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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,

A handwritten signature in black ink that reads "George A. Raftelis". The signature is written in a cursive, flowing style.

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**



## Executive Summary

In early 2010, the Santa Clara Valley Water District (District) engaged Raftelis Financial Consulting, Inc<sup>1</sup>. (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<sup>2</sup> (District Act), and Resolution 99-21<sup>3</sup>.
- 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.

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<sup>1</sup> 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](http://www.raftelis.com) for more information on RFC.

<sup>2</sup> The District Act can be viewed by going to the District's website at the following link: [www.valleywater.org](http://www.valleywater.org)

<sup>3</sup> Resolution 99-21 can be viewed by going to the District's website at the following link:

[www.valleywater.org](http://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<br>(estimate) | % of Use<br>2009 | % of Use<br>5-yr<br>average |
|---------------------------|---------------|---------------|---------------|---------------|--------------------|------------------|-----------------------------|
| <b>Zone W-2</b>           |               |               |               |               |                    |                  |                             |
| 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%                        |
| <b>Subtotal: Zone W-2</b> | <b>224.09</b> | <b>219.19</b> | <b>241.34</b> | <b>240.09</b> | <b>241.12</b>      | <b>80.6%</b>     | <b>80.2%</b>                |
| <b>Zone W-5</b>           |               |               |               |               |                    |                  |                             |
| 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%                        |
| <b>Subtotal: Zone W-5</b> | <b>50.47</b>  | <b>55.09</b>  | <b>60.8</b>   | <b>64.01</b>  | <b>58.1</b>        | <b>19.4%</b>     | <b>19.8%</b>                |
| <b>TOTAL</b>              | <b>274.55</b> | <b>274.28</b> | <b>302.14</b> | <b>304.11</b> | <b>299.22</b>      | <b>100.0%</b>    | <b>100.0%</b>               |

**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     |
|---|----------|----------|----------|----------|----------|----------|
| <b>Zone W-2</b>                           |          |          |          |          |          |          |
| <b>Groundwater</b>                        |          |          |          |          |          |          |
| 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  |
| <b>Treated Water Surcharge (contract)</b> | \$90.00  | \$90.00  | \$100.00 | \$100.00 | \$100.00 | \$100.00 |
| <b>Surface Water Surcharge</b>            | \$11.75  | \$11.75  | \$11.75  | \$11.75  | \$11.75  | \$11.75  |
| <b>Zone W-5</b>                           |          |          |          |          |          |          |
| <b>Groundwater</b>                        |          |          |          |          |          |          |
| 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  |
| <b>Surface Water Surcharge</b>            | \$11.75  | \$11.75  | \$11.75  | \$11.75  | \$11.75  | \$11.75  |
| <b>Recycled Water</b>                     |          |          |          |          |          |          |
| 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**

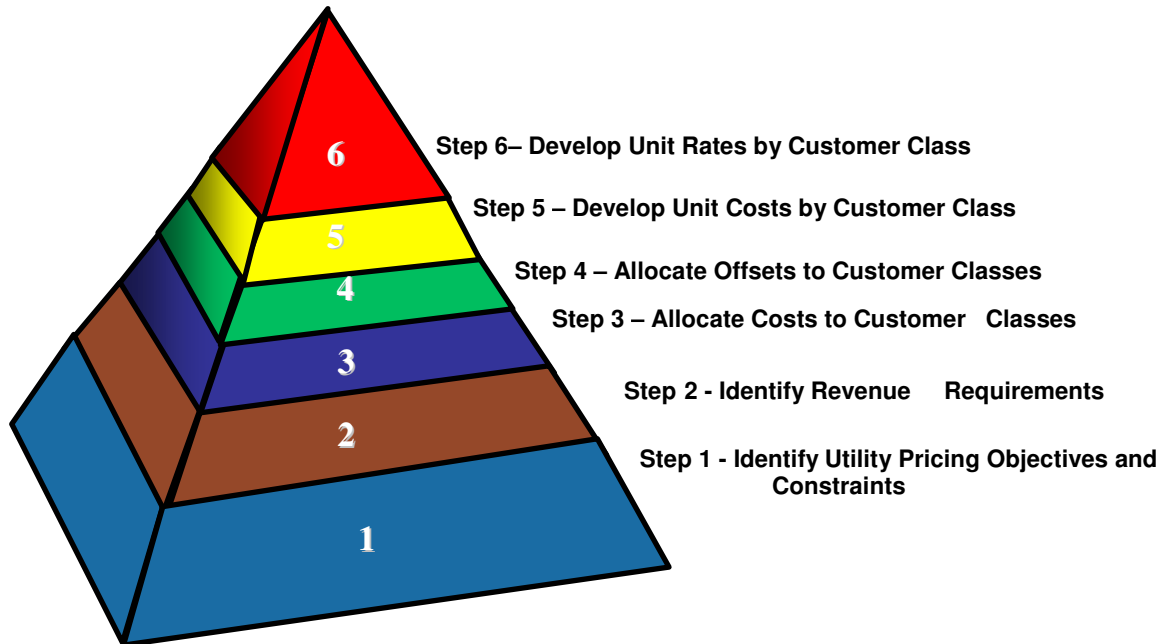
**History of Rate Increases and Ratio of Treated Water Sales**

|  | 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.

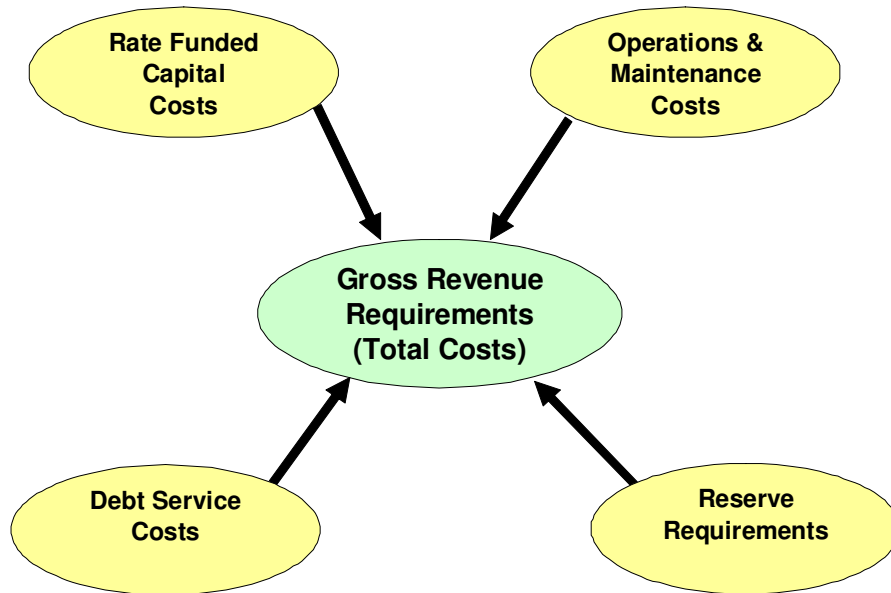
**Exhibit 5**  
**Pricing Objectives**



**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**

| <b>Pricing Objective</b>                          | <b>Description</b>  |
|---|---|
| <i>Primary Objectives</i>                         |   |
| <b>Legal Considerations</b>                       | 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.  |
| <b>Cost of Service Based Allocations</b>          | 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.  |
| <b>Revenue Sufficiency</b>                        | 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.                             |
| <b>Demand Management</b>                          | The rate structure should assist in managing system demand and regulating the use of treated water, surface water, groundwater and recycled water.  |
| <b>Environmental Stewardship</b>                  | 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.   |
| <i>Secondary Objectives</i>                       |   |
| <b>Revenue Stability</b>                          | 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.  |
| <b>Equitable Contributions from New Customers</b> | New customers should be responsible for the incremental operating and capital costs associated with providing them service.   |
| <b>Economic Development</b>                       | The rate structure should incorporate policies that may attract economic development to a utility's service area.   |
| <b>Ease of Implementation</b>                     | 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.   |
| <b>Minimization of Customer Impacts</b>           | The rate structure should be developed such that adverse rate impacts on customer classes are minimized.  |
| <b>Simple to Understand and Update</b>            | 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)**

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

**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 repayments 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 <b>Operating Outlays</b>              |          |     |         |       |    |           |          |       |     |     |     |    |        |           |
| 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 <b>Total Operating Outlays</b>        | 36,872   | 139 | 96,166  | 1,343 | 14 | 134,535   | 5,372    | 4,974 | 52  | 339 | 123 | 70 | 10,930 | 145,465   |
| 6                                       |          |     |         |       |    |           |          |       |     |     |     |    |        |           |
| 7 <b>Capital &amp; Transfers</b>        |          |     |         |       |    |           |          |       |     |     |     |    |        |           |
| 8 Operating Transfers Out               | -        | -   | -       | -     | -  | -         | -        | -     | -   | -   | -   | -  | -      | -         |
| 9 Capital Outlays excl. carryfo         | 16,443   | 62  | 35,168  | 527   | 6  | 52,207    | -        | -     | -   | -   | -   | -  | -      | 52,207    |
| 10 <b>Total Capital &amp; Transfers</b> | 16,443   | 62  | 35,168  | 527   | 6  | 52,207    | -        | -     | -   | -   | -   | -  | -      | 52,207    |
| 11 <b>Total Annual Program Costs</b>    | 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 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                       | <b>Operating Outlays</b>                             |               |            |                |              |           |                |              |              |           |            |            |            |               |                |
| 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                       | <b>Total Operating Outlays</b>                       | <b>36,872</b> | <b>139</b> | <b>96,166</b>  | <b>1,343</b> | <b>14</b> | <b>134,535</b> | <b>5,372</b> | <b>4,974</b> | <b>52</b> | <b>339</b> | <b>123</b> | <b>70</b>  | <b>10,930</b> | <b>145,465</b> |
| 6                       | <b>Capital &amp; Transfers</b>                       |               |            |                |              |           |                |              |              |           |            |            |            |               |                |
| 7                       | Operating Transfers Out                              | -             | -          | -              | -            | -         | -              | -            | -            | -         | -          | -          | -          | -             | -              |
| 8                       | Capital Outlays excl. carryfo                        | 16,443        | 62         | 35,168         | 527          | 6         | 52,207         | -            | -            | -         | -          | -          | -          | -             | 52,207         |
| 9                       | <b>Total Capital &amp; Transfers</b>                 | <b>16,443</b> | <b>62</b>  | <b>35,168</b>  | <b>527</b>   | <b>6</b>  | <b>52,207</b>  | <b>-</b>     | <b>-</b>     | <b>-</b>  | <b>-</b>   | <b>-</b>   | <b>-</b>   | <b>-</b>      | <b>52,207</b>  |
| 10                      | <b>Total Annual Program Costs</b>                    | <b>53,315</b> | <b>201</b> | <b>131,334</b> | <b>1,870</b> | <b>20</b> | <b>186,741</b> | <b>5,372</b> | <b>4,974</b> | <b>52</b> | <b>339</b> | <b>123</b> | <b>70</b>  | <b>10,930</b> | <b>197,671</b> |
| 11                      | <b>Step 3 - Allocate costs to customer classes</b>   |               |            |                |              |           |                |              |              |           |            |            |            |               |                |
| 12                      | <b>Revenue Requirement Offsets</b>                   |               |            |                |              |           |                |              |              |           |            |            |            |               |                |
| 13                      | Capital Cost Recovery                                | (1,394)       | (5)        | (1,443)        | (46)         | (0)       | (2,889)        | 1,045        | 967          | 8         | 50         | 522        | 298        | 2,889         | -              |
| 14                      | Debt Proceeds  | (6,723)       | (25)       | (14,379)       | (216)        | (2)       | (21,346)       | -            | -            | -         | -          | -          | -          | -             | (21,346)       |
| 15                      | Inter-governmental Services                          | (512)         | (2)        | (529)          | (17)         | (0)       | (1,060)        | (55)         | (51)         | (0)       | (3)        | -          | -          | (109)         | (1,169)        |
| 16                      | 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)       |
| 17                      | Inter-zone Interest                                  | (107)         | (0)        | (110)          | (4)          | (0)       | (221)          | 107          | 99           | 1         | 5          | 6          | 3          | 221           | -              |
| 18                      | Capital Contributions                                | (3,542)       | (13)       | (3,666)        | (117)        | (1)       | (7,339)        | -            | -            | -         | -          | -          | -          | -             | (7,339)        |
| 19                      | Perchlorate Response                                 | (1,174)       | (4)        | (1,215)        | (39)         | (0)       | (2,433)        | 1,263        | 1,170        | -         | -          | -          | -          | 2,433         | -              |
| 20                      | Other  | (349)         | (1)        | (1,922)        | (18)         | (0)       | (2,291)        | (20)         | (19)         | (0)       | (1)        | -          | -          | (40)          | (2,331)        |
| 21                      | Reserve Requirements                                 | (2,090)       | (8)        | (4,469)        | (67)         | (1)       | (6,634)        | -            | -            | -         | -          | -          | -          | -             | (6,634)        |
| 22                      | <b>Adjusted Revenue Requirement</b>                  | <b>33,659</b> | <b>127</b> | <b>90,164</b>  | <b>1,103</b> | <b>12</b> | <b>125,066</b> | <b>7,188</b> | <b>6,656</b> | <b>56</b> | <b>366</b> | <b>623</b> | <b>356</b> | <b>15,244</b> | <b>140,310</b> |
| 23                      | 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          |
| 24                      | Revenue Requirement per AF                           | \$ 318        | \$ 318     | \$ 822         | \$ 315       | \$ 315    |                | \$ 266       | \$ 266       | \$ 281    | \$ 281     | \$ 445     | \$ 445     |               |                |
| 25                      | <b>Step 5 - Develop unit costs by customer class</b> |               |            |                |              |           |                |              |              |           |            |            |            |               |                |

## **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 <b>Operating Outlays</b>                          |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 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 <b>Total Operating Outlays</b>                    | 36,872   | 139     | 96,166   | 1,343   | 14      | 134,535   | 5,372    | 4,974   | 52     | 339     | 123    | 70      | 10,930  | 145,465   |
| 6 <b>Capital &amp; Transfers</b>                    |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 7 Operating Transfers Out                           | -        | -       | -        | -       | -       | -         | -        | -       | -      | -       | -      | -       | -       | -         |
| 8 Capital Outlays excl. carryfo                     | 16,443   | 62      | 35,168   | 527     | 6       | 52,207    | -        | -       | -      | -       | -      | -       | -       | 52,207    |
| 9 <b>Total Capital &amp; Transfers</b>              | 16,443   | 62      | 35,168   | 527     | 6       | 52,207    | -        | -       | -      | -       | -      | -       | -       | 52,207    |
| 10 <b>Total Annual Program Costs</b>                | 53,315   | 201     | 131,334  | 1,870   | 20      | 186,741   | 5,372    | 4,974   | 52     | 339     | 123    | 70      | 10,930  | 197,671   |
| 11  |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 12  |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 13 <b>Revenue Requirement Offsets</b>               |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 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 <b>Adjusted Revenue Requirement</b>              | 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 <b>Adjustments for Agricultural Preservation</b> |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 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 <b>Adjustments to Facilitate Conjunctive Use</b> |          |         |          |         |         |           |          |         |        |         |        |         |         |           |
| 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 |

## 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     |
|-------------------------|----------|----------|
| <b>Zone W-2</b>         |          |          |
| 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  |
| <b>Zone W-5</b>         |          |          |
| 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 |
|--|-----------------------------------|--------------------------|-----------|----------|--|---------------------------|-----------------------------------|------------------------|
| <b>Metropolitan Water District of Southern California (Tier 1)</b> | Wholesale Only                    |                          | \$484.00  | \$701.00 | \$394                                    | Yes                       | 1.45                              | 1.23                   |
| <b>San Francisco Public Utilities Commission</b>                   | Wholesale/Retail                  |                          |           | \$719.00 |  | Yes                       | N/A                               | N/A                    |
| <b>Orange County Water District</b>                                | Wholesale Only                    | X                        | \$249.00  |          | \$124.50                                 | Yes                       | N/A                               | 2.00                   |
| <b>Zone 7 Water Agency</b>   | Wholesale Only                    | X                        |           | \$804.00 | \$181.00                                 | No                        | N/A                               | 4.44                   |
| <b>San Diego County Water Authority</b>                            | Wholesale Only                    |                          | \$527.00  | \$695.00 | \$476.00                                 | Yes                       | 1.32                              | 1.11                   |
| <b>Western Municipal Water District (Riverside Zone 1)</b>         | Wholesale/Retail                  |                          | \$617.25  | \$727.89 | \$443.00                                 | No                        | 1.18                              | 1.39                   |
| <b>Stockton East Water District</b>                                | Wholesale/Retail                  | X                        | \$144.71  | \$257.11 | \$4.58                                   | Yes                       | 1.78                              | 31.60                  |
| <b>Glenn-Colusa Irrigation District</b>                            | Wholesale/Irrigation              | X                        | N/A       | N/A      | Rates vary based on crop being irrigated | Yes                       | N/A                               | N/A                    |
| <b>Average</b>   |                                   |                          |           |          |  |                           | 1.43                              | 6.96                   |
| <b>Range</b>   |                                   |                          |           |          |  |                           | 1.18-1.78                         | 1.11-31.6              |
| <b>Santa Clara Valley Water District</b>                           | 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.



## **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:**

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**Project Lead** **Date**

**Approved By:**

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**Gary Nagaoka** **Date**  
**Unit Manager**

**Accepted By:**

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**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                | <i>Inspecting and rehabilitating a pre-planned number of miles of pipe or sections consistent with the District’s annual maintenance work plan</i>   | Q1                       | Q4                        |
| A.2                | <ul style="list-style-type: none"> <li>• <i>Completion of identified Preventive Maintenance (PM) work</i></li> <li>• <i>Completion of identified Planned Maintenance (Life Cycle Replacement)</i></li> <li>• <i>Completion of identified Corrective Maintenance (CM) work</i></li> <li>• <i>Completion identified maintenance modification activities</i></li> </ul> | 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

| <i>UNIT</i>   | <i>TITLE</i>                             | <i>ROLE/TASKS</i>   |
|---|--|---|
| <i>Raw Water Field Operations and Pipeline Maintenance Unit</i> | <i>Field Operations Unit Manager</i>     | <i>Overall responsibility for implementation of project including keeping project within budget, on schedule, and ensure quality of the delivery of products</i>  |
| <i>Raw Water Field Operations and Pipeline Maintenance Unit</i> | <i>Mechanical Maintenance Supervisor</i> | <i>Supervise operation and maintenance of water supply management systems per standard operating procedures and operations plans.</i>   |
| <i>All Watershed Field Operations Units</i>                     | <i>Maintenance Workers</i>               | <i>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.</i> |
| <i>Vegetation Management Unit</i>                               | <i>Maintenance Workers</i>               | <i>Support for maintenance projects</i>   |
| <i>Utility Programs Support Unit</i>                            | <i>Biologist</i>                         | <i>Provide biological assessment memorandum of impacts to fisheries, wildlife, and special status specie</i>  |
| <i>Treated Water Operations</i>                                 | <i>All staff</i>                         | <i>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.</i>                                   |
| <i>Utility Programs Support Unit</i>                            | <i>Environmental Planner</i>             | <i>Provides environmental support as necessary (CEQA review etc.)</i>   |
| <i>Utility Programs Support Unit</i>                            | <i>Engineers</i>                         | <i>Service provider provide engineering control systems</i>   |
| <i>Operations Planning and Analysis</i>                         | <i>All staff</i>                         | <i>Customer receiving Raw Water Operations delivery services consistent with the OP&amp;A water supply delivery plan</i>  |
| <i>Water Supply Operations and Maintenance Division</i>         | <i>Deputy Operating Officer</i>          | <ul style="list-style-type: none"> <li>• <i>Provide update to COO, CEO and Board</i></li> <li>• <i>Present Budget in May/June to the Board</i></li> </ul>   |

## 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 Ping & 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   |                         |
|   |   |   |                                      |                            | <b>2,293</b>       | <b>4,649</b>       | <b>6,942</b>            |                              |                         |
| 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 Ctrl 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 |                              |                         |
|   |   |   |                                      |                            |                    | -                  | <b>24,391</b>           | <b>24,391</b>                |                         |
|   | Drinking Water Quality                    | 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            |
|   |   |   |                                      |                            |                    | <b>112</b>         | <b>5,130</b>            | <b>5,242</b>                 |                         |
| Treated Water Transmission & Distribution | 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      |                         |
|   |   |   |                                      |                            | -                  | <b>2,520</b>       | <b>2,520</b>            |                              |                         |



**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 Ping & 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     |
|                       |   |                                  |                                       |                         | <b>1,101</b>       | <b>6,285</b>          | <b>7,386</b>                     |                                  |
|                       | 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          |
|                       |   |                                  |                                       |                         | <b>1,990</b>       | <b>38,677</b>         | <b>40,667</b>                    |                                  |
|                       | 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 Ping & 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         |                                  |
|                       |   |                                  |                                       | <b>859</b>              | <b>5,439</b>       | <b>6,298</b>          |                                  |                                  |
| 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           |
|                       |   |                                  |                                       |                         | <b>162</b>         | <b>881</b>            | <b>1,043</b>                     |                                  |
|                       | 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      |
|                       |   |                                  |                                       |                         | <b>178</b>         | <b>789</b>            | <b>967</b>                       |                                  |
|                       | Long-term Water Supply Planning               | 91041002                         | Water Supply Management Tools         | 10.2%                   | 22                 | 190                   | 212                              | M&I Water Usage Ratio            |
|                       |   | 91042008                         | Infrtr Reliability 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 |                                  |                                  |
|                       |   |                                  |                                       | <b>280</b>              | <b>3,154</b>       | <b>3,434</b>          |                                  |                                  |

**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     |
|                             |  |                                 |   |                              | <b>187</b>         | <b>1,705</b>       | <b>1,892</b>   |                                |
|                             | 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                     |
|                             |  |                                 |   |                              | <b>727</b>         | <b>8,132</b>       | <b>8,859</b>   |                                |
| 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 Bkgmd 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          |
|                             |  |                                 |   | <b>552</b>                   | <b>2,493</b>       | <b>3,044</b>       |                |                                |
|                             | 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           |
|                             |  |                                 |   |                              | <b>100</b>         | <b>1,833</b>       | <b>1,933</b>   |                                |
|                             | Climate Change Mitigation &              | 95062036                        | Prepare for Climate Change              | 10.2%                        | 14                 | 124                | 138            | M&I Water Usage Ratio          |
|                             |  |                                 |   |                              | <b>14</b>          | <b>124</b>         | <b>138</b>     |                                |
|                             | Support Services                         | Water Utility Business Services | 91061007                                | Districtwide Salary Savings  | 10.2%              | (54)               | (471)          | (525)                          |
| 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                  |
|                             |  |                                 |   |                              | <b>2,222</b>       | <b>10,500</b>      | <b>12,723</b>  |                                |
| Strategic Support Services  |  |                                 | 95061012                                | Rental Expense San Pedro, MH | 100.0%             | 24                 | -              | 24                             |
|                             |  | 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        |
|                             |  |                                 |   | <b>153</b>                   | <b>1,420</b>       | <b>1,572</b>       |                |                                |
|                             |  |                                 |   | <b>TOTAL</b>                 | <b>10,930</b>      | <b>118,122</b>     | <b>129,052</b> |                                |

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         |
| <b>Grand Total</b>  | <b>\$ 87,116</b>   |                | <b>\$ 23,262</b>  | <b>\$ 2,889</b>      |                                |                                  |
| * 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 <sup>1</sup> |
|---------------|-----------|--|-----------------------------|
| 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 <sup>1</sup> |
|------------------|-----------|---|-----------------------------|
| 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 <sup>1.</sup> |
|-------------------|--|---|------------------------------|
| 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 Ctrl 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   |   |                              |
|                   |  |   |                              |
|                   | <sup>1.</sup> <b>G</b> = Groundwater Users   |   |                              |
|                   | <b>S</b> = Surface Water Users   |   |                              |
|                   | <b>T</b> = Treated Water Users   |   |                              |
|                   | <b>R</b> = Recycled Water Users  |   |                              |
|                   | <b>Ind</b> = Indirect  |   |                              |
|                   | <b>SWP</b> = 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. |   |                              |
|                   | <b>CVP</b> = Central Valley Project, This cost is allocated to each customer class based on ratio of historical costs allocated to the customer classes.                 |   |                              |