

City of Ashland

WATER AND SEWER  
RATE STUDY

*January 14, 1994*



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HILTON FARNKOPF & HOBSON



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January 14, 1994

Ms. Jill Turner  
Director of Finance  
City of Ashland  
20 East Main Street/City Hall  
Ashland, OR 97520

Subject: **Water and Sewer Rate Study**

Dear Ms. Turner:

Hilton Farnkopf & Hobson is pleased to submit this Water and Sewer Rate Study. The report reflects the Council's comments from the work session and the December Council meeting. In particular, we re-evaluated the rankings of the water rate alternatives. Previously, we ranked Alternative III, the seasonal rate alternative, the highest. Based on comments received from the Council and City Manager, we adjusted the ratings somewhat and, as a result, Alternative II, the modified increasing block alternative, is ranked highest. We believe this more accurately reflects the relative importance of each of the six rating criteria. This report also contains an adjustment to sewer rates, which phases in the commercial rate increase.

The scope encompassed by this report is truly comprehensive. Both water and sewer rates have been studied. For both funds, operating and capital costs are projected for the 1994 through 1998 period. The projection for 1994, the upcoming rate year, indicates overall revenue requirement increases of 5 percent and 22 percent for the respective water and sewer funds.

Cost of service analyses were performed to allocate revenue requirements to the residential and non-residential customer classes. Costs were allocated among water customers on the basis of their average and peak water demands and on the basis of meter size, which are the conventional measures of the burdens that water customers place on water systems. By comparison with the City's current practice, this cost of service analysis increased residential revenue requirements by 8 percent and decreased non-residential revenue requirements by 1 percent. In other words, the effect of the cost of service analysis is to allocate the majority of the projected



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Ms. Jill Turner  
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revenue requirement increase to residential customers because of the demand characteristics of the customer classes.

Costs were allocated among sewer customers on the basis of estimated volumes of sewage discharges and on the strengths of these discharges. By comparison with the City's current practice, this cost of service analysis increased unadjusted residential revenue requirements by 0 percent and unadjusted non-residential revenue requirements by 76 percent. The cost of service analysis revealed that, under the City's current system of sewer rates and charges, residential customers have been heavily subsidizing non-residential customers. An inter-class adjustment is proposed to phase in the commercial rate increase. This adjustment would increase residential revenue requirements by 15 percent and commercial revenue requirements by 39 percent.

Finally, alternative rate structures were designed to recover the customer class revenue requirements from individual customers. Three alternative water rate structures were studied: the existing increasing block water rates, a modified version of the existing structure, and a seasonal rate structure. The objective was to design alternatives to the existing rate structure that would reward customers who conserve water and deter customers from wasting water. Generally, under the modified and seasonal alternatives, low water using customers will pay less and high water using customers will pay more than they would under the existing rates.

Two alternative sewer rate structures were studied: the existing structure, which is a combination of flat and variable charges (depending on customer class), and an alternative that consists of fixed and variable charges for all customers. The objective was to design an alternative to the existing structure that bases each customer's sewer bill on estimated sewage discharge. Generally, most average residential customers will experience decreases in their bills and non-residential customers will experience increases, which in some cases may be quite significant on a percentage basis.



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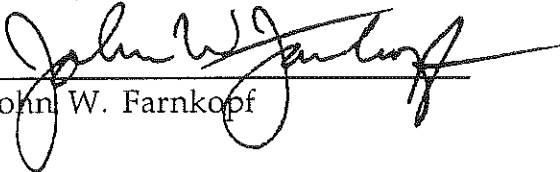
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Ms. Jill Turner  
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It should be noted that the revenue requirement analysis, cost of service allocation, and rate design were modified to transfer multi-family water and sewer customers from the commercial customer class to the residential customer class.

Very truly yours,

HILTON FARNKOPF & HOBSON

  
John W. Farnkopf

## ACKNOWLEDGMENTS

Hilton Farnkopf & Hobson expresses its gratitude to the City of Ashland's staff and elected officials for their contributions during the preparation of this report. We wish to extend special thanks to the following people:

Brian Almquist, City Manager  
Jill Turner, Finance Director  
Steve Hall, Public Works Director  
Dick Wandersheidt, Conservation Manager

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# CITY OF ASHLAND, OREGON

## WATER AND SEWER RATE STUDY

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## CHAPTER I. INTRODUCTION

PROJECT BACKGROUND  
HISTORICAL RATES  
RATE-MAKING PROCESS  
COMPUTER MODEL AND ASSUMPTIONS



## CHAPTER I. INTRODUCTION

### PROJECT BACKGROUND

Ashland's existing water supplies come from flows in Ashland Creek, water stored in four reservoirs on Ashland Creek (e.g., Reeder Reservoir), and water purchased from the Talent Irrigation District (TID). In the winter months, Ashland Creek provides more than ample water flows for the City's needs. In the summer season, on the other hand, Ashland Creek flows typically subside as a result of dry, warm weather. In addition, water demands dramatically rise in the summer from increased tourism and irrigation demands. Therefore, Ashland must heavily rely on water stored in its reservoirs and from TID purchases during these months. With growing population and water demands, however, Ashland's ability to reliably provide water to its customers from these existing supplies will diminish, particularly toward the end of the irrigation season.

A recent water supply report conducted for Ashland by R.W. Beck and Associates (April 1989) concluded that Ashland would have to construct new water supply facilities by 1998. The report identified water supply options that included building Winburn Dam on Ashland Creek and constructing a pipeline to the Rogue River. Although the cost of these options has not been precisely determined, water from these sources would undoubtedly be much more expensive compared with the current costs of producing water from Ashland's existing supplies.

An alternative way of responding to impending water deficiencies is to use demand management options. Ashland contracted with Synergic Resources Corporation to conduct a water demand-side resource study in 1991 to identify the most promising demand management options. Because of the nature of Ashland's water supply deficiency, water pricing was identified as the most cost-effective alternative. As a result, Ashland contracted with Hilton Farnkopf & Hobson to conduct an independent evaluation of Ashland's water rates and assist in developing water rate structures that promote water conservation.

In addition, Hilton Farnkopf & Hobson was asked to review Ashland's sewer rates. Sewer rates can be part of the price signal transmitted to customers regarding water use. Therefore, there are benefits in looking at both water and sewer rates simultaneously. Ashland is also in the planning stages of upgrading the sewage plant to comply with higher waste water quality discharge standards. The sewer rate analysis assists the City in assessing future increases in sewer rates from this project.



Regarding sewer rates, Ashland's current rate schedule (included in Appendix A) assesses a fixed monthly charge of \$12.30 for each single family and condominium unit and \$9.70 for each multiple family and mobile home/trailer unit. All other users are charged a fixed monthly charge of \$12.30 and a quantity charge of \$1.10/Ccf for all water use exceeding 10 Ccf/month. The outside City rates are 2.0 times inside City rates. The City has encouraged commercial customers to apply for irrigation water meters when irrigation is a significant factor. Water used for irrigation is not returned to the sewer system, and, hence, should not be assessed sewage charges. In some cases where an irrigation meter is not practical and outdoor irrigation is a significant factor, such as with some bed and breakfast customers, the City has entered into special agreements limiting the water assessed the sewer charge. Historical sewer rates for single family units are listed in Exhibit I-2.

### Exhibit I-2

#### Historical Sewer Rates for Single Family Customers

EFFECTIVE DATE	MONTHLY CHARGE	
	\$/Month	% Increase
June 1982	\$6.95	-
June 1984	\$7.50	8 %
June 1989	\$8.00	7 %
June 1991	\$8.10	1 %
June 1992	\$9.00	11 %
January 1993	\$12.30	37 %

### RATE-MAKING PROCESS

Calculation of both water and sewer rates consists of three steps. First, the expected future revenue requirements to be collected from rates must be determined. These revenue requirements are then allocated into base and peak functional cost categories. Lastly, the allocated revenue requirements are divided by the expected customer characteristics (i.e., number of accounts or water usage) to obtain rates.

In the water rate analysis, the future prices associated with three alternative rate structures were calculated. All three alternatives have fixed and variable charges. The fixed charges are related to meter size. Alternative I, which corresponds to Ashland's current rate structure, maintains the same relationship between fixed charge and meter size. Alternatives II and III contain service charges that relate the service charge to meter size in proportion to the nominal capacities of meters.



## COMPUTER MODEL AND ASSUMPTIONS

The rate analyses presented in this study were accomplished using a spreadsheet computer program. The program provides a convenient means for re-calculating rates when certain assumptions change. Ashland staff were very involved with the formulation of the model and provided financial, customer characteristic, and background data. The model has a five-year planning horizon, currently spanning calendar years 1994 to 1998. In future years, the model can be updated with new data to get a new five-year projection.

The model makes two assumptions regarding future growth rates in Ashland. First, the model assumes cost inflation in both the water and sewer enterprises over the next several years will be at an annual 4.0 percent rate. The second assumption regards growth in number of customers served. The model assumes a 1.02 percent annual growth rate as projected by Fregonese and Reid (described in Ashland's Comprehensive Plan), which was also used by Synergic Resources Corporation in their study.

Another set of assumptions concerns financial projections. The model includes the best estimates made by Ashland staff as of October 1993. One large item that will have a significant impact on sewer rates involves the timing and the cost of the upcoming sewage disposal project. Currently, it is assumed that the project will be operational in 1998 and will cost \$23.5 million.

The next two chapters describe the water and sewer rate analyses respectively. The chapters present summary data and focus on policy issues, especially with respect to the design of the rate structures. Appendices B and C contain printouts of the rate models, which document the analysis in greater detail.

## CHAPTER II. WATER RATE ANALYSIS

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REVENUE REQUIREMENTS  
COST OF SERVICE ALLOCATIONS  
RATE DESIGN



## CHAPTER II. WATER RATE ANALYSIS

This chapter describes the water rate analysis. The process consists of identifying revenue requirements and customer water use characteristics, allocating revenue requirements into cost categories, and then calculating rates that recover the allocated requirements over the customer characteristics (i.e., number of meters and water use). Three alternative rate structures are presented, including Ashland's existing increasing three-block rate structure, a modified increasing block rate structure, and a seasonal rate structure. All three rate structures have relative advantages. The last two sections in this chapter summarize these advantages and discuss how each rate structure could impact customers.

### REVENUE REQUIREMENTS

Revenue requirements are the annual costs incurred in providing water service, which are to be recovered through monthly service and quantity charges. Revenue requirements for calendar years 1993 through 1998 are shown in Exhibit II-1. Because Ashland operates on a fiscal year basis starting July 1, calendar year figures are derived by averaging fiscal year estimates.

Revenue requirements equal expenses minus non-rate revenues. Expenses include costs for operations and maintenance, capital outlays/debt service, and transfers to reserve funds. The reserve funds are used for capital improvement projects and for operating reserves. Non-rate revenues, which are estimated to be \$90,000/year over the planning period, are collected from new service installations and other miscellaneous fees. A detailed itemization of costs is shown in Appendix B.

The projections show the need for a 5 percent revenue requirement increase in 1994, followed by even greater increases in 1995 and 1996, with a leveling off thereafter.

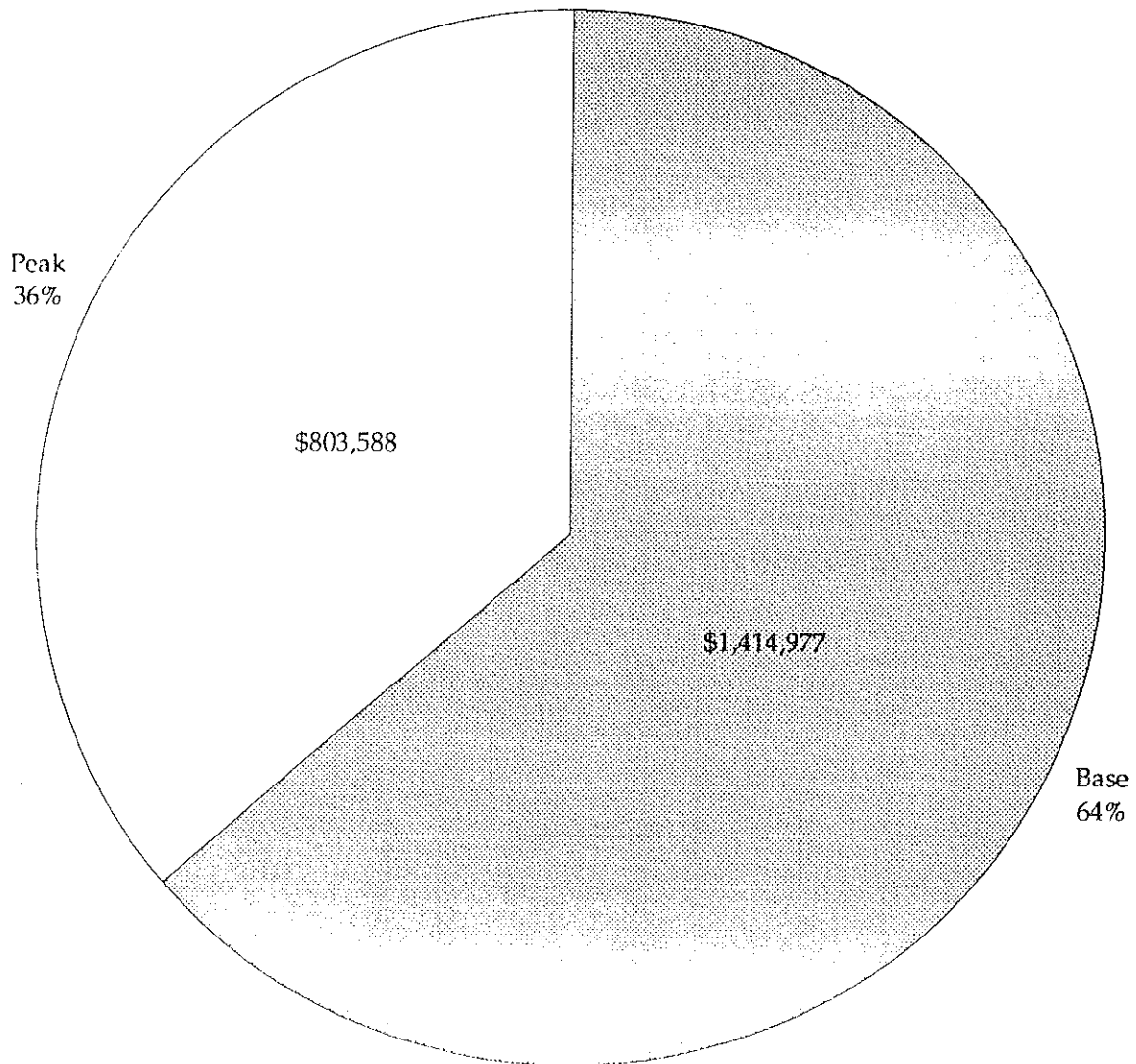
### COST OF SERVICE ALLOCATIONS

Annual revenue requirements are divided into base and peak cost categories. Base costs comprise general costs incurred in producing water on an average annual basis, including administrative costs. The cost of service analysis determined that base costs account for 64 percent of revenue requirements. Peak costs, the remaining 36 percent of revenue requirements, pertain to costs related solely to the peak season. They include capacity costs (water system components designed on maximum day or hour criteria) and the costs of the water conservation program. Exhibit II-2 shows the allocation of revenue requirements for 1994.



Exhibit II-2

Water Fund Revenue Requirement  
(1994)



Total \$2,218,565



Exhibit II-3  
Water Sales and Accounts

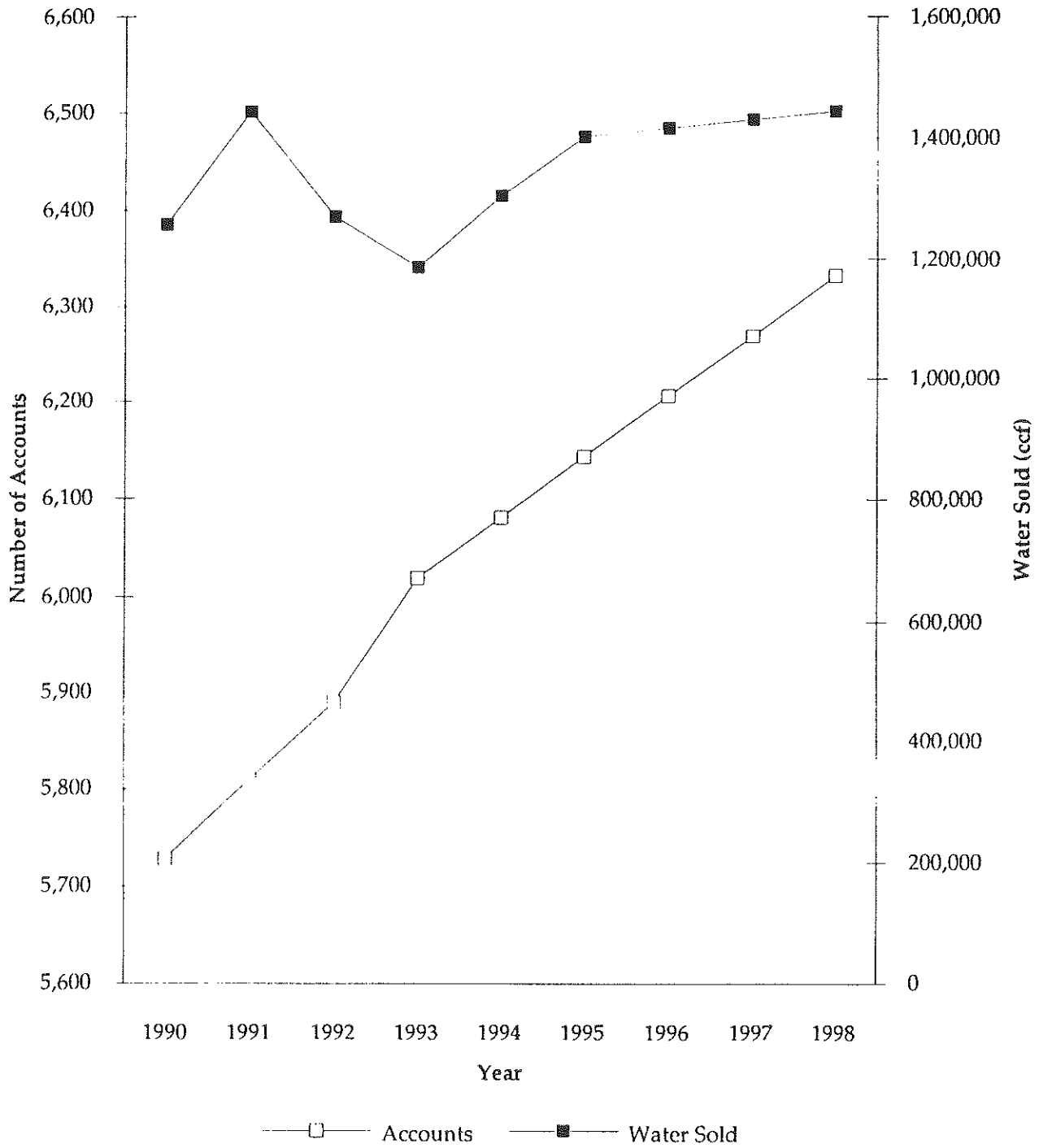
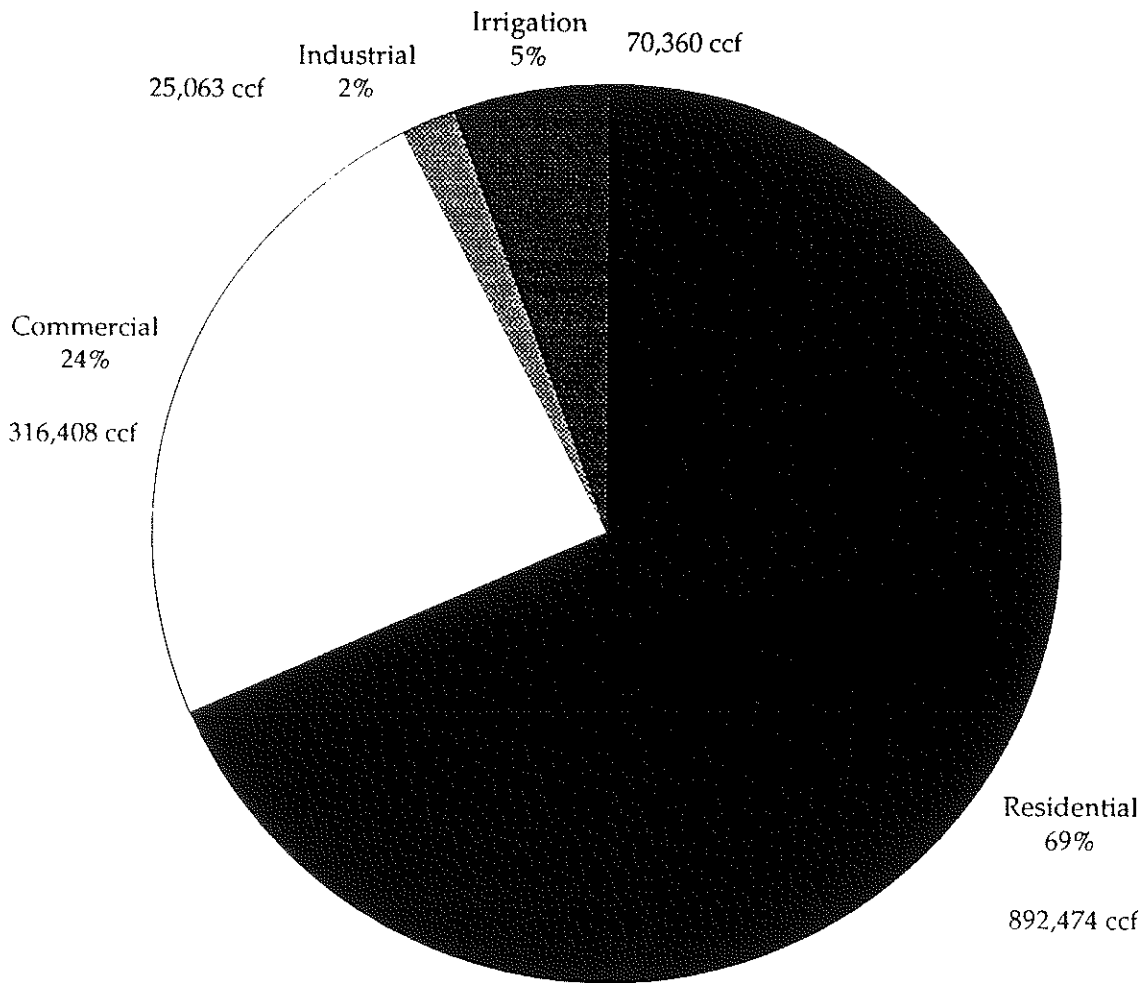


Exhibit II-5

Projected Water Use by Customer Class (1994)



Total 1,304,305 ccf



Exhibit II-7

Commercial Bill Frequency  
(September 1992 - August 1993)

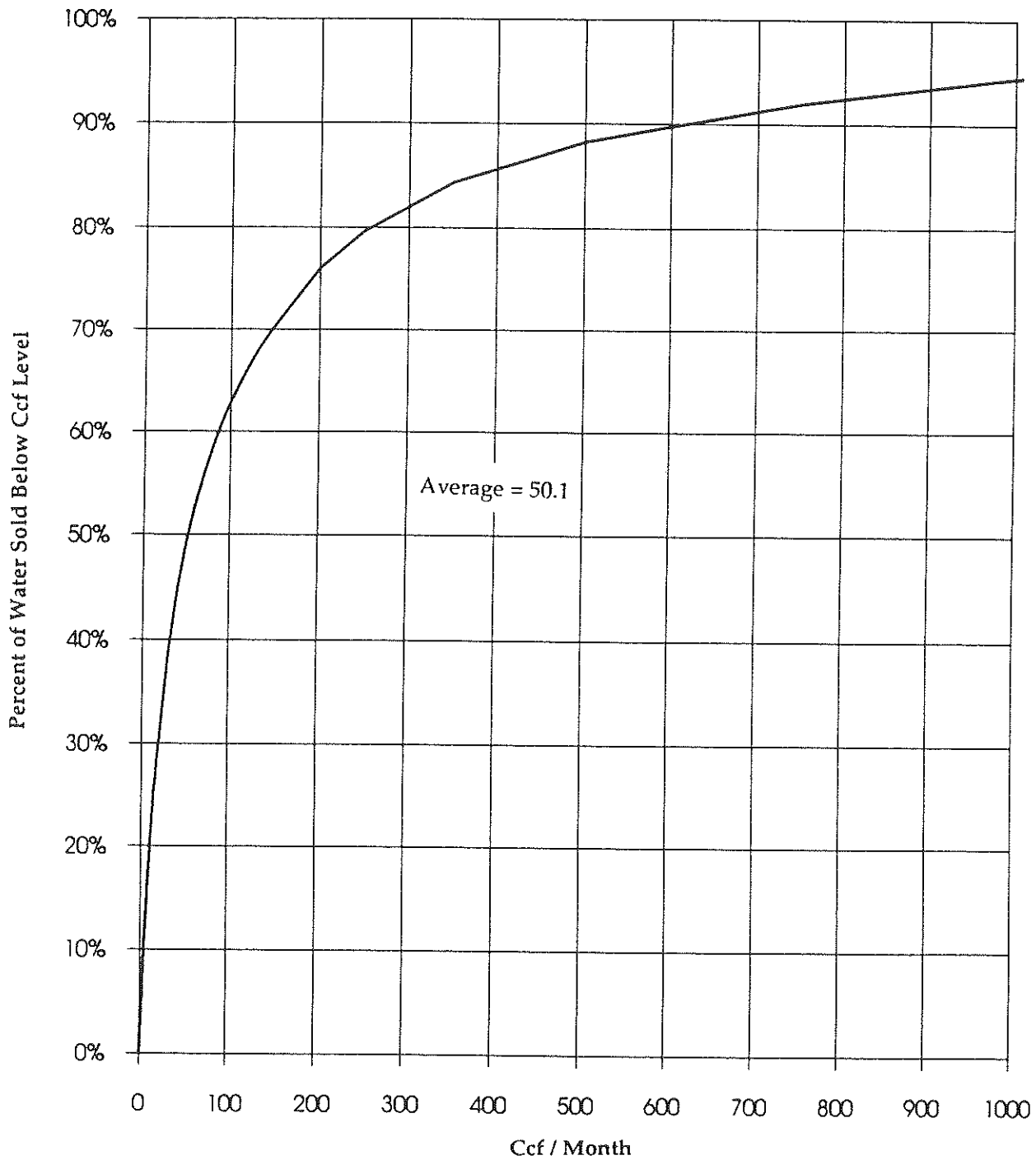


Exhibit II-8

Revenue Requirement Allocated to Customer Classes (1994)

	<u>Rate Revenue Required</u>	<u>Total</u>	<u>Residential</u>	<u>Non- Residential</u>
Base Component	\$1,414,977		\$998,904	\$416,073
Peak Component	<u>\$803,588</u>		<u>\$543,342</u>	<u>\$260,246</u>
Subtotal	\$2,218,565		\$1,542,245	\$676,320
Share of revenue requirement		100%	70%	30%
Revenue paid under current rates	\$2,110,469		\$1,429,146	\$681,322
Share of revenue paid		100%	68%	32%
Increase compared to current rates	5%		8%	(1%)



Exhibit II-10

Summary of Alternative Rates  
(1994)

	Alternative I	Alternative II	Alternative III
<b>Monthly Service Charge</b>			
3/4"	\$8.73	\$8.30	\$8.30
1"	\$9.46	\$11.20	\$11.20
1.5"	\$11.88	\$15.77	\$15.77
2"	\$12.61	\$20.75	\$20.75
3"	\$25.23	\$41.50	\$41.50
4"	\$35.64	\$66.39	\$66.39
6"	\$61.60	\$124.49	\$124.49
8"	\$83.68	\$207.48	\$207.48
<b>Quantity Charge (per Ccf)</b>			
<b>Residential Consumption</b>			
Up to 36 ccf per month	\$1.11	---	---
37 to 72 ccf per month	\$1.35	---	---
Over 72 ccf per month	\$1.62	---	---
0 to 3 ccf per month	---	\$1.04	---
4 to 10 ccf per month	---	\$1.16	---
11 to 25 ccf per month	---	\$1.53	---
Over 25 ccf per month	---	\$1.94	---
Winter Season	---	---	\$0.79
Summer Season	---	---	\$1.58
<b>Non-Residential Consumption</b>			
Block Size Varies	\$1.11	---	---
by Meter	\$1.35	---	---
Size	\$1.62	---	---
0 to 50 ccf per month	---	\$1.21	---
Over 50 ccf per month	---	\$1.25	---
Winter Season	---	---	\$0.79
Summer Season	---	---	\$1.58



## Exhibit II-12

Basic Service Charge Multipliers  
for Alternatives II and III

Meter Sizes (inches)	Nominal Capacities (gpm)	Capacity Multiplier (EMUs*)	Multiplier Used for 1994 Rates	Multiplier Used in Current Rates
3/4"	10	1.00	1.00	1.00
1"	25	2.50	1.35	1.08
1.5"	50	5.00	1.90	1.36
2"	80	8.00	2.50	1.45
3"	160	16.00	5.00	2.89
4"	250	25.00	8.00	4.08
6"	500	50.00	15.00	7.06
8"	800	80.00	25.00	9.59

\* EMUs are equivalent 3/4" meters

To generate 30 percent of the revenue from these meters, the 3/4 inch basic service charge should be \$6.70, which results in basic service charges of as much as \$536.33 for 8 inch meters. These basic service charges have not been recommended because they represent radical departures (percentage-wise) from the existing basic service charges. It is recommended in this report that capacity-based multipliers for the basic service chargers should be phased in. It is recommended that the current 3/4 inch rate of \$8.30 should be maintained and the rates for the larger meters should be partially increased. Over time, the rates for the larger meters can be increased until the full capacity multipliers are reached. For 1994, basic service charges for Alternatives II and III increase from \$8.30/month for a 3/4 inch meter to \$207.48/month for a 8 inch meter in 1994.



Exhibit II-13

Alternative II - Residential Increasing Block Rates  
(Single and Multi-Family Residential)

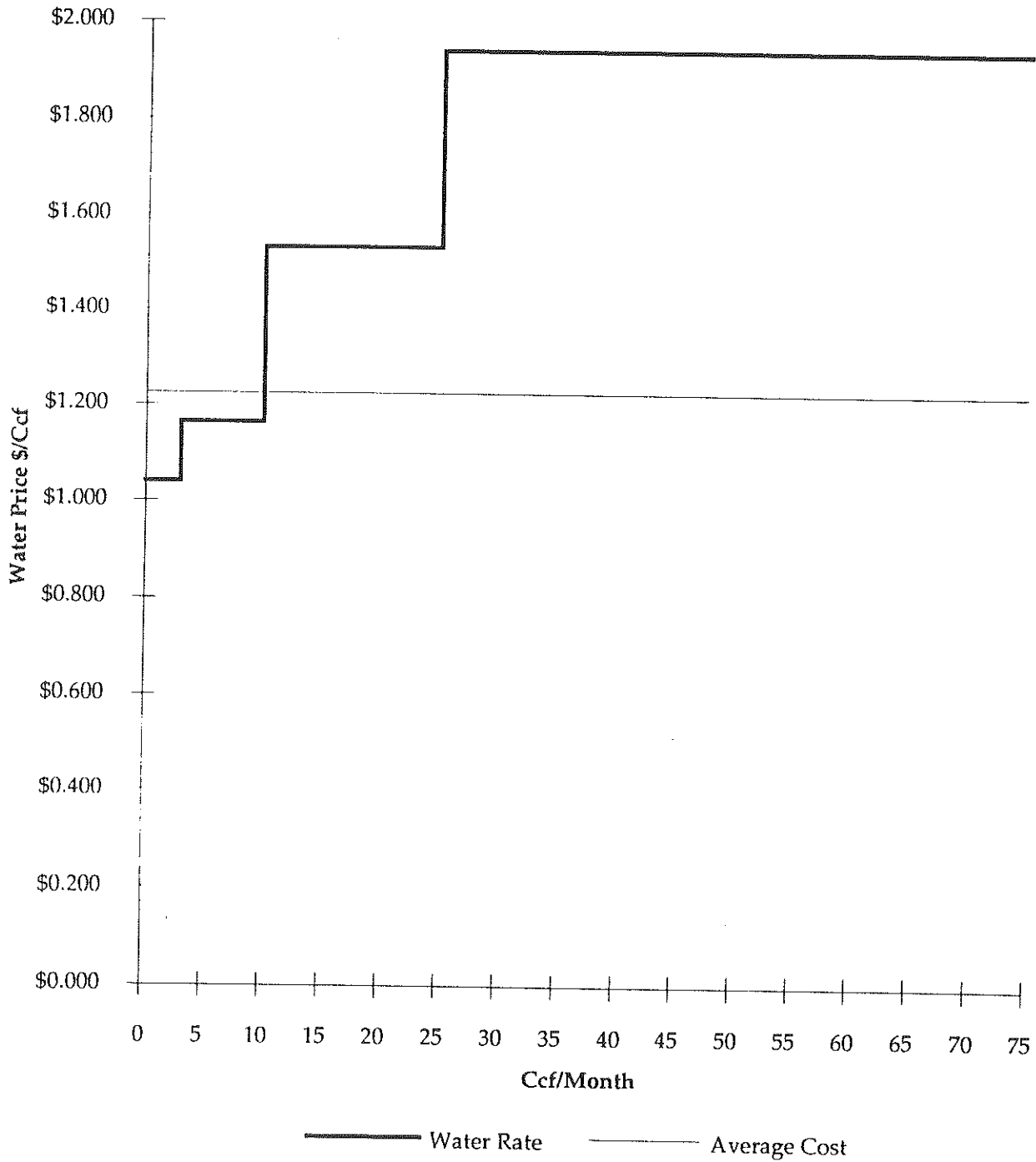
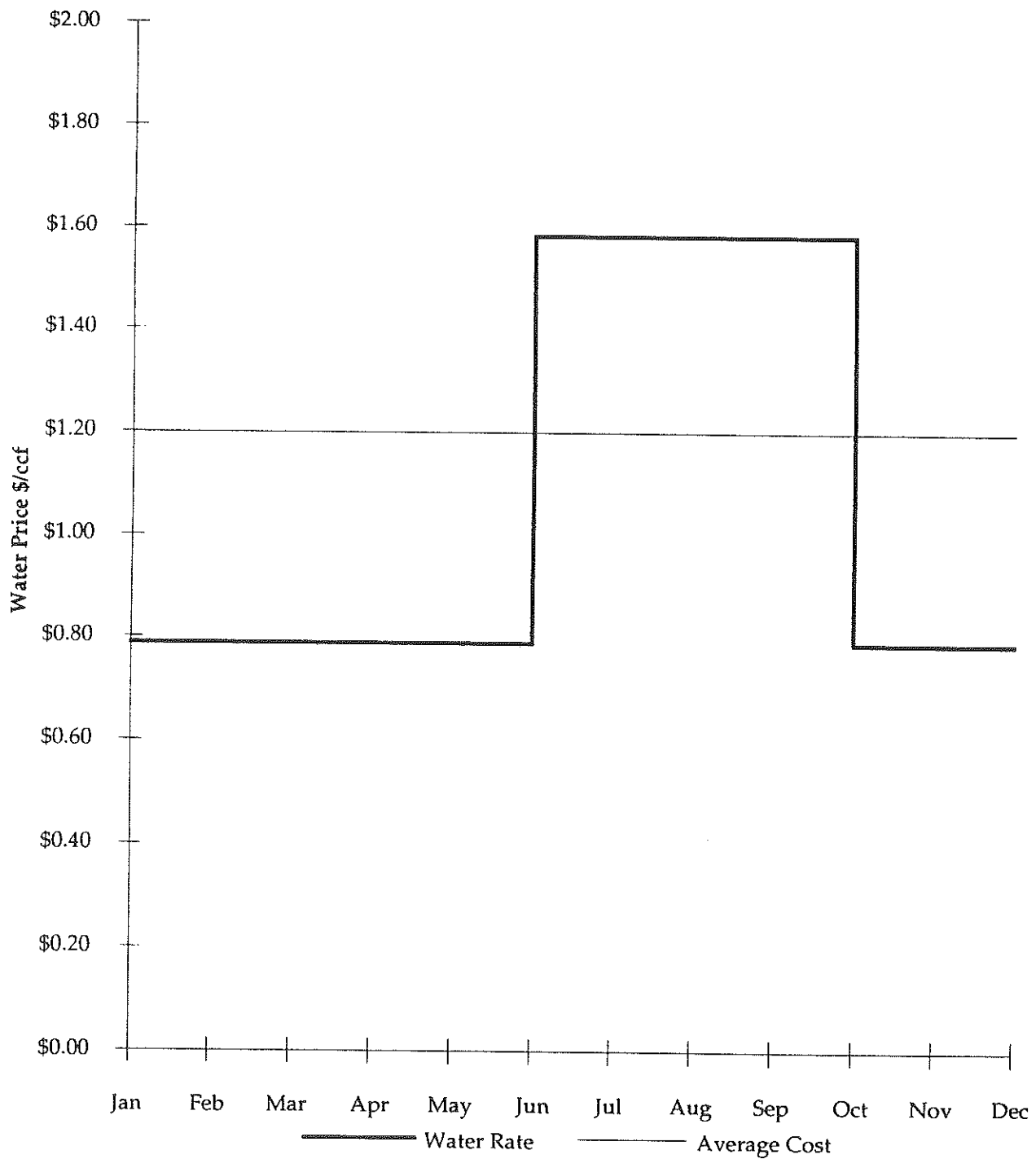


Exhibit II-15

Alternative III - Seasonal Block Rates



## Exhibit II-16

## Water Rate Structure Evaluation

Evaluation Criteria	Total Possible Points	Alternative I (Existing increasing blocks)	Alternative II (Modified increasing blocks)	Alternative III (Seasonal uniform)
• Revenue Stability	20	15	12	5
• Cost of Service Equity	20	10	18	20
• Conservation				
- Residential	15	5	15	12
- Non-residential	15	5	10	13
• Customer Understanding	5	4	4	4
• Administration	5	4	3	5
• Affordability	20	15	15	10
• Total Points	100	58	77	69

## DEFINITION OF RATING CRITERIA

- Revenue Stability -- The ability to generate sufficient revenues year-to-year in order to meet financial obligations.
- Cost of Service Equity -- The ability to have each customer's bill equal the costs incurred in providing that service.
- Water Conservation -- The ability to efficiently reduce water consumption by discouraging wasteful, low-value uses of water.
- Customer Understanding -- The ability of customers to clearly understand and accept rates.
- Administration -- The ease of administering the rate structure.
- Affordability -- The ability of low-income customers to purchase water for essential indoor uses.



each percentage change in price. Price elasticity, although difficult to study in isolation, can be appreciable. Research suggests that, for water rates in the range being proposed in this report, price elasticities of -0.3 and -0.2 for residential and non-residential customers, respectfully, can be expected. This means, for example, a flat 10 per cent increase in residential rates could yield a 3 percent decrease in long-term residential water use. In the short-run, price elasticity should be somewhat less because it takes time for customers to adjust to new price levels and to change water related investments such as landscaping and bathroom fixtures. The rate model assumes that only a third of the long-run price adjustment will occur over a year. Exhibit II-17 shows the estimated long-run reductions in peak season water use resulting from the different pricing alternatives.

Exhibit II-17

## Peak Season Long-Run Water Reductions from Pricing Alternatives

Class	Alternative I Existing Rates	Alternative II	
		Modified Increasing Block Rates	Alternative III Seasonal Rates
Residential	-0.3 %	-13.0 %	-11.6 %
Non-Residential	-0.2 %	-2.2 %	-7.8 %
Total	-0.3 %	-7.8 %	-9.8 %

Under Alternative I, water rates increase only slightly faster than inflation leading to a very modest -0.3 percent reduction in total water use. Alternative II, where higher block users face higher prices, has residential users reducing 13.0 percent. On the other hand, because the non-residential price differential between the first and second blocks is small, non-residential customers are expected to reduce consumption by only 2.2 percent. Alternative III is the best at the water conservation objective. Single family customers are expected to save 11.6 percent, non-residential customers 7.8 percent, for an overall savings of 9.8 percent.

**Customer Understanding.** The success of implementing any rate structure depends on customers understanding and accepting rates. If a rate structure is too complicated, for example, customers may find it difficult to rationally respond to price signals. Confusion can lead to a lack of confidence in the equity underlying rates. Therefore, simplicity is advantageous. In this report, all three alternatives are regarded as relatively easy for customers to understand.

**Administration.** The existing rate structure is administratively appealing because it is the incumbent rate structure. There are no additional administrative duties added. The seasonal rate option would require some programming changes in the

Exhibit II-18  
Residential Water Bills

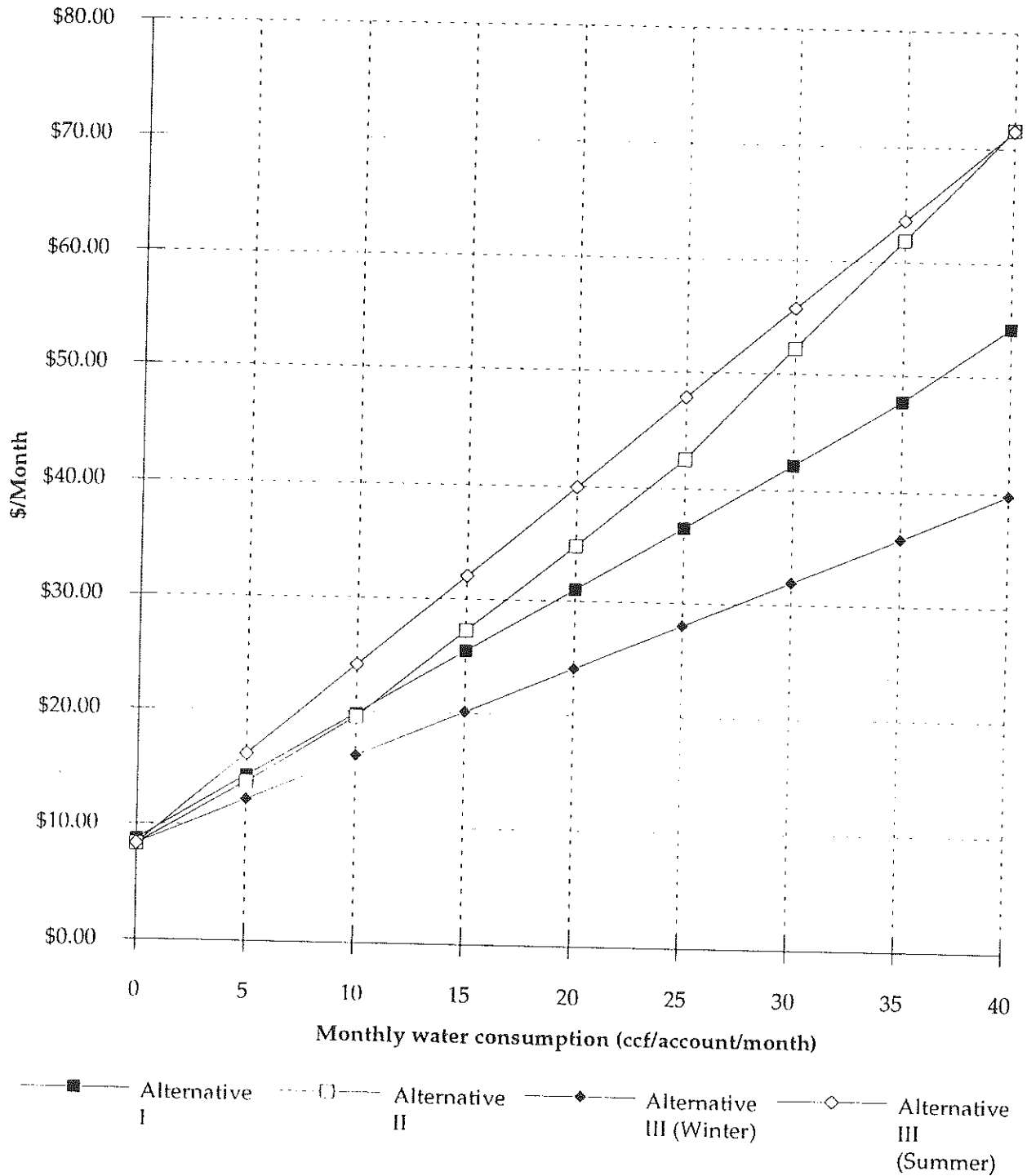


Exhibit II-20

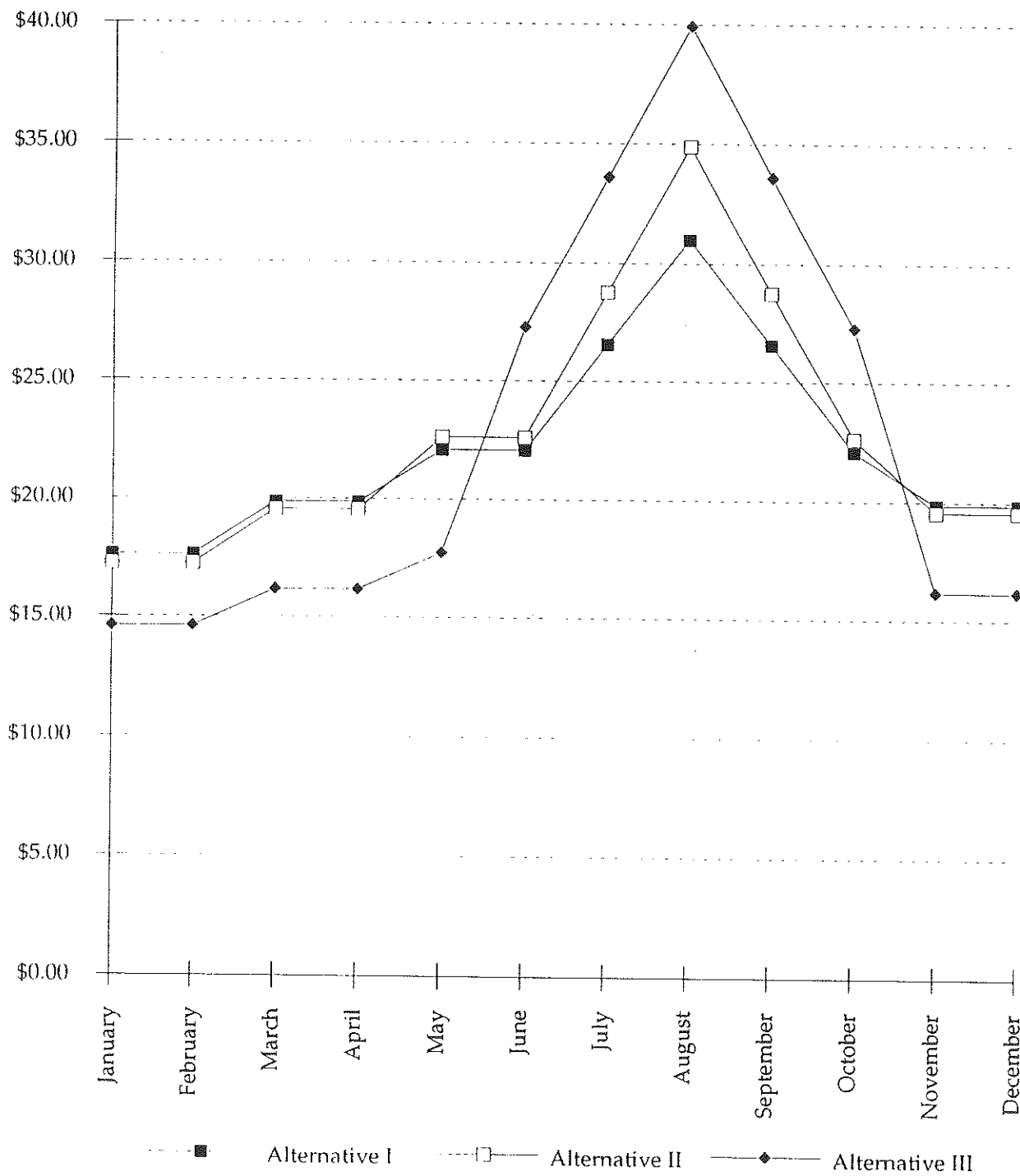
Estimated Average Annual  
Non-Residential Customer Bills

Exhibit II-21

Impact of Seasonal Rates vs.  
Peak Load Factor

	Consumption (CCF)	Alt. I	Alt. II	Alt. III
January	40	\$53.30	\$56.78	\$39.81
February	45	\$58.87	\$62.84	\$43.75
March	45	\$58.87	\$62.84	\$43.75
April	45	\$58.87	\$62.84	\$43.75
May	45	\$58.87	\$62.84	\$43.75
June	55	\$70.01	\$75.17	\$95.26
July	60	\$75.58	\$81.44	\$103.17
August	60	\$75.58	\$81.44	\$103.17
September	60	\$75.58	\$81.44	\$103.17
October	55	\$70.01	\$75.17	\$95.26
November	45	\$58.87	\$62.84	\$43.75
December	45	\$58.87	\$62.84	\$43.75
TOTAL	600	\$773.28	\$828.44	\$802.37

Compared to Alternative I

7%

4%

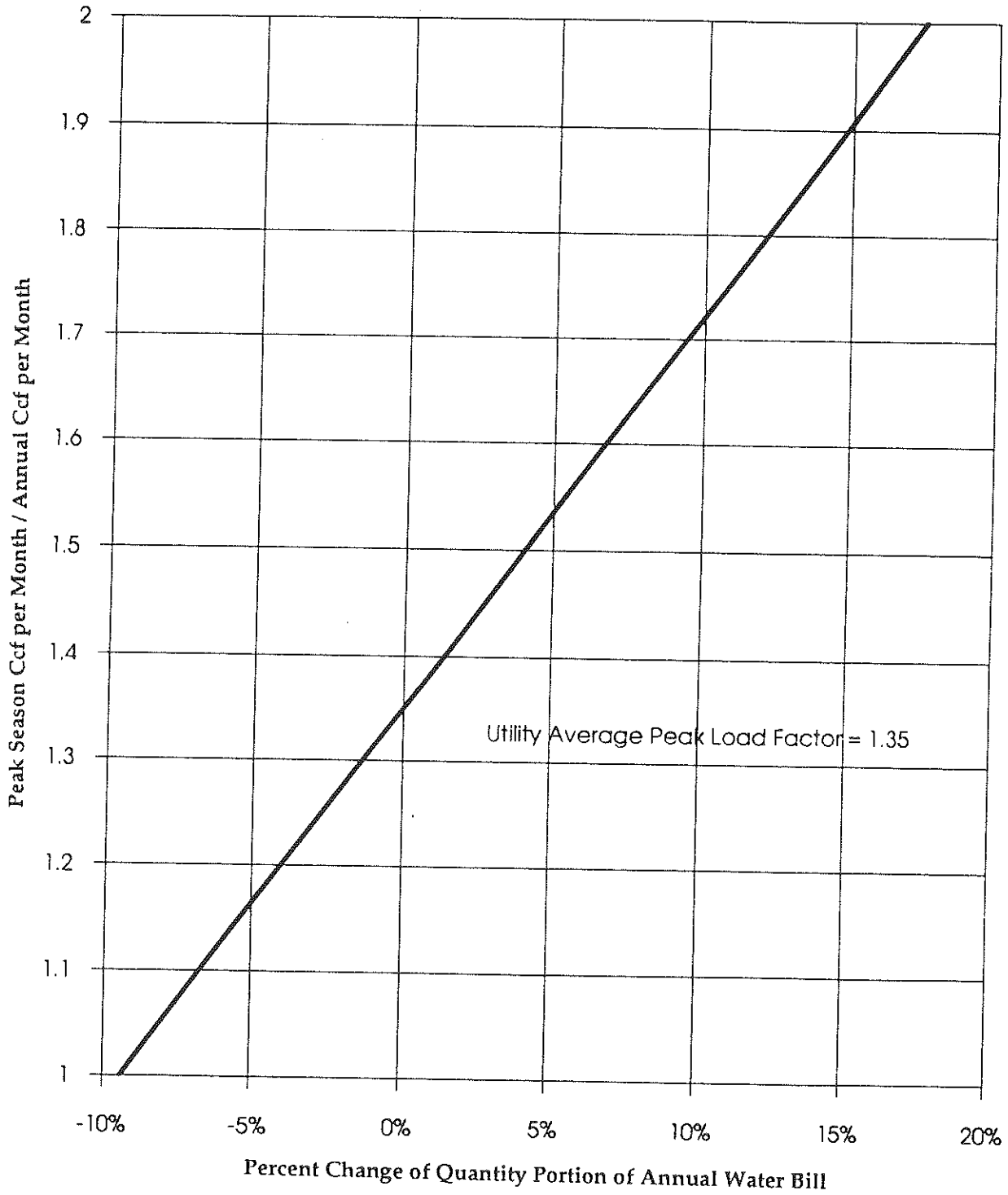
\*Note: Assumes Non-Residential Customer has 3/4" meter.

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Exhibit II-23

Impact of Seasonal Rates vs.  
Peak Load Factor



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## CHAPTER III. SEWER RATE ANALYSIS

REVENUE REQUIREMENTS  
COST OF SERVICE ALLOCATIONS  
RATE DESIGN



## CHAPTER III. SEWER RATE ANALYSIS

This chapter describes the sewer rate analysis. The general process for calculating sewer rates is similar to the water rate analysis. Annual revenue requirements and customer discharge characteristics are determined, revenue requirements are allocated into cost categories, and rates are calculated to recover the allocated revenue requirements over the customer characteristics (i.e., number of accounts and sewer flow). Some differences, however, exist between developing water and sewer rates. For example, water rates are concerned primarily with water quantity and rates of delivery. Sewer rates, on the other hand, depend both on the quantity and quality of water discharged.

Two alternative sewer rate structures are presented. The first is Ashland's existing rate structure. The second aims at setting user chargers so that they enhance the water conserving price signal sent to customers. This is accomplished by linking each residential customer's sewer bill to average winter water use and by reducing the monthly minimum for commercial customers. As with the water rate structures, each structure has relative advantages. The last section in this chapter summarizes these advantages and discusses how each rate structure could impact customers.

### REVENUE REQUIREMENTS

Revenue requirements are the annual costs incurred in providing sewer service to customers that are to be recovered through monthly charges. Revenue requirements for the calendar years 1993 through 1998 are shown in Exhibit III-1. Because Ashland operates on a fiscal year basis starting July 1, calendar year figures were estimated by averaging fiscal year estimates.

Revenue requirements equal expenses minus non-rate revenues. Expenses include costs for operations and maintenance, capital outlays/debt service, and transfers to reserve funds. The reserve funds are used for capital improvement projects and for operating reserves. Non-rate revenues are collected from new service connections and other miscellaneous fees. Ashland's Prepared Food and Beverage Tax provides a significant source of non-operating revenue to the Sewer Fund. Revenue from this tax, which was recently upheld by the voters, is collected by commercial sewer customers and is not available to the Water Fund. A more detailed itemization of costs is shown in Appendix C.

The projections indicate the need for significant revenue requirement increases throughout the five-year planning period as a result of the impending sewage treatment/discharge project. These rate increases continue for at least two years more until 2000.



## COST OF SERVICE ALLOCATIONS

Annual revenue requirements are divided into the three cost categories of flow, biological oxygen demand (BOD), and suspended solids (SS). Based on analysis of waste water facility design criteria, 70, 15 and 15 percent of costs are allocated to flow, BOD, and SS, respectively, as shown in Exhibit III-2.

Annual revenue requirements are also divided into residential and non-residential customer classes. Exhibit III-3 shows the sewer flow and strength assumptions and Exhibit III-4 shows the split of the 1994 revenue requirements by class and cost category.

The allocations in Exhibit III-4 show that 59 percent and 41 percent of the revenue requirement is attributable to residential and non-residential customers, respectively. Under current sewer rates, it is estimated that residential customers would pay 72 percent and non-residential customers 28 percent. The cost of service analysis indicates how much the current rates subsidize non-residential customers at the expense of residential customers.

For purposes of calculating rates for Alternative II, it is recommended that an adjustment should be made to these cost of service allocations to avoid rate shock with the non-residential customers. This is justified not only because it is inadvisable to impose rate shock on a customer class but also because the residential customers will experience rate relief from that portion of the Prepared Food and Beverage Tax revenue that is allocated to them. It seems reasonable that non-residential customers should initially receive a greater share of this tax revenue to mitigate rate shock, because it is non-residential customers alone that are burdened with collecting the tax revenue.

Over time, this inter-class subsidy can be phased out until non-residential rates reflect the full cost of service. The manner by which the subsidy could be implemented will be explained in the rate design section of this chapter. The result is that the percentage amount of the non-residential revenue requirement increase is halved to 39 percent and the residential revenue requirement is increased 15 percent. In view of the fact that the overall revenue requirement increase is 22 percent, these adjustments are viewed as reasonable.

### Customer Characteristics

The next step is to project the number of sewer accounts and volume of waste water processed over the five-year planning horizon. The number of sewer accounts for 1994 is projected to be 5,705 (fewer than water accounts because irrigation accounts are not included). Growth in the number of accounts assumes an annual 1.02 per



Exhibit III-3

Customer Class Allocation Factors

- Flow factors are derived from projected annual discharges to plant:
  - Residential (based on annualized average winter-water demand) 63%
  - Non-residential (based on annual water demand, excluding irrigation accounts) 37%
  - 100%
  
- BOD factors are derived from strength concentrations multiplied by projected discharges:
  - Residential (185 mg/liter times discharge) 48%
  - Non-residential (286 mg/liter times discharge) 52%
  - 100%
  
- SS factors are derived from estimated concentrations multiplied by projected discharges:
  - Residential (185 mg/liter times discharge) 53%
  - Non-residential (247 mg/liter times discharge) 47%
  - 100%

cent growth rate. The water use estimates and projections presented in Chapter II are used to estimate sewer flows.

The second rate structure alternative requires an analysis of residential winter water use. Winter is defined by metered water consumption in the three months of January through March. The frequency of customers that exceed threshold amounts of water during a billing period in the winter is shown in Exhibit III-5. For example, it was found that 76 percent of water sold was at or under 6 Ccf a month.

## **RATE DESIGN**

This section describes the two rate structure alternatives. Exhibit III-6 lists the features and Exhibit III-7 shows the 1994 rates calculated for the two structures. The first alternative is the existing sewer rate structure. The second makes two major adjustments that improve equity and the conservation signal sent to customers.

For residential customers, Alternative II switches from a residential flat rate (independent of flow) to a fixed service charge and a rate dependent on average winter water use. During the winter, when outdoor irrigation is minimal, a customer's water use and sewer flow are closely correlated. Therefore, cost of service equity can be improved by having customers with large sewer flows pay more than customers with small sewer flows.

For non-residential customers, Alternative II also adds a fixed service charge (\$10.00/month in 1994) and eliminates the 10 Ccf/month minimum. Eliminating the minimum assists small users that may use under 10 Ccf in some months. In addition, this rate structure is simpler to understand and is more in line with standard rate-making practices.

Alternative II was adjusted in the following way to phase in the non-residential rates: (1) the non-residential quantity charge was held at the same \$1.34 as in Alternative I, which produced an estimated \$143,000 shortfall; (2) the residential 6 Ccf minimum flow threshold was lowered to 4 Ccf, which means that residential customers pay a quantity charge on 2 Ccf/month more, thereby offsetting the shortfall.

## **Rate Structure Comparison**

Each of the sewer rate structures has advantages. Exhibit III-8 shows the relative strengths of each with respect to the rate objectives listed in Chapter I. From this evaluation, Alternative II is clearly the preferred structure. A discussion of how each rate structure achieves each rate objective is described below.

## Exhibit III-6

## Sewer Rate Structure Alternatives

Rate Structure	Alternative I (Existing structure)	Alternative II (Discharge based structure)
<b>I. Fixed Monthly Charges</b>		
A. Basic service charges		
1. Flat rate (independent of discharge)		
a. Residential		
- Single family (per account)	Existing	Replaced
- Condominiums (per unit)	Existing	Replaced
- Multi-family, mobile homes (per unit)	Existing	Replaced
b. Commercial (per account)	Existing	Replaced
- Communal sleeping facilities	Existing	Replaced
- Other	Existing	Replaced
2. Service charge (per account or dwelling unit)		New
B. Pumping Charge	Existing	Eliminated
<b>II. Variable Charges</b>		
A. User charge (excluding irrigation accounts)		
1. Uniform charge		
a. Commercial (for monthly water use exceeding 10 hcf)	Existing	Replaced
2. Uniform charge		
a. Single and multi-family residential (for avg winter water use exceeding 6 hcf)		New
b. Commercial (based on monthly water use)		New



Exhibit III-8

Sewer Rate Structure Evaluation

Evaluation Criterion	Total Possible Points	Alternative I (Existing structure)	Alternative II (Discharge based)
• Revenue Stability	20	15	10
• Cost of Service Equity	20	10	15
• Conservation			
- Residential	15	0	15
- Non-residential	15	5	10
• Customer Understanding	5	3	3
• Administration	5	5	3
• Affordability	20	10	15
• Total Points	100	48	71

DEFINITION OF RATING CRITERIA

- Revenue Stability -- The ability to generate sufficient revenues year-to-year in order to meet financial obligations.
- Cost of Service Equity -- The ability to have each customer's bill equal the costs incurred in providing that service.
- Water Conservation -- The ability to efficiently reduce water consumption by discouraging wasteful, low-value uses of water.
- Customer Understanding -- The ability of customers to clearly understand and accept rates.
- Administration -- The ease of utility to administer rate structure.
- Affordability -- The ability of low-income customers to purchase water for essential indoor use.

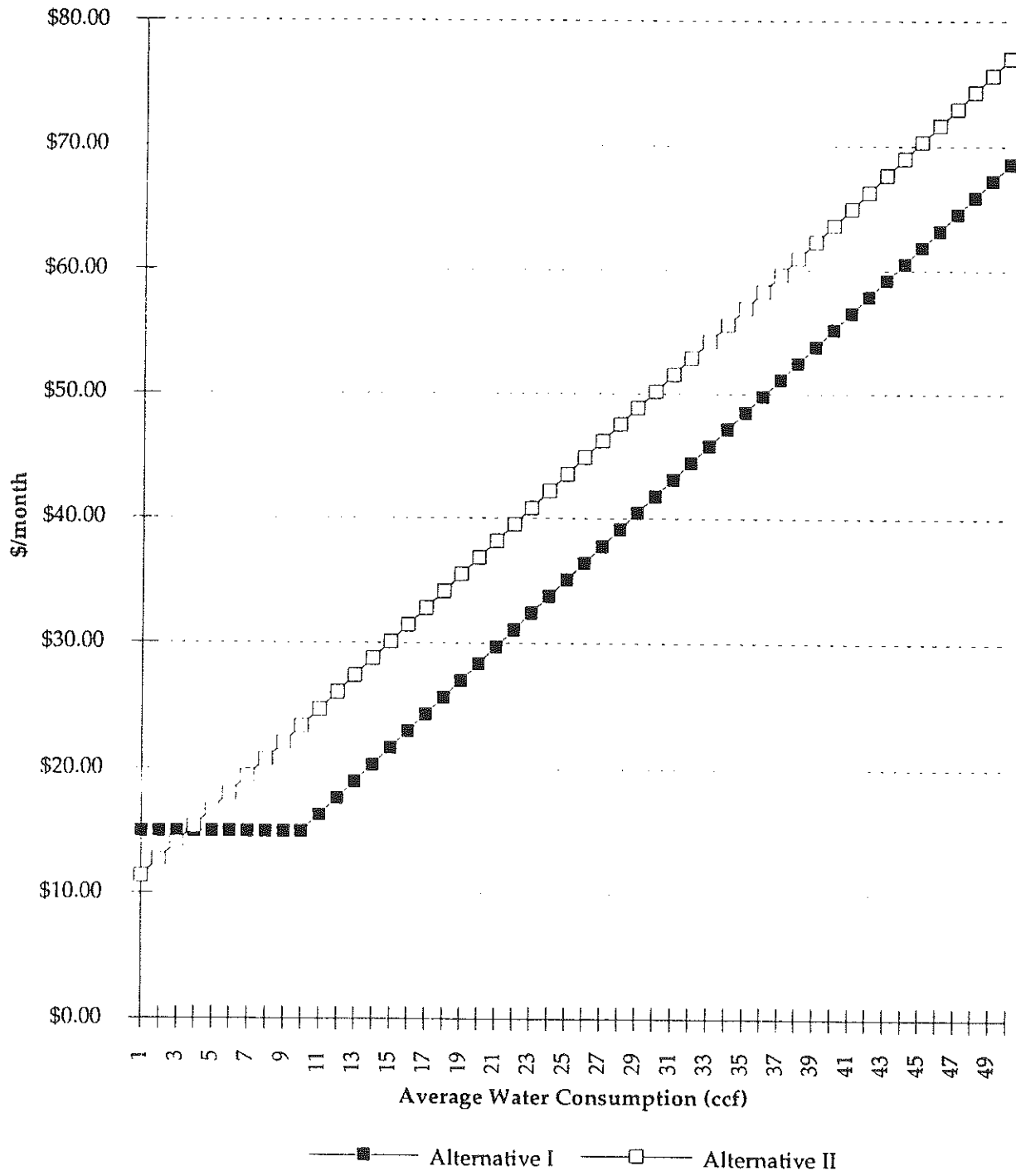


### Bill Analysis

The previous section discussed the advantages of each rate structure with respect to the six rate-making objectives. This section shows what types of customers will gain and lose under the alternatives.

Exhibit III-9 plots the residential sewer bill against the average number of Ccf used per month in the winter for the two rate structure alternatives. It is clear that all customers using less than 9 Ccf/month in the winter will have lower bills under Alternative II compared with Alternative I. Exhibit III-10 plots the non-residential sewer bills under the two alternatives up to 50 Ccf per month.

Exhibit III-10  
Commercial (Non-Residential)  
Sewer Bills



- A. CURRENT WATER AND SEWER RATE SCHEDULES**
- B. WATER RATE MODEL**
- C. SEWER RATE MODEL**

CURRENT WATER RATES  
CURRENT SEWER RATES

RESOLUTION NO. 92-58

A RESOLUTION ADOPTING WATER RATE SCHEDULES PURSUANT  
TO SECTION 14.04.030 OF THE ASHLAND MUNICIPAL CODE.

THE MAYOR AND CITY COUNCIL OF THE CITY OF ASHLAND DO  
RESOLVE AS FOLLOWS:

SECTION 1. The "Water Rate Schedule" marked Exhibit "A" and attached to this Resolution is adopted as the water rates for use and sale of water inside and outside the City limits from the municipal water system.

SECTION 2. Three (3) copies of this Resolution and Exhibit "A" shall be maintained in the office of the City Recorder and shall be available for public inspection during regular business hours.

SECTION 3. The rates adopted on Exhibit "A" shall be increased annually on July 1st based on the Engineering News Record Construction Cost Index (ENR). The City Administrator will provide the City Council with a review of the rate structure with the 1995-1996 budget. The initial ENR is established at 4927.


SECTION 4. The rates adopted pursuant to this Resolution shall be effective with water meter readings taken on or after January 1, 1993.

SECTION 5. Resolution 91-48 is repealed on the effective date of this Resolution.

The foregoing Resolution was READ and DULY ADOPTED at a regular meeting of the City Council of the City of Ashland on the 15th day of December, 1992.

  
\_\_\_\_\_  
Nan E. Franklin, City Recorder

SIGNED and APPROVED this 17<sup>th</sup> day of December,  
1992.

  
\_\_\_\_\_  
Pat Acklin, Acting Mayor

\_\_\_\_\_  
Reviewed as to form

**EXHIBIT "A"**

**CITY OF ASHLAND, OREGON**

**WATER RATE SCHEDULE**

**RESOLUTION NO. 92-  
ADOPTED DECEMBER 15, 1992  
EFFECTIVE DATE JANUARY 1, 1993**

All water service provided by the City of Ashland will be in accordance with Chapter 14.04 of the Ashland Municipal Code.

**I. WATER RATES WITHIN THE CITY LIMITS**

**A. BASIC SERVICE CHARGE.** The basic service charge applies to all metered water services and does not include any water consumption.

0.75	Inch Meter	\$ 8.30/month
1	Inch Meter	\$ 9.00/month
1.5	Inch Meter	\$11.30/month
2	Inch Meter	\$12.00/month
3	Inch Meter	\$24.00/month
4	Inch Meter	\$33.90/month
6	Inch Meter	\$58.60/month
8	Inch Meter	\$79.60/month

For condominiums or planned unit developments that are master metered the basic charge will be \$8.30 per month per unit.

**B. WATER CONSUMPTION CHARGE.** All customers will be charged the following rates per 100 cubic feet of water used.

**RESIDENTIAL METERS**

All sizes	\$ 1.06 up to	3600 cubic feet
All sizes	\$ 1.28 up to	7200 cubic feet
All sizes	\$ 1.54 over	7200 cubic feet

COMMERCIAL METERS

0.75	Inch Meter	\$ 1.06 up to	6400 cubic feet
0.75	Inch Meter	\$ 1.28 up to	12800 cubic feet
0.75	Inch Meter	\$ 1.54 over	12800 cubic feet
1	Inch Meter	\$ 1.06 up to	9200 cubic feet
1	Inch Meter	\$ 1.28 up to	18400 cubic feet
1	Inch Meter	\$ 1.54 over	18400 cubic feet
1.5	Inch Meter	\$ 1.06 up to	23000 cubic feet
1.5	Inch Meter	\$ 1.28 up to	46000 cubic feet
1.5	Inch Meter	\$ 1.54 over	46000 cubic feet
2	Inch Meter	\$ 1.06 up to	33000 cubic feet
2	Inch Meter	\$ 1.28 up to	66000 cubic feet
2	Inch Meter	\$ 1.54 over	66000 cubic feet
3	Inch Meter	\$ 1.06 up to	43000 cubic feet
3	Inch Meter	\$ 1.28 up to	86000 cubic feet
3	Inch Meter	\$ 1.54 over	86000 cubic feet
4	Inch Meter	\$ 1.06 up to	129000 cubic feet
4	Inch Meter	\$ 1.28 up to	258000 cubic feet
4	Inch Meter	\$ 1.54 over	258000 cubic feet
6	Inch Meter	\$ 1.06 up to	221000 cubic feet
6	Inch Meter	\$ 1.28 up to	442000 cubic feet
6	Inch Meter	\$ 1.54 over	442000 cubic feet
8	Inch Meter	\$ 1.06 up to	460000 cubic feet
8	Inch Meter	\$ 1.28 up to	920000 cubic feet
8	Inch Meter	\$ 1.54 over	920000 cubic feet

In condominiums or planned unit developments that are master metered, the total water consumed during a billing period shall be apportioned equally among the active accounts during the same billing period.

C. BOOSTER PUMPING CHARGE. A surcharge of \$6.30 per month is required where booster pumping is provided by the city within the city limits.

D. TID IRRIGATION WATER RATES

Unmetered Service	\$46.00/acre or portion of an acre
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Metered Service

Base Service Charge	Same as A, above.
Water Consumption	\$0.18 per 100 cubic feet

E. BULK WATER RATE. For water provided on a temporary basis through a bulk meter on a fire hydrant the following charges apply.

Deposit*	\$680.00
Basic Fee	\$75.00/installation
Cost of Water	Same as 2" Commercial

\* Deposit is refundable less basic fee, cost of water and any damage to the city meter, valve, wrench and/or hydrant.

III. RATES OUTSIDE THE CITY LIMITS

A. All rates and charges for water service provided outside the city limits will be 1.5 times the rates for water service provided within the city limits.

RESOLUTION NO. 92-55

A RESOLUTION ADOPTING A SEWER RATE SCHEDULE PURSUANT TO SECTION 14.08.035 OF THE ASHLAND MUNICIPAL CODE.

THE MAYOR AND CITY COUNCIL OF THE CITY OF ASHLAND DO RESOLVE AS FOLLOWS:

SECTION 1. The "Sewer Rate Schedule" marked Exhibit "A" and attached to this Resolution is adopted as the sewer rates inside and outside the city limits.


SECTION 2. Three (3) copies of this Resolution and Exhibit "A" shall be maintained in the office of the City Recorder and shall be available for public inspection during regular business hours.

SECTION 3. The rates adopted on Exhibit "A" shall be increased annually on July 1st based on the Engineering News Record Construction Cost Index (ENR). The City Administrator will provide the City Council with a review of the rate structure with the 1995-1996 budget. The initial ENR is established at 4927.

SECTION 4. The rates adopted pursuant to this Resolution shall be effective for billings on or after January 1, 1993.

SECTION 5. Resolution 92-16 is repealed upon the effective date of this Resolution.

The foregoing Resolution was READ and DULY ADOPTED at a regular meeting of the City Council of the City of Ashland on the 1st day of December, 1992.

  
Nan E. Franklin  
City Recorder

SIGNED and APPROVED this 2nd day of December, 1992.

  
Catherine M. Golden, Mayor

  
Reviewed as to Form

EXHIBIT "A"

CITY OF ASHLAND, OREGON

SEWER RATE SCHEDULE

RESOLUTION NO. 92-\_\_\_\_\_  
ADOPTED December 1, 1992  
EFFECTIVE DATE JANUARY 1, 1993

All sewer service provided by the City of Ashland will be in accordance with Chapter 14.08 of the Ashland Municipal Code.

1. SEWER RATES WITHIN THE CITY LIMITS

A. Single Family Residential	\$12.30 per month
B. Condominiums	\$12.30 per month per unit
C. Conversions to Condominiums	\$12.30 per month per unit
D. Multiple Family Residential	\$ 9.70 per month per unit
E. Mobile Homes and Trailers	\$ 9.70 per month per unit
F. Communal sleeping facilities	Same as 1.G. below, e.g. Dormitories, fraternities, sororities or boarding houses
G. Commercial and Institutional	\$12.30 per month plus \$1.10 per 100 cubic feet of the current amount of water consumption in excess of 1,000 cubic feet.

2. SEWAGE PUMPING CHARGE. A surcharge of \$1.60 per month is required where sewage pumping is provided by the city within the city limits.

3. SANITARY DUMP STATIONS WITHIN THE CITY LIMITS

Units providing sanitary dumps	\$29.00 per month for recreational vehicles in addition to other regular fees.
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4. INDUSTRIAL SEWER RATES WITHIN THE CITY LIMITS

- A. Industrial uses are defined in Section 35.905-18 of the Federal Register, Volume 38, Number 98.
- B. Rates will be calculated in accordance with Section 35.935-13 of the Federal Register, Volume 38, Number 98.
- C. An agreement shall be entered into between the industrial user and the City of Ashland for the recovery of capital costs in accordance with Section 35.938 of the Federal Register, Volume 38, Number 98.

5. MULTIPLE OR MIXED-USE SEWER RATES WITHIN THE CITY LIMITS

- A. The monthly sewer user charge shall be the total of the several sewer user charges for each business or activity computed separately.

6. ADJUSTMENTS AND EXEMPTIONS TO COMMERCIAL AND INDUSTRIAL SEWER RATES

- A. If a commercial or industrial user can demonstrate that the volume of sewage discharged by the user is less than 50% of the water consumed, the City Administrator may adjust the sewer user charge accordingly.
- B. Water sold through an irrigation meter is exempt from sewer user charge.

7. SEWER RATES OUTSIDE THE CITY LIMITS

- A. The sewer user charge shall apply to those sewer users permitted under Section 14.08.030 of the Ashland Municipal Code.
- B. The sewer rates for outside the city limits shall be two (2) times the sewer charges for inside the city limits.

WATER RATE MODEL



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1	CITY OF ASHLAND																		
2	WATER RATE MODEL																		
3																			
4	Hilton Farnkopf & Hobson 1/13/94 14:39																		
68																			
69																			
70					Actual	Actual	Actual	Adopted	Estimated	Estimated									
71					FY 1990-91	FY 1991-92	FY 1992-93	FY 1993-94	FY 1994-95	FY 1995-96	CY 1993	CY 1994	CY 1995	CY 1996	CY 1997	CY 1998			
72																			
73	REVENUE REQUIREMENT																		
74																			
75	OPERATIONS & MAINTENANCE																		
76																			
77	Personnel Services																		
78					\$503,977	\$526,162	\$550,656	\$581,610	\$624,874	\$689,869	\$566,133	\$603,242	\$657,372	\$683,667	\$711,013	\$739,454			
79					\$36,695	\$28,124	\$25,968	\$32,000	\$33,280	\$34,611	\$28,984	\$32,640	\$33,946	\$35,303	\$36,716	\$38,184			
80					\$216,660	\$204,600	\$218,885	\$241,390	\$251,046	\$261,087	\$230,138	\$246,218	\$256,067	\$266,309	\$276,962	\$288,040			
81					\$757,332	\$758,886	\$795,509	\$855,000	\$909,200	\$985,568	\$825,255	\$882,100	\$947,384	\$985,279	\$1,024,691	\$1,065,678			
82																			
83	Materials and Services																		
84					\$71	\$43	\$0	\$4,500	\$4,680	\$4,867	\$2,250	\$4,590	\$4,774	\$4,965	\$5,163	\$5,370			
85					\$264,000	\$324,740	\$315,000	\$300,000	\$312,000	\$324,480	\$307,500	\$306,000	\$318,240	\$330,970	\$344,208	\$357,977			
86					\$30,074	\$22,036	\$51,048	\$55,000	\$59,400	\$64,152	\$53,024	\$57,200	\$61,776	\$66,718	\$72,056	\$77,820			
87					\$4,042	\$4,309	\$5,674	\$5,000	\$5,200	\$5,408	\$5,337	\$5,100	\$5,304	\$5,516	\$5,737	\$5,966			
88					\$75,226	\$98,299	\$128,146	\$112,430	\$116,927	\$121,604	\$120,288	\$114,679	\$119,266	\$124,036	\$128,998	\$134,158			
89					\$14,176	\$14,064	\$15,687	\$16,500	\$17,820	\$19,246	\$16,094	\$17,160	\$18,533	\$20,015	\$21,617	\$23,346			
90					\$2,028	\$1,793	\$1,531	\$800	\$840	\$900	\$1,166	\$2,000	\$2,080	\$2,163	\$2,250	\$2,340			
91					\$27,482	\$27,801	\$46,705	\$27,800	\$35,000	\$37,000	\$37,253	\$31,000	\$32,240	\$33,530	\$34,871	\$36,266			
92					\$0	\$0	\$0	\$60,000	\$20,000	\$20,800	\$30,000	\$40,000	\$20,400	\$21,216	\$22,065	\$22,947			
93					\$1,287	\$396	\$11,874	\$2,100	\$2,184	\$2,271	\$6,987	\$2,142	\$2,228	\$2,317	\$2,409	\$2,506			
94					\$38,678	\$41,791	\$46,197	\$25,000	\$26,000	\$27,040	\$35,599	\$25,500	\$26,520	\$27,581	\$28,684	\$29,831			
95					\$3,500	\$3,809	\$1,960	\$3,300	\$3,432	\$3,569	\$2,630	\$3,366	\$3,501	\$3,641	\$3,786	\$3,938			
96					\$2,998	\$93	\$15,556	\$10,500	\$10,920	\$11,357	\$13,028	\$10,710	\$11,138	\$11,584	\$12,047	\$12,529			
97					\$25,918	\$25,918	\$29,146	\$28,500	\$29,930	\$31,400	\$28,823	\$50,000	\$52,000	\$54,080	\$56,243	\$58,493			
98					\$5,010	\$3,853	\$7,069	\$4,200	\$4,368	\$4,543	\$5,635	\$4,284	\$4,455	\$4,634	\$4,819	\$5,012			
99					\$5,302	\$7,776	\$10,035	\$6,900	\$7,176	\$7,463	\$8,468	\$7,038	\$7,320	\$7,612	\$7,917	\$8,233			
100					\$20,000	\$83,956	\$81,977	\$106,000	\$94,556	\$94,455	\$98,933	\$97,594	\$99,286	\$120,418	\$140,114	\$143,884			
101					\$3,251	\$6,510	\$7,115	\$10,500	\$10,920	\$11,357	\$8,808	\$10,710	\$11,138	\$11,584	\$12,047	\$12,529			
102					\$163	\$437	\$327	\$200	\$208	\$216	\$264	\$204	\$212	\$221	\$229	\$239			
103					\$47,855	\$40,497	\$46,861	\$60,300	\$65,124	\$70,334	\$53,581	\$62,712	\$67,729	\$73,147	\$78,999	\$85,319			
104					\$0	\$0	\$41,020	\$58,000	\$62,800	\$65,600	\$49,510	\$60,400	\$64,200	\$66,768	\$69,439	\$72,216			
105					\$571,061	\$708,121	\$862,928	\$897,530	\$889,485	\$928,062	\$885,174	\$912,388	\$932,340	\$992,715	\$1,053,698	\$1,100,918			
106																			
107					O & M Subtotal	\$1,328,393	\$1,467,007	\$1,658,437	\$1,752,530	\$1,798,685	\$1,913,630	\$1,710,428	\$1,794,488	\$1,879,724	\$1,977,995	\$2,078,388	\$2,166,596		
108																			
109																			
110	CAPITAL EXPENSES																		
111																			
112	Annual Outlays																		
113					\$39,611	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
114					\$35,840	\$14,951	\$13,816	\$15,100	\$15,000	\$20,000	\$14,458	\$15,050	\$17,500	\$20,000	\$20,000	\$20,000			
115					\$134,883	\$154,300	\$88,427	\$109,000	\$114,000	\$117,000	\$98,714	\$111,500	\$115,500	\$116,678	\$117,868	\$119,070			
116					\$210,334	\$169,251	\$102,243	\$124,100	\$129,000	\$137,000	\$113,172	\$126,550	\$133,000	\$136,678	\$137,868	\$139,070			
117																			
118	Debt Service																		
119					\$0	\$16,907	\$4,723	\$4,200	\$1,200	\$0	\$4,462	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500			
120					\$230,000	\$230,000	\$230,000	\$230,000	\$310,000	\$245,000	\$230,000	\$270,000	\$277,500	\$257,500	\$270,000	\$270,000			
121					\$0	\$0	\$0	\$0	\$90,000	\$180,000	\$0	\$45,000	\$135,000	\$180,000	\$180,000	\$180,000			
122					\$230,000	\$246,907	\$234,723	\$234,200	\$401,200	\$425,000	\$234,462	\$317,500	\$415,000	\$440,000	\$452,500	\$452,500			
123																			
124					Capital Expenses Subtotal	\$440,334	\$416,158	\$336,966	\$358,300	\$530,200	\$562,000	\$347,633	\$444,050	\$548,000	\$576,678	\$590,368	\$591,570		
125																			
126					Revenue Requirement Subtotal	\$1,768,727	\$1,883,165	\$1,995,403	\$2,110,830	\$2,328,885	\$2,475,630	\$2,058,061	\$2,238,538	\$2,427,724	\$2,554,673	\$2,668,756	\$2,758,167		
127																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1	CITY OF ASHLAND																			
2	WATER RATE MODEL																			
3																				
4	Hilton Farnkopf & Hobson 1/13/94 14:39																			
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173																				
		Actual	Actual	Actual	Adopted	Estimated	Estimated													
		FY 1990-91	FY 1991-92	FY 1992-93	FY 1993-94	FY 1994-95	FY 1995-96	CY 1993	CY 1994	CY 1995	CY 1996	CY 1997	CY 1998							
	TOTAL REVENUE REQUIREMENT (CONT.)	\$1,768,727	\$1,883,165	\$1,995,403	\$2,110,830	\$2,328,885	\$2,475,630	\$2,058,061	\$2,238,538	\$2,427,724	\$2,554,673	\$2,668,756	\$2,758,167							
	NON-OPERATING REVENUES																			
	MISCELLANEOUS REVENUE SOURCES																			
	Account Maintenance Charge	\$19,105	\$9,334	\$16,910	\$0	\$0	\$0	\$8,455	\$0	\$0	\$0	\$0	\$0							
	First Service Installation	\$107,815	\$78,276	\$84,554	\$80,000	\$80,000	\$80,000	\$82,277	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000							
	Interest Earnings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
	Miscellaneous	\$6,920	\$9,089	\$164,307	\$10,000	\$10,000	\$10,000	\$87,154	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000							
	Subtotal	\$133,840	\$96,699	\$265,771	\$90,000	\$90,000	\$90,000	\$177,886	\$90,000	\$90,000	\$90,000	\$90,000	\$90,000							
	TRANSFERS (TO) / FROM FUNDS																			
	Operations Balance	\$216,069	\$200,379	\$6,562	\$0	\$0	(\$6,180)	\$3,281	\$0	(\$3,090)	(\$5,311)	(\$211)	(\$5,816)							
	Debt Reserve	\$0	\$0	\$0	(\$32,440)	(\$109,411)	(\$14,663)	(\$16,220)	(\$70,926)	(\$62,037)	(\$15,308)	(\$17,858)	(\$19,829)							
	SDC Account	\$28,555	\$22,455	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
	CIP - Ongoing Construction	\$0	\$0	\$0	\$0	(\$150,000)	(\$150,000)	\$0	(\$75,000)	(\$150,000)	(\$157,500)	(\$165,375)	(\$173,644)							
	CIP - Bond Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
	Subtotal	\$244,624	\$222,834	\$6,562	(\$32,440)	(\$259,411)	(\$170,843)	(\$12,939)	(\$145,926)	(\$215,127)	(\$178,119)	(\$183,444)	(\$199,288)							
	Non-Operating Revenue Subtotal	\$378,464	\$319,533	\$272,333	\$57,560	(\$169,411)	(\$80,843)	\$164,947	(\$55,926)	(\$125,127)	(\$88,119)	(\$93,444)	(\$109,288)							
	Revenue Requirement Subtotal	\$1,390,263	\$1,563,632	\$1,723,070	\$2,053,270	\$2,498,296	\$2,556,473	\$1,893,115	\$2,294,464	\$2,552,851	\$2,642,791	\$2,762,200	\$2,867,455							
	Carryover from prior year surplus/(shortfall)	—	\$0	\$0	\$0	(\$16,763)	(\$330,629)	\$0	\$75,899	(\$108,096)	(\$419,753)	(\$374,455)	(\$42,874)							
	NET REVENUE REQUIREMENT	\$1,390,263	\$1,563,632	\$1,723,070	\$2,053,270	\$2,515,059	\$2,887,102	\$1,893,115	\$2,218,565	\$2,660,947	\$3,062,544	\$3,136,656	\$2,910,329							
	TOTAL RATE REVENUES	\$1,390,263	\$1,563,632	\$1,723,070	\$2,036,507	\$2,184,430	\$2,206,711	\$1,969,014	\$2,110,469	\$2,241,194	\$2,688,089	\$3,093,782	\$3,168,649							
	SURPLUS/(SHORTFALL)	\$0	\$0	\$0	(\$16,763)	(\$330,629)	(\$680,390)	\$75,899	(\$108,096)	(\$419,753)	(\$374,455)	(\$42,874)	\$258,321							
	RATE INCREASE INDICATED	—	—	—	—	—	—	20.00%	5.12%	18.73%	13.93%	1.39%	0.00%							

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1	CITY OF ASHLAND																			
2	WATER RATE MODEL																			
3																				
4	Hilton Farnkopf & Hobson 1/13/94 14:39																			
174																				
175		Actual	Actual	Actual	Adopted	Estimated	Estimated													
176		FY 1990-91	FY 1991-92	FY 1992-93	Budget	Budget	Budget	CY 1993	CY 1994	CY 1995	CY 1996	CY 1997	CY 1998							
177	FUND BALANCES																			
178																				
179	OPERATING BALANCE																			
180																				
181																				
182	Beginning Balance	\$825,788	\$642,627	\$459,820	\$460,668	\$476,791	\$493,479	\$460,244	\$468,730	\$485,135	\$505,259	\$528,347	\$546,625							
183	Transfers In	(\$216,069)	(\$200,379)	(\$6,562)	\$0	\$0	\$6,180	(\$3,281)	\$0	\$3,090	\$5,311	(\$211)	(\$5,816)							
184	Interest	\$32,908	\$17,572	\$7,410	\$16,123	\$16,688	\$17,380	\$11,767	\$16,406	\$17,034	\$17,777	\$18,488	\$19,030							
185	Ending Balance	\$642,627	\$459,820	\$460,668	\$476,791	\$493,479	\$517,039	\$468,730	\$485,135	\$505,259	\$528,347	\$546,625	\$559,839							
186																				
187	DEBT RESERVE																			
188																				
189																				
190	Beginning Balance	\$44,417	\$55,063	\$61,565	\$77,268	\$112,980	\$228,260	\$69,417	\$95,124	\$170,620	\$239,714	\$263,680	\$291,079							
191	Transfers In	\$0	\$0	\$0	\$32,440	\$109,411	\$14,663	\$16,220	\$70,926	\$62,037	\$15,308	\$17,858	\$19,829							
192	Interest	\$10,646	\$6,502	\$15,703	\$3,272	\$5,869	\$8,246	\$9,488	\$4,571	\$7,057	\$8,658	\$9,541	\$10,535							
193	Ending Balance	\$55,063	\$61,565	\$77,268	\$112,980	\$228,260	\$251,169	\$95,124	\$170,620	\$239,714	\$263,680	\$291,079	\$321,442							
194																				
195	SDC ACCOUNT																			
196																				
197																				
198	Beginning Balance	\$0	\$0	\$63,447	\$217,230	\$280,796	\$238,731	\$140,339	\$249,013	\$259,763	\$237,699	\$249,584	\$262,063							
199	Revenue Collected																			
200	from System Development Fee - Water	\$28,555	\$2,455	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
201	from SDC-Supply	\$0	\$25,292	\$57,237	\$69,000	\$69,000	\$69,000	\$63,119	\$69,000	\$76,000	\$76,000	\$76,000	\$76,000							
202	from SDC - Distribution/Collection	\$0	\$41,885	\$72,738	\$96,000	\$96,000	\$96,000	\$84,369	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000							
203	from SDC - Treatment	\$0	\$16,270	\$49,097	\$46,000	\$46,000	\$46,000	\$47,549	\$46,000	\$46,000	\$46,000	\$46,000	\$46,000							
204	Subtotal	\$28,555	\$85,902	\$179,072	\$211,000	\$211,000	\$211,000	\$195,036	\$211,000	\$218,000	\$218,000	\$218,000	\$218,000							
205	Transfers Out																			
206	to O and M (Rates)	\$28,555	\$22,455	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
207	to CIP Ongoing Construction	\$0	\$0	\$0	\$111,000	\$76,000	\$76,000	\$55,500	\$93,500	\$76,000	\$76,000	\$76,000	\$76,000							
208	to CIP Bond Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
209	to GO Bond Debt Service	\$0	\$0	\$30,000	\$45,000	\$186,000	\$159,000	\$37,500	\$115,500	\$172,500	\$142,000	\$142,000	\$142,000							
210	Subtotal	\$28,555	\$22,455	\$30,000	\$156,000	\$262,000	\$235,000	\$93,000	\$209,000	\$248,500	\$218,000	\$218,000	\$218,000							
211	Interest	\$0	\$0	\$4,711	\$8,566	\$8,935	\$7,936	\$6,638	\$8,750	\$8,435	\$11,885	\$12,479	\$13,103							
212	Ending Balance	\$0	\$63,447	\$217,230	\$280,796	\$238,731	\$222,666	\$249,013	\$259,763	\$237,699	\$249,584	\$262,063	\$275,166							
213																				
214	WATER CIP - ONGOING CONSTRUCTION																			
215																				
216																				
217																				
218	Beginning Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
219	Transfers Out																			
220	to Water Rights	\$0	\$0	\$0	\$111,000	\$76,000	\$76,000	\$55,500	\$93,500	\$76,000	\$76,000	\$76,000	\$76,000							
221	Improvement Projects																			
222	Other Water Lines	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$157,500	\$165,375	\$173,644							
223	Water Line Ashland St - Terrace	\$0	\$0	\$0	\$0	\$150,000	\$150,000	\$0	\$75,000	\$150,000	\$0	\$0	\$0							
224	Subtotal	\$0	\$0	\$0	\$111,000	\$226,000	\$226,000	\$55,500	\$168,500	\$226,000	\$233,500	\$241,375	\$249,644							
225	Revenue/Transfers In																			
226	Transfer from O & M (Rates)	\$0	\$0	\$0	\$0	\$150,000	\$150,000	\$0	\$75,000	\$150,000	\$157,500	\$165,375	\$173,644							
227	Transfer from SDC Account	\$0	\$0	\$0	\$111,000	\$76,000	\$76,000	\$55,500	\$93,500	\$76,000	\$76,000	\$76,000	\$76,000							
228	Subtotal	\$0	\$0	\$0	\$111,000	\$226,000	\$226,000	\$55,500	\$168,500	\$226,000	\$233,500	\$241,375	\$249,644							
229	Interest	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
230	Ending Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
231																				
232																				
233	WATER CIP - BOND CONSTRUCTION																			
234																				
235																				
236	Beginning Balance	\$0	\$0	\$1,952,686	\$846,200	\$0	\$0	\$1,399,443	\$423,100	\$0	\$1,000,000	\$0	\$0							
237	Transfers Out																			
238	Improvement Projects																			
239	NW Reservoir Pump Station	\$0	\$162,840	\$1,170,793	\$400,000	\$0	\$0	\$785,397	\$200,000	\$0	\$0	\$0	\$0							
240	Water Treatment Plant Upgrade (Bond)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,000	\$1,000,000	\$0	\$0							
241	Water Line N Main to Fox	\$0	\$0	\$0	\$295,000	\$0	\$0	\$147,500	\$147,500	\$0	\$0	\$0	\$0							
242	Water Line Ashland St - Terrace	\$0	\$0	\$0	\$184,499	\$0	\$0	\$92,250	\$92,250	\$0	\$0	\$0	\$0							
243	Subtotal	\$0	\$162,840	\$1,170,793	\$879,499	\$0	\$0	\$1,025,146	\$439,750	\$1,000,000	\$1,000,000	\$0	\$0							
244	Revenue/Transfers In																			
245	Revenue from Property Tax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
246	Revenue from Bond Sales	\$0	\$2,060,000	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000,000	\$0	\$0	\$0							
247	Transfer from O & M (Rates)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
248	Transfer from SDC Account	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
249	Subtotal	\$0	\$2,060,000	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000,000	\$0	\$0	\$0							
250	Interest	\$0	\$55,526	\$64,307	\$33,299	\$0	\$0	\$48,803	\$16,650	\$0	\$0	\$0	\$0							
251	Ending Balance	\$0	\$1,952,686	\$846,200	\$0	\$0	\$0	\$423,100	\$0	\$1,000,000	\$0	\$0	\$0							
252																				
253																				

[illegible]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1						CITY OF ASHLAND													
2						WATER RATE MODEL													
3																			
4						Hilton Farnkopf & Hobson		1/13/94	14:39										
276																			
277								CY 1994											
278						\$ to be													
279						Allocated													
280																			
281						FUNCTIONAL ALLOCATION OF REVENUE REQUIREMENT													
282																			
283						OPERATIONS & MAINTENANCE													
284																			
285						Personnel Services													
286						Regular Salaries and Wages		\$603,242		80%	20%	0%		\$482,594	\$120,648	\$0			
287						Overtime Pay		\$32,640		80%	20%	0%		\$26,112	\$6,528	\$0			
288						Fringe Benefits		\$246,218		80%	20%	0%		\$196,974	\$49,244	\$0			
289						Subtotal		\$882,100						\$705,680	\$176,420	\$0			
290																			
291						Materials and Services													
292						Advertising and Publications		\$4,590		100%	0%	0%		\$4,590	\$0	\$0			
293						Central Service Charges		\$306,000		63%	27%	10%		\$192,780	\$82,620	\$30,600			
294						Chemical and Lab Fees		\$57,200		38%	62%	0%		\$21,736	\$35,464	\$0			
295						Dues and Subscriptions		\$5,100		100%	0%	0%		\$5,100	\$0	\$0			
296						Equipment Rental - City		\$114,679		63%	27%	10%		\$72,248	\$30,963	\$11,468			
297						Insurance		\$17,160		100%	0%	0%		\$17,160	\$0	\$0			
298						Licenses and Permits		\$2,000		38%	62%	0%		\$760	\$1,240	\$0			
299						Maintenance		\$31,000		38%	62%	0%		\$11,780	\$19,220	\$0			
300						Maintenance - Reservoirs		\$40,000		28%	0%	72%		\$11,200	\$0	\$28,800			
301						Miscellaneous		\$2,142		100%	0%	0%		\$2,142	\$0	\$0			
302						Professional Services		\$25,500		100%	0%	0%		\$25,500	\$0	\$0			
303						Safety Program		\$3,366		100%	0%	0%		\$3,366	\$0	\$0			
304						Watershed Management Program		\$10,710		100%	0%	0%		\$10,710	\$0	\$0			
305						TID Water		\$50,000		38%	62%	0%		\$19,000	\$31,000	\$0			
306						Small Tools		\$4,284		100%	0%	0%		\$4,284	\$0	\$0			
307						Supplies		\$7,038		100%	0%	0%		\$7,038	\$0	\$0			
308						Payment in Lieu of Franchise Tax		\$97,594		100%	0%	0%		\$97,594	\$0	\$0			
309						Travel and Training		\$10,710		100%	0%	0%		\$10,710	\$0	\$0			
310						Uniform Allowance		\$204		100%	0%	0%		\$204	\$0	\$0			
311						Utilities		\$62,712		29%	47%	24%		\$18,186	\$29,475	\$15,051			
312						Conservation		\$60,400		0%	0%	100%		\$0	\$0	\$60,400			
313						Subtotal		\$912,388						\$536,088	\$229,982	\$146,319			
314																			
315						O & M Subtotal		\$1,794,488						\$1,241,768	\$406,402	\$146,319			
316																			
317						O&M COMPOSITE ALLOCATION FACTORS								69%	23%	8%			
318																			
319						CAPITAL EXPENSES													
320																			
321						Annual Outlays													
322						Land		\$0		100%	0%	0%		\$0	\$0	\$0			
323						Equipment		\$15,050		100%	0%	0%		\$15,050	\$0	\$0			
324						Improvements other than buildings		\$111,500		28%	0%	72%		\$31,220	\$0	\$80,280			
325						Subtotal		\$126,550						\$46,270	\$0	\$80,280			
326																			
327						Debt Service													
328						Assessment Payments		\$2,500		100%	0%	0%		\$2,500	\$0	\$0			
329						GO Bond		\$270,000		38%	62%	0%		\$102,600	\$167,400	\$0			
330						1994 Water Treatment Plant Bonds		\$45,000		38%	62%	0%		\$17,100	\$27,900	\$0			
331						Subtotal		\$317,500						\$122,200	\$195,300	\$0			
332																			
333						Capital Expenses Subtotal		\$444,050						\$168,470	\$195,300	\$80,280			
334																			
335						O&M and Capital Expenses Subtotal		\$2,238,538						\$1,410,238	\$601,702	\$226,599			
336																			
337						REVENUE REQUIREMENT COMPOSITE ALLOCATION FACTORS								63%	27%	10%			
338																			
339																			
340																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1						CITY OF ASHLAND													
2						WATER RATE MODEL													
3																			
4						Hilton Farnkopf & Hobson 1/13/94 14:39													
341																			
342																			
343																			
344																			
345																			
346						NON-OPERATION REVENUES													
347																			
348						MISCELLANEOUS REVENUE SOURCES													
349																			
350						Account Maintenance Charge		\$0		100%	0%	0%		\$0	\$0	\$0			
351						First Service Installation		\$80,000		28%	0%	72%		\$22,400	\$0	\$57,600			
352						Interest on Investments		\$0		63%	27%	10%		\$0	\$0	\$0			
353						Miscellaneous		\$10,000		63%	27%	10%		\$6,300	\$2,688	\$1,012			
354																			
355						Miscellaneous Subtotal		\$90,000						\$28,700	\$2,688	\$58,612			
356																			
357						TRANSFERS (TO) / FROM FUNDS													
358																			
359						Operations Balance		\$0		69%	23%	8%		\$0	\$0	\$0			
360						Debt Reserve		(\$70,926)		38%	62%	0%		(\$26,952)	(\$43,974)	\$0			
361						SDC Account		\$0		69%	23%	8%		\$0	\$0	\$0			
362						Water CIP - Ongoing Construction		(\$75,000)		72%	28%	0%		(\$54,303)	(\$20,697)	\$0			
363						Water CIP - Bond Construction		\$0						\$0	\$0	\$0			
364																			
365						Transfers to/ (from) Funds Subtotal		(\$145,926)						(\$81,254)	(\$64,671)	\$0			
366																			
367																			
368						Non-Operating Subtotal		(\$55,926)						(\$52,555)	(\$61,983)	\$58,612			
369																			
370						Carryover from prior year surplus/(shortfall)		\$75,899		63%	27%	10%		\$47,815	\$20,401	\$7,683			
371																			
372						NET REVENUE REQUIREMENT		\$2,218,565						\$1,414,977	\$643,284	\$160,304			
373																			
374								100%						64%	29%	7%			

[illegible]

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	CITY OF ASHLAND																	
2	WATER RATE MODEL																	
3																		
4	Hilton Farnkopf & Hobson 1/13/94 14:39																	
417																		
418	RATE ALTERNATIVE I - (Existing Current Block Structure)																	
419																		
420																		
421																		
422																		
423																		
424																		
425																		
426	Meter Size																	
427	3/4" Meters \$8.30 per month \$8.73 per month																	
428	1" Meters \$9.00 per month \$9.46 per month																	
429	1.5" Meters \$11.30 per month \$11.88 per month																	
430	2" Meters \$12.00 per month \$12.61 per month																	
431	3" Meters \$24.00 per month \$25.23 per month																	
432	4" Meters \$33.90 per month \$35.64 per month																	
433	6" Meters \$58.60 per month \$61.60 per month																	
434	8" Meters \$79.60 per month \$83.68 per month																	
435																		
436																		
437	Quantity Charges																	
438																		
439	Residential Consumption																	
440																		
441	Up to 36 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
442	36 ccf to 72 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
443	Over 72 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
444																		
445	Non-Residential Consumption																	
446																		
447	3/4" Meters																	
448	Up to 64 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
449	64 ccf to 128 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
450	Over 128 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
451	1" Meters																	
452	Up to 92 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
453	92 ccf to 184 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
454	Over 184 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
455	1.5" Meters																	
456	Up to 230 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
457	230 ccf to 460 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
458	Over 460 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
459	2" Meters																	
460	Up to 330 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
461	330 ccf to 660 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
462	Over 660 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
463	3" Meters																	
464	Up to 430 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
465	430 ccf to 860 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
466	Over 860 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
467	4" Meters																	
468	Up to 1290 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
469	1290 ccf to 2580 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
470	Over 2580 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
471	6" Meters																	
472	Up to 2210 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
473	2210 ccf to 4420 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
474	Over 4420 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
475	8" Meters																	
476	Up to 4600 ccf per month 1.06 \$/ccf 1.11 \$/ccf																	
477	4600 ccf to 9200 ccf per month 1.28 \$/ccf 1.35 \$/ccf																	
478	Over 9200 ccf per month 1.54 \$/ccf 1.62 \$/ccf																	
479																		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1						CITY OF ASHLAND													
2						WATER RATE MODEL													
3																			
4						Hilton Famkopf & Hobson 1/13/94 14:39													
480																			
481						RATE ALTERNATIVE I (CONT.) - (Existing Current Block Structure)													
482																			
483																			
484																			
485							Monthly	Monthly	Actual	Projected	Projected	Projected	Projected		Projected	Projected	Projected	Projected	Projected
486							Rates	Rates	FY 1992-93	FY 1993-94	FY 1994-95	CY 1993	CY 1994		FY 1992-93	Service	Service	Service	Service
487							Effective	Effective	Number of	Number of	Number of	Number of	Number of		Service	using rates	using rates	using rates	using rates
488							1/1/92	1/1/93	Meters	Meters	Meters	Meters	Meters		Charges	eff. 1/1/93	eff. 1/1/93	eff. 1/1/93	eff. 1/1/93
489						REVENUES													
490																			
491						From meters													
492						3/4" Meters	\$6.64	\$8.30	5,560	5,617	5,674	5,588	5,645		\$498,398	\$559,425	\$565,131	\$556,600	\$562,278
493						1" Meters	\$7.20	\$9.00	202	204	206	203	205		\$19,634	\$22,039	\$22,263	\$21,927	\$22,151
494						1.5" Meters	\$9.04	\$11.30	113	114	115	114	115		\$13,791	\$15,479	\$15,637	\$15,401	\$15,558
495						2" Meters	\$9.60	\$12.00	88	89	90	88	89		\$11,405	\$12,801	\$12,932	\$12,737	\$12,867
496						3" Meters	\$19.20	\$24.00	13	13	13	13	13		\$3,370	\$3,782	\$3,821	\$3,763	\$3,801
497						4" Meters	\$27.12	\$33.90	9	9	9	9	9		\$3,295	\$3,699	\$3,736	\$3,680	\$3,717
498						6" Meters	\$46.88	\$58.60	2	2	2	2	2		\$1,266	\$1,421	\$1,435	\$1,414	\$1,428
499						8" Meters	\$63.68	\$79.60	2	2	2	2	2		\$1,719	\$1,930	\$1,950	\$1,920	\$1,940
500						Total			5,989	6,050	6,112	6,020	6,081		\$552,878	\$620,575	\$626,905	\$617,442	\$623,740
501																			
502																			
503																			
504						Total rate revenue collected in FY 1992-93				\$1,723,070		100.0%							
505						Rate revenue collected from service charges in FY 1992-93				\$552,878		32.1%							
506						Rate revenue collected from quantity charges in FY 1992-93				\$1,170,192		67.9%							
507																			
508																			
509						Rate revenue that would have been collected in FY 1992-93													
510						if 1/1/93 rates were in effect for the entire fiscal year.													
511						(Water rate increase of 20% on 1/1/93)													
512						Projected revenue collected from service charges				\$608,166									
513						Projected revenue collected from quantity charges				\$1,287,211									
514						Total Projected Revenue				\$1,895,377									
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\* Peak months are June, July, August, September, and October

\* Peak consumption estimated to be 56.4% of annual total (based on CY 1992)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1						CITY OF ASHLAND													
2						WATER RATE MODEL													
3																			
4						Hilton Farnkopf & Hobson 1/13/94 14:39													
723																			
724						RATE ALTERNATIVE III (CONT.)- (Seasonal)													
725																			
726						CALCULATION OF QUANTITY CHARGES													
727																			
728						WINTER RATES													
729																			
730						Base portion of revenue requirement from quantity charges					\$996,787								
731						Projected CY 1994 Consumption					1,304,306 (ccf)								
732						Projected reduction in consumption due to price elasticity					3%								
733																			
734						Projected CY 1994 consumption adjusted for price elasticity					1,265,177 (ccf)								
735																			
736						Quantity charge during winter months					\$0.788 (\$/ccf)								
737																			
738																			
739																			
740						SUMMER RATES													
741																			
742						Calculation of Peak Season Surcharge													
743																			
744						Peak portion of revenue requirement from quantity charges					\$566,091								
745						Projected consumption in CY 1994 peak months					735,629 (ccf)								
746						Projected reduction in consumption due to price elasticity					3%								
747																			
748						Projected consumption in CY 1994 peak months adjusted for price elasticity					713,560 (ccf)								
749																			
750																			
751																			
752						Peak Season Surcharge					\$0.793 (\$/ccf)								
753																			
754						Quantity charge during summer months					\$1.581 (\$/ccf)								

SEWER RATE MODEL

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S			
1	CITY OF ASHLAND																					
2	WASTEWATER RATE MODEL																					
3																						
4	Hilton Farnkopf & Hobson																					
5	1/13/94 14:39																					
6																						
7											Amended	Estimated	Estimated									
8											Budget	Budget	Budget									
9											FY 1990-91	FY 1991-92	FY 1992-93	FY 1993-94	FY 1994-95	FY 1995-96	CY 1993	CY 1994	CY 1995	CY 1996	CY 1997	CY 1998
10	REVENUE REQUIREMENT																					
11	OPERATIONS & MAINTENANCE																					
12																						
13	Personnel Services																					
14	Regular Salaries and Wages	\$219,636	\$299,042	\$267,233	\$309,330	\$321,703	\$334,571	\$288,282	\$315,517	\$328,137	\$341,263	\$354,913	\$369,110									
15	Overtime Pay	\$9,520	\$12,034	\$15,891	\$16,000	\$16,640	\$17,306	\$15,946	\$16,320	\$16,973	\$17,652	\$18,358	\$19,092									
16	Fringe Benefits	\$80,033	\$109,381	\$102,382	\$128,670	\$133,817	\$139,169	\$115,526	\$131,243	\$136,493	\$141,953	\$147,631	\$153,536									
17	Additional Costs-WWT?	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$450,000									
18	Subtotal	\$309,189	\$420,457	\$385,506	\$454,000	\$472,160	\$491,046	\$419,753	\$463,080	\$481,603	\$500,867	\$520,902	\$991,738									
19																						
20	Materials and Services																					
21	Advertising and Publications	\$467	\$70	\$936	\$3,000	\$3,120	\$3,245	\$1,968	\$3,060	\$3,182	\$3,310	\$3,442	\$3,580									
22	Central Service Charges	\$210,000	\$250,300	\$245,000	\$257,300	\$267,592	\$278,296	\$251,150	\$262,446	\$272,944	\$283,862	\$295,216	\$307,025									
23	Chemical and Lab Fees	\$7,281	\$12,816	\$13,816	\$15,000	\$16,200	\$17,496	\$14,408	\$15,600	\$16,848	\$18,196	\$19,652	\$21,224									
24	Contracted Services	\$0	\$0	\$3,000	\$0	\$0	\$0	\$1,500	\$0	\$0	\$0	\$0	\$0									
25	Dues and Subscriptions	\$160	\$230	\$658	\$500	\$520	\$541	\$579	\$510	\$530	\$552	\$574	\$597									
26	Equipment Rental - City	\$66,250	\$85,789	\$72,281	\$80,380	\$98,595	\$101,939	\$91,331	\$96,988	\$100,267	\$103,678	\$107,225	\$110,914									
27	Equipment Rental - Outside	\$495	\$1,291	\$650	\$1,000	\$1,040	\$1,082	\$825	\$1,020	\$1,061	\$1,103	\$1,147	\$1,193									
28	Insurance	\$7,257	\$7,264	\$8,607	\$8,500	\$9,180	\$9,914	\$8,554	\$8,840	\$9,547	\$10,311	\$11,136	\$12,027									
29	Licenses and Permits	\$4,373	\$11,261	\$9,440	\$12,000	\$12,480	\$12,979	\$10,720	\$12,240	\$12,730	\$13,239	\$13,768	\$14,319									
30	Maintenance	\$9,733	\$14,160	\$31,509	\$21,920	\$22,797	\$23,709	\$26,715	\$22,358	\$23,253	\$24,183	\$25,150	\$26,156									
31	Miscellaneous	\$0	\$0	\$209	\$0	\$0	\$0	\$105	\$0	\$0	\$0	\$0	\$0									
32	Professional Services	\$135,739	\$47,330	\$105,230	\$50,000	\$25,000	\$26,000	\$77,615	\$37,500	\$25,500	\$26,520	\$27,581	\$28,684									
33	Safety Program	\$1,614	\$2,696	\$2,358	\$2,600	\$2,704	\$2,812	\$2,479	\$2,652	\$2,758	\$2,868	\$2,983	\$3,102									
34	Small Tools	\$2,302	\$2,980	\$3,797	\$2,000	\$2,080	\$2,163	\$2,899	\$2,040	\$2,122	\$2,206	\$2,295	\$2,387									
35	Office Supplies	\$1,314	\$483	\$472	\$1,300	\$1,352	\$1,406	\$886	\$1,326	\$1,379	\$1,434	\$1,492	\$1,551									
36	Technical Supplies	\$2,319	\$3,518	\$5,302	\$4,000	\$4,160	\$4,326	\$4,651	\$4,080	\$4,243	\$4,413	\$4,589	\$4,773									
37	Payment in Lieu of Franchise Tax	\$20,000	\$45,337	\$59,341	\$65,000	\$73,116	\$73,851	\$88,822	\$91,478	\$107,101	\$108,982	\$120,114	\$125,000									
38	Travel and Training	\$2,293	\$2,470	\$1,148	\$3,500	\$3,640	\$3,786	\$2,324	\$3,570	\$3,713	\$3,861	\$4,016	\$4,176									
39	Uniform Allowance	\$0	\$354	\$278	\$3,000	\$3,120	\$3,245	\$1,639	\$3,060	\$3,182	\$3,310	\$3,442	\$3,580									
40	Utilities	\$104,173	\$86,385	\$88,583	\$115,000	\$124,200	\$134,136	\$101,792	\$119,600	\$129,168	\$139,501	\$150,662	\$162,714									
41	Land Lease-Sludge Application	\$0	\$0	\$0	\$5,000	\$5,200	\$5,408	\$2,500	\$5,100	\$5,304	\$5,516	\$5,737	\$5,966									
42	Subtotal	\$575,770	\$574,734	\$652,615	\$651,000	\$676,096	\$706,333	\$693,460	\$693,468	\$724,832	\$757,045	\$800,220	\$838,968									
43																						
44	O & M Subtotal	\$684,959	\$995,191	\$1,038,121	\$1,105,000	\$1,148,256	\$1,197,380	\$1,113,213	\$1,156,548	\$1,206,435	\$1,257,913	\$1,321,122	\$1,830,706									
45																						
46																						
47	CAPITAL EXPENSES																					
48																						
49	Annual Outlay																					
50	Buildings	\$18,928	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0									
51	Equipment	\$149,189	\$4,524	\$4,075	\$15,000	\$15,000	\$15,000	\$9,538	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000									
52	Improvements other than buildings	\$23,874	\$75,951	\$6,605	\$138,400	\$78,000	\$147,800	\$72,503	\$108,200	\$112,900	\$114,052	\$115,215	\$116,390									
53	Digester Roof	\$0	\$0	\$416,286	\$70,000	\$0	\$0	\$243,143	\$35,000	\$0	\$0	\$0	\$0									
54	Subtotal	\$191,991	\$80,475	\$426,966	\$223,400	\$93,000	\$162,800	\$325,183	\$158,200	\$127,900	\$129,052	\$130,215	\$131,390									
55																						
56	Debt Service																					
57	Assessment Payments	\$5,340	\$5,865	\$4,687	\$4,200	\$1,200	\$0	\$4,444	\$2,700	\$600	\$0	\$0	\$0									
58	Interest on Digester Roof	\$0	\$0	\$5,878	\$17,000	\$0	\$0	\$11,439	\$8,500	\$0	\$0	\$0	\$0									
59	Loan Repayment	\$0	\$0	\$0	\$234,000	\$0	\$0	\$117,000	\$117,000	\$0	\$0	\$0	\$0									
60	Debt Service on 1996 WWTP Bond	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,000	\$1,000,000	\$1,880,000									
61	Subtotal	\$5,340	\$5,865	\$10,565	\$255,200	\$1,200	\$0	\$132,883	\$128,200	\$600	\$1,000,000	\$1,000,000	\$1,880,000									
62																						
63	Capital Expense Subtotal	\$197,331	\$86,340	\$437,531	\$478,600	\$94,200	\$162,800	\$458,066	\$286,400	\$128,500	\$1,129,052	\$1,130,215	\$2,011,390									
64																						
65	Revenue Requirement Subtotal	\$1,082,290	\$1,081,531	\$1,475,652	\$1,583,600	\$1,242,456	\$1,360,180	\$1,571,278	\$1,442,948	\$1,334,935	\$2,386,964	\$2,451,337	\$3,842,096									
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2	WASTEWATER RATE MODEL																		
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4	Hilton Farnkopf & Hobson																		
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2	WASTEWATER RATE MODEL.																		
3																			
4	Hilton Farnkopf & Hobson																		
5	1/13/94 14:39																		
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112																			
113																			
114																			
115																			
116	FUND BALANCES																		
117																			
118	OPERATING BALANCE																		
119																			
120	Beginning Balance																		
121	Transfers In/(Out)																		
122	Interest																		
123	Ending Balance																		
124																			
125																			
126	SDC ACCOUNT																		
127																			
128	Beginning Balance																		
129	Revenue Collected																		
130	from System Development Fee - Water																		
131	from SDC - Distribution/Collection																		
132	from SDC - Treatment																		
133	Subtotal																		
134	Transfers Out																		
135	to Digester Roof																		
136	to Sewer O&M																		
137	to Sewer Construction Account																		
138	Subtotal																		
139																			
140	Interest																		
141	Ending Balance																		
142																			
143																			
144	SEWER CONSTRUCTION ACCOUNT																		
145																			
146	Beginning Balance																		
147	Transfers In																		
148	from Sewer O&M																		
149	from SDC Account																		
150	from Bond Sale Proceeds																		
151	from Food & Beverage Tax																		
152	Subtotal																		
153	Transfers Out																		
154	to Improvement Projects																		
155	Wastewater Treatment Plant-Upgrade																		
156	Design																		
157	Construction																		
158	Construction Management																		
159	Subtotal																		
160																			
161	Interest																		
162	Ending Balance																		
163																			
164																			
165																			
166	ENDING FUND BALANCES																		
167																			
168	Operating Balance																		
169	SDC Account																		
170	Sewer Construction Account																		
171	Total																		
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2						WASTEWATER RATE MODEL													
3																			
4						Hilton Farnkopf & Hobson													
5						1/13/94 14:39													
272																			
273						RATE ALTERNATIVE 1 - (Existing Rate Structure)													
274																			
275								Rates					Projected				Projected		
276								Effective					Effective				Effective		
277								January 1					January 1				January 1		
278						<u>Customer Classification</u>		<u>1993</u>					<u>1994</u>				<u>1994*</u>		
279																			
280						Single Family Residential		\$12.30 per month					\$14.95 per month				per month		
281						Condominiums		\$12.30 per month per unit					\$14.95 per month per unit				per month per unit		
282						Conversions to Condominiums		\$12.30 per month per unit					\$14.95 per month per unit				per month per unit		
283																			
284						Multi-Family Residential		\$9.70 per month per unit					\$11.79 per month per unit				per month per unit		
285						Mobile Homes and Trailers		\$9.70 per month per unit					\$11.79 per month per unit				per month per unit		
286																			
287						Commercial		\$12.30 per month per unit plus					\$14.95 per month per unit plus				per month per unit plus		
288								\$1.10 per ccf of water consumption in					\$1.34 per ccf of water consumption in				per ccf of water consumption in		
289								excess of 10 ccf					excess of 10 ccf				excess of 10 ccf		
290																			
291						Industrial		\$12.30 per month per unit plus					\$14.95 per month per unit plus				per month per unit plus		
292								\$1.10 per ccf of water consumption in					\$1.34 per ccf of water consumption in				per ccf of water consumption in		
293								excess of 10 ccf					excess of 10 ccf				excess of 10 ccf		
294																			
295						Communal Sleeping Facilities		\$12.30 per month per unit plus					\$14.95 per month per unit plus				per month per unit plus		
296								\$1.10 per ccf of water consumption in					\$1.34 per ccf of water consumption in				per ccf of water consumption in		
297								excess of 10 ccf					excess of 10 ccf				excess of 10 ccf		
298																			
299																			
300																			

\* Service charges rounded to nearest 25 cents

[illegible]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1						CITY OF ASHLAND													
2						WASTEWATER RATE MODEL													
3																			
4						Hilton Farnkopf & Hobson													
5						1/13/94 15:45													
345																			
346						RATE ALTERNATIVE II - (Consumption with service charge)													
347																			
348																			
349						CALCULATION OF RESIDENTIAL RATES													
350																			
351						Calendar Year 1994 Net Residential Revenue Requirement					\$979,905								
352						Residential Discharges to Sewer (based on winter average use)					574,753 (ccf)								
353						Average Cost					\$1.70								
354																			
355																			
356						CY 1994 sewer accounts (not including Multi-Family units)					4,526								
357						CY 1994 number of multi-family units					2,600								
358						Total calendar Year 1994 number of sewer accounts/units					7,126								
359						Monthly Service Charge per sewer account					\$10.00								
360																			
361						Annual service charge revenues					\$855,147								
362						Quantity Charge Revenue Requirement					\$124,759								
363																			
364																			
365						Residential Discharges to Sewer (based on winter average use)					574,753 (ccf)								
366						Percent of residential discharges due to water bills in excess of 7 ccf					20%								
367						(winter average use)													
368																			
369																			
370						Residential Discharges to Sewer (based on winter average use)					114,951 (ccf)								
371						Projected reduction in discharges due to price elasticity					0%								
372																			
373						Residential Discharges to Sewer (based on winter average use)					114,951 (ccf)								
374						adjusted for price elasticity													
375																			
376						Residential quantity charge*					\$1.09								
377																			
378																			
379						* Monthly residential sewer bills will be calculated based on each customer's water use during the winter months.													
380						* Residential quantity charge only applies to winter consumption of over 6 ccf.													
381																			
382																			
383																			
384																			
385																			
386						CALCULATION OF NON-RESIDENTIAL RATES													
387																			
388						Calendar Year 1994 Net Non-Residential Revenue Requirement					\$683,134								
389						Non-Residential Discharges to Sewer					341,471								
390						Average Cost					\$2.00								
391																			
392																			
393						Total calendar Year 1994 of sewer accounts					823								
394						Monthly Service Charge per sewer account					\$10.00								
395																			
396						Annual service charge revenues					\$98,798								
397						Quantity Charge Revenue Requirement					\$584,336								
398																			
399																			
400						Non-Residential Discharges to Sewer					341,471 (ccf)								
401						Projected reduction in discharges due to price elasticity					3%								
402																			
403						Non-Residential Discharges to Sewer adjusted for price elasticity					331,227 (ccf)								
404																			
405						Non-Residential quantity charge*					\$1.76								
406																			
407																			
408																			
409																			
410																			
411																			