

**PUBLIC HEARING ON
PROPOSED WATER AND WASTEWATER
RATES
2008**

**WATER DEPARTMENT
PHILADELPHIA, PENNSYLVANIA**

**BLACK & VEATCH CALCULATIONS
SUPPORTING MARCH 2008 DIRECT
TESTIMONY AND EXHIBITS OF
J. ROWE MCKINLEY**

MARCH 2008



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**INDEX TO BLACK & VEATCH CALCULATIONS SUPPORTING
MARCH 2008 DIRECT TESTIMONY AND EXHIBITS OF
J. ROWE MCKINLEY FOR THE PUBLIC HEARING ON
PROPOSED WATER AND WASTEWATER RATES 2008**

The calculations supporting the March 2008 direct testimony and exhibits of J. Rowe McKinley are developed in three computer model workbook files: RREQ08.XLS, WCOS08.XLS, and SCOS08.XLS. Each workbook file consists of many worksheets, and each worksheet may contain many pages of calculations. This printout of the computer model includes identifying tabs showing the name of the workbook file (e.g., RREQ08.XLS) and the worksheet (e.g., Cust) that is printed.

The Index tab for each workbook file includes this page, the following two pages, and separate pages providing brief descriptions of the purpose of each worksheet within the corresponding workbook file. In addition to this description, these pages include an index showing the description and page number of each page within the worksheet. Page numbers refer to the identifying page number for each page of the worksheet that is shown in the upper right-hand corner of a printed page, such as Cust-1 or LagRate-30. On many of the printed pages, references to other calculation pages are made using these page numbers. At the top of each printed page is a three line page header that includes the name of the workbook file, a description of the content of the page, the page number and other miscellaneous information.

The RREQ08.XLS workbook file develops projected revenue requirements and cash flows for each utility and the combined utilities. The WCOS08.XLS workbook file allocates the water utility test year cost of service to contract wholesale and retail water utility customers and develops proposed water rates for the test year. The SCOS08.XLS workbook file allocates the sewer utility test year cost of service to contract wholesale and retail sewer utility customers and develops proposed sewer rates for the test year.

The first two pages following this page provide a calculation page reference for each table in Exhibits JRM-1 and JRM-2 as well as a cross-reference of the tables between the two exhibits.

See File: SCOS08.xls ; Range: Tbls_0 for remaining A-Tables.		Range	Cross Reference
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Table_2	PROJECTED WATER UTILITY OPERATION AND MAINTENANCE EXPENSE	TABLE - 2	Tbls-2 OMtwo-20 N/A
Table_3	PROJECTED WATER UTILITY CAPITAL IMPROVEMENT PROGRAM	TABLE - 3	Tbls-3 Rreq-10 N/A
Table_4	PROJECTED FLOW OF FUNDS - CAPITAL IMPROVEMENTS FUND WATER UTILITY	TABLE - 4	Tbls-4 Rreq-13 N/A
Table_5	SUMMARY OF EXISTING AND PROPOSED DEBT SERVICE WATER UTILITY	TABLE - 5	Tbls-5 Rreq-25 N/A
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Table_7	PROJECTED WASTEWATER UTILITY OPERATION AND MAINTENANCE EXPENSE	TABLE - 7	Tbls-7 OMtwo-21 N/A
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Table_11	PROJECTED REVENUE AND REVENUE REQUIREMENTS	TABLE - 11	Tbls-11 Rreq-22 N/A
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Table_13	PROJECTED REVENUE AND REVENUE REQUIREMENTS WASTEWATER OPERATIONS	TABLE - 13	Tbls-13 Rreq-24 N/A
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Table_15	ALLOCATION OF TEST YEAR WATER PLANT INVESTMENT TO FUNCTIONAL COST COMPONENTS	TABLE - 15	Tbls-15 File: WCOS08.xls ; Range: Wp1tallo-2 N/A
Table_16	ALLOCATION OF TEST YEAR WATER PLANT DEPRECIATION EXPENSE TO FUNCTIONAL COST COMPONENT	TABLE - 16	Tbls-16 File: WCOS08.xls ; Range: Wp1tallo-5 N/A
Table_17	ALLOCATION OF TEST YEAR WATER OPERATION AND MAINTENANCE EXPENSE TO FUNCTIONAL COST CC	TABLE - 17	Tbls-17 File: WCOS08.xls ; Range: Ver. 1a N/A
Table_18	ESTIMATED UNITS OF SERVICE FOR RETAIL WATER CUSTOMERS	TABLE - 18	Tbls-18 File: WCOS08.xls ; Range: Units-2 N/A
Table_19	EQUIVALENT METER, BILL AND SERVICE RATIOS	TABLE - 19	Tbls-19 File: SCOS08.xls ; Range: Units-15 TABLE A - 14
Table_20	SUMMARY OF TEST YEAR COSTS OF WATER SERVICE ALLOCATED TO BUCKS COUNTY AND PROPOSED R	TABLE - 20	Tbls-20 File: WCOS08.xls ; Range: Retcos-4 N/A
Table_20A	SUMMARY OF FY 2010, FY 2011 AND FY 2012 PROPOSED RATES FOR BUCKS COUNTY	TABLE - 20A	Tbls-20A File: WCOS08.xls ; Range: Retcos-4 for FY 2010, FY 2011 & FY 2012 N/A
Table_21	SUMMARY OF TEST YEAR COSTS OF WATER SERVICE ALLOCATED TO Aqua Pennsylvania WATER COMPANY	TABLE - 21	Tbls-21 File: WCOS08.xls ; Range: Retcos-4 and Retcos-6 N/A
Table_21A	SUMMARY OF FY 2010, FY 2011 AND FY 2012 PROPOSED RATES FOR AQUA AMERICA (PSWC)	TABLE - 21A	Tbls-21A File: WCOS08.xls ; Range: Retcos-4 for FY 2010, FY 2011 & FY 2012 N/A
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Table_23	COMPARISON OF TEST YEAR COSTS OF SERVICE AND ADJUSTED COST OF SERVICE WITH REVENUES UND	TABLE - 23	Tbls-23 File: WCOS08.xls ; Range: LagRate-11 N/A
Table_24	PROPOSED WATER RATES FOR GENERAL SERVICE	TABLE - 24	Tbls-24 File: WCOS08.xls ; Range: LagRate-13 N/A
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Table_33	SUMMARY OF ALLOCATED COST OF SERVICE FOR CONTRACT CUSTOMERS	TABLE - 33	Tbls-33 File: SCOS08.xls ; Range: Retcos-11 TABLE A - 40
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Table_35	WASTEWATER RETAIL COST OF SERVICE	TABLE - 35	Tbls-35 File: SCOS08.xls ; Range: Retcos-17 TABLE A - 45
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Table_A3	ALLOCATION OF TEST YEAR INVESTMENT FOR THE SOUTHWEST WATER I	TABLE A - 3	Tbls-A3	Sptallo-9
Table_A4	ALLOCATION OF TEST YEAR INVESTMENT FOR THE SOUTHEAST WATER P	TABLE A - 4	Tbls-A4	Sptallo-11
Table_A6	ALLOCATION OF TEST YEAR OPERATION AND MAINTENANCE EXPENSE FO	TABLE A - 6	Tbls-A6	Somallo-37
Table_A7	ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE FOR THE NOR	TABLE A - 7	Tbls-A7	Somallo-27
Table_A8	ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE FOR THE SOU	TABLE A - 8	Tbls-A8	Somallo-31
Table_A9	ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE FOR THE SOU	TABLE A - 9	Tbls-A9	Somallo-34
Table_A10	ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE FOR PAYMEN	TABLE A - 10	Tbls-A10	Somallo-38
Table_A11	TEST YEAR OPERATION AND MAINTENANCE EXPENSE SUMMARY OF ALL	TABLE A - 11	Tbls-A11	Somallo-39
TABLE_A13	ESTIMATED AVERAGE WASTEWATER STRENGTH CONCENTRATIONS	TABLE A - 13	Tbls-A13	Units-14
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TABLE_A18	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO BENSLEM TOWNS	TABLE A - 18	Tbls-A18	Sptallo-36
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TABLE_A21	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO DELCORA	TABLE A - 21	Tbls-A21	Sptallo-38
TABLE_A22	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO LOWER MERION TO	TABLE A - 22	Tbls-A22	Sptallo-30
TABLE_A23	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO LOWER MORELANC	TABLE A - 23	Tbls-A23	Sptallo-31
TABLE_A24	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO LOWER SOUTHAMP	TABLE A - 24	Tbls-A24	Sptallo-32
TABLE_A25	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO SPRINGFIELD (EXCI	TABLE A - 25	Tbls-A25	Sptallo-33
TABLE_A26	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO SPRINGFIELD (WYN	TABLE A - 26	Tbls-A26	Sptallo-35
TABLE_A27	WASTEWATER SYSTEM INVESTMENT ALLOCATED TO UPPER DARBY	TABLE A - 27	Tbls-A27	Sptallo-39
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TABLE_A30	OPERATING EXPENSE ALLOCATED TO BENSLEM TOWNSHIP	TABLE A - 30	Tbls-A30	Somallo-42
TABLE_A31	OPERATING EXPENSE ALLOCATED TO BUCKS COUNTY W&SA	TABLE A - 31	Tbls-A31	Somallo-44
TABLE_A32	OPERATING EXPENSE ALLOCATED TO CHELTENHAM TOWNSHIP	TABLE A - 32	Tbls-A32	Somallo-45
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TABLE_A34	OPERATING EXPENSE ALLOCATED TO LOWER MERION TOWNSHIP	TABLE A - 34	Tbls-A34	Somallo-50
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TABLE_A48	DEVELOPMENT OF COST OF SERVICE VOLUME CHARGE PER MCF OF NORM	TABLE A - 48	Tbls-A48	Ratedsn-8
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The "Units" worksheet develops the units of service for retail and contract customers, treatment plants, and pumping stations. It also develops equivalent bills and meters.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
UntIndx	Index	Units-1	
EUOS	Estimated Units Of Service For Retail Wate	Units-2	21
EWB	Equivalent Water Bills	Units-3	
EWM	Equivalent Water Meters	Units-4	

Fixed Asset Listing as of date:

6/30/07

The "Plant" worksheet contains water plant data for the water treatment plants. It was developed using the Fixed Asset Listing as of 6/30/07.

Whenever this worksheet is updated to reflect a new or more current fixed asset listing (FAL), all that is required is to input new data in Plant-2 through Plant-5. Depot totals from the FAL is all that is required. for the Water Utility.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
PIntInd	Index	Plant-1	
OC1	Page 1 of OC and Net OC as of	Plant-2	
OC2	Page 2 of OC and Net OC as of	Plant-3	
OC3	Page 3 of OC and Net OC as of	Plant-4	
OC4	Page 4 of OC and Net OC as of	Plant-5	
WPI1	Page 1 of Water Plant Investment at	Plant-6	
WPI2	Page 2 of Water Plant Investment at	Plant-7	
WPIS	Water Plant Investment	Plant-8	
LCA	Calculation of Load Control Allocation	Plant-9	
APBC	Allocation of Plant to Bucks County	Plant-10	
AAPBC	Alternative Alloc. of Plant Invest. to Bucks	Plant-11	
CPA	Comparison of Plant Allocations	Plant-12	
FPA	Factors for Allocation of Plant Investment to	Plant-13	
ADE	Annual Depreciation Expense	Plant-14	
PFS	Plant File Summary for Wpltallo	Plant-15	
PSWCPLANI	Aqua PA Plant, Depr, and Return	Plant-16	

The "Wpltallo" worksheet allocates water treatment plant investment and annual depreciation to cost functions.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
WpltInd	Index	Wpltallo-1	
API	Allocation of Plant Investment	Wpltallo-2	15
ALLOCFAC1	Allocation Factors - Page 1	Wpltallo-3	
ALLOCFAC2	Allocation Factors - Page 2	Wpltallo-4	
ALLDEP	Allocation of Depreciation Expense	Wpltallo-5	16

The "Womallo" worksheet allocates Water utility operation and maintenance expense to functional cost components.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
WomaInd	Index	Womallo-1	
TYOME	Test Year O&M Expense	Womallo-2	
OMFAC	O&M by Facility	Womallo-3	
AOMF1	Adjusted O&M by Facility - Page 1	Womallo-4	
AOMF2	Adjusted O&M by Facility - Page 2	Womallo-5	
LDCNTRL	Load Control O&M Expense	Womallo-6	
DISTSYS	Distribution System O&M Expense	Womallo-7	
ESSER	E&SS Services O&M Expense	Womallo-8	
AMBM	Automotive & Building Maintenance O&M	Womallo-9	
MSMM	Machine Shop & Materials Mgmt O&M	Womallo-10	
DIROM	Allocation of Direct to O&M Facility	Womallo-11	
ADHR	Administrative & Human Resources O&M	Womallo-12	
BCAP	Bucks County O&M Allocation Percentage:	Womallo-13	
ATOM	Allocation of Total O&M Expense	Womallo-14	
BCOM	O&M Allocation to Bucks County (Scenario)	Womallo-15	
OMALLO	Allocation of O&M Expense - Table	Womallo-16	17
ATACC	Allocated Treatment & Conveyance Costs	Womallo-17	
PSWCOMAL	Aqua PA Allocated O&M	Womallo-18	

The "Retcos" worksheet develops unit costs of service and allocates the retail cost of service among retail customer classes. It also develops wholesale cost of service water rates for Bucks County and Aqua PA.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
RetcInd	Index	Retcos-1	
UCOS	Unit Cost of Service	Retcos-2	18
ACOS	Allocated Cost of Service to Customer Clas	Retcos-3	19
ADJCOS	Adjusted Cost of Service to Customer Class	Retcos-4	20
BCPC	Bucks County Proposed Charges	Retcos-5	
PSWCRate	Aqua PA Proposed Rates	Retcos-6	

The "Rates" worksheet develops retail cost of service rates before recognizing billing lag and rate implementation refinements.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
RatesInd	Index	Rates-1	
ADJC	Adjusted COS by Class	Rates-2	
COSR	COS Rates	Rates-3	
BILLCOS	Billings Under COS Rates	Rates-4	

The "LagRate" worksheet refines cost of service rates to recognize billing lag and rate implementation refinements and develops proposed Water utility rates for the test year and two following years.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
LagInd	Index	LagRate-1	
RATES	Existing and COS Rates	LagRate-2	
PBAC	Projected Bills, Accounts, and Consumption	LagRate-3	
PWR	Projected Water Receipts	LagRate-4	
BER	Test Year Billings Under Existing Rates	LagRate-5	
BPR	Projected Billings Under Proposed Rates	LagRate-6	
SBPR	Summary of Projected Billings Under Proposed Rates	LagRate-7	
RWL	Calculation of Receipts with Lag	LagRate-8	
TYRWL	Test Year Retail Receipts with Lag	LagRate-9	
COSWL	Inflated COS Rates to Account for Lag	LagRate-10	
REVCOMP	Comparison of Revenue Under Existing Rates	LagRate-11	23
CPRATES	Water & Wastewater Proposed Rates	LagRate-12	
WPRATES	Water Proposed Rates	LagRate-13	24
BTAB	BillTab Billing Percentages	LagRate-14	
WSERVCHG:	Components of Water Service Charges	LagRate-15	
WSERVCHG:	Summary of Components Water Service Charges	LagRate-16	

Philadelphia Water Department (PWD)
Water Utility Financial Planning & Rate Design

Description of Worksheet:

This worksheet develops the units of service for retail and contract customers, treatment plants, and pumping stations. It also develops equivalent bills and meters.

File: Copy of WCOS08.xls Philadelphia Water Department (PWD) P.N. 135647.0100 DRAFT - For Discussion Only Test Year 2009 Budget Yr 2008 Ver. 1a
UntIndx - Index April 02, 2008 6:47 a.m. Units-1

The "Units" worksheet develops the units of service for retail and contract customers, treatment plants, and pumping stations. It also develops equivalent bills and meters.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
UntIndx	Index	Units-1	
EUOS	Estimated Units Of Service For Retail Wate	Units-2	21
EWB	Equivalent Water Bills	Units-3	
EWM	Equivalent Water Meters	Units-4	

EUOS - Estimated Units Of Service For Retail Water Customers

April 02, 2008 6:47 a.m.

References: A. UNITS OF WATER SERVICE

B. File: Rreq08.xls - Ref: Btab-02

TABLE 21

ESTIMATED UNITS OF SERVICE FOR RETAIL WATER CUSTOMERS
TEST YEAR 2009

Line No.	Customer Class	(1)	(2)	(3)		(4)		(5)		(6)	(7)	(8)	(9)		(10)	(11)	Percent Distribution of General Service Ref. B
		Total Test Year Water Use Mcf Ref. A	Average Daily Water Use Mcf/day (1) / 365	Capacity Factor %	Total Capacity Mcf/day (2) x (3) / 100	Extra Capacity (a) Mcf/day (4) - (2)	Capacity Factor %	Total Capacity Mcf/day (2) x (6) / 100	Extra Capacity (b) Mcf/day (7) - (4)	Equiv. Meters Units-4	Equiv. Bills Units-3	Equiv. Services Units-4					
1	Residential	2,836,000	7,770	200	15,540	7,770	360	27,970	12,430	363,157	4,327,335	360,446	49.47%				
2	Senior Citizens	99,000	270	200	540	270	360	970	430	16,484	197,766	16,481					
3	Commercial	2,187,100	5,990	180	10,780	4,790	270	16,170	5,390	126,622	995,726	78,602	38.15%				
4	Industrial	709,700	1,940	160	3,100	1,160	180	3,490	390	16,858	41,972	1,791	12.38%				
	Public Utilities	0	0	160	0	0	200	0	0	0	0	0	0.00%				
	Miscellaneous	0	0	180	0	0	270	0	0	0	0	0	0.00%				
	Total General Service (c)	5,831,800	15,970	188	29,960	13,990		48,600	18,640	523,121	5,562,799	457,320	100.00%				
5	Housing Authority	221,700	610	200	1,220	610	360	2,200	980	9,192	79,719	6,252					
	Charities & Schools "6 Cent"	263,600	720	180	1,300	580	270	1,940	640	18,993	54,285	2,456					
	"N"	267,500	730	180	1,310	580	270	1,970	660	7,237	13,376	144					
6	Charities and Schools	531,100	1,450	180	2,610	1,160	270	3,910	1,300	26,230	67,661	2,600					
	Scheduled (Flat Rate)	0	0	200	0	0	360	0	0	0	0	0					
	Leased City Properties	0	0	180	0	0	270	0	0	0	0	0					
7	Municipal	460,000	1,260	180	2,270	1,010	270	3,400	1,130	12,754	28,773	1,230					
	Fire Protection																
8	Public		0		990	990		2,570	1,580								
9	Private	0	0		120	120		320	200	3,624	300,106	0					
10	Total Retail Customers	7,044,600	19,290	193	37,170	17,880	341	61,000	23,830	574,921	6,039,058	467,401					

(a) Capacity in excess of average daily use.

(b) Capacity in excess of maximum day.

Mcf - thousand cubic feet

(c) Includes leased City properties.

EWB - Equivalent Water Bills

April 02, 2008 6:47 a.m.

Units-3

References: Cust-23
File: Rreq08.xls

Line No.	Customer Class	Total Number of Bills	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	14"
	Equivalent Bill Factor		1.0	1.0	1.1	1.2	1.2	1.5	2.0	4.0	7.0	10.0	15.0	20.0	23.0
GENERAL SERVICE															
Residential (excluding Senior Citizens)															
1	Bills	x	4,324,769	4,312,223	0	10,812	0	748	582	192	163	26	23	0	0
2	Equivalent Bills		4,327,335	4,312,223	0	11,893	0	898	873	384	652	182	230	0	0
Senior Citizens															
3	Bills	x	197,764	197,744	0	20	0	0	0	0	0	0	0	0	0
4	Equivalent Bills		197,766	197,744	0	22	0	0	0	0	0	0	0	0	0
Commercial															
5	Bills	x	947,582	839,688	2,944	53,876	0	19,543	19,675	6,422	3,560	1,653	221	0	0
6	Equivalent Bills		995,726	839,688	2,944	59,264	0	23,452	29,513	12,844	14,240	11,571	2,210	0	0
Industrial															
7	Bills	x	24,140	6,871	764	5,755	0	2,484	3,577	1,860	1,574	969	286	0	0
8	Equivalent Bills		41,972	6,871	764	6,331	0	2,981	5,366	3,720	6,296	6,783	2,860	0	0
Public Utilities															
9	Bills	x	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Equivalent Bills		0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous															
11	Bills	x	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Equivalent Bills		0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total Gen'l Service Bills Excl SC		5,296,489	5,158,781	3,708	70,443	0	22,775	23,834	8,474	5,296	2,648	530	0	0
14	Total Gen'l Service Bills Incl SC		5,494,253	5,356,524	3,708	70,463	0	22,775	23,834	8,474	5,297	2,648	530	0	0
ALL OTHER THAN GENERAL SERVICE															
Housing Authority															
15	Bills	x	76,020	74,348	0	220	0	160	205	464	319	205	99	0	0
16	Equivalent Bills		79,719	74,348	0	242	0	192	308	928	1,276	1,435	990	0	0
Charities & Schools															
"6 Cent" Charities															
17	Bills	x	34,464	17,493	59	4,560	0	2,254	3,291	2,550	3,667	531	59	0	0
18	Equivalent Bills		54,285	17,493	59	5,016	0	2,705	4,937	5,100	14,668	3,717	590	0	0
"N" Charities															
19	Bills	x	4,164	419	35	138	0	171	524	1,024	1,189	575	77	12	0
20	Equivalent Bills		13,376	419	35	152	0	205	786	2,048	4,756	4,025	770	180	0
Scheduled (Flat Rate)															
21	Bills	x	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Equivalent Bills		0	0	0	0	0	0	0	0	0	0	0	0	0
Leased City Properties															
23	Bills	x	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Equivalent Bills		0	0	0	0	0	0	0	0	0	0	0	0	0
Municipal (b)															
25	Bills	x	15,216	3,973	335	2,100	15	1,217	3,880	1,932	1,019	456	122	167	0
26	Percent (Input)	x	100.0%	26.1%	2.2%	13.8%	0.1%	8.0%	25.5%	12.7%	6.7%	3.0%	0.8%	1.1%	0.0%
27	Equivalent Bills		28,773	3,973	335	2,310	18	1,460	5,820	3,864	4,076	3,192	1,220	2,505	0
Private Fire Connections & Fire Meters															
28	Bills	x	46,728	24	0	12	0	36	870	2,715	12,653	22,667	6,614	970	166
29	Equivalent Bills		300,106	24	0	13	0	43	1,305	5,430	50,612	158,669	66,140	14,550	3,320

(a) Included with General Service for this update.
(b) Total TY bills split between meter sizes based upon actual FY 2007 data.

Philadelphia Water Department (PWD)

Water Utility Financial Planning & Rate Design

Description of Worksheet:

This worksheet contains water plant data for the water treatment plants. It was developed using the Fixed Asset Listing as of 6/30/07.

File: Copy of WCOS08.xls Philadelphia Water Department (PWD) P.N. 135647.0100 DRAFT - For Discussion Only Test Year 2009 Budget Yr 2008 Ver. 1a
 PintInd - Index April 02, 2008 6:47 a.m. Plant-1

Fixed Asset Listing as of date: 6/30/07

The "Plant" worksheet contains water plant data for the water treatment plants. It was developed using the Fixed Asset Listing as of 6/30/07.

Whenever this worksheet is updated to reflect a new or more current fixed asset listing (FAL), all that is required is to input new data in Plant-2 through Plant-5. Depot totals from the FAL is all that is required, for the Water Utility.

Range	Description	Page Number	Table
PIntInd	Index	Plant-1	
OC1	Page 1 of OC and Net OC as of 6/30/07	Plant-2	
OC2	Page 2 of OC and Net OC as of 6/30/07	Plant-3	
OC3	Page 3 of OC and Net OC as of 6/30/07	Plant-4	
OC4	Page 4 of OC and Net OC as of 6/30/07	Plant-5	
WPI1	Page 1 of Water Plant Investment at 6/30/07	Plant-6	
WPI2	Page 2 of Water Plant Investment at 6/30/07	Plant-7	
WPIS	Water Plant Investment	Plant-8	
LCA	Calculation of Load Control Allocation	Plant-9	
APBC	Allocation of Plant to Bucks County	Plant-10	
AAPBC	Alternative Alloc. of Plant Invest. to Bucks C	Plant-11	
CPA	Comparison of Plant Allocations	Plant-12	
FPA	Factors for Allocation of Plant Investment to	Plant-13	
ADE	Annual Depreciation Expense	Plant-14	
PFS	Plant File Summary for WpItalio	Plant-15	
PSWCPLANI	Aqua PA Plant, Depr, and Return	Plant-16	

Input Area 1

Plant investment and O&M expense for Bucks County can be calculated three different ways:

Scenario 1 Allocates investment and O&M based the ratio of Bucks County Contract Capacity to the Baxter Plant facilities. Large Transmission & Distribution Mains based on 24" and larger mains. Allocates Capital Cost 7.50% for all plant.

Scenario 2 Allocates investment and O&M based on the ratio of Bucks County Contract Capacity to the total system capacity. Large Transmission & Distribution Mains based on 24" and larger mains. Allocates Capital Cost 7.50% for all plant.

Scenario 3 Allocates investment based on the ratio of Bucks County Contract Capacity to the total system capacity. Allocated O&M based on the ratio of Bucks County Contract Capacity to the Baxter Plant facilities. Large Transmission & Distribution Mains based on 36" and larger mains. Allocates Capital Cost 7.50% for all plant.

The User must decide which scenario or combination of scenarios to use:

	USE=1 DONT USE=0	PERCENT TO USE
Scenario 1	1	50%
Scenario 2	1	50%
Scenario 3	0	0%
	-----	100.0%

Assets data from FY 2007 DATABASE_BV3.xls - Scratch - Sewer Model Input Worksheet.

Location (Depot)	Net Original Cost \$
SOURCE OF SUPPLY PLANT	
39 Struc. & Imprvmts-Fairmount Water Works	
39 Equip.-Fairmount Water Works	
Total Fairmount Water Works	3,956,258
Total Source of Supply Plant	3,956,258
RAW WATER PUMPING PLANT	
1 Struc. & Imprvmts-Belmont RWPS	
1 Equip.-Belmont RWPS	
1 Struc. & Imprvmts-Belmont RWPS, 36RW-Main	
Total Belmont RWPS	4,100,852
6 Struc. & Imprvmts-Queen Lane RWPS	
6 Equip.-Queen Lane RWPS	
6 Struc. & Imprvmts-Queen Lane RWPS, Mains	
Total Queen Lane RWPS	9,907,191
17 Struc. & Imprvmts-Torresdale RWPS	
17 Equip.-Torresdale RWPS	
17 Struc. & Imprvmts-Torresdale RWPS, Mains	
Total Torresdale RWPS	5,529,587
Total Raw Water Pumping Plant	19,537,630

The values on this page were extracted from the Fixed Asset Listing for 6/30/07. They do not include any consideration of CWIP at 6/30/07 or any capital program additions after 6/30/07. Detail showing structures & improvements, equipment, and mains investment can only be estimated from the Fixed Asset printout. Since that detail is not needed for analyses in this file, only the totals for each Fixed Asset depot number are shown below.

Location (Depot)	Net Original Cost \$
TREATED WATER PUMPING PLANT	
26 Struc. & Imprvmts-East Park FWPS	
26 Equip.-East Park FWPS	
26 Struc. & Imprvmts-East Park FWPS, Mains	
Total East Park FWPS	1,818,308
22 Struc. & Imprvmts-Foxchase FWPS	
22 Equip.-Foxchase FWPS	
22 Struc. & Imprvmts-Foxchase FWPS, Mains	
Total Foxchase FWPS	1,088,294
23 Struc. & Imprvmts-Oak Lane FWPS	
23 Equip.-Oak Lane FWPS	
Total Oak Lane FWPS	443,428
11 Struc. & Imprvmts-Roxborough HS FWPS	
11 Equip.-Roxborough HS FWPS	
Total Roxborough HS FWPS	2,477,298
30 Struc. & Imprvmts-West Oak Lane FWPS	
30 Equip.-West Oak Lane FWPS	
Total West Oak Lane FWPS	672,639
18 Struc. & Imprvmts-Torresdale FWPS	
18 Equip.-Torresdale FWPS	
18 Struc. & Imprvmts-Torresdale FWPS, Mains	
Total Torresdale FWPS	11,047,162
19 Struc. & Imprvmts-Torresdale HS FWPS	
19 Equip.-Torresdale HS FWPS	
Total Torresdale HS FWPS	473,706
25 Struc. & Imprvmts-Lardner's Point FWPS	
25 Equip.-Lardner's Point FWPS	
25 Struc. & Imprvmts-Lardner's Point FWPS, Mains	
Total Lardner's Point FWPS	2,990,213
2 Struc. & Imprvmts-Belmont FWPS	
2 Equip.-Belmont FWPS	
Total Belmont FWPS	13,621,565
7 Struc. & Imprvmts-Queen Lane HS FWPS	
7 Equip.-Queen Lane HS FWPS	
Total Queen Lane HS FWPS	2,225,019
5 Struc. & Imprvmts-HS to Roxborough Expressway	
5 Equip.-HS to Roxborough Expressway	
Total HS to Roxborough Expressway	184,403
Total Treated Water Pumping Plant	37,042,035

The values on this page were extracted from the Fixed Asset Listing for 6/30/07. They do not include any consideration of CWIP at 6/30/07 or any capital program additions after 6/30/07. Detail showing structures & improvements, equipment, and mains investment can only be estimated from the Fixed Asset printout. Since that detail is not needed for analyses in this file, only the totals for each Fixed Asset depot number are shown below.

Location (Depot)	Net Original Cost \$	
HIGH PRESSURE FIRE PUMPING PLANT		
28	Struc. & Imprvmts-Race Street HP PS	High Pressure Fire System was decommissioned.
28	Equip.-Race Street HP PS	
28	Struc. & Imprvmts-Race Street HP PS, Mains	
	Total Race Street HP PS	0
29	Struc. & Imprvmts-Fairhill HP PS	
29	Equip.-Fairhill HP PS	
	Total Fairhill HP PS	0
	Total High Pressure Fire Pumping Plant	0
WATER PURIFICATION AND TREATMENT PLANT		
3	Struc. & Imprvmts-Belmont Filters	
3	Equip.-Belmont Filters	
	Total Belmont Filters	64,526,611
13	Struc. & Imprvmts-Lower Roxborough Filters	
13	Equip.-Lower Roxborough Filters	
	Total Lower Roxborough Filters	65,946
12	Struc. & Imprvmts-Upper Roxborough Filters	
12	Equip.-Upper Roxborough Filters	
	Total Upper Roxborough Filters	517,087
8	Struc. & Imprvmts-Queen Lane Filters	
8	Equip.-Queen Lane Filters	
8	Struc. & Imprvmts-Queen Lane Filters, Mains	
	Total Queen Land Filters	99,902,560
20	Struc. & Imprvmts-Baxter Filters	
20	Equip.-Baxter Filters	
	Total Baxter Filters	106,789,188
	Total Water Purification and Treatment Plant	271,801,392
TRANSMISSION & DISTRIBUTION PLANT		
0	Struc. & Imprvmts-Mains	672,569,491
24	Struc. & Imprvmts-Oak Lane Reservoir	
24	Equip.-Oak Lane Reservoir	
	Total Oak Lane Reservoir	6,548,981
27	Struc. & Imprvmts-East Park Reservoir	
27	Equip.-East Park Reservoir	
	Total East Park Reservoir	17,393,287
80	Struc. & Imprvmts-Somerton Tanks	
80	Equip.-Somerton Tanks	
	Total Somerton Tanks	1,032,823
	Total Transmission & Distribution Plant	697,544,582

The values on this page were extracted from the Fixed Asset Listing for 6/30/07. They do not include any consideration of CWIP at 6/30/07 or any capital program additions after 6/30/07. Detail showing structures & improvements, equipment, and mains investment can only be estimated from the Fixed Asset printout. Since that detail is not needed for analyses in this file, only the totals for each Fixed Asset depot number are shown below.

Location (Depot)	Description	Net Original Cost \$		
ADMINISTRATIVE & GENERAL PLANT				
0	Undetermined Location			
	Total Undetermined Location (a)	64,096,241		
31	Struc. & Imprvmts-Load Control Center			
31	Equip.-Load Control Center			
	Total Load Control Center	4,099,838		
32	Struc. & Imprvmts-Distribution			
32	Equip.-Distribution			
	Total Distribution	13,139,582		
33	Struc. & Imprvmts-Automotive Garage			
33	Equip.-Automotive Garage			
	Total Automotive Garage	5,180,248		
34	Struc. & Imprvmts-ARA Towers			
34	Equip.-ARA Towers			
	Total ARA Towers	5,756,952		
35	Struc. & Imprvmts-Design			
35	Equip.-Design			
	Total Design Related	2,155,476		
36	Struc. & Imprvmts-Testing Laboratory			
36	Equip.-Testing Laboratory			
	Total Testing Laboratory	0		
40	Struc. & Imprvmts-Meter Shop			
40	Equip.-Meter Shop			
	Total Meter Shop	1,769,935		
45	Struc. & Imprvmts-Building Maintenance			
45	Equip.-Building Maintenance			
	Total Building Maintenance	2,956,197		
47	Struc. & Imprvmts-Central Stores			
47	Equip.-Central Stores			
	Total Central Stores	509,567		
49	Struc. & Imprvmts-IBM Unit 29th & Cambia			
49	Equip.-IBM Unit 29th & Cambia			
	Total IBM Unit 29th & Cambil	529,038		
42	Struc. & Imprvmts-Auto Repair Facility			
42	Equip.-Auto Repair Facility			
	Total Auto Repair Facility	991,083		
43	Struc. & Imprvmts-Centralized Laboratory			
43	Equip.-Centralized Laboratory			
	Total Centralized Laboratory	15,758,765		
44	Struc. & Imprvmts-Repair Shop			
44	Equip.-Repair Shop			
	Total Repair Shop	427,198		
	Total Administrative & General Plant	115,214,644	Excludes Depot 35	
Total Water and Administrative & General Plant		1,147,252,017	Comparable total from SCOS file	1,147,252,017
			Difference =	0
				0

(a) Consists of other costs that cannot be assigned to other depots, such as fringe benefits, gas mains, general engineering, etc. (Jason - 2/14/2008).

Reference: A. Fixed Asset Listing
 B. Pages OC1, OC2, OC3 and OC4

Line No.	Description	Depot No. Ref. A	Land \$ Ref. ???	Not Used \$	Not Used \$	Total Building & Related \$ Ref. B	Total \$ (2) + (5)
Source of Supply:							
1	Fairmount Water Works (1)	39	150,000			3,956,258	4,106,258
2	Manayunk Canal	81	50,000				50,000
3	Subtotal		200,000			3,956,258	4,156,258
Raw Water							
4	Belmont	1	12,200			4,100,852	4,113,052
5	Queen Lane	6	19,239			9,907,191	9,926,430
6	Torresdale	17				5,529,587	5,529,587
7	Torresdale Intake Conduit						0
8	Torresdale Raw Water Basin						0
9							
10	Subtotal		31,439			19,537,630	19,569,069
Treated Water							
11	East Park	26	3,000			1,818,308	1,821,308
12	Foxchase	22	5,000			1,088,294	1,093,294
13	Oak Lane	23				443,428	443,428
14	Roxborough High Service	11				2,477,298	2,477,298
15	West Oak Lane	30	16,614			672,639	689,253
16	Torresdale Low Service (BOX 1)	18				8,298,337	8,298,337
17	Torresdale High Service (BOX 1)	19				3,222,531	3,222,531
18	Lardner's Point	25	45,000			2,990,213	3,035,213
19	Belmont High Service	2				13,621,565	13,621,565
20	Queen Lane High Service	7				2,225,019	2,225,019
21	Roxborough Exp. High Service	5				184,403	184,403
22	Chestnut Hill	14	1,000				1,000
23	Subtotal		70,614			37,042,035	37,112,649
High Pressure Fire							
24	Race Street	28	0			0	0 High Pressure Fire System was decommissioned.
25	Fairhill	29	0			0	0 High Pressure Fire System was decommissioned.
26	Subtotal		0			0	0
Purification & Treatment							
27	Belmont Filters	3	273,443			64,526,611	64,800,054
28	Lower Roxborough Filters	13	2,500			65,946	68,446
29	Upper Roxborough Filters	12	63,000			517,087	580,087
30	Queen Lane Filters	8	677,180			99,902,560	100,579,740
31	Torresdale Filters/Baxter Filters	20	309,000			106,789,188	107,098,188
32	Belmont Control Center	48					0
33	Subtotal		1,325,123			271,801,392	273,126,515

BOX 1-Split of Total Torresdale Low & High Service Depots Investment to Low & High Service

Depot 19 only includes investment for the Torresdale high service F.W.P.S. reservoir. It is assumed the pumping & related investment associated with Depot 19 is included in Depot 18 (Torresdale F.W.P.S.) investment. Because the description of investment in Depot 18 is not sufficient to determine which investment is associated with high and low service, prorate the investment in Depot 18 between Torresdale high service and low service on the basis of the pump capacities of each.

	Investment \$	Pump Capacities mgd
Depot 18 (Low Service)	11,047,162	160
Depot 19 (High Service)	473,706	53
Total	11,520,868	213

Proration of Depot 18 investment to low and high service:
 Low Service \$11,047,162*(160/213)= \$ 8,298,337
 High Service \$11,047,162*(53/213)= \$ 2,748,825

Total Torresdale Investment Split Between Low and High Service:

	Depot 18 \$	Depot 19 \$	Total \$
Low Service	8,298,337		8,298,337
High Service	2,748,825	473,706	3,222,531
Total	11,047,162	473,706	11,520,868

Reference: A. Fixed Asset Listing
 B. Pages OC1, OC2, OC3 and OC4

Line No.	Description	Depot No.	Land \$	Not Used \$	Not Used \$	Total Building & Related \$	Total \$
		Ref. A	Ref. ????????			Ref. B	(2) + (5)
34	Transmission & Distribution - Mains Mains-Total					672,569,491	672,569,491
35	Transmission & Distribution - Other Oak Lane Reservoir	24	64,776			6,548,981	6,613,757
36	East Park Reservoir	27	100,000			17,393,287	17,493,287
37	Somerton Tanks	80	17,000			1,032,823	1,049,823
38	Deepwell Transfer (2)				0	0	0
39	Roxborough Tanks (2)				0	0	0
40	Filtered Water Storage (2)				0	0	0
41	George Hill Reservoir (2)				0	0	0
42	Meters (3)				69,547,636	69,547,636	
43	Hydrants				9,200,000	9,200,000	
44	Subtotal		181,776			103,722,727	103,904,503
45	Administration & General (BOX 2) Undetermined Location	0				32,048,121	32,048,121
46	Load Control Center	31				4,099,838	4,099,838
47	Distribution	32	65,470			13,139,582	13,205,052
48	Logan Street Garage	33	25,800			2,227,507	2,253,307
49	MSB 11th Floor ARA Towers	34				2,878,476	2,878,476
50	Design Branch	35				1,207,067	1,207,067
51	Testing Laboratory	36				0	0
52	Research & Development	37				0	0
53	Survey & Construction	38				0	0
54	Meter Shop	40				884,968	884,968
55	Customer Service	41				0	0
56	Centralized Laboratory	43				7,879,383	7,879,383
57	Plant Maintenance/Repair Shop	44				162,335	162,335
58	Building Maintenance	45				2,808,387	2,808,387
59	Central Stores	47				254,784	254,784
60	IBM Unit	49				264,519	264,519
61	N.E. Corner Fox and Roberts	42	113,355			376,612	489,967
62	Subtotal		204,625			68,231,579	68,436,204
63	TOTAL		2,013,577			1,176,861,112	1,178,874,689

BOX 2 - SPLIT OF A&G PLANT BETWEEN WATER AND SEWER						
	(1)	(2)	(3)	(4)	(5)	(6)
	Land	Building & Related	Percent Water	Water Allocated Land	Water - Total Building & Related	Sewer - Total Building & Related
	\$	\$	\$	\$	\$	\$
	Ref. Prior Study	Ref. B	WG-1.3	(1)*(3)	(2)*(3)	(1)+(2)-(4)-(5)
Admin. & General						
Undetermined Location	0	64,096,241	50.00%	0	32,048,121	32,048,120
Load Control Cntr	31	4,099,838	100.00%	0	4,099,838	(0)
Distribution	32	65,470	100.00%	65,470	13,139,582	(0)
Logan Street Garage	33	60,000	43.00%	25,800	2,227,507	2,986,941
MSB 11th Floor ARA Twr (6)	34	5,756,952	50.00%	0	2,878,476	2,878,476
Design Branch	35	2,155,476	56.00%	0	1,207,067	948,409
Testing Laboratory	36	0	38.00%	0	0	0
Research & Development	37	0	38.00%	0	0	0
Survey & Construction	38	0	56.00%	0	0	0
Meter Shop	40	1,769,935	50.00%	0	884,968	884,967
Customer Service	41	0	50.00%	0	0	0
Centralized Laboratory	43	15,758,765	50.00%	0	7,879,383	7,879,382
Plant Maint/Repair Shop	44	427,198	38.00%	0	162,335	264,863
Building Maintenance	45	2,956,197	95.00%	0	2,808,387	147,810
Central Stores	47	509,567	50.00%	0	254,784	254,783
IBM Unit	49	529,038	50.00%	0	264,519	264,519
N.E. Corner Fox & Rbrts	42	298,303	38.00%	113,355	376,612	799,419
Subtotal		423,773		204,625	68,231,579	49,357,689
TOTAL A&G (\$423,773 + \$117,370,120)		117,370,120			117,793,893	
TOTAL A&G ALLOCATED TO WATER					68,436,204	
TOTAL A&G ALLOCATED TO SEWER (\$117,793,893 - \$68,436,204)					49,357,689	

Notes:
 (1) Land valued at \$ 150,000, but excluded from previous study (PN 13321.300). Assume land is to be included per JRM 6/30/92.
 (2) Currently included in Depot 0 - Water T&D Other (1/19/2008)..
 (3) Meters and radios assets obtained from Meters and other improvements.xls file provided by PWD (1/19/2008)..

Reference: C. Unknown source. Same data as used in 1989 study (PN 13321.300).
 E. WG-3A

Line No.	Description	(1) Land \$ Plant-6	(2) Buildings, Improvements & Equipment \$ Plant-6	(3) Total Plant Investment @ 6/30/07 \$(1)+(2)	(4) Allocated Load Control \$ Plant-9	(5) Estimated Capitalized Interest(2) \$	(6) Plant Additions \$ Ref. E	(7) Total Plant @ 6/30/07 \$
Source of Supply:								
1	Fairmount Water Works (1)	150,000	3,956,258	4,106,258				4,106,258
2	Manayunk Canal (1)	50,000	0	50,000				50,000
3	Total	200,000	3,956,258	4,156,258				4,156,258
Power & Pumping:								
Raw Water								
4	Belmont	12,200	4,100,852	4,113,052				4,113,052
5	Queen Lane	19,239	9,907,191	9,926,430				9,926,430
6	Torresdale	0	5,529,587	5,529,587				5,529,587
7	Torresdale Intake Conduit	0	0	0				0
8	Torresdale Raw Water Basin	0	0	0				0
9	Total	31,439	19,537,630	19,569,069				19,569,069
Treated Water								
10	East Park	3,000	1,818,308	1,821,308	159,701			1,981,008
11	Foxchase	5,000	1,088,294	1,093,294	50,465			1,143,759
12	Oak Lane	0	443,428	443,428	111,791			555,219
13	Roxborough High Service	0	2,477,298	2,477,298	95,820			2,573,118
14	West Oak Lane	16,614	672,639	689,253	55,895			745,148
15	Torresdale Low Service	0	8,298,337	8,298,337	511,042			8,809,379
16	Torresdale High Service	0	3,222,531	3,222,531	169,283			3,391,814
17	Lardner's Point	45,000	2,990,213	3,035,213	638,803			3,674,016
18	Belmont High Service	0	13,621,565	13,621,565	100,611			13,722,176
19	Queen Lane High Service	0	2,225,019	2,225,019	76,656			2,301,675
20	Roxborough Exp. High Service	0	184,403	184,403	79,850			264,253
21	Chestnut Hill	1,000	0	1,000				1,000
22	Total	70,614	37,042,035	37,112,649	2,049,919			39,162,568
High Pressure Fire								
23	Race Street	0	0	0				0
24	Fairhill	0	0	0				0
25	Total	0	0	0				0
Purification & Treatment								
26	Belmont Filters	273,443	64,526,611	64,800,054				64,800,054
27	Lower Roxborough Filters	2,500	65,946	68,446				68,446
28	Upper Roxborough Filters	63,000	517,087	580,087				580,087
29	Queen Lane Filters	677,180	99,902,560	100,579,740				100,579,740
30	Torresdale Filters	309,000	106,789,188	107,098,188				107,098,188
31	Belmont Control Center	0	0	0				0
32	Total	1,325,123	271,801,392	273,126,515				273,126,515
Transmission & Distribution - Mains								
33	Mains-Total	0	672,569,491	672,569,491	2,049,919			674,619,410
Transmission & Distribution - Other								
34	Oak Lane Reservoir	64,776	6,548,981	6,613,757				6,613,757
35	East Park Reservoir	100,000	17,393,287	17,493,287				17,493,287
36	Somerton Tanks	17,000	1,032,823	1,049,823				1,049,823
37	Deepwell Transfer	0	0	0				0
38	Roxborough Tanks	0	0	0				0
39	Filtered Water Storage	0	0	0				0
40	George Hill Reservoir	0	0	0				0
41	Meters	0	69,547,636	69,547,636				69,547,636
42	Fire Hydrants	0	9,200,000	9,200,000				9,200,000
43	Total	181,776	103,722,727	103,904,503				103,904,503
44	Load Control Center		4,099,838	4,099,838	(4,099,838)			0
45	Administration & General	204,625	64,131,741	64,336,366				64,336,366
46	TOTAL	2,013,577	1,176,861,112	1,178,874,689	0			1,178,874,689
	Check with Plant-7	2,013,577	1,176,861,112	1,178,874,689				1,178,874,689

(1) through (6)

- (1) Plant investment shown here is considered to be NOT used & useful. Fairmount Water Works is an historic landmark, and the land for Manayunk Canal is not used.
- (2) Represents capitalized interest not included in Fixed Assets Listing prior to 1981.

Reference: A. FN-12.3

	(1)	(2)
	<u>Capacity</u> Ref. A	<u>% of</u> <u>Capacity</u>
TREATMENT:		
Torresdale Treatment Plant Capacity L.S.(mgd)	160.0	24.9%
Torresdale Treatment Plant Capacity H.S.(mgd)	53.0	8.3%
Queen Lane Treatment Plant Capacity H.S.(mgd)	24.0	3.7%
Belmont Treatment Plant Capacity H.S.(mgd)	31.5	4.9%
Lardners Point Capacity (mgd)	200.0	31.2%
BOOSTER PUMPING:		
East Park Capacity (mgd)	50.0	7.8%
Fox Chase Capacity (mgd)	15.8	2.5%
Oak Lane Capacity (mgd)	35.0	5.5%
Roxborough H.S. Capacity (mgd)	30.0	4.7%
West Oak Lane Capacity (mgd)	17.5	2.7%
Roxborough Exp. H.S. Capacity (mgd)	25.0	3.9%
Total System Capacity	641.8	100.0%

	<u>Amount</u> \$	<u>% Load</u> <u>Control</u>
ALLOCATION OF LOAD CONTROL INVESTMENT:		
TREATMENT:		
Torresdale Treatment Plant L.S.	511,042	12.5%
Torresdale Treatment Plant H.S.	169,283	4.1%
Queen Lane Treatment Plant H.S.	76,656	1.9%
Belmont Treatment Plant H.S.	100,611	2.5%
Lardners Point	638,803	15.6%
BOOSTER PUMPING:		
East Park	159,701	3.9%
Fox Chase	50,465	1.2%
Oak Lane	111,791	2.7%
Roxborough H.S.	95,820	2.3%
West Oak Lane	55,895	1.4%
Roxborough Exp. H.S.	79,850	1.9%
Total Pumping	2,049,919	50.0%
Transmission & Distribution	2,049,919	50.0%
Total Load Control Investment (1) WPIS.	4,099,838	100.0%

(1) Load Control Investment spread back between Pumping & Transmission with 50.0% to each - Pumping is spread further based on % Plant Capacity in pumping. This percent split discussed with JRM 6/30/92 - Assume OK for now. Source of percent is previous study.

INPUT DATA FROM WG-5.1 (FN-17)	
Percentage of Total Mains.....	
16" and larger	0.373
18" and larger	0.333
24" and larger	0.287
30" and larger	0.255
36" and larger	0.199
48" and larger	0.157

Outside City Return:	7.50%
----------------------	-------

Water Plant Investment
 Allocation of Water Plant Investment to Functional Cost Component
 (Contract Method Allocation - Base Scenario 1)

Line No.	Estimated Test Period Plant Investment	Bucks County Direct	Return on Plant Invest. @ 7.50%	Annual Depreciation Expense
	\$	\$	\$	\$
	Plant-8	Plant-8		Plant-11
	Plant-13	Plant-13		
Supply and Treatment				
Raw Water Power & Pumping				
1	Land 31,439		0	
2	Buildings & Equipment 19,537,630	403,199 (b)	30,240	8,342
Treatment				
Purification				
3	Land 1,325,123	33,797 (b)	2,535	
4	Buildings & Equipment 271,801,392	11,680,067 (b)	876,005	270,127
Treated Water Power & Pumping				
5	Land 45,000		0	
6	Buildings & Equipment 32,118,315	1,927,052 (b)	144,529	38,541
7	Total Supply and Treatment 324,858,899	14,044,115	1,053,309	317,010
Distribution				
Booster Pumping				
8	Land 25,614		0	
9	Buildings & Equipment 6,973,639		0	0
Filtered Water Storage				
10	Land 181,776		0	
11	Buildings & Equipment 24,975,091		0	0
High Pressure Fire System				
12	Land 0			
13	Buildings & Equipment 0			
Transmission & Distribution Mains				
14	Small Mains (Less than 24") 481,003,639			
15	Large Mains (24" & Over) 193,615,771	649,723 (c)	48,729	11,999
16	Fire Hydrants 9,200,000			
17	Meters 69,547,636			
18	Total Distribution 785,523,166	649,723	48,729	11,999
Administrative and General (a)				
19	Land 204,625	2,708	203	
20	Buildings & Equipment 64,131,741	848,664	63,650	24,526
21	Total Administrative and General 64,336,366	851,372	63,853	24,526
22	TOTAL INVESTMENT 1,174,718,431	15,545,210	1,165,891	353,535
	CHECK Plant-8 1,174,718,431			

Excludes Fairmount Water Works & Manayunk Canal

- (a) Administrative and General allocated based on subtotals Lines 7 & 18.
- (b) Allocable property assigned on the basis of the ratio of Bucks County Contract Capacity to the various Baxter Plant facilities as follows:
 Raw water Pumping - \$5,529,587 x 35mgd/480mgd.
 Purification - (\$309,000 + \$106,789,188) x 35.0mgd/320.0mgd.
 Treated Water Pumping - \$8,809,379.4 x 35.0mgd/160.0mgd.
- (c) Direct cost of 48" Bucks County supply main.

Water Plant Investment
 Allocation of Water Plant Investment to Functional Cost Component
 (Total System Allocation - Scenario 2)

Line No.	Description	Est. Test Yr. Plant Investment	Bucks County Direct	Return on Plant Invest. @ 7.50%	Annual Depr. Expense
		\$	\$	\$	\$
		Plant-8	Plant-13		Plant-11
Supply and Treatment					
Raw Water Power & Pumping					
1	Land	31,439	1,331 (b)	100	
2	Buildings & Equipment	19,537,630	826,865 (b)	62,015	17,108
Treatment					
Purification					
3	Land	1,325,123	84,944 (c)	6,371	
4	Buildings & Equipment	271,801,392	17,423,166 (c)	1,306,737	402,949
Treated Water Power & Pumping					
5	Land	45,000	2,885 (c)	216	
6	Buildings & Equipment	32,118,315	2,058,866 (c)	154,415	41,177
7	Total Supply and Treatment	324,858,899	20,398,057	1,529,854	461,234
Distribution					
Booster Pumping					
8	Land	25,614	1,642 (c)	123	
9	Buildings & Equipment	6,973,639	447,028 (c)	33,527	8,740
Filtered Water Storage					
10	Land	181,776	11,652 (c)	874	
11	Buildings & Equipment	24,975,091	1,600,967 (c)	120,073	63,118
High Pressure Fire System					
12	Land	0			
13	Buildings & Equipment	0			
Transmission & Distribution Mains					
14	Small Mains (Less than 24")	481,003,639			
15	Large Mains (24" & Over)	193,615,771	12,411,267 (c)	930,845	229,206
16	Fire Hydrants	9,200,000			
17	Meters	69,547,636			
18	Total Distribution	785,523,166	14,472,556	1,085,442	301,064
Administrative and General(a)					
19	Land	204,625	6,426	482	
20	Buildings & Equipment	64,131,741	2,014,003	151,050	58,205
21	Total Administrative and General	64,336,366	2,020,429	151,532	58,205
22	TOTAL INVESTMENT	#####	36,891,042	2,766,828	820,503
	CHECK Plant-8	#####			

Excludes Fairmount Water Works & Manayunk Canal

- (a) Administrative and General allocated based on subtotals of Lines 7 & 18.
- (b) Allocable property assigned on the basis of the ratio of Bucks County Contract Capacity to the total system raw water pumping capacity (35.0 mgd / 827.0 mgd).
- (c) Allocable property assigned on the basis of the ratio of Bucks County Contract Capacity to the total system treatment capacity (35.0 mgd / 546.0 mgd).

Water Plant Investment
Allocation of Water Plant Investment to Functional Cost Component
 (Total System Allocation - Scenario 3)

Line No.	Estimated Test Period Plant Investment	Bucks County Direct	Return on Plant Invest. @ 7.50%	Annual Depreciation Expense	Annual Depreciation Rate
	\$	\$	\$	\$	\$
	<u>Plant-8</u>	<u>Plant-13</u>	<u>Plant-10</u>		<u>Plant-14</u>
Supply and Treatment					
Raw Water Power & Pumping					
1	Land 31,439	1,331 (b)	100		
2	Buildings & Equipment 19,537,630	826,865 (b)	62,015	17,108	2.07%
Treatment					
Purification					
3	Land 1,325,123	84,944 (c)	6,371		
4	Buildings & Equipment 271,801,392	17,423,166 (c)	1,306,737	402,949	2.31%
Treated Water Power & Pumping					
5	Land 45,000	2,885 (c)	216		
6	Buildings & Equipment 32,118,315	2,058,866 (c)	154,415	41,177	2.00%
7	Total Supply and Treatment 324,858,899	20,398,057	1,529,854	461,234	
Distribution					
Booster Pumping					
8	Land 25,614	1,642 (c)	123		
9	Buildings & Equipment 6,973,639	447,028 (c)	33,527	8,740	1.96%
Filtered Water Storage					
10	Land 181,776	11,652 (c)	874		
11	Buildings & Equipment 24,975,091	1,600,967 (c)	120,073	63,118	3.94%
High Pressure Fire System					
12	Land 0				
13	Buildings & Equipment 0				
Transmission & Distribution Mains					
14	Small Mains (Less than 36") 540,370,147				
15	Large Mains (36" & Over) 134,249,263	8,605,722 (c)	645,429	158,927	1.85%
16	Fire Hydrants 9,200,000				
17	Meters 69,547,636				
18	Total Distribution 785,523,166	10,667,011	800,026	230,785	
Administrative and General(a)					
19	Land 204,625	5,725	429		
20	Buildings & Equipment 64,131,741	1,794,208	134,566	51,853	2.89%
21	Total Administrative and General 64,336,366	1,799,933	134,995	51,853	
22	TOTAL INVESTMENT 1,174,718,431	32,865,001	2,464,875	743,872	2.26%
	Check with Plant-8 1,174,718,431				

Excludes Fairmount Water Works & Manayunk Canal

- (a) Administrative and General allocated based on subtotals of Lines 7 & 18.
- (b) Allocable property assigned on the basis of the ratio of Bucks County Contract Capacity to the total system raw water pumping capacity (35.0 mgd / 827.0 mgd).
- (c) Allocable property assigned on the basis of the ratio of Bucks County Contract Capacity to the total system treatment capacity (35.0 mgd / 546.0 mgd).

References: B. (Plant-10) Percent split of water main investment between diff. size mains.

Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		Total Investment	Baxter Only Plant Investment	Allocated Investment to Bucks County	Cap. Cost to Bucks County	Allocated Investment to Bucks County	Cap. Cost to Bucks County	Allocated Investment to Bucks County	Cap. Cost to Bucks County	Allocated Investment to Bucks County	Cap. Cost to Bucks County	Allocated Investment to Bucks County	Cap. Cost to Bucks County	Return on Plant Investment @ 7.50%	Annual Depr. Expense	Allocated Investment to Aqua PA	Cap. Cost to Aqua PA
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
		Plant-8&Ref B	Plant-8	Plant-10	Plant-10	Plant-10	Plant-10	Plant-11	Plant-11					Plant-16	Plant-16	Plant-16	Plant-16
	Supply and Treatment																
	Raw Water Power & Pumping																
1	Land	31,439			0	1,331	100	1,331	100								
2	Buildings & Equipment	19,537,630	5,529,587	403,199	38,582	826,865	79,123	826,865	79,123	615,032	58,853	46,128	12,725	259,872	24,867	19,490	5,377
	Treatment																
	Purification																
3	Land	1,325,123	309,000	33,797	2,535	84,944	6,371	84,944	6,371	59,371	4,453	4,453	0	26,697	2,002	2,002	0
4	Buildings & Equipment	271,801,392	106,789,188	11,680,067	1,146,132	17,423,166	1,709,686	17,423,166	1,709,686	14,551,617	1,427,909	1,091,371	336,538	5,475,852	537,330	410,689	126,641
	Treated Water Power & Pumping																
	Land	45,000				2,885	216	2,885	216	1,443	108	108	0	907	68	68	0
6	Buildings & Equipment	32,118,315	8,809,379	1,927,052	183,070	2,058,866	195,592	2,058,866	195,592	1,992,959	189,331	149,472	39,859	647,072	61,471	48,530	12,941
7	Total Supply and Treatment	324,858,899	121,437,155	14,044,115	1,370,319	20,398,057	1,991,088	20,398,057	1,991,088	17,221,086	1,680,704	1,291,582	389,122	6,410,818	625,769	480,810	144,959
	Distribution																
	Booster Pumping																
8	Land	25,614			0	1,642	123	1,642	123	821	62	62	0	439	33	33	0
9	Buildings & Equipment	6,973,639			0	447,028	42,267	447,028	42,267	223,514	21,134	16,764	4,370	119,523	11,301	8,964	2,337
	Filtered Water Storage																
10	Land	181,776			0	11,652	874	11,652	874	5,826	437	437	0	3,662	275	275	0
11	Buildings & Equipment	24,975,091			0	1,600,967	183,191	1,600,967	183,191	800,484	91,596	60,037	31,559	503,161	57,574	37,737	19,837
	High Pressure Fire System																
12	Land	0			0		0		0	0	0	0	0	0	0	0	0
13	Buildings & Equipment	0			0		0		0	0	0	0	0	0	0	0	0
	Transmission & Distribution Mains																
14	Small Mains (Less than 24")	481,003,639			0		0		0					0	0	0	0
15	Large Mains (24" & Over) (b)	193,615,771	649,723	649,723	60,728	12,411,267	1,160,051	8,605,722	804,356	6,530,495	610,390	489,787	120,603	3,900,684	364,587	292,551	72,036
16	Fire Hydrants	9,200,000			0		0		0					0	0	0	0
17	Meters	69,547,636			0		0		0					0	0	0	0
18	Total Distribution	785,523,166	649,723	649,723	60,728	14,472,556	1,386,506	10,667,011	1,030,811	7,561,140	723,617	567,086	156,532	4,527,470	433,770	339,560	94,210
	Administrative and General (a)																
19	Land	204,625	22,499	2,708	203	6,426	482	5,725	429	4,567	343	343	0	2,016	151	151	0
20	Buildings & Equipment	64,131,741	7,051,306	848,664	88,176	2,014,003	209,255	1,794,208	186,419	1,431,334	148,716	107,350	41,366	631,757	65,640	47,382	18,258
21	Total Administrative and General	64,336,366	7,073,805	851,372	88,379	2,020,429	209,737	1,799,933	186,848	1,435,901	149,058	107,693	41,366	633,773	65,791	47,533	18,258
22	TOTAL INVESTMENT	1,174,718,431	129,160,683	15,545,210	1,519,426	36,891,042	3,587,331	32,865,001	3,208,747	26,218,126	2,553,379	1,966,360	587,019	11,572,060	1,125,330	867,903	257,427

(a) Administrative and General allocated based on subtotals of Lines 7 & 18.
 (b) Scenario 3 includes large mains cost based on 36" and larger mains.

References: A. Series 1998 Bonds OS

Line No.	Description	Total Capacity of Facility mgd Ref. A	Bucks County Contract Capacity mgd	Aqua PA Contract Capacity mgd	Bucks County Contract Capacity %	Aqua PA Contract Capacity %
Source of Supply:						
1	Fairmount Water Works		35.00			
2	Manayunk Canal		35.00			
3	Total	0.00	35.00			
Power & Pumping:						
Raw Water						
4	Belmont	140.00	35.00			
5	Queen Lane	207.00	35.00			
6	Torresdale/Baxter	480.00	35.00			
7	Torresdale Intake Conduit		35.00			
8	Torresdale Raw Water Basin		35.00			
9	Total	827.00	35.00	11.00	4.23%	1.33%
Treated Water						
10	East Park	50.00	35.00			
11	Foxchase	15.80	35.00			
12	Oak Lane (East)	35.00	35.00			
13	Roxborough High Service	30.00	35.00			
14	West Oak Lane	17.50	35.00			
15	Torresdale/Baxter Low Service	160.00	35.00			
16	Torresdale/Baxter High Service	53.00	35.00			
17	Lardner's Point	200.00	35.00			
18	Belmont High Service	31.50	35.00			
19	Queen Lane High Service	24.00	35.00			
20	Q. Ln. Roxborough Exp. High Serv	25.00	35.00			
21	Total	641.80	35.00	11.00	5.45%	1.71%
High Pressure Fire						
22	Race Street		35.00			
23	Fairhill		35.00			
24	Total	0.00	35.00			
Purification & Treatment:						
25	Belmont Filters	86.00	35.00			
26	Lower Roxborough Filters		35.00			
27	Upper Roxborough Filters		35.00			
28	Queen Lane Filters	140.00	35.00			
29	Torresdale/Baxter Filters	320.00	35.00			
30	Treatment Headquarters		35.00			
31	Belmont Control Center		35.00			
32	Total	546.00	35.00	11.00	6.41%	2.01%
Transmission & Distribution - Mains:						
33	Small Mains (24" & smaller)					
34	Large Mains (Over 24")					
Transmission & Distribution - Other:						
35	Oak Lane Reservoir	70.00	35.00			
36	East Park Reservoir	370.00	35.00			
37	Somerton Tanks	10.00	35.00			
38	Deepwell Transfer		35.00			
39	Roxborough Tanks	17.60	35.00		249	
40	Filtered Water Storage		35.00		271	
41	George Hill Reservoir		35.00			
42	Meters					
43	Total	467.60	35.00	11.00	7.49%	2.35%
44	Load Control Center		35.00	11.00		
45	Administration & General		35.00	11.00		
46	TOTAL					

File: Copy of WCOS08.xls Philadelphia Water Department (PWD)		P.N. 135647.0100		DRAFT - For Discussion Only		Test Year	2009	Budget Yr	2008	Ver. 1a			
ADE - Annual Depreciation Expense						April 02, 2008 6:47 a.m.				Plant-14			
Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Total Plant Investment \$	Land \$	Depreciable Plant \$	Depr. Rate	Annual Depr. Expense \$	Total Investment Allocable to B.C. \$	Land \$	Depreciable Plant \$	Depr. Rate %	Weighted Average Rate	Plant	Weighted Average Rate
		Plant-8	Plant-8	(1)-(2)	(b)	(3)*(4)	Col. (1)	Col. (2)	(6)-(7)	Col. (4)			
Source of Supply:													
1	Fairmount Water Works (a)	4,106,258	150,000	3,956,258	0.025000	98,906	4,106,258	150,000	3,956,258	2.5%			
2	Manayunk Canal (a)	50,000	50,000	0	0.025000	0	50,000	50,000	0	2.5%			
3	Total	4,156,258	200,000	3,956,258	0.025000	98,906	4,156,258	0	3,956,258				
Power & Pumping:													
Raw Water													
4	Belmont	4,113,052	12,200	4,100,852	0.019468	79,835	4,113,052	12,200	4,100,852	1.95%	0.41%		
5	Queen Lane	9,926,430	19,239	9,907,191	0.019579	193,973	9,926,430	19,239	9,907,191	1.96%	0.99%		
6	Torresdale	5,529,587	0	5,529,587	0.023588	130,432	5,529,587	0	5,529,587	2.36%	0.67%		
7	Torresdale Intake Conduit	0	0	0	0.023588	0	0	0	0	2.36%	0.00%		
8	Torresdale Raw Water Basin	0	0	0	0.023588	0	0	0	0	2.36%	0.00%		
9	Total	19,569,069	31,439	19,537,630	0.020700	404,240	19,569,069	31,439	19,537,630		2.07%		
Treated Water													
											Treated Wtr	Booster PS	
10	East Park	1,981,008	3,000	1,978,008	0.020000	39,560	1,981,008	3,000	1,978,008	2.00%	0.00%	0.00%	0.57%
11	Foxchase	1,143,759	5,000	1,138,759	0.017254	19,648	1,143,759	5,000	1,138,759	1.73%	0.00%	0.00%	0.28%
12	Oak Lane	555,219	0	555,219	0.020000	11,104	555,219	0	555,219	2.00%	0.00%	0.00%	0.16%
13	Roxborough High Service	2,573,118	0	2,573,118	0.020000	51,462	2,573,118	0	2,573,118	2.00%	0.00%	0.00%	0.74%
14	West Oak Lane	745,148	16,614	728,534	0.020000	14,571	745,148	16,614	728,534	2.00%	0.00%	0.00%	0.21%
15	Torresdale Low Service	8,809,379	0	8,809,379	0.020000	176,188	8,809,379	0	8,809,379	2.00%	0.55%	0.00%	0.00%
16	Torresdale High Service	3,391,814	0	3,391,814	0.020000	67,836	3,391,814	0	3,391,814	2.00%	0.21%	0.00%	0.00%
17	Lardner's Point	3,674,016	45,000	3,629,016	0.020000	72,580	3,674,016	45,000	3,629,016	2.00%	0.23%	0.00%	0.00%
18	Belmont High Service	13,722,176	0	13,722,176	0.020000	274,444	13,722,176	0	13,722,176	2.00%	0.85%	0.00%	0.00%
19	Queen Lane High Service	2,301,675	0	2,301,675	0.020000	46,034	2,301,675	0	2,301,675	2.00%	0.14%	0.00%	0.00%
20	Roxborough Exp. High Service	264,253	0	264,253	0.020000	5,285	264,253	0	264,253	2.00%	0.02%	0.00%	0.00%
21	Chestnut Hill	1,000	1,000	0	0.019745	0	1,000	1,000	0	1.97%	0.00%	0.00%	0.00%
22	Total	39,162,568	70,614	39,091,954	0.019900	778,712	39,161,568	69,614	32,118,315	6.97%	2.00%	1.96%	
High Pressure Fire													
23	Race Street	0	0	0	0.011201	0	0	0	0	1.12%	NA		
24	Fairhill	0	0	0	0.018285	0	0	0	0	1.83%	NA		
25	Total	0	0	0	#DIV/0!	0	0	0	0	0.00%			
Purification & Treatment													
26	Belmont Filters	64,800,054	273,443	64,526,611	0.027454	1,771,514	64,800,054	273,443	64,526,611	2.75%	0.65%		
27	Lower Roxborough Filters	68,446	2,500	65,946	0.028571	1,884	68,446	2,500	65,946	2.86%	0.00%		
28	Upper Roxborough Filters	580,087	63,000	517,087	0.028242	14,604	580,087	63,000	517,087	2.82%	0.01%		
29	Queen Lane Filters	100,579,740	677,180	99,902,560	0.025207	2,518,244	100,579,740	677,180	99,902,560	2.52%	0.93%		
30	Torresdale Filters	107,098,188	309,000	106,789,188	0.018539	1,979,765	107,098,188	309,000	106,789,188	1.85%	0.73%		
31	Belmont Control Center	0	0	0	0.025000	0	0	0	0	2.50%	0.00%		
32	Total	273,126,515	1,325,123	271,801,392	0.023100	6,286,011	273,126,515	1,325,123	271,801,392		2.31%		
Transmission & Distribution - Mains													
33	Mains-Total	674,619,410	0	674,619,410	0.018468	12,458,605	674,619,410	0	674,619,410	1.85%	1.85%		
Transmission & Distribution - Other													
35	Oak Lane Reservoir	6,613,757	64,776	6,548,981	0.040845	267,493	6,613,757	64,776	6,548,981	4.08%	1.07%		
36	East Park Reservoir	17,493,287	100,000	17,393,287	0.040140	698,167	17,493,287	100,000	17,393,287	4.01%	2.80%		
37	Somerton Tanks	1,049,823	17,000	1,032,823	0.018372	18,975	1,049,823	17,000	1,032,823	1.84%	0.08%		
38	Deepwell Transfer	0	0	0	0.025000	0	0	0	0	2.50%	0.00%		
39	Roxborough Tanks	0	0	0	0.025000	0	0	0	0	2.50%	0.00%		
40	Filtered Water Storage	0	0	0	0.025000	0	0	0	0	2.50%	0.00%		
41	George Hill Reservoir	0	0	0	0.025000	0	0	0	0	2.50%	0.00%		
42	Meters	69,547,636	0	69,547,636	0.070000	4,868,335			0	7.00%	0.00%		
43	Fire Hydrants	9,200,000	0	9,200,000	0.025000	230,000			0	2.50%	0.00%		
44	Total	103,904,503	181,776	103,722,727	0.058600	6,082,970	103,904,503	181,776	24,975,091		3.94%		
45	Load Control Center	0		0									
Administration & General													
											Undetermined Location		
	All Other	32,048,121	204,625	32,048,121	0.025000	801,203	32,048,121	204,625	32,048,121	2.50%	1.25%		
		32,288,245	204,625	32,083,620	0.032871	1,054,621	32,288,245	204,625	32,083,620	3.29%	1.64%		
46	Total Administration & General	64,336,366	204,625	64,131,741	0.028900	1,855,824	64,336,366	204,625	64,131,741	2.89%	2.89%		
47	TOTAL	1,178,874,689	2,013,577	1,176,861,112	0.023800	27,965,268	1,178,874,689	1,812,577	1,176,861,112	2.38%	2.38%		
Check with column (1) - (2)													

(a) Plant investment not included as used & useful.

(b) Depreciation rates in this column were extracted from file Wrld.wk4 of file Philly\31416100\CamdenNJ\OC. Rates in that file are based on the Fixed Asset Listing as of 6/30/97.

Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
		Bucks County Direct (50% Scenario 1, 50% Scenario 2, 0% Scenario 3)					Aqua PA					
		Est. Test Yr. Plant Investment \$	Total Test Yr. Depr. Expense \$	Test Yr. Plant Investment \$	Test Yr. Capital Cost \$	Test Yr. Return on Plant \$	Test Yr. Depr. Expense \$	Test Yr. Plant Investment \$	Test Yr. Capital Cost \$	Test Yr. Return on Plant \$	Test Yr. Depr. Expense \$	
		Plant-14	Plant-14	Plant-12	Plant-12	Plant-12	Plant-12	Plant-12	Plant-12	Plant-12	Plant-12	
	Raw Water Supply and Pumping											
	Source of Supply											
1	Land	200,000										
2	Buildings and Equipment	3,956,258	98,906									
	Power and Pumping											
3	Land	31,439		666	50	50	0	418	31	31	0	
4	Buildings and Equipment	19,537,630	404,240	615,032	58,853	46,128	12,725	259,872	24,867	19,490	5,377	
5	Total Raw Water Supply and Pumping	23,725,327	503,146	615,698	58,903	46,178	12,725	260,290	24,898	19,521	5,377	
	Purification and Treatment											
	Power and Pumping (a)											
6	Land	70,614		1,443	108	108	0	1,346	101	101	0	
7	Buildings and Equipment	39,091,954	778,712	1,992,959	189,331	149,472	39,859	766,596	72,772	57,494	15,278	
	Treatment											
8	Land	1,325,123		60,192	4,515	4,515	0	26,697	2,002	2,002	0	
9	Buildings and Equipment	271,801,392	6,286,011	14,775,131	1,449,043	1,108,135	340,908	5,475,852	537,330	410,689	126,641	
10	Total Purification and Treatment	312,289,083	7,064,723	16,829,724	1,642,996	1,262,229	380,767	6,270,490	612,205	470,286	141,919	
	Transmission and Distribution											
11	Mains	674,619,410	12,458,605	6,530,495	610,390	489,787	120,603	3,900,684	364,587	292,551	72,036	BOOKED ORIGINAL COST
12	Meters	69,547,636	4,868,335	0	0	0	0	0	0	0	0	Land
13	Hydrants	9,200,000	230,000	0	0	0	0	0	0	0	0	Meters
	Filtered Water Storage											Fire Hydrants
14	Land	181,776		5,826	437	437	0	3,662	275	275	0	Other Additions
15	Buildings and Equipment	24,975,091	984,635	800,484	91,596	60,037	31,559	503,161	57,574	37,737	19,837	Sewer Allocated A&G Less Land
	High Pressure Fire System											Sewer Allocated A&G Incl.
16	Land	0		0	0	0	0	0	0	0	0	Less A&G Land (Water & S
17	Mains	0.0000 of Mains	0	0	0	0	0	0	0	0	0	Plus Water Allocated Land
18	Buildings and Equipment	0	0	0	0	0	0	0	0	0	0	Sewer Allocated A&G Less Land
19	Total Transmission and Distribution	778,523,913	18,541,575	7,336,805	702,422	550,261	152,162	4,407,507	422,436	330,563	91,873	Total Water Plant Investment
20	Total excluding Administrative and General	1,114,538,323	26,109,444	24,782,226	2,404,321	1,858,667	545,654	10,938,287	1,059,539	820,370	239,169	
	Administrative and General											
21	Land	204,625		4,567	343	343	0	2,016	151	151	0	
22	Buildings and Equipment	64,131,741	1,855,824	1,431,334	148,716	107,350	41,366	631,757	65,640	47,382	18,258	
23	Total Administrative and General	64,336,366	1,855,824	1,435,901	149,058	107,693	41,366	633,773	65,791	47,533	18,258	
24	Total Water Plant Investment	1,178,874,689	27,965,268	26,218,127	2,553,379	1,966,360	587,020	11,572,060	1,125,330	867,903	257,427	

BOOKED ORIGINAL COST	Plant-5	1,147,252,017
Land	Plant-14	2,013,577
Meters	Plant-14	69,547,636
Fire Hydrants	Plant-14	9,200,000
Other Additions	Plant-14	0
Sewer Allocated A&G Less Land		
Sewer Allocated A&G Incl.		49,357,689
Less A&G Land (Water & S		(423,773)
Plus Water Allocated Land		204,625
Sewer Allocated A&G Less Land		(49,138,541)
Total Water Plant Investment		1,178,874,689

Agrees with BOX 1 within \$1,000

(a) Includes booster pumping

Aqua PA Maximum Day Plant-13
 11.0 mgd

Water Plant Investment
Allocation of Water Plant Investment to Functional Cost Component

Line No.	Description	Estimated	Aqua PA	Return on	Annual	CHECKS	
		Test Period		Plant		Invest. @	Depreciation
		<u>Investment</u>	<u>Direct</u>	<u>7.50%</u>	<u>Expense</u>	<u>Allocation</u>	<u>Rate</u>
		\$	\$	\$	\$		
		<u>Plant-8</u>	<u>Plant-13</u>		<u>Plant-11</u>		
	Source of Supply						
1	Land	200,000				0.00%	
2	Buildings and Equipment	3,956,258				0.00%	
	Power and Pumping						
	Raw Water Power & Pumping						
3	Land	31,439	418	31		1.33%	0.00%
4	Buildings & Equipment	19,537,630	259,872	19,490	5,377	1.33%	2.07%
	Treatment						
	Purification						
5	Land	1,325,123	26,697	2,002		2.01%	0.00%
6	Buildings & Equipment	271,801,392	5,475,852	410,689	126,641	2.01%	2.31%
	Treated Water Power & Pumping						
7	Land	45,000	907	68		2.01%	0.00%
8	Buildings & Equipment	32,118,315	647,072	48,530	12,941	2.01%	2.00%
9	Total Supply and Treatment	324,858,899	6,410,818	480,810	144,959	1.97%	2.26%
	Distribution						
	Booster Pumping						
10	Land	25,614	439	33		1.71%	0.00%
11	Buildings & Equipment	6,973,639	119,523	8,964	2,337	1.71%	1.96%
	Filtered Water Storage						
12	Land	181,776	3,662	275		2.01%	0.00%
13	Buildings & Equipment	24,975,091	503,161	37,737	19,837	2.01%	3.94%
	High Pressure Fire System						
14	Land	0				NA	
15	Buildings & Equipment	0				NA	
	Transmission & Distribution Mains						
16	Small Mains (Less than 24")	481,003,639				0.00%	
17	Large Mains (24" & Over)	193,615,771	3,900,684	292,551	72,036	2.01%	1.85%
18	Fire Hydrants	9,200,000				0.00%	
19	Meters	69,547,636				0.00%	
20	Total Distribution	785,523,166	4,527,470	339,560	94,210	0.58%	2.08%
	Administrative and General (a)						
21	Land	204,625	2,016	151		0.99%	0.00%
22	Buildings & Equipment	64,131,741	631,757	47,382	18,258	0.99%	2.89%
23	Total Administrative and General	64,336,366	633,773	47,533	18,258	0.99%	2.88%
24	TOTAL INVESTMENT	1,174,718,431	11,572,060	867,903	257,427	0.99%	2.22%
	Return @ 7.50%		867,905			1,125,000	

Philadelphia Water Department (PWD)
Water Utility Financial Planning & Rate Design

Description of Worksheet:

This worksheet allocates water treatment plant investment among customers classes.

File: Copy of WCOS08.xls Philadelphia Water Department (PWD) P.N. 135647.0100 DRAFT - For Discussion Only Test Year 2009 Budget Yr 2008 Ver. 1a
WpltInd - Index April 02, 2008 6:47 a.m. Wpltallo-1

The "Wpltallo" worksheet allocates water treatment plant investment and annual depreciation to cost functions.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
WpltInd	Index	Wpltallo-1	
API	Allocation of Plant Investment	Wpltallo-2	15
ALLOCFAC1	Allocation Factors - Page 1	Wpltallo-3	
ALLOCFAC2	Allocation Factors - Page 2	Wpltallo-4	
ALLDEP	Allocation of Depreciation Expense	Wpltallo-5	16

TABLE 15

ALLOCATION OF TEST YEAR WATER PLANT INVESTMENT
TO FUNCTIONAL COST COMPONENTS
TEST YEAR 2009

Line No.	Description	(1)	(2)	(3)		(4)	(5)	(6)		(7)	(8)	Allocation Basis: Wp1tallo-3				
		Estimated Test Year Plant Investment \$	Base \$	Maximum Day \$	Maximum Hour In Excess of Maximum Day \$	Customer Meters \$	Standard Pressure \$	High Pressure \$	Wholesale Direct \$	Base	Max Day	Max Hour	Bucks County	Aqua PA		
	Raw Water Supply and Pumping															
	Source of Supply															
1	Land	200,000	200,000													
2	Buildings and Equipment	3,956,000	3,956,000													
	Power and Pumping															
3	Land	31,000	23,000	7,000					1,000	75%	25%	1,000	0			
4	Buildings and Equipment	19,538,000	13,997,000	4,666,000					875,000	75%	25%	615,000	260,000			
5	Total Raw Water Supply and Pumping	23,725,000	18,176,000	4,673,000					876,000			616,000	260,000			
	Purification and Treatment															
	Power and Pumping (a)															
6	Land	71,000	39,000	11,000	18,000				3,000	57%	16%	27%	2,000	1,000		
7	Buildings and Equipment	39,092,000	20,582,000	5,777,000	9,750,000				2,983,000	57%	16%	27%	2,216,000	767,000		
	Treatment															
8	Land	1,325,000	929,000	310,000					86,000	75%	25%	59,000	27,000			
9	Buildings and Equipment	271,801,000	188,830,000	62,943,000					20,028,000	75%	25%	14,552,000	5,476,000			
10	Total Purification and Treatment	312,289,000	210,380,000	69,041,000	9,768,000				23,100,000			16,829,000	6,271,000			
	Transmission and Distribution															
11	Mains	674,619,000	378,587,000	106,270,000	179,331,000				10,431,000	57%	16%	27%	6,530,000	3,901,000		
12	Meters	69,548,000				69,548,000			0	100% Meters			0			
13	Hydrants	9,200,000					9,200,000		0	100% Standard Pressure Fire			0			
	Filtered Water Storage															
14	Land	182,000	98,000	28,000	46,000				10,000	57%	16%	27%	6,000	4,000		
15	Buildings and Equipment	24,975,000	13,493,000	3,788,000	6,391,000				1,303,000	57%	16%	27%	800,000	503,000		
	High Pressure Fire System (b)															
16	Land	0							0	100% High Pressure Fire						
17	Mains	0							0	100% High Pressure Fire						
18	Buildings and Equipment	0							0	100% High Pressure Fire						
19	Total Transmission and Distribution	778,524,000	392,178,000	110,086,000	185,768,000	69,548,000	9,200,000		11,744,000			7,336,000	4,408,000			
20	Subtotal	#####	620,734,000	183,800,000	195,536,000	69,548,000	9,200,000		35,720,000			24,781,000	10,939,000			
	Administrative and General															
21	Land	205,000	113,000	34,000	36,000	13,000	2,000		7,000			5,000	2,000			
22	Buildings and Equipment	64,132,000	35,714,000	10,575,000	11,250,000	4,001,000	529,000		0			1,431,000	632,000			
23	Total Administrative and General	64,337,000	35,827,000	10,609,000	11,286,000	4,014,000	531,000		2,070,000			1,436,000	634,000			
24	Total Water Plant Investment	#####	656,561,000	194,409,000	206,822,000	73,562,000	9,731,000		37,790,000			26,217,000	11,573,000			
	(a) Includes booster pumping		55.7%	16.5%	17.5%	6.2%	0.8%		0.0%			2.2%	1.0%			
	(b) Allocated to Mains	924,605,000	452,296,000	193,636,000	162,452,000	66,722,000	9,431,000	12,088,000	27,980,000	PREVIOUS STUDY		19,193,000	8,787,000			
			48.9%	20.9%	17.6%	7.2%	1.0%	1.3%	3.0%	PREVIOUS STUDY		2.1%	1.0%			

Reference: BD-23

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<u>Flow Output</u>				<u>Demand Factors</u>		<u>Allocation Factors</u>		
	<u>Avg Day</u>	<u>Max Day</u>	<u>Max Rate</u>	<u>Base</u>	<u>Max Day</u>	<u>Max Hr</u>	<u>Base</u>	<u>Max Day</u>	<u>Max Hr</u>
	mgd	mgd	mgd						
					(2)/(1)	(3)/(1)	1-(7)-(8)	[(2)-(1)]/(3) or (2)	[(3)-(2)]/(3)
<u>Raw Water Pumping</u>									
FY 2002	286.5	382.7		1.00	1.34	0.00	0.75	0.25	0.00
FY 2003	294.1	371.9		1.00	1.26	0.00	0.79	0.21	0.00
FY 2004	286.0	356.1		1.00	1.25	0.00	0.80	0.20	0.00
FY 2005	283.0	344.0		1.00	1.22	0.00	0.82	0.18	0.00
FY 2006	276.9	344.5		1.00	1.24	0.00	0.80	0.20	0.00
FY 2007	278.7	360.5		1.00	1.29	0.00	0.77	0.23	0.00
Avg FY 2002 - FY 2007	284.2	360.0		1.00	1.27	0.00	0.79	0.21	0.00
Maximum Demand Factors				1.00	1.34	0.00	0.75	0.25	0.00
USE				1.00	1.34	0.00	0.75	0.25	0.00
<u>Filter Output</u>									
FY 2002	268.3	332.5		1.00	1.24	0.00	0.81	0.19	0.00
FY 2003	275.3	325.5		1.00	1.18	0.00	0.85	0.15	0.00
FY 2004	267.8	314.0		1.00	1.17	0.00	0.85	0.15	0.00
FY 2005	265.3	308.2		1.00	1.16	0.00	0.86	0.14	0.00
FY 2006	258.9	315.4		1.00	1.22	0.00	0.82	0.18	0.00
FY 2007	262.2	319.4		1.00	1.22	0.00	0.82	0.18	0.00
Avg FY 2002 - FY 2007	266.3	319.2		1.00	1.20	0.00	0.83	0.17	0.00
Maximum Demand Factors				1.00	1.24	0.00	0.81	0.19	0.00
USE							0.75	0.25	0.00
<u>Plant Output - Total</u>									
FY 2002	263.3	315.2		1.00	1.20	0.00	0.84	0.16	0.00
FY 2003	270.3	320.3		1.00	1.18	0.00	0.84	0.16	0.00
FY 2004	263.0	310.5		1.00	1.18	0.00	0.85	0.15	0.00
FY 2005	260.4	297.4		1.00	1.14	0.00	0.88	0.12	0.00
FY 2006	253.7	304.2		1.00	1.20	0.00	0.83	0.17	0.00
FY 2007	256.3	312.4		1.00	1.22	0.00	0.82	0.18	0.00
Avg FY 2002 - FY 2007	261.2	310.0		1.00	1.19	0.00	0.84	0.16	0.00
Maximum Demand Factors				1.00	1.22	0.00	0.82	0.18	0.00
USE							0.75	0.25	

Reference: BD-23

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Avg Day mgd	Flow Output		Base	Demand Factors		Allocation Factors		
		Max Day mgd	Max Rate mgd		Max Day	Max Hr	Base	Max Day	Max Hr
					(2)/(1)	(3)/(1)	1-(7)-(8)	(2)-(1)/[(3) or (2)]	[(3)-(2)]/(3)
Total Districts Incl. Bucks Co									
FY 2002	263.0	333.6	456.8	1.00	1.27	1.74	0.58	0.15	0.27
FY 2003	270.2	315.3	419.2	1.00	1.17	1.55	0.64	0.11	0.25
FY 2004	263.0	304.7	392.0	1.00	1.16	1.49	0.67	0.11	0.22
FY 2005	260.3	297.3	422.1	1.00	1.14	1.62	0.61	0.09	0.30
FY 2006	253.7	300.0	441.2	1.00	1.18	1.74	0.58	0.10	0.32
FY 2007	255.3	318.5	403.0	1.00	1.25	1.58	0.63	0.16	0.21
Avg FY 2002 - FY 2007	260.9	311.6	422.4	1.00	1.19	1.62	0.62	0.12	0.26
Maximum Demand Factors				1.00	1.27	1.74	0.57	0.16	0.27
USE	260.0			1.00	1.27	1.74	0.57	0.16	0.27
Bucks County									
FY 2002	14.7	19.9	24.8	1.00	1.35	1.69	0.59	0.21	0.20
FY 2003	15.3	21.6	24.5	1.00	1.41	1.60	0.62	0.26	0.12
FY 2004	15.3	21.9	24.7	1.00	1.43	1.61	0.62	0.27	0.11
FY 2005	15.4	20.0	22.8	1.00	1.30	1.48	0.68	0.20	0.12
FY 2006	15.3	20.7	23.9	1.00	1.35	1.56	0.64	0.23	0.13
FY 2007	14.6	19.9	22.9	1.00	1.36	1.57	0.64	0.23	0.13
Avg FY 2002 - FY 2007	15.1	20.7	23.9	1.00	1.37	1.58	0.57	0.31	0.12
Maximum Demand Factors				1.00	1.43	1.69	0.60	0.25	0.15
Used in PN 13321.300, '90 BC Study	15.4				1.46				
USE	14.9	24.5			1.64				
See Bucks Co. TY Usage									
Baxter Plant % of Total									
FY 2002	56.5%	148.6	193.4	1.00	1.30	0.00	0.77	0.23	0.00
FY 2003	55.5%	149.9	171.6	1.00	1.14	0.00	0.87	0.13	0.00
FY 2004	54.3%	142.7	185.7	1.00	1.30	0.00	0.77	0.23	0.00
FY 2005	57.1%	148.6	181.4	1.00	1.22	0.00	0.82	0.18	0.00
FY 2006	56.1%	142.2	183.7	1.00	1.29	0.00	0.77	0.23	0.00
FY 2007	57.2%	146.0	184.5	1.00	1.26	0.00	0.79	0.21	0.00
Avg FY 2002 - FY 2007	56.1%	146.3	183.4	1.00	1.25	0.00	0.80	0.20	0.00
Maximum Demand Factors				1.00	1.30	0.00	0.77	0.23	0.00
USE	56.2%	146.0			1.30				
Baxter Low Service									
FY 2002	49.4	66.0	84.2	1.00	1.34	1.70	0.58	0.20	0.22
FY 2003	51.8	69.4	80.3	1.00	1.34	1.55	0.64	0.22	0.14
FY 2004	50.5	68.1	82.3	1.00	1.35	1.63	0.62	0.21	0.17
FY 2005	48.2	65.9	75.4	1.00	1.37	1.56	0.64	0.23	0.13
FY 2006	42.7	68.8	82.6	1.00	1.61	1.93	0.51	0.32	0.17
FY 2007	45.1	62.1	79.4	1.00	1.38	1.76	0.57	0.21	0.22
Avg FY 2002 - FY 2007	48.0	66.7	80.7	1.00	1.39	1.68	0.60	0.23	0.17
Maximum Demand Factors				1.00	1.61	1.93	0.51	0.32	0.17
USE	48.0				1.70				

Annual Increase	Average Annual Increase	
	From FY 2002	Through FY 2007
2.7%	2.7%	-0.6%
-2.7%	0.0%	-1.4%
-1.0%	-0.3%	-1.0%
-2.5%	-0.9%	-1.0%
0.6%	-0.6%	0.6%

BUCKS CO. TEST YEAR USAGE		
	Annual Usage (mcf)	Peak Usage mgd
FY 2006 Usage (mcf)	761,176	24.50
FY 2007 Usage (mcf)	709,198	
FY 2008 Usage (mcf)	725,000	
FY 2009 Usage (mcf)	725,000	
FY 2010 Usage (mcf)	725,000	
FY 2011 Usage (mcf)	725,000	
FY 2012 Usage (mcf)	725,000	
FY 2013 Usage (mcf)	725,000	
FY 2014 Usage (mcf)	725,000	
FY 2015 Usage (mcf)	725,000	
TY 2009 Usage (mcf)	725,000	
TY 2009 Usage (mgd)		14.9

FY 2006 had operational exceptions resulting in lower avg day and higher peaks

Philadelphia Water Department (PWD)
Water Utility Financial Planning & Rate Design

Worksheet Description: This worksheet allocates Water Operation and Maintenance Expense to Functional Cost Components

File: Copy of WCOS08.xls Philadelphia Water Department (PWD) P.N. 135647.0100 DRAFT - For Discussion Only Test Year 2009 Budget Yr 2008 Ver. 1a
 WomaInd - Index April 02, 2008 6:47 a.m. Womallo-1

The "Womallo" worksheet allocates Water utility operation and maintenance expense to functional cost components.

Range	Description	Page Number	Table
WomaInd	Index	Womallo-1	
TYOME	Test Year O&M Expense	Womallo-2	
OMFAC	O&M by Facility	Womallo-3	
AOMF1	Adjusted O&M by Facility - Page 1	Womallo-4	
AOMF2	Adjusted O&M by Facility - Page 2	Womallo-5	
LDCNTRL	Load Control O&M Expense	Womallo-6	
DISTSYS	Distribution System O&M Expense	Womallo-7	
ESSER	E&SS Services O&M Expense	Womallo-8	
AMBM	Automotive & Building Maintenance O&M	Womallo-9	
MSMM	Machine Shop & Materials Mgmt O&M	Womallo-10	
DIROM	Allocation of Direct to O&M Facility	Womallo-11	
ADHR	Administrative & Human Resources O&M	Womallo-12	
BCAP	Bucks County O&M Allocation Percentages	Womallo-13	
ATOM	Allocation of Total O&M Expense	Womallo-14	
BCOM	O&M Allocation to Bucks County (Scenarios)	Womallo-15	
OMALLO	Allocation of O&M Expense - Table	Womallo-16	17
ATACC	Allocated Treatment & Conveyance Costs	Womallo-17	
PSWCOMAL	Aqua PA Allocated O&M	Womallo-18	

Reference: Links from File: Rreq08.xls
LINKS15

Line No.	Test Year Class 100	Test Year Class 200 Expenditures				Test Year Class 300 Expenditures			Test Year Class 400	Total
		Expend.	Power	All Other	Total	Chemicals	All Other	Total		
		\$	\$	\$	\$	\$	\$	\$	\$	
OPERATIONS DIVISION										
DIRECT COSTS										
1	Baxter Treatment Plant	2,884,200	323,200	663,800	987,000	8,403,800	544,800	8,948,600	32,300	12,852,100
2	Queen Lane Treatment Plant	2,673,000	280,000	562,000	842,000	5,668,700	654,000	6,322,700	35,000	9,872,700
3	Belmont Treatment Plant	2,499,000	178,800	338,000	516,800	4,644,600	507,000	5,151,600	43,000	8,210,400
4	Conveyance Headquarters	566,000	0	1,498,000	1,498,000	0	11,000	11,000	25,000	2,100,000
5	Load Control	1,152,000	7,379,600	601,000	7,980,600	0	116,000	116,000	52,000	9,300,600
6	Distribution	12,591,000	0	310,000	310,000	31,600	369,000	400,600	230,000	13,531,600
7	Pumping	2,016,000	0	315,000	315,000	1,500	413,000	414,500	53,000	2,798,500
8	Emergency & Support Services	0	0	0	0	0	0	0	0	0
9	Subtotal	24,381,200	8,161,600	4,287,800	12,449,400	18,750,200	2,614,800	21,365,000	470,300	58,665,900
ALLOCATED COSTS										
10	Treatment Headquarters	266,000	0	58,000	58,000	10,200	2,300	12,500	9,000	345,500
11	Machine Shops	0	0	0	0	0	0	0	0	0
12	Building Maintenance	0	0	0	0	0	0	0	0	0
13	Security	0	0	0	0	0	0	0	0	0
14	Operations Admin.	1,358,000	315,050	3,157,000	3,472,050	0	39,000	39,000	29,000	4,898,050
15	Mtls. Management	844,000	0	131,000	131,000	17,800	4,000,800	4,018,600	9,000	5,002,600
16	Customer Service	547,000	0	2,593,000	2,593,000	0	12,700	12,700	5,000	3,157,700
17	Warranty Program	0	0	0	0	0	0	0	0	0
18	Meter Shop	917,000	0	119,000	119,000	0	43,500	43,500	21,000	1,100,500
19	Automotive Maintenance	0	0	0	0	0	0	0	0	0
20	Subtotal Allocated Costs	3,932,000	315,050	6,058,000	6,373,050	28,000	4,098,300	4,126,300	73,000	14,504,350
21	Total Operations	28,313,200	8,476,650	10,345,800	18,822,450	18,778,200	6,713,100	25,491,300	543,300	73,170,250
FRINGE BENEFITS										
22	Admin & Hr									335,141
23	Finance									2,064,692
24	Planning & Engr.									2,526,819
	Information Science & Tech									1,350,475
25	Operations									20,659,236
26	Customer Affairs									598,150
27	Dept. Of Revenue (WRB)									2,375,065
28	Law Dept.									598,364
29	Total Fringe Benefits									30,507,942
INTERDEPARTMENTAL										
30	WRB Expense									7,065,340
31	All Other Expenses									9,790,067
32	FINANCE									5,482,792
33	HUMAN RESOURCES									880,183
34	PLANNING & ENGINEERING	3,462,990			5,919,524		457,240	448,320	10,288,074	
35	INFORMATION SCIENCE & TECH	1,850,840			1,362,790		115,390	130,790	3,459,810	13,747,884
36	CUSTOMER AFFAIRS								2,094,000	
37	INDEMNITIES								2,319,900	
38	TOTAL O&M EXPENSE (Including Liquidated Encumbrances)									145,058,358 13,747,884

Control Total Summary:		
Fringe Benefits	30,507,942	This page
Interdepartmental	41,380,166	This page
Liquidated Encumbrances	(5,200,000)	Womallo-3
Operations	73,170,250	This page
Subtotal	139,858,358	
WTP Sludge	7,629,000	Womallo-16
Total	147,487,358	
Total agrees with Womallo-16		

Reference: [Womallo-2](#)

WATER UTILITY EXPENDITURES
 TEST YEAR 2009

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
TRT HO	Baxter	Queen Lane	Belmont	Treatment Subtotal	CONV HQ	Load Control	Dist.	Emerg & SS	Pumping	Control Subtotal	
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
				(1)+(2)+(3)+(4)							(6)+(7)+(8)+(9)+(10)
PERSONAL SERVICES											
Total Class 100	266,000	2,884,200	2,673,000	2,499,000	8,322,200	566,000	1,152,000	12,591,000	0	2,016,000	16,325,000
PURCHASED SERVICES											
Power - Class 220	0	323,200	280,000	178,800	782,000	0	7,379,600	0	0	0	7,379,600
Less Liq. Encumbrances		(49,599)	(42,970)	(27,439)	(120,008)	0	(1,132,492)	0	0	0	(1,132,492)
Power Less L.E. - Class 220	0	273,601	237,030	151,361	661,992	0	6,247,108	0	0	0	6,247,108
All Other	58,000	663,800	562,000	338,000	1,621,800	1,498,000	601,000	310,000	0	315,000	2,724,000
Less Liq. Encumbrances		(110,766)	(86,244)	(51,869)	(248,879)	(229,881)	(92,229)	(47,572)	0	(48,339)	(418,021)
All Other Less L.E.	58,000	553,034	475,756	286,131	1,372,921	1,268,119	508,771	262,428	0	266,661	2,305,979
Total Class 200	58,000	826,635	712,786	437,492	2,034,913	1,268,119	6,755,879	262,428	0	266,661	8,553,087
MATERIALS AND SUPPLIES											
Chemicals - Class 307	10,200	8,403,800	5,668,700	4,644,600	18,727,300	0	0	31,600	0	1,500	33,100
Less Liq. ENCUMBRANCES		(1,291,226)	(869,927)	(712,767)	(2,873,920)	0	0	(4,850)	0	(230)	(5,080)
Chemicals less L.E. - Class 3	10,200	7,112,574	4,798,773	3,931,833	15,853,380	0	0	26,750	0	1,270	28,020
All Other	2,300	544,800	654,000	507,000	1,708,100	11,000	116,000	369,000	0	413,000	909,000
Less Liq. Encumbrances		(83,954)	(100,358)	(77,800)	(262,112)	(1,688)	(17,800)	(56,624)	0	(63,376)	(139,488)
All Other Less L.E.	2,300	460,846	553,642	429,200	1,445,988	9,312	98,200	312,376	0	349,624	769,512
Total Class 300	12,500	7,573,420	5,352,415	4,361,033	17,299,368	9,312	98,200	339,126	0	350,894	797,532
EQUIPMENT											
Total Class 400	9,000	32,300	35,000	43,000	119,300	25,000	52,000	230,000	0	53,000	360,000
Total Classes 100 - 400	345,500	11,316,555	8,773,201	7,340,525	27,775,781	1,868,431	8,058,079	13,422,554	0	2,686,555	26,035,619

BOX 1 - LIQUIDATED ENCUMBRANCES						
Split Liquidated Encumbrances between Class 200 and 300: Reference: File: Rreq08.xls - Rreq-6						
Water Liquidated Encumbrances for TY:						
2008	2009	2010	2011	2012	2013	
5,200,000	5,200,000	5,200,000	5,200,000	5,200,000	5,200,000	5,200,000
Early Liquidation of Water Encumbrances for TY:						
2008	2009	2010	2011	2012	2013	
0	0	0	0	0	0	0
Net Liquidated Encumbrances:						
2008	2009	2010	2011	2012	2013	
5,200,000	5,200,000	5,200,000	5,200,000	5,200,000	5,200,000	5,200,000
TEST YEAR NET LIQUIDATED ENCUMBRANCES						5,200,000
SPLIT BETWEEN:						
			Total	Treatment	Control	
Class 200 Power			1,252,500	120,008	1,132,492	
Class 200 All Other			666,900	248,879	418,021	
Class 300 Chemicals			2,879,000	2,873,920	5,080	
Class 300 All Other			401,600	262,112	139,488	
			5,200,000			

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
GS HQ	CUST SERV	WARRANTY	METER SHOP	AUTO MAIN	BLDG MAINT	MACH SHOP	MTLS MGMT	SECURITY	GENERAL SUBTOTAL	OPER ADMIN	OPER TOTAL	CHECK TOTAL	Difference
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
sum (12) thru (19)										(5)+(11)+(20)+(21)		(23) - (22)	
PERSONAL SERVICES													
Total Class 100	0	547,000	0	917,000	0	0	844,000	0	2,308,000	1,358,000	28,313,200	28,313,200	0
PURCHASED SERVICES													
Power - Class 220	0	0	0	0	0	0	0	0	0	315,050	7,224,150	8,476,650	1,252,500
All Other (excluding Class 220)	0	2,593,000	0	119,000	0	0	131,000	0	2,843,000	3,157,000	9,678,900	10,345,800	666,900
Total Class 200	0	2,593,000	0	119,000	0	0	131,000	0	2,843,000	3,472,050	16,903,050	18,822,450	1,919,400
MATERIALS AND SUPPLIES													
Chemicals - Class 307	0	0	0	0	0	0	17,800	0	17,800	0	15,899,200	18,778,200	2,879,000
All Other	0	12,700	0	43,500	0	0	4,000,800	0	4,057,000	39,000	6,311,500	6,713,100	401,600
Total Class 300	0	12,700	0	43,500	0	0	4,018,600	0	4,074,800	39,000	22,210,700	25,491,300	3,280,600
EQUIPMENT													
Total Class 400	0	5,000	0	21,000	0	0	9,000	0	35,000	29,000	543,300	543,300	0
Total Classes 100 - 400	0	3,157,700	0	1,100,500	0	0	5,002,600	0	9,260,800	4,898,050	67,970,250	73,170,250	5,200,000
												5,200,000	Liquated Encumbrances

Reference: [Womallo-3](#)

WATER UTILITY EXPENDITURES WITH ADJUSTMENTS
TEST YEAR 2009

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	TRT HQ (a)	Baxter	Queen Lane	Belmont	Treatment Subtotal	CONV HQ (b)	Load Control	Dist.	Emerg & SS	Pumping c)	WC Subtotal
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	(1)+(2)+(3)+(4)					(6)+(7)+(8)+(9)+(10)					
PERSONAL SERVICES											
Total Class 100	266,000	2,884,200	2,673,000	2,499,000	8,322,200	566,000	1,152,000	12,591,000	0	2,016,000	16,325,000
Adjustments	(266,000)	88,667	88,667	88,666	0	(566,000)	2,063,445	518,555	0	(2,016,000)	0
Adjusted Class 100	0	2,972,867	2,761,667	2,587,666	8,322,200	0	3,215,445	13,109,555	0	0	16,325,000
PURCHASED SERVICES											
Power - Class 220	0	273,601	237,030	151,361	661,992	0	6,247,108	0	0	0	6,247,108
All Other	58,000	553,034	475,756	286,131	1,372,921	1,268,119	508,771	262,428	0	266,661	2,305,979
Adjustments	(58,000)	19,333	19,333	19,334	0	(1,268,119)	1,103,257	431,523	0	(266,661)	0
Adjusted All Other	0	572,367	495,089	305,465	1,372,921	0	1,612,028	693,951	0	0	2,305,979
Total Class 200	0	845,968	732,119	456,826	2,034,913	0	7,859,136	693,951	0	0	8,553,087
MATERIALS AND SUPPLIES											
Chemicals - Class 307	10,200	7,112,574	4,798,773	3,931,833	15,853,380	0	0	26,750	0	1,270	28,020
Adjustments	(10,200)	3,823	3,823	3,823	1,270	0	0	0	0	(1,270)	(1,270)
Adjusted Chemicals	0	7,116,397	4,802,596	3,935,656	15,854,650	0	0	26,750	0	0	26,750
All Other	2,300	460,846	553,642	429,200	1,445,988	9,312	98,200	312,376	0	349,624	769,512
Adjustments	(2,300)	767	767	766	0	(9,312)	351,851	7,085	0	(349,624)	0
Adjusted All Other	0	461,613	554,409	429,966	1,445,988	0	450,051	319,461	0	0	769,512
Total Class 300	0	7,578,010	5,357,005	4,365,622	17,300,638	0	450,051	346,211	0	0	796,262
EQUIPMENT											
Total Class 400	9,000	32,300	35,000	43,000	119,300	25,000	52,000	230,000	0	53,000	360,000
Adjustments	(9,000)	3,000	3,000	3,000	0	(25,000)	57,610	20,390	0	(53,000)	0
Adjusted Class 400	0	35,300	38,000	46,000	119,300	0	109,610	250,390	0	0	360,000
Adjusted Total Classes 100 - 400	0	11,432,145	8,888,791	7,456,115	27,777,051	0	11,634,242	14,400,107	0	0	26,034,349
Fringe Benefits (Womal) (d)	0	2,169,206	2,015,100	1,888,137	6,072,443	0	2,346,207	9,565,623	0	0	11,911,830
ADJUSTED TOTAL INCLUDING FRINGE BENEFITS	0	13,601,351	10,903,891	9,344,252	33,849,494	0	13,980,449	23,965,730	0	0	37,946,179

(a) Adjustments prorated to Baxter, Queen Lane, and Belmont plants.

(b) Adjustments prorated to Load Control, Distribution, and E&S Services.

(c) Chemical adjustment prorated to Baxter, Queen Lane, and Belmont Plants. Remaining adjustments prorated to Load Control.

(d) Allocated based on Adjusted Class 100.

Reference: [Womallo-3](#)

WATER UTILITY EXPENDITURES WITH ADJUSTMENTS
TEST YEAR 2009

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
	GS HQ (a)	Customer Service	Warrantv	Meter Shop	Auto Maint	BLDG MAINT	Machine Shop	MTLS MGMT	Security	General Subtotal	OPER ADMIN	OPER TOTAL
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	sum (12) thru (20)										(5)+(11)+(21)+(22)	
PERSONAL SERVICES												
Total Class 100	0	547,000	0	917,000	0	0	0	844,000	0	2,308,000	1,358,000	28,313,200
Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted Class 100	0	547,000	0	917,000	0	0	0	844,000	0	2,308,000	1,358,000	28,313,200
PURCHASED SERVICES												
Power - Class 220	0	0	0	0	0	0	0	0	0	0	315,050	7,224,150
All Other (b)	0	2,593,000	0	119,000	0	0	0	131,000	0	2,843,000	3,157,000	9,678,900
Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted All Other	0	2,593,000	0	119,000	0	0	0	131,000	0	2,843,000	3,157,000	9,678,900
Total Class 200	0	2,593,000	0	119,000	0	0	0	131,000	0	2,843,000	3,472,050	16,903,050
MATERIALS AND SUPPLIES												
Chemicals - Class 307	0	0	0	0	0	0	0	17,800	0	17,800	0	15,899,200
Adjustments	0	0	0	0	0	0	0	17,800	0	17,800	0	15,899,200
Adjusted Chemicals	0	0	0	0	0	0	0	17,800	0	17,800	0	15,899,200
All Other	0	12,700	0	43,500	0	0	0	4,000,800	0	4,057,000	39,000	6,311,500
Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted All Other	0	12,700	0	43,500	0	0	0	4,000,800	0	4,057,000	39,000	6,311,500
Total Class 300	0	12,700	0	43,500	0	0	0	4,018,600	0	4,074,800	39,000	22,210,700
EQUIPMENT												
Total Class 400	0	5,000	0	21,000	0	0	0	9,000	0	35,000	29,000	543,300
Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted Class 400	0	5,000	0	21,000	0	0	0	9,000	0	35,000	29,000	543,300
Adjusted Total Classes 100 - 400	0	3,157,700	0	1,100,500	0	0	0	5,002,600	0	9,260,800	4,898,050	67,970,250
Fringe Benefits (Womallo-2) (b)	0	399,128	0	669,106	0	0	0	615,840	0	1,684,074	990,889	20,659,236
ADJUSTED TOTAL INCLUDING FRINGE BENEFITS	0	3,556,828	0	1,769,606	0	0	0	5,618,440	0	10,944,874	5,888,939	88,629,486

AGREES with Womallo-3

(a) Prorated to all other General Support items (Columns 13 through 19).
(b) Allocated based on Adjusted Class 100.

Reference:

Power Cost:	Percent of Total (a)	Percent of Load Control	Load Control Power Cost \$
BOX 2			
Raw Water Pumping			
Baxter Plant	5.78%	6.39%	399,190
All Other	28.27%	31.25%	1,952,221
Subtotal	34.05%	37.64%	2,351,411
Treated Water Pumping			
Baxter Plant (Low Service)	7.12%	7.87%	491,647
All Other (b)	49.30%	54.49%	3,404,050
Subtotal	56.42%	62.36%	3,895,697
High Pressure Fire (c)	0.00%	0.00%	0
Total Load Control	90.47%	100.00%	6,247,108

(a) Percent of total system power bills based on 2 year average FY2005 and FY 2006.

(b) Includes booster pump stations and Filter Buildings.

(c) Includes Fairhill and Race Street pump stations.

BOX 2 - WATER DEPT ELECTRICAL EXPENDITURES				
	FY 2005	FY 2006	Average	
	\$	\$	\$	%
	BD 24	BD 24		
Baxter				
Raw Water PS	472,503	312,541	392,522	5.78% x
Hi Service PS	492,800	801,014	646,907	9.52% x
Lo Service PS	616,169	351,668	483,918	7.12% x
Filter Bldg	288,703	254,496	271,600	4.00% x
Queen Lane				
Raw Water PS	942,913	944,878	943,896	13.89% x
Hi Service PS	459,990	486,498	473,244	6.97% x
Rox Exp PS	0	0	0	0.00%
Filter Bldg	264,065	235,730	249,898	3.68% x
Belmont				
Raw Water PS	961,457	992,711	977,084	14.38% x
Hi Service PS	164,353	199,591	181,972	2.68% x
Filter Bldg	157,279	174,882	166,081	2.44% x
Distrib./Booster PS				
	1,989,085	2,023,383	2,006,234	29.53% x
Hi Press. Fire System	0	0	0	0.00% 99.99%

Shut down 1/6/05 (28282U01.xls BD-19 FY 2007)

All Other Load Control Expense:

Test Year Plant Investment \$	Percent	Percent of Load Control	Load Control Expense Excluding Power				Total \$	
			Class100(a) \$	Class200 \$	Class300 \$	Class400 \$		
BOX 1								
PUMPING RELATED:								
Raw Water Pumping								
Baxter Plant	5,529,587	9.42%	7.07%	393,209	113,970	31,819	7,749	546,747
All Other	14,039,482	23.90%	17.93%	997,204	289,037	80,694	19,653	1,386,588
Subtotal	19,569,069	33.32%	25.00%	1,390,413	403,007	112,513	27,402	1,933,335
Treated Water Pumping								
Baxter Plant (Low Service)	8,809,379	15.00%	11.25%	625,686	181,353	50,631	12,331	870,001
All Other	30,353,189	51.68%	38.75%	2,155,140	624,661	174,395	42,474	2,996,670
Subtotal	39,162,568	66.68%	50.00%	2,780,826	806,014	225,026	54,805	3,866,671
High Pressure Fire	0	0.00%	0.00%	0	0	0	0	0
Total Load Control	58,731,637	100.00%	75%	4,171,239	1,209,021	337,539	82,207	5,800,006
DISTRIBUTION SYSTEM RELATED:								
		25%	1,390,413	403,007	112,513	27,403		1,933,336
		100.00%	5,561,652	1,612,028	450,051	109,610		7,733,342

(a) Includes Fringe Benefits

Agrees with Womallo-4

BOX 1 - PLANT INVESTMENT	
	\$
TEST YR PLANT IN SERVICE	
POWER & PUMPING - RAW WATER	
Torresdale	5,529,587
Torresdale Intake Conduit	0
Torresdale Raw Water Basin	0
All Other	14,039,482
Total	19,569,069
PURIFICATION	
Torresdale Filters	107,098,188
All Other	166,028,327
Total	273,126,515
TREATED WATER	
Torresdale Low Service	8,809,379
All Other	30,353,189
Total	39,162,568
HIGH PRESSURE FIRE	0

Allocate to Purification 0%

	Test Year Plant Investment (a) \$	Percent of Total Distribution	Distribution Expense					Total \$
			Class100	Class200	Class300	Class400		
			\$	\$	\$	\$		
BOX 1			<u>Womallo-4</u>	<u>Womallo-4</u>	<u>Womallo-4</u>	<u>Womallo-4</u>		
Transmission & Distribution Mains								
Small Mains	481,003,639	61.78%	13,307,287	407,256	203,179	146,945	14,064,667	
Large Mains (24" and larger)	193,615,771	24.87%	5,356,948	163,944	81,791	59,154	5,661,837	
Total Mains (exClassHP Fire)	674,619,410	86.65%	18,664,235	571,200	284,970	206,099	19,726,504	
Fire Hydrants	9,200,000	1.18%	1,389,550	42,526	21,216	15,344	1,468,637	
Meters	69,547,636	8.93%	1,923,504	58,867	29,369	21,240	2,032,980	
Filt Water Storage & All Other	25,156,867	3.24%	697,889	21,358	10,656	7,707	737,609	
High Pressure Fire System	0	0.00%	0	0	0	0	0	
Total Distribution System	778,523,913	100.00%	22,675,178	693,951	346,211	250,390	23,965,730	
	778,523,913	AGREES with BOX 1						
Included in Fire Hydrants Above			1,135,380	34,747	17,335	12,537	1,200,000 (b)	

BOX 1 - PLANT INVESTMENT		%	\$
			<u>Plant-15</u>
Total Mains			674,619,410
1	16" and larger	37.3%	
2	18" and larger	33.3%	
3	24" and larger	28.7%	
4	30" and larger	25.5%	
5	36" and larger	19.9%	
6	48" and larger	15.7%	
USE		28.7%	193,615,771
	Bucks County 48" Main		649,723
Fire Hydrants			9,200,000
Meters			69,547,636
Filtered Water Storage (exClassresevoirs)			0
All Other (Reservoirs)			25,156,867
Total Distribution System			103,904,503
High Pressure Fire System			0

(a) Plant investment in Distribution related facilities.
 Includes Fringe Benefits. 22,675,178 693,951 346,211 250,390 23,965,730 23,965,730

(b) A total of \$1,200,000 was added to the allocation of Fire Hydrants to replicate prior study allocations where Emergency & S Services was a cost category.
 See WALLO.WK1 for Project No. 19289.100 Allocation of E&SS Expenses

AGREES with Womallo-4

Transmission & Distribution Mains							
Small Mains	540,370,147	69.41%	15,738,841	481,671	240,305	173,796	16,634,613
Large Mains (36" and larger)	134,249,263	17.24%	3,909,201	119,637	59,687	43,167	4,131,692
Total Mains (exClassHP Fire)	674,619,410	86.65%	19,648,042	601,308	299,992	216,963	20,766,305

COST CENTER NO LONGER BUDGETED

Reference: A. PN 13321.300, LRN memo of 4/21/89 - Copy included w/. PN 19289.100 as FN-20.

Service Description	Test Year Plant Investment \$	Percent of Total Distribution (a) % Ref. A	E&S Services Expense					Allocation on Basis of Plant Investment		
			Class100 (b)	Class200	Class300	Class400	Total	Plant	Expense	
			\$ Womallo-4	\$ Womallo-4	\$ Womallo-4	\$ Womallo-4	\$	\$	\$	
Valves		20.0%	0	0	0	0	0 (Mains)	Hydrants	8,135,000	0
Drills, Hydrants & Shut-off		44.0%	0	0	0	0	0 (Hydrants/Meters)	Meters	1,332,057	0
Emergencies		16.0%	0	0	0	0	0 (Mains)	Total	9,467,057	0
Total E & S Services Less Customer Service Related	0	80.0%	0	0	0	0	0			
Customer Service Related		20.0%	0	0	0	0	0			
Total E & S Services	0	100.0%	0	0	0	0	0			

0 AGREES with Womallo-4

Includes Fringe Benefits.

CURRENTLY NOT IN USE

CURRENTLY NOT IN USE

CURRENTLY NOT IN USE

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Treatment Plants \$	Load Control \$	Distribution \$	E&SS (a) \$	Customer Service (b) \$	Automotive Maint. (c) \$	Building Maint. (d) \$	TOTAL Class300 \$	Machine Shop & Materials Mgmt. (e) \$
	<u>Womallo-4</u>	<u>Womallo-6</u>	<u>Womallo-7</u>	<u>Womallo-8</u>	<u>Womallo-5</u>	<u>Womallo-5</u>	<u>Womallo-5</u>		<u>Womallo-5</u>
SUPPLY & TREATMENT									
Source of Supply									
Raw Water Power & Pumping									
Baxter Treatment Plant									
Power									
All Other Costs		31,819					0	31,819	83,941
Subtotal	0	31,819	0	0	0	0	0	31,819	83,941
All Other Treatment Plants									
Power									
All Other Costs		80,694					0	80,694	212,878
Subtotal	0	80,694	0	0	0	0	0	80,694	212,878
Subtotal	0	112,513	0	0	0	0	0	112,513	296,819
Treatment									
Purification									
Baxter Treatment Plant									
Power									
Chemicals									
All Other Costs	461,613					0	0	461,613	1,217,777
Subtotal	461,613	0	0	0	0	0	0	461,613	1,217,777
All Other Treatment Plants									
Power									
Chemicals									
All Other Costs	984,375					0	0	984,375	2,596,870
Subtotal	984,375	0	0	0	0	0	0	984,375	2,596,870
Subtotal	1,445,988	0	0	0	0	0	0	1,445,988	3,814,647
Treated Water Power & Pumping									
Baxter Treatment Plant - L.S.									
Power									
All Other Costs		50,631					0	50,631	133,569
Subtotal	0	50,631	0	0	0	0	0	50,631	133,569
All Other Pumping									
Power									
All Other Costs		174,395					0	174,395	460,070
Subtotal	0	174,395	0	0	0	0	0	174,395	460,070
Subtotal	0	225,026	0	0	0	0	0	225,026	593,639
Total Supply & Treatment	1,445,988	337,539	0	0	0	0	0	1,783,527	4,705,105
DISTRIBUTION									
Filtered Water Storage			10,656				0	10,656	28,111
High Pressure Fire System		0					0	0	0
Transmission & Distribution Mains									
Small Mains (Less than 24")			203,179				0	203,179	536,004
Large Mains (24" & Over)			81,791				0	81,791	215,772
Subtotal	0	0	284,970	0	0	0	0	284,970	751,776
Fire Hydrants			21,216				0	21,216	55,970
Meters			29,369				0	29,369	77,478
Total Distribution	0	0	346,211	0	0	0	0	346,211	913,335
CUSTOMER ACCT. & COLLECTION									
			0		56,200			56,200	
ADMINISTRATIVE & GENERAL									
								0	0
TOTAL O & M	1,445,988	337,539	346,211	0	56,200	0	0	2,185,938	5,618,440
		337,539	346,211	0		0	0		5,618,440
		Agrees with Womallo-6	Agrees with Womallo-7	Agrees with Womallo-4		Agrees with Womallo-5	Agrees with Womallo-5		Agrees with Womallo-5

- (a) Total of this column is distributed based on distribution shown in column (4), Womallo-11.
- (b) Includes Customer Service and Meter Shop.
- (c) Total of this column is distributed based on distribution shown in column (6), Womallo-11.
- (d) Total of this column is distributed based on distribution shown in column (7), Womallo-11.
- (e) Total of this column is distributed based on distribution shown in column (8), this page, excluding Customer Acct. and Collection.

Transmission & Distribution Mains

Small Mains (Less than 36")			240,305			0		240,305	633,946
Large Mains (36" & Over)			59,687			0		59,687	157,460
Subtotal	0	0	299,992		0	0	0	299,992	791,406

Line No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Treatment Plants (a) \$	Load Control (i) \$	Distribution \$	E & S Services (j) \$	Customer Service (c) \$	Warranty Program \$	Automotive Maint (d) \$	Building Maint \$	Machine Shop & Materials Management \$	Subtotal \$	Admin. & General (f) \$	Total Direct Expense \$
Conveyance (b)												
SUPPLY & TREATMENT												
1	Womallo-4	Womallo-6	Womallo-7	Womallo-8	Womallo-5	Womallo-5	Womallo-9	Womallo-9	Womallo-10		Womallo-5	
Source of Supply												
Raw Water Power & Pumping												
Baxter Treatment Plant												
2		399,190								399,190		399,190
3		546,747					0	83,941		630,688		630,688
4		945,937					0	83,941		1,029,878	0	1,029,878
All Other Treatment Plants												
5		1,952,221								1,952,221		1,952,221
6		1,386,588					0	212,878		1,599,466		1,599,466
7		3,338,809					0	212,878		3,551,687	0	3,551,687
8		4,284,746					0	296,819		4,581,565	0	4,581,565
Treatment												
Purification												
Baxter Treatment Plant												
9	273,601									273,601		273,601
10	7,116,397									7,116,397		7,116,397
11	6,211,353						0	0	1,217,777	7,429,130		7,429,130
12	13,601,351						0	0	1,217,777	14,819,128	0	14,819,128
All Other Treatment Plants												
13	388,391									388,391		388,391
14	8,738,253									8,738,253		8,738,253
15	11,121,499						0	0	2,596,870	13,718,369		13,718,369
16	20,248,143						0	0	2,596,870	22,845,013	0	22,845,013
17	33,849,494						0	0	3,814,647	37,664,141	0	37,664,141
Treated Water Power & Pumping												
Baxter Treatment Plant - L.S.												
18		491,647								491,647		491,647
19		870,001					0	133,569		1,003,570		1,003,570
20		1,361,648					0	133,569		1,495,217	0	1,495,217
All Other Pumping												
21		3,404,050								3,404,050		3,404,050
22		2,996,670					0	460,070		3,456,740		3,456,740
23		6,400,720					0	460,070		6,860,790	0	6,860,790
		7,762,368					0	593,639		8,356,007	0	8,356,007
24	33,849,494	12,047,114	0	0	0	0	0	0	4,705,105	50,601,713	0	50,601,713
DISTRIBUTION												
25		65,019	737,609				0		28,111	830,739		830,739
26		0	0				0		0	0		0
Transmission & Distribution Mains												
27		1,239,777	14,064,667	0 (g)			0		536,004	15,840,448		15,840,448
28		499,082	5,661,837	0 (g)			0		215,772	6,376,691		6,376,691
29		1,738,859	19,726,504	0			0		751,776	22,217,139	0	22,217,139
30		129,458	1,468,637	0			0		55,970	1,654,065		1,654,065
31			2,032,980	0			0		77,478	2,110,458		2,110,458
32	0	1,933,336	23,965,730	0	0	0	0	0	913,335	26,812,401	0	26,812,401
33	CUSTOMER ACCT. & COLLECTION			0	5,326,434				0	5,326,434		5,326,434
34	WARRANTY PROGRAM					0				0		0
35	ADMINISTRATIVE & GENERAL									0	5,888,939	5,888,939
36	33,849,494	13,980,450	23,965,730	0	5,326,434	0	0	0	5,618,440	82,740,548	5,888,939	88,629,487
	33,849,494	13,980,449	23,965,730	0	5,326,434	0	0	0	5,618,440	82,740,547	5,888,939	88,629,486
	Agrees with Womallo-4	Agrees with Womallo-4	Agrees with Womallo-4	Agrees with Womallo-4	Agrees with Womallo-5	Agrees with Womallo-5	Agrees with Womallo-5	Agrees with Womallo-5	Agrees with Womallo-5	Sum of Column	Agrees with Womallo-5	Agrees with Womallo-5

(a) Includes Treatment Headquarters.

(1) through (8)

(b) Includes Conveyance Headquarters, Load Control, Distribution, E & S Services, and Pumping.

(c) Includes Meter Expense.

(d) Excludes 100.0% of total automotive expenses which have been included with A&G.

(f) Includes Security, Operations Admin. & a portion of Auto Maint. Total prorated on basis of all other expense excluding power & chemicals.

(g) Split Total based on Distribution allocation between large and small mains.

(i) Load Control distribution costs are allocated between categories based on col (3). HP Fire system includes Power, All Other, and a share of Distribution costs.

(j) E&SS is not longer a budget cost center.

Transmission & Distribution Mains

Small Mains (Less than 36")	1,399,944	16,634,613	0 (g)	0	633,946	18,668,503	18,668,503
Large Mains (36" & Over)	347,717	4,131,692	0 (g)	0	157,460	4,636,869	4,636,869
Subtotal	1,747,661	20,766,305	0	0	791,406	23,305,372	0 23,305,372

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Treatment Plants \$	Load Control \$	Distribution \$	E&SS (a) \$	Customer Service \$	Automotive Maint. (b) \$	Building Maint. (c) \$	Materials Mgmt. (d) \$	TOTAL Personal Srv & Fringe Bft Class100 \$	Admin. & Human Resources \$
	Womallo-4	Womallo-6	Womallo-7	Womallo-4	Womallo-5	Womallo-5	Womallo-5	Womallo-5		Womallo-2
SUPPLY & TREATMENT										
Source of Supply										
Raw Water Power & Pumping										
Baxter Treatment Plant										
Power										
All Other Costs		393,209					0	21,810	415,019	11,199
Subtotal	0	393,209	0	0	0	0	0	21,810	415,019	11,199
All Other Treatment Plants										
Power										
All Other Costs		997,204					0	55,312	1,052,516	28,402
Subtotal	0	997,204	0	0	0	0	0	55,312	1,052,516	28,402
Subtotal	0	1,390,413	0	0	0	0	0	77,122	1,467,535	39,601
Treatment Purification										
Baxter Treatment Plant										
Power										
Chemicals										
All Other Costs	5,142,073					0	0	316,415	5,458,488	147,296
Subtotal	5,142,073	0	0	0	0	0	0	316,415	5,458,488	147,296
All Other Treatment Plants										
Power										
Chemicals										
All Other Costs	9,252,570					0	0	674,745	9,927,315	267,886
Subtotal	9,252,570	0	0	0	0	0	0	674,745	9,927,315	267,886
Subtotal	14,394,643	0	0	0	0	0	0	991,160	15,385,803	415,182
Treated Water Power & Pumping										
Baxter Treatment Plant - L.S.										
Power										
All Other Costs		625,686					0	34,705	660,391	17,820
Subtotal	0	625,686	0	0	0	0	0	34,705	660,391	17,820
All Other Pumping										
Power										
All Other Costs		2,155,140					0	119,540	2,274,680	61,382
Subtotal	0	2,155,140	0	0	0	0	0	119,540	2,274,680	61,382
Subtotal	0	2,780,826	0	0	0	0	0	154,245	2,935,071	79,202
Total Supply & Treatment	14,394,643	4,171,239	0	0	0	0	0	1,222,527	19,788,409	533,985
DISTRIBUTION										
Filtered Water Storage		46,760	697,889			0		7,304	751,953	20,291
High Pressure Fire System		0	0			0		0	0	0
Transmission & Distribution Mains										
Small Mains (Less than 24")		891,621	13,307,287			0		139,270	14,338,178	386,912
Large Mains (24" & Over)		358,929	5,356,948			0		56,064	5,771,941	155,754
Subtotal	0	1,250,550	18,664,235	0	0	0	0	195,334	20,110,119	542,666
Fire Hydrants		93,103	1,389,550			0		14,543	1,497,196	40,401
Meters			1,923,504			0		20,131	1,943,635	52,449
Total Distribution	0	1,390,413	22,675,178	0	0	0	0	237,312	24,302,903	655,807
CUSTOMER ACCT. & COLLECTION					946,128			0	946,128	25,531
ADMINISTRATIVE & GENERAL								0	0	0
TOTAL O & M	14,394,643	5,561,652	22,675,178	0	946,128	0	0	1,459,839	45,037,440	1,215,323
	14,394,643	5,561,652	22,675,178	0	946,128	0	0	1,459,840	45,037,441	1,215,324
	Agrees with Womallo-4	Agrees with Womallo-4	Agrees with Womallo-4	Agrees with Womallo-4	Agrees with Womallo-5	Agrees with Womallo-5	Agrees with Womallo-5	Agrees with Womallo-5	Agrees with sum of Column (1) through (8)	Agrees with Womallo-2

- (a) Total of this column is distributed based on distribution shown in column (4), Womallo-11.
- (b) Total of this column is distributed based on distribution shown in column (6), Womallo-11.
- (c) Total of this column is distributed based on distribution shown in column (7), Womallo-11.
- (d) Total of this column is distributed based on distribution shown in column (8), Womallo-11.

Transmission & Distribution Mains

Small Mains (Less than 36")			15,738,841			0		164,718	15,903,559	429,154
Large Mains (36" & Over)			<u>3,909,201</u>			<u>0</u>		<u>40,913</u>	<u>3,950,114</u>	<u>106,593</u>
Subtotal	<u>0</u>	<u>0</u>	<u>19,648,042</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>205,631</u>	<u>19,853,673</u>	<u>535,747</u>

Scenario 1			PRIOR STUDY	Scenario 2			PRIOR STUDY
References: TREATMENT PLANT:				References:			
1) Allocation of Personal Services, Materials & Supplies and Equipment (excluding Power & Chemicals)				1) Raw Water Pumping Power, Treatment Plant Power, and Treated Water Pumping Power & Chemicals.			
Wp1tallo-4	Bucks Max Day	14.90 mgd x 1.64	14.90 mgd x 0.75	Wp1tallo-4	Bucks Annual Use	14.90 mgd	14.90
Wp1tallo-4	Baxter Max Day	146.00 mgd x 1.30	160.00 mgd x 0.60		Total System Annual Prod.	260.00 mgd	274.00
	Bucks County Share	12.91%	11.18%		Bucks County Share	5.73%	5.44%
2) Allocation of Power and Chemicals:				2) Raw Water & Treatment Plant O & M (excluding Power & Chemicals).			
	Bucks Ave Day	14.90 mgd	14.90		Bucks Max Day	14.90 mgd x 1.64	14.90 Wp1tallo-4
	Baxter Ave Day Prod.	146.00 mgd	160.00		Total System Max Day	260.00 mgd x 1.27	274.00 mgd x 0.27
	Bucks County Share	10.21%	9.31%		Bucks County Share	7.42%	6.25%
WATER CONVEYANCE SYSTEM: (Load Control)				3) Treated Water Pumping O & M (excluding Power) and Filtered Water Storage.			
1) Raw Water Pumping Power (based on annual use)				Bucks Max Day			14.90 Wp1tallo-4
	Bucks Ave Day	14.90 mgd	14.90	Plant-13	Total System Max Hour	260.00 mgd x 1.74	274.00 mgd x 0.13
	Baxter Ave Day Prod.	146.00 mgd	160.00	Plant-13	Bucks County Share	5.42%	4.56%
	Bucks County Share	10.21%	9.31%	4) Large Water Mains O & M.			
2) Treated Water Pumping Power					Contract Capacity	35.00 mgd	35.00
Wp1tallo-4	Bucks Ave Day	14.90 mgd	14.90		System Treatment Cap.	546.00 mgd	540.00
	Baxter Low Serv. Ave Day	48.00 mgd	52.00		Bucks County Share =	6.41%	6.48%
	Bucks County Share	31.04%	28.65%				
3) All Other Expense							
Raw Water							
	Bucks Max Day	14.90 mgd x 1.64	14.90 mgd x 1.64				
	Baxter Max Day	146.00 mgd x 1.30	160.00 mgd x 1.37				
	Bucks County Share	12.91%	11.18%				
Treated Water							
	Bucks Max Day	14.90 mgd x 1.64	14.90 mgd x 1.64				
	Baxter L S Max Hour	48.00 mgd x 1.70	52.00 mgd x 1.70				
	Bucks County Share	30.02%	27.71%				
TRANSMISSION & DISTRIBUTION MAINS							
Allocation of Mains O & M - 48" Supply Main							
Womallo-7	Plant Investment - 48" Main =	649,723					
Womallo-7	Plant Investment - 24" & Over Mains =	193,615,771					
	Ratio 48" to 24" & Over =	0.336%					
Womallo-7	Plant Investment - 36" & Over Mains =	134,249,263					
	Ratio 48" to 36" & Over =	0.484%					

File: Copy of WCOS08.xls Philadelphia Water Department (PWD)										P.N. 135647.0100		DRAFT - For Discussion Only		Test Year 2009		Budget Yr 2008		Ver. 1a				
ATOM - Allocation of Total O&M Expense										April 02, 2008 6:47 a.m.						Womallo-14						
										(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
										Scenario 1										Scenario 2		
Line No.	Total Direct Expense	Inter-Departmental Charges (a)	Finance (b)	Admin. & Human Resources (c)	Planning & Engineering (d)	Customer Affairs (b)	Indemnities	Water Treatment Plant Sludge (e)	Total Operation & Maint.	Percent Alloc. to Bucks County	Amount Alloc. to Bucks County	Percent Alloc. to Bucks County	Amount Alloc. to Bucks County									
	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$		\$									
	Womallo-11	Womallo-2	Womallo-12	Womallo-15	Womallo-2	Womallo-2			Womallo-13		Womallo-13											
SUPPLY & TREATMENT																						
1	Source of Supply	0		0																		
Raw Water Power & Pumping																						
Baxter Treatment Plant																						
2	Power	399,190							399,190	10.21%	40,757	5.73%	22,874									
3	All Other Costs	630,688	64,935	72,270	11,199	176,329			955,421	12.91%	123,345	7.42%	70,892									
4	Subtotal	1,029,878	64,935	72,270	11,199	176,329	0	0	1,354,611		164,102		93,766									
All Other Treatment Plants																						
5	Power	1,952,221							1,952,221			5.73%	111,862									
6	All Other Costs	1,599,466	164,679	183,281	28,402	447,182			2,423,010			7.42%	179,787									
7	Subtotal	3,551,687	164,679	183,281	28,402	447,182	0	0	4,375,231		0		291,649									
8	Subtotal	4,581,565	229,614	255,551	39,601	623,511	0	0	5,729,842		164,102		385,415									
Treatment Purification																						
Baxter Treatment Plant																						
9	Power	273,601							273,601	10.21%	27,935	5.73%	15,677									
10	Chemicals	7,116,397							7,116,397	10.21%	726,584	5.73%	407,770									
11	WTP Sludge							4,283,977	4,283,977	10.21%	437,394	5.73%	245,472									
12	All Other Costs	7,429,130	764,895	851,296	147,296	2,077,051			11,269,668	12.91%	1,454,914	7.42%	836,209									
13	Subtotal	14,819,128	764,895	851,296	147,296	2,077,051	0	0	22,943,643		2,646,827		1,505,128									
All Other Treatment Plants																						
14	Power	388,391							388,391			5.73%	22,255									
15	Chemicals	8,738,253							8,738,253			5.73%	500,702									
16	WTP Sludge							3,345,023	3,345,023			5.73%	191,670									
17	All Other Costs	13,718,369	1,412,428	1,571,973	267,886	3,835,409			20,806,065			7.42%	1,543,810									
18	Subtotal	22,845,013	1,412,428	1,571,973	267,886	3,835,409	0	0	33,277,732				2,258,437									
19	Subtotal	37,664,141	2,177,323	2,423,269	415,182	5,912,460	0	0	7,629,000		2,646,827		3,763,565									
Treated Water Power & Pumping																						
Baxter Treatment Plant - L.S.																						
20	Power	491,647							491,647	31.04%	152,607	5.73%	28,171									
21	All Other Costs	1,003,570	103,326	114,998	17,820	280,580			1,520,294	30.02%	456,392	5.42%	82,400									
22	Subtotal	1,495,217	103,326	114,998	17,820	280,580	0	0	2,011,941		608,999		110,571									
All Other Pumping																						
23	Power	3,404,050							3,404,050			5.73%	195,052									
24	All Other Costs	3,456,740	355,902	396,104	61,382	966,442			5,236,570			5.42%	283,822									
25	Subtotal	6,860,790	355,902	396,104	61,382	966,442	0	0	8,640,620		0		478,874									
	Subtotal	8,356,007	459,228	511,102	79,202	1,247,022	0	0	10,652,561		608,999		589,445									
26	Total Supply & Treatment	50,601,713	2,866,165	3,189,922	533,985	7,782,993	0	0	7,629,000		3,419,928		4,738,425									
DISTRIBUTION																						
27	Filtered Water Storage	830,739	85,532	95,193	20,291	232,260			1,264,015			5.42%	68,510									
28	High Pressure Fire System	0	0	0	0	0			0													
Transmission & Distribution Mains																						
29	Small Mains (Less than 24")	15,840,448	1,630,915	1,815,140	386,912	4,428,704			24,102,119													
30	Large Mains (24" & Over)	6,376,691	656,537	730,698	155,754	1,782,808			9,702,488	0.34%	32,600	6.41%	621,929									
31	Subtotal	22,217,139	2,287,452	2,545,838	542,666	6,211,512	0	0	33,804,607		32,600		621,929									
32	Fire Hydrants	1,654,065	170,301	189,538	40,401	462,447			2,516,752													
33	Meters	2,110,458	217,290	241,835	52,449	590,046			3,212,078													
34	Total Distribution	26,812,401	2,760,575	3,072,404	655,807	7,496,265	0	0	40,797,452		32,600		690,439									
35	CUSTOMER ACCT. & COLLECTION	5,326,434	13,595,777	610,350	25,531	699,479	2,692,150		22,949,721		2,000		2,000									
36	WARRANTY PROGRAM	0							0													
37	ADMINISTRATIVE & GENERAL	5,888,939	606,319	674,807	0	1,646,441	2,319,900		11,136,406													
38	TOTAL O & M	88,629,487	19,828,836	7,547,483	1,215,323	17,625,178	2,692,150	2,319,900	147,487,357		3,454,528		5,430,864									

88,629,486	19,828,836	7,547,484	1,215,324	17,625,178	2,692,150	2,319,900	147,487,358
Agrees with Womallo-2	Agrees with footnote (a)	Agrees with Womallo-2					

(a) WRB expense 100% Customer (Line 35), 40% Public Properties to Customer (Line 35), all other prorated on basis of direct expenses excluding power & chemicals, Cust. Acc't. and Collection, and WTP Sludge (Lines 11 and 16).

	Direct Womallo-2	Fringe Benefits Womallo-2	Total	% Retail Only	Retail Only	All Other	
WRB Expense	7,065,340	2,375,065	9,440,405	100%	9,440,405	0	41,380,166
All Other Expenses							30,507,942
Public Properties	9,790,067	598,364	10,388,431	40%	4,155,372	6,233,059	73,170,250
All Other	0	0	0	0%	0	0	145,058,358
			19,828,836		13,595,777	6,233,059	

(b) Prorated on basis of direct expense excluding power & chemicals and WTP Sludge (Lines 11 and 16).

(c) Prorated on basis of direct expense for Class 100 from Womallo-12.

(d) Customer billing expense 100% Customer (Line 35), all other prorated on basis of direct expense excluding power & chemicals, Cust. Acc't. and Collection, and WTP Sludge (Lines 11 and 16).

(e) Prorate Water Treatment Plant Sludge costs to the Baxter Plant and All Other Treatment Plants on the basis of average day production from Wpplallo-4.

Transmission & Distribution Mains							
Small Mains (Less than 36")	18,668,503	1,922,088	2,139,204	429,154	5,219,377		28,378,326
Large Mains (36" & Over)	4,636,869	477,407	531,334	106,593	1,296,385		7,048,588
Subtotal	23,305,372	2,399,495	2,670,538	535,747	6,515,762	0	35,426,914

Line No.	Scenario 1				Scenario 2				Scenario 3 (a)				Scenario 1 Expense Allocated to Bucks County				
	Expense Allocated to Bucks County				Expense Allocated to Bucks County				Expense Allocated to Bucks County				Expense Allocated to Bucks County				
	Power	Chemicals	All Other	Total	Power	Chemicals	All Other	Total	Power	Chemicals	All Other	Total	Power	Chemicals	All Other	Total	
Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	Womallo-14	
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
SUPPLY & TREATMENT																	
Raw Water Power & Pumping																	
Baxter Treatment Plant																	
1	Power	399,190	40,757		40,757	22,874		22,874	40,757			40,757	40,757	0	0	40,757	
2	All Other Costs	955,421		123,345	123,345		70,892	70,892			123,345	123,345	0	0	123,345	123,345	
3	Subtotal	1,354,611	40,757	0	123,345	164,102	22,874	0	70,892	93,766	40,757	0	123,345	164,102	40,757	0	123,345
All Other Treatment Plants																	
4	Power	1,952,221			0	111,862		111,862				0	0	0	0	0	
5	All Other Costs	2,423,010			0		179,787	179,787				0	0	0	0	0	
6	Subtotal	4,375,231	0	0	0	111,862	0	179,787	291,649	0	0	0	0	0	0	0	
7	Subtotal	5,729,842	40,757		123,345	164,102	134,736	0	250,679	385,415	40,757	0	123,345	164,102	40,757	0	123,345
Treatment Purification																	
Baxter Treatment Plant																	
8	Power	273,601	27,935		27,935	15,677		15,677	27,935			27,935	27,935	0	0	27,935	
9	Chemicals	7,116,397		726,584	726,584		407,770	407,770			726,584	726,584	0	726,584	0	726,584	
10	WTP Sludge	4,283,977			437,394			437,394				437,394	437,394			437,394	
11	All Other Costs	11,269,668			1,454,914			836,209				1,454,914	1,454,914	0	0	1,454,914	
12	Subtotal	22,943,643	27,935	726,584	1,892,308	2,646,827	15,677	407,770	1,081,681	1,505,128	27,935	726,584	1,892,308	2,646,827	27,935	726,584	1,892,308
All Other Treatment Plants																	
13	Power	388,391				22,255		22,255					0	0	0	0	
14	Chemicals	8,738,253					500,702	500,702					0	0	0	0	
15	WTP Sludge	3,345,023						191,670					0	0	0	0	
16	All Other Costs	20,806,065						1,543,810					0	0	0	0	
17	Subtotal	33,277,732	0	0	0	0	22,255	500,702	1,735,480	2,258,437	0	0	0	0	0	0	
18	Subtotal	56,221,375	27,935	726,584	1,892,308	2,646,827	37,932	908,472	2,817,161	3,763,565	27,935	726,584	1,892,308	2,646,827	27,935	726,584	1,892,308
Treated Water Power & Pumping																	
Baxter Treatment Plant - L.S.																	
19	Power	491,647	152,607		152,607	28,171		28,171	152,607			152,607	152,607	0	0	152,607	
20	All Other Costs	1,520,294		456,392	456,392		82,400	82,400			456,392	456,392	0	0	456,392	456,392	
21	Subtotal	2,011,941	152,607	0	456,392	608,999	28,171	0	82,400	110,571	152,607	0	456,392	608,999	152,607	0	456,392
All Other Pumping																	
22	Power	3,404,050				195,052		195,052					0	0	0	0	
23	All Other Costs	5,236,570						283,822					0	0	0	0	
24	Subtotal	8,640,620	0	0	0	0	195,052	0	283,822	478,874	0	0	0	0	0	0	
25	Subtotal	10,652,561	152,607	0	456,392	608,999	223,223	0	366,222	589,445	152,607	0	456,392	608,999	152,607	0	456,392
26	Total Supply & Treatment	72,603,778	221,299	726,584	2,472,045	3,419,928	395,891	908,472	3,434,062	4,738,425	221,299	726,584	2,472,045	3,419,928	221,299	726,584	2,472,045
DISTRIBUTION																	
27	Filtered Water Storage	1,264,015						68,510	68,510					0	0	0	0
28	High Pressure Fire System	0												0	0	0	0
Transmission & Distribution Mains																	
29	Small Mains (Less than 24")	24,102,119										Womallo-13*Womallo-14		0	0	0	0
30	Large Mains (24" & Over) (a)	9,702,488		32,600	32,600			621,929	621,929			34,115	34,115	0	0	32,600	32,600
31	Subtotal	33,804,607	0	0	32,600	32,600	0	0	621,929	621,929	0	0	34,115	34,115	0	0	32,600
32	Fire Hydrants	2,516,752												0	0	0	0
33	Meters	3,212,078												0	0	0	0
34	Total Distribution	40,797,452	0	0	32,600	32,600	0	0	690,439	690,439	0	0	34,115	34,115	0	0	32,600
35	CUSTOMER ACCT. & COLLECTION	22,949,721		2,000	2,000			2,000	2,000			2,000	2,000	0	0	2,000	2,000
36	WARRANTY PROGRAM	0															
37	ADMINISTRATIVE & GENERAL	11,136,406															
38	TOTAL O & M	147,487,357	221,299	726,584	2,506,645	3,454,528	395,891	908,472	4,126,501	5,430,864	221,299	726,584	2,508,160	3,456,043	221,299	726,584	2,506,645
		147,487,358															

Agrees with Womallo-14

(a) Scenario 3 includes large mains cost based on 36" and larger mains.
 (b) Not Used.

Philadelphia Water Department (PWD)
Water Utility Financial Planning & Rate Design

Description of Worksheet:

This worksheet allocates the retail cost of service to retail customer classes.

File: Copy of WCOS08.xls Philadelphia Water Department (PWD) P.N. 135647.0100 DRAFT - For Discussion Only Test Year 2009 Budget Yr 2008 Ver. 1a
RetcInd - Index April 02, 2008 6:47 a.m. Retcos-1

The "Retcos" worksheet develops unit costs of service and allocates the retail cost of service among retail customer classes. It also develops wholesale cost of service water rates for Bucks County and Aqua PA.

Range	Description	Page Number	Table
RetcInd	Index	Retcos-1	
UCOS	Unit Cost of Service	Retcos-2	18
ACOS	Allocated Cost of Service to Customer Class	Retcos-3	19
ADJCOS	Adjusted Cost of Service to Customer Class	Retcos-4	20
BCPC	Bucks County Proposed Charges	Retcos-5	
PSWCRate	Aqua PA Proposed Rates	Retcos-6	

TABLE 19

ALLOCATED COST OF SERVICE TO RETAIL CUSTOMER CLASSES
TEST YEAR 2009

Reference	Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)			
			Total Allocated Cost of Service \$	Base \$	Max Day \$	Max Hour In Excess of Max Day \$	Meters \$	Billing \$	Warranty Program \$	Direct Public Fire Protection \$			
Retcos-2	1	Total Retail Unit Costs of Service		14,4086	1,355,2581	892,5689	18,0850	3,3691	0,0000				
		Residential											
Units-2	2	Units of Service		2,836,000	7,770	12,430	363,157	4,327,335	360,446				
Line 1 x Line 2	3	Allocated Cost of Service -	83,633,000	40,861,000	10,530,000	11,095,000	6,568,000	14,579,000	0				
		CHECK	83,633,000	40,862,790									
		Senior Citizens											
Units-2	4	Units of Service		99,000	270	430	16,484	197,766	16,481				
Line 1 x Line 4	5	Allocated Cost of Service -	3,140,000	1,426,000	366,000	384,000	298,000	666,000	0	241,000	544,000	785,000	
		Commercial											
Units-2	6	Units of Service		2,187,100	4,790	5,390	126,622	995,726	78,602				
Line 1 x Line 6	7	Allocated Cost of Service -	48,461,000	31,513,000	6,492,000	4,811,000	2,290,000	3,355,000	0				
		Industrial											
Units-2	8	Units of Service		709,700	1,160	390	16,858	41,972	1,791				
Line 1 x Line 8	9	Allocated Cost of Service -	12,592,000	10,226,000	1,572,000	348,000	305,000	141,000	0				
		Public Utilities											
Units-2		Units of Service		0	0	0	0	0	0				
Line 1 x Line 10		Allocated Cost of Service -	0	0	0	0	0	0	0				
		Miscellaneous											
Units-2		Units of Service		0	0	0	0	0	0				
Line 1 x Line 12		Allocated Cost of Service -	0	0	0	0	0	0	0				
		Housing Authority											
Units-2	10	Units of Service		221,700	610	980	9,192	79,719	6,252				
Line 1 x Line 15	11	Allocated Cost of Service -	5,331,000	3,194,000	827,000	875,000	166,000	269,000	0	21,750	244,800	266,550	
		Charities & Schools											
Units-2	12	"6 Cent" Units of Service		263,600	580	640	18,993	54,285	2,456				
Line 1 x Line 16	13	Allocated Cost of Service -	5,681,000	3,798,000	786,000	571,000	343,000	183,000	0	131,500	1,288,750	1,420,250	
		"N"											
Units-2	14	Units of Service		267,500	580	660	7,237	13,376	144				
Line 1 x Line 18	15	Allocated Cost of Service -	5,405,000	3,854,000	786,000	589,000	131,000	45,000	0	44,000	1,307,250	1,351,250	
		Scheduled (Flat Rate)											
Units-2		Units of Service		0	0	0	0	0	0				
Line 1 x Line 20		Allocated Cost of Service -	0	0	0	0	0	0	0				

Housing Authority discount: 0.05
 Senior Citizens, "6 cent" charities, "N" charities discount: 0.25

TABLE 20

ADJUSTED COST OF SERVICE TO RETAIL CUSTOMER CLASSES
 TEST YEAR 2009

Line No.	Customer Class	(1) Allocated Cost of Service \$	(2) Reallocation of HP Fire System \$	(3) Discount \$	(4) Cost of Service w Discount \$	(5) Recovery of Discount \$	(6) Adjusted Cost of Service \$	(7) Percent Change %
		((1)+(2)) x 25.00%		(1) - (2)		(2)+(3)+(4)		[(5)-(1)]/(1)
1	Residential	83,633,000	0		83,633,000	1,809,000	85,442,000	2.16%
2	Senior Citizens	3,140,000	0	785,000	2,355,000	51,000	2,406,000	-23.38%
3	Commercial	48,461,000	0		48,461,000	1,048,000	49,509,000	2.16%
4	Industrial	12,592,000	0		12,592,000	272,000	12,864,000	2.16%
	Public Utilities	0			0	0	0	0.00%
	Miscellaneous	0			0	0	0	0.00%
5	Housing Authority Charities and Schools	5,331,000	0	267,000	5,064,000	110,000	5,174,000	-2.95%
6	"6 Cent"	5,681,000	0	1,420,000	4,261,000	92,000	4,353,000	-23.38%
7	"N"	5,405,000	0	1,351,000	4,054,000	88,000	4,142,000	-23.37%
8	Total Charities and Schools	11,086,000	0	2,771,000	8,315,000	180,000	8,495,000	-23.37%
9	Scheduled (Flat Rate)	0			0	0	0	0.00%
10	Leased City Properties	0			0	0	0	0.00%
11	Municipal Fire Protection	9,334,000	0		9,334,000	202,000	9,536,000	2.16%
12	Private Public	1,419,000			1,419,000	31,000	1,450,000	2.18%
13	Standard Pressure	5,568,000			5,568,000	120,000	5,688,000	2.16%
14	High Pressure (a)	0	0	0	0	0	0	0.00%
15	Total Public Fire Protection	5,568,000	0	0	5,568,000	120,000	5,688,000	2.16%
16	Total Retail Service	180,564,000	0	3,823,000	176,741,000	3,823,000	180,564,000	0.00%
17	Wholesale	8,654,000			8,654,000		8,654,000	0.00%
18	Total System	189,218,000	0	3,823,000	185,395,000	3,823,000	189,218,000	0.00%
		189,218,000						
		0		Agrees with total system above			173,426,000	

(a) O&M costs reallocated to Retail customers.

A lag factor is applied to all wholesale customer rates equal to 1.0000
 Months in effective test year: 1.00 Months to collect COS: 1.00

Reference:	TY \$	TY \$/mgd	Aqua PA
Operating Expense	Womallo-16		
Womallo-16 Commodity Charge - Based on Avg. Day I	805,000	54,027	
Womallo-16 Demand Charge - Based on Max. Day Der	1,933,000	78,898	
Womallo-16 Customer Cost	2,000		
Womallo-16 Main Maintenance	27,000		
Womallo-16 A&G (included in Demand Charge)			
Womallo-16 Water Treatment Plant Sludge	361,000		
Womallo-16 Subtotal	3,128,000		Womallo-18 1,851,000
Capital Costs	Wp1tallo-5		Wp1tallo-5 257,000
Wp1tallo-5 Depreciation Expense	584,000		Wp1tallo-2 257,000
Return on Investment			Wp1tallo-2 11,573,000
Wp1tallo-2 Allocated Investment	Wp1tallo-2=> 26,217,000		Plant-15=> 868,000
Plant-15 Return @ 7.50%	1,966,000		
Total Allocated Cost of Service	5,678,000	2,940,000	2,976,000

TABLE 20

SUMMARY OF TEST YEAR COSTS OF WATER SERVICE
 ALLOCATED TO BUCKS COUNTY
 AND PROPOSED RATES
 TEST YEAR 2009
 COST OF SERVICE

Operating Expense	3,128,000
Depreciation Expense	584,000
Return on Investment (a)	1,966,000
Total Allocated Cost of Service	5,678,000

PROPOSED RATES

Commodity Charge (\$/Mcf)	1.110
Demand Charge (\$/Mgd of maximum demand)	78,898
Lump Sum Payment (\$/year)	2,940,000

(a) Return calculated as 7.50% of allocated plant investment.

Mcf - thousand cubic feet
 Mgd - thousand gallons per day

Proposed rates are inflated 0.00 % due to new rates being in place 1.0 months of an effective 1.0 month test year.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<u>TY Rates</u>						
Fiscal Year	Annual Usage Mcf	Annual Usage Mgd	Max. Hr. Usage Mgd	Fixed Charge \$	Commodity Charge \$	Demand Charge \$	Total Charge \$
	Wp1tallo-4	Col. (1)	Wp1tallo-4	Retcos-4	Col. (2)*	Col. (3)*	
					\$54,027	\$78,898	
					/mgd	/mgd	
2006	761,176	15.6	24.5	2,940,000	843,000	1,933,000	5,716,000
2007	709,198	14.5	24.5	2,940,000	783,000	1,933,000	5,656,000
2008	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2009	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2010	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2011	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2012	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2013	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2014	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000
2015	725,000	14.9	24.5	2,940,000	805,000	1,933,000	5,678,000

Philadelphia Water Department (PWD)

Water Utility Financial Planning & Rate Design

Description of Worksheet:

This worksheet develops retail water volume COS rates.

File: Copy of WCOS08.xls Philadelphia Water Department (PWD)	P.N. 135647.0100	DRAFT - For Discussion Only	Test Year 2009	Budget Yr 2008	Ver. 1a
RatesInd - Index		April 02, 2008 6:47 a.m.			Rates-1

The "Rates" worksheet develops retail cost of service rates before recognizing billing lag and rate implementation refinements.

<u>Range</u>	<u>Description</u>	<u>Page Number</u>	<u>Table</u>
RatesInd	Index	Rates-1	
ADJC	Adjusted COS by Class	Rates-2	
COSR	COS Rates	Rates-3	
BILLCOS	Billings Under COS Rates	Rates-4	

TEST YEAR ADJUSTED COS BY CLASS

	TY Adjusted COS \$	TY Usage Mcf
Residential	85,442,000	2,836,000
Senior Citizens	2,406,000	99,000
Commercial	49,509,000	2,187,100
Industrial	12,864,000	709,700
Housing Authority	5,174,000	221,700
Charities and Schools	8,495,000	531,100
Scheduled (Flat Rate)	0	0
Municipal	9,536,000	460,000
Private Fire Protection	1,450,000	0
Public Fire Protection	5,688,000	0
Total	180,564,000	7,044,600

TEST YEAR UNIT CUSTOMER COSTS

	COS Unit Cost \$	Adjust. Factor (1) %	Adjusted Unit Cost \$		
Non-Subsidized Customers					
Cost per Equiv Meter per Bill	1.5071	2.1630	1.5397		
Cost per Equiv Bill	3.3691	2.1630	3.4420		
Cost per Equiv Service	0.0000	2.1630	0.0000		
Subsidized Customers					
Cost per Equiv Meter per Bill	1.5071	(23.3758)	1.1548	(2.9450)	1.4627
Cost per Equiv Bill	3.3691	(23.3758)	2.5815	(2.9450)	3.2699
Cost per Equiv Service	0.0000	(23.3758)	0.0000	(2.9450)	0.0000
Fire Meters (Private)					
\$/Equiv 6" Meter/Bill	33.3000	<-- Includes Adj. Factor			
Cost per Equiv Bill	13.7680	<-- Includes Adj. Factor			
All Other Costs/Equiv Meter/Bill	0.0000	<-- Includes Adj. Factor			

(1) To account for Senior Citizens and Charities and Schools paying 75 % of COS rates.

EQUIV. PRIVATE FIRE METER AND BILL FACTORS (6" BASE):

	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	14"
Equiv. Meters	Units-4	0.0	0.1	0.1	0.1	0.2	0.3	0.5	1.0	1.6	2.3	4.3	4.5
Equiv. Bills	Units-3	0.1	0.1	0.2	0.2	0.2	0.3	0.6	1.0	1.4	2.1	2.9	3.3

Line No.	Customer Class	Meter Size	TY COS \$	TY Bills	COS Monthly Service Charge \$	USE \$	Service Charge Revenue \$	Balance of COS to be Recovered through Volume Charge \$	Rate Block 0 - 2	Rate Block 3 - 100	Rate Block 101 - 2,000	Rate Block >2,000	Total Billings \$	Percent Billings of COS \$	
			<u>Rates-2</u>	<u>Units-3</u>	<u>Rates-2</u>	<u>Units-3</u>	<u>Units-4</u>	(3) x (5)	(2) - (6)	21.80	17.27	15.36	11.50	(6) + (13)	(14) / (2)
			Service Charge					Volume Charge							
								Usage							
								Rate Block							
								Total							
								<u>Rates-2</u>							
								Rate Block Volume Charge							
								\$/Mcf							
								23.61 19.04 17.52 13.32							
GENERAL SERVICE RATES															
1	Residential	R = 5/8		4,312,223	4.98	4.98	21,474,871		Percent of Total Usage in Each Block						
2		Z = 3/4		0	5.75	5.75	0		%	84.35%	15.23%	0.42%	0.00%		
3		Q = 1		10,812	7.64	7.64	82,604		Total Usage in Each Block						
4		Y = 1-1/4		0	9.98	9.98	0		Mcf	2,392,166	431,923	11,911	0	2,836,000	
5		P = 1-1/2		748	11.83	11.83	8,849		Total Usage Charge Billings in Each Block						
6		X = 2		582	17.48	17.48	10,173		\$	56,479,039	8,223,814	208,681	0	64,911,534	
7		O = 3		192	29.98	29.98	5,756								
8		W = 4		163	52.26	52.26	8,518								
9		N = 6		26	101.08	101.08	2,628								
10		V = 8		23	157.60	157.60	3,625								
11		E = 10		0	228.70	228.70	0								
12		T = 12		0	399.88	399.88	0								
13		H = 14		0	425.60	425.60	0								
14	Total			85,442,000	4,324,769		21,597,024	63,844,976						86,508,558	101.25%
	Goal						21,457,379			Bill tab adjustment			100.00%	86,508,558	101.25%
										Adjusted to = COS projection			100.00%	86,508,558	101.25%
15	Senior Citizens	R = 5/8		197,744	3.74	3.74	739,563		Percent of Total Usage in Each Block						
16		Z = 3/4		0	4.31	4.31	0		%	90.26%	9.57%	0.17%	0.00%		
17		Q = 1		20	5.73	5.73	115		Total Usage in Each Block						
18		Y = 1-1/4		0	7.49	7.49	0		Mcf	89,358	9,474	168	0	99,000	
19		P = 1-1/2		0	8.87	8.87	0		Total Usage Charge Billings in Each Block						
20		X = 2		0	13.11	13.11	0		\$	1,582,307	135,289	2,208	0	1,719,804	
21		O = 3		0	22.49	22.49	0								
22		W = 4		0	39.20	39.20	0								
23		N = 6		0	75.81	75.81	0								
24		V = 8		0	118.20	118.20	0								
25		E = 10		0	171.52	171.53	0								
26		T = 12		0	299.91	299.91	0								
27		H = 14		0	319.20	319.20	0								
28	Total			2,406,000	197,764		739,678	1,666,322						2,459,482	102.22%
	Goal						733,612			Bill tab adjustment			100.00%	2,459,482	102.22%
										Adjusted to = COS projection			100.00%	2,459,482	102.22%

29	Commercial	R = 5/8	839,688	4.98	4.98	4,181,646	Percent of Total Usage in Each Block						
30		Z = 3/4	2,944	5.75	5.75	16,928	%	31.91%	54.57%	13.52%	0.00%		
31		Q = 1	53,876	7.64	7.64	411,613	Total Usage in Each Block						
32		Y = 1-1/4	0	9.98	9.98	0	Mcf	697,904	1,193,500	295,696	0	2,187,100	
33		P = 1-1/2	19,543	11.83	11.83	231,194	Total Usage Charge Billings in Each Block						
34		X = 2	19,675	17.48	17.48	343,919	\$	16,477,513	22,724,240	5,180,594	0	44,382,347	
35		O = 3	6,422	29.98	29.98	192,532							
36		W = 4	3,560	52.26	52.26	186,046							
37		N = 6	1,653	101.08	101.08	167,085							
38		V = 8	221	157.60	157.60	34,830							
39		E = 10	0	228.70	228.70	0							
40		T = 12	0	399.88	399.88	0							
41		H = 14		425.60	425.60	0							
42	Total		49,509,000	947,582		5,765,793	43,743,207				50,148,140	101.29%	
	Goal					5,727,853					50,148,140	101.29%	
								Bill tab adjustment			100.00%	50,148,140	101.29%
								Adjusted to = COS projection			100.0000	50,148,140	101.29%
43	Industrial	R = 5/8	6,871	4.98	4.98	34,218	Percent of Total Usage in Each Block						
44		Z = 3/4	764	5.75	5.75	4,393	%	2.93%	33.58%	51.65%	11.84%		
45		Q = 1	5,755	7.64	7.64	43,968	Total Usage in Each Block						
46		Y = 1-1/4	0	9.98	9.98	0	Mcf	20,795	238,317	366,560	84,028	709,700	
47		P = 1-1/2	2,484	11.83	11.83	29,386	Total Usage Charge Billings in Each Block						
48		X = 2	3,577	17.48	17.48	62,526	\$	490,970	4,537,556	6,422,131	1,119,253	12,569,910	
49		O = 3	1,860	29.98	29.98	55,763							
50		W = 4	1,574	52.26	52.26	82,257							
51		N = 6	969	101.08	101.08	97,947							
52		V = 8	286	157.60	157.60	45,074							
53		E = 10	0	228.70	228.70	0							
54		T = 12	0	399.88	399.88	0							
55		H = 14		425.60	425.60	0							
56	Total		12,864,000	24,140		455,532	12,408,468				13,025,442	101.25%	
	Goal					452,546					13,025,442	101.25%	
								Bill tab adjustment			100.00%	13,025,442	101.25%
								Adjusted to = COS projection			100.0000	13,025,442	101.25%
57	TOTAL GENERAL SERVICE		150,221,000	5,494,255		28,558,027	121,662,973				152,141,622	101.28%	
	Goal					28,371,390					152,141,622	101.28%	
								Adjusted			152,141,622	101.28%	
								Adjusted to = COS projection			152,141,622	101.28%	

ALL OTHER CLASSES

		5% discount											
58	Housing Authority	R = 5/8	74,348	4.73	4.73	351,666	Percent of Total Usage in Each Block						
59		Z = 3/4	0	5.46	5.46	0	%	16.66%	43.61%	39.41%	0.32%		
60		Q = 1	220	7.25	7.26	1,597	Total Usage in Each Block						
61		Y = 1-1/4	0	9.48	9.48	0	Mcf	36,936	96,683	87,372	709	221,700	
62		P = 1-1/2	160	11.24	11.24	1,798	Total Usage Charge Billings in Each Block						
63		X = 2	205	16.61	16.61	3,405	\$	828,456	1,748,802	1,454,220	8,972	4,040,450	
64		O = 3	464	28.48	28.48	13,215							
65		W = 4	319	49.65	49.65	15,838							
66		N = 6	205	96.02	96.03	19,686							
67		V = 8	99	149.72	149.72	14,822							
68		E = 10	0	217.26	217.27	0							
69		T = 12	0	379.88	379.89	0							
70		H = 14		404.32	404.32	0							
71	Total		5,174,000	76,020		422,027	4,751,973			4,462,477	86.25%		
	Goal					331,038		Bill tab adjustment		104.10%	4,645,439	89.78%	
								Adjusted to = COS projection		100.00%	4,645,439	89.78%	
72	Charities & Schools	R = 5/8	17,912	3.74	3.74	66,991	Percent of Total Usage in Each Block						
73		Z = 3/4	94	4.31	4.31	405	%	6.51%	52.95%	39.88%	0.66%		
74		Q = 1	4,698	5.73	5.73	26,920	Total Usage in Each Block						
75		Y = 1-1/4	0	7.49	7.49	0	Mcf	34,575	281,217	211,803	3,505	531,100	
76		P = 1-1/2	2,425	8.87	8.87	21,510	Total Usage Charge Billings in Each Block						
77		X = 2	3,815	13.11	13.11	50,015	\$	612,237	4,015,779	2,783,091	35,015	7,446,122	
78		O = 3	3,574	22.49	22.49	80,379							
79		W = 4	4,856	39.20	39.20	190,355							
80		N = 6	1,106	75.81	75.81	83,846							
81		V = 8	136	118.20	118.20	16,075							
82		E = 10	12	171.52	171.53	2,058							
83		T = 12	0	299.91	299.91	0							
84		H = 14		319.20	319.20	0							
85	Total		8,495,000	38,628		538,554	7,956,446			7,984,676	93.99%		
	Goal					534,228		Bill tab adjustment		104.00%	8,304,063	97.75%	
								Adjusted to = COS projection		100.00%	8,304,063	97.75%	
86	Scheduled (Flat Rate)	R = 5/8	0	4.98	4.98	0	Percent of Total Usage in Each Block						
87		Z = 3/4	0	5.75	5.75	0	%	23.51%	76.49%	0.00%	0.00%		
88		Q = 1	0	7.64	7.64	0	Total Usage in Each Block						
89		Y = 1-1/4	0	9.98	9.98	0	Mcf	0	0	0	0	0	
90		P = 1-1/2	0	11.83	11.83	0	Total Usage Charge Billings in Each Block						
91		X = 2	0	17.48	17.48	0	\$	0	0	0	0	0	
92		O = 3	0	29.98	29.98	0							
93		W = 4	0	52.26	52.26	0							
94		N = 6	0	101.08	101.08	0							
95		V = 8	0	157.60	157.60	0							
96		E = 10	0	228.70	228.70	0							
97		T = 12	0	399.88	399.88	0							
98		H = 14		425.60	425.60	0							
99	Total		0	0		0	0			0	#DIV/0!		
	Goal					0							

100	Municipal	R = 5/8	3,973	4.98	4.98	19,786	Percent of Total Usage in Each Block							
101		Z = 3/4	335	5.75	5.75	1,926	%	3.47%	28.96%	53.53%	14.04%			
102		Q = 1	2,100	7.64	7.64	16,044	Total Usage in Each Block							
103		Y = 1-1/4	15	9.98	9.98	150	Mcf	15,962	133,216	246,238	64,584	460,000		
104		P = 1-1/2	1,217	11.83	11.83	14,397	Total Usage Charge Billings in Each Block							
105		X = 2	3,880	17.48	17.48	67,822	\$	376,863	2,536,433	4,314,090	860,259	8,087,645		
106		O = 3	1,932	29.98	29.98	57,921								
107		W = 4	1,019	52.26	52.26	53,253								
108		N = 6	456	101.08	101.08	46,092								
109		V = 8	122	157.60	157.60	19,227								
110		E = 10	167	228.70	228.70	38,193								
111		T = 12	0	399.88	399.88	0								
112		H = 14	425.60	425.60	425.60	0								
113	Total		9,536,000	15,216		334,811	9,201,189	7				8,422,456	88.32%	
	Goal			37		332,814						8,422,456	88.32%	
									Bill tab adjustment			100.00%	8,422,456	88.32%
									Adjusted to = COS projection			100.0000	8,422,456	88.32%
114	Fire Protect. (Private)	R = 5/8	24	3.44	18.10	434	Percent of Total Usage in Each Block							
115		Z = 3/4	0	3.73	18.10	0	%	3.63%	34.10%	62.27%	0.00%			
116		Q = 1	12	4.26	18.10	217	Total Usage in Each Block							
117		Y = 1-1/4	0	4.86	18.10	0	Mcf	0	0	0	0	0		
118		P = 1-1/2	36	5.09	18.10	652	Total Usage Charge Billings in Each Block							
119		X = 2	870	6.69	18.10	15,747	\$	0	0	0	0	0		
120		O = 3	2,715	9.75	18.10	49,142								
121		W = 4	12,653	18.54	18.10	229,019								
122		N = 6	22,667	33.65	32.85	744,611								
123		V = 8	6,614	49.70	48.52	320,911								
124		E = 10	970	73.60	71.86	69,704								
125		T = 12	166	109.91	107.31	17,813								
126		H = 14		122.15	119.26	0								
127	Total		1,450,000	46,727		1,448,250	1,750					1,448,250	99.88%	
	Goal				Factor	0.9763	1,092,807					102.50%	1,484,456	102.38%
128	Fire Protect. (Public)	R = 5/8				Annual	Percent of Total Usage in Each Block							
129		Z = 3/4				Svc. Charge	%	3.63%	34.10%	62.27%	0.00%			
130		Q = 1				Equals COS	Total Usage in Each Block							
131		Y = 1-1/4				Less Vol.	Mcf	0	0	0	0	0		
132		P = 1-1/2				Charges	Total Usage Charge Billings in Each Block							
133		X = 2					\$	0	0	0	0	0		
134		O = 3												
135		W = 4												
136		N = 6												
137		V = 8												
138		E = 10												
139		T = 12												
140		H = 14												
141	Total		5,688,000	0		5,688,000	0					5,688,000	100.00%	
	Goal					5,649,723			Bill tab adjustment			100.00%	5,688,000	100.00%
142	TOTAL EXCLUDING GENERAL SERVICE		30,343,000	176,591		8,431,642	21,911,358					28,005,859	92.30%	
	Goal					7,940,610			Adjusted			28,508,208	93.95%	
143	TOTAL ALL CLASSES		180,564,000	5,670,846		36,989,669	143,574,331					180,147,481	99.77%	
	Goal					36,312,000			Adjusted			180,649,830	100.05%	
						101.87%			Adjusted to = COS projection			180,686,036	100.07%	

Philadelphia Water Department (PWD)
Water Utility Financial Planning & Rate Design

File: Copy of WCOS08.xls Philadelphia Water Department (PWD) P.N. 135647.0100 DRAFT - For Discussion Only Test Year 2009 Budget Yr 2008 Ver. 1a
 LagInd - Index April 02, 2008 6:47 a.m. LagRate-1

The "LagRate" worksheet refines cost of service rates to recognize billing lag and rate implementation refinements and develops proposed Water utility rates for the test year and two following years.

Range	Description	Page Number	Table
LagInd	Index	LagRate-1	
RATES	Existing and COS Rates	LagRate-2	
PBAC	Projected Bills, Accounts, and Consumption	LagRate-3	
PWR	Projected Water Receipts	LagRate-4	
BER	Test Year Billings Under Existing Rates	LagRate-5	
BPR	Projected Billings Under Proposed Rates	LagRate-6	
SBPR	Summary of Projected Billings Under Propose	LagRate-7	
RWL	Calculation of Receipts with Lag	LagRate-8	
TYRWL	Test Year Retail Receipts with Lag	LagRate-9	
COSWL	Inflated COS Rates to Account for Lag	LagRate-10	
REVCOMP	Comparison of Revenue Under Exist. Rates to	LagRate-11	23
CPRATES	Water & Wastewater Proposed Rates	LagRate-12	
WPRATES	Water Proposed Rates	LagRate-13	24
BTAB	BillTab Billing Percentages	LagRate-14	
WSERVCHG:	Components of Water Service Charges	LagRate-15	
WSERVCHG:	Summary of Components Water Service Char	LagRate-16	

RATES - Existing and COS Rates

April 02, 2008 6:47 a.m.

LagRate-2

References: [A. File: Rreq08.xls - Btab-5](#)
[B. File: Rreq08.xls - Btab-6](#)

TEST YEAR COS RATES

TEST YEAR 2009

Effective July 1, 2009

(Prior to Application of Lag Factor Adjustment)

EXISTING RATES

(Effective Jul 1, 2007)

Meter Size inches	Meter Code	General Service Charge \$/Bill Rates-3	Discount Service Charge (a) \$/Bill Rates-3	
5/8	R	4.98	3.74	
3/4	Z	5.75	4.31	
1	Q	7.64	5.73	
1 1/4	Y	9.98	7.49	
1 1/2	P	11.83	8.87	
2	X	17.48	13.11	
3	O	29.98	22.49	
4	W	52.26	39.20	
6	N	101.08	75.81	
8	V	157.60	118.20	
10	E	228.70	171.53	
12	T	399.88	299.91	
14	H	425.60	319.20	
First Block 0 - 2 Mcf \$/Mcf Rates-3	Second Block 3 - 100 Mcf \$/Mcf Rates-3	Third Block 101 - 2,000 Mcf \$/Mcf Rates-3	Fourth Block >2,000 Mcf \$/Mcf Rates-3	
General Service Volume Charge	23.61	19.04	17.52	13.32
Discount Volume Charge (a)	17.71	14.28	13.14	9.99

Meter Size inches	Meter Code	General Service Charge \$/Bill Ref. A	Other (a) Service Charge \$/Bill	
5/8	R	5.10	3.83	
3/4	Z	5.91	4.43	
1	Q	7.88	5.91	
1 1/4	Y	10.34	7.76	
1 1/2	P	12.29	9.22	
2	X	18.22	13.67	
3	O	31.33	23.50	
4	W	54.53	40.90	
6	N	105.58	79.19	
8	V	164.76	123.57	
10	E	239.01	179.26	
12	T	418.94	314.21	
14	H		0.00	
First 2 Mcf \$/Mcf Ref. B	Next 98 Mcf \$/Mcf Ref. B	Next 1,900 Mcf \$/Mcf Ref. B	Over 2,000 Mcf \$/Mcf Ref. B	
General Service Volume Charge	21.80	17.27	15.36	11.50
Discount Volume Charge (a)	16.35	12.95	11.52	8.63

(a) Discount rate applies to Senior Citizens and Charities.

**Projected Number of Accounts
 "Water and Sewer" plus "Water Only"**

	Fiscal Year Ending June 30										Test Year
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2009
General Service											
5/8" (excl Senior Citizens)	424,902	430,778	431,258	431,738	432,218	432,698	433,178	433,658	434,138	434,618	431,738
>5/8" (excl Senior Citizens)	10,511	10,236	9,936	9,636	9,336	9,036	8,736	8,436	8,136	7,836	9,636
Senior Citizens (5/8")	25,111	18,637	17,557	16,477	15,397	14,317	13,237	12,157	11,077	9,997	16,477
Senior Citizens (>5/8")	9	3	3	3	3	3	3	3	3	3	3
Housing Authority	6,258	6,195	6,265	6,335	6,405	6,475	6,545	6,615	6,685	6,755	6,335
"N" Charities	351	341	347	347	347	347	347	347	347	347	347
"6 Cent" Charities	2,849	2,878	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872
Scheduled (Flat Rate)			0	0	0	0	0	0	0	0	0
Fire Meters	3,785	3,894	3,894	3,894	3,894	3,894	3,894	3,894	3,894	3,894	3,894
City Properties Leased to Others (821)	0	0	0	0	0	0	0	0	0	0	0
Municipal (820)	1,295	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268
Total	475,071	474,230	473,400	472,570	471,740	470,910	470,080	469,250	468,420	467,590	472,570

**Projected Number of Bills
 "Water and Sewer" plus "Water Only"
 (Number of Accounts x 12)**

	Fiscal Year Ending June 30										Test Year
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2009
General Service											
5/8" (excl Senior Citizens)	5,098,825	5,169,337	5,175,097	5,180,857	5,186,617	5,192,377	5,198,137	5,203,897	5,209,657	5,215,417	5,180,857
>5/8" (excl Senior Citizens)	126,132	122,832	119,232	115,632	112,032	108,432	104,832	101,232	97,632	94,032	115,632
Senior Citizens (5/8")	301,334	223,648	210,688	197,728	184,768	171,808	158,848	145,888	132,928	119,968	197,728
Senior Citizens (>5/8")	108	36	36	36	36	36	36	36	36	36	36
Housing Authority	75,096	74,340	75,180	76,020	76,860	77,700	78,540	79,380	80,220	81,060	76,020
"N" Charities	4,212	4,092	4,164	4,164	4,164	4,164	4,164	4,164	4,164	4,164	4,164
"6 Cent" Charities	34,188	34,536	34,464	34,464	34,464	34,464	34,464	34,464	34,464	34,464	34,464
Scheduled (Flat Rate)	0	0	0	0	0	0	0	0	0	0	0
Fire Meters	45,420	46,728	46,728	46,728	46,728	46,728	46,728	46,728	46,728	46,728	46,728
City Properties Leased to Others (821)	0	0	0	0	0	0	0	0	0	0	0
Municipal (820)	15,540	15,216	15,216	15,216	15,216	15,216	15,216	15,216	15,216	15,216	15,216
Total	5,700,855	5,690,765	5,680,805	5,670,845	5,660,885	5,650,925	5,640,965	5,631,005	5,621,045	5,611,085	5,670,845

**Projected Consumption
 "Water and Sewer" plus "Water Only"**

	Fiscal Year Ending June 30										Test Year
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2009
General Service											
5/8" (excl Senior Citizens)	3,925,798	3,893,087	3,844,300	3,805,100	3,766,000	3,727,100	3,688,300	3,654,100	3,619,900	3,585,800	3,805,100
>5/8" (excl Senior Citizens)	2,263,152	2,133,680	1,987,700	1,927,700	1,867,700	1,807,700	1,747,700	1,687,700	1,627,700	1,567,700	1,927,700
Senior Citizens (5/8")	159,545	111,515	105,300	98,900	92,400	85,900	79,400	72,900	66,500	60,000	98,900
Senior Citizens (>5/8")	188	29	100	100	100	100	100	100	100	100	100
Housing Authority	240,840	204,518	219,300	221,700	224,200	226,600	229,100	231,500	234,000	236,400	221,700
"N" Charities	265,809	254,136	267,497	267,497	267,497	267,497	267,497	267,497	267,497	267,497	267,497
"6 Cent" Charities	284,479	246,914	263,603	263,603	263,603	263,603	263,603	263,603	263,603	263,603	263,603
Scheduled (Flat Rate)		0	0	0	0	0	0	0	0	0	0
Fire Meters	Unmetered	Unmetered	0	0	0	0	0	0	0	0	0
City Properties Leased to Others (821)	0	0	0	0	0	0	0	0	0	0	0
Municipal (820)	625,016	349,435	460,000	460,000	460,000	460,000	460,000	460,000	460,000	460,000	460,000
Total	7,764,826	7,193,313	7,147,800	7,044,600	6,941,500	6,838,500	6,735,700	6,637,400	6,539,300	6,441,100	7,044,600
Bucks County	761,176	709,198	725,000	725,000	725,000	725,000	725,000	725,000	725,000	725,000	725,000
Total	8,526,002	7,902,511	7,872,800	7,769,600	7,666,500	7,563,500	7,460,700	7,362,400	7,264,300	7,166,100	7,769,600

(a) Included with General Service for this update.

Reference: Rreq08.xls - Wrev-6

PROJECTED WATER RECEIPTS UNDER EXISTING RATES

Fiscal Year Ending June 30	(1) - (9) Billings									(10) - (18) Receipts								
	Senior Citizens \$1,000	Other General Service (a) \$1,000	Housing Authority \$1,000	Charities & Schools \$1,000	City Leased Properties \$1,000	Scheduled (Flat Rate) \$1,000	Subtotal (b) \$1,000	Bucks County \$1,000	Aqua PA \$1,000	Total Billings \$1,000	B&V Calcuat General Service Total Receipts (d) \$1,000	Actual General Service Total Receipts \$1,000	Water Sales \$1,000	Fire Protection \$1,000	Misc. Municipal \$1,000	Total (c) \$1,000	Private Fire Protection \$1,000	Total Receipts \$1,000
																		(10)+(15)+(16)
										x								
2002	3,219	90,964	2,212	4,685	0	0	101,080	2,862	176	104,118	100,232	99,562	5,058	25	0	5,083	1,019	
2003	3,440	104,412	2,714	5,372	0	0	115,938	2,982	1,980	120,900	112,646	116,389	6,463	26	0	6,489	1,202	
2004	3,476	112,958	2,533	5,578	0	0	124,545	3,097	2,264	129,906	122,420	124,513	6,368	7,553	0	13,921	1,383	
2005	3,284	118,542	3,307	5,680	0	0	130,813	3,862	2,376	137,051	130,613	133,649	7,843	7,567	0	15,410	1,444	
2006	3,283	132,719	4,005	6,662	0	0	146,669	4,031	2,399	153,099	144,158	147,772	8,750	6,978	0	15,728	1,645	
2007	2,532	140,125	3,853	6,679	0	0	153,189	4,233	3,081	160,503	155,343	157,229	7,189	7,007	0	14,196	1,668	
2008	2,493	141,811	4,184	7,230	0	0	155,718	4,453	3,097	163,268	158,142		7,513	7,248	(1,550)	13,211	1,688	
2009	2,343	140,041	4,235	7,238	0	0	153,857	4,453	2,558	160,868	156,448		7,522	6,986	0	14,508	1,688	
2010	2,189	138,127	4,283	7,238	0	0	151,837	4,453	2,558	158,848	154,572		7,522	6,986	0	14,508	1,688	
2011	2,036	136,217	4,329	7,238	0	0	149,820	4,453	2,558	156,831	152,619		7,522	6,986	0	14,508	1,688	
2012	1,882	134,313	4,376	7,238	0	0	147,809	4,453	2,558	154,820	150,667		7,522	6,986	0	14,508	1,688	
2013	1,728	132,493	4,422	7,238	0	0	145,881	4,453	2,558	152,892	148,788		7,522	6,986	0	14,508	1,688	
2014	1,576	130,676	4,470	7,238	0	0	143,960	4,453	2,558	150,971	146,921		7,522	6,986	0	14,508	1,688	
2015	1,422	128,863	4,516	7,238	0	0	142,039	4,453	2,558	149,050	145,058		7,522	6,986	0	14,508	1,688	
TY 2009	2,343	140,041	4,235	7,238	0	0	153,857	4,453	2,558	160,868	156,448		7,522	6,986	0	14,508	1,688	

(a) Includes Residential, Commercial, and Industrial.
 (b) 2008 and beyond subtotals reflect an adjustment to gross water billings of 0.0%.
 (d) Receipts are computed using following formula:
 (0.855 * Current Year Subtotal Billings)+(0.090 * First Year Prior Subtotal Billings)+(0.025 * Second Year Prior Subtotal Billings)+Bucks County Current Year Billings
 (e) Reflects Interfund Charges To General Fund for Water Service for Municipal , Zoo, Groundwater Discharge, Public Fire Protection (FNC-12), Aviation Fund, and Misc. Municipal revenues.

Reference: [A. File: Rreq08.xls - Btab-5](#)

Gross Billing Adjustment Factor = **0.00** File: Rreq08.xls - Wrev-6

	(1)	(2)	(3)	(4)	(5)
	Percent Volume Charge %	Percent Service Charge %	TY 2009 Billings Under Existing Rates \$	Volume Charge Billings \$	Service Charge Billings \$
	Ref. A	Ref. A	LagRate-4	(1) x (3)	(2) x (3)
All Other (a)	79.97%	20.03%	140,041,000	111,996,183	28,044,817
Senior Citizens	67.62%	32.38%	2,343,000	1,584,265	758,735
Housing Authority	100.00%	0.00%	4,235,000	4,235,000	0
Charities & Schools	90.62%	9.38%	7,238,000	6,559,192	678,808
Municipal	98.67%	1.33%	7,522,000	7,421,644	100,356
Scheduled (Flat Rate)	0.00%	0.00%	0	0	0
Private Fire	0.00%	100.00%	1,688,000	0	1,688,000
Public Fire	0.00%	100.00%	6,986,000	0	6,986,000
Total	77.32%	22.68%	170,053,000	131,796,284	38,256,716
Total less Municipal	76.61%	23.39%	162,531,000	124,374,640	38,156,360
Total less Municipal & Fire	80.67%	19.33%	153,857,000	124,374,640	29,482,360

(a) Includes Residential, Commercial, Industrial, Public Utilities, and Miscellaneous.

	General Service (a)	Senior Citizens	Housing Authority	Charities & Schools	Scheduled (Flat Rate)	Municipal	Private Fire Protection	Public Fire Protection	Total	Total less Municipal	Total less Municipal and Fire
Test Year Unit Billings - \$/M	26.1098	24.8433	20.9537	15.6356	0.0000	18.3097	30.9939	5.688,000			
Test Year Percent Service Cf	18.58%	30.07%	9.46%	6.74%	0.00%	3.98%	100.00%	100.00%			
Test Year Percent Volume Cl	81.42%	69.93%	90.54%	93.26%	100.00%	96.02%	0.00%	0.00%			
2008											
Billed Volume	5,832,000	105,400	219,300	531,100	0	460,000	(b)		7,147,800	6,687,800	6,687,800
Service Charge Billings	28,292,000	787,000	435,000	560,000	0	335,000	1,688,000	6,986,000	39,083,000	38,748,000	30,074,000
Volume Charge Billings	123,980,000	1,831,000	4,160,000	7,744,000	0	8,087,000	0	0	145,802,000	137,715,000	137,715,000
Total Billings	152,272,000	2,618,000	4,595,000	8,304,000	0	8,422,000	1,688,000	6,986,000	184,885,000	176,463,000	167,789,000
2009											
Billed Volume	5,732,800	99,000	221,700	531,100	0	460,000	(b)		7,044,600	6,584,600	6,584,600
Service Charge Billings	27,811,000	739,000	439,000	560,000	0	335,000	1,448,000	5,688,000	37,020,000	36,685,000	29,549,000
Volume Charge Billings	121,871,000	1,720,000	4,206,000	7,744,000	0	8,087,000	0	0	143,628,000	135,541,000	135,541,000
Total Billings	149,682,000	2,459,000	4,645,000	8,304,000	0	8,422,000	1,448,000	5,688,000	180,648,000	172,226,000	165,090,000
2010											
Billed Volume	5,633,700	92,500	224,200	531,100	0	460,000	(b)		6,941,500	6,481,500	6,481,500
Service Charge Billings	27,330,000	691,000	444,000	560,000	0	335,000	1,448,000	5,688,000	36,496,000	36,161,000	29,025,000
Volume Charge Billings	119,765,000	1,607,000	4,254,000	7,744,000	0	8,087,000	0	0	141,457,000	133,370,000	133,370,000
Total Billings	147,095,000	2,298,000	4,698,000	8,304,000	0	8,422,000	1,448,000	5,688,000	177,953,000	169,531,000	162,395,000
2011											
Billed Volume	5,534,800	86,000	226,600	531,100	0	460,000	(b)		6,838,500	6,378,500	6,378,500
Service Charge Billings	26,851,000	643,000	449,000	560,000	0	335,000	1,448,000	5,688,000	35,974,000	35,639,000	28,503,000
Volume Charge Billings	117,662,000	1,494,000	4,299,000	7,744,000	0	8,087,000	0	0	139,286,000	131,199,000	131,199,000
Total Billings	144,513,000	2,137,000	4,748,000	8,304,000	0	8,422,000	1,448,000	5,688,000	175,260,000	166,838,000	159,702,000
2012											
Billed Volume	5,436,000	79,500	229,100	531,100	0	460,000	(b)		6,735,700	6,275,700	6,275,700
Service Charge Billings	26,371,000	594,000	454,000	560,000	0	335,000	1,448,000	5,688,000	35,450,000	35,115,000	27,979,000
Volume Charge Billings	115,562,000	1,381,000	4,346,000	7,744,000	0	8,087,000	0	0	137,120,000	129,033,000	129,033,000
Total Billings	141,933,000	1,975,000	4,800,000	8,304,000	0	8,422,000	1,448,000	5,688,000	172,570,000	164,148,000	157,012,000
2013											
Billed Volume	5,341,800	73,000	231,500	531,100	0	460,000	(b)		6,637,400	6,177,400	6,177,400
Service Charge Billings	25,914,000	545,000	459,000	560,000	0	335,000	1,448,000	5,688,000	34,949,000	34,614,000	27,478,000
Volume Charge Billings	113,559,000	1,269,000	4,392,000	7,744,000	0	8,087,000	0	0	135,051,000	126,964,000	126,964,000
Total Billings	139,473,000	1,814,000	4,851,000	8,304,000	0	8,422,000	1,448,000	5,688,000	170,000,000	161,578,000	154,442,000
2014											
Billed Volume	5,247,600	66,600	234,000	531,100	0	460,000	(b)		6,539,300	6,079,300	6,079,300
Service Charge Billings	25,457,000	498,000	464,000	560,000	0	335,000	1,448,000	5,688,000	34,450,000	34,115,000	26,979,000
Volume Charge Billings	111,557,000	1,157,000	4,439,000	7,744,000	0	8,087,000	0	0	132,984,000	124,897,000	124,897,000
Total Billings	137,014,000	1,655,000	4,903,000	8,304,000	0	8,422,000	1,448,000	5,688,000	167,434,000	159,012,000	151,876,000
2015											
Billed Volume	5,153,500	60,100	236,400	531,100	0	460,000	(b)		6,441,100	5,981,100	5,981,100
Service Charge Billings	25,001,000	449,000	469,000	560,000	0	335,000	1,448,000	5,688,000	33,950,000	33,615,000	26,479,000
Volume Charge Billings	109,556,000	1,044,000	4,484,000	7,744,000	0	8,087,000	0	0	130,915,000	122,828,000	122,828,000
Total Billings	134,557,000	1,493,000	4,953,000	8,304,000	0	8,422,000	1,448,000	5,688,000	164,865,000	156,443,000	149,307,000

(a) Combined Residential, Commercial, Industrial unit billing rate and percent service and volume charge calculated as follows:

	Billed Volume Mcf	Unit Billings \$	Service Charge \$	Volume Charge \$	Percent Service Charge %	Percent Volume Charge %
Residential	2,836,000	86,508,558	21,597,024	64,911,534	24.97%	75.03%
Commercial	2,187,100	50,148,140	5,765,793	44,382,347	11.50%	88.50%
Industrial	709,700	13,025,442	455,532	12,569,910	3.50%	96.50%
	5,732,800	149,682,140	27,818,349	121,863,791	18.58%	81.42%

(b) Total projected billings are equal to test year billings under existing rates.

Reference: [LagRate-6](#)

SERVICE CHARGE BILLINGS

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
General Service (a)	28,292,000	27,811,000	27,330,000	26,851,000	26,371,000	25,914,000	25,457,000	25,001,000
Senior Citizens	787,000	739,000	691,000	643,000	594,000	545,000	498,000	449,000
Subtotal	29,079,000	28,550,000	28,021,000	27,494,000	26,965,000	26,459,000	25,955,000	25,450,000
Housing Authority	435,000	439,000	444,000	449,000	454,000	459,000	464,000	469,000
Charities & Schools	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000
Scheduled (Flat Rate)	0	0	0	0	0	0	0	0
Municipal	335,000	335,000	335,000	335,000	335,000	335,000	335,000	335,000
Fire Protect. (Private)	1,688,000	1,448,000	1,448,000	1,448,000	1,448,000	1,448,000	1,448,000	1,448,000
Fire Protect. (Public)	6,986,000	5,688,000	5,688,000	5,688,000	5,688,000	5,688,000	5,688,000	5,688,000
Total	39,083,000	37,020,000	36,496,000	35,974,000	35,450,000	34,949,000	34,450,000	33,950,000
Total Less Municipal	38,748,000	36,685,000	36,161,000	35,639,000	35,115,000	34,614,000	34,115,000	33,615,000
Total Less Municipal & Public and Private	30,074,000	29,549,000	29,025,000	28,503,000	27,979,000	27,478,000	26,979,000	26,479,000

7,471,000

VOLUME CHARGE BILLINGS

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
General Service (a)	123,980,000	121,871,000	119,765,000	117,662,000	115,562,000	113,559,000	111,557,000	109,556,000
Senior Citizens	1,831,000	1,720,000	1,607,000	1,494,000	1,381,000	1,269,000	1,157,000	1,044,000
Subtotal	125,811,000	123,591,000	121,372,000	119,156,000	116,943,000	114,828,000	112,714,000	110,600,000
Housing Authority	4,160,000	4,206,000	4,254,000	4,299,000	4,346,000	4,392,000	4,439,000	4,484,000
Charities & Schools	7,744,000	7,744,000	7,744,000	7,744,000	7,744,000	7,744,000	7,744,000	7,744,000
Scheduled (Flat Rate)	0	0	0	0	0	0	0	0
Municipal	8,087,000	8,087,000	8,087,000	8,087,000	8,087,000	8,087,000	8,087,000	8,087,000
Fire Protect. (Private)	0	0	0	0	0	0	0	0
Fire Protect. (Public)	0	0	0	0	0	0	0	0
Total	145,802,000	143,628,000	141,457,000	139,286,000	137,120,000	135,051,000	132,984,000	130,915,000
Total Less Municipal	137,715,000	135,541,000	133,370,000	131,199,000	129,033,000	126,964,000	124,897,000	122,828,000
Total Less Municipal & Public and Private	137,715,000	135,541,000	133,370,000	131,199,000	129,033,000	126,964,000	124,897,000	122,828,000

Fiscal Year	Proposed Increase	Months Effective	Cumulative Increase 2008 - 2015	Cumulative Increase 2010 - 2015						Receipts Factor (d)				Receipts				
	File: Rreq08.xls - Rreq-23				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Line No.	Number of months at Existing Rates	Number of months at COS Rates	Billings (a) LagRate-5 LagRate-7	Cumulative Percent Increase (b)	FY 2009 COS Rate Adjustment LagRate-9	FY 2010 COS Rate Adjustment	FY 2011 COS Rate Adjustment	FY 2012 COS Rate Adjustment	Adjusted Billings (c) \$	FY 2009 (e) %	FY 2010 %	FY 2011 %	FY 2012 %	FY 2009 \$ (6) x (7)	FY 2010 \$	FY 2011 \$	FY 2012 \$	
SERVICE CHARGE																		
All classes less municipal and fire																		
Existing Rates																		
1	FY 2009	0.0	29,482,360	100.00%					0	85.50	9.00	2.50		0	0	0		
Adjusted COS Rates Effective July 1, 2008																		
2	FY 2009	12.0	29,549,000	100.00%	104.90%				30,997,000	104.9%	85.50	9.00	2.50	26,502,000	2,790,000	775,000		
	FY 2010	12.0	29,025,000	109.60%	104.90%	104.60%			34,905,000	120.3%		85.50	9.00		29,844,000	3,141,000	873,000	
	FY 2011	12.0	28,503,000	120.12%	104.90%	104.60%	104.60%		39,296,000	137.9%			85.50	9.00		33,598,000	3,537,000	
	FY 2012	12.0	27,979,000	131.65%	104.90%	104.60%	104.60%	104.50%	44,179,000	157.9%			85.50				37,773,000	
Increase in service charge deposit due to rate increase (f)																		
Municipal and Fire																		
Existing Rates																		
3	FY 2009	0.0	8,774,356	100.00%					0	100.00	0.00	0.00		0				
Adjusted COS Rates Effective July 1, 2008																		
4	FY 2009	12.0	7,471,000	100.00%	104.90%				7,837,000	100.00	0.00	0.00		7,837,000				
	FY 2010	12.0	7,471,000	109.60%	104.90%	104.60%			8,985,000		100.00	0.00	0.00		8,985,000			
	FY 2011	12.0	7,471,000	120.12%	104.90%	104.60%	104.60%		10,300,000			100.00	0.00			10,300,000		
	FY 2012	12.0	7,471,000	131.65%	104.90%	104.60%	104.60%	104.50%	11,797,000				100.00					11,797,000
Increase in municipal service charge deposit due to rate increase																		
VOLUME CHARGE																		
All classes less municipal and fire																		
Existing Rates																		
5	FY 2009	0.5	124,374,640	100.00%					5,182,000	85.50	9.00	2.50		4,431,000	466,000	130,000		
Adjusted COS Rates Effective July 1, 2008																		
6	FY 2009	11.5	135,541,000	100.00%	104.90%				136,258,000	85.50	9.00	2.50		116,501,000	12,263,000	3,406,000		
	FY 2010	0.5	133,370,000	109.60%	104.90%	104.60%			159,536,000		85.50	9.00	2.50		136,403,000	14,358,000	3,988,000	
	FY 2011	0.5	131,199,000	120.12%	104.90%	104.60%	104.60%		180,220,000			85.50	9.00			154,088,000	16,220,000	
	FY 2012	0.5	129,033,000	131.65%	104.90%	104.60%	104.60%	104.50%	202,668,000				85.50				173,281,000	
Municipal and fire																		
Existing Rates																		
7	FY 2009	0.5	7,421,644	100.00%					309,000	100.00	0.00	0.00		309,000				
Adjusted COS Rates Effective July 1, 2008																		
8	FY 2009	11.5	8,087,000	100.00%	104.90%				8,130,000	100.00	0.00	0.00		8,130,000				
	FY 2010	0.5	8,087,000	109.60%	104.90%	104.60%			9,674,000		100.00	0.00	0.00		9,674,000			
	FY 2011	0.5	8,087,000	120.12%	104.90%	104.60%	104.60%		11,109,000			100.00	0.00			11,109,000		
	FY 2012	0.5	8,087,000	131.65%	104.90%	104.60%	104.60%	104.50%	12,702,000				100.00					12,702,000

SURCHARGE RATES

Existing Rates															
9	FY 2009	0.0	na	100.00%		0	85.50	9.00	2.50			0	0	0	
	Adjusted COS Rates Effective July 1, 2008														
10	FY 2009	12.0	na	100.00%	104.90%	0	85.50	9.00	2.50			0	0	0	
	FY 2010	12.0	na	109.60%	104.90%	0		85.50	9.00	2.50		0	0	0	
	FY 2011	12.0	na	120.12%	104.90%	0			85.50	9.00		0	0	0	
	FY 2012	12.0	na	131.65%	104.90%	0				85.50		0	0	0	
11	FY 2007 Billings (LagRate-4)		153,189,000	100.00%		153,189,000	2.50					3,830,000			
12	FY 2008 Billings (LagRate-4)		155,718,000	100.00%		155,718,000	9.00	2.50				14,015,000	3,893,000		
13	Total Receipts											181,555,000	204,318,000	230,905,000	260,171,000
													112.54%	113.01%	112.67%

(a) Billings to General Service customers under existing rates reflect an adjustment to gross water billings of 0.00%. A billtab adjustment was made to determine the proposed rates.

(b) Adjusted billings under existing rates should reflect proposed increases in effect prior to the test year. Adjusted billings under COS rates should reflect proposed increases after the test year.

(c) Adjusted service charge billings are equal to the number of months effective times billings times the cumulative percent increase times the COS rate adjustment.

Test year adjusted volume charge billings are equal to the number of months effective times billings times the cumulative percent increase times the COS rate adjustment. For each year after the test year, the adjusted volume charge rates time the previous year's billings times the previous year's cumulative percent increase plus the number of months at COS rates times billings times the cumulative percent increase times the COS rate adjustment.

Adjusted billings for FY 2007 and FY 2008 are equal to the billings times the cumulative percent increase times the 0.00% billings adjustment.

(d) Receipts Factor from File: Rreq08.xls - Wrev-6.

(e) Receipt factor will need to be adjusted to recognize a partial year rate increase.

(f) Increase in service charge deposit calculated as 2 months of billings times the cumulative percent increase.

NOT USED IN CURRENT ANALYSIS					Input from Model Application for FY 2010, FY 2011 and FY 2012				
Percent Increase in Rates Required:	0.994365	0.956750	0.916840	0.881192					
USE:	1.049000	1.046000	1.046000	1.045000					
Reference	FY 2009	FY 2010	FY 2011	FY 2012		FY 2009	FY 2010	FY 2011	FY 2012
	\$	\$	\$	\$		\$	\$	\$	\$
LagRate-8 Total Retail Receipts less Public Fire Requirements:	175,867,000	198,197,000	224,339,000	253,149,000					
COS	189,218,000	205,130,000	222,250,000	240,770,000					
Less Wholesale (Including Mgmt Fee)	(8,952,000)	(9,384,000)	(10,001,000)	(10,675,000)					
Net Retail COS	180,564,000	195,746,000	212,249,000	230,095,000					
Less Public Fire Protection									
Under Old Rates									
Under New Rates	5,688,000	6,121,000	6,566,000	7,022,000					
Less Monthly Billing Incr. in Volume Charges									
Total Requirements	174,876,000	189,625,000	205,683,000	223,073,000					
Revenue Surplus/(Deficiency)	991,000	8,572,000	18,656,000	30,076,000					
Total Inreceasable Receipts	153,282,000	193,838,000	224,209,000	253,149,000					
ADJUSTMENT FACTOR REQUIRED	-0.5635%	-4.3250%	-8.3160%	-11.8808%					
%Rate Adjustment		14.64%	14.64%	14.53%					

		Test Year 2009 Receipts of Test Year 2009 Billings							
		\$							
		FY 2009 Receipts (a)	FY 2009 Billings (a)	Percent	FY 2010 Receipts (a)	FY 2010 Billings (a)	Percent	FY 2011 Billings (a)	FY 2012 Billings (a)
LagRate-8	General Customers								
	Service Charge	26,502,000							
LagRate-8	Volume Charge	120,932,000							
	Total General Customers	147,434,000							
LagRate-8	Municipal								
	Service Charge	7,837,000							
LagRate-8	Volume Charge	8,439,000							
	Total Municipal	16,276,000							
LagRate-8	Surcharge	0							
	Total	163,710,000							
LagRate-8	Current Year	147,434,000	172,437,000	85.50%	166,247,000	194,441,000	85.50%	182,744,819	205,497,596
LagRate-8	First Prior Year	14,015,000	155,718,000	9.00%	15,519,000	172,437,000	9.00%		
LagRate-8	Second Prior Year	3,830,000	153,189,000	2.50%	3,893,000	155,718,000	2.50%		
		165,279,000			185,659,000				

(a) Excludes wholesale

(1)	(2)	(3)	(4)	(5)
Meter Size inches	Meter Code	Adjustment Factor % <u>LagRate-9</u>	General Service Service Charge \$/Bill <u>LagRate-2</u> x Col. (3)	Discount Service Service Charge (a) \$/Bill <u>LagRate-2</u> x Col. (3)
5/8	R	104.9%	5.22	3.90
3/4	Z	104.9%	6.03	4.50
1	Q	104.9%	8.01	6.00
1 1/4	Y	104.9%	10.47	7.90
1 1/2	P	104.9%	12.41	9.30
2	X	104.9%	18.34	13.80
3	O	104.9%	31.45	23.60
4	W	104.9%	54.82	41.10
6	N	104.9%	106.03	79.50
8	V	104.9%	165.32	124.00
10	E	104.9%	239.91	179.90
12	T	104.9%	419.47	314.60
14	H	104.9%	446.45	334.80
		<u>First Block</u> <u>0 - 2 Mcf</u> \$/Mcf	<u>Second Block</u> <u>3 - 100 Mcf</u> \$/Mcf	<u>Third Block</u> <u>101 - 2,000 Mcf</u> \$/Mcf
			<u>Fourth Block</u> <u>>2,000 Mcf</u> \$/Mcf	
			LagRate-2 x Column (3)	
General Service Volume Cha		24.77	19.97	18.38
Discount Volume Charge (a)		18.58	14.98	13.78
Fire Protection				
Connection Size			Monthly Service Charge	
Up Through 4			18.99	
6			34.46	
8			50.90	
10			75.38	
12			112.57	

(a) Discount rate applies to Senior Citizens, and Charities.
A 5% discount applies to the Housing Authority.

TABLE 23
COMPARISON OF TEST YEAR COSTS OF SERVICE
AND ADJUSTED COST OF SERVICE
WITH REVENUES UNDER EXISTING RATES
TEST YEAR 2009

Line No.	Customer Class	(1) Revenue Under Existing Rates (a) \$	(2) Allocated Cost of Service \$ <i>Retcos-4</i>	(3) Adjusted Cost of Service \$ <i>Retcos-4</i>	(4) Indicated Increase (Decrease) Required % (3)/(1) - 1
1	Residential	79,571,000	83,633,000	85,442,000	7.4%
2	Senior Citizens	2,291,000	3,140,000	2,406,000	5.0%
3	Commercial	45,121,000	48,461,000	49,509,000	9.7%
4	Industrial	11,309,000	12,592,000	12,864,000	13.8%
5	Subtotal General Service	138,292,000	147,826,000	150,221,000	8.6%
6	Housing Authority	4,094,000	5,331,000	5,174,000	26.4%
7	Charities & Schools	7,006,000	11,086,000	8,495,000	21.3%
8	Scheduled (Flat Rate)	0	0	0	NA
8	Municipal	7,522,000	9,334,000	9,536,000	26.8%
9	Fire Protection				
9	Private	1,688,000	1,419,000	1,450,000	-14.1%
10	Public				
10	Standard Pressure	6,986,000	5,568,000	5,688,000	-18.6%
11	High Pressure (b)	0	0	0	NA
12	Subtotal Public Fire Protection	6,986,000	5,568,000	5,688,000	-18.6%
13	Subtotal Retail Service	165,588,000	180,564,000	180,564,000	9.0%
14	Bucks County Wholesale Service	4,453,000	5,678,000	5,678,000	27.5%
15	Aqua PA	2,603,000	2,976,000	2,976,000	14.3%
16	Total Wholesale	7,056,000	8,654,000	8,654,000	22.6%
17	Total System	172,644,000	189,218,000	189,218,000	9.6%

(a) Revenue Under Existing Rates calculation:

(b) Reflects gradual decommissioning of the system.

	Fiscal Year Ending June 30						
	2007	2007	2008	2008	2009	2009	2009
	Billings	Adjusted Billings (1)	Billings	Adjusted Billings (1)	Billings	Adjusted Billings (1)	Receipts
	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Test Year Revenues under existing rates:	<i>LagRate-4</i>	2.50%	<i>LagRate-4</i>	9.00%	<i>LagRate-4</i>	85.50%	
All Other (2)	140,125	140,125	141,811	141,811	140,041	140,041	136,001
Senior Citizens	2,532	2,532	2,493	2,493	2,343	2,343	2,291
Housing Authority	3,853	3,853	4,184	4,184	4,235	4,235	4,094
Charities & Schools	6,679	6,679	7,230	7,230	7,238	7,238	7,006
City Leased Property	0	0	0	0	0	0	0
Scheduled (Flat Rate)	0	0	0	0	0	0	0
Municipal	7,189	7,189	5,963	5,963	7,522	7,522	7,522 No Lag
Public Fire Protection	7,007	7,007	7,248	7,248	6,986	6,986	6,986 No Lag
Private Fire Protection	1,668	1,668	1,688	1,688	1,688	1,688	1,688 No Lag
Subtotal	169,053	169,053	170,617	170,617	170,053	170,053	165,588
Bucks County	4,233	4,233	4,453	4,453	4,453	4,453	4,453 0.08333 factor - One month lag
Aqua PA	0	0	3,097	3,097	2,558	2,558	2,603 0.08333 factor - One month lag
Total	173,286	173,286	178,167	178,167	177,064	177,064	172,644

(1) Adjusted billings after 2007 reflect an adjustment to General Service billings of 0.00%.

(2) Includes Residential, Commercial, and Industrial.

(b) Public high pressure fire system revenue under existing rates is included with standard pressure fire protection.

Reference A: File: Rreq08.xls, Cust-24

Reference B: File: SCOS08.xls, LagRate-31

FY 2009 PROPOSED RATES FOR GENERAL SERVICE

Service Charges

Meter Size inches	Existing Rates			Proposed Rates		
	Water \$/month	Wastewater \$/month	Total Existing \$/month	Water \$/month	Wastewater \$/month	Total Proposed \$/month
	LagRate-2	REF. A		LagRate-10	REF. B	
5/8	5.10	16.59	21.69	5.22	16.78	22.00
3/4	5.91	86.24	92.15	6.03	78.59	84.62
1	7.88	140.01	147.89	8.01	127.94	135.95
1 1/4	10.34	209.69	220.03	10.47	191.92	202.39
1 1/2	12.29	273.41	285.70	12.41	250.48	262.89
2	18.22	434.70	452.92	18.34	398.51	416.85
3	31.33	809.69	841.02	31.45	742.81	774.26
4	54.53	1,353.88	1,408.41	54.82	1,241.62	1,296.44
6	105.58	2,701.17	2,806.75	106.03	2,477.84	2,583.87
8	164.76	4,313.96	4,478.72	165.32	3,958.06	4,123.38
10	239.01	6,205.43	6,444.44	239.91	5,693.08	5,932.99
12	418.94	11,548.42	11,967.36	419.47	10,600.18	11,019.65

Quantity Charges

Water Usage	Existing \$/Mcf	Proposed \$/Mcf
	LagRate-2	LagRate-10
First 2 Mcf	21.80	24.77
Next 98 Mcf	17.27	19.97
Next 1,900 Mcf	15.36	18.38
Over 2,000 Mcf	11.50	13.97

Wastewater Usage

Per Mcf	17.72	19.78
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Surcharge Rates

BOD (\$/lb in excess of 250 mg/l)	0.270	0.292
SS (\$/lb in excess of 350 mg/l)	0.247	0.308

BTAB - BillTab Billing Percentages

April 02, 2008 6:47 a.m.

Reference: LINKS - WREV CHECK 2.XLS

	(1)	(2)	(3)	(4)	(5)	(6)
	Total Water Service Charges \$	Total Water Volume Charges \$	Total Water Billings \$ (1)+(2)	Percent of Total Billings %	Total Water Billings Excluding Senior Citizens \$ (1)+(2)	Percent of Total Billings Excluding Senior Citizens %
Residential	22,142,616	59,791,822	81,934,438	57.54%	81,934,438	58.51%
Senior Citizens	757,491	1,585,624	2,343,116	1.65%	-	0.00%
Commercial	6,094,367	40,367,262	46,461,629	32.63%	46,461,629	33.18%
Industrial	478,964	11,166,067	11,645,032	8.18%	11,645,032	8.32%
Hand Billed	0	0	0	0.00%	0	0.00%
	29,473,439	112,910,776	142,384,215		140,041,099	

	Equivalent Bills	Equivalent Meters	Equivalent Services	FY 2009 Water Service Charge				FY 2010 Water Service Charge				FY 2011 Water Service Charge				FY 2012 Water Service Charge			
				Billing Costs	Metering Costs	Warranty Costs	Total Costs												
				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Unit Costs				3.4420	1.5397	0.0000													
Units				\$/equiv bill	\$/equiv mtr/bill	\$/equiv srv/bill													
5/8 Inch Mete 2009 COS Service Charge	1.0	1.0	1.0	3.4420	1.5397	0.0000		3.4420	1.5397	0.0000		3.4420	1.5397	0.0000		3.4420	1.5397	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9 (a)				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				3.60	1.62	0.00	5.22	4.13	1.85	0.00	5.98	4.74	2.12	0.00	6.86	5.43	2.43	0.00	7.86
Times (100%-25%) Charities Discount				2.70	1.22	0.00	3.92	3.10	1.39	0.00	4.49	3.56	1.59	0.00	5.15	4.08	1.82	0.00	5.90
3/4 Inch Mete 2009 COS Service Charge	1.0	1.5	1.0	3.4420	2.3096	0.0000		3.4420	2.3096	0.0000		3.4420	2.3096	0.0000		3.4420	2.3096	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				3.61	2.42	0.00	6.03	4.13	2.78	0.00	6.91	4.74	3.18	0.00	7.92	5.42	3.65	0.00	9.07
Times (100%-25%) Charities Discount				2.70	1.82	0.00	4.52	3.09	2.09	0.00	5.18	3.55	2.39	0.00	5.94	4.06	2.74	0.00	6.80
1 Inch Meter: 2009 COS Service Charge	1.1	2.5	1.1	3.7862	3.8493	0.0000		3.7862	3.8493	0.0000		3.7862	3.8493	0.0000		3.7862	3.8493	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				3.97	4.04	0.00	8.01	4.55	4.63	0.00	9.18	5.21	5.31	0.00	10.52	5.97	6.08	0.00	12.05
Times (100%-25%) Charities Discount				2.98	3.03	0.00	6.01	3.42	3.47	0.00	6.89	3.91	3.98	0.00	7.89	4.48	4.56	0.00	9.04
1-1/4 Inch Me 2009 COS Service Charge	1.2	3.8	1.2	4.1304	5.8509	0.0000		4.1304	5.8509	0.0000		4.1304	5.8509	0.0000		4.1304	5.8509	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				4.33	6.14	0.00	10.47	4.96	7.04	0.00	12.00	5.69	8.07	0.00	13.76	6.52	9.24	0.00	15.76
Times (100%-25%) Charities Discount				3.24	4.61	0.00	7.85	3.72	5.28	0.00	9.00	4.27	6.05	0.00	10.32	4.89	6.93	0.00	11.82
1-1/2 Inch Me 2009 COS Service Charge	1.2	5.0	1.2	4.1304	7.6985	0.0000		4.1304	7.6985	0.0000		4.1304	7.6985	0.0000		4.1304	7.6985	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				4.33	8.08	0.00	12.41	4.97	9.26	0.00	14.23	5.70	10.61	0.00	16.31	6.52	12.16	0.00	18.68
Times (100%-25%) Charities Discount				3.25	6.06	0.00	9.31	3.72	6.95	0.00	10.67	4.27	7.96	0.00	12.23	4.89	9.12	0.00	14.01
2 Inch Meter: 2009 COS Service Charge	1.5	8.0	2.1	5.1630	12.3176	0.0000		5.1630	12.3176	0.0000		5.1630	12.3176	0.0000		5.1630	12.3176	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				5.42	12.92	0.00	18.34	6.22	14.81	0.00	21.03	7.13	16.98	0.00	24.11	8.16	19.45	0.00	27.61
Times (100%-25%) Charities Discount				4.07	9.69	0.00	13.76	4.66	11.11	0.00	15.77	5.34	12.74	0.00	18.08	6.12	14.59	0.00	20.71
3 Inch Meter: 2009 COS Service Charge	2.0	15.0		6.8840	23.0955	0.0000		6.8840	23.0955	0.0000		6.8840	23.0955	0.0000		6.8840	23.0955	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				7.22	24.23	0.00	31.45	8.28	27.77	0.00	36.05	9.49	31.84	0.00	41.33	10.87	36.47	0.00	47.34
Times (100%-25%) Charities Discount				5.42	18.17	0.00	23.59	6.21	20.83	0.00	27.04	7.12	23.88	0.00	31.00	8.16	27.35	0.00	35.51
4 Inch Meter: 2009 COS Service Charge	4.0	25.0		13.7680	38.4925	0.0000		13.7680	38.4925	0.0000		13.7680	38.4925	0.0000		13.7680	38.4925	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				14.44	40.38	0.00	54.82	16.56	46.29	0.00	62.85	18.98	53.07	0.00	72.05	21.74	60.78	0.00	82.52
Times (100%-25%) Charities Discount				10.83	30.29	0.00	41.12	12.42	34.72	0.00	47.14	14.24	39.80	0.00	54.04	16.30	45.59	0.00	61.89
6 Inch Meter: 2009 COS Service Charge	7.0	50.0		24.0940	76.9850	0.0000		24.0940	76.9850	0.0000		24.0940	76.9850	0.0000		24.0940	76.9850	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				25.27	80.76	0.00	106.03	28.97	92.58	0.00	121.55	33.21	106.14	0.00	139.35	38.04	121.56	0.00	159.60
Times (100%-25%) Charities Discount				18.95	60.57	0.00	79.52	21.72	69.44	0.00	91.16	24.90	79.61	0.00	104.51	28.53	91.17	0.00	119.70
8 Inch Meter: 2009 COS Service Charge	10.0	80.0		34.4200	123.1760	0.0000		34.4200	123.1760	0.0000		34.4200	123.1760	0.0000		34.4200	123.1760	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				36.11	129.21	0.00	165.32	41.40	148.13	0.00	189.53	47.46	169.82	0.00	217.28	54.37	194.49	0.00	248.86
Times (100%-25%) Charities Discount				27.08	96.91	0.00	123.99	31.05	111.10	0.00	142.15	35.59	127.37	0.00	162.96	40.78	145.87	0.00	186.65
10 Inch Meter 2009 COS Service Charge	15.0	115.0		51.6300	177.0655	0.0000		51.6300	177.0655	0.0000		51.6300	177.0655	0.0000		51.6300	177.0655	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				54.17	185.74	0.00	239.91	62.10	212.94	0.00	275.04	71.19	244.12	0.00	315.31	81.54	279.59	0.00	361.13
Times (100%-25%) Charities Discount				40.62	139.31	0.00	179.93	46.57	159.71	0.00	206.28	53.39	183.09	0.00	236.48	61.16	209.69	0.00	270.85
12 Inch Meter 2009 COS Service Charge	20.0	215.0		68.8400	331.0355	0.0000		68.8400	331.0355	0.0000		68.8400	331.0355	0.0000		68.8400	331.0355	0.0000	
Times Combined Rate Increase and Lag FactoCalc from LagRate-9				1.0490	1.0490	1.0490		1.2026	1.2026	1.2026		1.3787	1.3787	1.3787		1.5790	1.5790	1.5790	
Adjusted COS Service Charge (Rounded)				72.21	347.26	0.00	419.47	82.79	398.10	0.00	480.89	94.90	456.40	0.00	551.30	108.70	522.71	0.00	631.41
Times (100%-25%) Charities Discount				54.15	260.45	0.00	314.60	62.09	298.58	0.00	360.67	71.18	342.30	0.00	413.48	81.53	392.03	0.00	473.56

(a) Reference: LagRate-9 104.9000 * 1.1464 = 120.2590 and 104.9000 * 1.1464 * 1.1464 = 137.8669

Philadelphia Water Department (PWD)
Financial Planning and Rate Design Model - COS08.xls

DESCRIPTION OF FILE:

This file contains linked references to and from other worksheet files.

The "Links" worksheet passes information to and from other model worksheets

File: Rreq08.xls	Ref: Cust-23	FY 2009 Test Year	Water Utility	Total Number of Bills
General Service (excluding Senior Citizens)				
Bills				
5/8"		5,180,857		
>5/8"		115,632		
Total Bills				5,296,489
Equivalent Bills				
Senior Citizens				
Bills				
5/8"		197,728		
>5/8"		36		
Total Bills				197,764
Equivalent Bills				
Housing Authority				
Bills				
		76,020		
Equivalent Bills				
Charities & Schools				
"N" Charities				
Bills				
		4,164		
Equivalent Bills				
"6 Cent" Charities				
Bills				
		34,464		
Equivalent Bills				
Scheduled (Flat Rate)				
		0		
Fire Meters				
		46,728		
City Properties Leased to Others (821)				
		0		
Municipal 820				
Bills				
		15,216		
Equivalent Bills				
(a) Included with General Service for this update.				

File: Rreq08.xls	Ref: Cust-23	UNITS OF WATER SERVICE	UNITS OF WATER SERVICE
Water Utility			
Customer Class	FY 2009	Test Year	Mcf
General Service (5/8)-Excl SC			
	3,805,100		
General Service (>5/8)-Excl SC			
	1,927,700		
Senior Citizens (5/8)			
	98,900		
Senior Citizens (>5/8)			
	100		
Housing Authority			
	221,700		
"N" Charities			
	267,497		
"6 Cent" Charities			
	263,603		
Scheduled (Flat Rate)			
	0		
Unmetered (Wells)			
	0		
Fire Meters			
	0		
Leased Properties (821)			
	0		
Municipal (820)			
	460,000		
Subtotal Retail Sanitary			
	7,044,600		
(a) Included with General Service for this update.			

File: Rreq08.xls	Ref: Rreq-27	Water Utility
COST OF SERVICE TO BE DERIVED FROM RATES		
Operating Expense	\$118,623,000	
Capital Costs	\$70,595,000	
Total COS		\$189,218,000
Ref: Wrev-8	Bucks County Test Year	
Receipts Under Existing Rates	\$4,453,000	
Philadelphia Water Company Test Year		
Receipts Under Existing Rates	\$2,558,200	

Links from File: Rreq08.xls
 Ref: LINKS15
 FY 2009 Test Year
 Water Utility

Line No.		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Total \$	
		Test Year 2009		Test Yr. Cl. 200 Expend.			Test Yr. Cl. 300 Expend.				Test Yr. Class 400
		Expend. \$	Power \$	All Other \$	Total \$	Chemicals \$	All Other \$	Total \$	Expend. \$		
	OMtwo-10	OMone-11	OMtwo-12	(2)+(3)	OMtwo-19	OMtwo-14	(5)+(6)	OMtwo-16			
OPERATIONS DIVISION											
DIRECT COSTS											
1	Baxter Treatment Plant	2,884,200	323,200	663,800	987,000	8,403,800	544,800	8,948,600	32,300		
2	Queen Lane Treatment Plant	2,673,000	280,000	562,000	842,000	5,668,700	654,000	6,322,700	35,000		
3	Belmont Treatment Plant	2,499,000	178,800	338,000	516,800	4,644,600	507,000	5,151,600	43,000		
4	Conveyance Headquarters	566,000	0	1,498,000	1,498,000	0	11,000	11,000	25,000		
5	Load Control	1,152,000	7,379,600	601,000	7,980,600	0	116,000	116,000	52,000		
6	Distribution	12,591,000	0	310,000	310,000	31,600	369,000	400,600	230,000		
7	Pumping	2,016,000	0	315,000	315,000	1,500	413,000	414,500	53,000		
8	Emergency & Support Services	0	0	0	0	0	0	0	0		
9	Subtotal	24,381,200	8,161,600	4,287,800	12,449,400	18,750,200	2,614,800	21,365,000	470,300	58,665,900	
ALLOCATED COSTS											
10	Treatment Headquarters	266,000	0	58,000	58,000	10,200	2,300	12,500	9,000		
11	Machine Shops	0	0	0	0	0	0	0	0		
12	Building Maintenance	0	0	0	0	0	0	0	0		
13	Security	0	0	0	0	0	0	0	0		
14	Operations Admin.	1,358,000	315,050	3,157,000	3,472,050	0	39,000	39,000	29,000		
15	Mtls. Management	844,000	0	131,000	131,000	17,800	4,000,800	4,018,600	9,000		
16	Customer Service	547,000	0	2,593,000	2,593,000	0	12,700	12,700	5,000		
17	Warranty Program	0	0	0	0	0	0	0	0		
18	Meter Shop	917,000	0	119,000	119,000	0	43,500	43,500	21,000		
19	Automotive Maintenance	0	0	0	0	0	0	0	0		
20	Subtotal Allocated Costs	3,932,000	315,050	6,058,000	6,373,050	28,000	4,098,300	4,126,300	73,000	14,504,350	
21	Total Class	28,313,200	8,476,650	10,345,800	18,822,450	18,778,200	6,713,100	25,491,300	543,300	73,170,250	
										73,170,250	
FRINGE BENEFITS											
22	Human Resources										335,141
23	Finance										2,064,692
24	Planning & Engineering										2,526,819
25	Information Science & Tech.										1,350,475
26	Operations										20,659,236
27	Customer Affairs										598,150
28	Dept. Of Revenue (Wrk)										2,375,065
29	Law Dept.										598,364
CHECK TOTALS											
30	Total Direct Expense										73,170,300
31	Total Interdepartmental WRB Expense										7,065,340
32	All Other Expenses										9,790,067
33	Total Finance										5,482,792
34	Total Admin & Human Resources										880,183
35	Total Planning & Engineering	3,462,990			5,919,524			457,240	448,320	10,288,074	
36	Total Information Science & Tech.	1,850,840			1,362,790			115,390	130,790	3,459,810	
37	Total Customer Affairs										2,094,000
38	Total Indemnities										2,319,900

FY 2009 Test Year Allocated Planning & Engineering Costs (Excluding Class 500)				
OMtwo-4a	Water	Wastewater	Stormwater	Total
	\$	\$	\$	\$
Test Year O&M Prorated on FY 2008 Budget Distribution				
Planning & Engineering				
Class 100 - Office of Watersheds	261,300	1,482,900	0	1,744,200
Class 100 - All Other	3,201,700	4,809,000	0	8,010,700
Total Class 100	3,463,000	6,291,900	0	9,754,900
	35.50%	64.50%	0.00%	100.00%
Class 250 - Service Fee for Cogen. Facilities				
NE	0	17,600	0	17,600
SW	0	12,000	0	12,000
SE	0	6,900	0	6,900
Total Cogeneration Expense	0	36,500	0	36,500
Class 251 - CSO Compliance Program	0	0	0	0
Class 200 - All Other	5,919,500	8,879,900	0	14,799,400
Total Class 200	5,919,500	8,916,400	0	14,835,900
	0.00%	100.00%	0.00%	100.00%
Class 300	457,200	685,900	0	1,143,100
	40.00%	60.00%	0.00%	100.00%
Class 400	448,300	672,500	0	1,120,800
	40.00%	60.00%	0.00%	100.00%
Total Planning & Engineering	10,288,000	16,566,700	0	26,854,700

FY 2009 Test Year Allocated Information Science & Technology Costs (Excluding Class 500)				
OMtwo-4b	Water	Wastewater	Stormwater	Total
	\$	\$	\$	\$
Test Year O&M Prorated on FY 2008 Budget Distribution				
Information Science & Technology				
Class 100 - CBIS	404,400	405,900	404,700	1,215,000
Class 100 - All Other	1,446,400	925,400	0	2,371,800
Total Class 100	1,850,800	1,331,300	404,700	3,586,800
	51.60%	37.10%	11.30%	100.00%
Class 200	1,362,800	1,115,000	0	2,477,800
	55.00%	45.00%	0.00%	100.00%
Class 300	115,400	94,400	0	209,800
	55.00%	45.00%	0.00%	100.00%
Class 400	130,800	107,000	0	237,800
	55.00%	45.00%	0.00%	100.00%
Total Information Science & Technology	3,459,800	2,647,700	404,700	6,512,200

FY 2009 Test Year Allocated Water Revenue Bureau Costs (Excluding Class 500)				
OMtwo-4c	Water	Wastewater	Stormwater	Total
	\$	\$	\$	\$
Test Year O&M Prorated on FY 2008 Budget Distribution				
Water Revenue Bureau				
Meter Reading	913,600	913,700	0	1,827,300
All Other	6,151,700	6,171,000	6,152,600	18,475,300
Total Water Revenue Bureau	7,065,300	7,084,700	6,152,600	20,302,600

LINKS FROM RREQ FILE

	Current Year	1st Prior Year	2nd Prior Year	Percent Increase	Months Effective	Total Service Revenue
	Wrev-6	Wrev-6	Wrev-6	Rreq-23	Rreq-23	Rreq-23
2006	85.39	9.00	2.50			
2007	85.88	9.00	2.50			
2008	85.50	9.00	2.50	0.00%	12	173,041
2009	85.50	9.00	2.50	9.60%	12	189,218
2010	85.50	9.00	2.50	9.60%	12	205,130
2011	85.50	9.00	2.50	9.60%	12	222,250
2012	85.50	9.00	2.50	9.60%	12	240,770
2013	85.50	9.00	2.50	17.60%	12	279,956
2014	85.50	9.00	2.50	4.90%	12	290,351
2015	85.50	9.00	2.50	7.80%	12	309,423
TY - 2	2007	85.88	9.00			
TY - 1	2008	85.50	9.00			
TY	2009	85.50	9.00		12	189,218
TY + 1	2010	85.50	9.00		12	205,130
TY + 2	2011	85.50	9.00		12	222,250
TY + 3	2012	85.50	9.00		12	240,770

		<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>TY 2009</u>	
Aqua PA Projected Water Sales	1,000 gal.	1,569,500	1,569,500	1,569,500	1,569,500	1,569,500	1,569,500	1,569,500	1,569,500	1,569,500	Wrev-9
										0	

LINKS FROM SCOS

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>TY 2009</u>	
Water Treatment Plant Sludge	7,236,282	7,628,854	7,879,256	8,214,499	8,517,793	9,253,744	9,620,816	10,356,901	7,628,854	Retcos-1

