Attachment A
Responses to Comments on Proposed Water Rates

No	Comment	Staff Response
01	*Why are rate allocations based on meter size?*	A customer's meter size represents the customer's pro-rata share of the system or the maximum demand the customer can place on the infrastructure. For example, a customer with a 5/8" meter would likely need to stagger irrigation zones and not shower while watering; whereas a customer with 1" meter would be able to water and shower simultaneously. This ability does not correspond with total usage, as the larger meter customer could use less water overall. The fixed D&C charge recovers PWP's fixed costs associated with the water system infrastructure and "per-customer" costs such as billing and customer service. Thus, the D&C charge includes costs that are allocated on the basis of meter size and others on a per-customer basis.
02	*Why aren't water allocations "budget-based"*	Under a budget-based water rate scheme, water rates are charged in increasing price tiers. The amount of water allocated to each tier is based on an "efficient-use" water budget calculation for each customer. In theory, many factors should be considered to develop a customer's water budget such as lot size, actively irrigated landscape area, type of plants, occupancy, number of units, type of business, production capacity or throughput, hours of operation, industry best practices, historical usage, etc. In practice, residential allocations are typically in a limited number of groups or bins based on lot size and occupancy, and historic use usually provides the primary or sole basis for commercial customers due to the complexity of developing commercial water budgets. PWP does not have the ability to develop such water budget based rates at this time. Staff is working to develop the capability and prepare a proposal to be presented by December 2009 to potentially address this technically and politically challenging issue.
03	*How will baseline allocation be determined so customers already conserving will not be penalized?*	There are no water allocation-related penalties under the recently approved water waste ordinance or in the proposed rate structure. Customers with relatively high use within their meter class will pay higher rates for marginal usage and thus may see a larger percentage bill increase; however, in many cases larger users within a given connection size will pay a lower overall average cost of water than smaller users. High use customers are not penalized for conserving, but rather, their conservation efforts reduce their bill by a greater amount than customers in lower rate tiers. PWP is proposing some potential relief mechanisms for high use customers. See numbers 21 and 22. Even under a budget based rate system, those who reduce their usage may still encounter high rate tiers if their efforts do not reduce usage to their budgeted level.

04	*Water allocations are unfair to large single family homes – they should be based on lot size and/or number of residents*	The premise of budget-based rates is allocating water based on efficient use, which is a primarily a function of landscaped area and occupancy for residential use. **Such rate structures introduce a different equity issue: Low-cost water allocations must be taken away from small property owners in order to allocate more to large property owners**. The current solution of using meter sizes as a proxy for lot size to determine the allocation is imperfect, but there is some correlation. There is also some price equity given the increasing fixed rates associated with larger allocations of lower rate tier water for larger meters.
05	*Water allocations are unfair to commercial customers– they should be based on water budgets that consider efficient use*	According a 2008 report by the AWWA Research Foundation, two California water agencies are currently developing budget based rates for commercial customers and Irvine Ranch Water District (IRWD) reports having them in place; however, "in practice IRWD's commercial budgets are based **on historic average demands** that are occasionally scaled up or down as appropriate." The AWWA report further notes that this practice "grand-fathers in" existing inefficiency. PWP has been criticized in the past for water allocations and potential penalties (in the recently revised water conservation plan ordinance) based on historic water use, as these methods tend to penalize those who conserved previously.
06	*Small customers are being subject to an unfair D&C rate increase* *– conversely –* *Large customers are being subject to unfair commodity rate increases (customer comments)*	In theory, these opposing customer comments indicate that the overall proposed rate restructuring is fairly balanced. • **The overall average cost of water paid by most customers**, except the largest and smallest in each class, **ranges from $0.004 to $0.005 per gallon** • The fixed D&C charge is the same within the same meter size category, and the rate increase is the same percentage for all meter sizes • For most residential customers, the fixed D&C charge is relatively small compared to those for other utility services such as phone, cable TV, and internet • Customers with larger connection sizes are impacted more in terms of dollars by the fixed D&C charge increase • The fixed D&C charge has a higher percentage impact on the overall bill for customers that have low water use compared to those with high water use, but the absolute dollar amount is larger for high use customers • High use customers may experience a relatively higher overall percentage increase as a result of water use in Blocks 4 and 5; however, in many cases larger users within a given connection size will pay a lower overall average cost of water than smaller users. Also, small reductions in usage will yield greater savings for these customers.

<table>
<tr><td>07</td><td>Equitable treatment for mixed use projects</td><td>Mixed use and multi-family residential customers are currently subject to the allocation and pricing of water in each block based on meter connection size. Commercial and residential customers pay the same price per billing unit of water and are not separately identified on the bill. Some customers may be referencing the Electric portion of the bill when assuming they are identified as a commercial or residential customer.

As staff develops a budget-based rate proposal, considerations for multi-use and multi-family residential properties may include number of units, occupancy per unit, and landscaped area.</td></tr>
<tr><td>08</td><td>Provide justification for rate differential charged to outside City customers</td><td>The Water Cost of Service study completed by Red Oak Consulting determined that a 25% premium was an appropriate rate differential for customers outside of the City limits based on: (i) the value of local groundwater rights owned by the City that are used for such customers; and, (ii) the appropriate level of return on investment the City is entitled to for the assets used to serve such customers. The following table compares rates for average residential customers (comparisons would vary with actual usage):

<table>
<tr><th>Agency Name</th><th>5/8 and ¾” connection 12 BU/mo</th><th>1 inch connection 20 BU/mo</th></tr>
<tr><td>Valley Water</td><td>$43.47</td><td>$ 71.43</td></tr>
<tr><td>Rubio Canyon</td><td>$44.40</td><td>$ 62.00</td></tr>
<tr><td>Pasadena</td><td>$46.44</td><td><b>$ 83.59</td></tr>
<tr><td>Lincoln Avenue</td><td>$52.00</td><td>$ 70.00</td></tr>
<tr><td>La Canada (Proposed)</td><td>$55.70</td><td>$100.00</td></tr>
<tr><td>Las Flores</td><td>$62.20</td><td>$ 87.00</td></tr>
</table></td></tr>
<tr><td>08a</td><td>Is it feasible for Altadena customers to switch to another water agency</td><td>This concept is possible but not practical for the following reasons:
• Individual customers situated near other agencies distribution lines could seek to switch, but must pay for a new service connection and infrastructure upgrades for the new host at cost of $3,500 or more. New customers at Lincoln Ave. must also purchase stock in the utility at a minimum cost of $2,200.
• Pasadena could offer to sell the entire distribution system serving outside-City customers to another agency. Most agencies in those areas do not have distribution systems or supply capacity to serve these customers. The rate impacts for these customers are difficult to predict.</td></tr>
</table>

09	*New development issues: No net incr., mitigation, impact on consumption (how much), impact on rates, should be charged higher rates*	• Most new development is very water efficient. It must adhere to current standards of the Uniform Plumbing Code and the California Building Code that require low-flow plumbing fixtures, toilets, faucet aerators, and shower heads. • Due to the high efficiency standards, new development can help Pasadena meet Urban Accords and statewide goals for 10% and 20% reductions in per-capita water usage. For example, five recent developments that added 613 units are expected to use less than one-half of the estimated average Pasadena residential use in gallons per person per day (GPCD), and lower Pasadena's overall GPCD metric by about 0.5%. • Total demand growth can lead to an increase in overall average water supply costs, as marginal imported water supplies are more costly. • Pasadena is looking into potential mitigation measures to offset any net growth in water use associated with new develop. This issue is covered further in Exhibit 09.
09a	*Does MWD allocate more water for new development and population growth?*	Yes. The growth adjustment is calculated using the average annual rate of population growth at the county level, as generated by the California Department of Finance. Also, on an appeal basis, member agencies may request that their adjustment be calculated using a weighted combination of actual population and actual employment growth rates.
09b	*Can Pasadena charge fees to new development to mitigate growth?*	Yes, if the fees are related to physical system improvements and/or contribute to new conservation efforts. Currently, developers must reimburse PWP for the total cost of water system upgrades including infrastructure such as mains, fire hydrants, fire services, and domestic services. The improved water pressure and infrastructure as a result of the new development can have a positive effect on neighboring properties, the Pasadena Fire Department, and PWP. This issue is covered further in Exhibit 09b.
10	*Those who are already conserving should be rewarded*	Rewards for conservation can come in many forms: • Cash incentives for installing water efficient devices - PWP has one of the best rebate menus available in Southern California and relatively high levels of participation • While there is no specific rate reduction for conservation, the "reward" is a smaller bill for customers who conserve. High-volume users in higher rate Blocks would likewise have a greater motivation to conserve under the proposed five-tier rate structure. • PWP is not aware of any utility that provides additional incentives for lowering their usage from historic usage levels (such as the 20/20 program offered to power customers during the 2000-2001 CA energy crisis)

11	*PWP should offer higher incentives for conservation*	PWP participates in MWD-sponsored conservation programs, and by offering additional cash incentives for certain technologies offers one of the best incentive programs available in Southern California. **It should be clear that any cash incentives offered by PWP must be funded from rate revenues derived from PWP's customers, so increasing incentive budgets would require a corresponding increase in rate revenues.**
12	*Water Fund should look at cost cutting, staff reductions such as outsourcing water quality lab*	The operating budget of the water fund has remained at an efficient level for many years. Increases to the budget have been almost exclusively related to the cost of water and investment in delivery system infrastructure. Staff costs represent 18% of total operating expenses (or about $0.00074 per gallon), and reduction of staff would significantly impact the ability to maintain water quality and reliability. PWP has taken numerous steps to reduce its costs and streamline the organization, resulting in $500,000 budget reduction in FY2009 and $1 million in FY2010. • Net reduction of 8.5 FTE's • Eliminating overtime expenses to emergency only work • Reduce outside services by deferring some capital projects • Defer non-critical equipment purchases • Reduce training and staff participation in industry meetings • Reduce subscriptions, trade and professional memberships • Reduce/eliminate take home vehicles for employees • Management and support employees forgoing FY 2010 salary increases PWP currently performs the following services at no charge, but is considering eliminating these services or charging a fee in the future: • Turning off water meter during non-business hours to minimize disruption • Sending a troubleshooter to investigate a water quality complaint during non-business hours. PWP has looked at outsourcing water quality testing, but determined that in-house services are more cost effective and responsive. Quick turn-around has averted the need for potential "boil-water" notices. This issue is covered further in Exhibit 12.

12a	*What are the impacts of staff reductions?*	Staff reductions would result in delays to capital projects, installation of new service connections, and response to outages, water quality issues, and call center inquiries. Conservation and water waste enforcement programs would be impacted. This issue is covered further in Exhibit 12a
14	*Now is not the time to raise rates*	We recognize the financial challenges – the overall economy is very challenged – however, the City is responsible to provide safe and reliable water regardless of economic circumstances. The City has a fiduciary responsibility to ensure the fiscal viability of each of its funds, including the Water Fund.
14a	*What would be the impacts of deferring this rate increase?*	The FY2010 Water Fund budget presumes the proposed rate increases are enacted effective July 1, 2009. Delays or reductions in the D&C rate increase would lead to substantial reductions in capital spending for important projects (see number 17), staffing reductions (see number 12a), and potentially damage the fund's credit rating and ability to borrow.
15	*Now is not the time to invest in capital projects – these should be deferred to reduce rate impacts*	The City also has a fiduciary duty to maintain the integrity of water infrastructure, thus a minimum level of ongoing capital must be maintained (see number 17 for additional information). Now is actually a very good time to invest in capital projects because material and contractor costs are relatively low due to the weak economy. Furthermore, performing capital work at this time will support local businesses and the local labor force.
16	*Now is not the time to replenish reserves – this should be deferred to reduce rate impacts*	The "reserve fund" is actually the working capital necessary to maintain ongoing operations. The operating reserve does not serve as a "savings account." It is working capital that constantly turns over during a 30-day period as bills are paid and revenues are collected. In addition, PWP funds many capital projects, the procurement of water to meet demand, and other services in advance of collecting revenues. For example, PWP must provide $2.5 million of upfront cash during fiscal year 2010 for the Monk Hill treatment plant in advance of any reimbursement from NASA. Each month, PWP pays MWD for purchased water about one month before revenues are collected from customer bills. Demonstrating stable and adequate working capital is an essential prerequisite to issuing bonds, thus borrowing is adversely affected when reserves drop to low levels.
17	*What are your capital project priorities? What would be cut?*	• If the proposed D&C rate increase is not implemented or reduced, PWP will be able to fund only the top 7 of 25, or about $2 million of capital projects. Priorities include two percholorate treatment plants, chloramine conversion, completion of the water IRP (regulatory requirement), the Eaton Canyon Road repair, the Devil's Gate Tunnel water supply, and customer-driven

		projects. Most of these projects have outside sources of funding. • Many "in-progress" projects (totaling about $3.2 million for FY2010) such as GIS, citywide IVR and radio replacement, PWP Warehouse upgrade, fire protection upgrades, and water main replacements would be halted or not funded from the Water Fund. • Many important supply projects, including reclaimed water, spreading basins, and reservoir improvements would likewise be deferred. A detailed list of projects is included in Exhibit 17
18	*Staff should address graywater use and capital cost*	A draft report on graywater and rainwater harvesting has been prepared and will be presented in June-July timeframe. In short, CA code is very restrictive for graywater, making systems very costly for homeowners to install. Rainwater harvesting can be done at relatively low cost, but has little or no impact on summer water demand and relatively low overall potential impact. Graywater systems would produce water of lower quality and at least twice the cost of the water from PWP's forthcoming reclaim water project. Neither technology is likely to product water at costs lower than proposed tier 5 rates.
19	*Look at flood control, reclaimed, tunnel water for golf – timing*	PWP is developing several projects to utilize these potential resources, including: • Two projects to capture and use tunnel water that could provide about 34% of water used at for the Brookside Golf Course plus provide Raymond Basin recharge. The projects should be completed in August 2009 and July 2011. • PWP is continuing development of the reclaimed water project, but this project will be deferred if the proposed D&C rate increases are not implemented. This issue is covered further in Exhibit 19
19a	*Can PWP Increase its rights to tunnel water from Devil's Gate Dam?*	According to the State Water Resources Control Board (State), the City has on file a water rights license to divert up to 1.82 cubic feet per second (CFS) or 238 acre-feet of tunnel water per year. The State also has on file that the City may have claim to a pre-1914 appropriative rights for an additional 5.5 CFS of tunnel water. This issue is covered further in Exhibit 19a
19b	*How do reductions in PWP's local ground-water rights affect water allocations from MWD?*	Under the MWD Water Supply Allocation Plan, PWP's allocation is based on targeted reductions from PWP's total water use rather the amount purchased from MWD. PWP can appeal to MWD for allocation adjustments due to losses of local supply; however such adjustments are not one-to-one and are not guaranteed.

20	*Consider spreading out the fixed D&C rate increase over four years*	PWP recommends spreading the increased fixed charges over two years, but has prepared options for the suggested three- and four-year options. Either of these options will lead to deferred capital spending and reduced working capital levels that may adversely impact PWP's ability to finance projects in the next two fiscal years. This issue is covered further in Exhibit 20
21	*Consider eliminating/ reducing Block 4 and 5 rates*	• Revenues from Blocks 4 and 5 will be used to offset MWD penalties and fund water conservation programs including audits. Any residual funds could be used to offset future water rates or fund conservation programs. • PWP recommends retaining the originally proposed pricing to provide appropriate price signals to conserve water, consistent with Council-approved water conservation policy direction and Prop 218-compliant cost of service principles. • **Any relief granted for Blocks 4 and 5 would likely result in less water conservation and increased costs and penalties for MWD water supplies** • **Any revenue reductions associated with relief is to be granted for Blocks 4 and 5 would result in spreading any MWD penalty charges to all users by utilizing the Purchased Water Adjustment Charge (PWAC)**. • If any relief is to be granted for Blocks 4 and 5, the preferred option would be to reduce the price of each of these tiers by no more than 25% and 33%, respectively.
22	*Describe the details of the proposed "appeals process" to obtain relief from the impacts of proposed Block 4 and 5 rates*	• Due to the issues noted in response number 21 and the complexity of evaluating and processing appeals, staff recommends that no customer-specific appeals process be developed or offered to mitigate block 4 and 5 rates. • While PWP believes the block sizes are fairly allocated, some customers may experience large rate increases due to unusual circumstances, thus PWP will target such customers for water conservation audits and incentives. • If any relief is to be granted, staff recommends limiting this option to providing **commercial customers** with discounts on block 5 water usage, provided the customer demonstrates through a professional water audit that all feasible and water-efficient technologies and practices have been implemented.

23	*Look at options for relief for fixed-income seniors and low-income*	Discounted rates for fixed- and low-income customers appear to be inconsistent with Proposition 218 requirements to provide water based on cost-of-service. Additionally, many of these customers are renters and thus would not directly benefit from water rate discounts. PWP does offer relief to these customers (including renters) on the electric bill through the Electric Utility Assistance Program. PWP will reassess the EUAP benefits and budget, and propose revisions by October 2009 if appropriate and feasible.
24	*Address how to get timely information to customers*	Information currently presented on customer bills includes: The total and daily water usage for the current bill versus year the previous year; the meter connection size; and, the amount of water consumed in each block with the associated price. The utility bill is "unbundled" so customers see the detail of each charge, and a description of various terms in included on the back of the bill. Usage history is available by contacting Customer Service at 626-744-4005 or by emailing the AnswerLine at WPD_Answerline@cityofpasadena.net. Usage history is also available online by signing into your account at www.PWPWeb.com. Available information includes a graph detailing historical use for the past two years along with the current year to date usage. The PWPWeb site also contains information on water conservation, classes offered by PWP, rebate programs, and how to read your meter. Information is also available to customers using the automated phone system. In the near future, a water usage graph will be added to the bill. PWP is evaluating monthly billing for residential customers in order to provide more timely information; however, this would increase operating costs by approximately $695,000 to $750,000 annually. PWP is also considering a separate mailing to each water customer that would include information on water conservation practices, available rebates and other instructional information. Semi-customized information about appropriate water use for certain lot sizes, amount of irrigable land, and per capita indoor use may also be included, pending availability of information from various data sources. PWP is investing in third-party options to provide timely water and electricity usage reports, comparative statistics, and conservation tips.
25	*Reduced irrigation will reduce local groundwater recharge and may lead to higher rates in the future*	Encouraging irrigation as a means of recharging the Raymond Basin would lead to dramatically higher rates. In general, 15-25% of water used for irrigation ultimately percolates into the groundwater basin. Assuming an average of 20% applies to Pasadena then approximately 1 acre-foot of water could be withdrawn from the basin for every 5 acre-feet of water purchased from MWD to support such irrigation. Depending upon the marginal cost of MWD water purchased by PWP, the effective cost of the water each acre-foot returned to the groundwater basin would be from $4,055/AF to $15,935/AF.

Exhibit 09

What are the effects of no longer permitting new development?

The City Council has broad authority to issue a 45-day moratorium on new development; however, the legal constraints for a longer term stop to multi-family development are significant. An ordinance for such action would need to contain the legislative finding that approval of the multi-family housing would have a "specific adverse impact upon the public health or safety." (Gov. Code 65858)

Currently, the primary water issue relates to increased rates, not the immediate threat of not having water available. These legal guidelines for moratoriums are intended to strike a balance between public control and private property rights.

There are also economic and social impacts that would need to be considered with any citywide prohibition on new development. These effects include reduced City revenue from sales tax, property taxes, and permitting fees. An extended restriction on new construction would have significant consequences on business retention, jobs, consumer spending, school attendance, attraction of quality retailers, and numerous City services. New technology companies and other businesses needing to expand would have many challenges in staying in Pasadena. No new housing units would also have serious consequences to affordable housing efforts. From a regional perspective, studies from the Environmental Protection Agency and smart growth advocates include reduced water consumption as part of the many natural resources conserved when infill development in urban areas is promoted over urban sprawl. Newly constructed units use substantially less water than the average Pasadena dwelling.

Under Level 4 Water Supply Shortage "Emergency Condition," the City maintains the authority stop new building permits and other activities that require new water service.

During the water integrated resource planning process, an evaluation may be performed to determine the effect of new development prohibition on meeting projected targets of reduced water usage as might occur if drought conditions continue, and the subsequent effect on projected water rates. It will clearly be necessary to evaluate the water-related impacts of future development with the ability to achieve the required water supplies.

Water consumption forecasts in Pasadena are found within the Water Systems Master Plan and Urban Water Management Plan. These forecasts are determined by historical billing data, zoning, surveys, and the review of proposed projects submitted to the City for consideration. Demand forecasts will be re-evaluated in the integrated resource planning process, which provides the basis for the 2010 Urban Water Management Plan. That plan will provide estimates of water demand and a supply strategy for the time period of 2011 - 2015.

The Water Integrated Resource Plan effort is just being initiated at this time. Many of the recent concerns expressed by the public will be evaluated in this process that is expected to be completed in late 2009.

As a result of high efficiency standards, new development can help lower Pasadena's per capita water usage. Pasadena's projected 36,100 acre-feet water usage FY2009 is lower than any year in the last five even though population has increased, and the projected per capita usage will have declined by about 5% from the Urban Environmental Accords base year average.

The following table provides water consumption examples of new developments that have been constructed within the last three years.

Property Name	Formerly	Address	Date Permit Issued	Monthly Average Water Use (HCF)		Net Gain Water Usage	Comments
				New	Before Develop	acre-feet per year	
BRE Properties	Stuart Pharma-ceutical	3360 E. Foothill Blvd.	1/6/05	716	106	16.83	188 Residential Units
Standard Pacific Homes	Restaurant	220 N. Lake Ave.	6/21/05	138	117	0.58	106 Residential Units
Fuller Seminary	Fuller Seminary	261 N. Madison Ave.	5/6/05	702	169	14.68	179 Student Housing Units
Prado Community	Bank	840 E. Green St.	10/23/03	402	50	9.70	103 Residential Units
Balian Construction	Private Property	333 N. Hill Ave.	10/14/04	180	22	4.36	34 Residential Units
Locust Court	Private Property	1686 Locust St.	7/27/04	30	16	0.39	2 Residential Units
Oswego LLC		2454 Oswego St.	7/25/05	53			8 Residential Units
Wilson Courtyard	Private Property	168 N. Wilson Ave.	6/24/03	21			23 Residential Units

Exhibit 09b

Can PWP charge new development mitigation and/or other fees to offset increases in water cost?

Yes, if the fees are related to physical system improvements and/or contribute to new conservation efforts.

Currently, developers are subject to the total cost of water system upgrades required for servicing a new development site (Water Rate Ordinance 13.20.080 section B). These upgrades may include domestic services, new water mains, fire hydrants, and other items identified during the entitlement review. In many cases, new development provides improvements to the infrastructure in the area surrounding the site and has a positive effect on water reliability and water pressure for the Pasadena Fire Department.

A new conservation fee may be considered. Revenues from such a fee would need to be directed to implement grey water infrastructure and other water saving improvements to proportionately offset the increased consumption caused by a new development project.

As described in the 2009 Comprehensive Water Conservation Plan, interdepartmental work groups have been formed to evaluate rates/fees and landscape efficiency. A third group, the Building Codes and New Development Working Group is tasked with:

- Reviewing Pasadena's General Plan (Land Use Element update, Open Space and Conservation Element) for consistency with the water conservation goals, the Urban Environmental Accords goals, and overall sustainability; and
- Developing recommendations for new and infill development requirements and contribution to water conservation goals. This may include potential changes in City codes and CEQA review.

Staff is not aware of any case where a water department has permanently assigned a different (higher) water rate to businesses or residents that lease/buy new space. The normal mechanism to focus new costs to new buildings is to create an assessment district; but again, that is focused on the cost of infrastructure for that particular area, not the actual water rates. Water rates must be established to adhere to cost of service principles as adopted in Proposition 218.

Exhibit 12

Are There Cost Savings Associated With Using In-house Water Quality Personnel Rather Than Outsourcing Those Responsibilities?

In 1991, the City hired a consulting firm to assist in determining the most cost-effective yet credible and controlled approach to meeting current and projected monitoring requirements. The study analyzed the annual workload for the City's laboratory and WQ reporting over the 10-year period (1992-2001); compared the cost of performing monitoring "in-house" vs. contracting to an outside laboratory. The study determined that the City's saving for the 10 years was estimated to be $ **327.139.00 or $ 32, 713.90 per one year**; however, with an increase of regulations and cost increases for equipment, chemical reagents and labor, the actual cost to perform City's analyses would be $231,865 for **2008** if performed by a commercial laboratory. This represents a **ten-fold** increase over the cost projected in 1992. This calculation was conducted using laboratory pricing for submitting results three weeks after the sampling. Regular turnaround time for contract lab is two to three weeks. Rush results (one week or less) will result in double or triple the standard cost.

For most of the City's samples, fast response is likely to be an issue. The need to provide rapid turnaround time determines City's ability to blend its own well water to reduce multiple contaminants to acceptable health levels, instead of purchasing expensive MWD water. Therefore, double cost will result in $463,730 in 2008, if all of the samples would be contracted out. The actual amount paid to a contract laboratory in 2008 was $19,103, this resulted in a $444,627 savings to the City. In 2009 invoices from the contract laboratory totaled $23,034.

Turnaround time is an important factor especially if the City wishes to emphasize its responsiveness to public concern with health issues related to drinking water. In most cases, there is no economic incentive for an outside laboratory to prioritize City samples over other client samples. Regular turnaround time for a contract lab is two to three weeks. Rush results (one week or less) will result in double or triple the standard cost.

Water Quality related activities are performed by the equivalent of seven FTEs as follows:

- 1 Principal Chemist: 100% of time dedicated to water quality analysis
- 1 Organic Chemist: 100% of time dedicated to water quality analysis
- 1 Microbiologist: 100% of time dedicated to water quality analysis
- 1 Senior Lab Technician: 100% of time dedicated to water quality analysis
- 1 Water Quality Manager: 80% of time dedicated to the administration of the City's compliance with state and federal regulations. 20% of time dedicated to customer inquiries.
- 1 Associate Engineer: 50% of time dedicated to water quality compliance and project management of water quality related capital projects.
- 1 Engineering Aide: 50% of time dedicated to water quality data acquisition and reporting
- 2 Water System Operators: 50% of time dedicated to water sample collection, water quality flushing and chlorination.

Exhibit 12a

Effects of Water Services Division Layoffs

Water Quality and Operations (36 FTE) — This section is responsible for sampling and testing water from City facilities on a daily basis, operating and maintaining water treatment equipment, operating and maintaining pumps and booster stations and responding to trouble calls. Loss of any of these staff would mean any of the following:

- Daily analysis of water samples would be outsourced at greater expense to the City.
- Maintenance and operation of City facilities (wells, boosters, and reservoirs) would be outsourced at greater expense to the City.
- California Department of Public Health requires that treatment facilities be operated by certified treatment operator. Contract workers may not meet this requirement.
- As two new treatment facilities come online, the volume sampling and testing requirements will increase.
- Delayed response time to trouble calls.

Water Construction and Engineering (52 FTE) — This section is responsible for design and construction of water distribution projects. Loss of any of the staff would result in the following:

- Curtailment of capital projects related to the main replacement goals specified in the Water System Master Plan.
- Delayed response to main breaks and fire hydrant damage as the construction crews are also responsible for emergency response for main breaks after regular business hours.
- The need to hire a construction inspector (either an FTE or contractor) because construction work performed by contractor crews must be inspected to ensure work meets codes and standards. Work performed by City crews does not require construction inspectors.

Construction and Engineering for Customer — Driven Projects (11 FTE) — This section is responsible for the review of customer plans and projects and the construction of the projects. Loss of any of these staff would result in the following:

- Delay in approval time for customer-driven projects.
- The need for the City to hire a construction inspector (either an FTE or contractor) because construction work performed by contractor crews must be inspected to ensure work meets codes and standards. Work performed by City crews does not require construction inspectors.

Water Supply/Operations/Facilities Engineering (6 FTE) — This section is responsible for resource planning and project management of various capital projects (reclaimed water, treatment plants, reservoir improvements, etc.). Loss of any of these staff would mean those projects would be delayed or cancelled.

Exhibit 17
City of Pasadena
Water and Power Department
Priority of Water Fund Capital Projects
Fiscal Year 2010

Priority	Type of Project	CIP #	Project Name	Cost FY 2010	Water Fund	Other Fund	Comments
1	Water Quality	1063	Monk Hill Perchlorate Treatment	$2,400,000	$120,000	$2,280,000	NASA funded project to activate 4 contaminated wells; project in progress
2	Water Quality	1031	Convert Chlorination Station to Chloramines	$550,000	$550,000	$0	Project integrated in the Monk Hill Treatment; project in progress
3	Water Supply	1006	IRP/Misc. Water Improvement System	$500,000	$500,000	$0	Complete DWR required 2010 Urban Water Management Plan
4	Misc Water Fund	1067	Eaton Canyon Road Repair	$10,000	$0	$10,000	Fully funded by FEMA; project completed by August 2009
5	Other Water	1003	Customer-Driven Meters and Services	$1,000,000	$0	$1,000,000	Developer/customer funded upon customer request
6	Water Quality	1062	Sunset Perchlorate Treatment	$2,100,000	$566,600	$1,533,400	EPA funding available if PWP can match the funds for treatment of 5 wells
7	Water Supply	1043	Water Supply from Devil's Gate Tunnel	$500,000	$250,000	$250,000	PWP/RBOC funded to deliver tunnel water to golf course
8	Misc Water Fund	1011	Customer Information System	$175,000	$175,000	$0	Upgrade billing system for new water budget based rate design
9	Other Water	1002	Meter and Services	$1,100,000	$1,100,000	$0	Replace customer meters with AMR meters; increases revenue
10	Water Supply	1013	Reclaimed Water	$750,000	$750,000	$0	Augment water supply with reclaimed water
11 *	Misc Water Fund	1056	Water and Power Warehouse Modernization	$2,253,000	$2,253,000	$0	New yards building/seismic retrofit of warehouse; project in progress
12	Other Water	1020	Upgrade of Well and Booster Pump Switchgear	$1,100,000	$1,100,000	$0	Upgrade electrical system to ensure continuous water supply
13	Other Water	1001	Distribution Mains	$2,000,000	$2,000,000	$0	Replace aging mains to prevent emergency repairs
14	Other Water	1019	Fire Protection System Improvements	$1,150,000	$1,150,000	$0	Ensure adequate water supply for fire protection
15	Misc Water Fund	1009	Geographic Information System	$200,000	$200,000	$0	City-wide project to streamline network asset information; project in progress
16 *	Misc Water Fund	1065	Radio Replacement Program	$550,000	$550,000	$0	City-wide project to modernize communication
17 *	Misc Water Fund	1016	Interactive Voice Response System	$25,000	$25,000	$0	City-wide project for customers to pay bills over the phone and on the web
18	Other Water	1037	Reservoir Improvements	$150,000	$150,000	$0	Seismic upgrade to secure water supply during emergencies
19	Other Water	1054	Facility Security Systems	$60,000	$60,000	$0	Upgrade systems to secure water facilities
20	Other Water	1034	Upgrade Water Telemetry System	$50,000	$50,000	$0	SCADA modernization to accurately depict water system status
21	Water Supply	1040	Arroyo Spreading Basins	$50,000	$50,000	$0	Project postponed until after IRP project completed
22	Misc Water Fund	1025	Management Information System	$150,000	$150,000	$0	Work management program to complete projects in a timely manner
23	Misc Water Fund	1012	Field Service Automation	$55,000	$55,000	$0	Equipment supporting AMR operations
24	Water Supply	1021	New Well Projects	$1,500,000	$0	$1,500,000	Negotiating MWD funds for groundwater storage; project on hold
25	Misc Water Fund		PWP Administrative Building	$50,000	$50,000	$0	New administration building would eliminate rent payments
				$18,428,000	**$11,854,800**	**$6,573,400**	**Total Cost**

Note:
Projects in tinted area exceed $2 million water fund budget
* City-wide projects already in progress to which water funds have been committed

Exhibit 19

Current Capital Projects to Use Tunnel Water at Brookside Golf Course:

PWP has two projects in progress to utilize water from the arroyo for use at Brookside Golf Course:

1. The first project is to pipe water from Richardson Tunnel to the large ponds near Washington Boulevard in the golf course. The pipeline work includes a connection to the Richardson Tunnel outflow pipe at the north end of the golf course, installing an 8-inch pipe to Washington Boulevard, attaching the pipe to the underside of the north golf cart bridge, and running the pipe across Washington Boulevard into the ponds. Work on this project began in May 2009 and will be competed early August 2009.

   It is estimated that the large golf course ponds lose an average of 11,000 gallons of the water per day through evaporation and leakage. The Richardson Tunnel water flow is more than ten times the water needed to meet the ponds losses. Golf course personnel indicated that excess water could be further piped to additional ponds. Also, PWP would request that the golf course not move ahead with their planned project to reline the ponds to reduce leakage. Leakage from the ponds can help recharge the groundwater basin.

2. The Devil's Gate Tunnel Water Irrigation Project would require a new booster pump station and a storage facility to store water during the day for irrigation at night. The water from this project will be pumped as makeup water into the Brookside Golf Course irrigation system. This project could supply approximately 34% (238 AF) of the golf course irrigation demands annually. Below is the project schedule:

Preliminary Design	August 2009 to November 2009
Initial Permitting/Environmental Review	October 2009 to April 2010
Final Design	April 2010 to October 2010
Bidding	October 2010 to January 2011
Construction	January 2011 to July 2011

Exhibit 19a

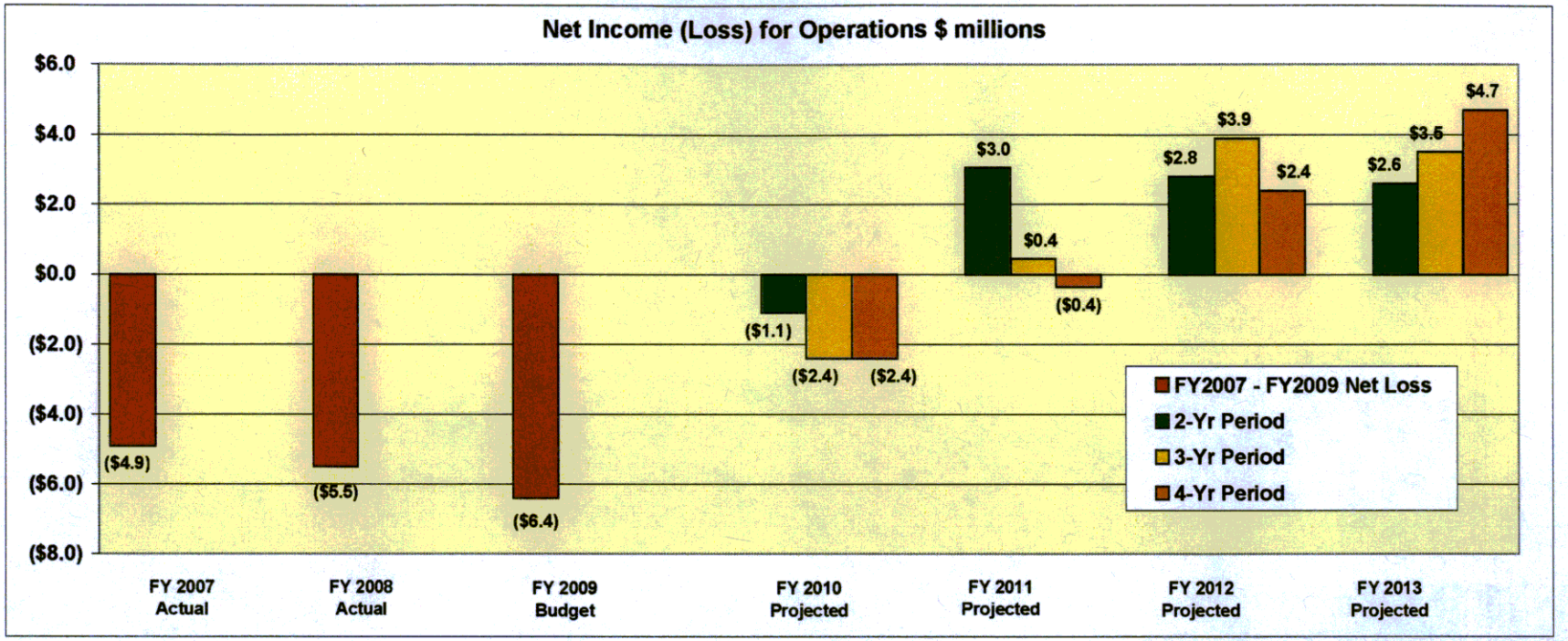
Can PWP Increase Its Rights to Tunnel Water from Devil's Gate Dam?

According to the State Water Resources Control Board (State), the City has on file a water rights license to divert up to 1.82 cubic feet per second (CFS) or 238 acre-feet of tunnel water per year. The State also has on file that the City may have claim to a pre-1914 appropriative rights for an additional 5.5 CFS of tunnel water. The validity of this claim is, however, not clear to staff due to lack of records and historical documents.

In 1999, staff filed a statement of water diversion with the State because the agency maintains records of diversion use initiated under a claim of pre-1914 appropriative rights. The intent of filing the statement is to begin documenting and recording with the State the City's claim to beneficial use of tunnel water. Every three years thereafter, staff files with the State a summary of tunnel water usage, which includes source of water for the lower Arroyo low flow channel project and riparian woodland area and irrigating the Brookside Golf Course. Although this process does not necessarily increase tunnel water rights, it provides a foundation of protecting the City against claims by other parties to the tunnel water.

A pre-1914 appropriative right is generally superior to any post-1914 rights, but often involves complex issues of fact and law, land ownership issues, and chain-of-title. Legal review by counsel of the City's claim to a pre-1914 right is highly recommended. A pre-1914 appropriative right does not require a permit, license or governmental approval; therefore, the State does not render any opinion regarding the validity to a pre-1914 claim.

Exhibit 20
Four Year D&C Increase Implementation



Distribution & Customer Charge and Fire Protection Surcharge Rates Over 4-Year Period

		FY 2010 PROPOSED RATE CHANGES			FY 2011 PROPOSED RATE CHANGES			FY 2012 PROPOSED RATE CHANGES			FY 2013 PROPOSED RATE CHANGES			Total % Change Over 4 Years
Meter Size	Current Monthly D&C with FPS	Proposed Monthly D&C with FPS	$ Change	% Change	Proposed Monthly D&C with FPS	$ Change	% Change	Proposed Monthly D&C with FPS	$ Change	% Change	Proposed Monthly D&C with FPS	$ Change	% Change	
5/8" & 3/4"	$8.17	$11.07	$2.90	36%	$13.31	$2.24	20%	$16.10	$2.80	21%	$18.62	$2.52	16%	128%
1"	$15.52	$21.03	$5.51	35%	$25.28	$4.25	20%	$30.59	$5.31	21%	$35.37	$4.78	16%	128%
1 1/2"	$31.85	$43.73	$11.88	37%	$52.32	$8.58	20%	$63.04	$10.73	21%	$72.70	$9.66	15%	128%
2"	$73.59	$99.77	$26.18	36%	$119.91	$20.13	20%	$145.08	$25.17	21%	$167.73	$22.65	16%	128%
3"	$179.76	$243.58	$63.82	36%	$292.80	$49.22	20%	$354.32	$61.52	21%	$409.69	$55.37	16%	128%
4"	$276.61	$373.45	$96.84	35%	$449.51	$76.06	20%	$544.58	$95.08	21%	$630.15	$85.57	16%	128%
6"	$425.99	$578.51	$152.52	36%	$694.83	$116.33	20%	$840.24	$145.41	21%	$971.11	$130.87	16%	128%
8"	$693.73	$939.14	$245.41	35%	$1,129.29	$190.15	20%	$1,366.98	$237.69	21%	$1,580.90	$213.92	16%	128%
10"	$902.81	$1,222.11	$319.30	35%	$1,469.59	$247.48	20%	$1,778.93	$309.35	21%	$2,057.34	$278.41	16%	128%
12"	$1,023.12	$1,388.50	$365.38	36%	$1,668.11	$279.61	20%	$2,017.62	$349.52	21%	$2,332.19	$314.56	16%	128%