

C2.0 WATER COST ANALYSIS WORKSHEET

NOTE: This is a simplified water cost analysis model. It can not provide the detail or analysis required by a professional study. This also does not fully meet the requirements of a sophisticated and proper impact fee analysis as required by many States. This analysis is for management and informational purposes only. Enter water department data from the most recent audited financial report or use data from a recent financial statement. **All data must be annual or annualized.**

INCOME:

Current (or Desired) Water Fee (rate or service charge) Income:	\$250,000	# of Customers or ERC's billed:	600
Other Water Service related fees:	\$12,000	Ave. Annual Water Charge per ERC:	\$417
Property Tax dedicated to capital debt retirement (debt service):	\$120,000	Average Charge per Month:	\$35
Property Tax dedicated to water department operations:	\$75,000		
Interest Income:	\$34,000		
Transfers from Savings for Capital Improvements:	\$0	# of ERC's attributed to Impact Fees:	30
Impact Fees:	\$98,000	Ave. Impact Fee per ERC:	\$3,267
TOTAL INCOME:	\$589,000		

EXPENSES:

DIRECT COSTS (costs related to quantity of water delivered):

Costs of Treatment, Disinfection, and Related Expenses:	\$32,000
Power and Other Utility Costs associated with Pumping and Treatment:	\$45,000
Water Rights Costs, Fees, Leases, etc.:	\$45,000
Other Direct Costs associated with Water Delivery and Sales:	\$2,300
TOTAL DIRECT COSTS:	\$124,300

GENERAL OVERHEAD (Costs that remain fixed or independent of water quantity delivered, i.e. administrative, etc.):

Salaries and Wages and Benefits:	\$110,000
Operating Supplies:	\$14,000
Repair and Maintenance Costs:	\$18,500
Outside Services:	\$8,500
Office Supplies and Maintenance:	\$5,600
General Utilities (water, sewer, gas, power, phone, etc):	\$12,000
Insurance (liability and property):	\$23,000
Professional Services (accounting, audit, engineering, legal, etc.):	\$18,000
Travel, Seminars, Meetings, etc:	\$1,340
Dues & Subscriptions:	\$1,000
Taxes Paid:	\$0
Other Operating Expenses:	\$23,100
TOTAL OVERHEAD EXPENSES:	\$235,040

OTHER EXPENSES

Interest Expense (Bonds, loans, etc.):	\$100,000
Depreciation Expense (enter only portion that is fully funded):	\$25,000
Transfers to Savings or Capital Improvements Fund:	\$1,000
Capital Expenditures (long term improvements):	\$43,000
Principal Payments on Loans and Bonds:	\$60,000

TOTAL OTHER EXPENSES: \$229,000

TOTAL EXPENSES: \$588,340

NET INCOME:

ANNUAL NET INCOME: \$660 Surplus or (Deficit)

PERFORMANCE RATIOS:

CASH AVAILABLE for DEBT SERVICE: \$229,660

DEBT COVERAGE RATIO: 1.44

OPERATING RATIO (Does not include Capital Income or Expenses): 1.03

ANNUAL WATER USAGE:

Total Annual Water Usage (x1000 gals)	Enter Monthly Water readings in 1,000 gals. for the past 12 months below that track with the Financial Data Period above.											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
111,556	4,978	4,978	4,978	6,000	9,956	15,644	19,200	17,778	12,089	6,000	4,978	4,978
Meters Read:	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO	NO	NO
Percent of peak:	25.93%	25.93%	25.93%	31.25%	51.85%	81.48%	100.00%	92.59%	62.96%	31.25%	25.93%	25.93%
Acre-Feet:	15.28	15.28	15.28	18.41	30.55	48.01	58.93	54.56	37.10	18.41	15.28	15.28

Total Annual System Gallons:	111,555,556	per ERC:	185,926
Total Annual System Acre-feet:	342.37	per ERC:	0.57
7 Winter Months Water Usage (no customer meter reads):	36,888,889		
Assumed Summer (5 months) Base Usages:	26,349,206		
Total Annual Base Usage:	63,238,095	per ERC:	105,397
Overage (summer) gallons:	48,317,460	per ERC:	80,529
Months that Meters are Read:	5		
Apparent source gpm utilized for peak month:	430 gpm	per ERC:	0.72
Actual Flow rate of sources in gpm during peak month:	500 gpm	per ERC:	0.83
Percent of time sources are used during the peak month demand period:	86.02% percent		
Peaking Factor:	2.07		
Source Actual Capacity:	720,000 gpd	(OR)	0.720000 MGD

WATER COSTS:

Median Family Income in Water Service Area:	\$45,000	
Variable or Direct Costs of Sales of Water:	\$124,300	
Direct Cost per 1000 gallons of Water Sold:	\$1.11	
Fixed Costs - Total Overhead and Other Expenses:	\$464,040	
(less Capital Improvements):	-\$43,000	
(less Debt Service - principal and interest):	-\$160,000	
(less transfers to savings):	-\$1,000	
(less other sources of revenue dedicated to operations):	-\$121,000	
Net Fixed Operating and Overhead Costs of Water:	\$139,040	
Overhead or Fixed Cost per 1000 gallons of Water Sold:	\$1.25	
Total Cost per 1000 gallons of Water Sold:	\$2.36	
Average Winter Water Usage per ERC per Month:	8,783	
Total Base Rate Water Usage:	63,238,095	
Portion of Base Monthly Rate Transferred to Overage Charges:		
Base Monthly Rate Recommendation per Base of 8,783 Gallons:	\$20.73	Base Rate Revenue per Year: \$149,281
Actual Base Rate per 1,000 gallons:	\$2.36	
Total Overage Water Usage:	48,317,460	
Average Total Summer Overage per ERC gallons:	80,529	
Average Monthly Summer Overage per ERC gallons:	16,106	
Minimum Annual Overage Revenue Required:	\$114,059	Overage Rate Revenue per Year: \$114,059
Overage Rate Recommendation per 1,000 Gallons:	\$1.42	TOTAL WATER RATE REVENUE: \$263,340
Average Annual Water Charge per ERC:	\$438.90	Current Rate Revenue: \$250,000
Average Monthly Water Charge per ERC:	\$36.58	Difference: \$13,340
		% Change: 5.34%
Annual Water Rates as a Percentage of Median Family Income:	0.98%	(should not exceed 1 to 2%)
Overage Rate per 1,000 gallons exceeding base rate per 1,000 gallons:	-\$0.94	(normally this should be a positive number)

SUMMARY:

Total Cost or Value per 1,000 gallons of Water Sold:	\$2.36
Variable Treatment/Delivery Cost per 1,000 gallons:	\$1.11 (this is the minimum or often a wholesale cost of water)
Total Actual Source Value per GPM:	\$526.68
Utilized Source Value per GPM:	\$612.27
Annual Cost or Value per Acre-Foot:	\$769.16