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March 5, 2010

Mr. Jim Fiedler
Chief Operating Officer
Water Utility Enterprise
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118

Dear Mr. Fiedler:

Raftelis Financial Consultants, Inc. is pleased to submit the enclosed report titled "Review of the Santa Clara Valley Water District's Cost of Service and Rate Setting Methodology for Setting FY 2011 Groundwater Production Charges". The report documents the methodology used by the Santa Clara Valley Water District (District) to establish groundwater production charges for fiscal year 2011. The report also provides observations and conclusions related to the validation of the District's groundwater production charges, as well as opportunities for improvements regarding future updates.

RFC appreciates the time and effort by numerous District staff members whom provided RFC will relevant data and information in order to complete the engagement. RFC also appreciates the opportunity to assist the District with this important engagement. Should you have any questions about the enclosed report, please contact me at (704) 373 -1199.

Sincerely,

George A. Raftelis

George A. Raftelis
Chief Executive Officer
Raftelis Financial Consultants

Review of The Santa Clara Valley Water District's Cost of Service and Rate Setting Methodology for Setting FY 2011 Groundwater Production Charges

Final Report

March 5, 2010

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Executive Summary

In early 2010, the Santa Clara Valley Water District (District) engaged Raftelis Financial Consulting, Inc[1]. (RFC) to review and if appropriate, validate the cost of service principles used in determining the FY 2011 groundwater production charges, and to offer recommendations for future rate updates, which are discussed in detail in Sections I through V of this report. A summary of RFC's observations related to the validation of the FY 2011 groundwater production charges and the recommendations are provided below.

Observations and Conclusions Related to Validation

- The District has developed groundwater production charges for the Water Utility Enterprise for FY 2011 using cost of service principles and policies which are consistent with legal considerations including Proposition 218, the Santa Clara Valley Water District Act[2] (District Act), and Resolution 99-21[3].

- The District's primary rate setting pricing objectives include:

  1. **Legal considerations** - The rate structure should be consistent with the rate setting methodologies provided by the American Water Works Association and applicable laws, in order to ensure that rates are defensible if challenged in court.
  2. **Cost of service based allocations** - The rate structure should ensure that each customer class is contributing equitably towards revenue requirements based upon the costs of providing service to each customer class.
  3. **Revenue sufficiency** - The rate structure should not only adequately recover the costs associated with providing service, but also ensure that enough revenues are generated to meet bond coverage and reserve requirements.
  4. **Demand management** - The rate structure should assist in managing system demand and regulating the use of treated water, surface water, groundwater and recycled water.
  5. **Environmental stewardship** - The rate structure should incorporate practices or procedures that help preserve or optimize open space which assists in the conservation of water.

[1] Raftelis Financial Consultants, Inc. (RFC) was established in 1993 and has conducted over 600 rate and financial planning studies for water and wastewater utilities across the country. Please go to www.raftelis.com for more information on RFC.
[2] The District Act can be viewed by going to the District's website at the following link: www.valleywater.org
[3] Resolution 99-21 can be viewed by going to the District's website at the following link: www.valleywater.org

- The FY 2011 revenue requirements identified by the District for the Water Utility Enterprise have been developed by District staff and are documented in Project Plans, which detail the justification for inclusion of costs according to the District Act. The comprehensiveness of the Project Plans reflects best practices.

- The District uses best practices to ensure revenue sufficiency by targeting an internal debt service coverage ratio of 2.0.

- The financial soundness of the District is evidenced by the District's favorable bond ratings of Aa2 from Moody's and AA from Standard and Poor's. This practice also allows the District to incur lower borrowing costs, thus reducing the overall revenue requirements.

- The pricing policies established by the District recognize the conjunctive use benefit of the District's system as demonstrated by historical groundwater levels, water usage and groundwater production charges.

- A benchmark comparison with other utilities indicates that the District's pricing policies related to the treated water surcharge, the agriculture rate, and cost pooling are consistent with practices implemented by the benchmark group.

- The groundwater production charges for FY 2011 are proposed to remain unchanged, while a comparison with other utilities indicates several other utilities are increasing their rates for the upcoming year.

Potential Opportunities for Improvement

- Regarding the District's establishment of a fixed dollar amount for the treatment water surcharge, the District should consider a fixed percentage differential in order to ensure that in the future, the District is able to maintain the appropriate pricing and continue to effectively manage all water sources.

- The District should consider engaging a water resource engineer to more precisely calculate the treated water surcharge to ensure it mirrors the conjunctive use benefit of treated water going forward.

- Over the past five years, the District has set the agriculture rate between 6% and 10% of the South Zone groundwater production charge, as allowed by Resolution 99-21. However, the District should consider establishing a formal policy to maintain a

consistent percentage in the future. The District should consider establishing the percentage based on the benefit of serving agriculture customers.

- The District should review all non-user rate revenue sources and determine the optimal sources to apply towards offsetting the AG rate.

- The District should consider re-visiting the calculation of the surface water master surcharge to determine the appropriate surface water master surcharge in each zone.

- The District should consider having the South Zone (Zone W-5) interest and principal re-payments commence during the construction phase of the project, rather than at the completion of the project.

- While the District is leaving groundwater production charges unchanged in FY 2011, the District should establish future groundwater production charges that promote the long-term revenue sufficiency of the Water Utility Enterprise and address the capital improvement plan as identified by District staff and other engineering/environmental professionals.

I. SCVWD Background

In 1929 the State Legislature established the Santa Clara Valley Water Conservation District, which over time has evolved and been named the Santa Clara Valley Water District (District). The District was formed to provide oversight of groundwater use since prior to the establishment of the District, groundwater had been pumped excessively resulting in the ground sinking. The District is currently governed by a seven member Board of Directors that furthers the District's mission and goals through established policies.

A. Water Supply

Approximately half of the District's water supply comes from water imported through the Sacramento-San Joaquin Delta. The other half of the District's water supply comes from local surface water and groundwater. Rainfall and runoff captured in 10 reservoirs and imported water from the State Water Project (SWP) and the federal Central Valley Project (CVP) replenish groundwater basins or supply water to the District's three treatment plants. The District also supplies recycled water which is generated from the South County Regional Wastewater Authority. Santa Clara County water supplies include non-District managed supplies like water purchased from the City and County of San Francisco through the Hetch Hetchy system, recycled water from the City of San Jose's wastewater facility and locally owned supplies. The District is tasked with managing its sources of water supply, such that no one source is depleted. Since imported water is used to produce treated water and to recharge the groundwater basins, the District's customers benefit from the District's efficient management of all water supply sources and the conjunctive use nature of the entire system.

B. Customer Classes and Zones

The District has established two distinct zones of benefit based on the groundwater basins and water sources used within each zone. Zone W-2, or the North Zone, encompasses the Santa Clara Valley groundwater basin north of Metcalf Road. The District's three water treatment plants are located in the North Zone. Local Rainfall is blended with imported SWP and CVP water purchases before being released to replenish the Santa Clara Valley groundwater basin or sent to one of the District's three treatment plants. Several of the District's wholesale customers in the North Zone purchase treated water from the plants and pump water from the groundwater basin in order to serve their retail customers. Over the past five years approximately 80% of the District's water usage occurred in the North Zone, of which only approximately 0.3% was for agriculture use.

Zone W-5, or the South Zone, is comprised of the Llagas and Coyote groundwater basins from Metcalf Road south to the Pajaro River. The South Zone is supplied water mainly through the groundwater basins. Approximately two-thirds of the groundwater usage is artificially recharged each year by the District using CVP water imported via the San Felipe Division or locally captured rain water diverted by the District to various recharge facilities. Over the past five years

approximately 20% of the District's water usage occurred in the South Zone, of which approximately 48% was for agriculture use.

The District first classifies its water customers based on the nature of the District supplied water they receive:

- Treated water customers are located in the North Zone and receive treated water from the District's treatment plants.
- Groundwater customers pump groundwater directly from the groundwater basins.
- Surface water customers receive water from the District's streams or pipelines that have been replenished with local or imported water.
- Recycled water customers receive recycled water that has been obtained from the District through partnerships with neighboring agencies that have wastewater facilities and are able to produce recycled water.

The District further classifies its customers as either municipal and industrial (M&I) or agricultural (AG). M&I use relates to all water other than that used for agricultural purposes and is water pumped by or sold to eleven major wholesale customers comprised of municipalities or private water companies, which resale their water to retail customers, and to approximately 5,000 private well owners who may pump groundwater for either agricultural or M&I purposes.

C. Five Year Summary of Water Use by Customer

Exhibit 1 shows the actual water use in 1,000 acre feet (AF) over the past five fiscal years. It should be noted that the data for FY 2009 is an estimate and does not represent actual information, since actual data for FY 2009 was unavailable as of the date of this report. Of the total water used in both zones over the past five years, approximately 54% was groundwater, 44% was treated water, and the remaining balance was a combination of surface water and recycled water.

Exhibit 1

History of Groundwater Use in 1,000 AF

In 1,000 AF	2005	2006	2007	2008	2009 (estimate)	% of Use 2009	% of Use 5-yr average
Zone W-2							
Groundwater	91.25	85.33	99.39	111.32	123.1	41.1%	35.1%
Treated Water	130.72	131.62	140.23	124.88	115.98	38.8%	44.2%
Surface Water	2.12	2.24	1.72	3.89	2.04	0.7%	0.8%
Recycled Water	0	0	0	0	0	0.0%	0.0%
Subtotal: Zone W-2	**224.09**	**219.19**	**241.34**	**240.09**	**241.12**	**80.6%**	**80.2%**
Zone W-5							
Groundwater	48.81	53.12	58.18	61.12	55	18.4%	19.0%
Surface Water	1.1	1.31	1.74	1.72	1.5	0.5%	0.5%
Recycled Water	0.56	0.66	0.88	1.18	1.6	0.5%	0.3%
Subtotal: Zone W-5	**50.47**	**55.09**	**60.8**	**64.01**	58.1	**19.4%**	**19.8%**
TOTAL	**274.55**	**274.28**	**302.14**	**304.11**	**299.22**	100.0%	100.0%

D. Five Year History of Groundwater production charges

Exhibit 2 shows the Districts groundwater production charges (per AF) by zone and customer classes over the past six years. As shown, the District has established separate groundwater production charges in each zone, to recognize the distinct costs for supplying water to customers in each zone. For instance, the groundwater production charges in the North Zone are higher than the groundwater production charges in the South Zone due to the availability and cost of treated water in the North Zone. Historically, the District has established a treated water surcharge that has ranged between $90 and $100 per AF and a surface water surcharge of $11.75 per AF. These surcharges are added to the basic user charge (which is equivalent to the M&I groundwater production charge) to derive the final treated water or surface water charges per AF. The treated water surcharge correlates to the costs that groundwater users incur to pump water and maintain their pumps. As a result, it serves as a regulation mechanism to ensure the right balance of groundwater, surface water, and treated water usage.

The District has also established an AG rate that has ranged from 10% to 6% of the M&I rate in the South Zone. As will be discussed later in this report, the District has established Resolution 99-21, which states that the AG rate will not exceed 10% of the M&I rate. The District has also phased-in increases to the recycled M&I rate in the South Zone in an effort to equalize the rate charged for groundwater M&I. In the past several years, the District has increased the recycled AG rate per AF in the South Zone so that it is $25 higher than the groundwater AG rate.

Exhibit 2

History of Groundwater production charges per AF

	2005	2006	2007	2008	2009	2010
Zone W-2						
Groundwater						
M&I	$405.00	$420.00	$435.00	$475.00	$520.00	$520.00
AG	$40.50	$42.00	$21.50	$15.50	$16.50	$16.50
Treated Water Surcharge (contract)	$90.00	$90.00	$100.00	$100.00	$100.00	$100.00
Surface Water Surcharge	$11.75	$11.75	$11.75	$11.75	$11.75	$11.75
Zone W-5						
Groundwater						
M&I	$200.00	$215.00	$230.00	$255.00	$275.00	$275.00
AG	$20.00	$21.50	$21.50	$15.50	$16.50	$16.50
Surface Water Surcharge	$11.75	$11.75	$11.75	$11.75	$11.75	$11.75
Recycled Water						
M&I	$125.00	$156.00	$195.00	$244.00	$275.00	$275.00
AG	$31.00	$39.00	$40.50	$40.50	$41.50	$41.50

Exhibit 3 shows the percent increases in the groundwater production charges and the treated water charges in the North Zone over the past five years. The groundwater M&I charges in the North Zone have increased on average 5.7% per year while the treated water charge has increased on average 5.1% per year. However, the ratio of groundwater use to treated water use has increased in years where the groundwater production charge has increased more aggressively than the treated water rate. This illustrates the objective of the District's treated water surcharge to assist the District in managing its water supply sources. In other words, the surcharge is a reasonable approximation for the price at which customers are indifferent to purchasing groundwater or treated water. In spite of the surcharge, however, groundwater use as a ratio to treated water use has increased from 2006 to 2009.

Exhibit 3

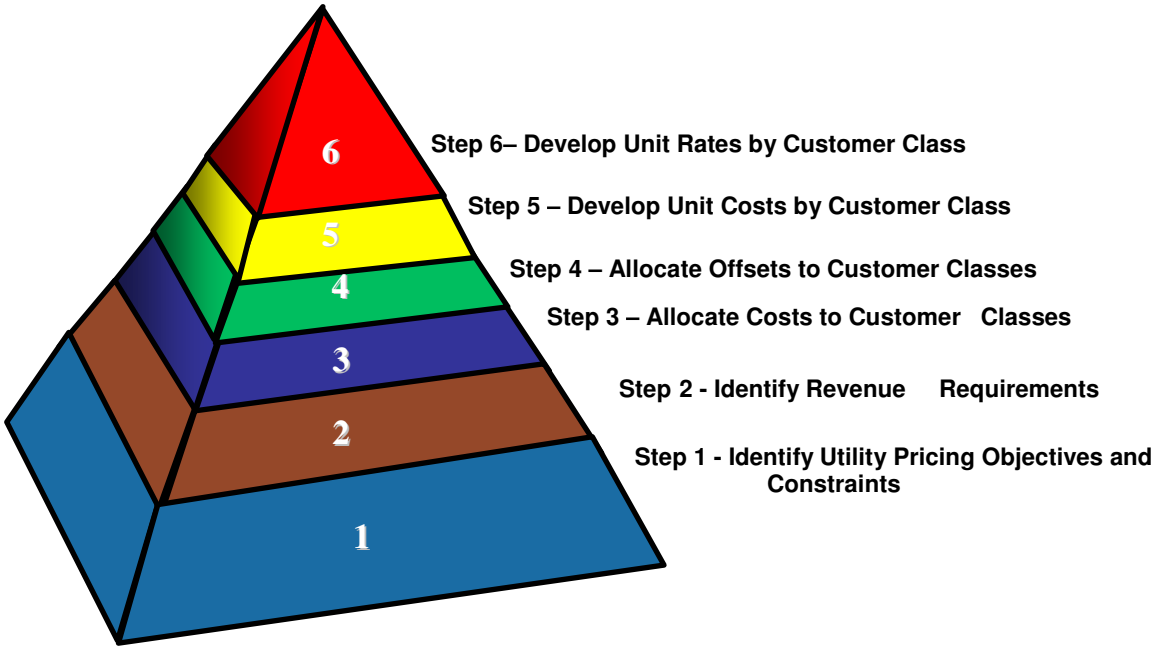
History of Rate Increases and Ratio of Treated Water Sales

	2005	2006	2007	2008	2009	2010	Average
Increase in Groundwater M&I Charge in North Zone	8.00%	3.70%	3.57%	9.20%	9.47%	0.00%	5.66%
Increases in Treated Water Charge (North zone)	7.61%	3.03%	4.90%	7.48%	7.83%	0.00%	5.14%
Groundwater to Treated Water Use in North Zone	41.11%	39.33%	41.48%	47.13%	51.49%		44.11%

II. Overview of Rate Setting Process

The District has followed a rate setting process, as shown in Exhibit 4, which involves six steps. The steps shown below were used by the District to determine the FY 2011 groundwater production charges for each zone, and are explained in detail in Section III of this report.

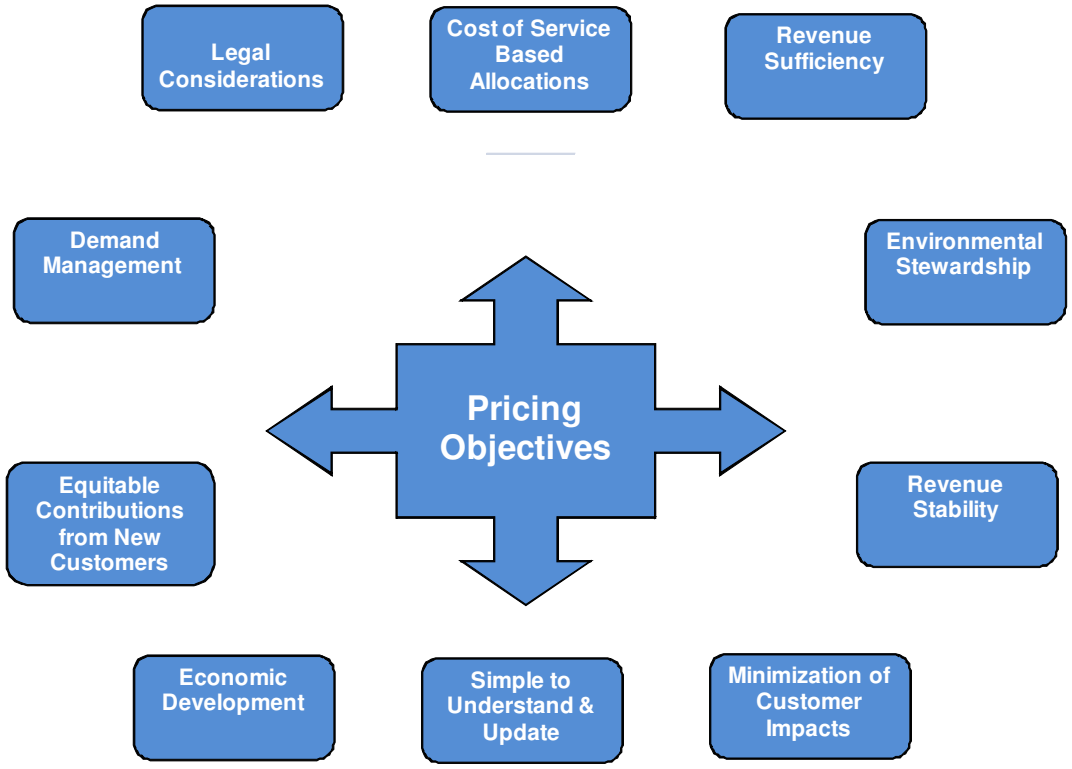
Exhibit 4
Rate Setting Process



Step 1: Identify Utility Pricing Objectives and Constraints

The first step in the rate setting process is the identification and prioritization of pricing objectives. This is a very important step to determine if the current rate structure effectively addresses a utility's pricing objectives. A sample list of pricing objectives is provided in Exhibit 5; however each utility will have a unique list and prioritization of pricing objectives. Pricing objectives have to be prioritized but also balanced. Some pricing objectives promote opposing results. For example, a rate structure that promotes conservation may jeopardize revenue stability. It is the utility's responsibility to establish a rate structure that promotes the utility's goals and balances the utility's objectives.

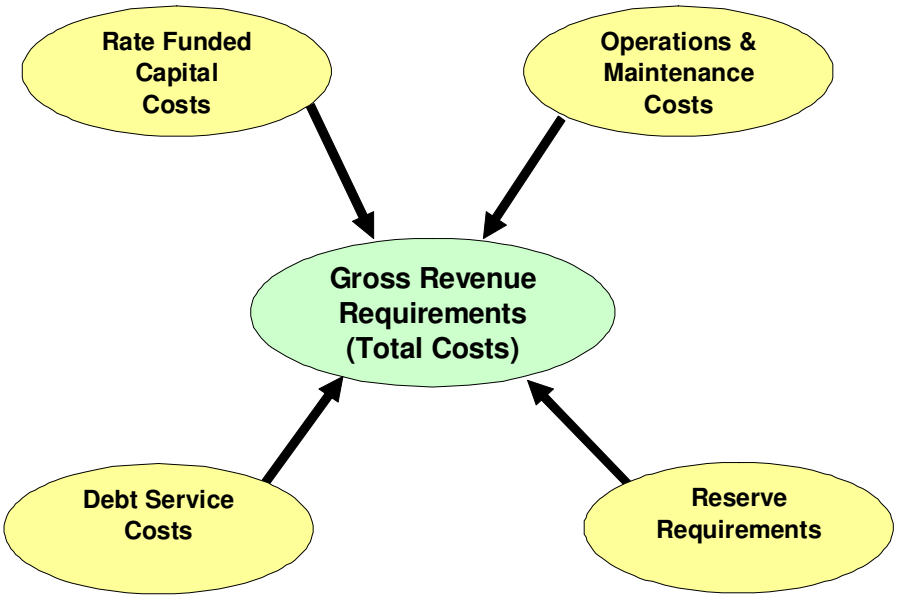
Exhibit 5
Pricing Objectives



Step 2: Identify Revenue Requirements

The next step in the rate setting process is the identification of revenue requirements. As shown in Exhibit 6, revenue requirements include all costs incurred by a utility to operate the water utility. Revenue requirements represent the cash-needs of each utility such as operating and maintenance costs. Revenue requirements also include funding the capital improvement plan (CIP) which can be comprised of debt service and pay-go (paid through rates). Revenue requirements can also include funding to meet liquidity and debt service coverage requirements.

Exhibit 6
Identification of Revenue Requirements



Step 3: Allocate Costs to Customer Classes

Once the revenue requirements for the utility are identified, the next step is to allocate costs set forth by state and local laws, industry associations such as the American Water Works Association's M-1 manual (AWWA) and other authoritative bodies. A detailed description of the allocation of costs is described in Section III of this report and a brief overview of the methodology of allocating costs is provided below. The allocation process is divided into two distinct steps: cost functionalization and cost classification.

Cost Functionalization: Each cost item used to develop the revenue requirements is allocated to one or more service functions depending upon its nature. In the case of the District, the functional categories used include: source of supply, raw water transmission and distribution, treatment, treated water transmission and distribution, and administrative and general.

Cost Classification: Next, the classification of cost-causative parameters are reviewed and used to allocate costs to customer classes. For utilities serving retail customers directly, cost causative parameters include system peaking factors and individual peaking factors by customer class. In the District's case, the nature of the water source used and the type of customer class serve as the cost drivers.

Step 4: Allocate Offsets to Customer Classes

Once revenue requirements are allocated to customer classes, they are then offset by certain non-user charge revenues available as a revenue sources such as grants, property taxes, debt proceeds, etc. The offsets are allocated to each customer class in order to derive the net revenue requirements to be recovered from user charges.

Step 5: Develop Unit Costs by Customer Class

Once the net revenue requirements for customer class are identified, they are divided by projected water use for each customer class in order to derive the unit cost by customer class. The projected water use should represent a normalized year, adjusted for any effects of any municipal conservation initiatives, District demand management initiatives, significant changes in customer usage due to either growth or downsizing, and elasticity due to significant changes in charges.

Step 6: Develop Unit Rates by Customer Class

In order to derive the unit rates by customer class, the unit costs must be adjusted to ensure they meet the pricing objectives and constraints of the utility. These adjustments will often vary for each utility because each utility likely has a different prioritization of the pricing objectives. Once the pricing objectives have been factored into the costs, then the result is a unit rate for each customer class.

III. Cost of Service Rate Making Steps for the District's FY 2011 Groundwater Production Charges

Section II provided an overview of the cost of service and the rate setting process that all utilities use in setting rates. This Section of the report describes in more detail the six steps that the District used in setting groundwater production charges for FY 2011. The District has developed a rate and financial planning model (rate model) that has been used in previous years to identify revenue requirements and calculate groundwater production charges for each fiscal year. For FY 2011 the District has subsequently modified its rate model consistent with the methodology RFC developed to calculate the groundwater production charges. The modified rate model was used to calculate the FY 2011 groundwater projection charges using the methodology described in Section II. RFC reviewed the District's modified rate model in detail and has summarized the methodology used to calculate the FY 2011 groundwater production charges.

Step 1: Identify Utility Pricing Objectives and Constraints

In the rate setting process, the drivers of the rate structure are the primary pricing objectives as identified by each utility. While the District considers and incorporates all pricing objectives shown in Exhibit 7 into the final groundwater production charges, the primary pricing objectives that influence the rate setting process the most are: Legal Consideration, Cost of Service Based Allocations, Revenue Sufficiency, Demand Management and Environmental Stewardship.

Exhibit 7
Pricing Objectives

Pricing Objective	Description
Primary Objectives	
Legal Considerations	The rate structure should be consistent with the rate setting methodologies provided by AWWA and applicable laws, in order to ensure that rates are defensible if challenged in court.
Cost of Service Based Allocations	The rate structure should ensure that each customer class is contributing equitably towards revenue requirements based upon the costs of providing service to each customer class.
Revenue Sufficiency	The rate structure should not only adequately recover the costs associated with providing service, but also ensure that enough revenues are generated to meet bond coverage and reserve requirements.
Demand Management	The rate structure should assist in managing system demand and regulating the use of treated water, surface water, groundwater and recycled water.
Environmental Stewardship	The rate structure should incorporate practices or procedures that help preserve the environment, such as the preservation of open space which helps to conserve water.
Secondary Objectives	
Revenue Stability	The rate structure should provide for a steady and predictable stream of revenues to the utility such that the utility is capable of meeting its current financial requirements.
Equitable Contributions from New Customers	New customers should be responsible for the incremental operating and capital costs associated with providing them service.
Economic Development	The rate structure should incorporate policies that may attract economic development to a utility's service area.
Ease of Implementation	The rate structure should be compatible with a utility's billing system. In addition, the rate structure should allow for the continuation of existing management and system reports.
Minimization of Customer Impacts	The rate structure should be developed such that adverse rate impacts on customer classes are minimized.
Simple to Understand and Update	The rate structure should be easy for a utility's customers to understand, utilizing a moderate level of educational tools. In addition, the rate structure should be able to be effectively maintained by staff in future years.

A. Legal Consideration

One of the District's primary pricing objectives is to set groundwater production charges such that they are consistent with all legal and policy considerations.

1. The Santa Clara Valley Water District Act (District Act)

The District Act is the state law that created the Santa Clara Valley Water District. The most relevant sections of the District Act that apply to the rate setting process include:

i. Sections 3 and 12 create the means to establish zones of benefit.

ii. Section 26.3 defines the costs to be recovered from groundwater production charges.

iii. Section 26.7 establishes guidelines for the AG rate.

iv. Section 26.8 establishes guidelines for notification of the rates to be assessed in the upcoming year. Specifically, the District Act states that the District must "give notice to each operator of a water-producing facility", which include all well owners and wholesale customers.

2. Resolution 99-21

The District's Board of Directors has established policies documented in Resolution 99-21. The relevant sections of Resolution 99-21 as it relates to the rate setting process are as follows:

i. Section 1 establishes the District's overall policy statement to effectively manage its water supply sources and protect its water supplies.

ii. Section 2 establishes the pooling concept for costs and revenues.

iii. Section 3 states the AG rate "shall not exceed one-tenth the rate for all water other than agricultural water". The District establishes this policy to preserve open space.

3. Proposition 218

While the District asserts that the groundwater production charge is not subject to Proposition 218, as a policy decision, the District Board has determined that it will align its process for imposing groundwater production charges with Proposition 218 requirements.

In its cost of service and rate setting methodology, the District has attempted to balance the requirements of all three legal authorities.

B. Cost of Service Based Rates

One of the District's other primary pricing objectives is the application of cost of service principles to establish rates. Cost of service based rates are established by industry guidelines as well as best practices.

1. AWWA M-1 Manual

The American Water Works Association has published an M-1 Manual that guides utilities through the rate setting process. The M-1 Manual describes how to identify revenue requirements and how to allocate these costs to customer classes. The District applied various cost of service principles described in the M-1 manual to develop the District's FY 2011 rates.

2. Follow Best Practices

The District also considers best practices during the rate setting process. Best practices involve benchmarking against other utilities. As will be explained later in this report, a survey with other California wholesale providers was conducted which compares the District's charges and practices with those of other utilities. The survey demonstrates that the District's rate setting process and resulting charges are consistent with those of other utilities.

C. Revenue Sufficiency

Another primary pricing objective is revenue sufficiency. The District develops groundwater production charges that reflect not only the cash needs of the Water Utility but also ensure the financial integrity of the District. For example, the District has an internal debt service coverage target of 2.0, even though the required debt service coverage is 1.25. Having worked with numerous utilities throughout the country, RFC considers the internal debt target of 2.0 to be reasonable and consistent with best practice utilities. As a result, the District has bond ratings of Aa2 from Moody's and AA from Standard and Poor's. This allows the District to have lower borrowing costs. The District considers such factors when developing revenue requirements and therefore groundwater production charges reflect maintaining a high level of financial soundness.

D. Demand Management

Another primary pricing objective of the District is demand management. The District was created by the District Act to provide oversight of groundwater use since prior to the establishment of the District, groundwater had been pumped excessively resulting in subsidence (sinking of the ground). Therefore one of the main purposes of the District is to effectively manage all water sources.

E. Environmental Stewardship

Another pricing objective of the District is environmental stewardship, which includes the preservation of open space. The District has several agriculture customers, mainly located in the South Zone. As mentioned previously, the District wants to promote the continuance of agricultural land because of the relative benefits of serving AG customers over M&I. AG customers promote groundwater recharge due to the ability of rainfall to penetrate vast open areas, unlike impervious surface areas of densely populated urban areas. To promote water conservation through the preservation of open space, Resolution 99-21 allows the District to establish an AG rate that is at most 10% of the M&I groundwater production charge.

Step 2: Identify Revenue Requirements

RFC reviewed the District's rate model, beginning with a review of the District's identification of revenue requirements for FY 2011, as shown in Exhibits 8 and 9. The District's revenue requirements for FY 2011 include all costs incurred by the District to operate the Water Utility. These costs include operating and maintenance costs (O&M), funding sources for the capital improvement plan, and liquidity and debt service coverage requirements. The revenue requirements are subject to Section 26.3 of the District Act, which defines costs eligible to be recovered from groundwater production charges as costs that:

a. Pay the costs of construction, operation and maintenance of imported water facilities;

b. Pay the costs of imported water purchases;

c. Pay the costs of constructing, maintaining, operating facilities which will conserve or distribute water, including facilities for groundwater recharge, surface distribution, and purification and treatment; and

d. Pay for debt incurred for purposes a, b, and c.

To ensure compliance with this Section of the District Act, the District prepares a Project Plan, a sample of which is provided in Appendix A. The Project Plan provides a description for each line item of the revenue requirements, and justification for whether the line item should be funded by the Water Utility or the Watershed or Administration Funds, based on the requirements of Section 26.3 of the District Act. The Project Plan further identifies if the project is to be funded by the North Zone, the South Zone, or a combination of the two. Based on RFC's experience in working with hundreds of utilities across the country, the level of detail provided in the District's Project Plan is more comprehensive than that of other utilities.

A. O&M Costs

O&M costs include such items as purchased water from the State Water Project (SWP) and the Central Valley Project (CVP), chemical, electric and personnel costs to operate and maintain the treatment plants, general and administrative costs necessary to manage the Water Utility, as well as other operating costs. Purchase water costs account for approximately 31.5% of the District's total budgeted operating costs for FY 2011. The SWP purchase water costs and the CVP purchased water costs are estimated to be about $22.4 million and $18.3 million, respectively, in FY 2011. As will be discussed in Step 4, the SWP purchased water costs are directly paid for (or offset) by SWP taxes. For FY 2011, the District has identified operating and maintenance costs of approximately $129 million, as shown in lines 2 and 3 in Exhibit 9.

B. Capital Costs

Each year, the District also prepares a capital cost projection for a ten-year period. The capital cost projection is developed by District staff and by other professionals (including but not limited

to environmental and engineering consultants) in order to identify the capital projects necessary to meet regulatory requirements and ensure abundant water supplies. Once the District identifies the capital projects and costs related to each project, the District determines the funding sources. Funding sources include the issuance of debt, pay-go or rate funded projects, contributions, grants and the use of reserves. The District must balance the funding sources as to not create a burden on any one funding source. For example, the District would not want to deplete its reserves below certain levels. Reserve funds are necessary in order to pay for unanticipated costs and unanticipated reductions in revenues. Furthermore, rating agencies consider a utility's reserve fund level when assigning bond ratings. Insufficient reserves may not only jeopardize the financial sufficiency of the utility but also lead to lower bond ratings and therefore higher borrowing costs.

The District has identified capital improvement costs for FY 2011 of approximately $52.2 million, as shown in line 9 of Exhibit 9. The District has identified the following funding sources for these projects:

- $21.3 million or 41% will be funded with bond proceeds (line 15 of Exhibit 10)
- $7.3 million or 14 % are reimbursements from partner agencies (line 19 of Exhibit 10)
- $6.6 million or 13% will be funded from reserves (line 22 of Exhibit 10)
- $16.9 million or 32% will be funded from revenues generated from FY 2011 rates (lines 9 minus lines 15, 19 and 22 of Exhibit 10).

The FY 2011 CIP costs of $52.2 million have been incorporated into the District's rate model (as shown in Exhibit 8 and 9) and are part of the revenue requirements to be recovered from FY 2011 groundwater production charges.

C. Existing Debt Service

The District's rate model and revenue requirements for FY 2011 include debt service costs of $16.4 million (line 4 of Exhibit 9) which relate to debt issued to fund capital projects in previous years. The debt service is comprised of a state revolving fund loan, revenue bonds, and commercial paper. It should also be noted that while the District must meet the annual cash needs associated with principal and interest payments on debt, the District must also meet debt service coverage requirements of 1.25 associated with this debt.

As shown in Exhibit 8 and 9, the Water Utility's total gross revenue requirements for FY 2011 are **$197.7 million.**

Exhibit 8

The District's FY 2011 Gross Revenue Requirements for the Water Utility (in 1,000)

		FY 2011
Operating Outlays		
Operations/Operating Projects	$	106,641
SWP Imported Water Costs	$	22,411
Debt Service	$	16,413
Total Operating Outlays	**$**	**145,465**
Capital & Transfers		
Operating Transfers Out	$	-
Capital Outlays excl. carryforward	$	52,207
Total Capital & Transfers	**$**	**52,207**
Total Annual Program Costs	**$**	**197,671**

D. Administrative and General Costs

It should be mentioned that the District's operating and capital costs include direct Administrative and General costs which relate to water utility management and administration such as division management, billing, training and data maintenance. The District's costs also include indirect general fund services which relate to shared administrative services for both the Water Utility and Watersheds, such as Finance, Human Resources, etc.

Section 26.3 (3) of the District Act, states that groundwater proceeds can be used "To pay for the costs of constructing, maintaining and operating facilities which will conserve or distribute water within such zone or zones, including facilities for grounds water re-charge, surface distribution, and the purification and treatment of water". Consistent with best practices, the District interprets the term "cost" to include both direct and indirect costs. Therefore, both types of administrative and general costs are allowed to be included in the development of revenue requirements.

Step 3: Allocate Costs to Customer Classes

There are several sub-steps that are required in order to allocate costs to customer classes. The first is (1) an allocation to functions, the next is (2) an allocation to zones, and the final (3) allocation is to customer classes.

A. Allocations to Functions

The District's operating budget and capital improvement plan is classified based on functions. The functions are as follows:

- Source of Supply – Costs that relate to obtaining water supply sources.
- Raw Water Transmission and Distribution – Costs that relate to the transmission of water supply sources to the District.
- Treatment Plant – Costs that relate to the treatment of water at the District's three treatment plants.
- Treated Water Transmission and Distribution – Costs that relate to the transmission of water to the water treatment plants, and distribution costs associated with distributing water from the treatment plants to the District's wholesale customers.
- General & Administration – Costs, as discussed previously, that relate to direct water utility management and administration costs.

B. Allocation to Zones

As mentioned previously, the District's Project Plan documents each O&M cost by 1) justifying its inclusion for recovery from the Water Utility and 2) further identifies from which zone the cost is to be recovered. To allocate costs between zones, each operating cost is reviewed by the District's engineering or project manager and an allocation factor is developed for each line item and documented in the Project Plan. Appendix B provides the detail and the allocation factors developed to allocate the operating costs to zones for FY 2011. The allocation factors are incorporated in the rate model and are used to allocate costs between the North and South Zones. RFC reviewed the allocation factors for reasonableness and relied upon the expertise of District staff in developing the allocation percentages.

It should be noted that capital and debt service costs are not allocated directly to the South Zone. The North Zone funds all capital costs. Once projects are completely constructed, the South will re-pay the North Zone for their portion of capital and debt service costs. The re-payment includes both principal and interest (as shown in lines 14 and 18, respectively, in Exhibit 10) but only after construction of the project is completed. The allocation factors for the repayments are shown in Appendix C and are derived by project managers. The interest and principal re-payments are incorporated into the rate model to derive the "capital cost recovery" that the South owes to the North Zone.

It should also be noted that the South Zone is also repaying the North Zone for perchlorate costs that were incurred in prior years and funded by the North even though the perchlorate costs are specific to the South Zone. While the party responsible for the perchlorate contamination has reimbursed the District for a portion of the perchlorate costs, the balance of the costs are to be

paid by customers in the South Zone. In order to mitigate the impact on the South Zone, the District is allowing the South Zone to repay the costs over several years.

C. Allocations to Customer Classes

Once the costs are allocated to zones, they are further allocated to each customer class. Since the District's operating budget is already classified by functions, the District is more easily able to determine the allocation to customer classes. For example, the majority of the operating costs that are classified under the function of "treatment plant" will be allocated to the costs to be recovered from treated water M&I users. Appendix D provides the detail of the allocation of the operating costs to each customer class. Each line item is either allocated to groundwater (G), surface water (S), treated water (T), recycled water (R), or a combination thereof. For those costs that are shared by all customer classes (coded as GST), they are allocated based on projected water use (line 25 of Exhibit 10) by each customer class. The projected water use is based on historic water use data, adjusted to reflect impacts from conservation initiatives. A few costs are coded as either "SWP" or "CVP" which indicates they relate to purchase water costs, and are therefore allocated based on historic purchased water costs for each customer class. Administrative and general costs are coded as "Ind" and are allocated in the same manner as all other line items. RFC reviewed the coding for reasonableness and relied upon the expertise of District staff to determine the appropriate coding.

The resulting allocation of costs to zones and customer classes is shown in Exhibit 9.

Exhibit 9

Allocation of Costs to Customer Classes

	FY '11 Projection ($K)	Zone W-2						Zone W-5							Total
		GW		TW	SW		Total W-2	GW		SW		RW		Total W-5	
		M&I	AG	M&I	M&I	Ag		M&I	AG	M&I	AG	M&I	AG		
1	**Operating Outlays**														
2	Operations/Operating Projects	28,412	107	66,277	905	9	95,710	5,372	4,974	52	339	123	70	10,930	106,641
3	SWP Imported Water Costs	4,987	19	17,079	323	3	22,411	-	-	-	-	-	-	-	22,411
4	Debt Service	3,473	13	12,811	115	1	16,413	-	-	-	-	-	-	-	16,413
5	**Total Operating Outlays**	36,872	139	96,166	1,343	14	134,535	5,372	4,974	52	339	123	70	10,930	145,465
6															
7	**Capital & Transfers**														
8	Operating Transfers Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Capital Outlays excl. carryfo	16,443	62	35,168	527	6	52,207	-	-	-	-	-	-	-	52,207
10	**Total Capital & Transfers**	16,443	62	35,168	527	6	52,207	-	-	-	-	-	-	-	52,207
11	**Total Annual Program Costs**	53,315	201	131,334	1,870	20	186,741	5,372	4,974	52	339	123	70	10,930	197,671
12															

Step 2- Identify revenue reqmnts

Step 3 - Allocate costs to customer classes

Step 3 - Allocate costs to customer classes

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Step 4: Allocate Offsets to Customer Classes

Up to Step 4, the allocation of costs represents the allocation of *gross* revenue requirements. However, rates only need to recover **net** revenue requirements. The District generates several non-user related revenues. These revenues can be used to reduce, or offset, the gross revenue requirements. Section 2 of Resolution 99-21 (under the "Revenue Pooling" concept) states that "For the most part, water utility revenues are collected in a common fund and not designated for a specific cost. Such revenues are available for the general capital and operating outlay of the Water Utility enterprise. Some revenues such as certain property taxes are specifically designated for debt service and the fixed costs of the State Water Project and are not available to the common fund". A description of each offset and how each is allocated is provided below:

- Offsets that relate to capital costs (debt proceeds and reserve requirements) are allocated based on the resulting allocation of capital costs to each customer class. This ensures that the funding sources for capital are allocated in the same manner as are the capital costs. Capital contributions are allocated based on the specific assets being contributed and the zones or customers that benefit.
- As stated by Resolution 99-21, property taxes are allocated based on specific parameters. State Water Project taxes (line 17 of Exhibit 10) are allocated in the same manner as are the SWP purchase water costs so that they directly offset and reimburse the District for SWP purchase water costs.
- The District also receives "intergovernmental services" (line 16 of Exhibit 10) which consist of grants and contributions from other utilities. These offsets are allocated based on the assets intended to be funded with the contributions.
- The District also receives revenues classified as "other" (line 21 of Exhibit 10) which consist of power sales, sales of assets and refunds from State Department of Water Resources related to SWP project costs. The District allocates power sales to both zones based on flow of water. The District allocates sale of assets based on where the asset is located. The District allocates refunds from the State Department of Water Resources for SWP project costs in the same manner as both the SWP purchased water costs and the taxes collected for SWP are allocated.

Once the offsets have been allocated, they are subtracted from the allocated revenue requirements to derive net revenue requirements to be recovered from rates, which are approximately **$140.3** million for FY 2011, as shown in Exhibit 10.

Step 5: Develop Unit Costs of Service by Customer Class

To determine the unit cost for each customer class, the net revenue requirements are divided by the projected units of usage (per AF as shown in line 25 of Exhibit 10) for each customer class. As shown in line 27 of Exhibit 10, the resulting unit costs for treated water are about 2.6 times more than the groundwater unit costs in the North, and the recycled unit costs are about 1.7 times the groundwater unit costs in South. Also, the unit costs for AG and M&I groundwater production charges are equal. The resulting unit cost represents the unit cost if there was ***no***

conjunctive use benefit and if the District did not have policies to achieve their primary pricing objectives.

Exhibit 10

Allocation of Offsets

	FY '11 Projection ($K)	Zone W-2						Zone W-5							Total
		GW		TW	SW		Total W-2	GW		SW		RW		Total W-5	
		M&I	AG	M&I	M&I	Ag		M&I	AG	M&I	AG	M&I	AG		
1	**Operating Outlays**														
2	Operations/Operating Projects	28,412	107	66,277	905	9	95,710	5,372	4,974	52	339	123	70	10,930	106,641
3	SWP Imported Water Costs	4,987	19	17,079	323	3	22,411	-	-	-	-	-	-	-	22,411
4	Debt Service	3,473	13	12,811	115	1	16,413	-	-	-	-	-	-	-	16,413
5	**Total Operating Outlays**	36,872	139	96,166	1,343	14	134,535	5,372	4,974	52	339	123	70	10,930	145,465
6															
7	**Capital & Transfers**														
8	Operating Transfers Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Capital Outlays excl. carryfo	16,443	62	35,168	527	6	52,207	-	-	-	-	-	-	-	52,207
10	**Total Capital & Transfers**	16,443	62	35,168	527	6	52,207	-	-	-	-	-	-	-	52,207
11	**Total Annual Program Costs**	53,315	201	131,334	1,870	20	186,741	5,372	4,974	52	339	123	70	10,930	197,671
12															
13	**Revenue Requirement Offsets**														
14	Capital Cost Recovery	(1,394)	(5)	(1,443)	(46)	(0)	(2,889)	1,045	967	8	50	522	298	2,889	-
15	Debt Proceeds	(6,723)	(25)	(14,379)	(216)	(2)	(21,346)	-	-	-	-	-	-	-	(21,346)
16	Inter-governmental Services	(512)	(2)	(529)	(17)	(0)	(1,060)	(55)	(51)	(0)	(3)	-	-	(109)	(1,169)
17	SWP and W-1 Property Taxes	(3,765)	(14)	(13,436)	(244)	(3)	(17,462)	(524)	(485)	(4)	(25)	(27)	(16)	(1,080)	(18,542)
18	Inter-zone Interest	(107)	(0)	(110)	(4)	(0)	(221)	107	99	1	5	6	3	221	-
19	Capital Contributions	(3,542)	(13)	(3,666)	(117)	(1)	(7,339)	-	-	-	-	-	-	-	(7,339)
20	Perchlorate Response	(1,174)	(4)	(1,215)	(39)	(0)	(2,433)	1,263	1,170	-	-	-	-	2,433	-
21	Other	(349)	(1)	(1,922)	(18)	(0)	(2,291)	(20)	(19)	(0)	(1)	-	-	(40)	(2,331)
22	Reserve Requirements	(2,090)	(8)	(4,469)	(67)	(1)	(6,634)	-	-	-	-	-	-	-	(6,634)
23	**Adjusted Revenue Requirement**	33,659	127	90,164	1,103	12	125,066	**7,188**	**6,656**	**56**	**366**	**623**	**356**	**15,244**	**140,310**
24															
25	Volume (KAF)	105.9	0.4	109.6	3.5	0.0	219.5	27.0	25.0	0.2	1.3	1.4	0.8	55.7	275.2
26															
27	Revenue Requirement per AF	$ 318	$ 318	$ 822	$ 315	$ 315		$ 266	$ 266	$ 281	$ 281	$ 445	$ 445		
28															

Step 2- Identify revenue reqmnts

Step 4- Reduce costs by revenue offsets

Step 3 - Allocate costs to customer classes

Step 3 - Allocate costs to customer classes

Step 5 - Develop unit costs by customer class

Step 5 - Develop unit costs by customer class

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Step 6: Develop Unit Rates by Customer Class

As discussed previously, the District has several primary pricing objectives. In order to derive the unit rate for each customer class, the District makes certain adjustments to ensure its rate structure is consistent with its primary pricing objectives. As shown in lines 29 through 36 of Exhibit 11, two adjustments are made in order to derive the unit rates.

A. Agriculture Adjustment

First, the District makes an adjustment to comply with Resolution 99-21 which states that the AG rate "shall not exceed one-tenth the rate for all water other than agricultural water" in order to promote the continuance of agricultural use of land and to encourage the preservation of open space. The District has chosen to set the AG rate in the South Zone at approximately 6% of groundwater production charge in the South Zone. The District then sets the AG rate in the North Zone equal to the AG rate in the South Zone. The District also has a recycled AG rate in South Zone which is set at $25 per AF more than the AG groundwater production charge. This pricing differential of $25 represents a significant discount relative to the electricity and maintenance costs associated with pumping water from the ground (estimated by District staff at $50 per AF) such that AG customers have an incentive to take recycled water as opposed to pumping water from the ground.

In order to reduce the AG rate, the District uses several offsets. The District uses the interest earnings generated from reserve funds as an offset, as per the "Revenue Pooling" concept in Resolution 99-21. The District also applies revenues from 1% ad valorem property taxes (referred to as the "open space credit") to each zone. Finally, the District uses a transfer of 1% ad valorem property taxes from the Watershed Fund in order to be able to maintain the AG rate at a certain percentage of the M&I groundwater production charge. The offsets to reduce the AG rate are shown in lines 30, 31 and 32 of Exhibit 11.

B. Conjunctive Use Adjustment

The second adjustment serves two purposes. The first purpose is to recognize the conjunctive use benefit of the District's system. While the District has not quantified the benefit received by each customer class, there are inherent benefits resulting from the District's ability to effectively manage its water supply sources. For example, without the provision of treated water in the North zone, the groundwater basin would eventually be depleted. To prevent that from happening, the District would have to purchase imported water as it does now, but it would also need to purchase lands on which to build more recharge ponds, build pipelines to transmit the water to those recharge ponds, and potentially expand above-ground water storage. On the other hand, if the District allowed the treatment plants to peak continuously, then the District would experience higher risk of failure and potentially higher corrective maintenance costs. Therefore all customer classes benefit from the conjunctive use nature of the District's system even though they may be buying only one source of water.

In order for the District to be able to manage its water supply, it typically sets rates so that groundwater and treated water customers are economically indifferent to which source of water

they receive. Section 2 of Resolution 99-21 states that "A treated water surcharge shall be added to the basic water charge for the price of treated surface water delivered by the District. The charge should be established at an amount that would promote the effective use of available water resources". As mentioned in Section 2 of this report, the District has established a treated water surcharge of $100 and has proven over the years that this differential allows the District to effectively manage its water supply source. Therefore, the second purpose of the conjunctive use adjustment is to establish a pricing mechanism that will allow the District to effectively manage its water sources. To make this adjustment, the District shifts costs from treated water customers to groundwater and surface water customers such that the resulting rate between groundwater and treated water customers in the North, is approximately $100. This adjustment is shown in line 36 of Exhibit 11.

The District makes a similar adjustment for the South Zone but for recycled water. The District shifts costs from the recycled M&I customers to groundwater and surface M&I customers. This shift represents the point at which the District maximizes the recovery of recycled water costs and encourages the use of recycled water, allowing the District to manage its water supply sources. This adjustment is shown in line 36 of Exhibit 11.

Exhibit 11

Development of Unit Costs and Unit Rates by Customer Class

	FY '11 Projection ($K)	Zone W-2						Zone W-5							Total
		GW		TW	SW		Total W-2	GW		SW		RW		Total W-5	
		M&I	AG	M&I	M&I	Ag		M&I	AG	M&I	AG	M&I	AG		
1	**Operating Outlays**														
2	Operations/Operating Projects	28,412	107	66,277	905	9	95,710	5,372	4,974	52	339	123	70	10,930	106,641
3	SWP Imported Water Costs	4,987	19	17,079	323	3	22,411	-	-	-	-	-	-	-	22,411
4	Debt Service	3,473	13	12,811	115	1	16,413	-	-	-	-	-	-	-	16,413
5	**Total Operating Outlays**	36,872	139	96,166	1,343	14	134,535	5,372	4,974	52	339	123	70	10,930	145,465
6															
7	**Capital & Transfers**														
8	Operating Transfers Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Capital Outlays excl. carryfo	16,443	62	35,168	527	6	52,207	-	-	-	-	-	-	-	52,207
10	**Total Capital & Transfers**	16,443	62	35,168	527	6	52,207	-	-	-	-	-	-	-	52,207
11	**Total Annual Program Costs**	53,315	201	131,334	1,870	20	186,741	5,372	4,974	52	339	123	70	10,930	197,671
12															
13	**Revenue Requirement Offsets**														
14	Capital Cost Recovery	(1,394)	(5)	(1,443)	(46)	(0)	(2,889)	1,045	967	8	50	522	298	2,889	-
15	Debt Proceeds	(6,723)	(25)	(14,379)	(216)	(2)	(21,346)	-	-	-	-	-	-	-	(21,346)
16	Inter-governmental Services	(512)	(2)	(529)	(17)	(0)	(1,060)	(55)	(51)	(0)	(3)	-	-	(109)	(1,169)
17	SWP and W-1 Property Taxes	(3,765)	(14)	(13,436)	(244)	(3)	(17,462)	(524)	(485)	(4)	(25)	(27)	(16)	(1,080)	(18,542)
18	Inter-zone Interest	(107)	(0)	(110)	(4)	(0)	(221)	107	99	1	5	6	3	221	-
19	Capital Contributions	(3,542)	(13)	(3,666)	(117)	(1)	(7,339)	-	-	-	-	-	-	-	(7,339)
20	Perchlorate Response	(1,174)	(4)	(1,215)	(39)	(0)	(2,433)	1,263	1,170	-	-	-	-	2,433	-
21	Other	(349)	(1)	(1,922)	(18)	(0)	(2,291)	(20)	(19)	(0)	(1)	-	-	(40)	(2,331)
22	Reserve Requirements	(2,090)	(8)	(4,469)	(67)	(1)	(6,634)	-	-	-	-	-	-	-	(6,634)
23	**Adjusted Revenue Requirement**	33,659	127	90,164	1,103	12	125,066	**7,188**	**6,656**	**56**	**366**	**623**	**356**	**15,244**	**140,310**
24															
25	Volume (KAF)	105.9	0.4	109.6	3.5	0.0	219.5	27.0	25.0	0.2	1.3	1.4	0.8	55.7	275.2
26															
27	Revenue Requirement per AF	$ 318	$ 318	$ 822	$ 315	$ 315		$ 266	$ 266	$ 281	$ 281	$ 445	$ 445		
28															
29	**Adjustments for Agricultural Preservation**														
30	Allocate WU 1% Ad Valorem Prop Tax	0	(120)	-	-	(10)	(131)	-	(3,895)	-	-	-	-	(3,895)	(4,026)
31	Allocate Interest Earnings	-	-	-	-	-	-	-	(2,348)	-	(304)	-	-	(2,652)	(2,652)
32	Transfer WS 1% Ad Valorem Prop Tax	-	-	-	-	-	-	-	-	-	(25)	-	(323)	(348)	(348)
33	Revenue Requirement per AF	$ 317.7	$ 16.5	$ 822	$ 315	$ 28.3		$ 266	$ 16.5	$ 281	$ 28.3	$ 445	$ 41.5		
34															
35	**Adjustments to Facilitate Conjunctive Use**														
36	Reallocate TW/SW/RW costs	21,426	-	(22,184)	758	-	0	237	-	1	-	(238)	-	-	0
37	Charge per AF	$ 520	$ 16.5	$ 620	$ 532	$ 28.3		$ 275	$ 16.5	$ 287	$ 28	$ 275	$ 41.5		
38	Total Revenue ($K)	$55,086	$7	$67,980	$1,861	$1	$124,935	$7,425	$413	$57	$37	$385	$33	$8,349	$133,284

Step 2- Identify revenue reqmnts

Step 3 - Allocate costs to customer classes

Step 3 - Allocate costs to customer classes

Step 4- Reduce costs by revenue offsets

Step 5 - Develop unit costs by customer class

Step 5 - Develop unit costs by customer class

Step 6 - Rate Design

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IV. Resulting Groundwater Production Charges and Comparison with Other Utilities

As depicted in Exhibit 12, the District's proposed groundwater production charges for FY 2011 are equal to those currently being assessed. While the District's groundwater production charges are remaining unchanged, it is typical for wholesale water providers to adjust their rates annually in order to minimize the volatility in rate adjustments and to be able to undertake capital projects to proactively repair, replace and maintain assets.

Exhibit 12

Resulting Groundwater production charges for FY 2011

	2010	2011
Zone W-2		
Groundwater		
M&I	$520.00	$520.00
AG	$16.50	$16.50
Treated Water Surcharge	$100.00	$100.00
Surface Water Surcharge	$11.75	$11.75
Zone W-5		
Groundwater		
M&I	$275.00	$275.00
AG	$16.50	$16.50
Surface Water Surcharge	$11.75	$11.75
Recycled Water		
M&I	$275.00	$275.00
AG	$41.50	$41.50

As mentioned previously, the District considers best practices when setting groundwater production charges which includes benchmarking. Exhibit 13 shows a benchmark comparison of the District's groundwater production charges compared to those assessed by other utilities, specifically focusing on the differential (or ratio) of treated water to non-treated water, the differential of AG rates to non-AG rates and the pooling of costs. The District has established a treated water surcharge of $100 dollars which equates to a treated water differential of 1.19 ($620/$520). Exhibit 13 shows that the District's treated water differential is within the range implemented by other utilities. The range for treated water differentials for the benchmark group is between 1.18 and 1.78. The District also has a policy of setting the AG rate to 6% of the non-AG rate in the South, and then setting the AG rate in the North equal to the AG established in the South Zone. This AG rate equates to a differential of 31.5 ($520/$16.5). The range for AG differentials for the benchmark group is between 1.11 and 31.6. The District's rate setting

policies are within the range of rate setting policies adopted by other utilities. The District also pools costs in determining the revenue requirements to be recovered from groundwater production charges. As shown in the benchmark comparison, six out of the eight utilities also pool their costs.

Exhibit 13

Benchmark Comparison

California Utility Name	Type of Service	Service Area Groundwater	Untreated	Treated	Untreated - Ag	Uses Form of Cost Pooling		Treated vs Untreated Differential	M&I vs AG Differential
Metropolitan Water District of Southern California (Tier 1)	Wholesale Only		$484.00	$701.00	$394	Yes		**1.45**	**1.23**
San Francisco Public Utilities Commission	Wholesale/Retail			$719.00		Yes		**N/A**	**N/A**
Orange County Water District	Wholesale Only	X	$249.00		$124.50	Yes		**N/A**	**2.00**
Zone 7 Water Agency	Wholesale Only	X		$804.00	$181.00	No		**N/A**	**4.44** (1)
San Diego County Water Authority	Wholesale Only		$527.00	$695.00	$476.00	Yes		**1.32**	**1.11**
Western Municipal Water District (Riverside Zone 1)	Wholesale/Retail		$617.25	$727.89	$443.00	No		**1.18**	**1.39**
Stockton East Water District	Wholesale/Retail	X	$144.71	$257.11	$4.58	Yes		**1.78**	**31.60**
Glenn-Colusa Irrigation District	Wholesale/Irrigation	X	N/A	N/A	Rates vary based on crop being irrigated	Yes		**N/A**	**N/A**
							Average	**1.43**	**6.96**
							Range	**1.18-1.78**	**1.11-31.6**
Santa Clara Valley Water District	Wholesale (and 5,000 well owners)	X	$520.00	$620.00	$16.50	Yes		**1.19**	**31.52**

(1) Ratio based upon M&I treated water rate.

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V. Findings and Recommendations

RFC reviewed the District's rate model and the District's rate setting process for consistency with legal considerations and best practices. RFC reviewed the cost of service allocations for reasonableness and has relied upon the expertise of District staff to develop factors that allocate costs between functions, zones, and customer classes. RFC also compared the resulting groundwater production charges and policies with the benchmark comparison group of other utilities. While the District has used cost of service based principles to develop the groundwater production charges for FY 2011 and while the groundwater production charges and policies are within the range of those assessed by other utilities, RFC does have several recommendations to be considered by District staff in future rate updates.

A. AG Differential

As shown in Exhibit 2, the District has slowly reduced the AG rate from 10% to 6% of the South Zone M&I rate. Based on the benchmark of AG differentials assessed by other utilities, RFC would recommend that the District adopt a formal policy to maintain a consistent percentage. The percentage should be based on the benefit to the District's water conservation goals of agricultural water usage. As mentioned previously, AG customers promote groundwater recharge because rainfall is able to penetrate vast open areas, unlike impervious surface areas of densely populated urban areas. The District could engage a water resource engineer to quantify this benefit, or use a practical approach involving interruptible rates. The District Act requires that non-AG users be provided water first (and subsequently AG users) in the event of a water shortage. Therefore the AG rates could be considered interruptible rates. There is a benefit to the District in having interruptible rates. This benefit could be calculated to provide further quantified justification for the AG rate differential. The District could also review all non-user revenue sources to determine the optimal sources to apply towards offsetting the AG rate.

B. Repayment of Capital Costs by South Zone

As mentioned in Step 3 of Section III of this report, the North Zone funds all capital projects and the South Zone reimburses the North Zone for their fair share once the projects are constructed. The reimbursement includes both interest and principal payments. The repayment might be considered more equitable if it coincided with construction rather than at completion. The North Zone funds all capital costs which includes both debt funded projects, rate funded projects and reserve funded projects. Debt service payments may be delayed due to the timing of repayment schedules, but rate funded and reserve funded projects are immediately funded. Therefore one might argue that the South Zone should pay interest sooner rather than later since the North Zone is funding the majority of the projects immediately.

C. Treatment Charge Differential

While the District has been able to manage its water supply through the treated water surcharge, it may be beneficial for the District to establish a policy that bases the treated water surcharge on a fixed differential, rather than a fixed dollar amount. The differential would preserve the relationship between treated water and groundwater and allow the District to continue to effectively manage its water supply in the future. As an example, the differential could be based on a price elasticity analysis that could be conducted by having water wholesale customers

estimate their treated water and groundwater use at various surcharge levels. Currently the surcharge has remained fixed while the groundwater production charge has increased, meaning the percentage differential between treated water and groundwater production charges has decreased. Over time, this differential will become distorted and may jeopardize the District's ability to effectively manage its water supplies. Furthermore, RFC recommends that the District consider engaging a water resource engineer to confirm that the treatment water surcharge is consistent with the conjunctive use benefit of treated water. The engineer's calculation of the quantified benefit would not necessarily be used to establish the treatment surcharge, but instead it would be used to validate the conjunctive use benefit of treated water.

D. Surface Water Differential

The District has imposed a flat surface water master surcharge of $11.75 per AF, as groundwater production charges have increased. The surcharge for surface water is based on water master activities that are specific to surface water customers. These costs are currently allocated to surface water customers. According to District staff, full recovery of surface water master costs would require a water master surcharge in excess of $11.75 per AF. Therefore, the calculation of the surcharge should be re-visited to determine the appropriate surface water surcharge in each zone.

While the District's treatment water surcharge, surface water surcharge, AG differential, and recycled rates have allowed the District to effectively manage its water sources in each zone over the past several years, groundwater use is increasing in the North zone. Therefore, RFC recommends that the District consider the suggestions provided above when calculating groundwater production charges in future years to ensure that the District continues to effectively manage its water sources. However, the District also needs to balance setting groundwater production charges that are based on cost of service principles. The suggestions above will also ensure that the District's future rates are based on more updated cost of service relationships. If the District considers these recommendations, then the District's projected five-year forecast of groundwater production charges may be modified.

Raw Water T&D General Maintenance

Operations Project Plan

September 1, 2009

Project Number: 92761099

Prepared By:

Project Lead **Date**

Approved By:

Gary Nagaoka **Date**
Unit Manager

Accepted By:

Keith Whitman **Date**
Deputy Operating Officer
Water Supply Operations & Maintenance Division

Last Updated: September 22, 2009

EXECUTIVE SUMMARY

This project provides for the general maintenance of the District's raw water transmission and distribution facilities which includes the Central, Stevens Creek, Cross Valley, and Almaden Valley pipelines.

Project activities include:

1. Completion of identified Preventive Maintenance (PM) work
2. Completion of identified Planned Maintenance (Life Cycle Replacement)
3. Completion of identified Corrective Maintenance (CM) work
4. Completion of identified maintenance modification activities

I. PROJECT DETAILS

A) Project Goal

The goal of this project is to provide for the reliable service of the District's raw water transmission and distribution facilities including appurtenances, associated equipment and instruments through the implementation of the annual Asset Management Program and completion of Preventive Maintenance (PM), Planned Maintenance (Life Cycle Replacement), Corrective Maintenance (CM) and identified maintenance modification activities.

B) Project Objectives

1. *Inspecting and rehabilitating a pre-planned number of miles of pipe or sections consistent with the District's annual maintenance work plan*
2. Completing identified Preventive Maintenance (PM) work
3. Completing identified Planned Maintenance (Life Cycle Replacement)
4. Completing identified Corrective Maintenance (CM) work
5. Completing identified maintenance modification activities

C) Key Budget Milestones

1. *Inspect and rehabilitate a pre-planned number of miles of pipe or sections consistent with the District's annual maintenance work by Q4*
2. Complete identified Preventive Maintenance (PM) work by scheduled quarter
3. Completing identified Planned Maintenance (Life Cycle Replacement) by scheduled quarter
4. Completing identified Corrective Maintenance (CM) work by scheduled quarter
5. Completing identified maintenance modification activities by scheduled quarter

D) Project Allocation Formula & Basis

Fund 61 (Water Utility Enterprise Fund) - 100%

E) Project Allocation Formula & Basis Within the Water Utility Fund

Project Allocation Formula & Basis within the Raw Water T & D General Maintenance Project is allocated to South County based on a calculation of 13.6% of South County deliveries (AF) vs. total deliveries (AF) on FY 1999-08 averages.

F) Linkage to Board Policy

This project is linked to the Board's End Policy 2.1.3.1.2 -"*The integrity of the District's existing Water Utility infrastructure is maintained*". This project maintains existing Water Utility Infrastructure.

II. PROJECT SCHEDULE

Tasks/Deliverables		Projected Beginning Date	Projected Completion Date
A.1	*Inspecting and rehabilitating a pre-planned number of miles of pipe or sections consistent with the District's annual maintenance work plan*	*Q1*	*Q4*
A.2	• *Completion of identified Preventive Maintenance (PM) work* • *Completion of identified Planned Maintenance (Life Cycle Replacement)* • *Completion of identified Corrective Maintenance (CM) work* • *Completion identified maintenance modification activities*	*Q1*	*Q4*

III. ESTIMATED PROJECT COSTS AND FUNDING SOURCES

A. The Detailed Project Budget is presented as Attachment 1

B. The historic and planned expenditure rate for the current fiscal year is presented as Attachment 1.

C. The planned forecast is presented in Attachment 2

D. Project specific funding sources including grants, cost share agreements and reimbursements are listed here.

N/A

E. Groundwater Production Charge Funding Eligibility

(Determine if this project can be funded by groundwater production charges. If so, explain which purpose below is advanced by the project and check the corresponding box. According to section 26.3 of the District Act, groundwater production charges may be imposed for the following purposes:

1. *"To pay the costs of constructing, maintaining and operating facilities which will import water into the district which will benefit such zone or zones…"*
2. *"To pay the costs of purchasing water for importation into such zone or zones…"*
3. *"To pay the costs of constructing, maintaining and operating facilities which will conserve or distribute water within such zone or zones, including facilities for groundwater recharge, surface distribution, and the purification and treatment of such water."*
4. *"To pay the principal or interest of any bonded indebtedness or other obligations incurred by the district on behalf of such zone or zones for any of the purposes set forth in paragraphs 1, 2, and 3 of this section.")*

The Raw water T & D General Maintenance Project supports purpose #3 because it maintains water utility facilities.

IV. EFFICIENCY SCENARIOS

N/A

V. TEAM ROSTER

UNIT	*TITLE*	*ROLE/TASKS*
Raw Water Field Operations and Pipeline Maintenance Unit	*Field Operations Unit Manager*	*Overall responsibility for implementation of project including keeping project within budget, on schedule, and ensure quality of the delivery of products*
Raw Water Field Operations and Pipeline Maintenance Unit	*Mechanical Maintenance Supervisor*	*Supervise operation and maintenance of water supply management systems per standard operating procedures and operations plans.*
All Watershed Field Operations Units	*Maintenance Workers*	*Service provider providing project support for Field Operations' projects; i.e. recharge pond cleaning and various civil maintenance projects. Provides project support for Raw Water Transmission Unit's raw/treated water pipeline projects.*
Vegetation Management Unit	*Maintenance Workers*	*Support for maintenance projects*
Utility Programs Support Unit	*Biologist*	*Provide biological assessment memorandum of impacts to fisheries, wildlife, and special status specie*
Treated Water Operations	*All staff*	*Customer receiving Raw Water Operations raw water delivery and pipeline maintenance services. TW input is critical when developing water delivery schedules, maintenance schedules and source water changes.*
Utility Programs Support Unit	*Environmental Planner*	*Provides environmental support as necessary (CEQA review etc.)*
Utility Programs Support Unit	*Engineers*	*Service provider provide engineering control systems*
Operations Planning and Analysis	*All staff*	*Customer receiving Raw Water Operations delivery services consistent with the OP&A water supply delivery plan*
Water Supply Operations and Maintenance Division	Deputy Operating Officer	• *Provide update to COO, CEO and Board* • *Present Budget in May/June to the Board*

VI. SERVICE LEVEL AGREEMENTS

N/A

Appendix B: Allocation Factors Used to Allocate Operating Costs to South Zone

		Project #	Project Name	South County Allocation	South County Share	North County Share	Total FY 2011	Basis of Allocation
Groundwater Management	Groundwater Management	91041015	Groundwater Recharge Reuse	6.0%	11	179	190	Population
		91042010	GroundWater Recharge Evaluatin	32.8%	38	77	115	Groundwater Recharge Ratio
		91042018	Groundwater Management Plan	35.7%	119	214	332	Groundwater Production Ratio
		91551001	Groundwater Monitoring	35.7%	221	398	619	Groundwater Production Ratio
		91551002	Groundwater Supply Management	35.7%	396	712	1,108	Groundwater Production Ratio
		91791012	Groundwater Quality Management	35.7%	516	930	1,446	Groundwater Production Ratio
		92761006	Rchrg & Raw Wtr Field Fac Asset Mgmt	32.8%	71	145	216	Groundwater Recharge Ratio
		92761007	Rchg & Raw Wtr Field Ops Plng & Anal	32.8%	83	170	253	Groundwater Recharge Ratio
		95811049	X Valley Level & Benchmark	0.0%	-	106	106	No South County Benefit
		61A01086	Recharge/RW Field Fac Maint	32.8%	91	185	276	Groundwater Recharge Ratio
		61A01087	Recharge/RW Field Ops	32.8%	748	1,533	2,281	Groundwater Recharge Ratio
					2,293	**4,649**	**6,942**	
Treated Water Operations and Maintenance	Treatment Plant Operations & Maintenance	93231007	PWTP Landslide Monitoring	0.0%	-	107	107	No South County Benefit
		93231009	PWTP Operations General	0.0%	-	4,531	4,531	No South County Benefit
		93231039	PWTP Ctrl and Electr Eng Serv	0.0%	-	378	378	No South County Benefit
		93231099	Penitencia WTP General Maint	0.0%	-	1,204	1,204	No South County Benefit
		93281005	STWTP - General Operations	0.0%	-	5,399	5,399	No South County Benefit
		93281040	STWP Ctrl and Electr Eng Serv	0.0%	-	378	378	No South County Benefit
		93281099	Santa Teresa Wtr General Maint	0.0%	-	1,370	1,370	No South County Benefit
		93291012	RWTP General Operations	0.0%	-	7,838	7,838	No South County Benefit
		93291041	RWTP Ops Crtl and Electr Eng Serv	0.0%	-	380	380	No South County Benefit
		93291099	Rinconada WTP General Maint	0.0%	-	1,978	1,978	No South County Benefit
		93761001	SF/SCVWD Intertie General Ops	0.0%	-	140	140	No South County Benefit
		93761004	Campbell Well Field Operations	0.0%	-	37	37	No South County Benefit
		93761005	Campbell Well Field Maintenance	0.0%	-	31	31	No South County Benefit
		93761099	SF/SCVWD Intertie General Maint.	0.0%	-	78	78	No South County Benefit
		61A01091	Water Treatment Plant - Engineering - Other	0.0%	-	541	541	No South County Benefit
					-	**24,391**	**24,391**	
	Drinking Water Quality	91452011	Invasive Mussel Prevention	13.6%	98	624	722	Raw Water Deliveries
		93081008	W T General Water Quality	0.0%	-	1,398	1,398	No South County Benefit
		93401002	Wtr District Laboratory	0.4%	14	3,108	3,122	Lab Analyses
					112	**5,130**	**5,242**	
	Treated Water Transmission & Distribution	94761004	Treated Wtr T&D Ctrl and Ele	0.0%	-	171	171	No South County Benefit
		94761005	Treated Water Eng - Other	0.0%	-	177	177	No South County Benefit
		94761099	Treated Water T&D Gen Maint	0.0%	-	717	717	No South County Benefit
		94781001	Treated Water T&D Corrosion	0.0%	-	325	325	No South County Benefit
		N/A	Treated Water Placeholder	0.0%	-	1,130	1,130	No South County Benefit
					-	**2,520**	**2,520**	

Appendix B: Allocation Factors Used to Allocate Operating Costs to South Zone (continued)

		Project #	Project Name	South County Allocation	South County Share	North County Share	Total FY 2011	Basis of Allocation
Water Supply	Water Supply Acquisition & Storage	91081007	Dam Safety Program	22.5%	335	1,156	1,491	Program Benefit Calculation
		91081012	Dam Maintenance EIR	21.6%	15	56	72	Program Benefit Calculation
		91131004	Imported Water Program	10.0%	423	3,806	4,229	Imported Water Ratio
		91761001	Local Res & Diversion Ops Plng & Anal	18.9%	63	271	334	Total Water Deliveries Ratio
		91761099	Dams & Reservoir Gen Maint	21.6%	208	756	964	Program Benefit Calculation
		61A01085	Local Reservoir/Diversion Ops	18.9%	56	240	296	Total Water Deliveries Ratio
					1,101	**6,285**	**7,386**	
	Imported Water Purchases	91131006	IW San Felipe Division Delvrs	10.9%	1,990	16,265	18,255	Program Benefit Calculation
		91131007	IW South Bay Aqueduct Delvrs	0.0%	-	22,411	22,411	No South County Benefit
					1,990	**38,677**	**40,667**	
	Raw Water Transmission & Distribution	91211004	San Felipe Reach 1 Operations	15.8%	84	447	531	CVP Imported Water Ratio
		91211084	San Felipe Reach1 Ctrl and Ele	15.8%	35	185	220	CVP Imported Water Ratio
		91211085	San Felipe Reach 1 Eng - Other	15.8%	28	151	180	CVP Imported Water Ratio
		91211099	San Felipe Reach 1 Gen Maint	15.8%	123	657	780	CVP Imported Water Ratio
		91221002	San Felipe Reach 2 Operations	15.8%	5	24	29	CVP Imported Water Ratio
		91221004	San Felipe Reach2 Ctrl & Ele	15.8%	14	72	86	CVP Imported Water Ratio
		91221006	San Felipe Reach 2 Eng - Other	15.8%	20	106	126	CVP Imported Water Ratio
		91221099	San Felipe Reach 2 Gen Maint	15.8%	16	83	99	CVP Imported Water Ratio
		91231002	San Felipe Reach 3 Operations	15.8%	21	241	262	CVP Imported Water Ratio
		91231084	San Felipe Reach3 Ctrl and Ele	15.8%	17	195	212	CVP Imported Water Ratio
		91231085	San Felipe Reach 3 Eng - Other	15.8%	12	143	155	CVP Imported Water Ratio
		91231099	San Felipe Reach 3 Gen Maint	15.8%	79	587	665	CVP Imported Water Ratio
		92261099	Vasona Pump Station Gen Maint	0.0%	-	66	66	No South County Benefit
		92761001	Raw Water T&D Gen'l Oper	13.6%	141	894	1,035	Raw Water Deliveries
		92761082	Raw Water T&D Ctrl and Electr	13.6%	50	317	367	Raw Water Deliveries
		92761083	Raw Water T&D Eng - Other	13.6%	16	104	121	Raw Water Deliveries
		92761099	Raw Water T & D Gen Maint	13.6%	130	827	957	Raw Water Deliveries
		95111004	Untreated Water Prog Plng & Anal	37.3%	20	34	54	Untreated Water Deliveries Ratio
		95761003	SCADA Network Administration	1.6%	2	135	138	Program Benefit Calculation
		95861002	Anderson Hydroelectric Fac Ops	13.6%	3	21	24	Raw Water Deliveries
		95861099	Anderson Hydroelec Facil Maint	13.6%	6	38	43	Raw Water Deliveries
		61A01088	Untreated Water Field Ops	37.3%	25	42	67	Untreated Water Deliveries Ratio
		N/A	San Felipe Ops Placeholder	15.8%	13	70	83	CVP Imported Water Ratio
					859	**5,439**	**6,298**	
Water Supply Planning	Short-term Water Supply Planning & Operations	91041012	Operations Planning Water	13.6%	25	160	185	Raw Water Deliveries
		91061005	Water Supply Accounting	13.6%	24	155	180	Raw Water Deliveries
		95811043	Hydrologic Data Management	16.6%	113	566	678	Stream Gauge Locations
					162	**881**	**1,043**	
	Water Supply System Sustainability	91111001	Water Rights	23.7%	37	120	157	Water Rights Volume
		92781002	RW Corrosion Control	13.6%	44	281	325	Raw Water Deliveries
		95011003	Asset Protection Support	20.0%	97	388	485	Program Benefit Calculation
					178	**789**	**967**	
	Long-term Water Supply Planning	91041002	Water Supply Management Tools	10.2%	22	190	212	M&I Water Usage Ratio
		91042008	Infrtr Reliabiliy Program	10.2%	6	53	59	M&I Water Usage Ratio
		91042011	Bay Area Water Supply Coord	0.0%	-	80	80	No South County Benefit
		91042014	Urban Water Management Plan 08	10.2%	14	121	135	M&I Water Usage Ratio
		91042016	Water Shortage Contingency Plan	10.2%	58	515	573	M&I Water Usage Ratio
		95041039	Integrated Planning	10.2%	9	80	89	M&I Water Usage Ratio
		95042031	Comprehensive WRM Plan	10.2%	5	42	47	M&I Water Usage Ratio
		95042037	Future Funding Strategies	10.2%	16	142	158	M&I Water Usage Ratio
		95061007	Water Utility Asset Mgmt Program	1.4%	10	690	700	Program Benefit Calculation
		95731001	Water Supply Modeling/Analysis	10.2%	39	341	379	M&I Water Usage Ratio
		95741001	WUE Long-term Planning	10.2%	102	900	1,002	M&I Water Usage Ratio
					280	**3,154**	**3,434**	

Appendix B: Allocation Factors Used to Allocate Operating Costs to South Zone (continued)

		Project #	Project Name	South County Allocation	South County Share	North County Share	Total FY 2011	Basis of Allocation
Recycling & Conservation	**Water Recycling**	91181001	Water Recycling - General	6.0%	109	1,705	1,814	Population
		92761008	Recycled Water T&D gen Main	100.0%	78	-	78	Benefits Only South County
					187	**1,705**	**1,892**	
	Water Conservation	91151001	Water Conservation Prog Support	6.0%	76	1,195	1,271	Population
		91151007	Water Conservation - Residential	5.9%	136	2,169	2,305	Program Benefit Calculation
		91151008	Water Conservation - Commercial	5.1%	95	1,775	1,870	Program Benefit Calculation
		91151009	Water Conservation - Ag	53.6%	221	191	412	Program Benefit Calculation
		91151010	Water Conservation - Landscape	7.0%	132	1,749	1,881	Program Benefit Calculation
		91152007	Water Conservation	6.0%	67	1,052	1,120	Population
					727	**8,132**	**8,859**	
Natural Resource Protection	**Resource Protection**	91061001	Environmental Planning & Compliance	18.3%	202	901	1,102	Estimated labor
		91451002	Well Ordinance Program	11.8%	149	1,110	1,259	Well Permits and Inspections
		91451005	Source Water Quality Management	10.2%	51	449	499	M&I Water Usage Ratio
		91452010	Perchlorate Bkgrnd Source Study	100.0%	16	-	16	Benefits Only South County
		95011002	Llagas Fire Mgmt	100.0%	131	-	131	Benefits Only South County
		95041025	SMP Biodiversity Monitoring	10.2%	4	33	37	M&I Water Usage Ratio
					552	**2,493**	**3,044**	
	Mitigations to Protect Natural Resources	91061012	Environmental Compliance Support	13.6%	4	25	29	Raw Water Deliveries
		91742041	Comprehensive Habitat Conservation Plan	18.6%	22	96	118	Geography of Planning Area
		92041014	Environmental Strategy - FAHCE	4.3%	57	1,260	1,317	Coyote Water Supply Ratio
		92061012	Environmental Compliance Support	13.6%	7	46	53	Raw Water Deliveries
		93061012	Environmental Compliance Support	0.0%	-	343	343	No South County Benefit
		95771011	District Urban Runoff Program	13.6%	10	64	74	Raw Water Deliveries
					100	**1,833**	**1,933**	
	Climate Change Mitigation &	95062036	Prepare for Climate Change	10.2%	14	124	138	M&I Water Usage Ratio
					14	**124**	**138**	
Support Services	**Water Utility Business Services**	91061007	Districtwide Salary Savings	10.2%	(54)	(471)	(525)	M&I Water Usage Ratio
		95001090	Unscoped Operations Activities	10.2%	51	449	500	M&I Water Usage Ratio
		95061027	Water Utility Health and Safety	15.0%	49	275	324	Number and Types of Facilities
		95061032	Water Utility Safety Training	15.0%	114	647	761	Number and Types of Facilities
		95061038	WUE Administration	10.2%	741	6,527	7,269	M&I Water Usage Ratio
		95061039	Ops Business Mgmt Support	10.2%	137	1,204	1,340	M&I Water Usage Ratio
		95061041	WU As-Built Drawing Control	10.2%	34	301	335	M&I Water Usage Ratio
		95111003	Water Use Measurement General	35.0%	388	720	1,108	Labor hours
		95121001	Fin/Economic Water Rate Study	10.2%	43	383	426	M&I Water Usage Ratio
		95771031	HAZMAT Emergency Response	9.1%	2	20	22	Emergency Response Events
		61A01084	Water Utility Water Revenue Program	61.7%	716	445	1,161	Program Costs
					2,222	**10,500**	**12,723**	
	Strategic Support Services	95061012	Rental Expense San Pedro, MH	100.0%	24	-	24	Benefits Only South County
		95061037	WU Workforce Development	10.2%	67	591	659	M&I Water Usage Ratio
		95071041	Welding Services	1.2%	1	88	89	Weighted Labor
		95761071	Emergency Services	6.0%	25	389	413	Population
		95811046	Warehouse Services	10.2%	36	316	351	M&I Water Usage Ratio
		95811054	Real and Non-Residential Property Mgmt	0.0%	-	36	36	No South County Benefit
					153	**1,420**	**1,572**	
				TOTAL	**10,930**	**118,122**	**129,052**	

Note: Projects 91231002, 91231084, 912341085, and 91231099 have been adjusted for the Coyote Pumping Plant costs.

Appendix C: Allocation Factors Used to Allocate Capital Costs to South Zone

(In Thousands $)						
Job Description	**Total Project Cost**	**South County %**	**South County Cost**	**FY 11 Cost Recovery***	**Year Cost Recovery is Complete**	**Basis of Allocation to the South**
Coyote Dam Outlet**	$ 6,703	15.0%	$ 1,005	$ 81	FY 12	Water usage
Uvas Reservoir Valves Replace	$ 303	100.0%	$ 303	$ 25	FY 14	Benefits only South County
Madrone Pipeline Replace	$ 389	100.0%	$ 389	$ 31	FY 14	Benefits only South County
Uvas Dam & Reservoir	$ 1,124	100.0%	$ 1,124	$ 88	FY 22	Benefits only South County
San Pedro Recharge Facility	$ 1,882	100.0%	$ 1,882	$ 147	FY 22	Benefits only South County
San Pedro Recharge house	$ 700	100.0%	$ 700	$ 47	FY 31	Benefits only South County
Recycled Water Improvements I	$ 7,232	100.0%	$ 7,232	$ 481	FY 32	Benefits only South County
Recycled Water Improvements II	$ 118	100.0%	$ 118	$ 8	FY 33	Benefits only South County
Recycled Water Improvements III	$ 1,721	100.0%	$ 1,721	$ 115	FY 34	Benefits only South County
Water Banking Rights	$ 6,226	8.0%	$ 498	$ 33	FY 36	Total Imported Water Ratio
Geodetic Control Maintenance	$ 236	41.0%	$ 97	$ 6	FY 36	Survey Analysis
Recycled Water - SCRWA Filter Upgrade	$ 3,257	100.0%	$ 3,257	$ 216	FY 37	Benefits only South County
Water Banking FY 06	$ 18,895	9.0%	$ 1,701	$ 113	FY 36	Total Imported Water Ratio
San Felipe Division Capital	$ 6,894	9.4%	$ 648	$ 648	N/A	Repayment Cost Distribution
Small Caps, San Felipe	$ 2,065	15.8%	$ 326	$ 326	N/A	CVP Imported Water Ratio
Santa Clara Tunnel Landslide	$ 4,509	15.1%	$ 681	$ 45	FY 39	CVP Imported Water Ratio
SC Tunnel Landslide Mitigation	$ 313	15.1%	$ 47	$ 3	FY 39	CVP Imported Water Ratio
Water Infrastructure Reliability Program	$ 2,134	1.5%	$ 32	$ 2	FY 36	Program benefit calculation
Water Infrastructure Baseline Improvement	$ 2,403	3.6%	$ 87	$ 6	FY 38	Spare pipe usage
Coyote Dam Control Building Improvement	$ 347	10.2%	$ 35	$ 2	FY 40	M&I Water Usage Ratio
Raw Water Control System	$ 9,188	4.3%	$ 399	$ 26	FY 37	Program benefit calculation
Small Caps, Raw Water	$ 478	13.6%	$ 65	$ 65	N/A	Raw Water Usage
Information Systems Management	$ 5,802	9.8%	$ 569	$ 38	FY 40	M&I Water Usage Ratio
Peoplesoft Upgrade	$ 78	9.8%	$ 8	$ 1	FY 39	M&I Water Usage Ratio
Corp Yard Relocation	$ 26	10.2%	$ 3	$ 0	FY 40	M&I Water Usage Ratio
Capital Program Administration	$ 4,094	8.2%	$ 336	$ 337	N/A	Total Capital Cost Ratio
Grand Total	**$ 87,116**		**$ 23,262**	**$ 2,889**		

* Capital projects that benefit South County are paid for over the life of the project (typically 30 years) beginning when the project is completed

** Actual project costs unable to be verified as the financial system in place in the 1980's has long since been retired

Appendix D: Allocation Factors Used to Allocate Operating Costs to Customer Classes

Function	Project #	Project Name	Customer Class[1]
Admin/General	95061012	Rental Expense San Pedro, MH	G
Admin/General	95811049	X Valley Level & Benchmark	Ind-G
Admin/General	95001090	Unscoped Operations Activities	Ind-GST
Admin/General	95011002	Llagas Fire Mgmt	Ind-GST
Admin/General	95011003	Asset Protection Support	Ind-GST
Admin/General	95041025	SMP Biodiversity Monitoring	Ind-GST
Admin/General	95041039	Integrated Planning	Ind-GST
Admin/General	95042031	Comprehensive WRM Plan	Ind-GST
Admin/General	95042037	Future Funding Strategies	Ind-GST
Admin/General	95061007	Water Utility Asset Mgmt Program	Ind-GST
Admin/General	95061027	Water Utility Health and Safety	Ind-GST
Admin/General	95061032	Water Utility Safety Training	Ind-GST
Admin/General	95061037	WU Workforce Development	Ind-GST
Admin/General	95061038	WUE Administration	Ind-GST
Admin/General	95061039	Ops Business Mgmt Support	Ind-GST
Admin/General	95061041	WU As-Built Drawing Control	Ind-GST
Admin/General	95062036	Prepare for Climate Change	Ind-GST
Admin/General	95071041	Welding Services	Ind-GST
Admin/General	95111003	Water Use Measurement General	Ind-GST
Admin/General	95121001	Fin/Economic Water Rate Study	Ind-GST
Admin/General	95731001	Water Supply Modeling/Analysis	Ind-GST
Admin/General	95741001	WUE Long-term Planning	Ind-GST
Admin/General	95761003	SCADA Network Administration	Ind-GST
Admin/General	95761071	Emergency Services	Ind-GST
Admin/General	95771011	District Urban Runoff Program	Ind-GST
Admin/General	95771031	HAZMAT Emergency Response	Ind-GST
Admin/General	95811043	Hydrologic Data Management	Ind-GST
Admin/General	95811046	Warehouse Services	Ind-GST
Admin/General	95811054	Real and Non-Residential Property Mgmt	Ind-GST
Admin/General	95861002	Anderson Hydroelectric Fac Ops	Ind-GST
Admin/General	95861099	Anderson Hydroelec Facil Maint	Ind-GST
Admin/General	61A01084	Water Utility Water Revenue Program	Ind-GST
Admin/General	95111004	Untreated Water Prog Plng & Anal	S
Admin/General	61A01088	Untreated Water Field Ops	S
Raw Water T&D	92761006	Rchrg & Raw Wtr Field Fac Asset Mgmt	G
Raw Water T&D	92761007	Rchg & Raw Wtr Field Ops Plng & Anal	G
Raw Water T&D	61A01086	Recharge/RW Field Fac Maint	G
Raw Water T&D	61A01087	Recharge/RW Field Ops	G
Raw Water T&D	92041014	Environmental Strategy - FAHCE	GST
Raw Water T&D	92061012	Environmental Compliance Support	GST
Raw Water T&D	92261099	Vasona Pump Station Gen Maint	GST
Raw Water T&D	92761001	Raw Water T&D Gen'l Oper	GST
Raw Water T&D	92761082	Raw Water T&D Ctrl and Electr	GST
Raw Water T&D	92761083	Raw Water T&D Eng - Other	GST
Raw Water T&D	92761099	Raw Water T & D Gen Maint	GST
Raw Water T&D	92781002	RW Corrosion Control	GST
Raw Water T&D	92761008	Recycled Water T&D gen Main	R

Appendix D: Allocation Factors Used to Allocate Operating Costs to Customer Classes (continued)

Function	Project #	Project Name	Customer Class[1]
Source of Supply	91131006	IW San Felipe Division Delvrs	CVP
Source of Supply	91041015	Groundwater Recharge Reuse	G
Source of Supply	91042010	GroundWater Recharge Evaluatin	G
Source of Supply	91042018	Groundwater Management Plan	G
Source of Supply	91451002	Well Ordinance Program	G
Source of Supply	91452010	Perchlorate Bkgrnd Source Study	G
Source of Supply	91551001	Groundwater Monitoring	G
Source of Supply	91551002	Groundwater Supply Management	G
Source of Supply	91791012	Groundwater Quality Management	G
Source of Supply	91041002	Water Supply Management Tools	GST
Source of Supply	91041012	Operations Planning Water	GST
Source of Supply	91042008	Infrtr Reliabiliy Program	GST
Source of Supply	91042011	Bay Area Water Supply Coord	GST
Source of Supply	91042014	Urban Water Management Plan 08	GST
Source of Supply	91042016	Water Shortage Contingency Plan	GST
Source of Supply	91061001	Environmental Planning & Compliance	GST
Source of Supply	91061005	Water Supply Accounting	GST
Source of Supply	91061012	Environmental Compliance Support	GST
Source of Supply	91081007	Dam Safety Program	GST
Source of Supply	91081012	Dam Maintenance EIR	GST
Source of Supply	91131004	Imported Water Program	GST
Source of Supply	91131005	Water Banking Program	GST
Source of Supply	91151001	Water Conservation Prog Support	GST
Source of Supply	91151007	Water Conservation - Residential	GST
Source of Supply	91151008	Water Conservation - Commercial	GST
Source of Supply	91151009	Water Conservation - Ag	GST
Source of Supply	91151010	Water Conservation - Landscape	GST
Source of Supply	91152007	Water Conservation	GST
Source of Supply	91181001	Water Recycling - General	GST
Source of Supply	91211004	San Felipe Reach 1 Operations	GST
Source of Supply	91211084	San Felipe Reach1 Ctrl and Ele	GST
Source of Supply	91211085	San Felipe Reach 1 Eng - Other	GST
Source of Supply	91211099	San Felipe Reach 1 Gen Maint	GST
Source of Supply	91221002	San Felipe Reach 2 Operations	GST
Source of Supply	91221004	San Felipe Reach2 Ctrl & Ele	GST
Source of Supply	91221006	San Felipe Reach 2 Eng - Other	GST
Source of Supply	91221099	San Felipe Reach 2 Gen Maint	GST
Source of Supply	91231002	San Felipe Reach 3 Operations	GST
Source of Supply	91231084	San Felipe Reach3 Ctrl and Ele	GST
Source of Supply	91231085	San Felipe Reach 3 Eng - Other	GST
Source of Supply	91231099	San Felipe Reach 3 Gen Maint	GST
Source of Supply	91451005	Source Water Quality Management	GST
Source of Supply	91452011	Invasive Mussel Prevention	GST
Source of Supply	91742041	Comprehensive Habitat Conservation Plan	GST
Source of Supply	91761001	Local Res & Diversion Ops Plng & Anal	GST
Source of Supply	91761099	Dams & Reservoir Gen Maint	GST
Source of Supply	61A01085	Local Reservoir/Diversion Ops	GST
Source of Supply	91061007	Districtwide Salary Savings	Ind-GST
Source of Supply	91111001	Water Rights	S
Source of Supply	91131007	IW South Bay Aqueduct Delvrs	SWP

Appendix D: Allocation Factors Used to Allocate Operating Costs to Customer Classes (continued)

Function	Project #	Project Name	Customer Class[1.]
Treated Water T&D	94761004	Treated Wtr T&D Ctrl and Ele	T
Treated Water T&D	94761005	Treated Water Eng - Other	T
Treated Water T&D	94761099	Treated Water T&D Gen Maint	T
Treated Water T&D	94781001	Treated Water T&D Corrosion	T
Treatment Plants	93061012	Environmental Compliance Support	T
Treatment Plants	93081008	W T General Water Quality	T
Treatment Plants	93231007	PWTP Landslide Monitoring	T
Treatment Plants	93231009	PWTP Operations General	T
Treatment Plants	93231039	PWTP Ctrl and Electr Eng Serv	T
Treatment Plants	93231099	Penitencia WTP General Maint	T
Treatment Plants	93281005	STWTP - General Operations	T
Treatment Plants	93281040	STWP Ctrl and Electr Eng Serv	T
Treatment Plants	93281099	Santa Teresa Wtr General Maint	T
Treatment Plants	93291012	RWTP General Operations	T
Treatment Plants	93291041	RWTP Ops Crtl and Electr Eng Serv	T
Treatment Plants	93291099	Rinconada WTP General Maint	T
Treatment Plants	93401002	Wtr District Laboratory	T
Treatment Plants	93761001	SF/SCVWD Intertie General Ops	T
Treatment Plants	93761004	Campbell Well Field Operations	T
Treatment Plants	93761005	Campbell Well Field Maintenance	T
Treatment Plants	93761099	SF/SCVWD Intertie General Maint.	T
Treatment Plants	61A01091	Water Treatment Plant - Engineering - Other	T

Note: There are four customer classes: Groundwater Users, Surface Water Users,Treated Water Users, and recycled water

1. **G** = Groundwater Users
   S = Surface Water Users
   T = Treated Water Users
   R = Recycled Water Users
   Ind = Indirect
   SWP = State Water Project, This cost is allocated to each customer class based on ratio of state water that went to groundwater, treated water and surface water.
   CVP = Central Valley Project, This cost is allocated to each customer class based on ratio of historical costs allocated to the customer classes.