

Pinedale County Water District

Comprehensive Water Rate Study

March 2012



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Executive Summary

Introduction

Blomberg & Griffin Accountancy Corporation was contracted by the Pinedale County Water District (District) to perform a comprehensive water rate study. The purpose of this rate study was twofold. The first step in the analysis was to determine the adequacy of the existing water rates and provide the basis for adjustments to meet the District's future operating and capital needs. Secondly, the District is required by California State law to implement metered water rates by January 1, 2025. As a result, the analysis herein developed a water rate transition plan to implement metered water rates in the short term, as well as a rate transition plan to provide adequate funding over the next ten year period.

Overview of the Comprehensive Rate Study Process

A comprehensive rate study consists of three interrelated analyses. Table ES - 1 provides an overview of these analyses.

Table ES - 1
Overview of the Comprehensive Rate Analyses

Revenue Requirement Analysis	<i>Compares the revenue of the utility to the expenses to determine the overall Rate adjustment required</i>
Cost of Services Analysis	<i>Allocates the revenue requirements to the various customer classes of service in an equitable manner</i>
Rate Design Analysis	<i>Considers both the level and structure of the rate design to collect the appropriate and targeted level of revenues</i>

In conducting the comprehensive water rate study, each of the above mentioned analyses was completed. Provided below is a summary of each analysis

Water Revenue Requirement Analysis – The development of the water revenue requirement was the first analysis undertaken in the water rate study. This analysis was used to determine the overall adequacy of the water utility rates.

Executive Summary

For this particular study, the revenue requirements were developed for a ten-year projected time period (Fiscal Year 2011/2012 – Fiscal Year 2020/2021). However, the study focused on the next four fiscal years (FY 2011/2012 – FY 2015/2016). In projecting the revenues and operating expenses for the utility, the primary inputs to the analysis were the District's accounting and billing records, and capital plan.

A "cash basis" revenue requirement was developed that considered the prudent funding of both operating and capital infrastructure requirements of the District. The fiscal year (FY) 2010/2011 financial statements were used as a starting point. Escalation factors were



developed for various types of expenses the District incurs. The escalation factors used ranged from 1% to 5% per year. The discussion in this report will focus on FY 2010/2011 as the rate setting period.

An important aspect of the water revenue requirement was the funding of the current capital improvement plan and the development of adequate reserves. The District anticipates approximately \$1.25 million capital expenditures for the water utility over the 5-year period of FY 2011/2012 through FY 2015/2016. Funding for these projects will be from a combination of reserves and rates.

A summary of the water revenue requirement analysis is provided below in Table ES – 2. The results shown in Table ES – 2 indicate a deficiency of funds over the time period being reviewed. This is due primarily in part to the increased level of expenses and funding for capital improvement projects assumed in this study. The exhibits at the end of the report will provide the detailed technical analysis of the revenue requirement.

Table ES - 2
Summary of the Water Revenue Requirement Analysis

	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
Revenue					
Rate Revenue	\$ 759,687	\$ 767,284	\$ 774,957	\$ 790,456	\$ 806,265
Other Income-Net of Expenses	384,798	178,455	204,343	231,226	259,136
Miscellaneous	6,530	6,595	6,661	6,728	6,795
Total Revenue	\$ 1,151,015	\$ 952,334	\$ 985,961	\$ 1,028,410	\$ 1,072,196
Expenses					
O&M	\$ 727,111	\$ 743,322	\$ 760,269	\$ 777,645	\$ 795,460
G & A	512,345	522,004	531,856	541,907	552,162
CIP from Rates	250,000	250,000	250,000	250,000	250,000
Total Expenses	\$ 1,489,456	\$ 1,515,326	\$ 1,542,125	\$ 1,569,552	\$ 1,597,622
Bal./(Def) of Funds	\$ (338,441)	\$ (562,992)	\$ (556,164)	\$ (541,142)	\$ (525,426)
Total Revenue Requirement	\$ 1,489,456	\$ 1,515,326	\$ 1,542,125	\$ 1,569,552	\$ 1,597,622
Adj. as a % of Rate Revenues	43.01%	59.33%	56.84%	53.27%	49.85%

To implement the needed adjustments, a rate transition plan was developed. The rate adjustments are primarily the result of funding the existing capital plan. At this time a four year rate transition has been developed. The first rate adjustment to occur during FY 12/13, followed by annual increases at the start of each fiscal year (July 1) during the next three fiscal year periods. Provided in Table ES - 3 is the proposed water utility rate transition plan for the projected test period.

Table ES - 3
Water Utility - Four Year Rate Transition Plan

	FY 11/12	FY 12/13	FY 13/14	FY 15/16	FY 16/17
Present Monthly Residential Bill (Flat Rate)	\$11.50	\$11.50	\$11.50	\$11.50	\$11.50
Proposed Water Rate Adjustments	0%	20%	20%	20%	20%
Projected Monthly Residential Bill (Metered with 2 CCCF) ⁽¹⁾	N/A	\$27.10	\$30.90	\$35.30	\$40.70
\$ Change per Month (Cumulative)	-	15.60	19.40	23.80	29.20
Projected Monthly Residential Bill (Flat Rate) ⁽²⁾	\$11.50	\$22.30 ⁽¹⁾	\$25.10 ⁽¹⁾	\$28.40 ⁽¹⁾	\$32.10
\$ Change per Month (Cumulative)	-	10.50	13.60	16.90	20.90

(1) Includes Meter Rate Charge of \$8.50 (5/8" or 3/4")

(2) Rounded Amounts

Executive Summary

As Table ES - 3 indicates, the current average residential monthly bill for a District customer is \$11.50/month. Given the rate transition plan, and the current rates, the adjustments over time will change the average flat residential bill to \$32.40/month by 2015/2016, or a \$20.90/month overall change including meter service charge of \$8.50 for 5/8" or 3/4" meter.

Provided later in this discussion is the development of metered water rates. Given the proposed metered water rates the metered residential customer monthly bill with 2CCCF would increase to \$40.70 or an increase of \$20.90/month in fiscal year 2015/2016. However, the rate impacts to a metered customer will vary depending on actual water consumption.

Water Cost of Services Analysis – After the revenue requirement is completed the cost of service analysis can be conducted. Cost of service studies consist of three specific analyses, functionalization, classification, and allocation. Functionalization is the assignment of cost of assets to their primary function or purpose. Examples of functional categories are: transmission/distribution, source of supply, storage, or treatment. After functionalization, expenses are then classified to what need was being met. An example of classification would be when the costs related to maintenance on a well being classified as source of supply. Once the costs are classified, the final step is to allocate the costs to the different types of customers served by the water utility. Categories used as allocation factors are number of residential units, equivalent units based on service (pipe) size, meter cost data and estimated consumption.

The summary of the cost of service analysis provides a comparison of current revenues to allocated costs to determine if any interclass adjustments are necessary to develop cost-based rates during the rate design process. Provided on page 5 in Table ES - 4 is a summary of the cost of service analysis.

Table ES - 4 Summary of the Cost of Service Analysis				
Class of Service	FY 10/11 Present Rate Revenues	FY 10/11 Allocated Costs ⁽¹⁾	FY 10/11 \$ Difference	FY 10/11 % Difference
Residential	\$ 260,277	\$ 255,162	\$ 5,115	1.97%
Multi-Unit	297,214	307,876	(10,662)	-3.59%
Commercial-Flat Rate	30,568	147,721	(117,153)	-383.25%
Commercial-Metered	159,748	307,405	(147,657)	-92.43%
Institutional (School)	3,186	36,986	(33,800)	-1060.89%
Total	<u>\$ 750,993</u>	<u>\$ 1,055,150</u>	<u>\$ (304,157)</u>	

(1) Based on units or equivalent units served and estimated consumption

When reviewing the cost of service results a general rule of thumb to test the results is if the classes of service are within +/- 5% of the overall required adjustment the customers are within the range of reasonableness.

When reviewing Table ES - 4 it would appear that cost of service adjustments are necessary. However, it is not recommended that the results shown in Table ES - 4 be implemented at this time for several reasons. First, the development of the cost of service is based on the units or equivalent units of the District's customers. Currently the District does not have metered consumption data for its residential, and some commercial customers. As a result, estimates were used in the development of the cost of service analysis. Second, this is the first cost of service analysis conducted for the water utility and cost of service adjustments may not reflect actual consumption patterns in the future as the District begins to meter all of its customers. As a result, future cost of service results will most likely show a change in the relationships between the customer classes of service. Third, given the level of the proposed rate adjustments, and the change to metered rates, one more additional impact to the customers would likely increase the rate impacts to a majority of the District's customers.

Given these reasons, at this time it is recommended that the District transition to metered water rates and implement the rate transition plan to fund the operating and capital needs of the water utility.

Water Rate Design – Currently, the priority of the District is to generate an adequate level of funding for the water utility operating and capital needs and transition to metered water rates. Presently, the District has rate schedules for residential customers, multi-unit, commercial customers, flat rate, commercial-metered, and special rates for schools.

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The residential customers are charged a fixed flat rate. There are two types of commercial customers, flat rate and metered customers. The flat rate customers are charged a simple fixed flat rate each month. The metered customers are charged a fixed meter rate which varies by meter size and uniform consumption charge (the rate remains the same for all consumption).

As noted in the revenue requirement discussion, the proposed rate transition plan has assumed 20% rate adjustments over four years. Based on this transition plan, the rates for the District's customers can be developed. Presented below in Table ES - 5 is a summary of the present (FY 2010/2011) water rate schedules.

Table ES - 5
Summary of the District's Present Water Rates

Rate Structure Description	Present Rate
Monthly Residential Flat Rates - Unmetered	\$ 11.50
Monthly Commercial Rates - Flat Rate/Unmetered $\leq$ 1"	\$ 11.50
Metered Rate: 3/4" Meter	11.50
1" Meter	11.50
1 1/2" Meter	13.00
2" Meter	19.00
3" Meter	27.00
4" Meter	35.00
6" Meter	51.00
Usage Charge (per cccf)	4.00

Note: 1 Cubic foot of water = 7.48 gallons

Proposed Residential Water Rates – Proposed water rates were developed for four fiscal years, starting FY 2013 and at the start of each subsequent fiscal year. In addition to the proposed rate adjustments, the District is also required to implement metered rates starting January 1, 2025. The metered residential customers would be billed a monthly meter charge which would vary by meter size, and uniform consumption charge for all water use. The meter charges were based on current cost quotes obtained from vendors and installation costs estimated by District's Engineer. The consumption charges are based on a uniform block rate.

Executive Summary

Flat rate customers would continue on a flat rate until a meter is installed and placed in service. The flat rate will increase at the same rate as the proposed metered rates, or by 20% each fiscal year. A summary of the proposed residential water rates are shown below in Table ES - 6.

Table ES - 6 Summary of Proposed Residential Water Rates					
	Present Rates	Proposed FY 12/13 Rates	Proposed FY 13/14 Rates	Proposed FY 14/15 Rates	Proposed FY 15/16 Rates
Water Use Base per Month- When Metered - Includes 1,000 CF	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
Flat Rate Per Month - (Unmetered)	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
Consumption Charge Per CCCF (Metered)	\$ 4.00	\$ 4.80	\$ 5.80	\$ 6.90	\$ 8.30
Meter Service charge-					
5/8" & 3/4"	N/A	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50
1"	N/A	\$ 10.20	\$ 10.20	\$ 10.20	\$ 10.20
1 1/4" & 1 1/2"	N/A	\$ 12.35	\$ 12.35	\$ 12.35	\$ 12.35
2" ≥ See Table ES-7	-	-	-	-	-

Proposed Commercial, Multi – Unit, Institutional, and Other Water Rates – A single rate structure was developed for the commercial, multi-unit, institutional, and other customers. The monthly meter charge was set at the same level as the residential monthly meter charge which varies by size. For the commercial customers, the consumption charge is the same for all usage, or what is known as a uniform block rate. For those customers that are included in the commercial rate schedule, the consumption charges portion of the bill is a larger proportion of the monthly bill. Thus, the uniform rate will provide some incentive for the commercial class of service to conserve water when possible. A summary of the proposed commercial, multi-unit, institutional, and other water rates are shown in Table ES – 7 on page 8.

Table ES - 7
Summary of Proposed Commercial Water Rates

Rate Structure	Present Rate	Proposed 12/13 Rate	Proposed 13/14 Rate	Proposed 14/15 Rate	Proposed 15/16 Rate
Water Use Base per Month-					
≤ 1" Meter	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
1 1/2" Meter	13.00	15.60	18.70	22.50	27.00
2" Meter	19.00	22.80	27.30	32.80	39.40
3" Meter	27.00	32.40	38.90	46.70	56.05
4" Meter	35.00	42.00	50.40	60.40	72.40
6" Meter	51.00	61.20	73.50	88.20	105.90
Flat Rate Per Month - (≤ 1")	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
Consumption Charge Per CCCF -	\$ 4.00	\$ 4.80	\$ 5.80	\$ 6.90	\$ 8.30
Meter Service Charge-					
<u>Size</u>					
1 1/2" ≤ See Table ES-6	-	-	-	-	-
2"	N/A	\$ 14.60	\$ 14.60	\$ 14.60	\$ 14.60
3"	N/A	\$ 21.30	\$ 21.30	\$ 21.30	\$ 21.30
4"	N/A	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10
6"	N/A	\$ 42.30	\$ 42.30	\$ 42.30	\$ 42.30
8"	N/A	\$ 59.00	\$ 59.00	\$ 59.00	\$ 59.00

Note: 1 Cubic foot of water = 7.48 gallons

Commercial class of service includes all commercial, multi-units, institutional, and other non residential accounts

Proposed Landscape Water Rates – The metered rates for landscape customers were set equal to the residential metered rates. The consumption charge is a uniform block rate and was set at a level equal to or greater than the comparable residential rate. A summary of the proposed landscape water rates are shown in Table ES – 8 on page 9.

Table ES - 8 Summary of Proposed Landscape Water Rates					
Rate Structure	Present Rate	Proposed 12/13 Rate	Proposed 13/14 Rate	Proposed 14/15 Rate	Proposed 15/16 Rate
Water Use Base per Month-					
3/4" to 2" Meter	\$ 9.00	\$ 10.80	\$ 12.90	\$ 15.40	\$ 18.50
Flat Rate Per Month - (Unmetered)	\$ 9.00	\$ 10.80	\$ 12.90	\$ 15.40	18.50
Consumption Charge Per CCCF -	\$ 4.00	\$ 4.00	\$ 5.80	\$ 6.90	\$ 8.30
Meter Service Charge					
Size					
3/4"	N/A	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50
1"	N/A	\$ 10.20	\$ 10.20	\$ 10.20	\$ 10.20
1 1/4"-1 1/2"	N/A	\$ 12.35	\$ 12.35	\$ 12.35	\$ 12.35
2"	N/A	\$ 14.60	\$ 14.60	\$ 14.60	\$ 14.60

Note: 1 Cubic foot of water = 7.48 gallons

Proposed Institutional (School) Water Rates – The special water rates for schools were developed based on number of students. Proposed rates were established by adjusting rates by 20% per year. Once metered, the metered rates would apply. A summary of the proposed Institutional (school) water rates are shown in Table ES – 9.

Table ES - 9 Summary of Proposed Institutional (School) Water Rates					
Rate Structure	Present Rate	Proposed 12/13 Rate	Proposed 13/14 Rate	Proposed 14/15 Rate	Proposed 15/16 Rate
School Special - Per Month ⁽¹⁾	\$ 27.00	\$ 32.40	\$ 38.88	\$ 46.60	\$ 55.99
	\$ 37.00	\$ 44.40	\$ 53.28	\$ 63.94	\$ 76.73
	\$ 59.00	\$ 70.80	\$ 84.96	\$ 101.95	\$ 122.34
	\$ 104.00	\$ 124.80	\$ 149.76	\$ 179.71	\$ 215.65
Meter Service Charge ⁽²⁾	TBD	TBD	TBD	TBD	TBD

(1) Adjusted Annually Based on Student Enrollment

(2) Based on Service size

Section 1

Overview of Utility Rate Setting Principles

1.1 Introduction

"In developing and establishing utility rates, there are 'generally accepted' Principles or guidelines around which rates should be set."

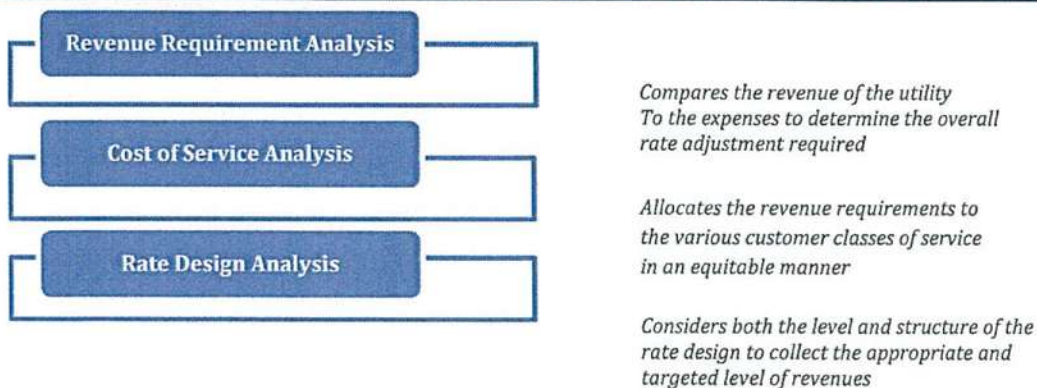
In developing and establishing utility rates, there are "generally accepted" principles or guidelines around which rates should be set. This section of the report provides a general overview of the methodology and guidelines used for setting cost-based rates for each of the utilities. This section should give the reader a better understanding of the general process that is detailed later in this report.

1.2 Overview of Rate Study Process

User rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the existing rates, a comprehensive rate study is often performed.

A comprehensive rate study consists of three interrelated analyses. Table 1 - 1 provides an overview of these analyses.

Table 1 - 1
Overview of the Comprehensive Rate Analyses



Section 1

Overview of Utility Rate Setting Principles

1.3 Global Principles in Which Rates Should Be Set

Water rates should be created using generally accepted principles. Setting rates should be cost-based, equitable, and easy to administer. These types of principles may be referred to as “global principles” since they are an industry standard that should be utilized by any utility in the development of its rates.

Provided below is a brief listing of the global principles:

- Rates should be cost based and equitable and set at a level able to meet the full revenue requirements of the utility.
- Rates should be easy to understand and administer.
- Rates and the process of allocating cost should conform to generally accepted rate setting techniques.
- Rates should be stable, in their ability to provide adequate revenues to meet the utility’s financial, operating, and regulatory requirements.
- Rate levels should be stable from year to year from the perception of the customers.

These guiding principles were utilized within this study to develop utility rates that are cost-based, equitable, and easy to administer.

1.4 Determining the Revenue Requirement

Most public utilities use the “cash basis” approach for establishing revenue requirement and setting rates. This approach conforms to most public utility budgetary requirements and the calculation is easy to understand. A public utility:

- Totals its cash expenditures for a period of time to determine required revenues.
- Adds operation and maintenance (O&M) expenses to any applicable taxes or transfer payments to determine total operating expenses. Operation and maintenance expenses include the materials, electricity, labor supplies, etc. needed to keep the utility functioning.

Section 1

Overview of Utility Rate Setting Principles

1.4 Determining the Revenue Requirement (Continued)

- Calculates capital costs by adding debt service payments (principal and interest) to capital improvements financed with rate revenues. In lieu of including capital improvements financed with rate revenues, a utility sometimes includes depreciation expense to stabilize annual revenue requirement.

Under the cash basis approach to accounting, the sum of the capital and operating expenses equals the utility's revenue requirement during any period of time (see Table 1 - 2).

Note that the two portions of the capital expense component (debt service and capital improvements financed from rates) are necessary under the cash basis approach, because utilities generally cannot finance capital facilities with long-term debt.

Table 1 - 2
Overview of the "Cash Basis" Methodology

+ O&M Expense	
+ Taxes or Transfer Payment	
+ Capital Additions Financed with Rate Revenues ($\geq$ Depreciation Exp.)	
+ Debt Service (P+I)	
= Total Revenue Requirements	

1.5 Analyzing Cost of Service

Upon determining the total revenue requirement, the revenue is allocated to the users of the service. The allocation, usually analyzed through a cost of service study, reflects the cost relationships for producing and delivering services.

A cost of service study requires three steps:

1.5.1 Costs are *functionalized* or grouped into the various cost categories related to providing service (source, pumping, transmission, distribution, etc.). This step is largely accomplished by the utility's accounting system.

Section 1

Overview of Utility Rate Setting Principles

1.5 Analyzing Cost of Service (Continued)

1.5.2 The functionalized costs are then *classified* to specific cost components. Classification refers to the arrangement of the functionalized data into cost components. For example, a water utility's costs are typically classified as commodity, capacity, fire protection, and/or customer-related.

1.5.3 Once the costs are classified into components, they are *allocated* to the customer classes of service (residential, commercial, etc.). The allocation is based on each customer class' relative contribution to the cost component. For example, customer-related costs are allocated to each class of service based on the total number of customers in that class of service. Once costs are allocated, the required revenues for achieving cost-based rates can be determined.

1.6 Designing Rates

Rates that meet the utility's objectives are designed based on both the revenue requirement and the cost of service analysis. This results in rates that are cost-based; however, rate design may also consider factors such as ability to pay, continuity of past rate philosophy, economic development, ease of administration, and customer understanding. It is important to understand that cost of service is only one goal or objective in designing final water rates.

1.7 Economic Theory and Rate Design

One of the major justifications for a comprehensive rate study is founded in economic theory. Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained. The implications of this statement on utility rate design are significant. For instance, volume-related costs are usually incurred by a water utility to meet flow demand. Thus, the customers causing peak demand should properly pay for the demand-related facilities in proportion to their contribution to maximum demands. Through refinement of costing and pricing techniques, consumers of a product are given a more accurate price signal of what the costs are for collection and treatment. The above basic thoughts have considerable foundation in economic literature.

Section 1

Overview of Utility Rate Setting Principles

1.7 Economic Theory and Rate Design (Continued)

They also serve as primary guidelines for rate design by most utility regulators and administrative agencies. The “price = equals-cost” concept will provide the basis for much of the subsequent analysis and comment.

1.8 Prudent Financial Planning

There are three key financial indicators that should be considered in the development of any utility financial plan, or revenue requirement. These three indicators are: capital projects funded from rates, debt service coverage ratio, and reserve levels. The following discussion provides a brief overview of each of these financial planning indicators.

Capital Project Funded From Rates – Prudent financial planning dictates that a utility should fund a certain portion of capital improvement projects from rates on an on-going basis. The general financial guideline used is that at a minimum, a utility should fund an amount equal to or greater than annual depreciation expense. However, there are three reasons for increasing the level of capital funding through rates. First, funding levels above depreciation expense better reflect actual replacement cost. Second, increasing the level of capital funding will help provide cash flow to fund the capital plan in future years, and minimize any long-term borrowing needs. Third, an increased level of capital funding will strengthen the utilities debt service coverage ratio.

Debt Service Coverage Ratio – The debt service coverage ratio is an important financial measure that is reviewed by bond rating agencies and banks to evaluate a utility’s ability to make debt payments. This ratio is calculated by subtracting total O&M and taxes from total revenues. The resulting figure is then divided by the amount of annual revenue bond debt service payments to determine the utility’s debt service coverage ratio. Typically, most bond covenants require at least a minimum debt service coverage ratio of 1.25. A strong debt service coverage ratio may provide the benefit of a higher bond rating and potentially lower interest costs (i.e., lower risk equates to lower interest rates.) Currently, the District has no bonded debt as of June 30, 2011.

Section 1

Overview of Utility Rate Setting Principles

1.8 Prudent Financial Planning (Continued)

Reserve Levels – Reserve levels are a crucial part of a utility's financial picture. Typically utilities maintain several different types of reserve funds. These may include: an operating reserve, a capital reserve, an emergency or contingency reserve, and a rate stabilization reserve. Each of these reserves has its own financial, operating or legal requirements which may set an established minimum reserve level (e.g. a bond reserve). A key aspect of reviewing reserve levels is to determine target minimum levels for the District current reserves. It is important to note that when reserves decrease below the targeted minimum level, management should review the cause of the declining reserves and determine what action, if any, should be taken. Maintenance of minimum reserve levels should not, on its own, trigger the need for a rate adjustment, (e.g., rates should be reviewed after two consecutive years of loss of revenue or diminishing reserves as a result of covering costs).

Each of these components is critical in the success of the Districts maintaining and replacing the existing system. The analysis completed for the District has assumed that these key planning criteria have been met to allow for the funding of the future capital needs of the water utility.

1.9 Summary

While the general description of the utility rate setting process discussed in this section of the report is greatly simplified and abbreviated, it does however address the basic elements of contemporary regulatory concepts. These principles, techniques, and economic theory were the basis for the comprehensive rate study and the foundation used to meet the District's key objectives in establishing its water rates.

Section 2

Development of the Revenue Requirement

2.1 Introduction

This section describes the development of the revenue requirement analysis for the District's water utility. The revenue requirement analysis is the first analytical step in the comprehensive rate study process. The analysis of revenue requirement determines the adequacy of the District's water rates at current rate levels. Upon this examination, rate adjustment needed to provide adequate and prudent funding for operating and capital needs can be determined. Typically, one main objective of a rate study is to develop fair and equitable rates while attempting to minimize the impacts to the utility's customers.

2.2 Development of the Water Revenue Requirements

The development of the revenue requirement is the first step in the comprehensive rate study process. In developing the revenue requirement, it was assumed the utility must be financially sound and properly funded. As a result, the revenue requirement as developed herein assumes the full and proper funding needed to operate and maintain the system on a financially sound and prudent basis.

The District's financial documents, consumption data, and capital improvement plan were used to complete the revenue requirement. A number of items were calculated independently of the financial document. These items were the revenues at present rate levels and the minimum ending reserve levels. Provided below is a detailed discussion of the development of the water utility revenue requirements.

2.3 Establishing a Time Frame and Approach

The initial step in calculating the revenue requirement for the water utility was to establish a "test period", or time frame of reference for the revenue requirement analysis. For this particular study, the revenue requirement was developed for the fiscal time period of FY 2010/2011 and the projected ten-year period of FY 2011/2012 – FY 2020/2021. The study, however, focused on the four-year time period of FY 2012/2013 – FY 2015/2016. Reviewing a multi-year time period is generally recommended in an attempt to identify any major expenses that may be on the horizon. By anticipating future financial requirements the District can begin to plan these changes sooner, thereby, minimizing short-term rate impacts and rates over the long-term.

Section 2

Development of the Revenue Requirement

2.3 Establishing a Time Frame and Approach (Continued)

The second step in determining the revenue requirement for the District was to decide on the basis of accumulating costs. Section 1 of this report provided a simple overview of the "cash basis" methodology. In developing the actual revenue requirements for the District, this approach has been "customized" to follow the District's system of accounts (budget/accounting documents). However, in general, even with these modifications, the District's revenue requirement still contains the four basis cost components of a "cash basis" methodology. Table 2-1 provides a detailed summary of the "cash basis" approach that was used to develop the water revenue requirements for the District.

Table 2 -1
Overview of the Cash Basis Revenue Requirements

+ Operation and Maintenance Expenses.	^(a) Capital Funded Through Rates
- Depreciation	+ Total Water Capital Improvement Projects
+ General and Administrative	- Funding Sources Other Than Rates
+ Capital Funded Through Rates ^(a)	± Reserves
- Other Income-Net of Expenses	
± Transfers to Reserves	= Net Capital Improvements, Funded From Rate
= Total Water Revenue Requirement	

After establishing a method to accumulate costs, and developing the revenue requirement, the focus can now shift to the projection of revenues and expenses for the District's water utility. The primary financial inputs in this process were the District's historical billing records, the District's capital improvement plan, and the District's FY 2010/2011 actual expenses. Provided below is a detailed discussion of the steps and key assumptions contained within the development of the District's revenue requirement analysis.

Section 2

Development of the Revenue Requirement

2.4 Projection of Revenues

The District receives revenue from two primary sources, rates and other revenue. Rate revenue is based on the current rate structure and collected on a monthly or bi-monthly basis. Other revenue includes items such as interest income, late fees, and other miscellaneous revenues. The following will provide a discussion of the revenue collected by the District.

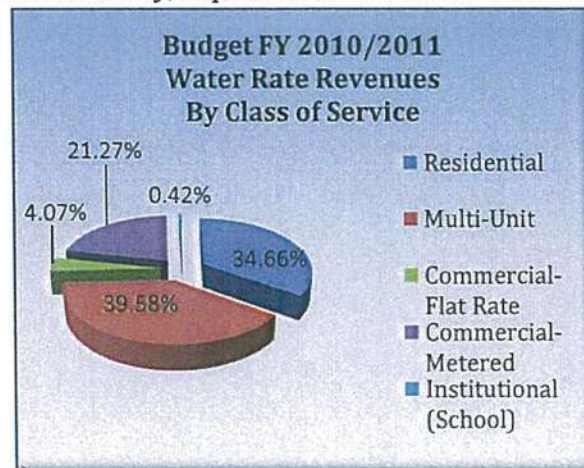
2.4.1. Projection of Rate Revenues

The revenue requirement calculation begins with a projection of rate revenues at present rate levels. This process involved developing projected billing units for each customer class of service (e.g., residential, commercial, etc.) based on historical usage records and an assumed annual growth rate. The billing units are then applied (multiplied) against the current rates to calculate the projected revenue. This method of independently calculating revenue allows for consistency in the revenue and consumption figures that are used throughout the comprehensive rate study process.

The revenue at present rates was calculated using FY 2010/2011 historical consumption and customer data and the FY 2010/2011 rate schedule. Rate revenues were projected forward to FY 2020/2021 based on the calculated FY 2010/2011 rate revenues, plus as assumed growth rate.

The current rate is estimated to be about 1.00% annually, expected to increase to 2.00% by FY 2014/2015.

The vast majority of the District's water rate revenues are derived from residential customers. The District also serves multi-unit, commercial, institutional, landscape, and school customers. In total, at present rate, the District is projected to receive about \$759,687 in rate revenues in FY 2011/2012.



Section 2

Development of the Revenue Requirement

2.4.2 Other Revenues

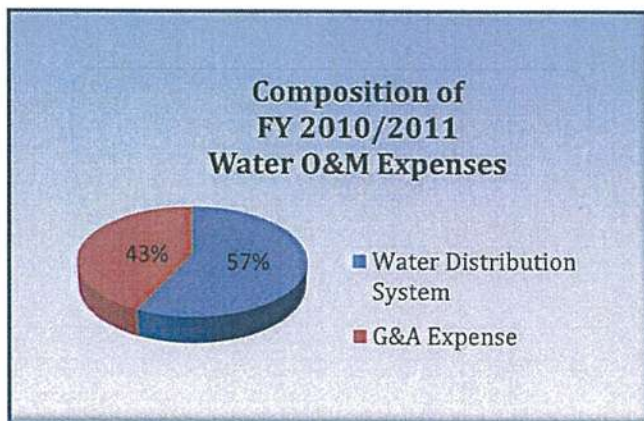
In addition to rate revenues, the District also received a variety of miscellaneous revenues which include fees, licenses, permits, and shut-off notices and fees. These miscellaneous revenues may vary by year, but remain constant during the planning period. The District also receives interest income.

2.4.3 Total Revenues

Total projected water rate revenues are expected to increase to \$806,265 by FY 2015/2016. Miscellaneous revenues are projected to increase to \$6,796 by FY 2015/2016. Projected revenue is based on the current growth assumptions at current rate levels.

2.5 Projection of Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to obtain and produce water supply resources and deliver it to its customers. The costs incurred are expensed during the current year and are not capitalized or amortized over an extended period of years.



In general, operation and maintenance expenses are grouped into a number of different functional and operational areas (see Table 2-1). To begin the process of projecting O&M expenses over the planning horizon, escalation factors were developed for the various types of expenses that the District incurs: utilities, labor, benefits, materials and supplies, equipment, miscellaneous, depreciation, and

regulatory. The other escalation factors used were in the range of 1% - 5% per year, depending upon the type of cost and recent inflationary trends.

Section 2

Development of the Revenue Requirement

2.5 Projection of Operation and Maintenance Expenses (Continued)

To project future O&M expenses, the first step was to determine the functional categories for purposes of projecting costs. We reviewed the District's FY 2011/2012 budget and the 2010/2011 audited financial statements and determined that it contained sufficient detail for the revenue requirement analysis. Therefore, in developing this analysis, we maintained the overall functional nature of the District's system of accounts (i.e., personnel and supplies/services).

Given the functionalized FY 2010/2011 O&M expenses, we then escalated the O&M expenses based upon the previously mentioned escalation factors. Total operation and maintenance expenses for the District are projected to be approximately \$841,111 in FY 2011/2012. O&M expense are projected to increase to approximately \$1,053,839 by FY 2020/2021, primarily as a result of the assumed inflation over that time period and assumptions of budgetary changes from the District 10-year financial plan.

2.6 Projection of Taxes

The second component of the "cash basis" revenue requirement is the tax payments. Currently, the District does not have any State or Federal tax payments. This is not expected to change over the planning horizon.

2.7 Capital Improvement Projects Funded from Rates

A utility typically has two basic types of capital improvement projects to consider: renewals and replacements and growth-related projects. A utility may also need to make "regulatory" or "mandated" improvements. These may be required by Federal or State legislation (e.g., Safe Drinking Water Act). The District's approved water capital improvement plan (CIP) was used as a starting point to project the capital improvement needs of the utility.

An important aspect of the water revenue requirements was the funding of capital improvements. The District anticipates approximately \$250,000 per year in capital expenditures for the water utility over the period of FY 2011/2012 through FY 2019/2020 (Not including water meter purchases and installation). A summary of the water capital improvement projects through FY 14/15 is provided below in Table 2 – 2 on page 21.

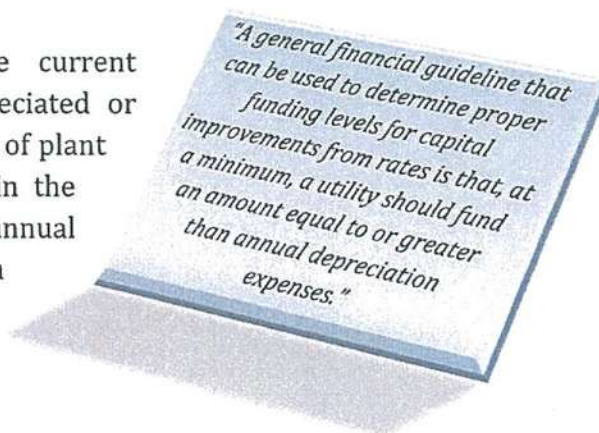
2.7 Capital Improvement Projects Funded from Rates (Continued)

Table 2 - 2 Summary of the District's Water Capital Projects					
	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Capital Improvement Program					
CIP Projects	\$ 219,225	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Transfer to Reserves	-	-	-	-	-
Total Capital Improvement Projects	219,225	250,000	250,000	250,000	250,000
Less: Funding Sources Other Than Rates	-	-	-	-	-
CIP Funded Through Rates	<u>\$ 219,225</u>	<u>\$ 250,000</u>	<u>\$ 250,000</u>	<u>\$ 250,000</u>	<u>\$ 250,000</u>

There are a number of different methods that may be used to fund the District's capital projects. Among the methods that may be used to finance these capital improvement projects are long-term debt, system development fees, capital reserves, and rates.

A general financial guideline that can be used to determine proper funding levels for capital improvements from rates is that, at a minimum, a utility should fund an amount equal to or greater than annual depreciation expenses.

Annual depreciation expense reflects the current investment in the plant that is being depreciated or "losing" its useful life. Therefore, this portion of plant investment needs to be replaced to maintain the existing level of infrastructure. In theory, annual depreciation expense reflects an investment in infrastructure on average of fifteen (15) years ago, assuming a 30-year useful (depreciable) life.



Simply funding an amount equal to annual depreciation expense will not be sufficient to replace the existing or depreciated facility. Therefore, consideration should be given to funding with rates some amount greater than annual depreciation expense for renewals and replacements. Whenever possible, the District should be funding capital projects from rates in an amount that is greater than annual depreciation expense.

Section 2

Development of the Revenue Requirement

2.7 Capital Improvement Projects Funded from Rates (Continued)

The District's capital improvement plan totals approximately \$1,000,000. over the next four fiscal years FY 2012/2013 – FY 2015/2016 time horizon. The funding sources of these projects are assumed to be from rate fees and reserves not including purchases of water meters and installation cost. The District is planning on funding approximately \$250,000 capital improvements from rate revenues and reserves. Water meter acquisition and installation is planned as funds become available. Refer to exhibit 10 for detail of capital improvement projects.

2.8 Debt Service Payments

Debt service relates to the principal and interest obligations of the water utility when financing capital projects with long-term debt issues. The District currently has no outstanding loans.

2.9 Summary of the Water Revenue Requirement

The above components are summed together to develop the overall revenue requirement for the District's water utility. In developing the final revenue requirement, consideration was given to the financial planning criteria of the District. In particular, emphasis was placed on attempting to minimize rates, yet still providing adequate funds to support the District's operational activities along with the planned capital projects throughout the projected time period. A summary of the water revenue requirement is shown in

Table 2 – 3 on page 23.

Table 2 - 3
Summary of the Water Revenue Requirement Analysis

	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
Revenue -					
Rate Revenue	\$ 759,687	\$ 767,284	\$ 774,957	\$ 790,456	\$ 806,265
Other Income-Net of Expenses	384,798	178,513	204,402	231,285	259,196
Miscellaneous	6,530	6,595	6,661	6,728	6,796
Total Revenue	\$ 1,151,015	\$ 952,392	\$ 986,020	\$ 1,028,469	\$ 1,072,257
Expenses -					
O&M	\$ 727,111	\$ 743,322	\$ 760,269	\$ 777,646	\$ 795,461
G&A	512,345	522,004	531,857	541,907	552,162
CIP from Rates	250,000	250,000	250,000	250,000	250,000
Total Expenses	\$ 1,489,456	\$ 1,515,326	\$ 1,542,126	\$ 1,569,553	\$ 1,597,623
Bal./(Def.) of Funds	\$ (338,441)	\$ (562,934)	\$ (556,106)	\$ (541,084)	\$ (525,366)
Adj. as a % of Rate Revenues	29.40%	59.11%	56.40%	52.61%	49.00%
Total Revenue Requirement	\$ 1,489,456	\$ 1,515,326	\$ 1,542,126	\$ 1,569,553	\$ 1,597,623

The results shown in Table 2 - 3 indicate a deficiency of funds in each year of the projected time period. This is due to the level of funding for capital improvement projects assumed in this study and other expenses. Detailed exhibits of the water revenue requirement analysis prepared for the District are provided in Technical Exhibits at the end of this report.

It should be noted that the balance or deficiencies in any single year are cumulative. That is, any adjustments in the initial years will reduce the deficiency in the following years. Over the four year projected period, rates will need to be adjusted annually in order to adequately and properly fund the Districts water utility operational and capital infrastructure needs.

2.10 Rate Transition Plan

To implement the needed adjustments, a water transition plan was developed. The rate adjustments are primarily the result of the capital improvement projects, O & M expenses and the additions to revenues. Several rate transition plans were developed in an attempt to minimize the rate impacts over the time period reviewed.

Section 2

Development of the Revenue Requirement

2.10 Rate Transition Plan (Continued)

However, the proposed rate transition plan reflects required funding needs for both operating and capital needs. Provided in Table 2 - 4 is the proposed water utility rate transition plan for the next four years. These proposed rates are also shown in the rate design section.

Table 2-4 Water Utility - Four Year Rate Transition Plan					
	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
Present Monthly Residential Bill (Flat Rate)	\$11.50	\$11.50	\$11.50	\$11.50	\$11.50
Proposed Water Rate Adjustments	0%	20%	20%	20%	20%
Projected Monthly Residential Bill (<u>Metered</u> with 2 CCCF) ⁽¹⁾	N/A	\$27.10	\$30.90	\$35.30	\$40.70
\$ Change per Month (Cumulative)	-	15.60	19.40	23.80	29.20
Projected Monthly Residential Bill (Flat Rate) ⁽²⁾	\$11.50	\$22.30 ⁽¹⁾	\$25.10 ⁽¹⁾	\$28.40 ⁽¹⁾	\$32.40 ⁽¹⁾
\$ Change per Month (Cumulative)	-	10.50	13.60	16.90	20.90

(1) Includes meter rate charge of \$8.50 (5/8" or 3/4")

(2) Rounded amounts

As Table 2 - 4 indicates, the current average residential bill for a District customer is \$11.50/month. Given the rate transition plan, the adjustments over time will change the average residential bill to \$40.70/month by FY 2016/2017, or a \$20.90/month overall change. However, the actual rate impact will vary by customer based on the customer's actual consumption. The flat rate customers will see their monthly bill increased by \$20.90, for a total monthly bill of \$32.40 including meter service charge of \$8.50 for 5/8" or 3/4".

Section 2

Development of the Revenue Requirement

2.11 Revenue Requirement Recommendations

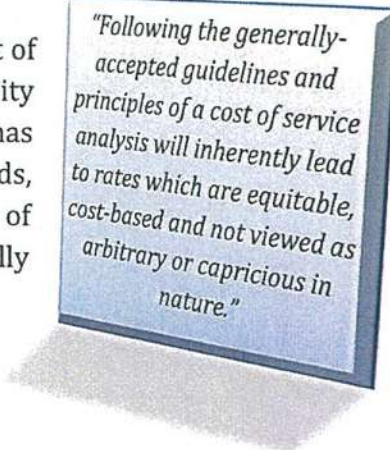
Based upon the revenue requirement analysis developed, we recommend the District increase the overall revenue levels of the water utility 20% on July 1, 2012. In addition, future rates should be adjusted by 20% per year at the beginning of the fiscal year. If these adjustments are not made, the District will not have adequate funds available for the current capital improvement plan and future expenses. Also refer to section 5 for information on meter rates.

Section 3 Development of the Cost of Service

3.1 Introduction

In the previous section of the report, the revenue requirement analysis focused on the total sources and applications of funds required to adequately fund the District's water utility. This section of the report will discuss and review the cost of service analysis. A cost of service analysis is concerned with the equitable allocation of the total revenue requirement between the various customer classes of service (e.g., residential, commercial, etc.). The previously developed revenue requirement is utilized in the development of the cost of service analysis.

In recent years, increasing emphasis has been placed on cost of service studies by government agencies, customers, utility regulatory commissions, and other parties. This interest has been generated in part by continued inflationary trends, increased operating and capital expenditures, and concerns of equity in rates among customers. Following the generally accepted guidelines and principles of a cost of service analysis will inherently lead to rates which are equitable, cost based, and not viewed as arbitrary or capricious in nature.



"Following the generally-accepted guidelines and principles of a cost of service analysis will inherently lead to rates which are equitable, cost-based and not viewed as arbitrary or capricious in nature."

3.2 Objectives of a Cost of Service Analysis

There are two primary objectives in conducting a cost of service study. They are as follows:

- Allocate the revenue requirements among the customer classes of service
- Derive average unit costs for subsequent rate designs

The objectives of the cost of service analysis are different from determining the revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's overall financial needs, while the cost of service study determines the "fair and equitable" manner to collect the revenue requirement.

Section 3

Development of the Cost of Service

3.2 Objectives of a Cost of Service Analysis (Continued)

The second rationale for conducting a cost of service analysis is to ensure that a rate is designed such that it properly reflects the costs being incurred by the District.

For example, a water utility incurs costs related to flow, capacity, fire protection, and customer cost components. A water utility must build sufficient capacity to meet summer peak capacity needs. Therefore, those customers that create this summer peak requirement should pay their fair share of the cost to meet this peak demand. Each of these types of costs may be collected in a slightly different manner as to allow for the development of rates that collect costs in the same manner as they are incurred.

3.3 Determining the Customer Classes of Service

At the present time, the District's rate schedules are divided between 5 classes of service, residential, multi-unit, commercial-flat rate, commercial-metered and schools. For the cost of service study, the key issue to be addressed was whether there are cost differences associated with serving the different types of customers. Therefore, for purposes of this study, the customer groups reviewed were as follows:

- Residential
- Multi-Unit
- Commercial – Flat Rate
- Commercial – Metered
- Schools

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon facility requirement and/or flow characteristics. Given the transition to metered rates it was determined that these classes of service would be used for the Cost of Service analysis to determine the unit costs for the rate design purposed. It should be noted that rate design, or the final rates for the District, do not need to be separated into these classes. At the conclusion of the cost of service analysis a determination can be made for the purposes of rate design.

Section 3 Development of the Cost of Service

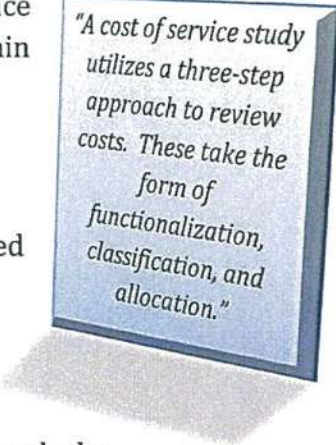
3.4 General Cost of Service Procedures

In order to determine the cost to serve each customer class of service on the District's system, a cost of service analysis is conducted. A cost of service study utilizes a three-step approach to review costs. These take the form of functionalization, classification and allocation.

Provided below is a detail discussion of the water cost of service study conducted for the District, and the specific steps taken within the analysis.

3.4.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and asset (plant) data by major operating functions. Examples of functionalization would be source of supply (wells), distribution, pumping, etc. Within this study, the functionalization of the cost data was largely accomplished through the District's system of accounts.



"A cost of service study utilizes a three-step approach to review costs. These take the form of functionalization, classification, and allocation."

3.4.2 Classification of Costs

The second analysis task performed in a water cost of service study is the classification of costs. Classification determines why the expenses were incurred or what type of need is being met.

3.4.2 Classification of Costs (Continued)

The District's plant accounts and revenue requirements were reviewed and classified using the following cost classifiers.

- **Commodity Related Costs.** Commodity costs are those costs which tend to vary with the total quantity of water consumed by the customer. Commodity costs are those incurred under average load (demand) conditions and are generally specified for a period of time such as a month or a year. Electricity used in the pumping of water is an example of a commodity-related cost, since these costs tend to vary based upon the total flow of water.
- **Capacity Related Costs.** Capacity costs are those which vary with maximum demand, or the maximum rates of flow to customers. System capacity is required when there are large demands for water placed upon the system (e.g., summer lawn watering). For water utilities, capacity related costs are generally related to the sizing of facilities needed to meet a customer's maximum water demand at any point in time. For example, portions of distribution storage reservoirs and mains (pipes) must be adequately sized for this particular type of requirement.
- **Customer Related Costs.** Customer costs are those costs which vary with the number of customers on the water system. They do not vary with system output or consumption levels. These costs are also sometimes referred to as "readiness to serve" or "availability" costs. Customer costs may also sometimes be further classified as either actual or weighted. Actual customer costs vary proportionally, from customer to customer, with the addition or deletion of a customer regardless of the size of customer. An example of an actual customer costs is postage for mailing bills. This cost does not vary from customer to customer, regardless of the size or consumption characteristics of the customer. In contrast, a weighted customer cost reflects a disproportionate cost, from customer to customer, with the addition or deletion of a customer. An example of a weighted customer costs are items such as meter maintenance expenses, where a large industrial customer requires a significantly more expensive meter than a residential customer.
- **Public Fire Protection Related Costs.** Public fire protection costs are those costs that are related to the public fire protection function. Usually, such costs are those related to public fire hydrants and the over sizing of mains and distribution storage reservoirs for fire protection purposes.

Terminology of a Water Cost of Service Analysis

FUNCTIONALIZATION – The arrangement of the cost data by functional category (e.g. source of supply, treatment, distribution, etc.).

CLASSIFICATION – The assignment of functionalized costs to cost components (e.g. commodity, capacity, customer and fire protection related).

ALLOCATION – Allocating the classified costs to each class of service based upon each class's proportional contribution to that specific cost component.

COMMODITY COSTS – Costs that are classified as commodity related vary with the total flow of water (e.g. chemical use at a treatment plant).

CAPACITY COSTS – Costs that are classified as capacity related vary with peak day usage. Facilities are often designed and sized around meeting peak day demands.

FIRE PROTECTION COSTS – Costs that are related to fire protection services (e.g. hydrants).

CUSTOMER COSTS – Costs classified as customer related vary with the number of customer on the system, e.g. metering costs.

DIRECT ASSIGNMENT – Costs that can be clearly identified as belonging to specific customer or group of customers.

CUSTOMER GROUPS – The grouping of customers into similar groups based upon usage characteristics and/or facility requirements.

Section 3

Development of the Cost of Service

3.4.2 Classification of Costs (Continued)

- **Revenue Related Cost.** Certain costs associated with the utility may vary with the amount of revenue received. An example is a utility tax that is based upon the amount of revenues received.
- **Direct Assignment.** Certain costs associated with operating the system may be directly traced to a specific customer or class of service (e.g., bad debt expense). In this case, these costs are then "directly assigned" to that specific class of service. This assures that other classes of service will not be allocated any costs for those "significant" facilities from which they do not benefit.

3.4.3 Development of the Allocation Factors

Once the classification process is complete, and the customer groups have been defined, the various classified costs are allocated to each of the customer groups. The District's classified costs were allocated to the various customer groups using the following allocation factors.

- **Commodity Allocation Factor.** As noted earlier, commodity related costs vary with the total flow of water. Since not all customers are metered, an estimate for those customers was developed. For the metered customers the metered sales from the most recent historical year were used, in this case FY 2010/2011. For those customers that were not metered an estimate was developed based on an assumed average consumption amount, as well as a comparison to the total production less metered sales and losses. In this way, the total consumption tied back to the production of water for the District.
- **Capacity Allocation Factor.** The capacity allocation factor was developed based upon the assumed contribution to peak day use of each class. Peak day use by customer group was estimated using assumed peaking factors for each customer group. In this particular case, the peaking factor was defined as the relationship between peak day contribution and average day use and determined for each customer group based upon a review of the average month to peak month usage for both metered sales and un-metered sales estimates. Given a peaking factor, the peak day contribution for each class of service was developed.

3.4.3 Development of the Allocation Factors (Continued)

- **Customer Allocation Factor.** Customer costs vary with the number of customers on the system. Two basic types of customer allocation factors were identified – actual and weighted. The allocation factors for actual customers were based upon the projection of the number of customers developed within the revenue requirements. The weighted customer allocation factor is also broken down further into two factors which attempt to reflect the disproportionate costs associated with serving different types of customers. The first weighted customer factor is for customer service and accounting. This weighted customer allocation factor takes into account the fact that it may take more time to read a meter and process a bill for different types of customers. The second weighted customer allocation factor is for meters and services. This factor attempts to reflect the different costs associated with providing larger sized meters. For example, there is a significant cost difference associated with replacing a ¾" meter compared to a 6" meter. This cost difference is reflected within the allocation factor.
- **Public Fire Protection Allocation Factor.** The development of the allocation factor for the public fire protection expenses involved an analysis of each class of service and their fire flow requirements. The analysis took into account the gallon per minute flow requirements in the event of a fire, along with the duration of the required flow. The fire flow rates used within the allocation factor were based upon industry standards and similar experiences with other water costs of service studies, and these assumptions were reviewed by the District's staff. For this study, it has been assumed that minimum fire flow requirements for residential customer is 1,000 gallons per minute (gpm), 3,000 gpm for multi-unit, commercial, industrial and school customers. The minimum fire flow requirements are then multiplied by the number of customers in each class of service, and the assumed duration of the fire, to determine the class's prorated fire flow requirements.
- **Revenue Related Allocation Factor.** The revenue related allocation factor was developed from the projected rate revenues for 2010/2011 for each customer group. These same revenues were used within the revenue requirement analysis previously discussed. Given the development of the allocation factors, the final step in the cost of service study is to allocate the classified costs to the various customer classes of service.

Section 3 Development of the Cost of Service

3.5 Functionalization and Classification of Plant in Service

The first step of the cost of service is the functionalization and classification of water plant in service. In performing the functionalization of plant in service, we utilized the District's historical plant records. Once the plant assets were functionalized, the analysis shifted to classification of the assets. The classification process included reviewing each group of assets and determining which cost classifiers the assets were related to. Provided below is a brief discussion of the classification process used.

Source of supply plant assets were classified between commodity and capacity-related costs. The percentage split between commodity and capacity was based upon the ratio of average day use to peak day use. Consumption that is related to average day use is considered to be commodity related, and consumption that is over and above average day use is considered capacity related. Treatment equipment and wells were classified as 60% commodity related and 40% capacity related. This classification reflects the District's high peak summer demand (capacity needs) in relation to their average day use (based on commodity needs).

Water distribution lines (mains) are typically assumed to meet three types of needs on the systems; customer related, capacity related, and fire protection related. First, a distribution system must be in place to meet a customer's minimum requirements for water. This portion of the distribution main plant investment is considered customer related, or a function of the number of customers on the system. Next, a portion of the distribution mains is considered a function of peak flow requirements on the system. Distribution mains must be sized to adequately meet the peak flows demanded by customers. This portion of the distribution main plant investment is considered capacity related. Finally, distribution mains must also be sized for fire flow requirements. This final portion of over-sizing for distribution plant investment is classified as public fire protection related. The classification of distribution mains was based upon an economic analysis or "minimum system" analysis. This analysis determined that 70% of the water mains were a function of the customers on the system, 20% were in place to meet peak demand requirements, and finally, 10% of the sizing was to meet fire flow demands.

Table 3 - 1 shows a summary of the basic functionalization and classification of the District's major water plant items. A more detailed exhibit of the District's functionalization and classification of plant investment can be found in the Technical Exhibit.

Table 3 - 1 Summary of the Classification of the Plant in Service							
	Commodity	Capacity	Actual Customer	Weighted Customer Accounting	Meters and Services	Fire Protection	Direct Assign.
Source of Supply/Treatment	60%	40%	0%	0%	0%	0%	0%
Transmission and Distribution	70%	20%	0%	0%	0%	10%	0%

3.6 Functionalization and Classification of Operating Expenses

Operating expenses are generally functionalized and classified in a manner similar to the corresponding plant account. For example, maintenance of distribution mains is typically classified in the same manner (classification percentages) as the plant account for distribution mains. This approach to classification of operating expenses has been used for this analysis.

For the District's study, the revenue requirement for 2010/2011 was functionalized, classified, and allocated. As noted earlier, the District utilize a "cash basis" revenue requirement, which was comprised of, operation and maintenance expenses, and capital additions funded from rates. A more detailed review of the classification of revenue requirements can be found in the Technical Exhibits.

3.7 Major Assumptions of the Cost of Service Study

A number of key assumptions were used within the District's cost of service study. Listed below is a brief discussion of the major assumptions used.

- The test period used for the cost of service analysis was 2010/2011. The revenue and expense data was previously developed within the revenue requirement study.
- A "cash basis" approach was utilized which conforms to generally accepted water cost of service approaches and methodologies.
- The classification of plant in service was developed based upon generally accepted cost allocation techniques. Furthermore, they were developed using District's specific data, when available. When District specific data was not available, we estimated the classification based upon previous water cost of service studies of a similar nature.
- Customer water usage figures used within this study were provided, for each class of service, from historical usage information provided by the District. For the unmetered customers an estimate was developed based on available data and a comparison to the system total production less metered sales and system losses.

Section 3 Development of the Cost of Service

3.7 Major Assumptions of the Cost of Service Study (Continued)

- Capacity allocation factors were based upon each customer group's average to peak day relationship, along with certain estimates of the relationships by class of service.

3.8 Summary of the Water Cost of Service Results

In summary form, this cost of service analysis began by functionalizing the District's plant asset records and then the operating expenses. The functionalized plant and expense accounts were then classified into their various cost components. The individual classification totals were then allocated to the various customer groups based upon the appropriate allocation factors. The allocated expenses for each customer group are then aggregated to determine each customer group's overall revenue responsibility. A summary of the detailed cost responsibility developed for each class of service is shown below in Table 3-2.

Table 3 - 2 Summary of the Cost of Service Analysis				
Class of Service	FY 10/11 Present Rate Revenues	FY 10/11 Allocated Costs ⁽¹⁾	FY 10/11 \$ Difference	FY 10/11 % Difference
Residential	\$ 260,277	\$ 255,162	\$ 5,115	1.97%
Multi-Unit	297,214	307,876	(10,662)	-3.59%
Commercial-Flat Rate	30,568	147,721	(117,153)	-383.25%
Commercial-Metered	159,748	307,405	(147,657)	-92.43%
Institutional (School)	3,186	36,986	(33,800)	-1060.89%
Total	<u>\$ 750,993</u>	<u>\$ 1,055,150</u>	<u>\$ (304,157)</u>	

(1) Based on units or equivalent units served and estimated consumption

The results of the cost of service analysis indicate that costs of service adjustments are necessary. A simple guideline is that if a class of service is within +/- 5% of the overall adjustment, the class is considered to be paying its "fair share". Further complicating the strict use of the cost of service results is the lack of metered consumption data for each class of service. Consumption or volumetric use is a significant driver in the allocation of costs within the cost of service analysis. In this case, estimated consumption and volumes were utilized to develop the cost of service analysis.

Section 3

Development of the Cost of Service

3.9 Cost of Service Recommendations

While the costs of service results show that there are differences between the customer classes of service it is recommended that no adjustments be made at this time for several reasons. First, as noted previously the development of the cost of service is based on the average and peak day needs of the customers, and currently the District does not have metered consumption data for some of its residential and commercial customers. As a result estimates were used in the development of the cost of service analysis. Second, this is the first cost of service analysis conducted for the water utility and cost of service adjustments may not reflect actual consumption patterns in the future as the District begins to meter all of its customers. As a result, future cost of service results will most likely show a change in the relationships between the customer classes of service. Third, given the level of the proposed rate adjustments, and the change to metered rates, one more additional impact to the customers would likely increase the rate impacts to a majority of the District's customers.

Given this, at this time it is recommended that the District transition to metered water rates and implement the rate transition plan to fund the operating and capital needs of the water utility. As the District begins billing on a metered basis, the cost of service analysis can be updated and rates adjusted at that time to reflect the cost of service when a majority of customers are metered.

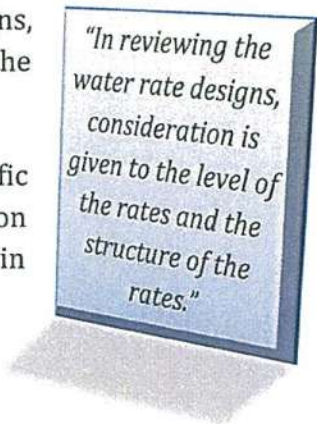
Section 4

Development of the Water Rate Designs

4.1 Introduction

The final step of the comprehensive rate study process is the design of water rates to collect the desired levels of revenues, based upon the results of the revenue requirement and cost of service analysis. In reviewing the rate designs, consideration is given to the level of the rates and structure of the rates.

Level refers to the amount of revenue to be collected from a specific rate design (i.e., the rate design is intended to collect \$1.0 million over a 12 month period). In contrast, structure refers to the way in which the \$1.0 million is collected from the customers. This subsection of the report will review the proposed water rate designs for the District.



"In reviewing the water rate designs, consideration is given to the level of the rates and the structure of the rates."

4.2 Overview of Water Rate Structures

There are various "generally accepted" rate structures that can be used to establish or develop water rates. The initial starting point in considering a rate structure is the relationship between fixed costs and variable costs. Fixed costs are generally collected as a fixed charge on a monthly basis (e.g. \$5.00 per month/meter). This charge may be called by various names (e.g. customer charge, meter charge, readiness to serve charge, etc.), but in all cases, it is intended to collect those fixed costs that the utility incurs, regardless of the customer's level of consumption. The most basic form of a fixed customer charge is a flat monthly fixed cost. While the charge is a fixed cost, it may also vary and increase by meter size. The rate at which the meter charge increases is usually a function of the meter capacity. Provided below in Table 4 – 1 is the "generally accepted" approach used to establish fixed meter charges based upon the safe operating capacity of the meter. In this example, it assumes a \$5.00/month charge for a 5/8" meter.

4.2 Overview of Water Rate Structures (Continued)

Table 4 - 1 Example of the Development of Fixed Meter Charges Based Upon Meter Capacity			
Meter size	Sale Maximum Oper. Capacity GPM (1)	Capacity Meter Weightings	Meter Charges at Capacity Weightings
5/8"	20	1.00	5.00/month
3/4"	30	1.50	7.50
1"	50	2.50	12.50
1-1/2"	10	5.00	25.00
2'	160	8.00	40.00
3"	300	15.00	75.00
4"	500	25.00	125.00
6"	1,000	50.00	250.00
8"	1,600	80.00	400.00

(1) AWWA C-700-77 Cold Water Meters - Displacement Type

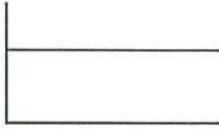
As Table 4 - 1 indicates, the fixed meter charge increases in relationship to the safe operating capacity of the various meter sizes. Meter capacity is an important concept in that a customer that has a 2" meter is regarded, from a capacity perspective, as the equivalent of eight (8) 5/8" metered customers. Another way of saying this is the commercial customer with a 2" meter is, from a capacity perspective, the equivalent of eight (8) single-family homes with 5/8" meters. Knowing that a large portion of the Districts costs are related to meeting capacity requirements, one can see the importance of taking into account capacity in establishing rates for customers.

While it was noted that there are different approaches that can be used to collect fixed charges, the same can be said for variable or volumetric charges. Variable charges are generally based upon metered consumption and charged on a \$/unit cost. The unit of measurement may vary (e.g. gallons, thousands of gallons, cubic feet, hundreds of cubic feet, etc.), but it is not a critical element in the development of the rates. This is because the charge per unit is simply adjusted to reflect the units of measurement being used. In other words, if you are charging \$2.00 per 1,000 gallons, and wanted to charge on a per gallon basis, the rate would be 0.002¢/gallon. It is the structure of the variable charges where numerous options exist.

There are three basic rate structures for variable charges; a uniform charge, a declining block charge and an inverted block charge. Table 4 - 2 on page 38 provides an overview of these variable charge rate structures.

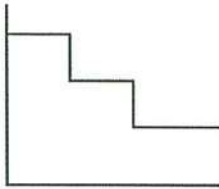
4.2 Overview of Water Rate Structures (Continued)

Table 4 - 2
Overview of the Various Variable Charge Rate Structures



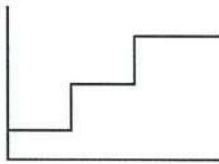
Uniform Rate Structure

The cost per unit of consumption under a uniform rate structure does not increase or decrease with additional units of consumption



Declining Block Rate Structure

The cost per unit of consumption under a declining block rate structure decreases with additional units of consumption



Inverted Block Rate Structure

The cost per unit of consumption under an inverted block rate structure increases with additional units of consumption

As can be seen from Table 4 - 2, the basic philosophy of each of these variable charge rate structures varies significantly. Under a uniform rate structure, the cost per unit does not change with consumption. From the perspective of customer understanding and rate administration/billing, this is a simple and straightforward approach. In contrast, the declining block rate structure is a bit more complex. The number of blocks (e.g., 3 stepped blocks.) and size of the blocks (e.g., 0 - 10 ccf) may vary. However, the number of blocks should be reasonable (i.e., 2 - 4 blocks) for reasons of simplicity and administration. Declining block rate may imply that there are certain economies of scale with additional consumption, and not necessarily a "volume discount." Depending upon the utility, this may or may not be a true statement. Finally, an inverted block rate structure attempts to send a price signal to consumers that their consumption costs more, as more water is consumed. This may or may not be the proper price signal regarding the utility's water resource costs. As with the declining block rate structure, the number and size of each block may vary, but should be reasonable for purposes of customer understanding and rate administration.

The rate structure concepts noted above may be combined and used to form various rate design options that meet the District's needs. However, at the same time, the rates must meet the District's overall goals and objectives in designing rates.

Section 4

Development of the Water Rate Designs

4.3 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. Some of these rate design criteria are listed below:

- Rates which are easy to understand, from the customer's perspective
- Rates which are easy for the utility to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage conservation, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Equitable and non-discriminating (cost-based)

Many contemporary rate economist and regulatory agencies feel that the last consideration, cost based rates, should be of paramount importance and provide the primary guidance to utilities on rate structure and policy.

It is important that the District provide its customers with a proper price signal as to what their consumption or usage is costing. This goal may be approached through rate *level* and *structure*. When developing the proposed rate design; all of the above listed criteria were taken into consideration. However, it should be noted that it is difficult, if not impossible, to design a rate that meets all of the goals and objectives listed above. For example, it may be difficult to design a rate that take into consideration the customer's ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between the various goals and objectives.

4.4 Review of the Proposed Rate Adjustments

As indicated in the revenue requirement and the cost of service analyses, the priority of the District is to implement metered rates, and to adjust rates to an adequate level to fund the future operating and capital needs. As a result of the analyses performed for the District water utility cost of service adjustments have been proposed at this time. Once the District has adequate metered consumption for a majority of its customers future cost of service adjustments can be implemented. Given that, the proposed rates have been developed for the next four year period taking into account the rate transition plan of 20% adjustment in each year.

Section 4

Development of the Water Rate Designs

4.5 Review of District's Current Rate Design

The District has rates schedules, one for residential customers and one for commercial customers (or all non-residential customers). The residential customers are charged a flat monthly rate. There are two types of commercial customers, flat monthly rate and metered customers. The flat rate customers are charged a fixed flat rate each month. The metered customers are charged a fixed meter rate which varies by meter size and a uniform consumption charge (the rate remains the same for all consumption). A summary of the present water rate schedules is presented below in Table 4 - 3.

Table 4 - 3 Summary of the District's Present Water Rates	
Rate Structure Description	Present Rate
Monthly Residential Flat Rates -	
Unmetered	11.50
Monthly Commercial Rates -	
≤1" Meter	11.50
1 1/2" Meter	13.00
2" Meter	19.00
3" Meter	27.00
4" Meter	35.00
6" Meter	51.00
Usage Charge (per cccf)	4.00

Note: 1 Cubic foot of water = 7.48 gallons

4.6 Proposed Residential Water Rates

Proposed water rates were developed for four years, starting with FY 2012/2013 through FY 2015/2016. As noted above, the rates utilized in the development of the study have been increased by the proposed overall rate adjustment of 20% per fiscal year. The residential customers when metered would be billed a monthly meter charge and a consumption charge for all water consumed. The meter charges are adjusted based on typical equivalent meter ratios and revised to be more in line with contemporary water rate designs. The consumption charges use a uniform block rate.

Section 4

Development of the Water Rate Designs

4.6 Proposed Residential Water Rates (Continued)

Flat rate customers would continue on a flat rate until a meter is installed and placed in service. The flat rate was increased by 20% each year. A summary of the proposed residential water rates are shown in Table 4 – 6.

Table 4 - 6 Summary of Proposed Residential Water Rates					
	Present Rates	Proposed FY 12/13 Rates	Proposed FY 13/14 Rates	Proposed FY 14/15 Rates	Proposed FY 15/16 Rates
Water Use Base per Month-					
When Metered - Includes 1,000 CF	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
Flat Rate Per Month - (Unmetered)	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
Consumption Charge Per CCCF (Metered)	\$ 4.00	\$ 4.80	\$ 5.80	\$ 6.90	\$ 8.30
Meter Service charge-					
5/8" & 3/4"	N/A	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50
1"	N/A	\$ 10.20	\$ 10.20	\$ 10.20	\$ 10.20
1 1/4" & 1 1/2"	N/A	\$ 12.35	\$ 12.35	\$ 12.35	\$ 12.35
2" ≥ See Table 4-7	-	-	-	-	-

4.7 Proposed Commercial, Multi-Unit, Institutional and Other Water Rates

A single rate structure was developed for the commercial water rates. Multi-Unit rates follow the residential rate schedule billed on a unit basis. The meter charge was developed base on estimated costs as further detailed in section 5. The flat rate was increased by 20% each year and is consistent. The consumption charge is a uniform block priced at a comparable level as the residential consumption rate. All other rates not mentioned are proposed for the 20% annual adjustment except sewer and disposal. A summary of the proposed commercial, multi-unit, industrial, and school water rates are shown in Table 4 - 7, 4 - 8 and 4 - 9 on pages 42 and 43.

Section 4

Development of the Water Rate Designs

4.7 Proposed Commercial, Multi-Unit, Industrial and Other Water Rates (Continued)

Table 4 - 7 Summary of Proposed Commercial Water Rates					
Rate Structure	Present Rate	Proposed 12/13 Rate	Proposed 13/14 Rate	Proposed 14/15 Rate	Proposed 15/16 Rate
Water Use Base per Month-					
≤ 1" Meter	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
1 1/2" Meter	13.00	15.60	18.70	22.50	27.00
2" Meter	19.00	22.80	27.30	32.80	39.40
3" Meter	27.00	32.40	38.90	46.70	56.05
4" Meter	35.00	42.00	50.40	60.40	72.40
6" Meter	51.00	61.20	73.50	88.20	105.90
Flat Rate Per Month - (≤ 1")	\$ 11.50	\$ 13.80	\$ 16.60	\$ 19.90	\$ 23.90
Consumption Charge Per CCCF -	\$ 4.00	\$ 4.80	\$ 5.80	\$ 6.90	\$ 8.30
Meter Service Charge-					
Size					
1 1/2" ≤ See Table ES-6	-	-	-	-	-
2"	N/A	\$ 14.60	\$ 14.60	\$ 14.60	\$ 14.60
3"	N/A	\$ 21.30	\$ 21.30	\$ 21.30	\$ 21.30
4"	N/A	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10
6"	N/A	\$ 42.30	\$ 42.30	\$ 42.30	\$ 42.30
8"	N/A	\$ 59.00	\$ 59.00	\$ 59.00	\$ 59.00

Note: 1 Cubic foot of water = 7.48 gallons

Commercial class of service includes all commercial, multi-units, institutional, and other non residential accounts

4.8 Proposed Landscape Water Rates

The meter charge for landscape customers was set equal to the residential meter charge. The consumption charge is a uniform block rate. A summary of the proposed landscape water rates are shown on Table 4 – 8 on page 43.

Table 4 - 8 Summary of Proposed Landscape Water Rates					
Rate Structure	Present Rate	Proposed 12/13 Rate	Proposed 13/14 Rate	Proposed 14/15 Rate	Proposed 15/16 Rate
Water Use Base per Month-					
3/4" to 2" Meter	\$ 9.00	\$ 10.80	\$ 12.90	\$ 15.40	\$ 18.50
Flat Rate Per Month - (Unmetered)	\$ 9.00	\$ 10.80	\$ 12.90	\$ 15.40	18.50
Consumption Charge Per CCCF -	\$ 4.00	\$ 4.80	\$ 5.80	\$ 6.90	\$ 8.30
Meter Service Charge					
Size					
3/4"	N/A	\$ 8.50	\$ 8.50	\$ 8.50	\$ 8.50
1"	N/A	\$ 10.20	\$ 10.20	\$ 10.20	\$ 10.20
1 1/4"-1 1/2"	N/A	\$ 12.35	\$ 12.35	\$ 12.35	\$ 12.35
2"	N/A	\$ 14.60	\$ 14.60	\$ 14.60	\$ 14.60

Note: 1 Cubic foot of water = 7.48 gallons

Proposed Institutional (school) Water Rates – The special water rates for schools were developed based on number of students. Proposed rates were established by adjusting rates by 20% per year. Once metered, the metered rates would apply. A summary of the proposed Institutional (school) water rates are shown in Table 4 – 9.

Table 4 - 9 Summary of Proposed Institutional (School) Water Rates					
Rate Structure	Present Rate	Proposed 12/13 Rate	Proposed 13/14 Rate	Proposed 14/15 Rate	Proposed 15/16 Rate
School Special - Per Month ⁽¹⁾	\$ 27.00	\$ 32.40	\$ 38.88	\$ 46.60	\$ 55.99
	\$ 37.00	\$ 44.40	\$ 53.28	\$ 63.94	\$ 76.73
	\$ 59.00	\$ 70.80	\$ 84.96	\$ 101.95	\$ 122.34
	\$ 104.00	\$ 124.80	\$ 149.76	\$ 179.71	\$ 215.65
Meter Service Charge ⁽²⁾	TBD	TBD	TBD	TBD	TBD

(1) Adjusted annually based on student enrollment

(2) Based on Service size

4.9 Summary of Comprehensive Water Rate Study

This section of the report has discussed the development of the water rate designs and completes the comprehensive water rate study. The results of the comprehensive rate study indicated that water rates are deficient for the projected time period reviewed. The implementation of rate adjustments, as shown in the rate transition plan, should generate the additional revenue needed to meet the water utility's future operating and capital needs, along with the District's financial and rate setting policies.

The water rates, as proposed herein, are cost-based and were developed using "generally accepted" rate making methods and principles. These rates will enable the District's water utility to operate in a financially sound and prudent manner.

Section 5

Development of the Meter Acquisition and Replacement Services

5.1 Introduction

The purpose of the meter acquisition and replacement service fee is to provide funds for the acquisition of meters for all customers not already metered. In addition, the proposed fee provides for repair and/or replacement of existing meters on an as needed basis. This fee is an additional proposed fee to the water rate fees previously discussed.

5.2 Overview of the Meter Acquisition Replacement Service

Estimated cost amounts were provided by District Staff for cost of meters. Estimated installation costs were provided by District Engineer. Additional meter cost amounts were obtained from vendors. Meter costs vary depending on size or type of meter.

5.3 Meter Rate Design Criteria and Considerations

Customer meter fee amounts are based on estimated cost amounts and may need adjustment in future years. The following table illustrates meter costs obtained.

Meter Model	Size	Estimated Cost
Neptune T-10	5/8" & 3/4"	\$ 115.53
Neptune Turbine	1"	322.85
Neptune Turbine	1 1/4"-1 1/2"	581.99
Neptune Turbine	2"	853.00
Neptune Turbine	3"	1,658.00
Neptune Turbine	4"	2,230.76
Neptune Turbine	6"	4,176.47
Neptune Turbine	8"	6,179.41

District's Engineer has estimated the meter installation costs at \$900 per meter.

5.4 Review of the Proposed Meter Rate Fees

The proposed monthly meter rate is determined by allocating the total meter cost (meter acquisition plus installation) over a 120 month period. The 120 month period was used to keep the monthly fee to a minimum and still provide for meeting the mandated deadline for meter additions.

Section 5

Development of the Meter Acquisition and Replacement Services

5.5 Proposed Residential Meter Acquisition Replacement Service Rate

The monthly residential meter rate is calculated as follows (For 5/8" or 3/4" Meter):

Estimated Meter Cost	\$ 115.53
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 1,015.53</u>

Total estimated cost of \$1,015.35 divided by monthly allocation period of 120 months equals \$8.46.

The result is rounded to arrive at a proposed monthly fee of \$8.50. The bi-monthly rate is twice the monthly rate or \$17.00.

The monthly residential meter rate is calculated as follows (For 1" Meter):

Estimated Meter Cost	\$ 322.85
Estimated Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 1,222.85</u>

Total estimated cost of \$1,222.85 divided by monthly allocation period of 120 months equals \$10.19. The result is rounded to arrive at a proposed monthly fee of \$10.20. The bi-monthly rate is twice the monthly rate or \$20.40.

The monthly residential meter rate is calculated as follows (For 1 1/4" and 1 1/2"):

Estimated Meter Cost	\$ 581.99
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 1,481.99</u>

The estimated cost of \$1,481.99 divided by the monthly allocation period of 120 months equals \$12.35.

The result is a monthly fee of \$12.35. The bi-monthly rate is twice the monthly rate or \$24.70.

Section 5

Development of the Meter Acquisition and Replacement Services

5.5 Proposed Residential Rate (Continued)

Proposed commercial meter rates are the same as residential for the same size meter. Commercial customers are billed on a monthly basis. The proposed rates for meter sizes: 2", 3", 4", 6", 8" are as follows:

For 2" Meter:

Estimated Meter Cost	\$ 853.00
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 1,753.00</u>

The estimated cost of \$1,753.00 divided by the monthly allocation period of 120 months equals \$14.60. The result is a monthly meter fee of \$14.60.

For 3" Meter:

Estimated Meter Cost	\$ 1,658.50
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 2,558.50</u>

Total estimated cost of \$2,558.50 divided by monthly allocation period of 120 months equals \$21.32.

The result is rounded to arrive at a proposed 3" monthly fee of \$21.30.

For 4" Meter:

Estimated Meter Costs	\$ 2,230.76
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 3,130.76</u>

The estimated cost of \$3,130.76 divided by the monthly allocation period of 120 months equals \$26.09.

The result is rounded to arrive at a proposed monthly fee of \$26.10.

Section 5

Development of the Meter Acquisition and Replacement Services

For 6" Meter:

Estimated Meter Cost	\$ 4,176.47
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 5,076.47</u>

The total estimated costs of \$5,076.47 divided by the monthly allocation period of 120 months equals \$42.30. The result is a proposed monthly fee of \$42.30.

For 8" Meter:

Estimated Meter Cost	\$ 6,179.41
Estimated Installation Cost	<u>900.00</u>
Total Estimated Cost	<u>\$ 7,079.41</u>

The total estimated costs of \$7,079.41 divided by the monthly allocation period of 120 months equals to \$59.00. The result is a proposed monthly fee of \$59.00

5.6 Summary of the Meter Rate Fees

Meter Size	Est. Cost	Est. Installation	Monthly Alloc. Period	Proposed Monthly Fee
5/8" & 3/4"	\$ 115.53	\$ 900.00	120	\$ 8.50
1"	322.85	900.00	120	10.20
1 1/4" & 1 1/2"	581.99	900.00	120	12.35
2"	853.00	900.00	120	14.60
3"	1,658.50	900.00	120	21.30
4"	2,230.76	900.00	120	26.10
6"	4,176.47	900.00	120	42.30
8"	\$6,179.41	\$ 900.00	120	\$ 59.00

Exhibits 21-27 provide detailed proposed amounts.