Point Roberts Water District No. 4
2009 Water Rate & GFC Update
Final Report – July 29, 2009

I. Introduction & Background

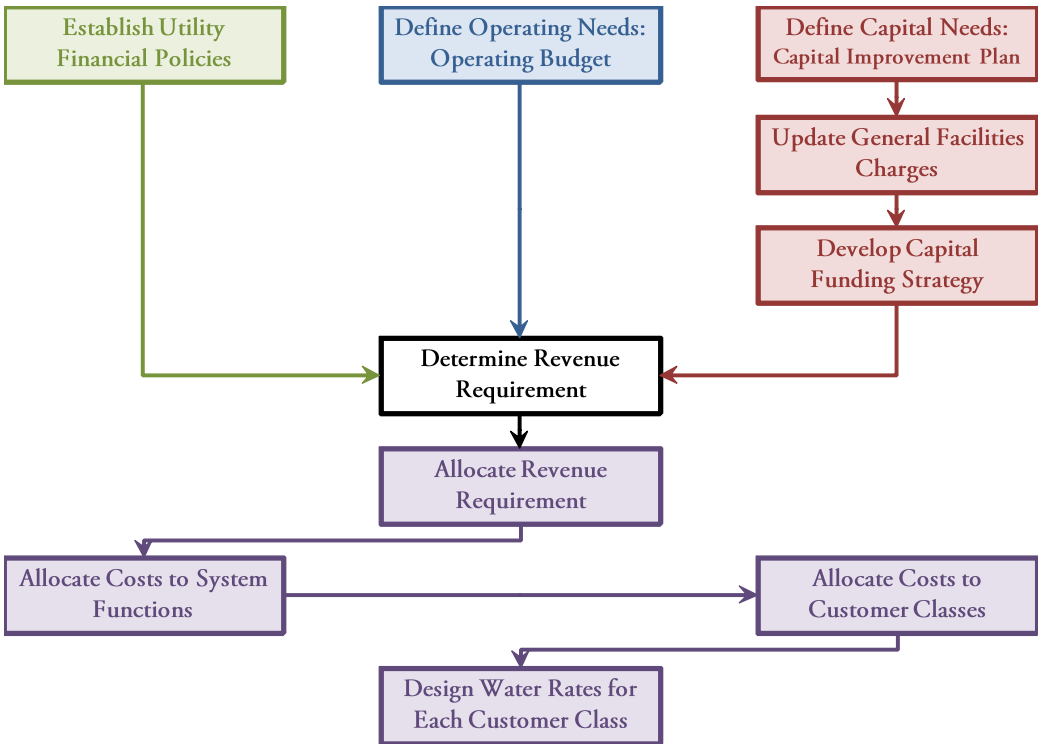
In February 2009, the District authorized FCS Group to perform a water rate study that would address a number of financial issues relevant to the District's water utility, including:

- Planning for long-term capital needs
- Updating general facilities charges
- Evaluating the District's water rates for revenue sufficiency and inter-class equity

Prior to this current effort, FCS Group most recently reviewed the District's water rates in 2007. The findings and recommendations presented to the Board in June 2007 were based on a number of assumptions – additional information has since become available, and the District has expressed interest in revisiting the rate analysis to determine the relative changes from the prior forecast and gauge their impact on the recommended rate strategy.

Exhibit 1 illustrates the rate study process:

Exhibit 1: Water Rate Study Methodology



As shown above, the rate study process has two primary phases:

- ***Phase I:*** Determine the revenue requirement, or level of revenue that rates must generate.
- ***Phase II:*** Allocate costs and design rates to recover costs from customers equitably, based on the demands that they place upon the District's water system.

This report discusses each of these phases separately, providing a refresher on the key methods and assumptions used in the study and evaluating the relative changes to the prior forecast.

II. Fiscal Policies

Consistent with prior updates, this analysis assumes a basic framework of fiscal policies that promote the long-term financial independence and viability of the District's water utility. These policies address a variety of topics including cash management, capital funding strategy, financial performance, and rate equity.

A. Utility Reserves

It is appropriate for any utility enterprise to maintain reserves consistent with its exposure to fluctuations in revenues and expenditures, along with other financial risks. A well-defined reserve structure is an integral part of a robust financial plan that allows a utility to accommodate unforeseen circumstances and facilitates moderate utility rates. This analysis segregates the District's cash resources into three sets of reserves:

- ***Operating Reserve:*** This is the utility's pool of unrestricted resources. Inflows include rate revenue and other service charges (excluding GFCs, which are restricted for capital purposes); outflows include operating and maintenance (O&M) expenses and other revenue needs not covered by other sources. Because water utilities face a substantial amount of revenue risk due to the potential impacts of climate, weather, conservation signals, and other factors on water sales, they can generally justify higher reserve levels than other utilities with more stable revenue bases. Consistent with recent updates, this analysis assumes a target minimum balance equal to 75 – 90 days (20 – 25%) of annual operating expenses for this reserve – if the balance falls below this target, the District would plan to generate rate-funded surpluses to replenish it.

- ***Construction Reserve:*** This pool of resources represents the hub of the water utility's capital activity. Inflows include general facilities charges, capital grants and other contributions, and other money set aside for capital purposes; the District spends these funds on capital improvement projects. This analysis does not assume a minimum balance above zero for this reserve on the premise that the District would issue debt (or delay capital expenditures) as needed to fund costs that exceed other available resources.

- ***Bond Reserve:*** This reserve contains restricted money related to the District's outstanding bonds, such as reserve requirements mandated by the District's debt agreements. This analysis assumes that the bond reserve must have at minimum balance equal to at least one year's average annual payment on outstanding revenue bond debt service (when the analysis projects additional debt issuance, it assumes that incremental reserve requirements are funded from bond proceeds).

Exhibit 2 summarizes the water utility's cash balances as of the end of 2008:

Exhibit 2: Water Utility Balances as of Year-End 2008

Water Utility Balances as of Year-End 2008	Operating Reserve	Construction Reserve	Bond Reserve	Total
100: General Fund Cash (804)	$ 100,336	$ -	$ -	$ 100,336
110: Revenue Bond Cash (80411)	-	-	1	1
135: LID 43 Assessment Cash (80418)	-	-	-	-
150: GVWD Imprest Checking	52,735	-	-	52,735
155: Change Fund	714	-	-	714
160: General Fund Investments (804)	1,123,834	-	-	1,123,834
165: Rev Bond Fund Investments (80411)	-	-	21,363	21,363
170: GO BD Antic Nt Invest (80414)	-	25,035	-	25,035
175: LID 43 Assessment Invest (80418)	-	-	935	935
180: Reserve Investments (80420)	-	-	-	-
Sterling Savings Bank	7,263	-	-	7,263
Total	$ 1,284,882	$ 25,035	$ 22,299	$ 1,332,216

The District's 2008 Audit Report indicates that the District funded about $805,000 in operating expenses (excluding depreciation) during 2008 – given the policy outlined above, the target operating reserve balance would fall in between $165,000 and $200,000. The District's debt schedules indicate that the District made the final payment on its outstanding revenue bond in 2007, so there is no outstanding revenue bond debt service (the District is still repaying a loan from the Department of Community, Trade, and Economic Development, but that loan is not assumed to have a reserve requirement). In both cases, the ending balances shown in **Exhibit 2** for the operating reserve and the bond reserve comply with their respective targets.

B. Capital Funding

The District has established two major policies related to capital investment.

- ***New development should make an equitable financial contribution to the water utility.*** The general facilities charge (GFC) is a mechanism that promotes equity between existing and future customers, representing a *pro rata* share of system capital costs attributable to new development. New customers pay the GFC as a condition of receiving utility service.

- ***Existing ratepayers should bear a cost commensurate with the full cost of providing service.*** This "full cost" includes both cash outlays and the decline in useful life of existing infrastructure (which is not a direct cash expense until asset replacement is required). Existing customers benefit from a system of infrastructure that has been funded through a combination of sources. This infrastructure deteriorates over its useful life and will eventually fail, requiring replacement.

  There are numerous approaches to defining a benchmark for appropriate reinvestment – this analysis assumes a long-term policy goal of funding 100% of annual depreciation (net of debt principal payments)

through water rates, phasing in funding to mitigate the near-term impacts to ratepayers. This benchmark for depreciation funding recognizes that existing customers also pay for their use of existing assets through the debt component of their rates, attempting to avoid double charging customers for existing assets. While this approach does not ensure full cash funding of system replacements, it provides a reasonable basis for equitably charging current customers for the use and decline in value of the system. It is consistent with standard accounting practices and is a commonly used benchmark in the industry. In most cases, it provides a major source of capital reinvestment, which can be augmented with judicious use of debt financing to meet scheduling requirements.

For this planning horizon, capital funding under the above policies is committed to the identified capital program. The resources assumed to be generated through the above mechanisms should provide a reasonably predictable level of cash-based (equity) funding. When capital needs exceed those resources, together with available balances, then the District would rely on long-term debt to meet the necessary funding level. The District's water utility has relatively little long-term debt principal outstanding at this time (about $76,000 as of the end of 2008), which provides ample capacity for new debt. While utility debt burdens vary greatly, debt-to-asset ratios commonly range from 15% to 30% and often approach debt loads as high as 40% to 60%.

C. Financial Performance

The water utility's financial performance policies define the minimum standards for annual financial performance. The District's budget process establishes a common utility standard for a balanced budget. Beyond that minimum, the utility budgeting process should also meet the minimum reserve requirements outlined above. In general, this standard results in an annual requirement for positive cash flow from operations. A possible short-term exception would be when operating reserve balances exceed requirements and the District makes an explicit decision to use the surplus to "buy down" or phase in rate increases.

The second criterion relates to utility debt. Revenue bonds often come with a required minimum annual debt service coverage ratio that requires the District to set its water rates so that "net revenues" (defined in the District's debt agreements, but can generally be thought of as operating revenues less cash operating expenses) are equal to a multiple of annual revenue bond debt service. In this revenue bond coverage test, all subordinate debt is excluded from the calculation on the premise that such debt would hold a junior position and would only be repaid after revenue bond payments are satisfied.

A common requirement for utility bond coverage is a coverage ratio of 1.25, meaning that the utility must generate enough revenue to cover operating expenses plus 125% of annual revenue bond debt service. This coverage requirement must be met annually; because this test aims to evaluate annual performance, use of reserves generally does not count toward coverage. Because the coverage test does not consider depreciation funding, other rate-funded capital outlays, or reserve funding needs, it is conceptually possible that the District could meet its coverage requirements yet end up negative cash flow after all debt service is paid.

III. General Facilities Charges

General facilities charges (GFCs), a form of connection charge authorized in the Revised Code of Washington (RCW) 57.08.005, are imposed on new customers connecting to the system as a condition of service. In addition to any other costs related to connecting a customer to the water system, the GFC is typically based on a blend of historical and planned future capital investment in system infrastructure – its underlying premise is that growth (future customers) will pay for growth-related costs that the utility has incurred (or will incur) to provide capacity to serve new customers. The GFC cost basis excludes costs associated with assets funded by grants and developer contributions on the premise that the utility should not recover a cost that it did not incur. This reduction in the total original cost of infrastructure is a conservative approach to calculating GFCs – the verdict in *Landmark v. Roy* suggests that the District could justify including grant-funded assets as part of the "cost of the system" on the premise that the "cost of the system" is the total cost to construct it, regardless of the funding source. Similar logic could apply to developer contributions, though the District may wish to seek advice from its legal counsel before making any major revisions to its GFC methodology. If the District were to move toward a methodology that includes developer-contributed assets in the "cost of the system," it would want to establish a mechanism for GFC credits to avoid double charging developers for their contributions to the system.

The District's GFC is currently $5,500 per equivalent residential unit (ERU). The prior update derived several GFC alternatives using different GFC methodologies that are summarized in **Exhibit 3** below:

Exhibit 3: GFC Methodology

Average Cost Method

$$GFC = \frac{\text{Existing System Cost} + \text{Future Project Costs: Repair \& Replacement} + \text{Future Project Costs: Expansion \& Upgrade}}{\text{Existing Customer Base} + \text{Future Growth Served}}$$

This method views the system from an aggregate perspective, acknowledging that existing and future facilities will benefit both existing and future customers. The GFC is computed by dividing both existing and future costs by the total number of existing and future customers. This method is relatively easy to implement and explain to customers.

Buy-In + Growth Method

$$GFC = \frac{\text{Existing System Cost}}{\text{Existing Customer Base} + \text{Future Growth Served}} + \frac{\text{Future Project Costs: Expansion \& Upgrade}}{\text{Future Growth Served}}$$

This method views the system primarily from an incremental perspective. New customers should pay for a proportionate share of the existing system that will serve them and any costs that the District will have to incur to expand the system to provide service to them. This approach is more complicated in that it requires the allocation of planned capital projects between "repair and replacement" (R&R) and "expansion and upgrades" (R&R projects are omitted from the calculation under this method because they are solely attributable to the use of system assets by existing customers).

Buy-In Method

$$GFC = \frac{\text{Existing System Cost}}{\text{Existing Customer Base}}$$

This method focuses on the existing system, recovering a fair share of the investment made in the existing system. It does not include a provision for future investments, either due to the lack of an approved CIP or the fact that the system is not expected to grow materially.

This analysis uses a consistent methodology to update the District's GFC calculation. The following description expands on the GFC analytical method:

A. Existing Cost Basis

- The total cost of the existing water system is established from the District's 2007 – 2008 Audit Report, which indicates a total of $8.14 million in existing assets.

- The General Accounting Standards Board (GASB) released Statement 51 in mid-2007 concerning the accounting for intangible assets. It establishes a set of criteria that must be met in order to be able to capitalize an asset – under the criteria that it specifies, system plans are not eligible to be capitalized as assets. For this reason, the District's investments in water and sewer comprehensive plans (roughly $113,000 and $52,000, respectively) are removed from the existing cost basis.

- Assets funded by in-kind contributions or outside grants are deducted from the total. Records available during the prior study indicated a total of about $1.17 million in developer contributions and $2.82 million in grant funding as of the end of 2006. Consistent with the prior study, these costs (totaling $3.99 million) are removed from the existing cost basis.

- Because the "average cost" method for computing the GFC includes repair and replacement projects, it also includes an additional offset to the existing cost basis for assets that the repair and replacement projects will replace. This offset considers the cost of current replacement projects and the estimated cost of the corresponding facilities being replaced – based on the available information, this adjustment results in another reduction in the existing cost basis by $1.1 million *(note that this only applies to the average cost method – the other two methods do not include repair and replacement projects, and thus do not require such an adjustment).*

- Interest for up to 10 years is added by applying 10 years of interest to all assets greater than 10 years old and the appropriate years of interest for newer additions. Using the Bond Buyers Index as a source of information for historical interest rates, the updated interest calculation adds $1.7 million – $2.4 million to the cost basis (only interest attributable to utility-funded assets is included in the cost basis).

- Construction work in progress would also increase the existing cost basis, but as of the end of 2008 the District did not report any.

B. Future Cost Basis

The District's capital improvement program is the primary source of information for the future cost basis. This analysis uses the most recent version of the District's CIP (adopted in the District's 2007 Water Comprehensive Plan) to derive the future cost basis. The District's CIP is broadly separable into two parts: the near-term CIP (2009 – 2013) and the long-term CIP (2014 – 2027). The 2009 – 2013 CIP includes about $3.06 million in capital projects; the 2014 – 2027 CIP includes about $17.7 million in projects. These costs are expressed in 2006 dollars, and are adjusted by the ENR Construction Cost Index to bring the cost estimates to 2009 dollars (a

cumulative increase on the order of 10%). Note that the costs used in the GFC calculation are expressed in "current" (2009) dollars, and do not reflect any additional adjustments for inflation.

For the purpose of the GFC, the 2014 – 2027 CIP required an allocation between the share that would fall within the ten-year period allowed by RCW 57.08.005 and the share that is expected to occur beyond the ten-year period. Consistent with the prior analysis and confirmed with District management, the 2014 – 2027 project costs (as expressed in 2006 dollars) are spread evenly between 2014 and 2027 – consequently, only 5 years' worth of the 2014 – 2027 CIP (about 36%) is included in the future cost basis.

Consistent with the existing cost basis, the future cost basis excludes project costs that are expected to be funded by grants or developer contributions. District management anticipates developer funding for only one project, a developer extension to the golf course that is estimated to cost $240,000 in 2006 dollars – this cost is removed from the future cost basis.

Where necessary, project costs were allocated between R&R (existing customers) and expansion/upgrade (growth) using the following principles:

- System extensions are fully attributed to expanding system capacity to serve growth.
- Long-term pipe replacements are fully allocated to the repair and replacement of existing infrastructure.
- Water quality improvement projects are split proportionately to existing and future customers (growth over the 10-year period allowed in the GFC calculation), as these projects are of general system benefit.
- General facilities such as the District's office building and meter reading station are split proportionately between existing and future customers (growth over the entire CIP planning period, through 2027).
- Main replacements are split between R&R and expansion based on the oversizing of the mains being replaced. For example, standards published by the American Water Works Association (AWWA) indicate that a 6" pipe can accommodate 500 gpm of continuous flow – replacing it with an 8" main would increase that continuous flow capacity to 800 gpm. Hence, 500 gpm of the 800 gpm (62.5%) of the capacity of the new main is replacing existing capacity; the remainder represents expanded system capacity.
- Pressure zone and pumping improvements are allocated to growth on the premise that the CIP project descriptions indicate that these improvements are needed to serve development in the District's service area.
- New supply and storage facilities are allocated to growth on the premise that the District's existing contract with Greater Vancouver Water District (GVWD) is sufficient to serve the existing customer base.

With these adjustments, the future cost basis includes about $4.64 million in R&R projects and $5.69 million in expansion and upgrade projects. Each of the three GFC calculation methods shown in **Exhibit 3** considers these costs in a different way. The average cost method includes both, while the "buy-in plus growth" method only includes expansion/upgrade project costs; the "buy-in" method does not include either set of project costs.

C. Customer Base

The customer base used in the calculation is separable into two groups.

- The **existing customer base** is readily quantifiable based on the District's inventory of current customers by water meter size – consistent with prior updates, equivalent residential units (ERUs) are computed for customers using AWWA-specified meter flow capacity factors. Based on customer data provided by the District, the existing customer base consists of approximately 2,377 ERUs.

- Projected **growth** in the customer base over a ten-year period is also included in the customer base for the calculation (though each method uses the information in a different way). The analysis assumes growth projections that are based on the District's recent experience with growth and expectations for future growth. The key elements of the growth forecast are:

  – 10 new connections per year in 2009 and 2010

  – 25 new connections per year from 2011 – 2013

  – 37 new connections per year from 2014 onward

  These assumptions result in a ten-year growth estimate of 280 connections (about 283 new ERUs).

D. GFC Calculation

Exhibit 4 shows the updated GFC calculation.

Exhibit 4: GFC Calculation

General Facilities Charge (GFC) Calculation	Average Cost Method	Buy-In + Growth Method	Buy-In Method
I. Existing Facilities (Buy-In) Component			
Existing Plant-in-Service as of December 31, 2008	$ 7,976,738	$ 7,976,738	$ 7,976,738
Less: Facilities Funded From Contributions & ULIDs	(1,168,522)	(1,168,522)	(1,168,522)
Less: Additional Grant Funding	(2,823,805)	(2,823,805)	(2,823,805)
Less: 10-Year Provision For Capital Retirements	(1,165,587)	-	-
Less: Outstanding Debt Net of Cash Reserves	-	-	-
Total Utility-Funded Plant-in-Service	$ 2,818,824	$ 3,984,412	$ 3,984,412
Plus: Cumulative Interest on Utility-Funded Plant-in-Service	1,721,016	2,432,658	2,432,658
Plus: Construction Work In Progress	-	-	-
Total Existing Facilities Cost Basis	**$ 4,539,840**	**$ 6,417,069**	**$ 6,417,069**
II. Future Facilities Component			
10-Year Capital Improvement Program:			
Replacement (R&R) Projects	$ 4,650,167	$ -	$ -
Improvements & Upgrades	5,682,736	5,682,736	-
Total	$ 10,332,904	$ 5,682,736	$ -
Less: Project Costs Funded by Grants & Contributions			
Replacement (R&R) Projects	$ -		
Improvements & Upgrades	(240,000)	(240,000)	
Total	$ (240,000)	$ (240,000)	$ -
Total Future Facilities Cost Basis	**$ 10,092,904**	**$ 5,442,736**	**$ -**
III. Customer Base			
Number of Existing ERUs	2,367	2,367	2,367
Plus: Projected Growth Over Next 10 Years	283	283	283
Total ERU Basis	**2,650**	**2,650**	**2,650**
IV. GFC Computation			
Existing Facilities Component			
Total Costs	$ 4,539,840	$ 6,417,069	$ 6,417,069
Allocable ERU Basis	2,650	2,650	2,367
Existing Facilities Charge per ERU	$ 1,710	$ 2,420	$ 2,710
Future Facilities Component			
Total Costs	$ 10,092,904	$ 5,442,736	$ -
Allocable ERU Basis	2,650	283	0
Future Facilities Charge per ERU	$ 3,810	$ 19,200	$ -
Total General Facilities Charge per ERU	**$ 5,520**	**$ 21,620**	**$ 2,710**

The existing charge of $5,500 was derived in the 2007 study using the average cost method – **Exhibit 4** shows that although the various parts of the equation have changed since the prior study, the result remains essentially unchanged. The projected expenditures over the next ten-year period have declined, but the projected customer growth has also decreased to offset what would otherwise be a basis for potentially lowering the charge. Thus, we would recommend that the District retain its current water GFC for 2009 and begin annual inflationary adjustments in 2010 to keep the cost basis for the charge current with escalating construction costs.

IV. Revenue Requirement Forecast

The near-term projections that drive the forecast of rate revenue needs are discussed in further detail below:

A. Capital Funding Strategy

The District must fund its projected capital costs through a combination of cash resources and debt issuance. The financial forecast assumes the following conceptual capital funding hierarchy:

1. Any available grant funds or developer contributions would be considered first, as they are essentially free money that generally comes with a specific purpose and restrictions on use. As noted above, the District expects to receive developer funding to pay for the golf course developer extension.

2. Anticipated low-cost loans (PWTF) would then be used, if any are available. The analysis does not assume the availability of any such loans in light of recent speculation about the future of the PWTF Loan program.

3. Cash resources are next in line, including projected GFC revenue, money generated from depreciation funding, and available cash reserves (to the extent that they exceed the policy minimum balances).

4. Revenue bonds, as relatively high-cost debt with additional coverage requirements, are the last resort for any costs in excess of other available resources.

Exhibit 5 shows the capital funding strategy, based on the costs and resources projected in the financial forecast.

Exhibit 5: 2009 – 2013 Capital Funding Strategy

2009 - 2013 Capital Funding Strategy	2009	2010	2011	2012	2013	Total
Projected Capital Expenditures [1]:						
Churchill Site Disinfection Evaluation	$ 4,409	$ 4,541	$ 4,677	$ 4,818	$ 4,962	$ 23,407
Flushing Stations	28,106	28,950	29,818	30,713	31,634	149,221
Fire Flow Improvements	217,841	224,376	231,108	238,041	245,182	1,156,548
Pressure Zone Improvements	154,310	158,939	163,707	168,618	173,677	819,251
Developer Extension Improvements	269,821	277,916	286,254	294,841	303,686	1,432,519
Total Expenditures	**$ 674,487**	**$ 694,722**	**$ 715,564**	**$ 737,031**	**$ 759,142**	**$ 3,580,945**
Capital Funding Strategy						
Grants / Contributions [2]	$ 52,906	$ 54,493	$ 56,128	$ 57,812	$ 59,546	$ 280,886
PWTF Loans	-	-	-	-	-	-
Cash Reserves	25,786	134,797	208,135	308,346	320,390	997,454
Revenue Bonds [3]	595,795	505,432	451,300	370,873	379,205	2,302,605
Total Expenditures	**$ 674,487**	**$ 694,722**	**$ 715,564**	**$ 737,031**	**$ 759,142**	**$ 3,580,945**

[1] Costs are initially expressed in 2006 dollars, and adjusted to 2009 dollars using the ENR Construction Cost Index. Cost inflation beyond 2009 is estimated at 3% per year.

[2] The Golf Course Developer Extension is assumed to be funded by developer contributions.

[3] New revenue bonds are assumed to be 20-year, 5% bonds with an issuance cost equal to 2% of the amount issued and a reserve requirement of 1 year's debt payment.

Projected New Annual Debt Service	*$ 53,135*	*$ 98,210*	*$ 138,458*	*$ 171,534*	*$ 205,352*

Exhibit 5 indicates that the District will have to issue debt to fund a significant share (roughly 64%) of the projected capital improvements over the next five years. This projected debt issuance results in roughly $205,000 in incremental debt service by 2013, which will have a notable financial impact on the District given that it has recently been collecting about $800,000 – $850,000 per year in rate revenue.

B. Operating Forecast

Operating expense projections for 2009 are generally based on the District's 2009 Budget. The forecast of operating expenses beyond 2009 is also based on this information, generally reflecting annual inflationary increases of 3%. A multi-year average of the Consumer Price Index over the last several years suggests that an annual escalation rate on the order of 3.0% is appropriate for forecasting operating expenses – in addition, near-term projections prepared by the Washington State Economic and Revenue Forecast Council suggest that inflation over the next few years (after 2009) will be on the order of 2.0% per year. There are certain variable expenses (postage for customer billing, chemicals, power for pumping, etc.) that increase with customer growth as well as inflation. State excise taxes are revenue-based, and therefore would increase proportionately with customer growth.

Operating revenues are also forecasted to offset projected operating expenses. Key sources of offsetting operating revenue include sewer charges (to operate the Large Onsite Sewage System for the Marina area) and late charges, both of which are assumed to increase with customer growth averaging 0.8% per year during the study period. The analysis computes interest earnings on projected reserve balances assuming an annual interest earnings rate of 3%; revenue from other miscellaneous charges is assumed to grow at a rate of 1% per year.

Water rate revenue levels are initially based on actual 2008 water rate revenue collections and are adjusted for growth. Usage statistics provided by the District indicate an average bimonthly water usage of 6.7 ccf per ERU in 2008, which is about 14% lower than the average bimonthly usage experienced in 2007 (7.8 ccf per ERU). At least part of this observed drop is attributable to climatic effects (2008 was a relatively low sales year), but there are also a number of factors (such as price and conservation signals) that may have contributed to this drop in demand. The issue of climate-based reductions in demand is relevant to the revenue requirement forecast because the rate revenue projections are based on actual demands – if the projections are based on a particularly low sales year, they will likely be unnecessarily low and result in unnecessarily high rate increases. The District's reserve structure intends to provide enough flexibility to budget and plan for "normal" conditions and accommodate unforeseen circumstances at least to some degree. Along these lines, the 2009 water rate revenue projections incorporate a demand normalization adjustment of about 7.7% (applied only to the volume charge revenues). The District will want to continue to monitor customer usage patterns from year-to-year to get a better sense of the degree to which observed changes in demands are attributable to climatic effects versus longer-term trends in behavior.

C. Policy-Based & Other Revenue Needs

Other costs that the District's water rates must fund include:

- ***Existing Debt Service:*** The District currently has a loan with the Department of Community, Trade, and Economic Development with an outstanding balance of about $76,000 as of the end of 2008. The District has a repayment schedule for this loan that indicates annual payments on the order of $7,000 per year. As noted above, the capital funding strategy shown in **Exhibit 5** will add roughly $205,000 per year in annual debt service to the water utility's financial obligations.

- ***Depreciation Funding:*** Though depreciation is not a cash expense per se, the District has a policy to make annual transfers from the operating reserve to the construction reserve. These transfers are based on annual depreciation net of debt principal payments, and are being phased in over a period of years to mitigate rate impacts. The prior forecast (and the iteration before it) projected that the District would presently be funding roughly $50,000 per year in these transfers. Annual depreciation increases steadily during the study period due to the addition of assets from the CIP, but increases in annual debt principal payments offset the increment in depreciation. Even so, the annual depreciation transfers are projected to increase by a factor of 3 by 2013, increasing the annual transfers from around $50,000 to almost $170,000.

- ***Reserve Funding:*** The District has a policy to fund an operating reserve equal to 75 – 90 days of projected operating expenses. Given that operating expenses are projected to increase over time, the target balance for the operating reserve increases – if the operating reserve balance is projected to fall short of its moving target, rates must generate a slight surplus.

D. Revenue Sufficiency

With revenues and expenses defined and projected, the next step is to define how much revenue is "enough" to meet the water utility's financial needs and satisfy the District's policy objectives. The financial forecast defines "revenue sufficiency" via a series of tests:

1. *Cash Flow Sufficiency Test*

The premise behind this test is that the District's water utility needs to generate sufficient funds to meet its cash obligations. The cash flow obligations relating to rates include:

- Operating, maintenance and administrative expenses
- Debt service payments
- Rate-funded capital expenditures
- Depreciation funding (system reinvestment)
- Additions to operating reserves

Offsetting these obligations are various sources of revenue, including:

- Interest earnings on operating and bond reserves
- Miscellaneous operating and non-operating revenues
- Use of surplus operating or bond reserves

To satisfy this test, water rate revenue must be sufficient to ensure non-negative net cash flow. Some resources, such as bond proceeds or GFC revenues, are not typically considered available for meeting these cash flow needs, but become part of the resources used for capital project funding.

2. *Coverage Sufficiency Test*

When the District issues bonds, they will come with a bond coverage requirement in which the District agrees to collect enough in revenues to meet all operating expenses and not only pay debt service but actually collect an additional multiple of that debt service. A bond coverage ratio of 1.25 is most common, meaning that the District would collect expenses plus 1.25 times debt service as a minimum legal level of revenues. Besides being a legal requirement, the coverage ratio actually realized is an important statistic used to rate a utility's financial integrity and ability to meet its debt obligations. Revenue generated to comply with coverage requirements may be used for capital purposes, and may reduce the amount of revenue needed to meet cash needs in subsequent years – it can also be used to meet capital requirements (and may thus reduce future borrowing), but generally cannot be held over to reduce coverage needs in subsequent years.

The forecast assumes a coverage requirement of 1.25 for revenue bond debt. This requires the water utility's "net revenue" (rate revenue plus interest earnings and miscellaneous operating revenue, less cash operating expenses) to be equal to at least 1.25 times the annual debt service attributable to revenue bonds. This consideration excludes replacement funding, reserve funding, and PWTF Loan debt service; as it is a test of annual financial performance, it also precludes the use of reserves to cover shortfalls in "net revenue."

The cash flow and coverage sufficiency tests each provide a different perspective on how much revenue is appropriate – satisfying all of the defined objectives might seem daunting at first, generally resulting in a higher rate

than the District would need to meet a single standard. However, this multi-faceted approach reduces the utility's financial risk and increases financial stability – any near-term increases which result will help to ensure lower and more stable long-term rates.

It is relatively common for these benchmarks to overlap (ensuring in tandem that each separate objective is met at all times). For example, producing a coverage ratio of 1.25 times annual debt service may generate positive cash flow, concurrently satisfying both sufficiency tests. Alternatively, the cash requirements associated with the District's replacement funding policy may assure positive earnings and adequate coverage.

Exhibit 6 shows the 2009 – 2013 revenue requirement forecast:

Exhibit 6: 2009 – 2013 Water Rate Revenue Requirement

Cash Flow Sufficiency Test	2009	2010	2011	2012	2013
Revenues					
Water Rate Revenue	$ 895,069	$ 898,635	$ 907,547	$ 916,460	$ 925,373
Other Revenues	64,882	64,832	62,509	60,201	58,291
Total	**$ 959,951**	**$ 963,466**	**$ 970,056**	**$ 976,661**	**$ 983,663**
Expenses					
GVWD Water Purchases	$ 507,925	$ 542,654	$ 564,374	$ 586,907	$ 610,370
Other Cash Operating Expenses	389,824	400,477	413,293	425,027	437,104
Debt Service	7,364	60,363	105,302	145,414	178,353
Depreciation Funding	75,189	144,721	151,683	158,946	166,524
Rate-Funded Capital Outlays	29,500	29,740	29,987	30,242	30,504
Total	**$1,009,803**	**$1,177,954**	**$1,264,639**	**$1,346,535**	**$1,422,855**
Cash Flow Surplus (Deficit)	**$ (49,851)**	**$(214,488)**	**$(294,583)**	**$(369,875)**	**$(439,192)**

Coverage Sufficiency Test	2009	2010	2011	2012	2013
Revenues					
Water Rate Revenue	$ 895,069	$ 898,635	$ 907,547	$ 916,460	$ 925,373
Other Eligible Revenues	66,302	71,041	72,275	74,204	73,788
Connection Charges	55,682	57,352	147,682	152,113	156,676
Total	$ 1,017,053	$ 1,027,028	$ 1,127,504	$ 1,142,777	$ 1,155,837
Operating Expenses					
GVWD Water Purchases	$ 507,925	$ 542,654	$ 564,374	$ 586,907	$ 610,370
Other Cash Operating Expenses	389,824	400,477	413,293	425,027	437,104
Total	$ 897,749	$ 943,131	$ 977,667	$ 1,011,934	$ 1,047,474
Debt Service Requiring Coverage	$ -	$ 53,135	$ 98,210	$ 138,458	$ 171,534
Coverage Ratio Realized	(N/A)	1.58	1.53	0.94	0.63
Coverage Surplus (Deficit)	**$ 119,304**	**$ 17,479**	**$ 27,074**	**$ (42,230)**	**$(106,055)**

Water Rate Adjustments	2009	2010	2011	2012	2013
Maximum Revenue Deficit (Minimum Surplus)	$ 49,851	$ 214,488	$ 294,583	$ 369,875	$ 439,192
Less: Net Revenue From Prior Adjustments	-	(134,795)	(136,132)	(221,783)	(315,885)
Plus: Adjustment For Incremental Taxes	2,640	11,358	15,599	19,586	23,257
Net Revenue Adjustment Required	$ 52,491	$ 91,051	$ 174,050	$ 167,677	$ 146,563
Rate Revenue Requirement	$ 947,561	$ 1,124,480	$ 1,217,730	$ 1,305,921	$ 1,387,821
Annual Rate Adjustment Required	5.86%	8.81%	16.68%	14.73%	11.81%
Number of Months New Rates Will Be In Effect	4 Months	12 Months	12 Months	12 Months	12 Months
Effective Rate Adjustment Required	17.59%	8.81%	16.68%	14.73%	11.81%
Annual Rate Adjustment Implemented	**15.00%**	**0.00%**	**8.00%**	**8.00%**	**8.00%**
Cumulative Rate Adjustment Implemented	**15.00%**	**15.00%**	**24.20%**	**34.14%**	**44.87%**
Post-Adjustment Summary:					
Water Rate Revenue	$ 939,823	$ 1,033,430	$ 1,127,174	$ 1,229,303	$ 1,340,559
Net Cash Flow	$ (7,349)	$ (86,472)	$ (86,002)	$ (72,765)	$ (44,885)
Operating Reserve Ending Balance	*$ 1,277,534*	*$ 1,191,062*	*$ 1,105,060*	*$ 1,032,295*	*$ 987,410*
Operating Reserve Minimum Balance	*$ 190,531*	*$ 199,905*	*$ 207,052*	*$ 214,146*	*$ 221,502*
Coverage Ratio Realized	(N/A)	3.99	3.65	3.09	2.93

The proposed near-term rate strategy involves implementing a 15% rate increase in September 2009 that would be effective through the end of 2010 – key factors influencing this increase include an increase of about $70,000 in deprecation funding (caused by the phase-in strategy to attain annual depreciation funding equal to net depreciation), an increase of about $53,000 in new debt service resulting from projected debt issuance to fund 2009 capital costs, and an increase of almost $35,000 in the cost of purchasing water from GVWD. These three factors are also the primary drivers behind the annual 8% increases projected for 2010 – 2013, though it is also worth noting that the fact that the District's expenses are projected to grow at a rate that exceeds its projected growth also contributes to the need for rate increases. **Exhibit 6** also shows negative net cash flow because the proposed rate strategy relies on the use of surplus funds in the operating reserve to mitigate the near-term rate increases – if rates were to be set to fully cover the projected needs, they would have to be increased by about 52% over their current levels by 2013 (compared to the cumulative increase of roughly 45% shown in **Exhibit 6**).

Given that the District's water purchases from GVWD represent about 57% of its operating budget, the exchange rate between Canadian dollars and U.S. dollars is another key assumption driving the revenue requirement forecast. Based on direction received from the District's Board of Commissioners, the revenue requirement analysis assumes a par exchange rate ($1 Canadian = $1 U.S.). The District also requested a scenario in which the exchange rate was $0.85 U.S. per Canadian dollar – using this alternative exchange rate would lower the District's water purchase costs by roughly $75,000 – $100,000 per year during the study period. With this assumption, the District could implement the rate strategy shown in **Exhibit 6** with minimal use of its operating reserve to cover cash flow deficits.

The prior forecast contemplated annual rate increases of 15.0% for 2009 – 2011, an increase of 11.0% in 2012, and a decrease of roughly 0.9% in 2013, for a cumulative increase of 67.3% over 2008 rates. This increase corresponds to an average annual rate increase of 10.8% over the study period, compared with an average annual rate increase of 7.7% in the current forecast. The primary reason for this change is a reduction in projected debt service resulting from the CIP. The prior forecast included the Churchill Reservoir and well source development costs in the near-term CIP, at a total projected cost of about $6.9 million; the current forecast reflects a revised CIP that resizes these projects (based on revised demand projections) and defers them to the longer-term planning period (2014 – 2027). As a result, the current 2009 – 2013 revenue requirement forecast does not include roughly $600,000 in annual debt service that would have been attributable to these two projects. However, the revised CIP used in the current forecast includes $1.6 million in near-term projects that had not been contemplated in the prior forecast – issuing bonds to cover these costs would add roughly $145,000 in annual debt service, which would offset the reduction discussed above (for a net reduction in annual debt service on the order of $450,000 by 2013).

V. Cost-of-Service Rate Analysis

While the revenue requirement analysis determines the amount of revenue that water rates must generate, it says nothing about how water rates should collect that revenue from the District's water customers. The cost-of-service analysis is intended to provide an analytical basis for recovering the forecasted revenue requirements from customer classes according to the demand that they place on the system. The American Water Works Association (AWWA) defines a two-step process for allocating costs:

1. First, capital and O&M costs are allocated to applicable functional categories, including:

   - **Customer** costs are associated with providing services to customers regardless of the amount of water used – such costs include billing, meter reading, and office support. These costs are typically associated with the number of customer accounts.
   - **Base Capacity** costs tend to vary with the amount of water produced, such as source of supply, chemical, power, etc., and are associated with meeting a constant, or average, annual rate of use.
   - **Extra (Peak) Capacity** costs are associated with providing facilities to meet the extra capacity needs of the system during peak demand periods.
   - **Fire Protection** costs are related to the provision of fire service – this pertains to storage, pumping, transmission, and hydrants.

2. Then, based on customer class demand characteristics, functional costs would be distributed to customer classes according to the relative demands that they place on the system.

A. Cost Allocation

Because the proposed rate strategy involves an initial rate increase in September 2009 that would be effective through the end of 2010, the analysis uses the 2010 revenue requirement for the cost-of-service allocations. The 2010 revenue requirement is split into two subsets: costs that are allocable to all customers and costs that are not allocable to the golf course. In summary,

- Purchased water costs are allocable to all customers, including the golf course.
- Excise tax expenses are not allocable to the golf course because irrigation revenues are not subject to taxation.
- Costs allocated to fire protection have not been allocated to the golf course on the premise that it does not need fire protection. However, the verdict of *Lane v. Seattle* states that fire protection is a general government function and should be funded as such (not recovered through water rates). While this verdict explicitly applies to cities, its application to special purpose districts is not as clear – this analysis attempts to achieve consistency with the intent of *Lane v. Seattle* by allocating fire-related costs as general service costs, recognizing that the District needs to recover the cost of providing fire protection without having the general taxing authority of a city.
- A share of the other operating expenses is included in the pool of costs allocable to all customers – the share is defined by the ratio of the length of mains serving the golf course to the total length of mains in the District's system (20,000 feet / 236,721 feet, or about 8.45%).
- A share of projected capital costs over a rolling ten-year period is included in the pool of costs allocable to all customers Projects benefiting the golf course include the District's office building, a meter reading system, and a long-term pipe replacement program. The golf course's allocated share of projected capital costs over the next ten years is approximately 2.69% of the total projected capital expenditures.

Exhibit 7 summarizes the revised cost allocations.

Exhibit 7: Allocation of 2010 Water Rate Revenue Requirement

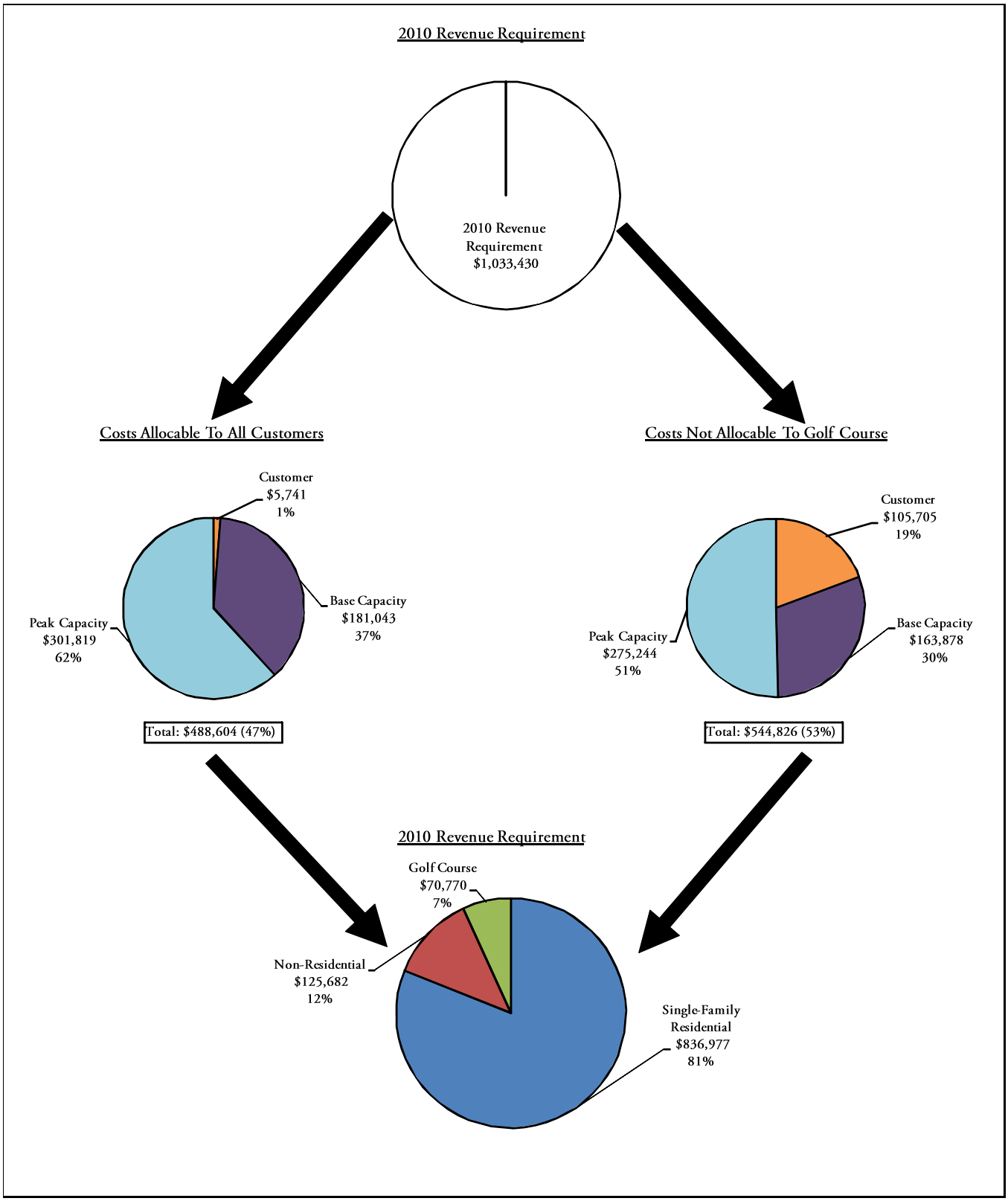


Exhibit 7 represents the full cost-of-service-based allocation of the 2010 revenue requirement to each customer class. This method of cost allocation results in a shift in cost recovery from the District's residential customers to its non-residential customers – compared to the cost recovery structure embedded in the District's current rate structure, the share of the costs allocated to residential customers decreases by about 3.0%; non-residential customers' share increases by 1.3%, and the golf course's share increases by 1.6%. Key reasons for this shift include:

- The golf course is now paying for a share of costs that had previously been allocated to fire protection but are now allocated to general service costs based on the verdict of *Lane v. Seattle*.

- Costs allocated to capacity are further allocated to customer classes based on demand. Compared to the 2006 data that drove the allocations in the prior analysis, more recent data suggests that non-residential customers (excluding the golf course) represent a larger share of total annual demand. The golf course has used significantly less water since 2006, which offsets the increased allocation of costs to the golf course discussed above.

Note that the shifts in cost allocations discussed above represent relative shares of the total revenue requirement, which is not the same increase in cost allocation to a specific customer class. In particular, the impacts to non-residential customers and the golf course are more significant than those seemingly minor shifts would suggest. Especially in the case of the golf course, recent demand history suggests that its usage is and will be significantly lower than the 2006 levels used to design the current rates (the prior forecast projected that the golf course would use roughly 37,500 ccf per year – consumption billing records provided by the District suggest that the golf course's annual usage has been in the range of 15,000 – 20,000 ccf per year during 2007 and 2008. The prior study derived rates for the golf course based on the higher estimated usage, and that rate structure has not been recovering the golf course's allocated cost of service because its usage has fallen so far below expectations. The cost-of-service analysis has to adjust for the changes in demand projections, which affects the allocation of costs between customer classes – to mitigate the impacts of these shifts to ratepayers, these shifts are phased in through two steps (the proposed 2010 rates reflect half of the cost shift; the rates shown for 2011 reflect the full shift to cost of service).

B. Rate Design

The cost-of-service analysis determines an appropriate allocation of costs to customer classes based on their service needs and characteristics (as defined by the customer data collected and maintained by the District). Once the cost allocation has been determined, the next step is to design a set of water rates that will recover those costs from the District's water customers. Key considerations include:

- ***Practicality:*** How easy is the proposed rate structure to implement? Are there any limitations attributable to political or other qualitative considerations?
- ***Equity:*** How well does the proposed rate structure achieve its goal of recovering costs from customers based on the demands that they place on the system?
- ***Effectiveness:*** How well does the proposed rate structure achieve the District's policy goals (encouraging water conservation, ensuring revenue stability and the financial integrity of the utility)?

From a practicality standpoint, the District's existing water rate structure is fairly simple to implement and explain. All customers pay a fixed bimonthly charge (that depends on their meter size and customer class) and a volume charge based on their water usage. In the case of single-family residential customers (and duplexes, triplexes, and quadplexes), the volume charge structure consists of several volume thresholds, each of which has its own rate per hundred cubic feet (ccf). Multi-family residential and commercial customers, along with the golf course, pay a uniform volume charge for all of their water usage.

As previously noted, the results of the cost-of-service analysis would suggest that the equity of the current rate structure could be improved by shifting cost recovery from single-family residential customers to the District's other customers. There is another aspect of equity to consider within the single-family residential class, namely the recovery of costs between seasonal and year-round residents – the District's water rate structure includes a base allowance of 500 cubic feet per bimonthly billing period that is built into the fixed charges, recovering a greater share of costs from seasonal residents than a structure based only on volume charges would. This rate feature improves equity between seasonal residents and year-round residents, as the cost of making capacity available to serve seasonal residents is a year-round cost that the District's year-round residents have to bear (to the extent that seasonal customers do not fully cover their fair share of costs).

As far as effectiveness is concerned, the existing structure provides for relatively stable revenue generation – this is prudent from a financial planning standpoint, as the District serves a number of transient customers and consequently faces a substantial amount of revenue risk (particularly during the winter months). The existing rate structure derives roughly 20% of its revenue from volume charges, indicating that it provides at least a moderate incentive to conserve water without jeopardizing the fiscal well-being of the District's water utility. The District's reserves provide a way to mitigate the risk associated with recovering costs through variable user charges.

Given the District's projected revenue needs and the results of the cost-of-service allocations, along with the rate design considerations discussed above, the proposed near-term rate strategy is shown below in **Exhibit 8**.

Exhibit 8: Proposed Near-Term Water Rate Strategy

Near-Term (2009 - 2013) Water Rate Strategy	Existing	Proposed	For Planning Purposes Only		
	Jan 2009 - Aug 2009	Sep 2009 - Dec 2010	2011	2012	2013
Single-Family Residential & Multi-Family (2 - 4 Units)					
Fixed Bimonthly Charge per Meter:					
5/8" & 3/4"	$ 53.01	$ 59.90	*$ 63.65*	*$ 68.74*	*$ 74.24*
1"	$ 72.38	$ 80.36	*$ 85.44*	*$ 92.27*	*$ 99.66*
1-1/2"	$ 91.74	$ 100.82	*$ 107.23*	*$ 115.81*	*$ 125.08*
2"	$ 102.88	$ 112.59	*$ 119.76*	*$ 129.34*	*$ 139.69*
Volume Charge per ccf **(1)**:					
Block One (0 - 5 ccf) *(Allowance Included In Fixed Charge)*	$ -	$ -	*$ -*	*$ -*	*$ -*
Block Two (6 - 14 ccf)	$ 1.48	$ 1.67	*$ 1.78*	*$ 1.92*	*$ 2.07*
Block Three (15 - 40 ccf)	$ 1.99	$ 2.25	*$ 2.39*	*$ 2.58*	*$ 2.79*
Block Four (> 40 ccf)	$ 3.54	$ 4.00	*$ 4.25*	*$ 4.59*	*$ 4.96*
(1) Volume thresholds shown apply to each bimonthly billing period.					
Multi-Family (> 4 Units) & Commercial					
Fixed Bimonthly Charge per Meter:					
5/8" & 3/4"	$ 124.27	$ 152.17	*$ 175.57*	*$ 189.62*	*$ 204.79*
1"	$ 172.13	$ 209.79	*$ 242.13*	*$ 261.50*	*$ 282.42*
1-1/2"	$ 220.00	$ 267.41	*$ 308.70*	*$ 333.39*	*$ 360.06*
2"	$ 247.52	$ 300.54	*$ 346.97*	*$ 374.73*	*$ 404.71*
3"	$ 471.28	$ 569.92	*$ 658.15*	*$ 710.80*	*$ 767.67*
4"	$ 1,320.88	$ 1,592.68	*$ 1,839.64*	*$ 1,986.81*	*$ 2,145.75*
6"	$ 1,679.86	$ 2,024.84	*$ 2,338.86*	*$ 2,525.97*	*$ 2,728.04*
8"	$ 2,517.49	$ 3,033.20	*$ 3,503.70*	*$ 3,784.00*	*$ 4,086.72*
Volume Charge per ccf	$ 2.95	$ 3.61	*$ 4.17*	*$ 4.50*	*$ 4.86*
Golf Course					
Fixed Bimonthly Charge per Meter (for a 4" Meter)	$ 513.54	$ 683.63	*$ 808.34*	*$ 873.01*	*$ 942.85*
Volume Charge per ccf	$ 2.95	$ 3.93	*$ 4.64*	*$ 5.01*	*$ 5.42*

The rate schedule shown in **Exhibit 8** assumes a single rate increase effective in September 2009 that lasts until the end of 2010. Rates shown for 2011 – 2013 are for planning purposes only – the 2011 rates represent a full shift to cost-of-service rates, and the 2012 – 2013 rates reflect uniform adjustments (8.0% per year) to the 2011 rates.

Sample bill impacts are shown below in **Exhibit 9.**

Exhibit 9: Sample Bill Impacts for Proposed 2009 - 2013 Rate Strategy

Sample Bimonthly Bill Impacts	Existing	Proposed	For Planning Purposes Only		
	Jan 2009 - Aug 2009	Sep 2009 - Dec 2010	2011	2012	2013
Single-Family Residential (5/8" Meter):					
Winter Average Usage: 3.8 ccf per Billing Cycle	$ 53.01	$ 59.90	*$ 63.65*	*$ 68.74*	*$ 74.24*
Annual Average Usage: 5.8 ccf per Billing Cycle	$ 54.19	$ 61.23	*$ 65.07*	*$ 70.27*	*$ 75.89*
Summer Average Usage: 9.6 ccf per Billing Cycle	$ 59.82	$ 67.59	*$ 71.82*	*$ 77.57*	*$ 83.77*
Percent Change In Annual Average Bimonthly Bill		13.0%	*6.3%*	*8.0%*	*8.0%*
Single-Family Residential (1" Meter):					
Winter Average Usage: 3.8 ccf per Billing Cycle	$ 72.38	$ 80.36	*$ 85.44*	*$ 92.27*	*$ 99.66*
Annual Average Usage: 5.8 ccf per Billing Cycle	$ 73.56	$ 81.70	*$ 86.86*	*$ 93.81*	*$ 101.31*
Summer Average Usage: 9.6 ccf per Billing Cycle	$ 79.19	$ 88.05	*$ 93.61*	*$ 101.10*	*$ 109.19*
Percent Change In Annual Average Bimonthly Bill		11.1%	*6.3%*	*8.0%*	*8.0%*
Non-Residential (5/8" Meter):					
Winter Average Usage: 7.3 ccf per Billing Cycle	$ 145.81	$ 178.54	*$ 206.00*	*$ 222.48*	*$ 240.27*
Annual Average Usage: 10.6 ccf per Billing Cycle	$ 155.54	$ 190.46	*$ 219.75*	*$ 237.33*	*$ 256.32*
Summer Average Usage: 17.0 ccf per Billing Cycle	$ 174.42	$ 213.57	*$ 246.42*	*$ 266.14*	*$ 287.43*
Percent Change In Annual Average Bimonthly Bill		22.4%	*15.4%*	*8.0%*	*8.0%*
Non-Residential (1" Meter):					
Winter Average Usage: 7.3 ccf per Billing Cycle	$ 193.67	$ 236.16	*$ 272.56*	*$ 294.36*	*$ 317.91*
Annual Average Usage: 10.6 ccf per Billing Cycle	$ 203.40	$ 248.08	*$ 286.31*	*$ 309.22*	*$ 333.95*
Summer Average Usage: 17.0 ccf per Billing Cycle	$ 222.28	$ 271.20	*$ 312.99*	*$ 338.03*	*$ 365.07*
Percent Change In Annual Average Bimonthly Bill		22.0%	*15.4%*	*8.0%*	*8.0%*
Non-Residential (1-1/2" Meter):					
Winter Average Usage: 7.3 ccf per Billing Cycle	$ 241.54	$ 293.78	*$ 339.12*	*$ 366.25*	*$ 395.55*
Annual Average Usage: 10.6 ccf per Billing Cycle	$ 251.27	$ 305.70	*$ 352.87*	*$ 381.10*	*$ 411.59*
Summer Average Usage: 17.0 ccf per Billing Cycle	$ 270.15	$ 328.82	*$ 379.55*	*$ 409.91*	*$ 442.71*
Percent Change In Annual Average Bimonthly Bill		21.7%	*15.4%*	*8.0%*	*8.0%*
Non-Residential (2" Meter):					
Winter Average Usage: 7.3 ccf per Billing Cycle	$ 269.06	$ 326.91	*$ 377.39*	*$ 407.59*	*$ 440.19*
Annual Average Usage: 10.6 ccf per Billing Cycle	$ 278.79	$ 338.83	*$ 391.15*	*$ 422.44*	*$ 456.24*
Summer Average Usage: 17.0 ccf per Billing Cycle	$ 297.67	$ 361.95	*$ 417.82*	*$ 451.25*	*$ 487.35*
Percent Change In Annual Average Bimonthly Bill		21.5%	*15.4%*	*8.0%*	*8.0%*
Golf Course (4" Meter):					
Winter Average Usage: 0.0 ccf per Billing Cycle	$ 513.54	$ 683.63	*$ 808.34*	*$ 873.01*	*$ 942.85*
Annual Average Usage: 102.9 ccf per Billing Cycle	$ 817.10	$ 1,087.72	*$ 1,286.15*	*$ 1,389.05*	*$ 1,500.17*
Summer Average Usage: 308.7 ccf per Billing Cycle	$ 1,424.21	$ 1,895.91	*$ 2,241.78*	*$ 2,421.12*	*$ 2,614.81*
Percent Change In Annual Average Bimonthly Bill		33.1%	*18.2%*	*8.0%*	*8.0%*

VI. Recommendations

Specific recommendations stemming from the 2009 Water Rate & GFC Update include:

- Retain the District's water GFC per equivalent residential unit of $5,500. A review of the various components of the GFC suggests that it is adequately recovering a fair share of system costs from growth, as defined by the "average cost" method of GFC computation.

- Adopt and implement the water rates proposed for September 2009 through December 2010. These rates will help the District's water utility meet its near-term financial obligations while enhancing the equity of the District's water rates given the differing service characteristics and needs of the District's water customers. We recommend re-evaluating the District's post-2010 revenue needs at a later time, when more information is available.

- Revise the District's practice with respect to imposing rates on multi-family customers. The District has historically imposed the single-family fixed charge on each living unit for multi-family customers between 2 and 4 units. The rate structure proposed in **Exhibit 8** bases a customer's fixed charge on the size of their water meter, which is a more accurate indicator of potential system demands than the number of living units. As an example, a 3/4" water meter imposes the same capacity constraints on a single-family residence that it imposes on a duplex – to the extent that the duplex uses more water in aggregate than the single-family residence, the volume charge structure will recover a greater share of costs from the duplex. For this reason, we recommend basing the fixed charge for multi-family customers on meter size (without regard for the number of living units, assuming that a meter will be appropriately sized to serve the relevant number of living units). Note that this recommendation also affects the volume allowance for multi-family customers, which would no longer scale up with the number of living units.

- Continue phasing in the policy of rate-funded system reinvestment originally developed during the 2005 analysis and retained for the 2007 analysis. While changing financial conditions may alter the specific amounts that the District is able to dedicate to system reinvestment, it is important for the District to continue funding system reinvestment as part of a prudent long-term financial plan. Consistent with the prior study, the target funding level is based on the District's annual (original cost) depreciation expense net of debt principal repayment.

- Continue to research and apply for any available grant or low-cost loan programs – given the significant amount of debt issuance projected in **Exhibit 5**, securing lower-cost capital funding sources will notably benefit the water rate forecast.