Total	6,476	34	119	30	29	3	5	3	6,699	7,530	1,058,000	1.70	150,000
Untreated Water Service													
Irrigation	93	14	56	5	6	1	2		177	393	200,000	3.44	57,000
Industrial & Public Agency					1		2	1	4	432	165,000	1.52	21,000
Sub-Total	93	14	56	5	7	1	4	1	181	825	365,000	2.57	78,000
Total Retail Accounts	6,569	48	175	35	36	4	9	4	6,880	8,355	1,423,000	1.92	228,000
Hydr. Capacity Factors -->	1.0	1.5	2.5	5.0	8.0	16.0	25.0	50.0					
Resale and Special													
Mule Creek State Prison											276,000	1.30	29,900
Drytown											15,000	2.28	2,800
Plymouth											68,000	2.00	11,300
Jackson											410,000	1.66	57,000
Resale and Special Totals											769,000	1.58	101,000
CAWP-Wholesale											374,000	1.69	53,000

Notes:
(1) Customer account and water usage data is from FY 10-11 as reported by utility billing records.

- ***Operation and Maintenance Costs*** – Most of these costs are direct costs associated with the operation of water facilities within each water service area. Based on line-item details contained in the budget account structure, operation and maintenance costs have been segregated along the supply/transmission, water treatment, and water distribution functional lines. An examination of operating and maintenance costs across the water service areas did not identify any clearly distinct and significantly different costs across service areas, with one exception. For the most part, the costs of producing, moving, treating, and delivering water within each service area appear sufficiently similar to not warrant differentiation. The one exception is the high cost to pump water to the Buckhorn WTP. This unique and significant cost is addressed through the CAWP-Wholesale water service contracts, as well as in a proposed pumping surcharge for CAWP-Retail customers. A portion of Agency's water system operating expenses is not identified by service area, but is indirectly allocated, similar to administrative costs.
- ***Fixed Asset Costs*** – Fixed asset costs are a relatively minor part of the current budget and represent purchases for equipment used in offices, shops, and in the field, as well as tools and instruments.
- ***Debt Service Costs*** – Debt service costs are a significant part of the overall revenue requirement. These costs are segregated by water service area and the rate analysis includes a calculation of monthly debt service charges for each water service area so that the debt obligations of one area are not borne by customers in other areas.
- ***Transfers and Reserve Contribution*** – This category includes the amounts included in the water rate revenue requirement to: (1) support the rehabilitation and replacement of water system facilities, and (2) begin to re-establish a prudent operating reserve.
- ***Non-Rate Revenues*** – Non-rate revenues are applied against costs on a functional basis and thereby help to reduce water rates. There are several non-rate revenue sources that each offset certain costs, as summarized below.
    - PG&E contract payments, a portion of AWS participation fees, and a portion of AWS CFD special tax revenue all offset the annual debt service costs of the AWS 2006 COPs
    - City of Plymouth payments toward USDA loan repayments are applied against those loan payments
    - Revenues from the three retail agencies served by CAWP-Wholesale water facilities related to operations and debt service are applied against appropriate operational and debt service costs
    - Interest earnings and miscellaneous service revenues are used to offset customer costs.

In identifying and allocating costs to functional components, staff and staff-related costs have been analyzed separately from other costs. Each of these is described separately in the next sub-section.

Exhibit A-1, in Appendix A, presents information related to all of the operating and maintenance costs, as well as non-rate revenues used to offset operating and maintenance costs, as they are contained in the Agency's FY 11-12 budget and then adjusted and allocated for determining the FY 12-13 water rate revenue requirement. Debt service costs, and related offsetting revenue, are excluded from this presentation for simplicity and ease of presentation. The estimated operating and maintenance costs of the combined water service area for FY 12-13, net of non-rate offsetting revenues, is approximately $5.21 million.

Analysis of Staff-Related Costs

The analysis of staff costs, including salaries, benefits, and retiree health benefits, is comprised of the following:

- Escalation of budgeted costs from FY 11-12 to FY 12-13 using a 2-percent escalation factor, as previously described in Section II of this report, less reductions related to retiree health benefit liability coverage and removal of non-recurring consultant costs.
- Analyzing staff positions within the Agency by position title and assigning each position to one of the broad categories listed below. **Exhibit III-3** summarizes the results of this assignment.
    - Customer
    - Administrative
    - Water treatment
    - Transmission/distribution
    - Wastewater

  Staff positions identified functionally in the transmission/distribution category were then split into the supply/transmission category and a water distribution category. For purposes of rate setting the supply/transmission function relates to untreated water transport to treatment facilities, as well as raw water canal operations and water distribution to customers receiving untreated water. Distribution costs include distribution of treated water to retail customers. Of the 24 percent of staff costs identified as transmission/distribution, 4 percent was assigned as supply/transmission and 20 percent as water distribution.
- Reviewing the specific application of staff costs through three separate mechanisms to assess how individual staff positions work in relation to water and wastewater functions, to each water service area, and in different direct and indirect capacities. The three mechanisms reviewed included:

Exhibit III-3
Amador Water Agency
Functional Distribution of Staff Positions (1)

Administration	**45%**
Account Clerk II (2)	
Administrative Assistant II	
Administrative Assistant III	
Assistance Engineer	
Construction Foreman	
Controller	
Executive Secretary/Board Clerk	
Field Operations Manager	
General Manager	
Human Resource Technician	
Human Resource/Office Manager	
Inspector	
Purchasing Agent	
Supervising Engineer	
Customer Service	**5%**
Customer Service Representative II (2)	
Customer Service Technician/Utility Clerk	
Meter Reader	
Water Treatment	**16%**
Instrument/Electronics Technician	
Supervisor Electronic Control Systems	
Water Production Supervisor	
Water Treatment Operator III (3)	
Transmission/Distribution	**24%**
Canal/Distribution Supervisor	
Distribution Operator II (3)	
Distribution Operator III (2)	
Preventative Maintenance Technician	
Utilitiy Worker II (3)	
Utility Worker I (2)	
Wastewater	**10%**
Wastewater Operator I (2)	
Wastewater Operator II	
Wastewater Supervisor	

Notes:
(1) Percentage allocations were derived based on the salary for each position and the number of people in each position. Numbers in parentheses indicates number of people with the position title, if greater than one.

- Assignment of staff positions as used in developing the FY 11-12 budget
- Summary of actual time records for each staff position for FY 10-11
- Estimates provided by managers of how their staff spend their time across functional areas and/or different service areas

All three of these sources of information helped to inform decisions on how to allocate salaries and benefits among water service areas, wastewater service areas, and Agency general activities. In the end, staff costs were functionally allocated across the different service areas and activities on the following bases:

- *Customer* – Based on customer accounts (water and wastewater)
- *Administrative* – Based on direct budgeting to Funds 03 and 05, then with consideration of overall service area demands (water production and wastewater generation)
- *Supply/transmission* – Based on water production (water only)
- *Water treatment* – Based on water production (water only)
- *Water distribution* – Based on miles of distribution pipelines and sewer collection pipelines (water and wastewater)
- *Wastewater* – Assigned entirely to wastewater.

The separation of water system staff costs from wastewater system and Agency general activities is important to the rate setting process. The analysis also assessed costs across the different water service areas. This is not directly

required for system-wide rate setting purposes, but is necessary to assign staff-related costs to CAWP-Wholesale.

- Estimation of the portion of salary and benefit costs that are capitalized (i.e., assigned to capital program activities, rather than operational costs) and thereby removed from the rate setting process. Seven percent of total salary and benefit costs are capitalized within both the water and wastewater systems. This includes the portion of staff costs included in Agency general activities. However, the capitalized staff costs occur only in water and wastewater systems, and not within Agency general.
- Assignment of staff related costs to the operation of the CAWP-Wholesale water facilities as required to determine charges under water service contracts.
- Retiree health benefit costs were allocated among the water system, the wastewater system, and Agency general activities in the same manner as the allocation of administrative costs.

The results of the allocation of staff-related costs are presented in **Exhibit III-4**. This includes a summary of the allocations both functionally and across water, wastewater, and Agency general activities, as well as the resulting distribution of FY 12-13 staff-related costs for salaries, benefits, and retiree health benefits. Total water system salary and benefit costs of $3,117,200 are used in rate calculations. Although Exhibit III-4 allocates cost to each water service area, this is only to provide staff-related cost information for determining CAWP-Wholesale water rates and charges.

Functional Allocation of Costs

Once the overall revenue requirement is defined, and costs have been categorized and functionalized, the detailed cost allocation steps can proceed. The procedure for allocating costs to various customer classes is complicated by the fact that the Agency provides water service to customers that receive treated and untreated water, as well as to retail and to resale customers. The cost allocation process recognizes and reflects the different service characteristics and different demand characteristics associated with these variations in service.

There are a number of ways to allocate costs for rate setting purposes. Some are rather complex requiring detailed knowledge of water system costs, cost drivers, and customer water use characteristics. Others are somewhat simpler to understand and administer. Because the Agency provides different services to a variety of customer types, a more complex cost allocation methodology is warranted. However, the complexity must also be tempered by the availability and quality of information.

Exhibit III-4
Amador Water Agency
Summary of Allocation of Salary and Benefit Costs for System-Wide Water Rate Analysis

Function	Functional Allocations	Water Systems Total	AWS	CAWP-W	CAWP-R	Camanche	La Mel	WW Systems Total	Agency General	Allocation Basis
Salary and Benefit Allocations (1)										
Customer	5%	88%	45%	0%	33%	9%	0.7%	12%		Customer Accounts
Administration	45%	74%	55%	14%	0%	4%	0.2%	8%	18%	Ag. Gen. Budg. / Prod. / Gen.
Supply/Transmission	4%	100%	75%	19%	0%	6%	0.3%			Water Production
Water Treatment	16%	100%	75%	19%	0%	6%	0.3%			Water Production
Distrib./Collect.	20%	85%	44%	7%	27%	7%	0.5%	15%		Wtr/WW Pipeline Miles
Wastewater Trtmt.	10%	0%						100%		Wastewater Only
Composite Totals -->	100%	75%	51%	12%	7%	5%	0.3%	17%	8%	
Water/WW Only -->	92%	81%	56%	13%	8%	5%	0.3%	19%		
Water Only -->	75%	100%	68%	15%	9%	6%	0.4%			

	Amador Water Agency	Water Systems Total	AWS	CAWP-W	CAWP-R	Camanche	La Mel	WW Systems Total	Agency General	
Estimated FY 12-13 Budget Summary (2)										
Salaries	$ 2,585,000	$ 1,932,800	$ 1,319,900	$ 297,500	$ 182,700	$ 124,900	$ 7,900	$ 445,400	$ 206,800	
Benefits	$ 1,765,000	$ 1,319,700	$ 901,200	$ 203,100	$ 124,700	$ 85,300	$ 5,400	$ 304,100	$ 141,200	
Adjust. for Cap. S&B	$ (304,500)	$ (247,500)	$ (169,000)	$ (38,100)	$ (23,400)	$ (16,000)	$ (1,000)	$ (57,000)		7% of Salary & Benefits (3)
Retiree Health Bene. (4)	$ 150,000	$ 112,200	$ 76,600	$ 17,300	$ 10,600	$ 7,200	$ 500	$ 25,800	$ 12,000	
Totals	$ 4,195,500	$ 3,117,200	$ 2,128,700	$ 479,800	$ 294,600	$ 201,400	$ 12,800	$ 718,300	$ 360,000	
Functional Distribution of Salary and Benefit Costs										
Customer Costs	$ 217,500	**$ 192,200**	$ 97,200	$ 500	$ 72,700	$ 20,300	$ 1,500	$ 25,300	$ -	
Administrative Costs	$ 1,957,500	**$ 1,447,000**	$ 1,085,400	$ 274,800	$ -	$ 82,000	$ 4,800	$ 162,500	$ 348,000	
Supply/Trans. Costs	$ 174,000	**$ 174,000**	$ 130,500	$ 33,000	$ -	$ 9,900	$ 600	$ -	$ -	
Water Treatment Costs	$ 696,000	**$ 696,000**	$ 522,100	$ 132,200	$ -	$ 39,500	$ 2,300	$ -	$ -	
Distrib./Collect. Costs	$ 870,000	**$ 743,300**	$ 385,900	$ 60,100	$ 234,600	$ 58,500	$ 4,200	$ 126,700	$ -	
Wastewater Trtmt. Costs	$ 435,000	**$ -**	$ -	$ -	$ -	$ -	$ -	$ 435,000	$ -	
Adjust. for Cap. Sal. & Bene.	$ (304,500)	**$ (247,500)**	$ (169,000)	$ (38,100)	$ (23,400)	$ (16,000)	$ (1,000)	$ (57,000)	$ -	
Retiree Health Bene.	$ 150,000	**$ 112,200**	$ 76,600	$ 17,300	$ 10,600	$ 7,200	$ 500	$ 25,800	$ 12,000	
Totals	**$ 4,195,500**	**$ 3,117,200**	**$ 2,128,700**	**$ 479,800**	**$ 294,500**	**$ 201,400**	**$ 12,900**	**$ 718,300**	**$ 360,000**	

Notes:
(1) Based on staffing analysis and assignment of staff positions to functional classifications shown in Exhibit III-3.
(2) Assumes 2.0 percent increase from FY 11-12 budget.
(3) Based on history and discussions with staff.
(4) The FY 11-12 budget included $450,280 for Retireee Health Benefits. At staff's direction, the rate analysis includes an estimated $100,000 for current insurance premiums as well as $50,000 for the GASB 45 OPEB liability (to be placed in a restricted reserve).

The cost allocation methodology used herein consists of two primary steps. The first is to allocate costs to functional cost components based on the nature of the cost. The second is to distribute cost components to each customer class. In some cases, the allocation of costs follows obvious assignments, while others require experienced judgment.

Eight cost components were used in the cost allocation methodology, as defined below.

- ***Capacity Cost Components*** – Capacity cost components relate to the capacity of the water system. Customers that have the ability to place greater or lesser demands on the water system should bear a greater or lesser share of these costs. Three types of capacity-related costs were identified for allocating water system costs, including:
    - *Supply/Transmission Costs* – Costs associated with the capacity to produce and move raw water supplies to treatment facilities or to deliver untreated water to irrigation or other untreated water customers are included in this component. Supply/transmission costs are assigned to all customers in relation to the maximum month water demand placed on the water system. This peak demand is the measure of the capacity requirement imposed by each group of customers.
    - *Water Treatment Costs* – Costs associated with the capacity to treat water are included in this component. Water treatment costs are assigned to all customers that received treated water in relation to the maximum month water demand placed on the system. Again, this peak demand is the measure of the capacity requirement imposed by each group of treated water customers.
    - *Water Distribution Costs* – Costs associated with the capacity to distribute treated water to retail customers is included in this component. Water distribution costs are assigned to a treated water retail customers in proportion to the hydraulic capacity associated with the size of the water meter.
- ***Customer Cost Component*** – Customer costs are associated with serving customers, including meter reading, utility billing, and customer service. Board-related expenses are also commonly treated as customer costs, as the Board represents each customer equally. Customer costs are allocated equally to all customers, regardless of the demand placed on the water system.
- ***Commodity Costs Components*** – Commodity costs are assigned to customers based on annual water usage. These components generally include all variable costs, but also include fixed costs that are reasonably recovered on the basis of actual water usage. Examples include energy for pumping and chemicals for water treatment, but may also include other direct and indirect cost of operations. Similar to capacity cost components, three separate commodity cost components are needed to reflect the variation in service types.

- *Raw Water Costs* – Costs associated with raw water supply and transmission that should be shared by all customers in relation to actual water usage.
- *Treated Water Costs* – Costs associated with water treatment or treated water service that should be shared by all treated water customers in relation to actual water usage.
- *Distributed Water Costs* – Costs associated with the distribution of treated water to retail customers and the use of the water distribution system. These costs are allocated to all retail customers in relation to actual water usage.

- ***Special Charge Costs*** – This eighth cost component serves to isolate two types of costs requiring special treatment.
  - *Debt Service Costs* – Debt service costs remain as obligations of each water service area and are handled separately. Separate schedules of monthly debt service charges are developed for each water service area in Section IV of this report.
  - *Extraordinary Pumping Costs* – As previously identified, the pumping costs associated with delivering water from the Mokelumne River to the Buckhorn WTP are extraordinary costs of the CAWP-Wholesale water system. While these costs are allocated through the CAWP-Wholesale rate and charges, because about 75 percent of the CAWP-Wholesale water demand is associated with the CAWP-Retail water service area these pumping costs come back to that service area. A special pumping surcharge is proposed for the CAWP-Retail water service area to appropriately recover these extraordinary pumping costs.

Exhibit III-5 illustrates how the overall revenue requirement is allocated to functional cost components. The basis for assigning each cost category to the functional component varies. Some are one-to-one direct assignments (e.g., customer staff costs are directly allocated to the customer cost component), while others allocated by a variety of means, as summarized below:

- Administrative staff costs, the adjustment for capitalized staff costs, and retiree health benefit costs are allocated to functional components in relation to the allocations of customer, supply/transmission, water treatment, and water distribution costs are assigned in Exhibit III-4. These administrative costs are allocated to the capacity components, whereas direct operational staff costs are allocated on the basis of usage.
- Indirect operating expenses are allocated to all users on the basis of capacity through the supply/transmission component

Exhibit III-5
Amador Water Agency
Water Rate Cost Allocation Summary

	AWA Water Systems Total	Capacity Costs: Supply/ Trans.	Capacity Costs: Water Treatment	Capacity Costs: Water Distribution	Customer Costs	Commodity Costs: Raw Water	Commodity Costs: Treated Water	Commodity Costs: Distrib. Water	Special Charge Costs
WATER SYSTEM REVENUE REQUIREMENT									
Salary & Benefit Costs									
Customer	$ 192,200	$ -	$ -	$ -	$ 192,200	$ -	$ -	$ -	$ -
Administrative	$ 1,447,000	$ 139,451	$ 557,802	$ 595,710	$ 154,037	$ -	$ -	$ -	$ -
Supply/Transmission	$ 174,000	$ -	$ -	$ -	$ -	$ 174,000	$ -	$ -	$ -
Water Treatment	$ 696,000	$ -	$ -	$ -	$ -	$ -	$ 696,000	$ -	$ -
Water Distribution	$ 743,300	$ -	$ -	$ -	$ -	$ -	$ -	$ 743,300	$ -
Capitalize Sal. & Benes.	$ (247,500)	$ (23,852)	$ (95,408)	$ (101,892)	$ (26,347)	$ -	$ -	$ -	$ -
Retiree Health Benefits	$ 112,200	$ 10,813	$ 43,252	$ 46,191	$ 11,944	$ -	$ -	$ -	$ -
Total Staff-Related Costs	$ 3,117,200	$ 126,411	$ 505,646	$ 540,009	$ 331,834	$ 174,000	$ 696,000	$ 743,300	$ -
Administrative Costs									
Administrative Expenses	$ 266,500	$ 39,992	$ 32,939	$ 34,965	$ 17,816	$ 37,379	$ 54,886	$ 48,524	$ -
Director Expenses	$ 61,400	$ -	$ -	$ -	$ 61,400	$ -	$ -	$ -	$ -
Office Expenses	$ 462,800	$ 69,449	$ 57,201	$ 60,719	$ 30,939	$ 64,912	$ 95,315	$ 84,266	$ -
Total Admin. Costs	$ 790,700	$ 109,441	$ 90,139	$ 95,684	$ 110,155	$ 102,291	$ 150,201	$ 132,789	$ -
Operations and Maintenance									
Supply/Transmission	$ 433,900	$ -	$ -	$ -	$ -	$ 239,900	$ -	$ -	$ 194,000
Water Treatment	$ 528,800	$ -	$ -	$ -	$ -	$ -	$ 528,800	$ -	$ -
Water Distribution	$ 79,600	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,600	$ -
Other Operating Expenses	$ 240,600	$ 240,600	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Oper. & Maint. Costs	$ 1,282,900	$ 240,600	$ -	$ -	$ -	$ 239,900	$ 528,800	$ 79,600	$ 194,000
Fixed Assets									
Equip., Tools, and Instruments	$ 16,500	$ 6,600	$ 4,950	$ 4,950	$ -	$ -	$ -	$ -	$ -
Total Fixed Asset Costs	$ 16,500	$ 6,600	$ 4,950	$ 4,950	$ -	$ -	$ -	$ -	$ -
Debt Service Costs									
Amador Water System	$ 1,823,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,823,900
CAWP-Wholesale	$ 1,289,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,289,200
CAWP-Retail	$ 51,300	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,300
Lake Camanche	$ 43,600	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 43,600
La Mel Heights	$ 19,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 19,800
CAWP-R Reimb. to CAWP-W	$ 87,100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 87,100
Total Debt Service Costs	$ 3,314,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,314,900
Transfers & Reserve Contrib.									
Rehab./Replac. Projects	$ 160,000	$ 64,000	$ 48,000	$ 48,000	$ -	$ -	$ -	$ -	$ -
Operating Resrv. Contrib.	$ 220,000	$ -	$ -	$ -	$ -	$ 220,000	$ -	$ -	$ -
Total Trans. & Rsrv. Contrib.	$ 380,000	$ 64,000	$ 48,000	$ 48,000	$ -	$ 220,000	$ -	$ -	$ -
Non-Rate Revenues									
Plymouth DS Payments	$ (189,300)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (189,300)
PG&E Contract Payments	$ (173,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (173,000)
AWS Partic. Fees for DS	$ (41,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (41,000)
AWS CFD for DS	$ (300,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (300,000)
CAWP-W Rate Rev. for DS	$ (321,400)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (321,400)
CAWP-W Rate Rev. for O&M	$ (294,000)	$ -	$ -	$ -	$ -	$ -	$ (294,000)	$ -	$ -
Misc. Revenue	$ (91,100)	$ -	$ -	$ -	$ (91,100)	$ -	$ -	$ -	$ -
Total Non-Rate Revenue	$ (1,409,800)	$ -	$ -	$ -	$ (91,100)	$ -	$ (294,000)	$ -	$ (1,024,700)
Total FY 12-13 Rev. Rqmt.	**$ 7,492,400**	**$ 547,053**	**$ 648,735**	**$ 688,643**	**$ 350,888**	**$ 736,191**	**$ 1,081,001**	**$ 955,689**	**$ 2,484,200**
		7%	9%	9%	5%	10%	14%	13%	33%

- Fixed asset and water system rehabilitation and replacement costs are allocated to capacity components in relation to the investment in the water system in various types of facilities (supply/transmission, water treatment, and water distribution), based on a review of the Agency's fixed asset records.
- Operating reserve contributions are allocated to all users on the basis of actual water usage through the raw water commodity component.
- Non-rate revenues are applied against appropriate operating or debt service costs, as previously described.
- Administrative expenses are allocated across the full spectrum of cost components in relation to the result of all other cost allocations. This is a common method of allocating indirect costs, and maintains proportionality consistent with the direct assignment of costs.

Direct operating and maintenance costs historically have not been clearly delineated along functional components in the Agency's budget structure. For example, power costs are not clearly delineated between transmission pumping, water treatment plant energy costs, and distribution system pumping. As the Agency moves away from budgeting and tracking costs by service area, it can focus additional attention on the functional distribution of costs. This would aid future cost of service and rate setting processes.

Determination of Unit Costs

Once costs are allocated to functional cost components, each component cost is then divided by the number of units to arrive at unit costs for each component. Units were derived from the information contained in Exhibit III-2, as summarized below.

- *Supply/transmission capacity units* – This is the demand on the water system during the maximum month expressed in millions of gallons per day (mgd). The maximum month water demand for the water system is 8.09 mgd.
- *Water treatment capacity units* – This is the demand for treated water on the water system during the maximum month expressed in mgd. The maximum month treated water demand of the water system is 6.17 mgd.
- *Water distribution capacity units* – This is the total number of 5/8" equivalent meters represented by treated water retail customers. Each meter size is related to a 5/8" meter on the basis of hydraulic capacity. As an example, a 1 ½" meter is equivalent to five 5/8" meters. There are 7,530 equivalent meters receiving retail treated water service from the Agency.
- *Customer units* – There are 6,884 customer accounts (water meters) receiving water service from the Agency. This includes treated water, untreated water, and resale customers.

- *Raw water commodity units* – This is the total annual volume of water delivered to all customers served by the Agency. The total annual water sales volume to all water service customers is 2,192,000 CCF.
- *Treated water commodity units* – This is the total annual volume of treated water delivered to customers. The total annual treated water sales volume, including deliveries to resale customers, is 1,827,000 CCF.
- *Distributed water commodity units* – This is the total annual volume of treated water delivered to retail customers receiving treated water, including Mule Creek State Prison. The total annual volume of retail treated water deliveries is 1,334,000 CCF.

The calculation of unit costs is presented in **Exhibit III-6**. Units are summarized at the top of the exhibit. Costs are carried forward from the functional distribution of costs in Exhibit III-5, summarized by cost category. Each of these costs is divided by the units to arrive at unit costs, which are summarized in aggregate at the bottom of Exhibit III-6.

Cost Distribution to Customer Classes

Unit costs presented in Exhibit III-6 are then used to distribute the costs of providing water service to each customer class, as presented in **Exhibit III-7**. Customer classes include:

- General treated water service, including
  - Single family residential customers
  - Multi-family residential customers, and
  - Commercial customers
- Mule Creek State Prison
- Untreated water service, including
  - Irrigation customers
  - Industrial/public agency customers
- Resale customers
  - Drytown County Water District
  - City of Plymouth
  - City of Jackson

Unit costs related to each functional component are multiplied by the demand units for each customer class. Only the relevant functional components are included in the derivation of the total cost of service for each customer class. The resulting allocation of the total water rate revenue requirement (excluding debt service and extraordinary pumping costs), by customer class, is shown in the right side of Exhibit III-7.

Exhibit III-6
Amador Water Agency
Unit Costs of Service

		Capacity Costs				Commodity Costs		
	Total Costs (1)	Supply/ Trans.	Water Treatment	Water Distribution	Customer Costs	Raw Water	Treated Water	Distrib. Water
Units of Service (2) -->		8.09 mgd	6.17 mgd	7,530 Eq. Mtrs.	6,884 Accts.	2,192,000 CCF	1,827,000 CCF	1,334,000 CCF
Salaries & Benefits								
Total	$ 3,117,200	$ 126,411	$ 505,646	$ 540,009	$ 331,834	$ 174,000	$ 696,000	$ 743,300
Unit Cost		$ 15,624	$ 81,919	$ 71.72	$ 48.20	$ 0.08	$ 0.38	$ 0.56
Administration								
Total	$ 790,700	$ 109,441	$ 90,139	$ 95,684	$ 110,155	$ 102,291	$ 150,201	$ 132,789
Unit Cost		$ 13,527	$ 14,603	$ 12.71	$ 16.00	$ 0.05	$ 0.08	$ 0.10
Operation & Maintenance								
Total	$ 1,282,900	$ 240,600	$ -	$ -	$ -	$ 239,900	$ 528,800	$ 79,600
Unit Cost		$ 29,738	$ -	$ -	$ -	$ 0.11	$ 0.29	$ 0.06
Fixed Assets								
Total	$ 16,500	$ 6,600	$ 4,950	$ 4,950	$ -	$ -	$ -	$ -
Unit Cost		$ 816	$ 802	$ 0.66	$ -	$ -	$ -	$ -
Transfers & Reserve Contrib.								
Total	$ 380,000	$ 64,000	$ 48,000	$ 48,000	$ -	$ 220,000	$ -	$ -
Unit Cost		$ 7,910	$ 7,776	$ 6.37	$ -	$ 0.10	$ -	$ -
Non-Rate Revenues								
Total	$ (385,100)	$ -	$ -	$ -	$ (91,100)	$ -	$ (294,000)	$ -
Unit Cost		$ -	$ -	$ -	$ (13.23)	$ -	$ (0.16)	$ -
Totals and Unit Costs of Service	**$ 5,202,200**	**$ 67,615** $/mgd	**$ 105,100** $/mgd	**$ 91.46** $/Eq. Mtrs.	**$ 50.97** $/Acct.	**$ 0.34** $/CCF	**$ 0.59** $/CCF	**$ 0.72** $/CCF

Notes:

(1) Costs in this exhibit are carried forward from Exhibit III-5, but exlude costs from the Special Charge Cost column in that exhibit, as those costs are handled separately in special charges.

(2) Units of service are derived from information in Exhibit III-2.

Exhibit III-7
Amador Water Agency
Cost Distribution to Customer Classes

	Capacity Costs				Commodity Costs			
	Supply/ Trans.	Water Treatment	Water Distribution	Customer Costs	Raw Water	Treated Water	Distrib. Water	Cost of Service
Unit Cost of Service	**$ 67,615 $/mgd**	**$ 105,100 $/mgd**	**$ 91.46 $/Eq. Mtrs.**	**$ 50.97 $/Acct.**	**$ 0.34 $/CCF**	**$ 0.59 $/CCF**	**$ 0.72 $/CCF**	$s %
Water Service Classes								
General Water Service								
Units of Service	3.69	3.69	7,530	6,699	1,058,000	1,058,000	1,058,000	
Alloc. Cost of Service	$ 249,416	$ 387,690	$ 688,643	$ 341,459	$ 355,333	$ 625,998	$ 757,960	$ 3,406,500 68%
Mule Creek State Prison								
Units of Service	0.74	0.74		1	276,000	276,000	276,000	
Alloc. Cost of Service	$ 49,717	$ 77,280	$ -	$ 51	$ 92,696	$ 163,304	$ 197,729	$ 580,776 12%
Untreated Water Service								
Units of Service	1.92			181	365,000			
Alloc. Cost of Service	$ 129,696	$ -	$ -	$ 9,226	$ 122,587	$ -	$ -	$ 261,509 5%
Drytown CWD								
Units of Service	0.07	0.07		1	15,000	15,000		
Alloc. Cost of Service	$ 4,656	$ 7,237	$ -	$ 51	$ 5,038	$ 8,875	$ -	$ 25,857 1%
City of Plymouth								
Units of Service	0.28	0.28		1	68,000	68,000		
Alloc. Cost of Service	$ 18,789	$ 29,206	$ -	$ 51	$ 22,838	$ 40,234	$ -	$ 111,119 2%
City of Jackson								
Units of Service	1.40	1.40		1	410,000	410,000		
Alloc. Cost of Service	$ 94,778	$ 147,322	$ -	$ 51	$ 137,700	$ 242,589	$ -	$ 622,440 12%
Total Costs	**$ 547,053**	**$ 648,735**	**$ 688,643**	**$ 350,888**	**$ 736,191**	**$ 1,081,001**	**$ 955,689**	**$ 5,008,200 100%**

CAWP-Wholesale Water System

The Agency provides wholesale water service to three retail agencies through CAWP-Wholesale water facilities. The Agency's CAWP-Retail water service area is also served by CAWP-Wholesale water facilities. CAWP-Wholesale water facilities include diversion facilities on the Mokelumne River, the Tiger Creek and Silver Lake Pines pump stations, a high-pressure transmission pipeline, the Buckhorn WTP, and treated water distribution mains that feed treated water storage tanks.

CAWP water service contracts include specific provisions for charges related to:

- Variable operation and maintenance costs, including an allowance for a variable O&M reserve
- Fixed operation, maintenance, and replacement costs, including allowances for a fixed O&M reserve and a capital replacement reserve
- Reimbursable capital replacement costs, including debt service costs

Specific details on the determination of charges under the CAWP-Wholesale water service contracts are beyond the scope of the system-wide water rate study. However, estimates of the charges for FY 12-13, related to operation and maintenance costs and debt service costs, are summarized **Exhibit III-8** as the revenues derived from these charges effectively reduce the operation and maintenance costs and the debt service costs that would otherwise be recovered through system-wide water rates.

Costs allocated to CAWP-Wholesale from the overall water rate revenue requirement presented in Exhibit III-5 are summarized below.

Salaries and Benefit Costs	$479,800
Administrative Costs	$121,000
Operation and Maintenance Costs	$536,900
Fixed Asset Costs	$3,100
Debt Service	$1,289,200
Total	$1,931,400

The amount for debt service shown above includes the following elements:

- $378,000 for existing obligations related to the 1985 WDF loan, and two USDA loans related to construction of the Buckhorn WTP
- $161,200 associated with repayment of the interim WDF loan from the County
- $750,000 estimated for the financing of upgrades to the Tiger Creek and Silver Lake Pines pump stations and replacement of the high-pressure transmission pipeline that convey water to the Buckhorn WTP.

Exhibit III-8
Amador Water Agency
FY 12-13 Estimated CAWP Wholesale Rates and Charges
PUMP STATION UPGRADES AND PIPELINE REPLACEMENT FUNDED THROUGH WATER RATES

	Estimated Totals for FY 12-13	CAWP Retail	Pine Grove CSD	Mace Meadows MWC	Rabb Park CSD
Allocation Factors					
Annual Water Usage (1,000 gal.) (1)	279,800	207,700	41,400	26,800	3,900
No. of Parcels (2)	4,015	3,014	366	497	138
FY 12-13 Revenue Requirement					
Fixed O&M Costs (3)	$ 657,300	$ 487,900	$ 97,300	$ 63,000	$ 9,200
Fixed O&M Reserve (4)	$ -	$ -	$ -	$ -	$ -
Capital Replacement Reserves (4)	$ -	$ -	$ -	$ -	$ -
Variable O&M Costs (5)	$ 483,500	$ 358,900	$ 71,500	$ 46,300	$ 6,700
Variable O&M Reserve (4)	$ -	$ -	$ -	$ -	$ -
Capital Costs (Debt Service) (6)	$ 1,289,200	$ 967,800	$ 117,500	$ 159,600	$ 44,300
Capital Costs (PayGo Reimb) (4)	$ -	$ -	$ -	$ -	$ -
Total Rev. Requirement	**$ 2,430,000**	**$ 1,814,600**	**$ 286,300**	**$ 268,900**	**$ 60,200**
Estimated FY 12-13 CAWP Wholesale Rates and Charges					
Monthly Fixed O&M Charge		**$ 40,658**	**$ 8,108**	**$ 5,250**	**$ 767**
Annual Capital (Debt Service) Charge		**$ 967,800**	**$ 117,500**	**$ 159,600**	**$ 44,300**
Charge per Parcel	$ 321.10				
Variable O&M Water Rate (7)	**$ 1.73**	**per 1,000 gallons**			
Tiger Creek Pumping Costs (8)	$ 1.10	per 1,000 gallons			
Other Variable O&M Costs	$ 0.63	per 1,000 gallons			

Notes:
(1) FY 10-11 annual water deliveries. Used to allocate fixed and variable O&M costs.
(2) No. of parcels as used in FY 11-12 CAWP wholesale rate analysis. Used to allocate capital costs.
(3) Includes all CAWP Wholesale O&M costs less those costs included in variable O&M component. Component costs are recovered through monthly charges to each entity.
(4) Permitted item, but not included in this analysis as these items have no bearing on system-wide rates analysis.
(5) Includes variable pumping and treatment costs. Component costs are recovered through a wholesale water usage rate that is applied to actual water deliveries.
(6) Includes debt service on approved loans, including annual funding of required debt service reserves, totalling $378,000. Also includes estimated $911,200 associated with repayment of the Interim WDF loan and estimated debt service related to pump station upgrades and transmission pipeline replacement. Those costs would be avoided if the proposed CAWP CFD is approved by voters.
(7) Water usage rate applied to actual water deliveries to recover variable O&M costs.
(8) Includes power and pump-related costs for the Tiger Creek and Silver Lake Pines pump stations.

The later two elements listed above would be removed if voters approve the CAWP CFD thereby clearing the way for construction of the GSL.

A portion of the rates and charges paid by the three retail agencies served by CAWP-Wholesale water facilities reduce the revenue requirement from system-wide water rates. Revenues from variable O&M charges and fixed O, M, & R charges are applied against appropriate operating and maintenance costs and revenues from the capital (debt service) charges are applied to CAWP-Wholesale debt obligations. The balance of CAWP-Wholesale debt obligations is covered through debt service charges applicable to CAWP-Retail customers. These returning revenues are summarized below.

Operation and Maintenance Revenue	$294,000
Debt Service Revenue	$321,400
Total	$615,400

They also appear in Exhibit III-5 as revenues that offset the system-wide water rate revenue requirement. CAWP-Wholesale rates and charges may also include amounts for establishing and maintaining CAWP-Wholesale operating and capital replacement reserves, as allowed by water service contracts. Any amounts collected for those purposes would not offset the Agency's system-wide water rate revenue needs.

The operating and maintenance costs for the CAWP-Wholesale water system include pumping and pump-related costs associated with the Tiger Creek and Silver Lake Pines pump stations. As indicated in Exhibit III-8, about $1.10/tg of the $1.73/tg water usage rate is related to pumping requirements. If voters approve the CAWP CFD, one the GSL becomes operational the water usage rate could be reduced from $1.73/tg to $0.63/tg, for a reduction of approximately 64 percent. For the three retail agencies, this would provide estimated annual savings of about $79,000.

IV. Water Rate Design

This section of the report describes and presents the calculation of system-wide water rates for the Amador Water Agency. The water rates are based on the FY 12-13 water rate revenue requirement presented in Section II of this report, and the cost of service analysis presented in Section III of this report. The proposed water rate schedules provide an equitable distribution of water system costs to all users within the areas served by the Agency.

Current Water Rates

Current water rate schedules for each of the Agency's water service areas were adopted at different times based on different sets of assumptions and following different rate setting objectives and rate methodologies. Because the rate structures for each service area differ it is difficult to assess the relative equity in rates across service areas. The differences in methodology and the perceived disparity in the rates are two of the reasons that guided the Agency to develop a system-wide water rate approach.

Current water rates within the four water service areas addressed by this study are summarized in **Exhibit IV-1**. Current water rates and charges within each of the water service areas were adopted on the following dates: (1) Amador Water System – October 2010, (2) CAWP-Retail – July 2006, (3) Lake Camanche – July 2006, and (4) La Mel Heights – July 2007.

Some of the differences among the existing rate structures include:

- Billing is provided monthly for the AWS and bi-monthly for CAWP-Retail, Lake Camanche, and La Mel Heights (the Agency is planning to move to monthly billing for all water service area).
- Residential customers are subject to tiered residential usage rates in CAWP-Retail, Lake Camanche, and La Mel Heights, and uniform residential usage rates in AWS. The three tier structures vary across water service areas.
- A few (about 20) customers in AWS remain unmetered and pay flat water rates based on lot size. An additional 100 customers have water meters but remain on flat rates. All accounts within the three other water service areas are metered.
- Service charges and usage rates vary across all water service area.

Exhibit IV-1
Amador Water Agency
Current Water Rates by Service Area

Amador Water System		
Water Usage Rates ($/CCF)		
Treated Water Retail Customers	$	1.89
Mule Creek State Prison	$	1.58
Treated Water Resale Customers	$	1.18
Untreated Water Customers	$	0.52
Service Charges ($/month)		
General Service		
5/8" meter	$	25.13
3/4" meter	$	33.21
1" meter	$	49.38
1 1/2" meter	$	80.78
2" meter	$	138.28
3" meter	$	267.58
4" meter	$	413.06
6" meter	$	817.14
Mule Creek State Prison	$	15,969.00
Drytown CWD	$	1,230.00
City of Plymouth	$	7,127.00
City of Jackson	$	21,813.00
Untreated Irrigation		
5/8" meter	$	19.56
3/4" meter	$	24.85
1" meter	$	35.44
1 1/2" meter	$	61.91
2" meter	$	93.68
3" meter	$	178.39
4" meter	$	273.68
6" meter	$	538.40
Untreated Industrial/Public Agency		
2" meter	$	688.00
3" meter	$	1,367.00
4" meter	$	2,130.00
6" meter	$	4,252.00
Flat Water Rates ($/month)		
Treated Water		
Up to 7,000 sq. ft. lot	$	76.71
7,001 to 16,000 sq. ft. lot	$	89.95
Over 16,000 sq. ft. lot	$	202.58
Additional dwelling	$	44.04
Untreated Water		
Up to 7,000 sq. ft. lot	$	36.84
7,001 to 16,000 sq. ft. lot	$	40.48
Over 16,000 sq. ft. lot	$	61.49
Additional dwelling	$	24.77

CAWP-Retail		
Water Usage Rates ($/CCF		
Residential		
Tier 1 (0-20 CCF/2-mos)	$	2.08
Tier 2 (>20 CCF/2mos)	$	3.12
Non-Residential	$	2.49
Bi-Monthly Service Charges ($/2-mos)		
5/8" or 3/4" meter	$	67.50
1" meter	$	147.00
1 1/2" meter	$	279.55
2" meter	$	438.55
3" meter	$	862.65
4" meter	$	1,339.75
6" meter	$	2,665.05

Lake Camanche		
Water Usage Rates ($/CCF		
Tier 1 (0-50 CCF/2-mos)	$	1.16
Tier 2 (>50 CCF/2mos)	$	1.94
Bi-Monthly Service Charges ($/2-mos)		
5/8" meter	$	47.50
3/4" meter	$	62.60
1" meter	$	94.00
1 1/2" meter	$	171.90
2" meter	$	264.70
3" meter	$	513.60
4" meter	$	790.90
6" meter	$	1,565.90

La Mel Heights		
Water Usage Rates ($/CCF		
Tier 1 (0-100 CCF/2-mos)	$	1.65
Tier 2 (>100 CCF/2mos)	$	2.45
Bi-Monthly Service Charges ($/2-mos)		
5/8" meter	$	80.00
1" meter	$	110.00

- The proportion of revenue from fixed service charges and variable usage charges varies for each water service area. In AWS about 56 percent of revenue is derived from usage charges and 44 percent from service charges. For the three other water service areas the revenue mix is about 34 percent of revenue from usage charges, and 66 percent from service charges.

In developing system-wide water rates, a single uniform rate structure is developed that, with limited exceptions (e.g. treated water vs. untreated water service) applies to all customers. Whenever there is any change in a rate structure, customers will be affected differently. Some customers may benefit from the changes, while others may pay more under a new structure. In all cases, however, the proposed system-wide water rates, developed following a consistently applied cost of service analysis, will be more equitable than current multiple rate structures. The system-wide water rates developed in this section reflect a reasonable and consistent apportionment of costs among customers and customer classes, consistent with rate setting practices. It is also consistent with recommendations made by the Amador County Grand Jury.

Rate Setting Objectives

The development of water rate recommendations has been guided by several rate-setting objectives. These objectives were reviewed with Agency staff and include:

- Rates should generate sufficient revenues to meet the financial obligations related to operations, debt service, water system rehabilitation and replacement needs, and maintenance of prudent reserves as determined through the calculation of the water rate revenue requirement
- Rates should reflect an equitable apportionment of the costs of providing service to each customer and customer class
- Rates should encourage water conservation and efficient water use

Water Rate Calculations

The cost of service analysis presented in Section III resulted in a distribution of the water rate revenue requirement to each customer class based on customer, water usage, and demand characteristics. The next step in the rate setting process is to calculate water rates for each class.

Proposed water rates include fixed monthly service charges and water usage charges for each customer class. These are uniform across all water service areas. In addition, a pumping surcharge is recommended for customers within the CAWP-Retail service area

to reflect the extraordinary costs of pumping water to the Buckhorn WTP. This pumping surcharge can and should be eliminated once the GSL is fully operational. Separately, monthly debt service charges are included for customers within each water service area to reflect debt service costs, which will remain as obligations of each service area.

Monthly Water Service Charges and Water Usage Rates

Exhibit III-7 presented the results of the cost of service distribution of costs to customer classes. Water rates for each customer class are derived from these distributed costs. Costs associated with each customer class are divided into three rate components. These include:

- A fixed customer cost to be incorporated into the monthly service charge
- A fixed capacity cost to also be incorporated into the monthly service charge
- A water commodity cost to be incorporated into the water usage rates

In designing the water rates additional consideration is given to the relative mix of revenue to be generated from monthly service charges versus water usage charges. As described previously, current AWS water rates derive a majority of revenue through usage charges, whereas about two-thirds of the rate revenue is derived from service charges within the other water service areas.

The best management practice for water conservation, promulgated by the California Urban Water Conservation Council (CUWCC), suggests that at least 70 percent of rate revenue should be derived from usage charges. By placing a large percentage of costs in usage charges customers are given greater financial incentive to reduce water demand. It also gives customers greater ability to control the amount of their water bills. The drawback of emphasizing water usage charge revenue over fixed service charge revenue is that a majority of water system costs are fixed. By emphasizing usage charges fluctuations in water demand can lead to swings in water sales revenue that are not matched by changes in cost. This revenue volatility issue can lead to additional financial risk when water demand falls, for whatever reason.

To balance differing objectives, the proposed water rates are designed such that about 50 percent of water rate revenue will be derived from fixed service charges (including debt service charges, described later) and about 50 percent from water usage charges (including the CAWP-Retail pumping surcharge, described later). This seems an

appropriate balance among objectives and is between the current revenue mix for AWS and the other water service areas.

To achieve this overall approximate 50/50 balance, costs assigned to the capacity component and the commodity components are shifted a bit. This is done within each service class, so it does not result in any shifts in cost responsibility between service classes. **Exhibit IV-2** summarizes the results of this distribution of costs to each of the three rate components.

Fixed monthly service charges for Mule Creek State Prison, Drytown CWD, the City of Plymouth, and the City of Jackson are each derived simply by adding the monthly customer cost to the monthly capacity cost to arrive at the total monthly service charge. This is possible because each of these customers is it's own customer class.

For general treated water service customers and untreated water service customers, monthly service charges are determined by scaling the capacity cost across meter sizes, based on hydraulic capacity, and assigning each customer the customer cost. **Exhibit IV-3** summarizes the calculation of monthly service charges across meter sizes. Monthly service charges for industrial/public agency customers are higher than those for irrigation customers because of the differences in demand characteristics (high volume, less peaking).

Water usage rates are derived simply by dividing the commodity costs by the annual water use within each service class. The result of this calculation is shown at the bottom of Exhibit IV-2, and is summarized as follows.

Treated water service	$2.19/CCF
Mule Creek State Prison	$1.61/CCF
Drytown, Plymouth, Jackson	$1.21/CCF
Untreated water service	$0.61/CCF

Exhibit IV-2
Amador Water Agency
System-Wide Water Rate Calculations

	General Water Service	Mule Creek State Prison	Untreated Water Service	Drytown CWD	City of Plymouth	City of Jackson	Totals
Allocated Costs (1) -->	**$ 3,406,500**	**$ 580,776**	**$ 261,509**	**$ 25,857**	**$ 111,119**	**$ 622,440**	**$ 5,008,200**
Rate Component Calculations							
Customer Costs	$ 341,459	$ 50.97	$ 9,226	$ 50.97	$ 50.97	$ 50.97	$ 350,888
No. of Accts.	6,699	1	181	1	1	1	
Monthly Customer Cost -->	**$ 4.25**	**$ 4.25**	**$ 4.25**	**$ 4.25**	**$ 4.25**	**$ 4.25**	
Capacity Costs	$ 750,544	$ 137,111	$ 30,703	$ 7,664	$ 28,827	$ 126,524	$ 1,081,373
No. of Eq. Mtrs.	7,530		825				
Monthly Capacity Cost (5/8" Mtr.) -->	**$ 8.31**	**$ 11,426**	**$ 3.10**	**$ 639**	**$ 2,402**	**$ 10,544**	
Commodity Costs	$ 2,314,498	$ 443,613	$ 221,580	$ 18,141	$ 82,241	$ 495,866	$ 3,575,939
Ann. Water Use (CCF)	1,058,000	276,000	365,000	15,000	68,000	410,000	
Water Commodity Cost ($/CCF) -->	**$ 2.19**	**$ 1.61**	**$ 0.61**	**$ 1.21**	**$ 1.21**	**$ 1.21**	

Notes:
(1) From Exhibit III-7.

Exhibit IV-3
Amador Water Agency
Monthly Service Charge Calculations

Customer Class	Meter Size 5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"
Treated Water Service								
Customer Cost	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25
Capacity Cost	$ 8.31	$ 12.46	$ 20.77	$ 41.53	$ 66.45	$ 132.91	$ 207.67	$ 415.34
Total Service Charge	**$ 12.55**	**$ 16.71**	**$ 25.01**	**$ 45.78**	**$ 70.70**	**$ 137.15**	**$ 211.92**	**$ 419.58**
Untreated Irrigation								
Customer Cost	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25
Capacity Cost	$ 3.10	$ 4.65	$ 7.75	$ 15.51	$ 24.81	$ 49.62	$ 77.53	$ 155.07
Total Service Charge	**$ 7.35**	**$ 8.90**	**$ 12.00**	**$ 19.75**	**$ 29.06**	**$ 53.87**	**$ 81.78**	**$ 159.31**
Untreated Industrial/Public Agency								
Customer Cost					$ 4.25	$ 4.25	$ 4.25	$ 4.25
Capacity Cost					$ 99.24	$ 198.48	$ 310.13	$ 620.26
Total Service Charge					**$ 103.49**	**$ 202.73**	**$ 314.38**	**$ 624.51**

The CAWP-Retail, Lake Camanche, and La Mel Heights water service areas all have tiered water rate structures for single family residential customers. The Agency also has considered a tiered structure for residential customers of the AWS. Therefore, a tiered water rate structure is proposed for single family residential customers under the system-wide water rates. The treated water rate listed above would apply to multi-family and commercial accounts.

To maintain equity and balance between the uniform water usage rate and the tiered structure, the tiers are designed such that the weighted average cost of the volume of water sold across all tiers is equal to the uniform water usage rate. This is achieved by analysis of the monthly water use of all single family customers.

It is recommended that the tiered water rate structure include 10 CCF per month in the first tier, and the next 30 CCF (up to 40 CCF) in the second tier, and all water use above 40 CCF per month in the third tier. The first tier equates to about 250 gallons per day, which is generally considered adequate for indoor domestic purposes. The second tier is intended to reflect a reasonable range of water use to meet irrigation demands (up to nearly 1,000 gallons per day). Slightly less than 10 percent of all single family water use would fall within the third tier. More than one-half of all single family water use would fall within the first tier.

To provide incentives for water conservation, it is recommended that tier steps each increase the rate relative to the previous tier by 25 percent. These tier steps are moderate in comparison with those often found in water utilities (tier steps commonly range from 10 to 100 percent), and are intended to provide a conservation incentive without being perceived as punitive.

The resulting single family tier structure is shown below. The weighted average rate across the three tiers is $2.19, which is the same as the proposed uniform rate applicable for multi-family and commercial customers.

	Use Range	% of Use	Rate ($/CCF)
Tier 1	0-10 CCF	56.6%	$1.92
Tier 2	11-40 CCF	33.6%	$2.40
Tier 3	> 40 CCF	9.8%	$3.00

Complete schedules of the proposed monthly service charges and water usage rates are presented in **Exhibit IV-6**, near the end of this section. The exhibit also includes the proposed CAWP-Retail pumping surcharge and the monthly debt service charges applicable to each water service area. The derivations of those charges are described in the next sub-sections.

Monthly Flat Rates

About 120 treated and untreated water customers within the AWS continue to pay flat rates based on lot size. The rate schedule presented in Exhibit IV-6 includes monthly flat rates for these customers. The flat rates are based on water usage data from metered customers that remain on flat rates. With only about 20 service connections remaining to be metered, the Agency should soon be able to eliminate flat rates from the rate structure.

CAWP-Retail Pumping Surcharge

A pumping surcharge is recommended for customers within the CAWP-Retail water service area to reflect the extraordinary costs associated with pumping water from the Mokelumne River to the Buckhorn WTP using the Tiger Creek and Silver Lake Pines pump stations. These costs are sufficiently unique and significant that they warrant separate consideration, rather than being comingled with other costs and included in system-wide water rates.

Pumping and pump-related costs include pumping energy, standby power charges, power foregone, and pump station maintenance. It is recommended that the pumping surcharge be based on the cost differences between the current pumping requirements using the Tiger Creek and Silver Lake Pines pump stations and the related cost savings that would occur if water is transported to the Buckhorn WTP by gravity flow, through the GSL.

While the costs of pumping water to the Buckhorn WTP are part of the CAWP-Wholesale water operation, the proposed pumping surcharge is recommended only for the CAWP-Retail rate structure. These pumping costs are incorporated into the CAWP-Wholesale water rates and charges. The costs need to be separated out in the system-wide water rates so that all customers are not impacted by these unique CAWP costs.

Exhibit IV-4 summarizes the calculation of the CAWP-Retail pumping surcharge. All water usage within the CAWP-Retail water service area should be subject to this surcharge. The surcharge should be rescinded and eliminated when the GSL project becomes fully operational. Based on CAWP-Retail annual water sales of 244,000 CCF, the pumping surcharge will generate about $194,000 annually. This amount has been excluded from the general monthly service charge and water usage rate calculations previously described.

Monthly Debt Service Charges

There are long-term debt obligations, as summarized in Section II. The repayment of these obligations will remain within each water service area and will not be melded into the common system-wide rate structure. To accomplish this, separate monthly debt service charges are proposed for each water service area. The debt service charges reflect costs associated with external debt, as well as from internal loans made between various water and wastewater service areas. The debt service charges are calculated in much the same manner as monthly service charges, with the charges varying by meter size (hydraulic capacity).

Exhibit IV-4
Amador Water Agency
CAWP-Retail Pumping Surcharge Calculation

	Without GSL	With GSL	Cost Savings
Annual Pump-Related Costs (1)			
Pumping Energy	$ 271,000		$ 271,000
Standby Power		$ 20,600	$ (20,600)
Power Foregone	$ 36,900	$ 87,100	$ (50,200)
SLP & TC Pump Station Maint	$ 77,300	$ 16,200	$ 61,100
Total Pump-Related Costs	**$ 385,200**	**$ 123,900**	**$ 261,300**
Annual CAWP-Wholesale Water Production (1,000s gal.) (2)			279,800
Cost Savings per 1,000 gal.			$ 0.93
Unaccounted-For Water System Lose Rate (3)			-12%
Pumping Surcharge per 1,000 gal.			$ 1.06
Pumping Surcharge per CCF			**$ 0.79**

Notes:
(1) From Agency's cost analysis of the GSL project.
(2) CAWP-Wholesale water deliveries to CAWP-Retail and three retail agencies.
(3) Based on the difference between CAWP-Wholesale deliveries into the CAWP-Retail water system and metered water sales in the CAWP-Retail water system.

Exhibit IV-5 presents the calculation of monthly debt service charges for each water service area. Specific considerations in the calculation of the monthly debt service charges include:

- The amount of the debt service charge associated with each debt obligation is shown, as well as the year in which each particular obligation is paid off. At that time, the debt service charge would be reduced by the amount corresponding to the retired debt.
- Funds from the repayment of internal loans are to replenish the reserve capital funds from which the loans were made.
- The CAWP-Retail debt service charge includes the retail portion of CAWP-Wholesale debt obligations, as well as an estimate of prior unreimbursed capital replacement costs and required loan reserves that are assumed to be repaid over a three-year period.
- The CAWP-Retail debt service charge calculation includes: (1) repayment of the Interim WDF loan, and (2) the estimated debt service costs related to upgrade of the Tiger Creek and Silver Lake Pines pump stations and replacement of the high-pressure pipeline, which convey water to the Buckhorn WTP. If voters approve the CAWP CFD, then these two components of the CAWP-Retail debt service charge would be rescinded.

Exhibit IV-5
Amador Water Agency
Debt Service Charge Calculations for Each Water Service Area

	Amador Water System						Lake Camanche			La Mel Heights		
	2006 ATP COPs (1)	2009 USDA Loan #1 (2)	2009 USDA Loan #2 (2)	Treated & Untreated	Resale/Special		2010 AWS Loan	2012 AWS Loan	Total	2006 USDA Loan	2010 AWS Loan	Total
Annual Debt Service Payments	$ 1,018,625	$ 63,588	$ 38,351				$ 34,827	$ 8,823		$ 10,912	$ 8,930	
No. of Equiv. Meters	7,305	6,905	6,905				738	738		53	53	
Monthly Debt Service Charges												
5/8" meter	$ 11.62	$ 0.77	$ 0.46	**$ 12.85**	**$ 10,281**	MCSP	$ 3.93	$ 1.00	**$ 4.93**	$ 17.16	$ 14.04	**$ 31.20**
3/4" meter	$ 17.43	$ 1.15	$ 0.69	**$ 19.28**	**$ 1,028**	Drytown	$ 5.90	$ 1.49	**$ 7.39**	$ 25.74	$ 21.06	**$ 46.80**
1" meter	$ 29.05	$ 1.92	$ 1.16	**$ 32.13**	**$ 4,648**	Plymouth	$ 9.83	$ 2.49	**$ 12.32**	$ 42.89	$ 35.10	**$ 78.00**
1 1/2" meter	$ 58.10	$ 3.84	$ 2.31	**$ 64.26**	**$ 16,707**	Jackson	$ 19.66	$ 4.98	**$ 24.64**	$ 85.79	$ 70.20	**$ 155.99**
2" meter	$ 92.97	$ 6.14	$ 3.70	**$ 102.81**	**$ 411**	2" Untrt. Ind.	$ 31.46	$ 7.97	**$ 39.43**	$ 137.26	$ 112.33	**$ 249.58**
3" meter	$ 185.94	$ 12.28	$ 7.41	**$ 205.62**	**$ 822**	3" Untrt. Ind.						
4" meter	$ 290.52	$ 19.19	$ 11.57	**$ 321.28**	**$ 1,285**	4" Untrt. Ind.						
6" meter	$ 581.05	$ 38.37	$ 23.14	**$ 642.57**	**$ 2,570**	6" Untrt. Ind.						
Continues through:	FY 35-36	FY 48-49	FY 48-49				FY 39-40	FY 31-32		FY 45-46	FY 39-40	

	CAWP-Retail										
	1985 WDF Loan (3)	2004 USDA Loan #1 (3)	2004 USDA Loan #2 (3)	Interim WDF Loan (3) (4)	CAWP-W Pump./Trans. Replac. Project (3) (4)	1994 AWS Loan	2010 AWS Loan	2012 AWS Loan	CAWP-W Back Billing (5)	Total if CAWP CFD Is Not Approved	Total if CAWP CFD Is Approved
Annual Debt Service Payments	$ 30,209	$ 215,904	$ 37,654	$ 121,010	$ 563,014	$ 9,270	$ 38,184	$ 3,814	$ 87,100		
No. of Equiv. Meters	2,839	2,839	2,839	2,839	2,839	2,839	2,839	2,839	2,839		
Monthly Debt Service Charges											
5/8" meter	$ 0.89	$ 6.34	$ 1.11	$ 3.55	$ 16.53	$ 0.27	$ 1.12	$ 0.11	$ 2.56	**$ 32.47**	**$ 12.39**
3/4" meter	$ 1.33	$ 9.51	$ 1.66	$ 5.33	$ 24.79	$ 0.41	$ 1.68	$ 0.17	$ 3.83	**$ 48.70**	**$ 18.59**
1" meter	$ 2.22	$ 15.84	$ 2.76	$ 8.88	$ 41.32	$ 0.68	$ 2.80	$ 0.28	$ 6.39	**$ 81.17**	**$ 30.98**
1 1/2" meter	$ 4.43	$ 31.69	$ 5.53	$ 17.76	$ 82.63	$ 1.36	$ 5.60	$ 0.56	$ 12.78	**$ 162.35**	**$ 61.95**
2" meter	$ 7.09	$ 50.70	$ 8.84	$ 28.42	$ 132.21	$ 2.18	$ 8.97	$ 0.90	$ 20.45	**$ 259.75**	**$ 99.13**
3" meter	$ 14.19	$ 101.40	$ 17.68	$ 56.83	$ 264.42	$ 4.35	$ 17.93	$ 1.79	$ 40.91	**$ 519.51**	**$ 198.26**
4" meter	$ 22.17	$ 158.44	$ 27.63	$ 88.80	$ 413.15	$ 6.80	$ 28.02	$ 2.80	$ 63.92	**$ 811.73**	**$ 309.77**
6" meter	$ 44.34	$ 316.87	$ 55.26	$ 177.60	$ 826.31	$ 13.61	$ 56.04	$ 5.60	$ 127.83	**$ 1,623.46**	**$ 619.55**
Continues through:	FY 15-16	FY 43-44	FY 44-45	FY 52-53	FY 52-53	FY 13-14	FY 39-40	FY 31-32	FY 14-15		

Notes:

(1) Principal and interest payments for 2006 Amador Transmission Pipeline COPs has been reduced by $514,000 representing estimates from the proposed AWS CFD, application of participation fee revenues to debt service, and PG&E contract payments.

(2) Principal, interest, and reserve contribution payments for 2009 Plymouth Pipeline USDA loans have been reduced by 65 percent to reflect the City of Plymouth's portion of these loan payments. For this reason, only debt service related to the 2006 COPs is included in the City of Plymouth's debt service charge.

(3) Represents CAWP-Retail share of CAWP-Wholesale debt service obligations.

(4) Debt service charge componets related to the Interim WDF loan and pump station upgrade/pipeline replacement project would be rescinded if the GSL CFD is approved by voters.

(5) Represents CAWP-Retail share of CAWP-Wholesale debt service reserve and capital costs to be reimbursed over three years. This includes the amounts previously collected and spent on operations, as well as the portion previously unbilled. Also includes the CAWP-Retail share of estimated unreimbursed pay-as-you-go capital costs from FY 06-07 through FY 10-11.

- Annual debt service costs for the 2006 COPs related to the Amador transmission pipeline reflect revenue offsets totaling $514,000 per year from PG&E contract payments, estimated AWS participation fee revenue available for debt service, and estimated funds from the AWS CFD.
- Annual debt service costs for the 2009 USDA loans related to the Plymouth Pipeline are reduced by 65 percent (about $189,300) based on payments made directly by the City of Plymouth for these costs.
- Net debt service costs of the 2009 USDA loans related to the Plymouth pipeline are included in the debt service charge for AWS customers, except the City of Plymouth.

Funds received from the payment of monthly debt service charges should be accounted for by water service area and expended only for the repayment of debt obligations related to that service area.

Proposed FY 12-13 Water Rate Schedule

A complete schedule of proposed system-wide water rates for the Amador Water Agency, combining information from Exhibits IV-2 through IV-5, is presented in **Exhibit IV-6**. The proposed rates simplify and bring uniformity to the Agency's water rate structures, and are intended to meet the revenue needs of the Agency as identified herein by equitably proportioning costs out to all customers.

Effects of Proposed Water Rates on Water Bills

Any change to rate structures can cause some customers to pay more and others to pay less, even in a revenue neutral setting. The proposed system-wide water rate structure has been developed based on annual water rate revenue needs, as described in Section II, on a uniform and consistently applied cost of service methodology, as described in Section III, and on rate design concepts intended to achieve stated rate setting objectives, as described in this Section. The proposed water rates reflect the cost of providing service to each customer class and service type, and thereby provide a more equitable and uniform basis for charging all water service customers.

Exhibit IV-6
Amador Water Agency
Proposed System-Wide Water Rate Schedule

Water Usage Rates ($/CCF)

		Treated Water
Single Family Residential		
Tier 1	0-10 CCF/mo.	$ 1.92
Tier 2	11-40 CCF/mo.	$ 2.40
Tier 3	>40 CCF/mo.	$ 3.00
Multi-Family and Commercial		$ 2.19
Mule Creek State Prison		$ 1.61
Drytown, Plymouth, Jackson		$ 1.21

	Untreated Water
Untreated Irrigation	$ 0.61
Untreated Indus. & Publ. Agen.	$ 0.61

	Pump. Surch.
CAWP Retail Customers Only (1)	$ 0.79

Monthly Service Charges

	Untreated Water	Treated Water
5/8" meter	$ 7.35	$ 12.55
3/4" meter	$ 8.90	$ 16.71
1" meter	$ 12.00	$ 25.01
1 1/2" meter	$ 19.75	$ 45.78
2" meter	$ 29.06	$ 70.70
3" meter	$ 53.87	$ 137.15
4" meter	$ 81.78	$ 211.92
6" meter	$ 159.31	$ 419.58
2" Indus./Public meter	$ 103.49	
3" Indus./Public meter	$ 202.73	
4" Indus./Public meter	$ 314.38	
6" Indus./Public meter	$ 624.51	
Mule Creek State Prison		$ 11,430
Drytown CWD		$ 643
City of Plymouth		$ 2,406
City of Jackson		$ 10,548

Monthly Debt Service Charges by Service Area

	CAWP-Retail Service Area				
	Amador Water System Service Area	CAWP CFD Not Approved by Voters (2)	CAWP CFD Approved by Voters (2)	Lake Camanche Service Area	La Mel Heights Service Area
5/8" meter	$ 12.85	$ 32.47	$ 12.39	$ 4.93	$ 31.20
3/4" meter	$ 19.28	$ 48.70	$ 18.59	$ 7.39	$ 46.80
1" meter	$ 32.13	$ 81.17	$ 30.98	$ 12.32	$ 78.00
1 1/2" meter	$ 64.26	$ 162.35	$ 61.95	$ 24.64	$ 155.99
2" meter	$ 102.81	$ 259.75	$ 99.13	$ 39.43	$ 249.58
3" meter	$ 205.62	$ 519.51	$ 198.26		
4" meter	$ 321.28	$ 811.73	$ 309.77		
6" meter	$ 642.57	$ 1,623.46	$ 619.55		
2" Indus./Public meter	$ 411.24				
3" Indus./Public meter	$ 822.48				
4" Indus./Public meter	$ 1,285.13				
6" Indus./Public meter	$ 2,570.26				
Mule Creek State Prison	$ 10,281				
Drytown CWD	$ 1,028				
City of Plymouth	$ 4,648				
City of Jackson	$ 16,707				

AWS Monthly Flat Water Rates (3)

	Up to 7,000 Sq. Ft.	7,001 to 16,000 Sq. Ft.	Over 16,000 Sq. Ft.	Additional Units
Treated Water	$ 69.20	$ 91.10	$ 276.14	$ 42.92
Untreated Water	$ 34.28	$ 46.48	$ 137.26	$ 33.06

Notes:
(1) CAWP Retail pumping surcharge would be eliminated once the GSL pipeline becomes fully operational.
(2) CAWP Retail debt service charges are shown based on whether or not the CAWP CFD is approved by voters. CAWP CFD approval would result in significantly lower debt service charges for CAWP-Retail customers.
(3) Includes a water usage charge, a service charge, and the AWS debt service charge.

The specific impact of the proposed system-wide water rates on individual customers will depend on water service area, customer class, service class, meter size, and water usage. Because a large majority of customers served by the Agency are single family residential customers, **Exhibit IV-7** provides a comparison of single family customers with low, median, and high water use within each service area. The low water usage is typical of winter water use, in the absence of irrigation demands; the median use is the median average monthly water use across all single family customers; and the high water use is representative of peak summertime water usage. Actual water usage varies within and across water service areas, with the CAWP-Retail service area exhibiting somewhat lower residential water demands than the other areas.

The differences in total bill amounts across water service areas are due to: (1) debt service charges, which are unique to each service area, and (2) the pumping surcharge applicable only in the CAWP-Retail service area. If voters approve the CAWP CFD, the pumping surcharge would be rescinded when the GSL becomes operational, and the CAWP debt service charge would be reduced by $20.08 per month for a typical single family customers. The effect of these changes is included in Exhibit IV-7.

Exhibit IV-7 does not reflect the full range of effects the proposed rates will have on various customers and in various customer groups. The effects of the proposed rates for individual customers will vary based on water service area, service type, customer class, meter size, and water usage. The Agency's resale water customers, as well as Mule Creek State Prison, will be affected as follows:

- Mule Creek State Prison's annual water costs are expected to increase about 12 percent. This is largely attributable to high overall water demand, even though seasonal peaking is attenuated relative to other users.
- Drytown CWD's annual water costs are expected to increase about 18 percent. This is largely attributed to the increased seasonal peaking characteristics.
- City of Plymouth's annual water costs are expected to rise about 1 percent. This is largely due to overall water demand that is lower than originally anticipated.
- City of Jackson's annual water costs are expected to increase about 10 percent. This reflects their overall water demand and peaking characteristics. It is also commensurate with the overall increase in costs for AWS customers generally.

Exhibit IV-7
Amador Water Agency
Summary of Typical Single Family Bill Impacts Due to Proposed System-Wide Water Rates

		Amador Water System Service Area	CAWP-Retail Service Area: CAWP CFD Not Approved by Voters (1)	CAWP-Retail Service Area: CAWP CFD Approved by Voters (2)	Lake Camanche Service Area	La Mel Heights Service Area	
	Low Use -->	4	4	4	4	4	CCF
	Current Bill	$ 32.69	$ 42.07	$ 42.07	$ 28.39	$ 46.60	
	Proposed Bill	$ 33.08	$ 55.86	$ 32.62	$ 25.16	$ 51.43	
	Change	$ 0.39	$ 13.79	$ (9.45)	$ (3.23)	$ 4.83	
	% Change	1.2%	32.8%	-22.5%	-11.4%	10.4%	
Monthly Bill Analysis (5/8" mtr.)	**Median Use -->**	**7**	**7**	**7**	**7**	**7**	CCF
	Current Bill	$ 38.36	$ 48.31	$ 48.31	$ 31.87	$ 51.55	
	Proposed Bill	$ 38.84	$ 63.99	$ 38.38	$ 30.92	$ 57.19	
	Change	**$ 0.48**	**$ 15.68**	**$ (9.93)**	**$ (0.95)**	**$ 5.64**	
	% Change	1.3%	32.5%	-20.6%	-3.0%	10.9%	
	High Use -->	25	25	25	25	25	CCF
	Current Bill	$ 72.38	$ 101.35	$ 101.35	$ 52.75	$ 81.25	
	Proposed Bill	$ 80.60	$ 119.97	$ 80.14	$ 72.68	$ 98.95	
	Change	$ 8.22	$ 18.62	$ (21.21)	$ 19.93	$ 17.70	
	% Change	11.4%	18.4%	-20.9%	37.8%	21.8%	

Notes:
(1) Includes pumping surcharge and debt service charge associated with pump station upgrades and pipeline replacement.
(2) Excludes pumping surcharge, and reduces the debt service charge to reflect operation with GSL.

Water Rate Revenues by Service Area

The increase in water rate revenues from each water service area vary, and are a result of applying a uniform and consistent methodology for apportioning costs to all customers, and from taking the system-wide approach to rate setting. **Exhibit IV-8** summarizes the change in rate revenues from each service area. The large increase in the rate revenue from the CAWP-Retail service area is a result of costs associated with upgrading the Tiger Creek and Silver Lake Pines pump stations and replacing the high-pressure transmission pipeline. If voters approve the CAWP CFD, the proposed debt service charge for the CAWP-Retail service area would be reduced and rate revenue from the CAWP-Retail area would be reduced by approximately $684,000 to $1,566,000, resulting in an overall rate revenue reduction of about 10 percent for that area.

Exhibit IV-8
Amador Water Agency
Summary of Current and Estimated System-Wide Water Rate Revenues by Service Area

	Est. Rev. Based on Current Water Rates	Est. Rev. Based on Proposed Water Rates	Change
Summary of Current and Proposed Water Rate Revenues			
Amador Water System	$ 4,412,000	$ 4,856,700	$ 444,700
CAWP-Retail	$ 1,709,000	$ 2,250,100	$ 541,100
Lake Camanche	$ 318,300	$ 342,500	$ 24,200
La Mel Heights	$ 37,700	$ 43,600	$ 5,900
Total	**$ 6,477,000**	**$ 7,492,900**	**$ 1,015,900**

Debt Service Coverage on 2006 COPs

The Agency is required, through debt covenants incorporated into the AWS 2006 COPs, to maintain water rates and revenues within the AWS service area such that gross revenues less operating and maintenance costs equal or exceed 1.20 annual debt service costs. Based on estimated AWS revenues and operating costs, the proposed system-wide water rates appear to provide a debt coverage ratio of 1.21. This is a very slim margin above the minimum requirement, but would satisfy the test.

Future Water Rate Adjustments

The Agency should include three future water rate adjustments with the adoption of the proposed system-wide water rates.

Rate Reductions Associated with GSL Project

The proposed system-wide water rates include costs associated with the repayment of the USDA loan for the GSL project, as well as the CAWP-Retail pumping surcharge related to pumping water to the Buckhorn water treatment plant. In adopting the proposed system-wide water rates the Agency's Board of Directors could also authorize that certain portions of the water rates be rescinded upon certain conditions.

- *Reduction in CAWP-Retail Debt Service Charge* – Immediately upon approval of the proposed CAWP CFD the Agency should reduce the CAWP-Retail debt service charge as shown in Exhibit IV-5, as loan repayment costs would be included in the special tax created with the CFD.

- *Elimination of CAWP-Retail Pumping Surcharge* – As soon as the GSL project becomes fully operational, the Agency should rescind the CAWP-Retail pumping surcharge, as pump-related costs will be significantly reduced.

Significant water bill reductions would be realized when these changes occur. The retail agencies served by CAWP-Wholesale water facilities would also benefit from these events. Changes in CAWP-Wholesale rates would change in accordance with the terms of water service contracts. Neither of the above changes would impact other customers subject to system-wide water rates.

Automatic Water Rate Adjustments for Inflation

In the fall of 2008, the Governor signed Assembly Bill (AB) 3030 into law. AB 3030 authorizes water utilities to adopt procedures for automatically adjusting water rates to counter the effects of inflation. Automatic adjustment procedures may be adopted for up to five years.

Because of the Agency's current financial situation and the potential escalation in costs, it is recommended that the Agency adopt procedures for automatically adjusting monthly water service charges, water usage rates, and the CAWP-Retail pumping surcharge on an annual basis based on changes to the San Francisco consumer price index (SF-CPI). It is recommended that these adjustments be implemented each July (beginning in 2013). Monthly debt service charges would not be included in these automatic adjustments, as those charges are calculated based on established debt service obligations.

Automatic adjustments may not be sufficient to address all the financial needs of the Agency. However, it could serve as a safety measure to help protect against deterioration in the value of rate revenue as costs naturally rise.

Appendix A – FY 11-12 and FY 12-13 Budget Details

Exhibit A-1
Amador Water Agency
Water Rate Revenue Requirement for O&M and Reconciliation with FY 11-12 Budget

		Relevant Portions of Amador Water Agency Budget Totals		Relevant Portions of Agency General Indirect Costs		% Allocated to Water Systems (3)	AWA Water System Totals		
		FY 11-12 (1)	FY 12-13 (2)	FY 11-12 (1)	FY 12-13 (2)		FY 11-12 (1)	FY 12-13 (2)	
OPERATION AND MAINTENANCE COSTS									
Salaries & Benefits									
Salaries									
56111/57001	Salaries	2,425,294	2,473,800			75%		1,849,700	
56113	Overtime	58,474	59,600			75%		44,600	
56114	Standby	50,252	51,300			75%		38,400	
	Adjust. for Capitalized Salaries					Capitalized Salary Costs --> 7%		(147,100)	(4)
	Total Salaries	2,534,020	2,584,700					1,785,600	
Benefits									
56120	Unemployment Insurance	130,000	132,600			75%		99,100	
56122	Allowance-Comp. Absences	213,575	217,800			75%		162,900	
56123	Health-Insurance	646,060	659,000			75%		492,700	
56124	Retirement	457,685	466,800			75%		349,000	
56125	Fica/Medicare	186,048	189,800			75%		141,900	
56126	Workers Comp	80,811	82,400			75%		61,600	
56127	St/Lt Disability	16,439	16,800			75%		12,600	
	Adjust. for Capitalized Benefits					Portion Capitalized --> 7%		(100,400)	(4)
	Total Benefits	1,730,618	1,765,200					1,219,400	
Retiree Health Benefits									
57380	Retiree Health Benefits	450,280	150,000	(5)		75%		112,200	
Administration									
Administrative Expenses									
56270	Grounds Maintenance	34,850					6,150	6,300	
56729	Insurance (Property/Liability)	150,000					129,750	132,300	
56730	Consultants	419,435					210,435	88,700	(6)
56750	Legal Fees	95,000					44,850	45,500	
	Total Direct Admin. Costs	664,435					384,835	266,500	
Director Expenses									
56611	Director Compensation			39,000	39,800	88%		35,200	
56612	Director Travel/Conferno/Meals			5,000	5,100	88%		4,500	
56614	Director Insurance			3,469	3,500	88%		3,100	
56615	Election Expense			-	21,000	88%		18,600	
	Total Director Expenses			47,469	69,400			61,400	
Office Expenses									
56621	Office Supplies			13,000	13,300	90%		12,000	
56622	Publications/Advertising			4,350	4,400	88%		3,900	
56623	Postage			34,000	34,700	88%		30,700	
56624	Printing			13,000	13,300	88%		11,800	
56625	Computer Mntc & Support			199,250	203,200	90%		182,700	
56626	Training/Conferences			20,000	20,400	90%		18,300	
56628	Mileage/Travel/Meals			2,150	2,200	90%		2,000	
56630	Hr Hiring Activities			1,500	1,500	90%		1,300	
56631	Membership Dues			41,000	41,800	90%		37,600	
56634	Merchant/Credit Card Fees			5,000	5,100	90%		4,600	
56636	Miscellaneous Expense			4,000	4,100	90%		3,700	
56637	Manager's Expenses			500	500	90%		400	
56638	Public Relations			15,000	15,300	90%		13,800	
56640	Office Bldg & Grnds Mntc/Util			44,000	44,900	90%		40,400	
56642	Telephone/Ans Svc - Office			60,000	61,200	90%		55,000	
56729	Insurance (Property/Liability)			2,250	2,300	90%		2,100	
56750	Legal Fees			46,350	47,300	90%		42,500	
	Total Office Expenses			505,350	515,500			462,800	
Operations and Maintenance									
Supply/Transmission									
56213	Transmission System	8,600					8,600	8,800	
56214	Canal-Clean/Chems/Tests/O&M	6,000					6,000	6,100	
56221	Storage/Dams/Reservoirs	11,600					10,800	11,000	
56251	Plants/Pumps -- Tiger Creek PS	280,000	(7)			(7)	280,000	285,600	(7)
56253	Sewer Fees/Power Loss	310,000					120,000	122,400	
Water Treatment									
56231	Treatment Plants	174,500					151,500	154,500	
56235	Water Tests	71,400					43,800	44,700	
56251	Plants/Pumps	355,000	(7)			(7)	278,500	284,100	(7)
56266	State Health Dept Fees	75,500					44,600	45,500	
Water Distribution									
56212	Collect/Distrib System	120,875					78,000	79,600	
Other Operating Expenses									
56241	Vehicle Maintenance/Repair			59,000	60,200	90%		54,100	
56242	Gas & Oil			128,000	130,600	90%		117,400	
56243	Auto Shop Maintenance			200	200	90%		200	
56254	Radios			4,500	4,600	90%		4,100	
56261	Tool/Equip Mntc/Replac/Rental			16,000	16,300	90%		14,700	
56262	Safety/Supplies/Mntc			12,750	13,000	90%		11,700	
56263	Uniforms			8,000	8,200	90%		7,400	
56267	Licenses/Certifications			4,600	4,700	90%		4,200	
56268	Mileage/Travel/Food			800	800	90%		700	
56270	Grounds Maintenance			26,000	26,500	90%		23,800	
56275	Misc Expense			2,500	2,600	90%		2,300	
	Total Oper. and Maint. Expen.	1,413,475		262,350	267,700		1,021,800	1,282,900	
Fixed Assets									
57225	Office Equipment			12,000	12,200	90%		11,000	
57226	Shop Equipment			-	-	90%		-	
57227	Tools & Instruments			6,000	6,100	90%		5,500	
	Total Fixed Assets			18,000	18,300			16,500	
	TOTAL ESTIMATED FY 12-13 O&M COSTS FOR SYSTEM-WIDE WATER RATES								**5,207,300**

Notes:

(1) Includes relevant portions of FY 11-12 budget for either the consolidated Agency-wide budget, the Agency General budget (Fund 05), or the combined budgets for all water funds (AWS (04), CAWP-W (06), CAWP-R (14), Camanche (13), and La Mel (09)).

(2) Amounts shown for FY 11-12 has been escalated by 2.0 percent, unless otherwise noted.

(3) See Section III of the report for the allocations factors used to assign a portion of costs to the water systems.

(4) Assumes 7.0 percent of salary and benefit costs are capitalized, and thereby removed from operating and maintenance costs. See Section III for details.

(5) Amount budgeted in FY 11-12 was reduced to $150,000 in FY 12-13 at the direction of staff. This includes about $100,000 in current insurance premiums and about $50,000 to be set aside in a restricted account for future needs. Not all of the future liability is funded.

(6) Non-recurring grant-funded consulting costs have been removed from FY 12-13.

(7) Costs associated with the Tiger Creek and Silver Lake Pines pump stations have been removed from the Plants/Pumps account and segregated a supply/transmission costs to facilitate rate analyses.