Estimated 1997 Water and Wastewater Charges in the Southwest Florida Water Management District

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Americans with Disabilities Act Statement

If a disabled individual wishes to obtain information contained in this document in another form, please contact Paula McCleery at (352) 796-7211 or (800) 423-1476, extension 4400; TDD ONLY (800) 231-6103; FAX (352) 754-6749.

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Executive Summary

About the Database and Calculation of Charges

Water and sewer service costs, just like the costs of most other commodities or services, have an impact on how much of that service is used. For example, research conducted within the Southwest Florida Water Management District (District or SWFWMD) indicates that, all other factors equal, a one percent increase in the price of water and sewer service for a single family residential customer reduces water use by .43 percent[1] (Brown and Caldwell, 1993). For this and other reasons, the Utility Rate Structure Database for the SWFWMD was created in 1991. The database contains water, wastewater, and reclaimed water rate data for 128 utilities in the District. The 1995 gross water use of the utilities surveyed represented more than 94 percent of public supply gross water use reported in the *1995 Estimated Water Use in the Southwest Florida Water Management District* report. The database was updated during 1997 and 1998 to reflect rate structures and other data in effect during calendar year 1997. Information on the price of a service or commodity is also essential for consumers to make informed decisions. During the 1997 update, the database was expanded to include pricing and usage information provided to customers on their bills, the main form of communication between a utility and its customers.

An associated bill model allows the estimation of water, wastewater and reclaimed water charges at user-selected usage levels for various combinations of retail customer classes and service meter sizes. Utility taxes are not included in the estimated charges[2]. Since the charges were estimated using the bill model and not estimated by the utilities, the estimated charges may be slightly different than the bill actually received by the customer. The complexity of some rate structures requires the use of assumptions in estimating some charges. Opportunities were provided to utility personnel to review and provide feedback on the accuracy of the estimated charges and follow-up calls were made where data or assumptions were in doubt. Based on the feedback received, it is believed that the estimated charges contained in this report provide a reasonably accurate snapshot in time of relative water, wastewater and reclaimed water costs across the SWFWMD. Some utility rates may have changed since the data were collected for this report. To obtain current rate information for a specific utility, please contact the utility's billing department.

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[1]At a combined marginal water and sewer price of $3.00 per thousand gallons for a medium property value home.

[2]The database and bill model are not currently configured for utility taxes and to include utility taxes would significantly increase data collection and processing efforts. Sufficient data were provided by 72 utilities to determine whether utility taxes were applicable. Twenty of those utilities had applicable utility taxes. Where the actual tax rate could be determined (15 utilities), the tax rate on water service was 10% in all cases. Only two of the 15 had utility taxes on sewer service, one at 10% and one at 7%.

In addition to estimated charges, this report provides information on several factors that affect the water conservation behavior of customers: rate structure (e.g, uniform, inclining block); the marginal cost of service at several usage quantities (the cost of the next unit of water used at a given quantity of usage); the percent of the bill in fixed charges (charges not affected by the amount of water usage); and information provided on customer bills.

Billing Period and Customer Classes

Within the SWFWMD, utilities bill water, wastewater and reclaimed water service on either a monthly, bi-monthly or quarterly basis. For comparative analysis, all charges have been converted to a monthly basis. Furthermore, the number and definition of customer classes is not consistent across all utilities. For example, small utilities may only utilize general service or residential and commercial customer classes. A large utility may utilize a multitude of customer classes. For the purposes of this report, water and wastewater charges were estimated for single family residential, small commercial, large commercial, industrial and irrigation customers.

These customer classes were based on the actual inclusion of such a customer class on the utility's rate ordinance or tariff sheet and/or the use of service meter sizes appropriate for each customer class. Monthly usage quantities and service meter sizes were chosen to be as consistent as possible with those used in statewide and national rate surveys. For the large commercial and industrial customer classes, screening processes were used to delete these customer classes for utilities that do not specifically utilize these customer classes or are not likely to serve such customers. It would be misleading to estimate and compare the assumed large commercial and industrial customer class charges of a utility that is not likely to serve these customer classes. These screening processes are documented in the appendices of the full report. Reclaimed water customer class charges are organized into residential metered, residential un-metered, commercial metered, and commercial un-metered.

Variation in Water Charges and the Use of "Cost Regions"

There are many legitimate reasons why the cost of water from a particular utility may be significantly more or less than another. Metlzler and Peterson (1994) describe these reasons, generally in order of significance for a given plant capacity, as follows:

"Investment related factors:

Level of reserve or unused capacity contained in existing facilities
Proportion of net plant investment financed from grants
Age of major treatment and transmission facilities
Proportion of planned investment financed from debt proceeds
Level of annually recurring capital expenditures

Operating expense related factors:

Complexity of treatment processes
Cost of electric power and chemicals per unit volume treated

Factors unique to individual utilities:

Portion of annual impact fee receipts used to make principal and interest payments on long term debt obligations
Level of distribution system losses of water systems and the level of infiltration/inflow of wastewater systems
Outside city rate differential and relative level of sales to outside city customers, if applicable
Percentage of utility revenues transferred to the general fund as payment in lieu of taxes
Density of customers and percentage of total sales to large customers."

These and other reasons for variance in water rates, such as regulatory costs, are discussed in more detail in Section 2 of the full report. Major rate surveys often provide comparisons of utility rates based upon utility size in terms of water sales or population served. This is done to provide a more fair comparison among utilities based on a concept commonly called *economies of scale*. Economies of scale mean that, in general, a larger utility can supply water and wastewater service at a lower per unit cost than a smaller utility. The more customers and water sales over which the fixed capital costs of a utility can be spread, the lower the per customer and per unit sold charges.

In the SWFWMD, however, water sources and water quality available for use by public water supply utilities vary significantly by region. A statistical analysis of monthly water charges indicates that there is a much higher correlation between rates based on regions of the SWFWMD (correlation coefficient = .49) rather than gross water use, which would relate to economies of scale (correlation coefficient = -.00797). To provide a more reasonable comparison of rates, with the exception of Table ES-1, all rate tables that include water charges are based on "cost regions". Cost Region 1 includes utilities located in Citrus, Hardee, Hernando, Highlands, Lake, Levy, Marion, Polk and Sumter counties. The typical source of water in Cost Region 1 is high quality groundwater requiring minimal treatment. Cost Region 2 includes utilities located in Hillsborough, Manatee, Pasco and Pinellas counties. The typical water sources in Cost Region 2 are groundwater requiring more treatment than required in Cost Region 1, and surface water which typically requires more expensive treatment and storage. Cost Region 3 includes utilities in Charlotte, Desoto and Sarasota counties. The typical water sources for these utilities are groundwater with high total dissolved solids requiring more expensive treatment than the groundwater found in either Cost Regions 1 or 2, and surface water.

Interpreting the Summary Estimated Monthly Charges Table

The monthly charges tables display the total utility sample size and the sample size for each customer class. The assumed meter size is included for each customer class because the fixed

charge portion of the bill is usually determined by meter size. The "gallons used" are the monthly quantity of usage upon which the usage related portion of the charges are based. The average (or mean) charge is the simple average of the charges from all the utilities surveyed for the given customer class, meter size and gallonage used per month. The average charge is included because many rate surveys base comparison of rates on average charges. The median charge is the middle value of the charges from the utilities surveyed for the given customer class, meter size and gallonage used per month. Half the monthly charges are greater than the median charge and half are below. The median charge can be considered more reflective of the typical charges a customer is likely to see than the average charge, which is more influenced by the highest and lowest charges. Estimated monthly charges for individual utilities are contained in the main body of this report.

Summary Estimated Monthly Water Charges Tables

Table ES-1 displays average and median estimated monthly water charges based on the District-wide sample of utilities surveyed. Tables ES-2, ES-3 and ES-4 display the estimated monthly water charges for the utilities surveyed in the three cost regions. The impact of the differences in water sources and raw water quality on monthly water charges is evident among the three cost regions. The average single family residential charge for 8,000 gallons is estimated to be $15.72 in Cost Region 1 and $37.58 in Cost Region 3. The District-wide average is estimated to be $18.86.

The average District-wide single family residential charge of $18.86 and the median charge of $16.32 for 8,000 gallons per month can be compared with the results of a 1997 national rate survey (Raftelis Environmental Consulting Group, 1998). Once adjusted from 7,480 gallons[3] to 8,000 gallons per month, the nation-wide survey average charge is $17.65 and the median charge is $16.80. The average gross water use of the utilities surveyed in the nation-wide survey was 67 million gallons per day (MGD) and the median was 27 MGD. The reported 1995 average gross use of the utilities in the District-wide survey was 19.7 MGD and the median was .56 MGD. It is somewhat surprising that the costs in the SWFWMD are not significantly higher than the nation-wide survey. The typically larger utilities in the nation-wide survey should benefit from economies of scale and there exists a greater concentration of higher cost reverse osmosis treatment technology in the SWFWMD than exists in the rest of the nation. The impact of not including utility taxes is indeterminate. Survey respondents to the nation-wide survey were not explicitly requested to include or exclude utility taxes when estimating monthly charges.

[3]The nation-wide survey was conducted in units cubic feet (CF). One thousand cubic feet is equivalent to 7,480 gallons.

Table ES-1 1997 *District-Wide* Estimated Monthly Water Charges

Sample Size (128)	Single Family Residential (128)			Small Commercial (112)	Large Commercial (57)	Industrial (41)	Irrigation (17)
Meter Size	.625"			1"	2"	6"	1"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000	20,000
Average	$15.59	$18.86	$33.31	$55.95	$800.60	$17,237.63	$53.23
Median	$13.77	$16.32	$29.11	$48.27	$673.20	$14,163.89	$40.89

Table ES-2 1997 *Cost Region 1* Estimated Monthly Water Charges (Citrus, Hardee, Hernando, Highlands, Lake, Levy, Marion, Polk and Sumter Counties)

Sample Size (73)	Single Family Residential (73)			Small Commercial (61)	Large Commercial (29)	Industrial (19)	Irrigation (6)
Meter Size	.625"			1"	2"	6"	1"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000	20,000
Average	$13.11	$15.72	$27.19	$45.62	$602.65	$12,371.21	$46.08
Median	$12.40	$14.70	$24.30	$40.50	$524.60	$10,153.59	$29.91

Table ES-3 1997 *Cost Region 2* Estimated Monthly Water Charges (Hillsborough, Manatee, Pasco and Pinellas Counties)

Sample Size (41)	Single Family Residential (41)			Small Commercial (37)	Large Commercial (21)	Industrial (17)	Irrigation (8)
Meter Size	.625"			1"	2"	6"	1"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000	20,000
Average	$14.79	$18.05	$32.27	$52.06	$864.97	$18,892.68	$42.69
Median	$15.00	$17.08	$31.40	$54.94	$788.81	$16,312.61	$39.91

Table ES-4 1997 *Cost Region 3* Estimated Monthly Water Charges (Charlotte, Desoto and Sarasota Counties)

Sample Size (14)	Single Family Residential (14)			Small Commercial (14)	Large Commercial (7)	Industrial (5)	Irrigation (3)
Meter Size	.625"			1"	2"	6"	1"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000	20,000
Average	$30.82	$37.58	$68.25	$111.24	$1,427.56	$30,102.88	$113.76
Median	$27.99	$34.36	$64.60	$101.61	$1,402.50	$30,000.00	$135.29

Summary Estimated Monthly Sewer Charges

The estimated monthly sewer charges are not subdivided by cost regions. There is no particular reason to believe that sewer charges would be significantly affected by the raw water source or quality. The sample size for estimated sewer charges is smaller than for water charges. The difference in the sample sizes is due to the use of on-site wastewater treatment (septic tanks) in some utility service areas. For single family residential customers, sewer charges are commonly capped at from 6,000 to 10,000 gallons per month of metered water use. This practice reflects the fact that water used for irrigation does not return through the wastewater system for treatment. A sewer charge cap is not typically applied to commercial and industrial customers as it is assumed that all water used is generally returned through the sewer system for treatment.

Also, sewer charges are not typically applied to water supplied through irrigation meters. The irrigation customer class is therefore not included in the estimated sewer charge table. Irrigation meters are most frequently used where there is no cap applied to sewer charges.

In general, monthly sewer charges in the SWFWMD are significantly higher than those in the nation-wide survey. The estimated single family residential average charge in the SWFWMD for 8,000 gallons of water usage per month is $29.07. The median charge is $26.50. The equivalent average charge for the nation-wide "all systems" survey is $20.25 and the median is $18.80. There are likely two significant factors driving this difference. The first is economies of scale. In the nation-wide survey, the equivalent average and median charges are $21.12 and $20.57, respectively, for the "Group C" subset of smaller wastewater utilities. The median water sold for the Group C utilities is 7 MGD. The median gross water use of the utilities surveyed in the SWFWMD is .564 MGD. This represents a significant difference in economies of scale. The other factor is that the rest of the nation is generally lagging behind the State of Florida in terms of advanced wastewater treatment requirements. With the implementation of Total Maximum Daily Load (TMDL) requirements for surface water bodies across the nation, it is very likely that wastewater rates nation-wide will increase faster than those in Florida and the current gap will narrow or disappear.

Table ES-5 1997 *District-Wide* Estimated Monthly Sewer Charges

	Single Family Residential			Small Commercial	Large Commercial	Industrial
Sample Size (91)	(91)			(85)	(51)	(36)
Meter Size	.625"			1"	2"	6"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000
Average	$25.54	$29.07	$36.69	$91.44	$1,069.81	$24,037.51
Median	$23.25	$26.50	$34.16	$85.42	$1,103.70	$23,049.98

Estimated Combined Water and Sewer Charges

Because sewer charges are typically based on metered water use, it is generally believed that customer water conservation behavior is based on a response to combined water and sewer charges. Charges for service areas that are not provided with both water and sewer service are not included in the calculation of average and median charges in the combined water and sewer charges tables. Table ES-6 displays District-wide average and median combined water and sewer service charges. Tables ES-7, ES-8 and ES-9 display the average and median combined water and sewer charges for the three cost regions.

Table ES-6 1997 *District-Wide* Estimated Monthly Combined Water and Sewer Charges

Sample Size (91)	Single Family Residential (91)			Small Commercial (85)	Large Commercial (51)	Industrial (36)
Meter Size	.625"			1"	2"	6"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000
Average	$41.43	$48.46	$71.41	$149.33	$1,888.89	$40,700.16
Median	$36.36	$43.36	$64.57	$133.91	$1,725.99	$37,901.91

Table ES-7 1997 *Cost Region 1* Estimated Monthly Combined Water and Sewer Charges (Citrus, Hardee, Hernando, Highlands, Lake, Levy, Marion, Polk and Sumter Counties)

Sample Size (47)	Single Family Residential (47)			Small Commercial (43)	Large Commercial (23)	Industrial (16)
Meter Size	.625"			1"	2"	6"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000
Average	$34.87	$39.64	$56.74	$119.50	$1,510.20	$33,516.03
Median	$32.12	$36.50	$50.78	$109.04	$1,514.56	$30,991.36

Table ES-8 1997 *Cost Region 2* Estimated Monthly Combined Water and Sewer Charges (Hillsborough, Manatee, Pasco and Pinellas Counties)

Sample Size (31)	Single Family Residential (31)			Small Commercial (29)	Large Commercial (21)	Industrial (15)
Meter Size	.625"			1"	2"	6"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000
Average	$41.80	$49.91	$74.52	$159.45	$1,991.76	$41,920.14
Median	$40.81	$47.76	$73.96	$151.25	$1,909.86	$39,358.02

Table ES-9 1997 *Cost Region 3* Estimated Monthly Combined Water and Sewer Charges

(Charlotte, Desoto and Sarasota Counties)

Sample Size (13)	Single Family Residential (13)			Small Commercial (13)	Large Commercial (7)	Industrial (5)
Meter Size	.625"			1"	2"	6"
Gallons Used	6,000	8,000	16,000	25,000	374,000	8,000,000
Average	$64.30	$76.90	$117.04	$225.42	$2,824.56	$60,029.44
Median	$61.50	$69.35	$113.00	$232.41	$2,881.04	$60,523.00

Estimated Monthly Reclaimed Water Charges

Table ES-10 displays estimated monthly reclaimed water charges. The small sample size is likely due to the fact that many smaller reclaimed water systems supply reclaimed water under contract to a relatively small number of customers, and not under an established rate structure. These contractual arrangements would not likely appear in the rate ordinances or tariff sheets that were requested from the participating utilities. The cost differential between metered and un-metered residential charges may in part be due to the additional meter reading and data entry costs incurred by a utility in order to bill a metered account. As indicated in the table, many reclaimed water systems have un-metered accounts which are charged by line size or acreage of irrigable area rather than a meter size related base charge plus a charge based on the metered amount of usage. Metered customers have the price incentive to conserve. Monthly charges can be reduced by using less water. Un-metered customers do not have a price incentive to conserve since the monthly charges are fixed and do not vary with water usage.

Table ES-10 1997 Estimated Monthly Reclaimed Water Charges

Sample Size (N)	Residential Metered (9)	Residential Un-metered (6)	Commercial Metered (13)	Commercial Un-metered (4)
Meter Size/Acres	1"	1"/1/4 acre	1"	1"/1/4 acre
Gallons Used (as applicable)	20,000	20,000	20,000	20,000
Mean	$15.87	$7.72	$10.35	$10.55
Median	$12.95	$7.50	$9.00	$9.68

Rate Structures

Since 1993 the District has required the use of water conservation promoting rate structures in

the Northern Tampa Bay, Eastern Tampa Bay and Highlands Ridge Water Use Caution Areas (WUCAs) and has encouraged their use elsewhere. Table ES-11shows the distribution of rate structure types for single family residential customer classes among utilities that were surveyed District-wide in both 1991 and 1997. Table ES-12 shows the distribution of rate structure types for single family residential water among utilities in the three WUCAs that were surveyed in both 1991 and 1997.

All other factors equal, flat rate structures (where a flat monthly fee is charged regardless of the water quantity used) and declining block rate structures (where the unit price declines as more water is used) are not acceptable as conservation promoting rate structures. Uniform rates (where the per unit price is constant across the usage range) are generally considered acceptable if applicable per capita water use requirements are being met. All other factors equal, such as the proportions of the bill that come from fixed and variable charges and customer knowledge of the rate structure, the inclining block rate structure is generally considered to be one of the most water conservation promoting rate structures. The category "No Separate Charge" usually applies in a mobile home park and means that water use is typically paid for in the lot rent. The charge does not typically change with the quantity of water used. This type of arrangement is usually contractual and can be difficult to change. As can be seen from the data in the tables, there has been a significant shift away from non-conserving rate structures both District-wide and in the WUCAs since 1991.

Table ES-11 Water Rate Structures District-Wide 1991 and 1997

Rate Structure Summary
District-wide

	No Separate Charge	Flat	Declining Block	Uniform	Inclining Block	Other
1991 Count	19	3	6	77	14	NA
1991 Percent	16.0%	2.5%	5.0%	64.7%	11.8%	
1997 Count	13	2	1	66	35	2
1997 Percent	10.9%	1.7%	0.8%	55.5%	29.4%	1.7%

Table ES-12 Water Rate Structures in Water Use Caution Areas 1991 and 1997

Rate Structure Summary
Northern Tampa Bay, Highlands Ridge, and Eastern Tampa Bay WUCAs

	No Separate Charge	Flat	Declining Block	Uniform	Inclining Block	Other
1991 Count	11	2	3	38	8	NA
1991 Percent	17.7%	3.2%	4.8%	61.3%	12.9%	
1997 Count	6	0	0	28	23	2
1997 Percent	10.2%	0.0%	0.0%	47.5%	39%	3.4%

Fixed Versus Water-Use-Related Charges

Table ES-13 provides a distribution of utilities in the District by the fixed charge percentage of a monthly water charges for 8,000 gallons. The more a water bill is determined by the fixed charges rather than the quantity of water used, the less incentive is provided to conserve. For example, where the fixed charges percentage is 70%, the consumer can affect a maximum of only 30% of their bill by using water more wisely. Where the fixed charges percentage is only 40% of the bill, the consumer can affect a maximum of 60% of their bill by using water more wisely. The largest number of utilities have fixed charges in the range of 31 to 40 percent of total charges. Fixed charge revenues are typically used for capital project debt service and are one of the means by which facility expansion is financed.

Table ES-13 Fixed Charges as a Percentage of Single Family Residential Water Charges

Fixed Charges as a Percentage of Estimated Single Family Residential Monthly Water Charges

8,000 Gallons Consumption

Fixed Charge Percentage	Number of Utilities	Fixed Charge Percentage	Number of Utilities
0 to 10%	1	51 to 60%	21
11 to 20%	7	61 to 70%	13
21 to 30%	16	71 to 80%	3
31 to 40%	34	81 to 90%	5
41 to 50%	24	> 90%	4

Marginal Water and Sewer Charges

According to economic theory, customers should respond to the marginal cost of water use, that is, the cost of the next unit (e.g., 1000 gallons) of water. The higher the marginal cost of the next unit, the more conservation will likely occur. There is some debate among rate experts about whether customers respond more to marginal costs or more average costs. Some of this debate revolves around the lack of rate structure information provided to utility customers (Whitcomb, 1999). Customer rate structure information is addressed in the following section. For the purposes of this report, we report the marginal charge for a thousand gallons of water per month at a given level of usage to reflect the marginal cost.

Table ES-14 shows the distribution of single family residential marginal water costs at three different monthly consumption levels. For example, Table 14 indicates that there are 33 utilities that have a marginal charge per thousand gallons of water that falls within the range of zero and one dollar at 6,000 gallons of water usage per month. Table ES-15 displays the same type of information but for the combined water and sewer marginal costs. Combined water and sewer marginal costs are addressed because most utilities base sewer charges on the amount of metered water use so the marginal cost for an additional unit of water is the combined water and sewer unit charge. While the average marginal cost for water alone increases as water use increases, reflecting a trend toward inclining block rate structures, the combined water and sewer marginal costs decline. This is because most sewer bills are capped at a given usage or dollar amount to reflect the fact that not all metered water use is returned through the sewer system to be treated. Some of it is used for outdoor purposes such as lawn irrigation and car washing.

Table ES-14 Estimated Marginal Water Charges - Single Family Residential

Distribution of Marginal Water Charges Among 128 Utilities			
Marginal Charge $/1,000 gals.	@ 6,000 gals./ month	@8,000 gals./month	@16,000 gals./month
	No. of Utilities	No. of Utilities	No. of Utilities
$0 - $1.00	33	33	25
$1.01 - $2.00	63	62	59
$2.01 - $3.00	21	22	26
$3.01 - $4.00	8	8	13
$4.01 - $5.00	2	2	2
$5.01 - $6.00	1	1	1
$6.01 - $7.00	0	0	2
Greater than $7.00	0	0	0
Average $/kgal	$1.63	$1.65	$1.89
Median $/kgal	$1.38	$1.39	$1.57

Table ES-15 Estimated Marginal Water and Sewer Charges - Single Family Residential

Distribution of Marginal Water and Sewer Charges Among 128 Utilities			
Marginal Charge $/1,000 gals.	@ 6,000 gals./ month	@8,000 gals./month	@16,000 gals./month
	No. of Utilities	No. of Utilities	No. of Utilities
$0 - $1.00	24	23	24
$1.01 - $2.00	37	37	44
$2.01 - $3.00	17	20	25
$3.01 - $4.00	18	17	16
$4.01 - $5.00	8	7	4
$5.01 - $6.00	8	8	6
$6.01 - $7.00	8	8	7
$7.01 - $8.00	6	6	2
$8.01 - $9.00	2	2	0
Greater than $9.00	0	0	0
Average $/kgal	$2.88	$2.88	$2.44
Median $/kgal	$2.18	$2.18	$1.99

Customer Billing Information

Inclusion of rate structure and water usage information on water bills can help customers make more informed decisions regarding water use. Providing historical water use data can help customers track the effectiveness of their own water conservation efforts, monitor water use

patterns and help to uncover unusual water use that can indicate leaks or other problems. Information on the average use of a customer class such as single family residential, can provide customers with a milestone with which to compare their own use. Rate structure information may encourage a customer to make alterations to their water use to avoid higher cost block charges or penalties for excessive use. Finally, the bill offers the opportunity to provide the customers with conservation tips.

As part of the 1997 survey, utilities were requested to provide a copy of their water bills. A total of 104 utilities provided copies of bills. The most common of the pieces of bill information listed in Table ES-16 below was the customer's billing period water usage. All but one utility provided this information. Only 20% of the utility bills sampled provided any information about the actual price of water or the rate structure. Almost every major grocery store provides per-unit pricing information on the other staple of life - food, but such information is typically not provided to the water consumer. A good example of the conveyance of pricing information is the bill provided by Sarasota County Utilities. The usage and rate information portion of the bill is reproduced as Figure ES-1.

Table ES-16 1997 Customer Bill Rate, Water Usage and Conservation Information

Sample Size N = 104		
Information Provided on Bill	Number of Utilities	Percent of Bills
Customer Billing Period Usage	103	99%
Customer Monthly Usage (last 12 months)	20	20%
Current Month Daily Customer Use	7	7%
Average Daily Cost to Customer	5	5%
12 Month Average Customer Class Daily Use	1	1%
Current Month Customer Class Use	1	1%
Water Rate Information	20	20%
Conservation Tips	10	10%
Irrigation Restrictions	2	2%

Figure ES-1 Sarasota County Utilities Bill Rate Information

Billing Date	Read Date	Present Reading	Previous Read Date	Previous Reading	Consumption

JUN 10 97	MAY 30 97	121	MAY 01 97	110	11

SERVICE DESCRIPTION		AMOUNT
WATER SERVICE BASE CHARGE		12.70
USAGE FROM 1000 TO 4000 GALS AT $2.00 PER 1000		8.00
USAGE FROM 5000 TO 8000 GALS AT $3.65 PER 1000		14.60
USAGE FROM 9000 TO 12000 GALS AT $4.89 PER 1000		14.67
SEWER SERVICE BASE CHARGE		11.43
SEWER USAGE AT $5.09 PER 1000 GALS UP TO 10000		50.90
WATER LAWNS SPARINGLY. STUDIES SHOW THAT A MAJORITY OF LAWNS ARE OVERWATERED. COUNTY ORDINANCE REQUIRES INSTALLATION OF RAIN SHUT-OFF DEVICES ON IRRIGATION SYSTEMS.	TOTAL AMOUNT NOW DUE	112.30

Residential Water and Sewer Connection and Impact Fees

The construction of new water and wastewater infrastructure to meet growth related needs is typically partially financed through connection and system development impact fees. This is an outgrowth of the philosophy that growth should pay its own way. Although impact fee information was not specifically requested of the participating utilities, such information was often included in the rate ordinances which were requested. The names of such fees vary widely and often aren't enlightening as to the components of infrastructure which are financed by the fees. They can be generally categorized into: connection charges or tap fees, which are almost exclusively devoted to distribution system development; and, system development charges, which are devoted to source development and treatment or a combination of distribution system and source development and treatment. Some utilities have both connection and system development impact fees. The data provided on single family residential impact fees are summarized in Table ES-17. The data indicates the for utilities that utilize impact fees, each new single family residence contributes, on average, from $571 to $993 or more to water infrastructure development. Multifamily, commercial and industrial customers typically pay impact fees that are some multiple of the impact fee for a single family residence. Again, the fixed charge portion of the water bill is the other significant source of funding for infrastructure development.

Table ES-17 1997 Residential Water and Wastewater Impact Fees in the SWFWMD

	Residential Connection Charges or Tap Fees		Residential System Development Charges	
	Water	Wastewater	Water	Wastewater
Average	$571	$808	$993	$1,403
Median	$310	$435	$616	$957
No. of Systems	16	12	16	16

1 Introduction

1.1 Purpose of the Project and Report

The District's utility rate structure data base was initially constructed to assist in tracking compliance with the District's water conservation promoting rate structure requirements in the original three Water Use Caution Areas. Data collection was also performed to provide rate data for a consultant effort to estimate water demand response to water rates for various water utility customer groups in the District. These groups included single family residential, multi-family residential and commercial. Sewer rate data were included as well since it is widely held that water customers respond to both water and sewer prices where both services are provided. In addition to the database, a model was developed that would allow the estimation of a water and/or sewer bill for a given amount of water use for a particular utility customer class. Very often it is asked what the average water bill is in the District or how much water costs from a particular utility. Such requests come from the press, interested parties, District Governing Board and staff, and the general public. As the database and model were being developed, additional data fields were found to be desirable for characterizing a particular rate structure.

The purpose of *this* report is to provide rate data to the public, cooperating utilities, public officials, and District Governing Board and staff in a format that is consistent and reasonably comparable to statewide and nationwide rate data. In addition, it is hoped that the data and the format in which it is presented will help utility customers and the general public understand why the water bill from their utility is different from that of friends and neighbors served by another utility within the SWFWMD.

1.2 Project History

Work on the 1991 database began in early 1991. Data collection was carried on through the summer and fall and was completed in November of 1991. Data was collected and stored for nearly 250 utilities within the District. Unfortunately, there were insufficient resources for the preparation of a comprehensive report in 1991. The database was, however maintained for historical purposes.

With the very able assistance of two Environmental Career Organization (E.C.O.) interns, the update of the database began in June of 1997. Given the experience of the initial data collection and the desire to include more conservation-related information in the data base, it was decided to limit data collection to those utilities with water use permits of greater than 100,000 gallons per day (gpd.). This threshold corresponds to several utility data submission requirements. The ability to use submitted reporting requirements data was very helpful in the preparation of this report. Such information is not typically available for utilities permitted for less than 100,000 gpd. The number of data items collected increased from 95 in 1991 to 141 in 1997. The majority of the additional data fields are associated with information concerning rates, customer and customer class water usage, and conservation-related information contained in customer

bills. For more information on data fields, see the Database and Model Description section and the table of data fields in Appendix A.

The application of the permit threshold reduced the number of utilities to be contacted by phone to 141. Utilities were requested to provide copies of rate ordinances or tarriff sheets and water bills by mail or fax. After the data were entered into the database, data summary sheets were sent back to the utilities for verification in September of 1997. Of the 141 verification reports mailed, 61 were returned by utilities. Additional efforts were put forth to contact those utilities where information was missing or unclear. Estimated water bills for various customer classes were mailed to utility contacts for verification at the end of July 1998. In addition to permittee verification of data, bills were hand calculated from random samples of utility files at several stages to detect and correct data input and programming errors. The final count of completed information for the largest of the customer classes, single family residential, is 128 utilities.

1.3 Description of the Database and Bill Model

The overall structure of the database is designed to include all pertinent rate-related information for water and sewer utilities. This includes data on water, sewer, and reclaimed water rate structures for up to twenty different customer classes with as many as three meter sizes each. New types of information have been collected for the 1997 update. However, to be consistent with the original database, we have not included utility taxes, franchise fees, wholesale/bulk rate information or special rates for utility customers outside utility service areas. New data collected primarily deals with the ways in which customer usage and charge information is presented on utility bills. This billing data could be helpful in analyzing the potential influence of different types of bill information on the resource use decisions of utility customers.

1.3.1 Database Structure

The data contained in the SWFWMD Utility Rate Structure Database is divided into five categories: (1) administrative information, (2) water service related data, (3) sewer service related data, (4) billing information, and (5) modeling fields. Separate lines of data are entered for each applicable meter size for each applicable customer class. Customer classes modeled for this report are defined in Table 1. A complete listing of data base customer class codes may be found in the appendix to this report. Reclaimed and irrigation water rate information is currently stored as a unique customer class in the water service related data category. This approach allows reclaimed and irrigation water rates to vary by meter size, but not by customer class. Separate categories of data for reclaimed and irrigation water related data may be helpful in the future to accommodate the variations in rates by customer class, especially as reclaimed water service becomes more prevalent in the District. The data for the reclaimed water tables were manually compiled to better reflect customer class rate differences.

Table 1 1997 Customer Class Codes

Code	Definition
A	all customers (if not further subdivided)
R	all residential customers (if not further subdivided)
S	single-family residential (including individually metered multi-family and mobile homes unless they have specific charges and rates
C	all commercial/general/industrial (if not further subdivided and if there are no specific charges and rates for industrial)
SC	small commercial/general
LC	large commercial/general
IND	all industrial customers (if separate from commercial but not further subdivided)
LIN	large industrial
I	irrigation
RU	reuse/reclaimed
NA	not applicable

1.3.2 Bill Model

A series of separate programs have been developed in dBASE to calculate the following figures given a monthly single family water usage and the information in the rate structure database:

- water service bill,
- sewer service bill,
- combined monthly water and sewer service bill,
- marginal charge for water service,
- marginal charge for sewer service, and
- combined marginal charge for water and sewer service.

For other customer classes, only the first three items are calculated. In its current form, the bill and price programs perform calculations on all customer classes and meter sizes simultaneously at the user specified water use level. That is, a model user enters a monthly water use level and the program components generate bills and prices for *each* record based on the usage. The results of the model runs are deposited in database fields where they can then be accessed and queried by model users.

1.3.3 Model Assumptions and Limitations

"1997 Rates" - Rate data were collected and verified in the latter part of 1997 and through much of 1998. The rates were considered 1997 rates as long as those rates were in effect during all or part of 1997. Some rates may have changed since the data was initially collected. For current rate data for a particular utility, please contact the utility.

Billing Charges - Unless otherwise specified in the rate ordinance or tariff sheets, billing charges are applied only to the water bill since it is assumed that all services (water, sewer, reclaimed water) are billed on one bill.

Billing Period - The bill model calculates a water or sewer service bill for the utility specific billing period. For example, if the water usage entered is 8,000 gallons, the model calculates the bill as though 8,000 gallons was used per month if the billing period is monthly, 8,000 gallons over two months if the billing period is bi-monthly, and 8,000 gallons over three months if the billing period is quarterly. To arrive at an accurate monthly bill for bi-monthly and quarterly billing period utilities, the monthly usage entered is doubled or tripled and then the bill is divided by two or three, as appropriate. These steps are necessary to accurately reflect the impact of bi-monthly and quarterly gallonage thresholds for inclining block rate structures.

Commode-Based Sewer Rate Structures - Where the sewer bill is based on the number of commodes, one commode was assumed. Commode-based sewer rate structures are classified as an "other" (O) rate structure type.

Excess Use Surcharges - Some utilities apply an excess use surcharge to water rates when a customer's usage exceeds a certain percentage over their average use. In general, it is assumed that the usage that was modeled for the particular customer class was the average usage and the surcharge does not apply. A specific exception to this assumption is that for Pinellas County Utilities, it was assumed that 8,000 gallons per month was the average single family residential use. The surcharge would, therefore, apply under the 16,000 gallon per month scenario since the usage exceeds the 20% over average use threshold for the surcharge.

Inclining Block Rate Structures - The model will accurately calculate bills for inclining rates structures with five or fewer blocks. Bills for rate structures with more than five blocks were calculated manually.

"Inside" versus "Outside" Rates - Municipal utilities are allowed by statute to charge more for water service outside of their municipal boundaries (see Section 2.3.3 for additional information). Information on "outside" rates are not collected in the database. The rate data contained in this report reflect only "inside" rates.

Usage-Related Capacity Charges - Some rate structures have usage-related capacity or base charges. Separate data fields and modeling steps for these types of charges are not currently in

the database and bill model. Where applicable, such charges were incorporated into the marginal cost and are reflected in the monthly charges.

Utility Taxes - Information on utility taxes is not collected in the database. The rate data contained in this report do not include utility taxes.

2 Variance in Utility Rates and Charges

Inevitably, comparisons will be made between the rates of utilities included in this report, the rates of utilities in the rest of the State of Florida, and the rates of utilities nationwide. While making these comparisons, it is important to keep in mind that there are very legitimate reasons for variance in utility rates. The cause of variance in utility rates was described by Metzler and Peterson in 1994,

"The following list of economic factors, related to facility investment, operating expense, and unique considerations, can have an impact on the level of utility rates, generally in order of significance.

Investment related factors:

Level of reserve or unused capacity contained in existing facilities
Proportion of net plant investment financed from grants
Age of major treatment and transmission facilities
Proportion of planned investment financed from debt proceeds
Level of annually recurring capital expenditures

Operating expense related factors

Complexity of treatment processes
Cost of electric power and chemicals per unit volume treated

Factors unique to individual utilities

Portion of annual impact fee receipts used to make principal and interest payments on long term debt obligations
Level of distribution system losses of water systems and the level of infiltration/inflow of wastewater systems
Outside city rate differential and relative level of sales to outside city customers, if applicable
Percentage of utility revenues transferred to the general fund as payment in lieu of taxes
Density of customers and percentage of total sales to large customers."

Variance in many of these components of cost apply to water as well as wastewater service. This section focuses on the cause of variance in several of these components of utility-supplied *water* cost.

2.1 Investment Related Factors

2.1.1 Level of Reserve or Unused Capacity Contained in Existing Facilities *versus* Economies of Scale

There are considerable economies of scale in water supply. That is, the larger the capacity of the water supply system, the cheaper the per-unit cost of water. Economies of scale vary by the component parts of water supply systems and vary according to the source of water and treatment required. This does not mean that if the demand for a given utility is only 5 million gallons per day (MGD) for the next ten years that a 10 MGD plant should be built simply to lower per unit cost of water. If the water is not used, then the effective per unit cost of water to end users will increase because the fixed costs of the plant are being divided among a smaller number of customers and gallons used. This can occur if plants are built to serve a projected increase in population that does not materialize or is smaller than projected. If water demand is projected too low and the facility is sized smaller than optimal, economies of scale will not be fully exploited. Economies of scale can be fairly dramatic. In general, the total system cost for a 30 MGD facility is about one-third of the cost for a one MGD facility on a cost per 1,000 gallon basis (SWFWMD, 1992). All other factors aside (such as the quality of the source water), a larger utility can typically provide water service less expensively than a smaller utility.

2.1.2 Proportion of Net Plant Investment Financed from Grants

The impact of grants on water rates depends on the proportion of total water costs that will be subsidized by grants. Assume for a moment that distribution and overhead costs are $.50 per thousand gallons. The existing water withdrawal and treatment facilities will provide 75% of future water needs at $.50 per thousand gallons capital cost. A new water supply facility will supply 25% of future water supply at a per thousand gallon capital cost 100% more than that provided by the existing facilities($1.00). Without a grant, the new water rate, all other factors equal, would be:

$.50 + .75($.50) +.25($1.00) = $1.13

With a 25% construction cost grant, the new water rate would be:

$.50 + .75($.50) + .25($.75) = $1.06

The new water rate did not increase by 100% without the grant, nor did the new rate decrease by 25% because of the grant. The point of this simple exercise is that there is not usually a direct proportional relationship between the cost of a new source of water and the price of water, nor is there a direct proportional relationship between the percentage of new source costs covered by grants and post construction water rates. New costs are blended with existing costs and a less than proportional impact on rates occurs.

2.1.3 Age of Major Treatment and Transmission Facilities

The age of major water supply facilities can have the impact of either increasing or decreasing

water costs. On the one hand, the debt on older facilities may be paid off or the treatment process may be simpler than would be required of a new facility, resulting in lower costs and lower rates. It could also be that system maintenance is being deferred. All of these factors tend to result in lower rates.

On the other hand, newer technologies may be more energy efficient or require fewer costly repairs than an aging system. For example, membrane treatment technology has been evolving rapidly and costs have been falling. It is likely that as older reverse osmosis plants in the State are replaced, water rates will decline. Several years ago, desalination water costs were estimated to be in the range of $4.00 and up per thousand gallons. Recent proposals (1997) for a 20 mgd desalination plant for the West Coast Regional Water Supply Authority in the Tampa Bay area are in the $2.00 to $4.00 per thousand gallon range with the majority of proposals falling below $3.00 per thousand gallons (PB Water, 1998).

2.1.4 Proportion of Plant Investment Financed from Debt Proceeds

The obvious advantage of financing new facilities from a sinking fund (like a savings account) rather than debt proceeds (bonding construction costs) is the avoidance of interest costs. Facility expansion or new facility construction financed through debt simply costs more in the long run. Interest payments can add about 50% to the cost of a $10 million facility when financed from debt proceeds (assuming a 20 year bond at 5% interest). The difficulty in establishing a sinking fund is the potential resistance of utility customers to pay more now even though costs over the long run will be lower. Current customers are also resistant to the notion of paying for "growth".

A significant cost difference between government-owned utilities and private utilities is the cost of debt financing. The income from municipal bonds is generally tax exempt and therefore the bonds can be offered with a lower rate of return to bond investors. Privately owned utilities must compete for capital without the tax exempt advantage. The borrowing costs for a municipal utility are therefore lower than for a private utility. Furthermore, private utilities are essentially prohibited from charging more than the actual cost of service plus a regulated rate of return on investment. A sinking fund has not been a feasible option for private utilities.

2.2 Source Development and Treatment Related Factors

Metzler and Peterson (1994) classify water source related costs as an issue of operating expense. This may be an accurate reflection of the difference in treatment costs, for example, between high quality groundwater and brackish groundwater. However, there can be a large differential in capital costs as well, such as the storage costs required for surface water. This section takes a broader perspective than operating costs alone. Source development and treatment costs vary significantly by water source. The lower the source water quality and the higher the quality water desired, the higher the costs. Treatment methodologies and estimated source development and treatment costs commonly used in the SWFWMD are listed below in Table 2 for a 10 MGD facility. Groundwater treatment technologies are listed in order from those designed to treat the

highest quality groundwater to those designed to treat poor, highly mineralized groundwater.

Table 2. Relative Water Source Development and Treatment Costs

Water Source	Treatment Technology	Cost per 1,000 Gallons (10 MGD)
Groundwater	Disinfection	$.57
Groundwater	Lime Softening	$1.31
Groundwater	Membrane Softening	$1.87
Groundwater	Reverse Osmosis	$2.08
Surface Water	Coagulation and Filtration	$1.36

Source: Water Supply Needs and Sources 1990 - 2020. Southwest Florida Water Management District. Brooksville, Florida. January 1992.

Due to seasonal and drought cycle fluctuations in streamflow, storage is much more of an important factor for surface water sources than for groundwater sources. The most significant capital cost associated with surface water development, relative to other sources of water, is storage. Surface water is typically stored in either surface reservoirs or aquifers, as in the case of aquifer storage and recovery. In aquifer storage and recovery, water is typically withdrawn from the surface water source, treated, pumped into a suitable aquifer for storage, and then withdrawn when needed. In other states where there is a higher degree of topographic relief, reservoirs require relatively little excavation and consume relatively little land. In Florida, the land surface is typically flat and the construction of a reservoir requires significantly higher excavation and/or land costs to store the same amount of water that could be stored in an area with high topographic relief. These higher construction costs coupled with environmental impacts to estuaries, navigational impacts and high evaporative losses have made in-stream (dam) reservoirs less cost-effective in Florida than in other states. Aquifer storage and recovery can also reduce raw water supply and treatment capacity requirements by meeting seasonal peak demands through storage.

Off-stream reservoirs are more environmentally feasible than in-stream reservoirs but still suffer from high construction costs and evaporative losses. The more cost-effective alternative to surface reservoirs is generally aquifer storage and recovery. Storage costs for an off-stream

reservoir have been estimated to range from $.80 to $3.20 per thousand gallons. The storage costs for aquifer storage and recovery ranged from $.18 to $.29 per thousand gallons (Hazen and Sawyer, 1994). These capital costs for storage must be added to the source development costs for surface water sources in Table 2 above.

2.3 Factors Unique to Individual Utilities

2.3.1 Impact Fees

The growth of public water and wastewater systems is sometimes financed, in part, from connection and impact fees. The names used by utilities to describe such fees vary widely but commonly include connection, tapping, system development, and reserve capacity charges. Few utilities itemize the components of the system (distribution, source development, etc.) that the particular fee or portion of a fee finances. A 1997 national survey of utilities divides these fees for single family residences into "connection or tap" fees and "system development" charges. Similar data was analyzed for utilities that provided impact fee information during the 1997 survey of utilities in the SWFWMD. The amount of the fees and the extent to which they are applied varies significantly among local governments and can affect the portion of utility costs collected from rates. The data are summarized in Table 3 below. The fixed charge portion of the bill is the other significant source of funding for the development for water supply facilities (see Section 9.2).

Table 3 1997 Residential Water and Wastewater Impact Fees in the SWFWMD

	Residential Connection Charges or Tap Fees		Residential System Development Charges	
	Water	Wastewater	Water	Wastewater
Average	$571	$808	$993	$1,403
Median	$310	$435	$616	$957
No. of Systems	16	12	16	16

2.3.2 Density of Customers and Distribution System Costs

The distribution system delivers the treated water from the main transmission lines to the eventual customer. Distribution costs vary with the "density" of customers and the percentage of total sales to large customers. Published data indicate that distribution costs can range from 19 to 42 percent of total utility costs (Beecher et al, 1993; Burchell 1992). In general, per-connection

distribution costs tend to be lower in high density development areas and higher in low density development areas (Siegel, 1998). Utilities with a large percentage of high volume customers (such as industrial users) also tend to have lower distribution costs. Very simply, less pipe and energy are required to move the same amount of water. Distribution system losses, such as under-registering meters, leaks, and illegal hookups can also raise rates for paying customers.

2.3.3 Outside City Rate Differential

According to the Raftelis Environmental Consulting Group 1998 Water and Wastewater Rate Survey, municipal water utilities sell water to customers outside their municipal boundaries at a price that is, on average, 42% higher than the price charged within their municipal boundaries. The median differential was 30%. Outside customers may be more expensive to serve, depending on the development density in outlying areas and distance from the treatment plant. Florida law allows a municipality to charge customers outside the municipality 25% more than the in-municipality charge. A greater than 25% surcharge must be justified by actual costs[4]. Data on "outside city" rates were not collected in the survey. Casual observation of the data indicates that in the SWFWMD, outside city rates are typically 25% higher than "in city" rates. The rates presented in this document reflect "in city" rates only.

2.3.4 Utility Revenues Transferred to and from Non-Utility Funds

Government-owned utility revenues may be transferred to non-utility funds for payment in lieu of taxes, as overhead for personnel, facilities and accounting services provided by general government, as subsidies to other government-provided services, or from non-utility funds as a subsidy to the utility. No published summary data are available on the types or relative amount of transfers.

2.3.5 Proportion of Reclaimed Water System Costs Apportioned to Potable Water System

Utilities can apportion the cost of reclaimed water systems to reclaimed water customers, wastewater customers, or potable water customers. In general, the more independent the water and wastewater divisions are and the more that the reclaimed water is considered a disposal problem rather than a resource, the more likely that the cost of the system will be apportioned to wastewater rather than potable water customers. Conversely, if the water utility faces rising costs to develop new sources of water, it is more likely that a greater portion of the cost of reclaimed water will be apportioned to reclaimed and potable water customers.

2.4 Wastewater Rates

A significant cost associated with the use of utility-supplied water is the treatment and disposal or reuse of wastewater. The cost of wastewater disposal in accordance with environmental

[4]Section 180.191, Florida Statutes.

regulations can vary significantly. For public water systems, the cost of disposal increases from lower cost disposal methods such as percolation ponds and surface water discharge to higher cost disposal methods such as reuse. All of the factors that affect the cost of delivered water, such as economies of scale, used capacity, treatment and distribution (collection in this case), also affect the cost of wastewater disposal. To increase water use efficiency and minimize the harmful impacts of surface water discharges, wastewater utilities are increasingly being required to reclaim wastewater for non-potable irrigation and cooling use. While the cost of reclaiming water is significantly higher than other disposal methods, the water quality benefits in water bodies such as Tampa Bay have been dramatic. The use of reclaimed water for irrigation and other non-potable uses also preserves high quality ground and surface water, reducing treatment costs for uses that require high quality water.

2.5 Regulatory Costs

In addition to the cost driving factors described by Metzler and Peterson, water supply utilities face a variety of regulatory costs. Two of the more significant are those associated with the U.S. Environmental Protection Agency's Safe Drinking Water Act, and the Florida water management districts' withdrawal impact avoidance and mitigation rules. Regulatory costs are reflected in the tables of utility supplied water rates to the extent that the regulations were in effect at the time that water supply facilities were constructed or were implemented subsequent to construction, and the costs of both are included in the rate-related revenue requirements.

2.5.1 Safe Drinking Water Act

A considerable amount of concern has been generated in association with the requirements of the Federal Safe Drinking Water Act (SDWA). The U.S. Environmental Protection Agency recently released the results of a community water systems "needs" survey to address these concerns (USEPA 1997). The USEPA divides water supply infrastructure needs for the nation's community water systems into current water supply needs and future water supply needs. Current needs are defined as "... projects to treat for contaminants with acute and chronic health effects and to prevent contamination of water supplies. A portion of these needs are for SDWA compliance." Future needs projects "... are designed to provide safe drinking water through the year 2014. Future needs include projects for replacing infrastructure and for the Disinfectants and Disinfection Byproducts Rule (D/DBPR), the Enhanced Surface Water Treatment Rule (ESWTR), and the Information Collection Rule (ICR)... Needs associated solely with future growth were not included in this survey".

Table 4 divides the 20 year needs according to their relationship to existing, proposed and Total Coliform Rule (TCR) requirements. The TCR-related distribution system costs reflect a

widespread state of deterioration of distribution systems that should be addressed by routine repair and replacement programs.

Table 4. 20 Year Total SDWA and SDWA-Related Needs (in millions of '95 dollars)

	Existing Regulations	Proposed Regulations	Distribution System SDWA TCR-Related
Florida	346.5	340.5	1135.3
U.S.	16,219.8	13,989.4	35,463.5

Source: (USEPA 1997) USEPA "Drinking Water Infrastructure Needs: First Report to Congress". EPA 812-R-97-001. January 1997.

2.5.2 Withdrawal Impact Avoidance and Mitigation

A potentially significant water cost variable that Metzler and Peterson did not specifically address is that of withdrawal environmental impact avoidance, adjacent user impact avoidance, or mitigation. Florida water law provides comprehensive protection for water dependent environmental systems and aquifer systems. The statutory protections contained in Chapter 373, F.S. and implemented through the rules of the State's five water management districts cause the potentially significant environmental costs of excessive withdrawals to be "internalized" by water use applicants in the permitting processes. What is meant by this is that the permit applicant may have to incur the costs of a number of impact avoidance actions which are paid for by the applicant and not passed on to other water users and the general public. The regulations potentially affect water costs for all water users, whether utility or self-supplied. However, self-supplied residences and water users below specific withdrawal quantity or withdrawal facility size thresholds are exempt from regulation.

The costs of withdrawal impact avoidance and mitigation actions vary significantly from one applicant to another depending on site specific conditions and the size of the withdrawal request. As an example, the West Coast Regional Water Supply Authority (now Tampa Bay Water) examined the regulatory costs of new wellfields under different capacity scenarios. Under 4, 8 and 40 mgd scenarios the following annual mitigation costs were estimated (Law Environmental, Inc. 1994):

Table 5 Annual Withdrawal Impact Mitigation Cost Estimates ($1,000s)

Cost Category	Wellfield A	Wellfield B

	4 mgd	8 mgd	40 mgd	8 mgd
Repair or replace private wells	20	100	500	50
Environmental mitigation	100	200	1,500	250
Evaluation and monitoring	50	100	200	100
Total impact mitigation costs	$170	$400	$2,200	$400
Total annual project cost	$1,627	$3,135	$9,936	$1,174
Ratio of mitigation/total cost	.10	.13	.22	.34

The data illustrate that as the intensity of withdrawals increases from 4 to 40 mgd at wellfield A, the ratio of mitigation cost to total project cost increases rather than remaining constant. Comparing the 8 mgd withdrawals at wellfields A and B, the difference in impact sensitivity is reflected in the much higher mitigation/total cost ratio for wellfield B. In the area where these wellfields were to be located, the Floridan aquifer is not well confined and withdrawals have the potential to impact environmental features such as lakes and wetlands in the overlying surficial aquifer. In addition, there are domestic and other permitted withdrawals that could be adversely impacted by the proposed withdrawals.

Again, the degree to which federal and state regulatory costs may be reflected in 1997 rates depends primarily on when the facilities were constructed. The older the facility, the less likely that such regulatory costs are included in current rates.

3 Interpreting the Systems Characteristics and Charges Tables

The tables are designed to provide data similar to that contained in national rate studies. The data in the tables are described below.

1995 Service Area Population, Gross Water Use, and Water Sources - Because of the impact of economies of scale on utility rates (please refer to Section 2.1.1), utilities are often grouped into categories based on population, gross water sales or gross water use for comparison purposes. The service area population, gross water use and water sources data were taken from the SWFWMD *1995 Estimated Water Use Report.* For utilities outside of the Highlands Ridge, Eastern Tampa Bay and Northern Tampa Bay Water Use Caution Areas, submission of data for the Estimated Water Use Reports is voluntary. There was a significant decline in voluntarily reported data in the *1996 Estimated Water Use Report,* the most recent version of the report. Data from 1995 was used since it was more complete, and changes from 1995 to 1996 would likely have little significance for the purposes of this report.

Cost Regions - As mentioned previously, utilities are often grouped according to service area population or gross water use or sales for rate comparison purposes. It can be perceived as unfair to compare the rate of a very small utility with that of a large utility since economies of scale should result in a lower rate for the larger utility, all other factors equal. In the SWFWMD there is a naturally occurring wide range groundwater quality used for potable water purposes. In the northern portion of the District and in the Lake Wales Ridge area, the water quality is very high and frequently requires only disinfection, the least expensive form of treatment. In the Tampa Bay area, groundwater often requires more expensive lime softening and may also be treated to remove hydrogen sulfide. Groundwater in the southwest coastal area of the District typically has high total dissolved solids (TDS) and requires either membrane softening or reverse osmosis treatment which are more expensive than disinfection or lime softening. Surface water is usually treated by coagulation and filtration which is more expensive than lime softening but less expensive than reverse osmosis. There is a discussion of the relative costs of treatment technologies in Section 2.2 of this report.

Furthermore, there is a significant difference between the surface water supply systems in Hillsborough and Manatee Counties and those in the southwest coastal area. Those in Hillsborough and Manatee Counties are older in-stream dams built before more stringent environmental protection requirements were in place and likely have retired all or a significant portion of initial construction costs. The southwest coastal systems were constructed under more stringent environmental protection requirements and were likely more expensive to build.

Because of the wide divergence in source development and treatment costs, correlation coefficients were estimated to determine whether it would be more appropriate to group utilities according to size or location for comparison purposes. The utilities were categorized by county into three generalized cost regions. Cost Region 1 consists of the northern and Lake Wales

Ridge counties: Citrus, Hardee, Hernando, Highlands, Lake, Levy, Marion, Polk and Sumter. Cost Region 2 consists of the Tampa Bay counties: Hillsborough, Manatee, Pasco and Pinellas. Cost Region 3 consists of the southwest coast counties: Charlotte, Desoto and Sarasota. The assumption is that the counties within a region have more in common in terms of source water quality and/or system age than they do with counties in other cost regions. The statistical analysis showed a much higher correlation between the cost regions and single family residential water bills (.49) than between gross water use and single family residential water bills (-.00797). Based on this analysis, it was determined that it would be appropriate to subdivide the water and combined water and sewer tables into the three cost regions for comparison purposes. Sewer-only tables are not subdivided since treatment costs are not as dependent on the source water quality.

Customer Class Codes - The definitions of the customer classes used in the tables may be found in Table 1 in Section 1.3.1 of this report.

Large Commercial and Industrial Tables - Some utilities have only one customer class for billing purposes and some have many. The most common are residential and commercial. Very few divide commercial into "small" and "large" or even have an industrial customer class. Data are not readily available to determine whether a utility does or does not truly have large commercial or industrial customers under their commercial customer class. To avoid inappropriate comparisons between utilities whose rate structures truly reflect the presence of such large customers and those whose rate structures don't, a multi-part screening process was used to eliminate utilities from these tables that do not likely have large commercial and industrial customers. An extreme example would be a utility that serves a large mobile home park but does serve a few small stores. They may have a commercial customer class, but it would be unfair to compare rates for a potential industrial customer of this utility to one that truly does have such customers. The presence of very large customers tends to lower rates due to economies of scale. Such a comparison would be inappropriate. The screening process is described in Appendix B.

Months in Billing Period - Most utilities in the SWFWMD bill for service on a monthly basis, but a few bill bi-monthly or quarterly. They are designated 1, 2 and 3 in the table, respectively. For utilities that bill less frequently than monthly, the bill is calculated in the same manner as it would be by the utility and then the bill is divided by two or three as appropriate to arrive at the monthly charges in the tables.

Other Sewer Service - An entry of "Septic" indicates that sewer service is provided by septic tanks. "Septic" indicated utilities do not appear in the sewer charges or combined water and sewer charges tables. An entry of "Utility" indicates that sewer service is provided by another utility. "Utility" indicated utilities do appear in the sewer charges and combined water and sewer charges tables. "NS" indicates that sewer service is provided but is included in the water charges or lot rent and is not separately charged.

Rate Structure Codes - Rate structures used in this report are classified as follows:

Flat (F) - the total bill does not change regardless of the amount of water/sewer used.

Uniform (U) - the per thousand gallon usage charge does not change as usage increases.

Inclining Block (I) - the per thousand gallon usage charge increases at pre-defined levels of usage.

Declining Block (D)- the per thousand gallon usage charge decreases at pre-defined levels of usage.

Other (O) - the rate structure does not fit into any of the above defined rate structures.

Water Source Codes - GW denotes groundwater. GW/RO denotes groundwater requiring treatment by reverse osmosis. SW denotes surface water.

Water Usage Levels and Meter Sizes - The water usage and meter sizes at which the bills are estimated are similar to those used in the Raftelis Environmental Consulting Group Water and Wastewater Rate Surveys. A minor difference is that the quantities in the Raftelis reports are denominated primarily in hundreds of cubic feet. The vast majority of utilities in the SWFWMD price water and sewer service in 1,000s of gallons. Conversion to even hundreds of cubic feet (CCF) would result in quantities that are not in even thousands (100 cubic foot equals approximately 748 gallons). Some utilities in the SWFWMD still use billing systems that can bill only in even thousands of gallons. To convert all quantities to CCF would have resulted in numerous inaccurate bills. Rates that are charged in CCFs were converted to thousands of gallons. The only exception for meter size is in the industrial class. Data is not collected for 8" meters, as was done in the Raftelis Surveys, so bills were estimated using 6" meters.

Water Use Permit Numbers and Utility Names - SWFWMD water use permit numbers are included in the tables to allow cross reference to other SWFWMD documents, such as the annual *Estimated Water Use* reports. The commonly known name of the utility is often not the same as the permittee name. The commonly known utility name is generally used in this report.

General Note - The data are sorted alphabetically by utility in the utility characteristics table. In other tables, they are generally sorted by cost region, county, and then alphabetically by utility.

4 Utility Characteristics Tables

Table 6
Utility Characteristics

Water Use Permit #	Utility Name	County	Ownership	Other Sewer Service	Estimated 1995 Service Area Population	Estimated 1995 Gross Water Use (MGD)	Reported Water Sources	Months in Billing Period
8417	Aloha Utilities/Aloha-Tahitian	Pasco	Private		6,935	0.418	GW	1
3182	Aloha Utilities/Seven Springs	Pasco	Private		16,814	2.142	GW	1
3590	Bartelt Enterprises/Buena Vista	Pasco	Private	Septic	1,838	0.153	GW	1
2030	BETMAR Utilities, Inc.	Pasco	Private					1
7139	Buttonwood Bay Utilities, Inc.	Highlands	Private		1,407	0.211	GW	1
8344	Century Realty/CHC VIII/Swiss	Polk	Private	NS	1,557	0.259	GW	3
7187	Century Realty/CHC VII/Swiss	Polk	Private	NS	1,907	0.409	GW	3
1625	Century Realty/Lake Haines, Ltd.	Polk	Private					3
8753	Century Realty/Plantation Landing	Polk	Private		792	0.072	GW	1
10420	Charlotte County Utilities	Charlotte	Public		62,448	6.487	GW/SW	1
1512	Charlotte Harbor Water Assn.	Charlotte	Private	Septic	4,441	0.348	GW/RO	1
6691	Cinnamon Ridge Utility	Citrus	Private	Septic	476	0.043	GW	1
7121	Citrus County Utilities	Citrus	Public		12,638	1.938	GW	1
4725	City of Arcadia	Desoto	Public		6,608	0.937	GW	1
7119	City of Auburndale	Polk	Public		17,363	2.487	GW	1
6029	City of Avon Park	Highlands	Public		16,141	1.787	GW	1
341	City of Bartow	Polk	Public		17,200	3.826	GW	1
30	City of Bowling Green	Hardee	Public		1,959	0.289	GW	1
6392	City of Bradenton	Manatee	Public		47,729	5.698	SW	1
7627	City of Brooksville	Hernando	Public		10,725	1.664	GW	1
6519	City of Bushnell	Sumter	Public	Septic	2,273	0.278	GW	1
8193	City of Center Hill	Sumter	Public	Septic	786	0.080	GW	1
2981	City of Clearwater	Pinellas	Public		113,110	14.165	GW	1
10488	City of Coleman	Sumter	Public	Septic			GW	1
207	City of Crystal River	Citrus	Public		4,056	0.681	GW	1

Table 6 (continued)
Utility Characteristics

Water Use Permit #	Utility Name	County	Ownership	Other Sewer Service	Estimated 1995 Service Area Population	Estimated 1995 Gross Water Use (MGD)	Reported Water Sources	Months in Billing Period
1631	City of Dade City	Pasco	Public		15,578	1.501	GW	1
5750	City of Davenport	Polk	Public	Septic	2,970	0.472	GW	1
2980	City of Dunedin	Pinellas	Public		35,738	3.940	GW	2
8339	City of Dunnellon	Marion	Public		1,844	0.319	GW	1
6920	City of Eagle Lake	Polk	Public		2,481	0.236	GW	1
645	City of Fort Meade	Polk	Public		6,123	1.054	GW	1
5870	City of Frostproof	Polk	Public		3,129	1.328	GW	1
8522	City of Haines City	Polk	Public		12,601	2.212	GW	1
419	City of Inverness	Citrus	Public		6,644	1.161	GW	1
6624	City of Lake Alfred	Polk	Public		4,247	0.673	GW	1
4658	City of Lake Wales	Polk	Public		17,047	2.632	GW	1
4912	City of Lakeland	Polk	Public		143,060	19.715	GW	1
6124	City of Mulberry	Polk	Public		2,984	0.415	GW	1
4734	City of New Port Richey	Pasco	Public		24,387	3.208	GW	1
2923	City of North Port	Sarasota	Public		11,108	2.103	SW	1
1776	City of Plant City	Hillsborough	Public		25,465	5.156	GW	1
3692	City of Port Richey	Pasco	Public		7,955	0.787	GW	1
871	City of Punta Gorda	Charlotte	Public		23,501	3.061	SW	1
4550	City of San Antonio	Pasco	Public	Septic	793	0.088	GW	1
4318	City of Sarasota	Sarasota	Public		63,235	7.390	GW	1
4492	City of Sebring	Highlands	Public		24,136	3.300	GW	1
4	City of St. Petersburg	Pinellas	Public		290,963	31.174	GW	1
2062	City of Tampa	Hillsborough	Public		431,520	64.762	SW/GW	1
742	City of Tarpon Springs	Pinellas	Public		26,624	3.274	GW	1
450	City of Temple Terrace	Hillsborough	Public		25,785	3.372	GW	1
5393	City of Venice	Sarasota	Public		20,902	2.185	GW/RO	1
4461	City of Wauchula	Hardee	Public		5,436	0.860	GW	1

Table 6 (continued)
Utility Characteristics

Water Use Permit #	Utility Name	County	Ownership	Other Sewer Service	Estimated 1995 Service Area Population	Estimated 1995 Gross Water Use (MGD)	Reported Water Sources	Months in Billing Period
7185	City of Webster	Sumter	Public	Septic	942	0.144	GW	1
8135	City of Wildwood	Sumter	Public		3,992	0.734	GW	1
5640	City of Williston	Levy	Public		2,583	0.571	GW	1
4607	City of Winter Haven	Polk	Public		45,378	6.144	GW	1
6040	City of Zephyrhills	Pasco	Public		13,168	1.860	GW	1
543	Crestridge Utility Corporation	Pasco	Private	Septic	1,251	0.107	GW	1
7811	Crystal Lake Comm.	Highlands	Private		557	0.129	GW	1
964	Crystal Springs Water Co.	Pasco	Private	Septic	669	0.084	GW	1
8472	Cypress Lakes Utility, Inc.	Polk	Private		1,354	0.217	GW	1
7178	Decca Utilities/Oak Run	Marion	Private		4,452	1.102	GW	1
6151	Decca Utilities/Pine Run	Marion	Private	Septic	1,664	0.438	GW	1
4866	Englewood Water District	Sarasota	Public		27,846	2.766	GW/RO	1
7494	Fiveland Investments, Inc.	Charlotte	Private	Utility	1,083	0.093	GW/RO	1
1118	Floral City Water Assn., Inc.	Citrus	Private	Septic	3,922	0.276	GW	1
3677	Floralino Properties	Pasco	Private	Septic	1,575	0.127	GW	1
5886	Florida Cities Water Co/Carrollwood	Hillsborough	Private		3,438	0.585	GW	1
6028	Forest Hills Utilities, Inc.	Pasco	Private		4,500	0.446	GW	1
6867	Forest Lakes MHP	Pasco	Private					1
3522	FWS: Burnt Store	Charlotte	Private		1,189	0.140	GW/RO	1
2842	FWS: Citrus Springs	Citrus	Private		6,213	0.933	GW	1
7878	FWS: Lake Gibson Estates	Polk	Private		1,973	0.256	GW	1
6456	FWS: Leisure Lakes	Highlands	Private		920	0.030	GW	1
2841	FWS: Marion Oaks	Marion	Private		6,466	0.577	GW	1
2840	FWS: Seaboard Utilities Corp.	Hillsborough	Private		6,383	0.650	GW	1
4842	FWS: Spring Hill	Hernando	Private		58,724	9.056	GW	1
9791	FWS: Sugarmill Woods	Citrus	Private		4,665	1.003	GW	1
3704	FWS: Valrico Hills	Hillsborough	Private		889	0.133	GW	1

Table 6 (continued)
Utility Characteristics

Water Use Permit #	Utility Name	County	Ownership	Other Sewer Service	Estimated 1995 Service Area Population	Estimated 1995 Gross Water Use (MGD)	Reported Water Sources	Months in Billing Period
4279	Garden Grove Water Co., Inc.	Polk	Private		20,043	2.964	GW	1
718	Gasparilla Island Water Assn.	Charlotte	Public		2,561	0.751	GW/RO	1
5882	Heartland Utilities, Inc.	Highlands	Private	Septic	696	0.083	GW	1
2983	Hernando Co.	Hernando	Public		37,120	5.693	GW	1
6326	Highlands County/Placid Utilities	Highlands	Public		1,311	0.399	GW	1
9516	Highlands Ridge Associates Inc	Highlands	Private		344	0.099	GW	1
4352	Hillsborough Co.	Hillsborough	Public		283,397	36.602	GW	1
540	Holiday Gardens Utilities Inc.	Pasco	Private	Septic	1,183	0.094	GW	1
4406	Homosassa Special Water Dist.	Citrus	Public	Septic	3,533	0.634	GW	1
4669	Hudson Water Works, Inc.	Pasco	Co-op		5,922	0.592	GW	1
4167	Lake Josephine Heights Water	Highlands	Private	NS	956	0.090	GW	1
1368	Lake Panasoffkee Water Assn.	Sumter	Private	Septic	3,708	0.244	GW	1
1616	Lake Region Mobile Home Vill.	Polk	Private		988	0.106	GW	3
2978	Lindrick Service Corporation	Pasco	Private		8,018	0.698	GW	1
11404	Little Sumter Utilities	Lake	Private					1
590	Mad Hatter/Turtle Lakes	Pasco	Private		4,030	0.547	GW	1
5387	Manatee Co. Public Works Dept.	Manatee	Public		186,218	23.758	SW/GW	1
11577	Marion County Utilities	Marion	Public					1
8481	Marion Utilities/Spruce Creek	Marion	Private	Septic	160	0.116	GW	1
1156	On Top of the World	Marion	Private		4,030	1.097	GW	1
2043	Orangewood Lakes Mobile Homes	Pasco	Private	Septic	860	0.075	GW	1
3415	Orchid Springs Dev. Corp.	Polk	Private		752	0.093	GW	1
4005	Park Water Company	Polk	Private	Utility	1,768	0.192	GW	1
266	Pasco Co. Utilities	Pasco	Public		122,751	14.892	GW	1
7999	Pasco Utilities, Inc.	Pasco	Private	Septic	1,288	0.181	GW	1
2673	Pinellas County Utilities	Pinellas	Public		373,278	48.539	GW	2
4980	Placid Lakes Utilities	Highlands	Private	Septic	2,110	0.232	GW	1

Table 6 (continued)
Utility Characteristics

Water Use Permit #	Utility Name	County	Ownership	Other Sewer Service	Estimated 1995 Service Area Population	Estimated 1995 Gross Water Use (MGD)	Reported Water Sources	Months in Billing Period
6507	Polk County Utilities	Polk	Public		51,111	6.167	GW	1
8165	Quail Meadow Utilities, Inc.	Marion	Private	Septic	210	0.078	GW	3
4153	Rolling Oaks Ut./Beverly Hills	Citrus	Private		13,115	2.250	GW	1
2839	Rotonda West Utility Corp.	Charlotte	Private		5,858	0.564	GW/RO	1
11135	Sarasota County Utilities	Sarasota	Public		108,669	12.239	GW	1
5786	Sebring Ridge Utilities, Inc.	Highlands	Private		1,382	0.199	GW	1
6006	Southbay Utilities, Inc.	Sarasota	Private		1,384	0.293	GW/RO	1
8967	Sweetwater Co-Op, Inc.	Polk	Co-op		713	0.117	GW	1
7692	Town of Belleair	Pinellas	Public		4,968	0.892	GW	2
5893	Town of Dundee	Polk	Public	Septic	3,196	0.446	GW	1
8953	Town of Inglis	Levy	Public	Septic	664	0.143	GW	1
2332	Town of Lake Hamilton	Polk	Public	Septic	1,630	0.281	GW	1
5270	Town of Lake Placid	Highlands	Public		3,645	0.564	GW	1
7755	Town of Yankeetown	Levy	Public	Septic	617	0.097	GW	1
7658	Town of Zolfo Springs	Hardee	Public		1,279	0.218	GW	1
4668	Util Inc of FL/Orangewood	Pasco	Private	Septic	1,283	0.105	GW	2
3668	Util Inc of FL/Summertree/Paradise	Pasco	Private		1,757	0.134	GW	1
2707	Util Inc. of FL/Eastlake Water	Hillsborough	Private		2,767	0.244	GW	1
10350	Util Inc. of FL/Lake Tarpon	Pinellas	Private	Utility	1,260	0.140	GW	2
8423	Venture Assoc. Util./Palm Cay	Marion	Private	Septic	1,826	0.251	GW	1
9807	Village of Highland Park	Polk	Public	Septic	215	0.104	GW	1
10443	Windmere Utility Company	Hillsborough	Private		2,510	0.406	GW	1
Total Reporting Utilities	128							
Average Values					25,167	19.664		

Table 6 (continued)
Utility Characteristics

Water Use Permit #	Utility Name	County	Ownership	Other Sewer Service	Estimated 1995 Service Area Population	Estimated 1995 Gross Water Use (MGD)	Reported Water Sources	Months in Billing Period
Median Values					3,815	0.564		

5 Monthly Water Charges Tables

Table 7
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
Cost Region 1									
6691	Cinnamon Ridge Utility	Citrus	476	GW	A	U	$15.88	$18.62	$29.58
7121	Citrus County Utilities	Citrus	12,638	GW	S	U	$12.49	$13.99	$19.99
207	City of Crystal River	Citrus	4,056	GW	A	U	$21.57	$27.01	$48.77
419	City of Inverness	Citrus	6,644	GW	R	U	$11.67	$14.01	$23.37
1118	Floral City Water Assn., Inc.	Citrus	3,922	GW	R	I	$18.60	$22.20	$39.37
2842	FWS: Citrus Springs	Citrus	6,213	GW	S	U	$16.60	$19.66	$31.90
9791	FWS: Sugarmill Woods	Citrus	4,665	GW	S	U	$11.01	$13.05	$21.21
4406	Homosassa Special Water Dist.	Citrus	3,533	GW	S	I	$14.95	$18.85	$35.65
4153	Rolling Oaks Ut./Beverly Hills	Citrus	13,115	GW	R	U	$8.89	$9.97	$14.29
30	City of Bowling Green	Hardee	1,959	GW	R	U	$10.00	$13.00	$25.00
4461	City of Wauchula	Hardee	5,436	GW	R	U	$6.75	$9.25	$19.25
7658	Town of Zolfo Springs	Hardee	1,279	GW	S	U	$10.50	$14.00	$28.00
7627	City of Brooksville	Hernando	10,725	GW	S	U	$16.34	$18.68	$28.04
4842	FWS: Spring Hill	Hernando	58,724	GW	S	U	$10.04	$11.98	$19.74
2983	Hernando Co.	Hernando	37,120	GW	R	I	$11.50	$13.50	$22.50
7139	Buttonwood Bay Utilities, Inc.	Highlands	1,407	GW	A	U	$10.34	$11.62	$16.74
6029	City of Avon Park	Highlands	16,141	GW	R	U	$11.65	$15.25	$29.65
4492	City of Sebring	Highlands	24,136	GW	S	U	$20.38	$24.46	$40.78
7811	Crystal Lake Comm.	Highlands	557	GW	A	U	$10.53	$13.11	$23.43
6456	FWS: Leisure Lakes	Highlands	920	GW	S	U	$34.16	$43.08	$78.76
5882	Heartland Utilities, Inc.	Highlands	696	GW	R	U	$17.53	$20.89	$34.33
6326	Highlands County/Placid Utilities	Highlands	1,311	GW	R	I	$17.37	$20.93	$36.82
9516	Highlands Ridge Associates Inc	Highlands	344	GW	R	U	$17.36	$19.76	$29.36
4167	Lake Josephine Heights Water	Highlands	956	GW	R	U	$18.07	$21.29	$34.17

Table 7 (continued)
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
4980	Placid Lakes Utilities	Highlands	2,110	GW	S	U	$13.76	$16.00	$24.96
5786	Sebring Ridge Utilities, Inc.	Highlands	1,382	GW	R	U	$16.67	$19.17	$29.17
5270	Town of Lake Placid	Highlands	3,645	GW	S	I	$13.20	$15.10	$23.40
11404	Little Sumter Utilities	Lake			S	I	$10.36	$12.06	$23.96
5640	City of Williston	Levy	2,583	GW	R	I	$10.20	$12.60	$23.40
8953	Town of Inglis	Levy	664	GW	R	U	$26.00	$32.00	$56.00
7755	Town of Yankeetown	Levy	617	GW	R	U	$21.90	$25.66	$40.70
8339	City of Dunnellon	Marion	1,844	GW	S	I	$17.30	$21.00	$35.90
7178	Decca Utilities/Oak Run	Marion	4,452	GW	S	U	$14.09	$16.31	$25.19
6151	Decca Utilities/Pine Run	Marion	1,664	GW	S	F	$13.77	$13.77	$13.77
2841	FWS: Marion Oaks	Marion	6,466	GW	S	U	$20.94	$24.88	$40.64
11577	Marion County Utilities	Marion			R	I	$14.44	$17.36	$29.04
8481	Marion Utilities/Spruce Creek	Marion	160	GW	S	U	$15.27	$18.07	$29.27
1156	On Top of the World	Marion	4,030	GW	S	I	$6.95	$8.44	$15.48
8165	Quail Meadow Utilities, Inc.	Marion	210	GW	S	U	$18.65	$20.83	$29.55
8423	Venture Assoc. Util./Palm Cay	Marion	1,826	GW	A	U	$17.87	$20.29	$29.97
8344	Century Realty/CHC VIII/Swiss	Polk	1,557	GW	A	I	$5.00	$5.00	$19.50
7187	Century Realty/CHC VII/Swiss	Polk	1,907	GW	A	I	$5.00	$5.00	$19.50
1625	Century Realty/Lake Haines, Ltd.	Polk			A	U	$7.11	$9.11	$17.11
8753	Century Realty/Plantation Land	Polk	792	GW	A	U	$7.60	$10.00	$19.60
7119	City of Auburndale	Polk	17,363	GW	R	I	$8.05	$10.45	$20.05
341	City of Bartow	Polk	17,200	GW	A	U	$5.00	$8.00	$20.00
5750	City of Davenport	Polk	2,970	GW	A	U	$9.15	$10.75	$17.25
6920	City of Eagle Lake	Polk	2,481	GW	R	U	$13.75	$16.25	$26.25
645	City of Fort Meade	Polk	6,123	GW	R	U	$10.80	$13.00	$21.80
5870	City of Frostproof	Polk	3,129	GW	R	I	$6.95	$8.25	$15.85
8522	City of Haines City	Polk	12,601	GW	S	I	$9.72	$11.60	$22.00

Table 7 (continued)
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
6624	City of Lake Alfred	Polk	4,247	GW	S	U	$11.30	$13.00	$19.80
4658	City of Lake Wales	Polk	17,047	GW	S	I	$7.79	$10.55	$23.41
4912	City of Lakeland	Polk	143,060	GW	S	U	$7.79	$9.77	$17.69
6124	City of Mulberry	Polk	2,984	GW	S	D	$12.50	$15.00	$24.10
4607	City of Winter Haven	Polk	45,378	GW	S	I	$12.40	$14.70	$24.30
8472	Cypress Lakes Utility, Inc.	Polk	1,354	GW	S	I	$8.53	$10.93	$22.13
7878	FWS: Lake Gibson Estates	Polk	1,973	GW	A	U	$11.48	$13.26	$20.38
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	R	I	$7.97	$9.47	$15.47
1616	Lake Region Mobile Home Vill.	Polk	988	GW	A	I	$7.27	$8.27	$20.77
3415	Orchid Springs Dev. Corp.	Polk	752	GW	R	U	$10.33	$11.77	$17.53
4005	Park Water Company	Polk	1,768	GW	S	I	$12.67	$15.65	$31.77
6507	Polk County Utilities	Polk	51,111	GW	S	I	$15.09	$17.63	$28.75
8967	Sweetwater Co-Op, Inc.	Polk	713	GW	A	U	$23.00	$25.00	$33.00
5893	Town of Dundee	Polk	3,196	GW	R	I	$5.40	$7.40	$15.40
2332	Town of Lake Hamilton	Polk	1,630	GW	A	U	$13.50	$15.50	$23.50
9807	Village of Highland Park	Polk	215	GW	A	U	$8.90	$10.20	$16.00
6519	City of Bushnell	Sumter	2,273	GW	R	U	$17.75	$21.85	$38.25
8193	City of Center Hill	Sumter	786	GW	A	U	$9.00	$13.00	$29.00
10488	City of Coleman	Sumter		GW	R	U	$15.75	$18.25	$38.25
7185	City of Webster	Sumter	942	GW	R	U	$11.80	$15.40	$29.80
8135	City of Wildwood	Sumter	3,992	GW	A	U	$13.48	$15.98	$25.98
1368	Lake Panasoffkee Water Assn.	Sumter	3,708	GW	R	U	$19.80	$25.80	$49.80

Table 7 (continued)
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
Cost Region 1 Summary									
Reporting Utilities	73								
Average Values			9,028				$13.11	$15.72	$27.19
Median Values			2,583				$12.40	$14.70	$24.30
Cost Region 2									
1776	City of Plant City	Hillsborough	25,465	GW	S	I	$12.05	$15.21	$28.24
2062	City of Tampa	Hillsborough	431,520	SW/GW	S	I	$8.34	$11.12	$27.61
450	City of Temple Terrace	Hillsborough	25,785	GW	R	U	$15.28	$18.54	$39.74
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	S	I	$16.93	$19.31	$34.26
2840	FWS: Seaboard Utilities Corp.	Hillsborough	6,383	GW	S	I	$20.35	$23.77	$41.02
3704	FWS: Valrico Hills	Hillsborough	889	GW	R	U	$17.92	$19.56	$26.12
4352	Hillsborough Co.	Hillsborough	283,397	GW	S	I	$20.06	$24.40	$43.70
2707	Util Inc. of FL/Eastlake Water	Hillsborough	2,767	GW	R	U	$10.92	$12.18	$17.22
10443	Windmere Utility Company	Hillsborough	2,510	GW	R	U	$9.00	$10.00	$14.00
6392	City of Bradenton	Manatee	47,729	SW	S	I	$15.83	$19.31	$33.23
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	S	I	$10.91	$12.97	$21.68
8417	Aloha Utilities/Aloha-Tahitian	Pasco	6,935	GW	R	U	$18.50	$23.80	$45.00
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	R	U	$10.93	$13.47	$23.63
3590	Bartelt Enterprises/Buena Vista	Pasco	1,838	GW	A	U	$9.06	$9.90	$13.26
2030	BETMAR Utilities, Inc.	Pasco			R	U	$19.25	$23.69	$41.45
1631	City of Dade City	Pasco	15,578	GW	R	I	$13.36	$16.32	$29.28
4734	City of New Port Richey	Pasco	24,387	GW	S	I	$10.27	$12.25	$20.17
3692	City of Port Richey	Pasco	7,955	GW	S	I	$18.00	$23.00	$45.25

Table 7 (continued)
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
4550	City of San Antonio	Pasco	793	GW	R	U	$15.20	$18.54	$33.10
6040	City of Zephyrhills	Pasco	13,168	GW	S	U	$7.00	$9.00	$17.00
543	Crestridge Utility Corporation	Pasco	1,251	GW	A	U	$11.80	$13.92	$22.40
964	Crystal Springs Water Co.	Pasco	669	GW	A	U	$12.46	$15.22	$26.26
3677	Floralino Properties	Pasco	1,575	GW	S	U	$23.75	$26.73	$38.65
6028	Forest Hills Utilities, Inc.	Pasco	4,500	GW	A	U	$21.27	$27.19	$50.87
6867	Forest Lakes MHP	Pasco			A	F	$15.00	$15.00	$15.00
540	Holiday Gardens Utilities Inc.	Pasco	1,183	GW	A	U	$11.26	$13.20	$20.96
4669	Hudson Water Works, Inc.	Pasco	5,922	GW	R	I	$12.00	$15.50	$31.00
2978	Lindrick Service Corporation	Pasco	8,018	GW	S	U	$17.29	$21.57	$38.69
590	Mad Hatter/Turtle Lakes	Pasco	4,030	GW	S	U	$14.64	$17.08	$26.84
2043	Orangewood Lakes Mobile Homes	Pasco	860	GW	S	U	$20.53	$25.39	$44.83
266	Pasco Co. Utilities	Pasco	122,751	GW	R	I	$13.64	$16.98	$31.53
7999	Pasco Utilities, Inc.	Pasco	1,288	GW	A	U	$13.40	$17.00	$31.40
4668	Util Inc of FL/Orangewood	Pasco	1,283	GW	R	U	$15.82	$17.98	$26.62
3668	Util Inc of FL/Summertree/Paradise	Pasco	1,757	GW	R	U	$16.35	$19.25	$30.85
2981	City of Clearwater	Pinellas	113,110	GW	R	I	$15.26	$20.85	$46.86
2980	City of Dunedin	Pinellas	35,738	GW	S	I	$23.28	$30.34	$58.58
4	City of St. Petersburg	Pinellas	290,963	GW	S	I	$12.66	$16.24	$36.47
742	City of Tarpon Springs	Pinellas	26,624	GW	R	I	$18.96	$25.28	$50.66
2673	Pinellas County Utilities	Pinellas	373,278	GW	S	U	$15.75	$20.25	$44.65
7692	Town of Belleair	Pinellas	4,968	GW	S	I	$10.47	$14.83	$32.27
10350	Util Inc. of FL/Lake Tarpon	Pinellas	1,260	GW	S	U	$11.49	$13.73	$22.69

Table 7 (continued)
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
Cost Region 2 Summary									
Reporting Utilities	41								
Average Values			53,964				$14.79	$18.05	$32.27
Median Values			6,383				$15.00	$17.08	$31.40
Cost Region 3									
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	S	I	$42.92	$51.00	$88.37
1512	Charlotte Harbor Water Assn.	Charlotte	4,441	GW/RO	S	I	$29.75	$37.25	$67.25
871	City of Punta Gorda	Charlotte	23,501	SW	S	I	$27.97	$33.41	$57.63
7494	Fiveland Investments, Inc.	Charlotte	1,083	GW/RO	R	U	$50.56	$61.94	$107.46
3522	FWS: Burnt Store	Charlotte	1,189	GW/RO	S	U	$36.94	$44.62	$75.34
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	R	I	$22.50	$30.00	$60.00
2839	Rotonda West Utility Corp.	Charlotte	5,858	GW/RO	S	U	$41.28	$49.22	$80.98
4725	City of Arcadia	Desoto	6,608	GW	A	U	$23.28	$28.20	$47.88
2923	City of North Port	Sarasota	11,108	SW	S	I	$26.26	$31.96	$60.76
4318	City of Sarasota	Sarasota	63,235	GW	R	I	$20.59	$25.07	$42.99
5393	City of Venice	Sarasota	20,902	GW/RO	S	U	$26.37	$32.05	$54.77
4866	Englewood Water District	Sarasota	27,846	GW/RO	R	I	$20.80	$25.60	$64.00
11135	Sarasota County Utilities	Sarasota	108,669	GW	S	I	$28.00	$35.30	$82.86
6006	Southbay Utilities, Inc.	Sarasota	1,384	GW/RO	S	U	$34.29	$40.47	$65.19

Table 7 (continued)
1997 Estimated Single Family Residential Monthly Water Charges (5/8" or 5/8" X 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
Cost Region 3 Summary									
Reporting Utilities	14								
Average Values			24,345				$30.82	$37.58	$68.25
Median Values			8,858				$27.98	$34.35	$64.60
Total Single Family Residential Sample Summary									
Reporting Utilities	128								
Average Values			25,150				$15.59	$18.86	$33.31
Median Values			3,815				$13.77	$16.32	$29.11

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Table 8
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
Cost Region 1							
6691	Cinnamon Ridge Utility	Citrus	476	GW	A	U	$41.91
7121	Citrus County Utilities	Citrus	12,638	GW	C	U	$38.73
207	City of Crystal River	Citrus	4,056	GW	A	U	$73.25
419	City of Inverness	Citrus	6,644	GW	C	U	$33.90
1118	Floral City Water Assn., Inc.	Citrus	3,922	GW	C	I	$66.82
2842	FWS: Citrus Springs	Citrus	6,213	GW	C	U	$56.79
9791	FWS: Sugarmill Woods	Citrus	4,665	GW	C	U	$37.74
4406	Homosassa Special Water Dist.	Citrus	3,533	GW	C	I	$72.50
4153	Rolling Oaks Ut./Beverly Hills	Citrus	13,115	GW	C	U	$27.66
30	City of Bowling Green	Hardee	1,959	GW	C	U	$40.50
4461	City of Wauchula	Hardee	5,436	GW	C	U	$33.00
7658	Town of Zolfo Springs	Hardee	1,279	GW	C	U	$61.25
7627	City of Brooksville	Hernando	10,725	GW	C	U	$62.40
4842	FWS: Spring Hill	Hernando	58,724	GW	C	U	$34.80
2983	Hernando Co.	Hernando	37,120	GW	C	U	$46.25
7139	Buttonwood Bay Utilities, Inc.	Highlands	1,407	GW	A	U	$22.50
6029	City of Avon Park	Highlands	16,141	GW	C	U	$45.00
4492	City of Sebring	Highlands	24,136	GW	C	U	$64.77
7811	Crystal Lake Comm.	Highlands	557	GW	A	U	$35.04
6456	FWS: Leisure Lakes	Highlands	920	GW	C	U	$129.99
6326	Highlands County/Placid Utilities	Highlands	1,311	GW	C	D	$53.05
5786	Sebring Ridge Utilities, Inc.	Highlands	1,382	GW	C	U	$54.18

Table 8 (continued)
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
5270	Town of Lake Placid	Highlands	3,645	GW	C	I	$41.00
11404	Little Sumter Utilities	Lake			C	U	$34.40
5640	City of Williston	Levy	2,583	GW	C	I	$36.00
8953	Town of Inglis	Levy	664	GW	SC	U	$91.00
7755	Town of Yankeetown	Levy	617	GW	C	U	$73.50
8339	City of Dunnellon	Marion	1,844	GW	C	I	$54.45
2841	FWS: Marion Oaks	Marion	6,466	GW	C	U	$72.06
1156	On Top of the World	Marion	4,030	GW	C	I	$31.03
8423	Venture Assoc. Util./Palm Cay	Marion	1,826	GW	A	U	$56.77
1625	Century Realty/Lake Haines, Ltd.	Polk			A	U	$26.11
8753	Century Realty/Plantation Land	Polk	792	GW	A	U	$30.40
7119	City of Auburndale	Polk	17,363	GW	C	I	$30.85
341	City of Bartow	Polk	17,200	GW	A	U	$33.50
5750	City of Davenport	Polk	2,970	GW	A	U	$25.35
6920	City of Eagle Lake	Polk	2,481	GW	C	U	$42.55
645	City of Fort Meade	Polk	6,123	GW	C	U	$31.70
5870	City of Frostproof	Polk	3,129	GW	C	U	$22.60
8522	City of Haines City	Polk	12,601	GW	C	U	$29.59
6624	City of Lake Alfred	Polk	4,247	GW	C	U	$27.45
4658	City of Lake Wales	Polk	17,047	GW	C	I	$40.51
4912	City of Lakeland	Polk	143,060	GW	C	U	$30.00
6124	City of Mulberry	Polk	2,984	GW	C	D	$37.25
4607	City of Winter Haven	Polk	45,378	GW	C	U	$35.20
8472	Cypress Lakes Utility, Inc.	Polk	1,354	GW	C	U	$29.33
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	C	I	$27.42

Table 8 (continued)
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
1616	Lake Region Mobile Home Vill.	Polk	988	GW	A	I	$41.27
3415	Orchid Springs Dev. Corp.	Polk	752	GW	C	U	$33.01
4005	Park Water Company	Polk	1,768	GW	C	I	$49.57
6507	Polk County Utilities	Polk	51,111	GW	C	I	$70.49
8967	Sweetwater Co-Op, Inc.	Polk	713	GW	A	U	$42.00
5893	Town of Dundee	Polk	3,196	GW	C	I	$32.00
2332	Town of Lake Hamilton	Polk	1,630	GW	A	U	$32.50
9807	Village of Highland Park	Polk	215	GW	A	U	$22.75
6519	City of Bushnell	Sumter	2,273	GW	C	U	$64.40
8193	City of Center Hill	Sumter	786	GW	A	U	$47.00
10488	City of Coleman	Sumter		GW	C	U	$70.00
7185	City of Webster	Sumter	942	GW	C	U	$45.00
8135	City of Wildwood	Sumter	3,992	GW	A	U	$38.73
1368	Lake Panasoffkee Water Assn.	Sumter	3,708	GW	C	I	$72.00
Cost Region 1 Summary							
Reporting Utilities	61						
Average Values			10,463				$45.62
Median Values			3,365				$40.50

Table 8 (continued)
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
Cost Region 2							
1776	City of Plant City	Hillsborough	25,465	GW	C	U	$47.74
2062	City of Tampa	Hillsborough	431,520	SW/GW	SC	I	$40.15
450	City of Temple Terrace	Hillsborough	25,785	GW	C	U	$65.59
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	C	I	$58.34
2840	FWS: Seaboard Utilities Corp.	Hillsborough	6,383	GW	C	I	$76.13
6312	Hillsborough Co.	Hillsborough	283,397	GW	C	I	$68.34
2707	Util Inc. of FL/Eastlake Water	Hillsborough	2,767	GW	C	U	$24.55
6392	City of Bradenton	Manatee	47,729	SW	C	I	$54.94
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	C	U	$36.90
8417	Aloha Utilities/Aloha-Tahitian	Pasco	6,935	GW	C	U	$72.76
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	C	U	$40.53
3590	Bartelt Enterprises/Buena Vista	Pasco	1,838	GW	A	U	$17.04
2030	BETMAR Utilities, Inc.	Pasco			C	U	$70.31
1631	City of Dade City	Pasco	15,578	GW	C	I	$52.08
422	City of New Port Richey	Pasco	24,387	GW	C	I	$36.82
3692	City of Port Richey	Pasco	7,955	GW	C	I	$72.22
4550	City of San Antonio	Pasco	793	GW	C	U	$57.81
6040	City of Zephyrhills	Pasco	13,168	GW	C	U	$26.00
543	Crestridge Utility Corporation	Pasco	1,251	GW	A	U	$40.10
964	Crystal Springs Water Co.	Pasco	669	GW	A	U	$44.96
6028	Forest Hills Utilities, Inc.	Pasco	4,500	GW	C	U	$82.77
6867	Forest Lakes MHP	Pasco			A	F	$15.00
540	Holiday Gardens Utilities Inc.	Pasco	1,183	GW	A	U	$37.86

Table 8 (continued)
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
4669	Hudson Water Works, Inc.	Pasco	5,922	GW	C	I	$55.00
2978	Lindrick Service Corporation	Pasco	8,018	GW	C	U	$64.65
590	Mad Hatter/Turtle Lakes	Pasco	4,030	GW	C	U	$48.79
266	Pasco Co. Utilities	Pasco	122,751	GW	C	I	$56.76
7999	Pasco Utilities, Inc.	Pasco	1,288	GW	A	U	$47.60
4668	Util Inc of FL/Orangewood	Pasco	1,283	GW	C	U	$50.37
3668	Util Inc of FL/Summertree/Paradise	Pasco	1,757	GW	C	U	$55.39
2981	City of Clearwater	Pinellas	113,110	GW	C	I	$66.50
2980	City of Dunedin	Pinellas	35,738	GW	C	I	$92.91
4	City of St. Petersburg	Pinellas	290,963	GW	C	U	$8.99
742	City of Tarpon Springs	Pinellas	26,624	GW	C	I	$80.00
2673	Pinellas County Utilities	Pinellas	373,278	GW	C	O	$58.50
7692	Town of Belleair	Pinellas	4,968	GW	C	I	$62.04
10350	Util Inc. of FL/Lake Tarpon	Pinellas	1,260	GW	SC	U	$39.92
Cost Region 2 Summary							
Reporting Utilities	37						
Average Values			59,965				$52.06
Median Values			7,955				$54.94

Table 8 (continued)
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
Cost Region 3							
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	C	U	$143.20
1512	Charlotte Harbor Water Assn.	Charlotte	4,441	GW/RO	C	I	$112.30
871	City of Punta Gorda	Charlotte	23,501	SW	C	I	$90.52
7494	Fiveland Investments, Inc.	Charlotte	1,083	GW/RO	C	U	$183.30
3522	FWS: Burnt Store	Charlotte	1,189	GW/RO	C	U	$130.75
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	C	U	$93.75
2839	Rotonda West Utility Corp.	Charlotte	5,858	GW/RO	C	U	$142.91
4725	City of Arcadia	Desoto	6,608	GW	A	U	$70.02
2923	City of North Port	Sarasota	11,108	SW	C	I	$97.83
4318	City of Sarasota	Sarasota	63,235	GW	C	U	$86.00
5393	City of Venice	Sarasota	20,902	GW/RO	C	U	$90.58
4866	Englewood Water District	Sarasota	27,846	GW/RO	C	I	$88.00
11135	Sarasota County Utilities	Sarasota	108,669	GW	C	U	$105.39
6006	Southbay Utilities, Inc.	Sarasota	1,384	GW/RO	C	U	$122.79
Cost Region 3 Summary							
Reporting Utilities	14						
Average Values			24,345				$111.24
Median Values			8,858				$101.61
Total Small Commercial Sample Summary							

Table 8 (continued)
1997 Estimated Small Commercial Monthly Water Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 25,000 gals.
Reporting Utilities	112						
Average Values			28,472				$55.95
Median Values			4,441				$48.27

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Table 9
1997 Estimated Large Commercial Monthly Water Charges (2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Water Rate Structure	Monthly Charge @ 374K gals.
Cost Region 1							
207	City of Crystal River	Citrus	4,056	GW	A	U	$1,022.53
419	City of Inverness	Citrus	6,644	GW	C	U	$442.23
4406	Homosassa Special Water Dist.	Citrus	3,533	GW	C	I	$1,152.45
30	City of Bowling Green	Hardee	1,959	GW	C	U	$564.00
4461	City of Wauchula	Hardee	5,436	GW	C	U	$482.95
4842	FWS: Spring Hill	Hernando	58,724	GW	C	U	$396.55
2983	Hernando Co.	Hernando	37,120	GW	C	U	$486.40
6029	City of Avon Park	Highlands	16,141	GW	C	U	$673.19
4492	City of Sebring	Highlands	24,136	GW	C	U	$817.11
6326	Highlands County/Placid Utilities	Highlands	1,311	GW	C	D	$625.45
5270	Town of Lake Placid	Highlands	3,645	GW	C	I	$564.00
5640	City of Williston	Levy	2,583	GW	C	I	$524.60
7119	City of Auburndale	Polk	17,363	GW	C	I	$549.41
341	City of Bartow	Polk	17,200	GW	A	U	$557.00
5750	City of Davenport	Polk	2,970	GW	A	U	$371.85
8522	City of Haines City	Polk	12,601	GW	C	U	$385.57
6624	City of Lake Alfred	Polk	4,247	GW	C	U	$324.10
4658	City of Lake Wales	Polk	17,047	GW	C	I	$1,307.42
4912	City of Lakeland	Polk	143,060	GW	C	U	$383.41
6124	City of Mulberry	Polk	2,984	GW	C	D	$424.90
4607	City of Winter Haven	Polk	45,378	GW	C	U	$450.65

Table 9 (continued)
1997 Estimated Large Commercial Monthly Water Charges (2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Water Rate Structure	Monthly Charge @ 374K gals.
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	C	U	$308.23
4005	Park Water Company	Polk	1,768	GW	C	I	$1,087.31
6507	Polk County Utilities	Polk	51,111	GW	C	I	$749.91
5893	Town of Dundee	Polk	3,196	GW	C	I	$422.10
2332	Town of Lake Hamilton	Polk	1,630	GW	A	U	$381.50
6519	City of Bushnell	Sumter	2,273	GW	C	U	$859.55
7185	City of Webster	Sumter	942	GW	C	U	$673.20
8135	City of Wildwood	Sumter	3,992	GW	A	U	$489.25
Cost Region 1 Summary							
Reporting Utilities	29						
Average Values			17,693				$602.65
Median Values			4,247				$524.60
Cost Region 2							
1776	City of Plant City	Hillsborough	25,465	GW	C	U	$616.60
2062	City of Tampa	Hillsborough	431,520	SW/GW	LC	I	$519.96
450	City of Temple Terrace	Hillsborough	25,785	GW	C	U	$972.04
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	C	I	$1,505.98
6312	Hillsborough Co.	Hillsborough	283,397	GW	C	I	$976.91
6392	City of Bradenton	Manatee	47,729	SW	C	I	$682.10
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	C	U	$418.36
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	C	U	$501.74

Table 9 (continued)
1997 Estimated Large Commercial Monthly Water Charges (2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Water Rate Structure	Monthly Charge @ 374K gals.
1631	City of Dade City	Pasco	15,578	GW	C	I	$788.81
422	City of New Port Richey	Pasco	24,387	GW	C	I	$584.99
3692	City of Port Richey	Pasco	7,955	GW	C	I	$1,297.16
6040	City of Zephyrhills	Pasco	13,168	GW	C	U	$375.00
6028	Forest Hills Utilities, Inc.	Pasco	4,500	GW	C	U	$1,135.16
4669	Hudson Water Works, Inc.	Pasco	5,922	GW	C	I	$762.75
266	Pasco Co. Utilities	Pasco	122,751	GW	C	I	$784.43
2981	City of Clearwater	Pinellas	113,110	GW	C	I	$946.19
2980	City of Dunedin	Pinellas	35,738	GW	C	I	$1,337.02
4	City of St. Petersburg	Pinellas	290,963	GW	C	U	$568.70
742	City of Tarpon Springs	Pinellas	26,624	GW	C	I	$1,217.74
2673	Pinellas County Utilities	Pinellas	373,278	GW	C	O	$843.75
7692	Town of Belleair	Pinellas	4,968	GW	C	I	$1,328.91
Cost Region 2 Summary							
Reporting Utilities	21						
Average Values			98,062				$864.97
Median Values			25,785				$788.81
Cost Region 3							
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	C	U	$1,639.40
871	City of Punta Gorda	Charlotte	23,501	SW	C	I	$1,592.37
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	C	U	$1,402.50

Table 9 (continued)
1997 Estimated Large Commercial Monthly Water Charges (2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Water Rate Structure	Monthly Charge @ 374K gals.
4318	City of Sarasota	Sarasota	63,235	GW	C	U	$1,286.56
5393	City of Venice	Sarasota	20,902	GW/RO	C	U	$1,146.62
4866	Englewood Water District	Sarasota	27,846	GW/RO	C	I	$1,692.80
11135	Sarasota County Utilities	Sarasota	108,669	GW	C	U	$1,232.67
Cost Region 3 Summary							
Reporting Utilities	7						
Average Values			44,166				$1,427.56
Median Values			27,846				$1,402.50
Total Large Commercial Sample Summary							
Reporting Utilities	57						
Average Values			50,554				$800.60
Median Values			17,047				$673.20

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Table 10
1997 Estimated Industrial Monthly Water Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 8M gals.
Cost Region 1							
207	City of Crystal River	Citrus	4,056	GW	A	U	$21,765.25
419	City of Inverness	Citrus	6,644	GW	C	U	$9,364.65
4406	Homosassa Special Water Dist.	Citrus	3,533	GW	C	I	$24,537.75
4842	FWS: Spring Hill	Hernando	58,724	GW	C	U	$7,971.04
2983	Hernando Co.	Hernando	37,120	GW	C	U	$9,550.00
6029	City of Avon Park	Highlands	16,141	GW	C	U	$14,400.00
5270	Town of Lake Placid	Highlands	3,645	GW	C	I	$12,003.00
5640	City of Williston	Levy	2,583	GW	C	I	$11,201.00
7119	City of Auburndale	Polk	17,363	GW	C	I	$11,912.15
341	City of Bartow	Polk	17,200	GW	A	U	$11,996.00
5870	City of Frostproof	Polk	3,129	GW	IND	U	$6,402.60
8522	City of Haines City	Polk	12,601	GW	C	U	$8,164.09
6624	City of Lake Alfred	Polk	4,247	GW	C	U	$6,806.20
4658	City of Lake Wales	Polk	17,047	GW	C	I	$30,591.26
4912	City of Lakeland	Polk	143,060	GW	C	U	$7,999.00
4607	City of Winter Haven	Polk	45,378	GW	C	U	$9,389.75
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	C	U	$6,216.62
6507	Polk County Utilities	Polk	51,111	GW	C	I	$14,628.95
8135	City of Wildwood	Sumter	3,992	GW	A	U	$10,153.59

Table 10 (continued)
1997 Estimated Industrial Monthly Water Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 8M gals.
Cost Region 1 Summary							
Reporting Utilities	19						
Average Values			24,611				$12,371.21
Median Values			16,141				$10,153.59
Cost Region 2							
1776	City of Plant City	Hillsborough	25,465	GW	C	U	$12,798.94
2062	City of Tampa	Hillsborough	431,520	SW/GW	LIN	I	$16,033.79
450	City of Temple Terrace	Hillsborough	25,785	GW	C	U	$20,581.84
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	C	I	$34,937.92
6312	Hillsborough Co.	Hillsborough	283,397	GW	C	I	$20,830.48
6392	City of Bradenton	Manatee	47,729	SW	C	I	$14,163.89
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	C	U	$8,441.10
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	C	U	$10,244.77
422	City of New Port Richey	Pasco	24,387	GW	C	I	$13,109.58
6040	City of Zephyrhills	Pasco	13,168	GW	C	U	$8,001.00
266	Pasco Co. Utilities	Pasco	122,751	GW	C	I	$16,312.61
2981	City of Clearwater	Pinellas	113,110	GW	C	I	$24,588.35
2980	City of Dunedin	Pinellas	35,738	GW	C	I	$28,345.00
4	City of St. Petersburg	Pinellas	290,963	GW	C	U	$11,739.30
742	City of Tarpon Springs	Pinellas	26,624	GW	C	I	$26,078.50
2673	Pinellas County Utilities	Pinellas	373,278	GW	C	O	$25,957.25

Table 10 (continued)
1997 Estimated Industrial Monthly Water Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 8M gals.
7692	Town of Belleair	Pinellas	4,968	GW	C	I	$29,011.29
Cost Region 2 Summary							
Reporting Utilities	17						
Average Values			119,138				$18,892.68
Median Values			35,738				$16,312.61
Cost Region 3							
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	C	U	$33,107.00
871	City of Punta Gorda	Charlotte	23,501	SW	C	I	$34,866.00
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	C	U	$30,000.00
4318	City of Sarasota	Sarasota	63,235	GW	C	U	$27,520.00
11135	Sarasota County Utilities	Sarasota	108,669	GW	C	U	$25,021.41
Cost Region 3 Summary							
Reporting Utilities	5						
Average Values			52,083				$30,102.88
Median Values			62,448				$30,000.00
Total Industrial Sample Summary							

Table 10 (continued)
1997 Estimated Industrial Monthly Water Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Customer Class	Rate Structure	Monthly Charge @ 8M gals.
Reporting Utilities	41						
Average Values			67,156				$17,237.63
Median Water Values			24,387				$14,163.89

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Table 11
1997 Estimated Irrigation Monthly Charges (1" meter @ 20,000 gals./month)

Water Use Permit #	Utility Name	County	Water Sources	Rate Structure	Monthly Charge @ 20,000 gals.
Cost Region 1					
207	City of Crystal River	Citrus	GW	U	$114.05
2983	Hernando Co.	Hernando	GW	U	$48.75
6029	City of Avon Park	Highlands	GW	U	$28.80
645	City of Fort Meade	Polk	GW	U	$26.20
8522	City of Haines City	Polk	GW	I	$27.68
4658	City of Lake Wales	Polk	GW	I	$31.01
Cost Region 1 Summary					
Reporting Utilities	6				
Average Values					$46.08
Median Values					$29.90
Cost Region 2					
1776	City of Plant City	Hillsborough	GW	I	$40.89
450	City of Temple Terrace	Hillsborough	GW	U	$38.93
6392	City of Bradenton	Manatee	SW	I	$46.24
5387	Manatee Co. Public Works Dept.	Manatee	SW/GW	I	$33.68
1631	City of Dade City	Pasco	GW	I	$43.08
422	City of New Port Richey	Pasco	GW	I	$35.85
6040	City of Zephyrhills	Pasco	GW	U	$21.00
2981	City of Clearwater	Pinellas	GW	I	$81.86

Table 11 (continued)
1997 Estimated Irrigation Monthly Charges (1" meter @ 20,000 gals./month)

Water Use Permit #	Utility Name	County	Water Sources	Rate Structure	Monthly Charge @ 20,000 gals.
Cost Region 2 Summary					
Utilities Reporting	8				
Average Values					$42.69
Median Values					$39.91
Cost Region 3					
10420	Charlotte County Utilities	Charlotte	GW/SW	I	$147.24
11135	Sarasota County Utilities	Sarasota	GW	U	$135.29
6006	Southbay Utilities, Inc.	Sarasota	GW/RO	I	$58.75
Cost Region 3 Summary					
Utilities Reporting	3				
Average Values					$113.76
Median Values					$135.29
Total Irrigation Sample Summary					
Reporting Utilities	17				
Average Values					$53.23
Median Values					$40.89

6. Monthly Sewer Charges Tables

Table 12
1997 Estimated Single Family Residential Monthly Sewer Charges (5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
8417	Aloha Utilities/Aloha-Tahitian	Pasco	6,935	R	U	$37.73	$46.63	$55.53
3182	Aloha Utilities/Seven Springs	Pasco	16,814	R	U	$22.73	$27.33	$31.93
2030	BETMAR Utilities, Inc.	Pasco		R	U	$37.25	$37.25	$37.25
7139	Buttonwood Bay Utilities, Inc.	Highlands	1,407	A	U	$10.68	$10.68	$10.68
8753	Century Realty/Plantation Land	Polk	792	A	F	$8.00	$8.00	$8.00
10420	Charlotte County Utilities	Charlotte	62,448	S	U	$43.20	$49.76	$56.32
7121	Citrus County Utilities	Citrus	12,638	S	U	$20.00	$22.80	$25.60
4725	City of Arcadia	Desoto	6,608	A	U	$28.23	$34.17	$57.93
7119	City of Auburndale	Polk	17,363	R	F	$23.56	$23.56	$23.56
6029	City of Avon Park	Highlands	16,141	R	F	$13.50	$13.50	$13.50
341	City of Bartow	Polk	17,200	A	F	$20.75	$20.75	$20.75
30	City of Bowling Green	Hardee	1,959	R	U	$20.00	$20.00	$40.00
6392	City of Bradenton	Manatee	47,729	S	I	$15.14	$18.50	$31.94
7627	City of Brooksville	Hernando	10,725	S	F	$16.33	$16.33	$16.33
2981	City of Clearwater	Pinellas	113,110	R	U	$18.91	$25.22	$50.45
207	City of Crystal River	Citrus	4,056	A	U	$34.82	$43.08	$76.12
1631	City of Dade City	Pasco	15,578	R	U	$18.46	$22.92	$31.84
2980	City of Dunedin	Pinellas	35,738	S	U	$20.16	$26.88	$33.60
8339	City of Dunnellon	Marion	1,844	S	U	$34.68	$46.44	$93.48
6920	City of Eagle Lake	Polk	2,481	R	U	$22.10	$26.94	$41.46
645	City of Fort Meade	Polk	6,123	R	U	$12.25	$13.75	$19.75
5870	City of Frostproof	Polk	3,129	R	O	$5.00	$5.00	$5.00
8522	City of Haines City	Polk	12,601	S	U	$32.51	$39.13	$45.75
419	City of Inverness	Citrus	6,644	R	U	$19.51	$23.85	$23.85

Table 12 (continued)
1997 Estimated Single Family Residential Monthly Sewer Charges (5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
6624	City of Lake Alfred	Polk	4,247	S	F	$40.54	$40.54	$40.54
4658	City of Lake Wales	Polk	17,047	S	I	$21.72	$24.08	$34.16
4912	City of Lakeland	Polk	143,060	S	U	$17.10	$20.30	$26.70
6124	City of Mulberry	Polk	2,984	S	U	$26.00	$28.00	$36.00
4734	City of New Port Richey	Pasco	24,387	S	U	$15.90	$19.48	$33.80
2923	City of North Port	Sarasota	11,108	S	U	$46.34	$54.54	$54.54
1776	City of Plant City	Hillsborough	25,465	S	I	$24.31	$30.87	$57.11
3692	City of Port Richey	Pasco	7,955	S	U	$29.62	$35.74	$60.22
871	City of Punta Gorda	Charlotte	23,501	S	U	$27.96	$30.38	$32.80
4318	City of Sarasota	Sarasota	63,235	R	O	$32.33	$39.36	$67.49
4492	City of Sebring	Highlands	24,136	S	F	$16.06	$16.06	$16.06
4	City of St. Petersburg	Pinellas	290,963	S	U	$18.69	$23.03	$40.39
2062	City of Tampa	Hillsborough	431,520	S	U	$17.99	$17.99	$17.99
742	City of Tarpon Springs	Pinellas	26,624	R	I	$16.86	$22.48	$45.06
450	City of Temple Terrace	Hillsborough	25,785	R	U	$30.18	$39.24	$75.48
5393	City of Venice	Sarasota	20,902	S	U	$28.57	$35.31	$62.27
4461	City of Wauchula	Hardee	5,436	R	U	$17.65	$23.15	$34.15
8135	City of Wildwood	Sumter	3,992	A	U	$23.15	$27.71	$45.92
5640	City of Williston	Levy	2,583	R	F	$15.00	$15.00	$15.00
4607	City of Winter Haven	Polk	45,378	S	U	$17.10	$22.80	$39.90
6040	City of Zephyrhills	Pasco	13,168	S	U	$12.06	$14.58	$24.66
7811	Crystal Lake Comm.	Highlands	557	A	U	$12.08	$12.08	$12.08
8472	Cypress Lakes Utility, Inc.	Polk	1,354	S	U	$21.30	$25.28	$41.20
7178	Decca Utilities/Oak Run	Marion	4,452	S	U	$22.12	$25.96	$41.32
4866	Englewood Water District	Sarasota	27,846	R	U	$34.43	$40.03	$45.63

Table 12 (continued)
1997 Estimated Single Family Residential Monthly Sewer Charges (5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
7494	Fiveland Investments, Inc.	Charlotte	1,083	R	U	$27.54	$32.72	$32.72
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	S	F	$24.42	$24.42	$24.42
6028	Forest Hills Utilities, Inc.	Pasco	4,500	R	U	$31.43	$37.89	$44.35
3522	FWS: Burnt Store	Charlotte	1,189	S	U	$24.73	$24.73	$24.73
2842	FWS: Citrus Springs	Citrus	6,213	S	U	$52.44	$52.44	$52.44
7878	FWS: Lake Gibson Estates	Polk	1,973	A	F	$23.81	$23.81	$23.81
6456	FWS: Leisure Lakes	Highlands	920	S	U	$32.56	$32.56	$32.56
2841	FWS: Marion Oaks	Marion	6,466	S	U	$64.25	$64.25	$64.25
2840	FWS: Seaboard Utilities Corp.	Hillsborough	6,383	S	U	$56.83	$65.97	$75.11
4842	FWS: Spring Hill	Hernando	58,724	S	U	$24.52	$24.52	$24.52
9791	FWS: Sugarmill Woods	Citrus	4,665	S	U	$21.11	$21.11	$21.11
3704	FWS: Valrico Hills	Hillsborough	889	R	F	$31.76	$31.76	$31.76
4279	Garden Grove Water Co., Inc.	Polk	20,043	R	F	$21.96	$21.96	$21.96
718	Gasparilla Island Water Assn.	Charlotte	2,561	R	U	$39.00	$46.00	$53.00
2983	Hernando Co.	Hernando	37,120	R	U	$22.00	$26.50	$26.50
6326	Highlands County/Placid Utilities	Highlands	1,311	R	U	$8.76	$9.80	$13.96
9516	Highlands Ridge Associates Inc	Highlands	344	R	U	$20.74	$23.60	$35.04
4352	Hillsborough Co.	Hillsborough	283,397	S	U	$40.05	$51.41	$51.41
2669	Hudson Water Works, Inc.	Pasco	5,922	S	U	$42.82	$52.28	$61.74
2978	Lindrick Service Corporation	Pasco	8,018	S	U	$22.45	$26.53	$30.61
11404	Little Sumter Utilities	Lake		S	U	$18.23	$21.13	$24.03
590	Mad Hatter/Turtle Lakes	Pasco	4,030	S	U	$37.02	$45.58	$45.58
5387	Manatee Co. Public Works Dept.	Manatee	186,218	S	U	$24.69	$28.99	$37.59
11577	Marion County Utilities	Marion		R	U	$30.01	$35.53	$35.53
1156	On Top of the World	Marion	4,030	S	U	$12.70	$12.70	$12.70

Table 12 (continued)
1997 Estimated Single Family Residential Monthly Sewer Charges (5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charge @ 6,000 gals.	Monthly Charge @ 8,000 gals.	Monthly Charge @ 16,000 gals.
3415	Orchid Springs Dev. Corp.	Polk	752	R	F	$15.88	$15.88	$15.88
4005	Park Water Company	Polk	1,768	S	F	$10.60	$10.60	$10.60
266	Pasco Co. Utilities	Pasco	122,751	R	U	$31.39	$36.91	$42.43
2673	Pinellas County Utilities	Pinellas	373,278	S	U	$28.37	$32.71	$32.71
6507	Polk County Utilities	Polk	51,111	S	F	$31.02	$31.02	$31.02
4153	Rolling Oaks Ut./Beverly Hills	Citrus	13,115	R	U	$22.33	$22.33	$22.33
2839	Rotonda West Utility Corp.	Charlotte	5,858	S	U	$36.31	$43.69	$51.07
11135	Sarasota County Utilities	Sarasota	108,669	S	U	$41.97	$52.15	$62.33
5786	Sebring Ridge Utilities, Inc.	Highlands	1,382	R	U	$28.35	$33.69	$39.03
6006	Southbay Utilities, Inc.	Sarasota	1,384	S	U	$23.58	$28.02	$32.46
7692	Town of Belleair	Pinellas	4,968	S	U	$23.25	$26.25	$34.50
5270	Town of Lake Placid	Highlands	3,645	S	I	$19.65	$22.95	$36.85
7658	Town of Zolfo Springs	Hardee	1,279	S	U	$27.75	$33.25	$55.25
3668	Util Inc of FL/Summertree/Paradise	Pasco	1,757	R	U	$54.07	$54.07	$54.07
2707	Util Inc. of FL/Eastlake Water	Hillsborough	2,767	R	U	$14.09	$15.89	$15.89
10350	Util Inc. of FL/Lake Tarpon	Pinellas	1,260	S	U	$29.33	$31.49	$40.13
10443	Windmere Utility Company	Hillsborough	2,510	R	F	$10.00	$10.00	$10.00
Total Single Family Residential Sample Summary								
Reporting Utilities	91							
Average Values			34,266			$25.54	$29.07	$36.69
Median Values			6,425			$23.25	$26.50	$34.16

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Table 13
1997 Estimated Small Commercial Monthly Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charges @ 25,000 gals.
8417	Aloha Utilities/Aloha-Tahitian	Pasco	6,935	C	U	$161.33
3182	Aloha Utilities/Seven Springs	Pasco	16,814	C	U	$91.33
2030	BETMAR Utilities, Inc.	Pasco		C	U	$165.53
7139	Buttonwood Bay Utilities, Inc.	Highlands	1,407	A	U	$10.68
8753	Century Realty/Plantation Land	Polk	792	A	F	$8.00
10420	Charlotte County Utilities	Charlotte	62,448	C	U	$140.80
7121	Citrus County Utilities	Citrus	12,638	C	U	$63.99
4725	City of Arcadia	Desoto	6,608	A	U	$84.66
7119	City of Auburndale	Polk	17,363	C	U	$100.51
6029	City of Avon Park	Highlands	16,141	C	U	$56.25
341	City of Bartow	Polk	17,200	A	F	$20.75
30	City of Bowling Green	Hardee	1,959	C	U	$91.50
6392	City of Bradenton	Manatee	47,729	C	I	$52.91
7627	City of Brooksville	Hernando	10,725	C	F	$46.64
2981	City of Clearwater	Pinellas	113,110	C	U	$78.85
207	City of Crystal River	Citrus	4,056	A	U	$113.29
1631	City of Dade City	Pasco	15,578	C	U	$81.83
2980	City of Dunedin	Pinellas	35,738	C	U	$84.00
8339	City of Dunnellon	Marion	1,844	C	U	$147.39
6920	City of Eagle Lake	Polk	2,481	C	U	$91.14

Table 13 (continued)
1997 Estimated Small Commercial Monthly Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charges @ 25,000 gals.
645	City of Fort Meade	Polk	6,123	C	U	$26.50
5870	City of Frostproof	Polk	3,129	C	O	$8.00
8522	City of Haines City	Polk	12,601	C	U	$108.05
419	City of Inverness	Citrus	6,644	C	U	$69.48
6624	City of Lake Alfred	Polk	4,247	C	U	$67.99
4658	City of Lake Wales	Polk	17,047	C	I	$80.20
4912	City of Lakeland	Polk	143,060	C	U	$58.75
6124	City of Mulberry	Polk	2,984	C	U	$51.25
422	City of New Port Richey	Pasco	24,387	C	U	$56.54
2923	City of North Port	Sarasota	11,108	C	U	$156.85
1776	City of Plant City	Hillsborough	25,465	C	U	$98.24
3692	City of Port Richey	Pasco	7,955	C	U	$104.65
871	City of Punta Gorda	Charlotte	23,501	C	U	$50.95
4318	City of Sarasota	Sarasota	63,235	C	O	$135.02
4492	City of Sebring	Highlands	24,136	C	F	$80.96
4	City of St. Petersburg	Pinellas	290,963	C	U	$67.67
2062	City of Tampa	Hillsborough	431,520	SC	U	$92.91
742	City of Tarpon Springs	Pinellas	26,624	C	I	$71.25
450	City of Temple Terrace	Hillsborough	25,785	C	U	$113.75
5393	City of Venice	Sarasota	20,902	C	U	$105.13
4461	City of Wauchula	Hardee	5,436	C	U	$72.60
8135	City of Wildwood	Sumter	3,992	A	U	$68.78
5640	City of Williston	Levy	2,583	C	I	$47.00

Table 13 (continued)
1997 Estimated Small Commercial Monthly Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charges @ 25,000 gals.
4607	City of Winter Haven	Polk	45,378	C	U	$85.25
6040	City of Zephyrhills	Pasco	13,168	C	U	$45.00
7811	Crystal Lake Comm.	Highlands	557	A	U	$12.08
8472	Cypress Lakes Utility, Inc.	Polk	1,354	C	U	$73.15
4866	Englewood Water District	Sarasota	27,846	C	U	$114.08
7494	Fiveland Investments, Inc.	Charlotte	1,083	C	U	$76.75
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	C	F	$61.02
6028	Forest Hills Utilities, Inc.	Pasco	4,500	C	U	$110.88
3522	FWS: Burnt Store	Charlotte	1,189	C	U	$104.08
2842	FWS: Citrus Springs	Citrus	6,213	C	U	$215.01
6456	FWS: Leisure Lakes	Highlands	920	C	U	$120.11
2841	FWS: Marion Oaks	Marion	6,466	C	U	$276.99
2840	FWS: Seaboard Utilities Corp.	Hillsborough	6,383	C	U	$210.79
4842	FWS: Spring Hill	Hernando	58,724	C	U	$95.81
9791	FWS: Sugarmill Woods	Citrus	4,665	C	U	$86.96
4279	Garden Grove Water Co., Inc.	Polk	20,043	C	U	$85.42
718	Gasparilla Island Water Assn.	Charlotte	2,561	C	U	$105.50
2983	Hernando Co.	Hernando	37,120	C	U	$77.50
6326	Highlands County/Placid Utilities	Highlands	1,311	C	D	$47.75
6312	Hillsborough Co.	Hillsborough	283,397	C	U	$158.60
4669	Hudson Water Works, Inc.	Pasco	5,922	C	I	$177.82
2978	Lindrick Service Corporation	Pasco	8,018	C	U	$76.55
11404	Little Sumter Utilities	Lake		C	U	$67.33

Table 13 (continued)
1997 Estimated Small Commercial Monthly Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charges @ 25,000 gals.
590	Mad Hatter/Turtle Lakes	Pasco	4,030	C	U	$156.84
5387	Manatee Co. Public Works Dept.	Manatee	186,218	C	U	$80.24
1156	On Top of the World	Marion	4,030	C	U	$43.75
3415	Orchid Springs Dev. Corp.	Polk	752	C	F	$15.88
4005	Park Water Company	Polk	1,768	C	F	$10.60
266	Pasco Co. Utilities	Pasco	122,751	C	U	$106.07
2673	Pinellas County Utilities	Pinellas	373,278	C	U	$99.39
6507	Polk County Utilities	Polk	51,111	C	U	$94.84
4153	Rolling Oaks Ut./Beverly Hills	Citrus	13,115	C	U	$86.58
2839	Rotonda West Utility Corp.	Charlotte	5,858	C	U	$146.18
11135	Sarasota County Utilities	Sarasota	108,669	C	U	$155.83
5786	Sebring Ridge Utilities, Inc.	Highlands	1,382	C	U	$92.33
6006	Southbay Utilities, Inc.	Sarasota	1,384	C	U	$109.62
7692	Town of Belleair	Pinellas	4,968	C	F	$40.50
5270	Town of Lake Placid	Highlands	3,645	C	I	$115.25
7658	Town of Zolfo Springs	Hardee	1,279	C	U	$86.12
3668	Util Inc of FL/Summertree/Paradise	Pasco	1,757	C	U	$217.48
2707	Util Inc. of FL/Eastlake Water	Hillsborough	2,767	C	U	$34.67
10350	Util Inc. of FL/Lake Tarpon	Pinellas	1,260	SC	U	$111.89

Table 13 (continued)
1997 Estimated Small Commercial Monthly Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charges @ 25,000 gals.
Total Small Commercial Sample Summary						
Reporting Utilities	85					
Average Values			36,208			$91.44
Median Values			6,644			$85.42

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Table 14
1997 Estimated Large Commercial Monthly Sewer Charges (2" meter @ 374,000 gals./ month water use)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Sewer Rate Structure	Monthly Charge @ 374K gals.
3182	Aloha Utilities/Seven Springs	Pasco	16,814	C	U	$1,103.70
10420	Charlotte County Utilities	Charlotte	62,448	C	U	$1,414.88
7119	City of Auburndale	Polk	17,363	C	U	$1,513.96
6029	City of Avon Park	Highlands	16,141	C	U	$841.49
341	City of Bartow	Polk	17,200	A	F	$20.75
30	City of Bowling Green	Hardee	1,959	C	U	$1,313.00
6392	City of Bradenton	Manatee	47,729	C	I	$658.43
2981	City of Clearwater	Pinellas	113,110	C	U	$1,179.89
207	City of Crystal River	Citrus	4,056	A	U	$1,554.66
1631	City of Dade City	Pasco	15,578	C	U	$937.10
2980	City of Dunedin	Pinellas	35,738	C	U	$1,256.64
8522	City of Haines City	Polk	12,601	C	U	$1,263.24
419	City of Inverness	Citrus	6,644	C	U	$987.35
6624	City of Lake Alfred	Polk	4,247	C	U	$364.64
4658	City of Lake Wales	Polk	17,047	C	I	$681.83
4912	City of Lakeland	Polk	143,060	C	U	$688.40
6124	City of Mulberry	Polk	2,984	C	U	$487.50
422	City of New Port Richey	Pasco	24,387	C	U	$705.60
1776	City of Plant City	Hillsborough	25,465	C	U	$1,278.02
3692	City of Port Richey	Pasco	7,955	C	U	$1,234.51

Table 14 (continued)
1997 Estimated Large Commercial Monthly Sewer Charges (2" meter @ 374,000 gals./ month water use)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Sewer Rate Structure	Monthly Charge @ 374K gals.
871	City of Punta Gorda	Charlotte	23,501	C	U	$473.24
4318	City of Sarasota	Sarasota	63,235	C	O	$2,019.90
4492	City of Sebring	Highlands	24,136	C	F	$1,021.39
4	City of St. Petersburg	Pinellas	290,963	C	U	$863.17
2062	City of Tampa	Hillsborough	431,520	LC	U	$1,389.90
742	City of Tarpon Springs	Pinellas	26,624	C	I	$1,086.84
450	City of Temple Terrace	Hillsborough	25,785	C	U	$1,659.82
5393	City of Venice	Sarasota	20,902	C	U	$1,360.58
4461	City of Wauchula	Hardee	5,436	C	U	$1,062.45
8135	City of Wildwood	Sumter	3,992	A	U	$886.11
5640	City of Williston	Levy	2,583	C	I	$535.60
4607	City of Winter Haven	Polk	45,378	C	U	$1,275.34
6040	City of Zephyrhills	Pasco	13,168	C	U	$514.45
4866	Englewood Water District	Sarasota	27,846	C	U	$1,188.24
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	C	F	$195.26
6028	Forest Hills Utilities, Inc.	Pasco	4,500	C	U	$1,304.42
4842	FWS: Spring Hill	Hernando	58,724	C	U	$1,118.01
4279	Garden Grove Water Co., Inc.	Polk	20,043	C	U	$1,123.00
718	Gasparilla Island Water Assn.	Charlotte	2,561	C	U	$1,327.00
2983	Hernando Co.	Hernando	37,120	C	U	$926.50
6326	Highlands County/Placid Utilities	Highlands	1,311	C	D	$562.90
6312	Hillsborough Co.	Hillsborough	283,397	C	U	$2,496.49

Table 14 (continued)
1997 Estimated Large Commercial Monthly Sewer Charges (2" meter @ 374,000 gals./ month water use)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Sewer Rate Structure	Monthly Charge @ 374K gals.
4669	Hudson Water Works, Inc.	Pasco	5,922	C	U	$2,235.98
5387	Manatee Co. Public Works Dept.	Manatee	186,218	C	U	$884.52
4005	Park Water Company	Polk	1,768	C	F	$10.60
266	Pasco Co. Utilities	Pasco	122,751	C	U	$1,150.87
2673	Pinellas County Utilities	Pinellas	373,278	C	U	$1,486.65
6507	Polk County Utilities	Polk	51,111	C	U	$933.38
11135	Sarasota County Utilities	Sarasota	108,669	C	U	$1,995.13
7692	Town of Belleair	Pinellas	4,968	C	F	$40.50
5270	Town of Lake Placid	Highlands	3,645	C	I	$1,946.25
Total Large Commercial Sample Summary						
Reporting Utilities	51					
Average Values			56,216			$1,069.81
Median Values			20,043			$1,103.70

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Table 15
1997 Estimated Industrial Monthly Sewer Charges (6" meter @ 8,000,000 gals. water use)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charge @ 8M gals.
3182	Aloha Utilities/Seven Springs	Pasco	16,814	C	U	$22,526.63
10420	Charlotte County Utilities	Charlotte	62,448	C	U	$27,416.00
7119	City of Auburndale	Polk	17,363	C	U	$32,399.26
6029	City of Avon Park	Highlands	16,141	C	U	$18,002.44
6392	City of Bradenton	Manatee	47,729	C	I	$13,674.91
2981	City of Clearwater	Pinellas	113,110	C	U	$25,238.76
207	City of Crystal River	Citrus	4,056	A	U	$33,050.04
2980	City of Dunedin	Pinellas	35,738	C	U	$26,880.00
8522	City of Haines City	Polk	12,601	C	U	$26,505.30
419	City of Inverness	Citrus	6,644	C	U	$21,043.73
6624	City of Lake Alfred	Polk	4,247	C	U	$6,846.74
4658	City of Lake Wales	Polk	17,047	C	I	$12,428.61
4912	City of Lakeland	Polk	143,060	C	U	$13,250.00
422	City of New Port Richey	Pasco	24,387	C	U	$14,542.02
1776	City of Plant City	Hillsborough	25,465	C	U	$26,559.08
871	City of Punta Gorda	Charlotte	23,501	C	U	$9,700.70
4318	City of Sarasota	Sarasota	63,235	C	O	$43,206.40
4	City of St. Petersburg	Pinellas	290,963	C	U	$17,818.74
2062	City of Tampa	Hillsborough	431,520	LIN	U	$29,730.00
742	City of Tarpon Springs	Pinellas	26,624	C	I	$23,278.50
450	City of Temple Terrace	Hillsborough	25,785	C	U	$35,443.00

Table 15 (continued)
1997 Estimated Industrial Monthly Sewer Charges (6" meter @ 8,000,000 gals. water use)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Customer Class	Rate Structure	Monthly Charge @ 8M gals.
8135	City of Wildwood	Sumter	3,992	A	U	$18,459.58
5640	City of Williston	Levy	2,583	C	I	$11,212.00
4607	City of Winter Haven	Polk	45,378	C	U	$27,280.00
6040	City of Zephyrhills	Pasco	13,168	C	U	$10,170.02
4842	FWS: Spring Hill	Hernando	58,724	C	U	$22,616.08
4279	Garden Grove Water Co., Inc.	Polk	20,043	C	U	$23,449.19
718	Gasparilla Island Water Assn.	Charlotte	2,561	C	U	$28,018.00
2983	Hernando Co.	Hernando	37,120	C	U	$18,850.00
6312	Hillsborough Co.	Hillsborough	283,397	C	U	$53,400.04
5387	Manatee Co. Public Works Dept.	Manatee	186,218	C	U	$17,692.17
266	Pasco Co. Utilities	Pasco	122,751	C	U	$22,821.46
2673	Pinellas County Utilities	Pinellas	373,278	C	U	$31,800.00
6507	Polk County Utilities	Polk	51,111	C	U	$16,766.65
11135	Sarasota County Utilities	Sarasota	108,669	C	U	$41,291.67
5270	Town of Lake Placid	Highlands	3,645	C	I	$41,982.75
Total Industrial Sample Summary						
Reporting Utilities	36					
Average Values			75,587			$24,037.51
Median Values			26,205			$23,049.98

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7 Combined Monthly Water and Sewer Charges

Table 16
1997 Estimated Single Family Residential Monthly Combined Water and Sewer Charges
(5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Combined Water and Sewer		
					Monthly Charges @ 6,000 gals.	Monthly Charges @ 8,000 gals.	Monthly Charges @ 16,000 gals.
Cost Region 1							
7121	Citrus County Utilities	Citrus	12,638	GW	$32.49	$36.79	$45.59
207	City of Crystal River	Citrus	4,056	GW	$56.39	$70.09	$124.89
420	City of Inverness	Citrus	6,644	GW	$31.18	$37.86	$47.22
2842	FWS: Citrus Springs	Citrus	6,213	GW	$69.04	$72.10	$84.34
9791	FWS: Sugarmill Woods	Citrus	4,665	GW	$32.12	$34.16	$42.32
4153	Rolling Oaks Ut./Beverly Hills	Citrus	13,115	GW	$31.22	$32.30	$36.62
30	City of Bowling Green	Hardee	1,959	GW	$30.00	$33.00	$65.00
4461	City of Wauchula	Hardee	5,436	GW	$24.40	$32.39	$53.40
7658	Town of Zolfo Springs	Hardee	1,279	GW	$38.25	$47.25	$83.25
7627	City of Brooksville	Hernando	10,725	GW	$32.67	$35.01	$44.37
4842	FWS: Spring Hill	Hernando	58,724	GW	$34.56	$36.50	$44.26
2983	Hernando Co.	Hernando	37,120	GW	$33.50	$40.00	$49.00
7139	Buttonwood Bay Utilities, Inc.	Highlands	1,407	GW	$21.02	$22.30	$27.42
6029	City of Avon Park	Highlands	16,141	GW	$25.15	$28.75	$43.15
4492	City of Sebring	Highlands	24,136	GW	$36.44	$40.52	$56.84
7811	Crystal Lake Comm.	Highlands	557	GW	$22.61	$25.19	$35.51
6456	FWS: Leisure Lakes	Highlands	920	GW	$66.72	$75.64	$111.32
6326	Highlands County/Placid Utilities	Highlands	1,311	GW	$26.13	$30.73	$50.78
9516	Highlands Ridge Associates Inc	Highlands	344	GW	$38.10	$43.36	$64.40

Table 16 (continued)
1997 Estimated Single Family Residential Monthly Combined Water and Sewer Charges
(5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Combined Water and Sewer		
					Monthly Charges @ 6,000 gals.	Monthly Charges @ 8,000 gals.	Monthly Charges @ 16,000 gals.
5786	Sebring Ridge Utilities, Inc.	Highlands	1,382	GW	$45.02	$52.86	$68.20
5270	Town of Lake Placid	Highlands	3,645	GW	$32.85	$38.05	$60.25
11404	Little Sumter Utilities	Lake			$28.59	$33.19	$47.99
5640	City of Williston	Levy	2,583	GW	$25.20	$27.60	$38.40
8339	City of Dunnellon	Marion	1,844	GW	$51.98	$67.44	$129.38
7178	Decca Utilities/Oak Run	Marion	4,452	GW	$36.21	$42.27	$66.51
2841	FWS: Marion Oaks	Marion	6,466	GW	$85.19	$89.13	$104.89
11577	Marion County Utilities	Marion			$44.45	$52.89	$64.57
1156	On Top of the World	Marion	4,030	GW	$19.65	$21.14	$28.18
8753	Century Realty/Plantation Land	Polk	792	GW	$15.60	$18.00	$27.60
7119	City of Auburndale	Polk	17,363	GW	$31.61	$34.01	$43.61
341	City of Bartow	Polk	17,200	GW	$25.75	$28.75	$40.75
6920	City of Eagle Lake	Polk	2,481	GW	$35.85	$43.19	$67.71
645	City of Fort Meade	Polk	6,123	GW	$23.05	$26.75	$41.55
5870	City of Frostproof	Polk	3,129	GW	$11.95	$13.25	$20.85
8522	City of Haines City	Polk	12,601	GW	$42.23	$50.73	$67.75
6624	City of Lake Alfred	Polk	4,247	GW	$51.84	$53.54	$60.34
4658	City of Lake Wales	Polk	17,047	GW	$29.51	$34.63	$57.57
4912	City of Lakeland	Polk	143,060	GW	$24.89	$30.07	$44.39
6124	City of Mulberry	Polk	2,984	GW	$38.50	$43.00	$60.10
4607	City of Winter Haven	Polk	45,378	GW	$29.50	$37.50	$64.20
8472	Cypress Lakes Utility, Inc.	Polk	1,354	GW	$29.83	$36.21	$63.33

Table 16 (continued)
1997 Estimated Single Family Residential Monthly Combined Water and Sewer Charges
(5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Combined Water and Sewer		
					Monthly Charges @ 6,000 gals.	Monthly Charges @ 8,000 gals.	Monthly Charges @ 16,000 gals.
7878	FWS: Lake Gibson Estates	Polk	1,973	GW	$35.29	$37.07	$44.19
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	$29.93	$31.43	$37.43
3415	Orchid Springs Dev. Corp.	Polk	752	GW	$26.21	$27.65	$33.41
4005	Park Water Company	Polk	1,768	GW	$23.27	$26.25	$42.37
6507	Polk County Utilities	Polk	51,111	GW	$46.11	$48.65	$59.77
8135	City of Wildwood	Sumter	3,992	GW	$36.63	$43.69	$71.90
Cost Region 1 Summary							
Reporting Utilities	47						
Average Values			13,004		$34.87	$39.64	$56.74
Median Values			4,247		$32.12	$36.50	$50.78
Cost Region 2							
1776	City of Plant City	Hillsborough	25,465	GW	$36.36	$46.08	$85.35
2062	City of Tampa	Hillsborough	431,520	SW/GW	$26.33	$29.11	$45.60
450	City of Temple Terrace	Hillsborough	25,785	GW	$45.46	$57.78	$115.22
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	$41.35	$43.73	$58.68
2840	FWS: Seaboard Utilities Corp.	Hillsborough	6,383	GW	$77.18	$89.74	$116.13
3704	FWS: Valrico Hills	Hillsborough	889	GW	$49.68	$51.32	$57.88
4352	Hillsborough Co.	Hillsborough	283,397	GW	$60.11	$75.81	$95.11

Table 16 (continued)
1997 Estimated Single Family Residential Monthly Combined Water and Sewer Charges
(5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Combined Water and Sewer		
					Monthly Charges @ 6,000 gals.	Monthly Charges @ 8,000 gals.	Monthly Charges @ 16,000 gals.
2707	Util Inc. of FL/Eastlake Water	Hillsborough	2,767	GW	$25.01	$28.07	$33.11
10443	Windmere Utility Company	Hillsborough	2,510	GW	$19.00	$20.00	$24.00
6392	City of Bradenton	Manatee	47,729	SW	$30.97	$37.81	$65.17
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	$35.60	$41.96	$59.27
8417	Aloha Utilities/Aloha-Tahitian	Pasco	6,935	GW	$56.23	$70.43	$100.53
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	$33.66	$40.80	$55.56
2030	BETMAR Utilities, Inc.	Pasco			$56.50	$60.94	$78.70
1631	City of Dade City	Pasco	15,578	GW	$31.82	$39.24	$61.12
4734	City of New Port Richey	Pasco	24,387	GW	$26.17	$31.73	$53.97
3692	City of Port Richey	Pasco	7,955	GW	$47.62	$58.74	$105.47
6040	City of Zephyrhills	Pasco	13,168	GW	$19.06	$23.58	$41.66
6028	Forest Hills Utilities, Inc.	Pasco	4,500	GW	$52.70	$65.08	$95.22
4669	Hudson Water Works, Inc.	Pasco	5,922	GW	$54.82	$67.78	$92.74
2978	Lindrick Service Corporation	Pasco	8,018	GW	$39.74	$48.10	$69.30
590	Mad Hatter/Turtle Lakes	Pasco	4,030	GW	$51.66	$62.66	$72.42
266	Pasco Co. Utilities	Pasco	122,751	GW	$45.03	$53.89	$73.96
3668	Util Inc of FL/Summertree/Paradise	Pasco	1,757	GW	$70.42	$73.32	$84.92
2981	City of Clearwater	Pinellas	113,110	GW	$34.17	$46.07	$97.31
2980	City of Dunedin	Pinellas	35,738	GW	$43.44	$57.22	$92.18
4	City of St. Petersburg	Pinellas	290,963	GW	$31.35	$39.27	$76.86
742	City of Tarpon Springs	Pinellas	26,624	GW	$35.82	$47.76	$95.72
2673	Pinellas County Utilities	Pinellas	373,278	GW	$44.12	$52.96	$77.36

Table 16 (continued)
1997 Estimated Single Family Residential Monthly Combined Water and Sewer Charges
(5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Combined Water and Sewer		
					Monthly Charges @ 6,000 gals.	Monthly Charges @ 8,000 gals.	Monthly Charges @ 16,000 gals.
7692	Town of Belleair	Pinellas	4,968	GW	$33.72	$41.08	$66.77
10350	Util Inc. of FL/Lake Tarpon	Pinellas	1,260	GW	$40.81	$45.22	$62.82
Cost Region 2 Summary							
Reporting Utilities	31						
Average Values			69,795		$41.80	$49.91	$74.52
Median Values			14,373		$40.81	$47.76	$73.96
Cost Region 3							
7494	Fiveland Investments, Inc.	Charlotte	1,083	GW/RO	$78.10	$94.66	$140.18
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	$86.12	$100.76	$144.69
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	$61.50	$76.00	$113.00
4725	City of Arcadia	Desoto	6,608	GW	$51.51	$62.37	$105.81
11135	Sarasota County Utilities	Sarasota	108,669	GW	$69.97	$87.45	$145.19
6006	Southbay Utilities, Inc.	Sarasota	1,384	GW/RO	$57.87	$68.49	$97.65
4866	Englewood Water District	Sarasota	27,846	GW/RO	$55.23	$65.63	$109.63
2839	Rotonda West Utility Corp.	Charlotte	5,858	GW/RO	$77.59	$92.91	$132.05
2923	City of North Port	Sarasota	11,108	SW	$72.60	$86.50	$115.30
5393	City of Venice	Sarasota	20,902	GW/RO	$54.94	$67.36	$117.04
3522	FWS: Burnt Store	Charlotte	1,189	GW/RO	$61.67	$69.35	$100.07

Table 16 (continued)
1997 Estimated Single Family Residential Monthly Combined Water and Sewer Charges
(5/8" or 5/8" x 3/4" meter)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Source	Combined Water and Sewer		
					Monthly Charges @ 6,000 gals.	Monthly Charges @ 8,000 gals.	Monthly Charges @ 16,000 gals.
4318	City of Sarasota	Sarasota	63,235	GW	$52.92	$64.43	$110.48
871	City of Punta Gorda	Charlotte	23,501	SW	$55.93	$63.79	$90.43
Cost Region 3 Summary							
Reporting Utilities	13						
Average Values			25,876		$64.30	$76.90	$117.04
Median Values			11,108		$61.50	$69.35	$113.00
Total Single Family Residential Sample Summary							
Reporting Utilities	91						
Average Values			34,266		$41.43	$48.46	$71.41
Median Values			6,425		$36.36	$43.36	$64.57

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Table 17
1997 Estimated Small Commercial Monthly Combined Water and Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Water and Sewer Monthly Charges @ 25,000 gals.
Cost Region 1					
7121	Citrus County Utilities	Citrus	12,638	GW	$102.72
207	City of Crystal River	Citrus	4,056	GW	$186.54
419	City of Inverness	Citrus	6,644	GW	$103.38
2842	FWS: Citrus Springs	Citrus	6,213	GW	$271.80
9791	FWS: Sugarmill Woods	Citrus	4,665	GW	$124.70
4153	Rolling Oaks Ut./Beverly Hills	Citrus	13,115	GW	$114.24
30	City of Bowling Green	Hardee	1,959	GW	$132.00
4461	City of Wauchula	Hardee	5,436	GW	$105.60
7658	Town of Zolfo Springs	Hardee	1,279	GW	$147.37
7627	City of Brooksville	Hernando	10,725	GW	$109.04
4842	FWS: Spring Hill	Hernando	58,724	GW	$130.61
2983	Hernando Co.	Hernando	37,120	GW	$123.75
7139	Buttonwood Bay Utilities, Inc.	Highlands	1,407	GW	$33.18
6029	City of Avon Park	Highlands	16,141	GW	$101.25
4492	City of Sebring	Highlands	24,136	GW	$145.73
7811	Crystal Lake Comm.	Highlands	557	GW	$47.12
6456	FWS: Leisure Lakes	Highlands	920	GW	$250.10
6326	Highlands County/Placid Utilities	Highlands	1,311	GW	$100.80

Table 17 (continued)
1997 Estimated Small Commercial Monthly Combined Water and Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Water and Sewer Monthly Charges @ 25,000 gals.
5786	Sebring Ridge Utilities, Inc.	Highlands	1,382	GW	$146.51
5270	Town of Lake Placid	Highlands	3,645	GW	$156.25
11404	Little Sumter Utilities	Lake			$101.73
5640	City of Williston	Levy	2,583	GW	$83.00
8339	City of Dunnellon	Marion	1,844	GW	$201.84
2841	FWS: Marion Oaks	Marion	6,466	GW	$349.05
1156	On Top of the World	Marion	4,030	GW	$74.78
8753	Century Realty/Plantation Land	Polk	792	GW	$38.40
7119	City of Auburndale	Polk	17,363	GW	$131.36
341	City of Bartow	Polk	17,200	GW	$54.25
6920	City of Eagle Lake	Polk	2,481	GW	$133.69
645	City of Fort Meade	Polk	6,123	GW	$58.20
5870	City of Frostproof	Polk	3,129	GW	$30.60
8522	City of Haines City	Polk	12,601	GW	$137.64
6624	City of Lake Alfred	Polk	4,247	GW	$95.44
4658	City of Lake Wales	Polk	17,047	GW	$120.71
4912	City of Lakeland	Polk	143,060	GW	$88.75
6124	City of Mulberry	Polk	2,984	GW	$88.50
4607	City of Winter Haven	Polk	45,378	GW	$120.45
8472	Cypress Lakes Utility, Inc.	Polk	1,354	GW	$102.48
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	$112.84

Table 17 (continued)
1997 Estimated Small Commercial Monthly Combined Water and Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Water and Sewer Monthly Charges @ 25,000 gals.
3415	Orchid Springs Dev. Corp.	Polk	752	GW	$48.89
4005	Park Water Company	Polk	1,768	GW	$60.17
6507	Polk County Utilities	Polk	51,111	GW	$165.33
8135	City of Wildwood	Sumter	3,992	GW	$107.51
Cost Region 1 Summary					
Reporting Utilities	43				
Average Values			13,772		$119.50
Median Values			4,456		$109.04
Cost Region 2					
1776	City of Plant City	Hillsborough	25,465	GW	$145.98
2062	City of Tampa	Hillsborough	431,520	SW/GW	$133.06
450	City of Temple Terrace	Hillsborough	25,785	GW	$179.34
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	$119.36
2840	FWS: Seaboard Utilities Corp.	Hillsborough	6,383	GW	$286.92
6312	Hillsborough Co.	Hillsborough	283,397	GW	$226.94
2707	Util Inc. of FL/Eastlake Water	Hillsborough	2,767	GW	$59.22
6392	City of Bradenton	Manatee	47,729	SW	$107.85

Table 17 (continued)
1997 Estimated Small Commercial Monthly Combined Water and Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Water and Sewer Monthly Charges @ 25,000 gals.
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	$117.14
8417	Aloha Utilities/Aloha-Tahitian	Pasco	6,935	GW	$234.09
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	$131.86
2030	BETMAR Utilities, Inc.	Pasco			$235.84
1631	City of Dade City	Pasco	15,578	GW	$133.91
422	City of New Port Richey	Pasco	24,387	GW	$93.36
3692	City of Port Richey	Pasco	7,955	GW	$176.87
6040	City of Zephyrhills	Pasco	13,168	GW	$71.00
6028	Forest Hills Utilities, Inc.	Pasco	4,500	GW	$193.65
4669	Hudson Water Works, Inc.	Pasco	5,922	GW	$232.82
2978	Lindrick Service Corporation	Pasco	8,018	GW	$141.20
590	Mad Hatter/Turtle Lakes	Pasco	4,030	GW	$205.63
266	Pasco Co. Utilities	Pasco	122,751	GW	$162.83
3668	Util Inc of FL/Summertree/Paradise	Pasco	1,757	GW	$272.87
2981	City of Clearwater	Pinellas	113,110	GW	$145.35
2980	City of Dunedin	Pinellas	35,738	GW	$176.91
4	City of St. Petersburg	Pinellas	290,963	GW	$76.66
742	City of Tarpon Springs	Pinellas	26,624	GW	$151.25
2673	Pinellas County Utilities	Pinellas	373,278	GW	$157.89
7692	Town of Belleair	Pinellas	4,968	GW	$102.54
10350	Util Inc. of FL/Lake Tarpon	Pinellas	1,260	GW	$151.81

Table 17 (continued)
1997 Estimated Small Commercial Monthly Combined Water and Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Water and Sewer Monthly Charges @ 25,000 gals.
Cost Region 2 Summary					
Reporting Utilities	29				
Average Values			74,659		$159.45
Median Values			16,196		$151.25
Cost Region 3					
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	$284.00
871	City of Punta Gorda	Charlotte	23,501	SW	$141.47
7494	Fiveland Investments, Inc.	Charlotte	1,083	GW/RO	$260.05
3522	FWS: Burnt Store	Charlotte	1,189	GW/RO	$234.83
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	$199.25
2839	Rotonda West Utility Corp.	Charlotte	5,858	GW/RO	$289.09
4725	City of Arcadia	Desoto	6,608	GW	$154.68
2923	City of North Port	Sarasota	11,108	SW	$254.68
4318	City of Sarasota	Sarasota	63,235	GW	$221.02
5393	City of Venice	Sarasota	20,902	GW/RO	$195.71
4866	Englewood Water District	Sarasota	27,846	GW/RO	$202.08
11135	Sarasota County Utilities	Sarasota	108,669	GW	$261.22

Table 17 (continued)
1997 Estimated Small Commercial Monthly Combined Water and Sewer Charges (1" meter @ 25,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Water and Sewer Monthly Charges @ 25,000 gals.
6006	Southbay Utilities, Inc.	Sarasota	1,384	GW/RO	$232.41
Cost Region 3 Summary					
Reporting Utilities	13				
Average Values			25,876		$225.42
Median Values			11,108		$232.41
Total Small Commercial Sample Summary					
Reporting Utilities	85				
Average Values			36,208		$149.33
Median Values			6,644		$133.91

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Table 18
1997 Estimated Large Commercial Monthly Water and Sewer Charges
(2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Monthly Charges @ 374K gals.
Cost Region 1					
207	City of Crystal River	Citrus	4,056	GW	$2,577.19
419	City of Inverness	Citrus	6,644	GW	$1,429.58
30	City of Bowling Green	Hardee	1,959	GW	$1,877.00
4461	City of Wauchula	Hardee	5,436	GW	$1,545.40
4842	FWS: Spring Hill	Hernando	58,724	GW	$1,514.56
2983	Hernando Co.	Hernando	37,120	GW	$1,412.90
6029	City of Avon Park	Highlands	16,141	GW	$1,514.68
4492	City of Sebring	Highlands	24,136	GW	$1,838.50
6326	Highlands County/Placid Utilities	Highlands	1,311	GW	$1,188.35
5270	Town of Lake Placid	Highlands	3,645	GW	$2,510.25
5640	City of Williston	Levy	2,583	GW	$1,060.20
7119	City of Auburndale	Polk	17,363	GW	$2,063.37
341	City of Bartow	Polk	17,200	GW	$577.75
8522	City of Haines City	Polk	12,601	GW	$1,648.81
6624	City of Lake Alfred	Polk	4,247	GW	$688.74
4658	City of Lake Wales	Polk	17,047	GW	$1,989.25
4912	City of Lakeland	Polk	143,060	GW	$1,071.81

Table 18 (continued)
1997 Estimated Large Commercial Monthly Water and Sewer Charges
(2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Monthly Charges @ 374K gals.
6124	City of Mulberry	Polk	2,984	GW	$912.40
4607	City of Winter Haven	Polk	45,378	GW	$1,725.99
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	$1,431.23
4005	Park Water Company	Polk	1,768	GW	$1,097.91
6507	Polk County Utilities	Polk	51,111	GW	$1,683.29
8135	City of Wildwood	Sumter	3,992	GW	$1,375.36
Cost Region 1 Summary					
Reporting Utilities	23				
Average Values			21,676		$1,510.20
Median Values			12,601		$1,514.56
Cost Region 2					
1776	City of Plant City	Hillsborough	25,465	GW	$1,894.62
2062	City of Tampa	Hillsborough	431,520	SW/GW	$1,909.86
450	City of Temple Terrace	Hillsborough	25,785	GW	$2,631.86
5886	Florida Cities Water Co/Carrollwood	Hillsborough	3,438	GW	$1,701.24
6312	Hillsborough Co.	Hillsborough	283,397	GW	$3,473.40
6392	City of Bradenton	Manatee	47,729	SW	$1,340.53
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	$1,302.88

Table 18 (continued)
1997 Estimated Large Commercial Monthly Water and Sewer Charges
(2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Monthly Charges @ 374K gals.
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	$1,605.44
1631	City of Dade City	Pasco	15,578	GW	$1,725.91
422	City of New Port Richey	Pasco	24,387	GW	$1,290.59
3692	City of Port Richey	Pasco	7,955	GW	$2,531.67
6040	City of Zephyrhills	Pasco	13,168	GW	$889.45
6028	Forest Hills Utilities, Inc.	Pasco	4,500	GW	$2,439.58
4669	Hudson Water Works, Inc.	Pasco	5,922	GW	$2,998.73
266	Pasco Co. Utilities	Pasco	122,751	GW	$1,935.30
2981	City of Clearwater	Pinellas	113,110	GW	$2,126.08
2980	City of Dunedin	Pinellas	35,738	GW	$2,593.66
4	City of St. Petersburg	Pinellas	290,963	GW	$1,431.87
742	City of Tarpon Springs	Pinellas	26,624	GW	$2,304.58
2673	Pinellas County Utilities	Pinellas	373,278	GW	$2,330.40
7692	Town of Belleair	Pinellas	4,968	GW	$1,369.41
Cost Region 2 Summary					
Reporting Utilities	21				
Average Values			98,062		$1,991.76
Median Values			25,785		$1,909.86

Table 18 (continued)
1997 Estimated Large Commercial Monthly Water and Sewer Charges
(2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Monthly Charges @ 374K gals.
Cost Region 3					
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	$3,054.28
871	City of Punta Gorda	Charlotte	23,501	SW	$2,065.61
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	$2,729.50
4318	City of Sarasota	Sarasota	63,235	GW	$3,306.46
5393	City of Venice	Sarasota	20,902	GW/RO	$2,507.20
4866	Englewood Water District	Sarasota	27,846	GW/RO	$2,881.04
11135	Sarasota County Utilities	Sarasota	108,669	GW	$3,227.80
Cost Region 3 Summary					
Reporting Utilities	7				
Average Values			44,166		$2,824.56
Median Values			27,846		$2,881.04

Table 18 (continued)
1997 Estimated Large Commercial Monthly Water and Sewer Charges
(2" meter @ 374,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Combined Monthly Charges @ 374K gals.
Total Large Commercial Sample Summary					
Reporting Utilities	51				
Average Values			56,216		$1,888.89
Median Values			20,043		$1,725.99

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Table 19
1997 Estimated Industrial Combined Water and Sewer Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Monthly Charges @ 8M gals.
Cost Region 1					
207	City of Crystal River	Citrus	4,056	GW	$54,815.29
419	City of Inverness	Citrus	6,644	GW	$30,408.38
4842	FWS: Spring Hill	Hernando	58,724	GW	$30,587.12
2983	Hernando Co.	Hernando	37,120	GW	$28,400.00
6029	City of Avon Park	Highlands	16,141	GW	$32,400.00
5270	Town of Lake Placid	Highlands	3,645	GW	$53,985.75
5640	City of Williston	Levy	2,583	GW	$22,413.00
4912	City of Lakeland	Polk	143,060	GW	$21,249.00
7119	City of Auburndale	Polk	17,363	GW	$44,311.41
4607	City of Winter Haven	Polk	45,378	GW	$36,669.75
8522	City of Haines City	Polk	12,601	GW	$34,669.39
6507	Polk County Utilities	Polk	51,111	GW	$31,395.60
4279	Garden Grove Water Co., Inc.	Polk	20,043	GW	$29,665.81
6624	City of Lake Alfred	Polk	4,247	GW	$13,652.94
4658	City of Lake Wales	Polk	17,047	GW	$43,019.87
8135	City of Wildwood	Sumter	3,992	GW	$28,613.17

Table 19 (continued)
1997 Estimated Industrial Combined Water and Sewer Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Monthly Charges @ 8M gals.
Cost Region 1 Summary					
Reporting Utilities	16				
Average Values			27,735		$33,516.03
Median Values			16,594		$30,991.36
Cost Region 2					
1776	City of Plant City	Hillsborough	25,465	GW	$39,358.02
2062	City of Tampa	Hillsborough	431,520	SW/GW	$45,764.22
450	City of Temple Terrace	Hillsborough	25,785	GW	$56,024.84
6312	Hillsborough Co.	Hillsborough	283,397	GW	$74,230.52
6392	City of Bradenton	Manatee	47,729	SW	$27,838.80
5387	Manatee Co. Public Works Dept.	Manatee	186,218	SW/GW	$26,133.27
3182	Aloha Utilities/Seven Springs	Pasco	16,814	GW	$32,771.40
422	City of New Port Richey	Pasco	24,387	GW	$27,651.60
6040	City of Zephyrhills	Pasco	13,168	GW	$18,171.02
266	Pasco Co. Utilities	Pasco	122,751	GW	$39,134.07
2981	City of Clearwater	Pinellas	113,110	GW	$49,827.11
2980	City of Dunedin	Pinellas	35,738	GW	$55,225.00
4	City of St. Petersburg	Pinellas	290,963	GW	$29,558.04
742	City of Tarpon Springs	Pinellas	26,624	GW	$49,357.00
2673	Pinellas County Utilities	Pinellas	373,278	GW	$57,757.25

Table 19 (continued)
1997 Estimated Industrial Combined Water and Sewer Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Monthly Charges @ 8M gals.
Cost Region 2 Summary					
Reporting Utilities	15				
Average Values			134,463		$41,920.14
Median Values			47,729		$39,358.02
Cost Region 3					
10420	Charlotte County Utilities	Charlotte	62,448	GW/SW	$60,523.00
871	City of Punta Gorda	Charlotte	23,501	SW	$44,566.70
718	Gasparilla Island Water Assn.	Charlotte	2,561	GW/RO	$58,018.00
4318	City of Sarasota	Sarasota	63,235	GW	$70,726.40
11135	Sarasota County Utilities	Sarasota	108,669	GW	$66,313.08
Cost Region 3 Summary					
Reporting Utilities	5				
Average Values			52,083		$60,029.44
Median Values			62,448		$60,523.00
Total Industrial Sample Summary					

Table 19 (continued)
1997 Estimated Industrial Combined Water and Sewer Charges (6" meter @ 8,000,000 gals./month)

Water Use Permit #	Utility Name	County	1995 Service Area Population	Water Sources	Monthly Charges @ 8M gals.
Reporting Utilities	36				
Average Values			75,587		$40,700.16
Median Values			26,205		$37,901.91

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8 Monthly Reclaimed Water Charges

Table 20
1997 Estimated Monthly Reclaimed Water Charges (@ 20,000 gals./month)

Water Use Permit #	Utility Name	County	Customer Class	Rate Structure	Monthly Charge @ 20,000 gals.
Residential - Metered - 1" Meter (1/4 acre where applicable)					
10420	Charlotte County Utilities	Charlotte	RU	U	$42.00
2980	City of Dunedin	Pinellas	RU	D	$15.13
4	City of St. Petersburg	Pinellas	RU	U	$10.36
742	City of Tarpon Springs	Pinellas	RU	U	$19.00
5393	City of Venice	Sarasota	RU	I	$12.95
5387	Manatee Co. Public Works Dept.	Manatee	RU	D	$18.75
266	Pasco Co. Utilities	Pasco	RU	U	$6.00
2673	Pinellas County Utilities	Pinellas	RU-funded	U	$5.80
2673	Pinellas County Utilities	Pinellas	RU-unfunded	U	$12.80
Residential - Metered Summary					
Reporting Utilities	8				
Average Values					$15.87
Median Values					$12.95
Residential - Unmetered - 1/4 acre (1" meter where applicable)					
4	City of St. Petersburg	Pinellas	RU	U	$10.36
5393	City of Venice	Sarasota	RU	F	$7.00
6312	Hillsborough Co.	Hillsborough	RU	F	$6.00
266	Pasco Co. Utilities	Pasco	RU	U	$5.94
2673	Pinellas County Utilities	Pinellas	RU-funded	F	$8.00
2673	Pinellas County Utilities	Pinellas	RU-unfunded	F	$9.00

Table 20 (continued)
1997 Estimated Monthly Reclaimed Water Charges (@ 20,000 gals./month)

Water Use Permit #	Utility Name	County	Customer Class	Rate Structure	Monthly Charge @ 20,000 gals.
Residential - Unmetered Summary					
Reporting Utilities	5				
Average Values					$7.72
Median Values					$7.50
Commercial - Metered - 1" Meter (1/4 acre where applicable)					
2980	City of Dunedin	Pinellas	RU	D	$15.13
2923	City of North Port	Sarasota	RU	U	$4.60
4	City of St. Petersburg	Pinellas	RU	U	$10.36
742	City of Tarpon Springs	Pinellas	RU	U	$19.00
5393	City of Venice	Sarasota	RU	I	$15.20
5393	City of Venice	Sarasota	RU	U	$7.00
6312	Hillsborough Co.	Hillsborough	RU	D	$9.00
5387	Manatee Co. Public Works Dept.	Manatee	RU	D	$18.75
266	Pasco Co. Utilities	Pasco	RU	U	$6.00
2673	Pinellas County Utilities	Pinellas	RU-funded	U	$5.80
2673	Pinellas County Utilities	Pinellas	RU-unfunded	U	$12.80
2839	Rotonda West Utility Corp.	Charlotte	RU	U	$7.00
11135	Sarasota County Utilities	Sarasota	RU (bulk)	U	$3.91
Commercial - Metered Summary					
Reporting Utilities	11				
Average Values					$10.35
Median Values					$9.00

Table 20 (continued)
1997 Estimated Monthly Reclaimed Water Charges (@ 20,000 gals./month)

Water Use Permit #	Utility Name	County	Customer Class	Rate Structure	Monthly Charge @ 20,000 gals.
Commercial - Unmetered - 1/4 acre (1" meter where applicable)					
4	City of St. Petersburg	Pinellas	RU	U	$10.36
266	Pasco Co. Utilities	Pasco	RU	U	$14.85
2673	Pinellas County Utilities	Pinellas	RU-funded	F	$8.00
2673	Pinellas County Utilities	Pinellas	RU-unfunded	F	$9.00
Commercial - Unmetered Summary					
Reporting Utilities	3				
Average Values					$10.55
Median Values					$9.68

9 Factors that Affect Water Conservation

9.1 Rate Structure

The type of rate structure used can have an impact on water conservation. Flat rates, wherein the customer pays a single charge, regardless of the quantity used, provides the least incentive for water conservation. The customer can use 5,000 gallons per month or 20,000 gallons per month and the bill would be the same. Declining block rates, wherein the price per thousand gallons of water (or hundred cubic feet), declines at pre-specified usage thresholds, provides more of an incentive for conservation than flat rates, but generally less than uniform or inclining block rates. Uniform rates, wherein the price per thousand gallons (or hundred cubic feet) remains constant at all levels of usage, are generally more water conserving than declining block rates but less conserving than inclining block rates. Inclining block rates, wherein the price per thousand gallons (or hundred cubic feet) increases at pre-specified usage levels, generally provides the greatest incentive for water conservation. The water conserving effect of a an inclining block rate structure depends on the levels of usage at which the price increases and by how much the price increases. Excess use surcharges, wherein a surcharge is added to the price per thousand gallons (or hundred cubic feet) when a customer uses more than a pre-specified percentage over their average billing period use, is considered water conserving by some. Excess water use surcharges are coded as an "O" in the water charge tables. The most likely impact of excess use surcharges is to dampen peak water demands during high irrigation periods. Excess use charges do not provide an incentive to conserve for customers with high average water use. Many factors enter into consideration when choosing the type of rate structure to employ. Water conservation is one of many factors to consider.

Since 1993, the SWFWMD has required the implementation of water conserving rate structures in the Northern Tampa Bay, Highlands Ridge, and Eastern Tampa Bay Water Use Caution Areas and has been encouraging the use of water conserving rate structures in the rest of the District. The tables below illustrates how single family residential water rate structures have changed between 1991 and 1997 for a group of 119 utilities with permitted average annual daily withdrawals of more than 100,000 gallons for which data were available for *both* 1991 and 1997. "No separate charge" typically means that there is no separate charge for water use and water use is usually paid for in the lot rent as is the case in many trailer parks and provides no incentive for conservation.

The first table illustrates how rate structures have changed throughout the District between the 1991 and 1997 rate surveys. The second illustrates how rate structures have changed within the three Water Use Caution Areas with established rate structure requirements. In both cases there is a clear trend toward more water conservation oriented rate structures. Although the percentage of "no separate charge" structures has declined in both cases, they have been difficult to eliminate in the WUCAs because of prior contractual arrangements between park operators and tenants.

Table 21 Water Rate Structures District-Wide 1991 and 1997

Rate Structure Summary
District-wide

	No Separate Charge	Flat	Declining Block	Uniform	Inclining Block	Other
1991 Count	19	3	6	77	14	NA
1991 Percent	16.0%	2.5%	5.0%	64.7%	11.8%	
1997 Count	13	2	1	66	35	2
1997 Percent	10.9%	1.7%	0.8%	55.5%	29.4%	1.7%

Table 22 Water Rate Structures in Water Use Caution Areas 1991 and 1997

Rate Structure Summary
Northern Tampa Bay, Highlands Ridge, and Eastern Tampa Bay WUCAs

	No Separate Charge	Flat	Declining Block	Uniform	Inclining Block	Other
1991 Count	11	2	3	38	8	NA
1991 Percent	17.7%	3.2%	4.8%	61.3%	12.9%	
1997 Count	6	0	0	28	23	2
1997 Percent	10.2%	0.0%	0.0%	47.5%	39%	3.4%

9.2 Fixed and Variable Charges

A very significant conservation component of the rate structure is the percentage of the water bill that is comprised of fixed charges. Fixed charges for a single family residence include such things as:

- billing charges (the cost to the utility to read meters and prepare and mail bills),
- base facility charges (a charge, usually based on the meter size, to cover other fixed costs such as overhead and debt service (or sinking fund contributions) on capital facilities such as wells, dams, reservoirs, treatment systems, transmission lines, and distribution

systems),

- minimum unit or gallonage charges (similar to a base facility charge except that the charge includes a quantity of water - for example the first 3,000 gallons may be included in the minimum gallonage charge whether the customer uses it or not),

- flat charges (a rate structure where 100% of the bill is fixed, usually according to meter size, and does not vary with water usage), and

- other fixed charges (miscellaneous fixed charges that may be charged by a utility).

From a conservation perspective, the important thing about fixed charges is that the consumer must pay them whether any water is used or not. The fixed portion of the bill does not provide incentive to conserve. The variable (also called volumetric or gallonage) charges are determined by actual water usage. Variable charges generally pay for utility costs which vary with water usage in the short run such as electricity and chemicals, and to an extent that varies by utility, some portion of fixed capital costs. If the customer reduces water use, it is the variable charges part of the water bill that is reduced. Since sewer bills are typically determined by water use, and also have fixed and variable bill components, reducing water use can also reduce the variable portion of the sewer bill.

Obviously, the higher the percentage of the bill that is comprised of fixed charges at a given quantity of water, the less incentive there is for the consumer to reduce water use. In a perfect "conservation world" where conservation was the only consideration, we would want the bill to be 100% variable charges to give the consumer the maximum incentive to conserve water. However, salaries, overhead and debt service must be paid whether water demand is up or down. Increasing the percentage of variable charges can cause instability in the utility's revenue stream, primarily due to irrigation demand (Whitcomb 1995). In a high rainfall period, revenue goes down. In a low rainfall period, revenue goes up. Revenue stabilization mechanisms can be developed to mitigate revenue instability under a high variable charge percentage rate structure but have not been widely adopted in the water industry.

The percentage of fixed charges for water bills varies widely in the SWFWMD. The table below provides the fixed charge percent of single family residential water charges at a consumption rate of 8,000 gallons per month for the 128 reporting utilities.

Table 23 Fixed Charges as a Percentage of Single Family Residential Water Charges

Fixed Charges as a Percentage of Estimated Single Family Residential Monthly Water Charges

@ 8,000 Gallons Consumption

Fixed Charges Percent of Bill	Number of Utilities	Fixed Charges Percent of Bill	Number of Utilities
0 to 10%	1	51 to 60%	21
11 to 20%	7	61 to 70%	13
21 to 30%	16	71 to 80%	3
31 to 40%	34	81 to 90%	5
41 to 50%	24	> 90%	4

9.3 Marginal Water and Sewer Cost

It is widely believed by economists that water customers change their water consumption habits in response to marginal, or a combination of marginal and average, water and sewer cost. Marginal cost, for the purposes of this report, is the gallonage charge ($/kgal) for water and/or sewer service at the monthly water usage that is being modeled. The marginal cost where a "flat" rate structure is used is zero.

Where applicable, water customers respond to both water and sewer marginal cost because sewer charges are typically based on water consumption. Sewer return flows are not metered separately so the sewer charge is typically based on metered water consumption. Since a significant portion of a household's water use is outdoor use, such as irrigation, and is not returned through the sewer system, utilities will typically cap the quantity of water consumption to which sewerage charges are applied. Alternatively, there may be a dollar cap on the sewer charges. Sewerage quantity caps are commonly placed at 6,000 to 8,000 gallon per month for a single family residence. Sewerage quantity or dollar caps are not typically applied to non-residential sewer charges. The net result is that marginal water and sewer costs, are constant or rise until around 6,000 to 8,000 gallons of water use per month and then decline. Inclining block rate structures partially offset this reduction in the water conservation signal.

Tables 24 and 25 display the distribution of estimated marginal charges of water alone, and water and sewer combined for single family residential customers at 6,000, 8,000 and 16,000 gallons of water consumption per month. For example, Table 24 indicates that 63 utilities charge between $1.01 and $2.00 per thousand gallons for water at 6,000 gallons of usage per month.

Table 24 Estimated Marginal Water Charges - Single Family Residential

Distribution of Marginal Water Charges Among 128 Utilities			
Marginal Charge $/1,000 gals.	@ 6,000 gals./ month	@8,000 gals./month	@16,000 gals./month
	No. of Utilities	No. of Utilities	No. of Utilities
$0 - $1.00	33	33	25
$1.01 - $2.00	63	62	59
$2.01 - $3.00	21	22	26
$3.01 - $4.00	8	8	13
$4.01 - $5.00	2	2	2
$5.01 - $6.00	1	1	1
$6.01 - $7.00	0	0	2
> $7.00	0	0	0
Average $/kgal	$1.63	$1.65	$1.89
Median $/kgal	$1.38	$1.39	$1.57

Table 25 Estimated Marginal Water and Sewer Costs - Single Family Residential

Distribution of Marginal Water and Sewer Charges Among 128 Utilities			
Marginal Charge $/1,000 gals.	@ 6,000 gals./ month	@8,000 gals./month	@16,000 gals./month
	No. of Utilities	No. of Utilities	No. of Utilities
$0 - $1.00	24	23	24
$1.01 - $2.00	37	37	44
$2.01 - $3.00	17	20	25
$3.01 - $4.00	18	17	16
$4.01 - $5.00	8	7	4
$5.01 - $6.00	8	8	6
$6.01 - $7.00	8	8	7
$7.01 - $8.00	6	6	2
$8.01 - $9.00	2	2	0
> $9.00	0	0	0
Average $/kgal	$2.88	$2.88	$2.44
Median $/kgal	$2.18	$2.18	$1.99

9.4 Customer Billing Information

Inclusion of rate structure and water usage information on water bills can help customers make more informed decisions regarding water use. Providing historical water use data can help customers track the effectiveness of their own water conservation efforts, monitor water use patterns and help to uncover unusual water use that can indicate leaks or other problems. Information on the average use of a customer class such as single family residential, can provide customers with a milestone with which to compare their own use. Rate structure information may encourage a customer to make alterations to their water use to avoid higher cost block charges or penalties for excessive use. Finally, the bill offers the opportunity to provide the customers with conservation tips and irrigation restrictions information. Most of this information can be provided through other vehicles, such as bill stuffers. However, the bill provides the most probable and direct contact with the customer.

As part of the 1997 survey, utilities were requested to provide a copy of their water bills. A total of 104 utilities submitted copies of bills. The most common piece of information provided was the customer's billing period water usage. All but one utility provided this information. A good example of the conveyance of pricing information is the bill provided by Sarasota County Utilities. The usage and rate information portion of the bill are reproduced as Figure 1.

Table 26 Customer Information Provided on Bills

Information Provided on Bill	Number of Utilities	Percent of Bills
Customer Billing Period Usage	103	99%
Customer Monthly Usage (last 12 months)	20	20%
Current Month Daily Customer Use	7	7%
Average Daily Cost to Customer	5	5%
12 Month Customer Class Daily Use	1	1%
Current Month Customer Class Use	1	1%
Water Rate Schedule	20	20%
Conservation Tips	10	10%
Irrigation Restrictions	2	2%

Figure 1 Sarasota County Utilities Bill Rate Information

Billing Date	Read Date	Present Reading	Previous Read Date	Previous Reading	Consumption
JUN 10 97	MAY 30 97	121	MAY 01 97	110	11

SERVICE DESCRIPTION	AMOUNT
WATER SERVICE BASE CHARGE	12.70
USAGE FROM 1000 TO 4000 GALS AT $2.00 PER 1000	8.00
USAGE FROM 5000 TO 8000 GALS AT $3.65 PER 1000	14.60
USAGE FROM 9000 TO 12000 GALS AT $4.89 PER 1000	14.67
SEWER SERVICE BASE CHARGE	11.43
SEWER USAGE AT $5.09 PER 1000 GALS UP TO 10000	50.90

WATER LAWNS SPARINGLY. STUDIES SHOW THAT A MAJORITY OF LAWNS ARE OVERWATERED. COUNTY ORDINANCE REQUIRES INSTALLATION OF RAIN SHUT-OFF DEVICES ON IRRIGATION SYSTEMS.

TOTAL AMOUNT NOW DUE 112.30

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Appendix A

Database Fields

TABLE A-1. CUSTOMER CLASS CODES	
code	**definition**
A	all customer classes (if not further subdivided)
R	all residential customers (if not further subdivided)
S	single-family residential (including individually metered multi-family and mobile homes unless they have specific charges and rates
IMF	individually metered multi-family residential
IMH	individually metered mobile homes
MMF	master metered multi-family residential (including master metered mobile homes unless they have different charges and rates)
MMH	master metered mobile homes and trailer parks
C	all commercial/general/industrial (if not further subdivided and if there are no specific charges and rates for industrial)
SC	small commercial/general
MC	medium commercial/general
LC	large commercial/general
MOT	motel/hotel/inn
OFF	office building
IND	all industrial customers (if separate from commercial but not further subdivided)
SIN	small industrial
MIN	medium industrial
LIN	large industrial
I	irrigation
P	public/institutional
RU	reuse/reclaimed
NA	not applicable

TABLE A-2. ADMINISTRATIVE DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
1-10	WUPNUMB; WUP2 - WUP10*	The water use permit numbers assigned by the District to the utility
11	UTILNAME	name water, sewer, and/or reclaimed water provider
12	ADDRESS	street or P.O. Box address
13	CTYSTZIP*	city, state, and zip code
14	PHONE	telephone number
15	CONTACT1	primary contact person
16	CONTACT2*	secondary contact person
17	OWNERSHP	Indicates whether the utility is publicly, privately, or co-op owned
18	COUNTY1	primary county in which the utility operates
19	COUNTY2	secondary county in which the utility operates
20	BASIN1	primary District Basin in which the utility operates
21	BASIN2	secondary District Basin in which the utility operates
22 - 31	WUCA - WUCA10*	District Water Use Caution Area (if any) where each of the utility's WUPs is located. For the SWFWMD, the potential entries are: NTB = Northern Tampa Bay S = Southern E = Eastern Tampa Bay HR = Highlands Ridge NA = not applicable
32	DELETE*	record deleted from original database
33	NO1MGD*	utility from original database whose permitted withdrawal is less than .1 MGD
34	UPDATE*	record updated from original database
35	INCOMPLETE*	record incomplete
36	NOTES*	notes

TABLE A-3. WATER-RELATED DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
37	EFFDATE	effective date of the water rates in database
38	CUSCLASS	See Table A-1 for the potential customer classes included in the database.
39	CLASSDET	the way (if any) the utility distinguishes between multi-family residential and commercial customers
40	METERSIZ	where charges are influenced by a customer's meter size, data are included for residential customers (individually and master-metered) with 5/8x3/4" (.625), 1", and 2" meters; and for commercial and industrial customers with 1", 2", and 6" meters. Where meter size has no influence on charges, the meter size is shown as "0"
41	RATETYPE	type of water rate structure: flat rate (F), uniform rate (U), inclining block rate (I), declining block rate (D), no separate charge (N) [note: fields 46-48 and 71-78 support other rate type variants]
42	BASECHRG	readiness to serve charges not associated with any quantity of water
43	MASTUNIT	the way (if any) the utility determines the number of units served on master-metered accounts
44	MASTCHRG	readiness to serve charges *per unit* for master-metered accounts
45	OTHERFIX	any other fixed charges not related to the quantity of water, such as a billing charge
46	TEMPCHRG	temporary, percentage-based surcharge designed to reduce demand during declared shortages or emergencies

TABLE A-3. WATER-RELATED DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
47	TEMPDTER	portion of the bill that the temporary charge (if applicable) is applied to, as follows: T if the surcharge applies to the total charge V if the surcharge is applied only to the volume variable charges (not including the minimum charge) M if the surcharge is applied to both volume variable charges and the minimum quantity charge N if there is a temporary surcharge but it is expressed in a form other than shown above
48	SEASONAL	special seasonal rate employed (if any) [note: This field is currently structured as logical. The field structure should be changed to numeric if actual seasonal rates are to be added and calculations performed.]
49	HISEABGN	beginning month in which a seasonal rate is charged (if any)
50	HISEAEND	ending month in which a seasonal rate is charged (if any)
51	ERUADJUS	indicates whether or not charges have to be adjusted, for modeling purposes, according to the number of units on a master meter; the calculation of master-metered customer water bills is geared toward the end user
52	USEUNITS	indicates whether rates are charged per 1,000 gallons ("G"), per 100 cubic feet ("C"), or whether a flat rate ("F") is used
53	FLATCHRG	amount (exclusive of other base and fixed charges) that pays for all water used, regardless of the quantity used
54	BILLFREQ	billing frequency in terms of months
55	BLOKFREQ	period of use upon which the water rate blocks are based
56	MINUCHRG	charge for a minimum number of units of water use, whether the quantity is used or not; this is not the same as BASECHRG which does not include any water use

TABLE A-3. WATER-RELATED DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
57	MINUNITS	minimum number of units of water of use charged for if there is a minimum charge
58	MAXBLKNO	number of water rate blocks used
59 - 70	BLR1BGIN - BLR6BGIN	quantity at which a given water rate block begins
	BLR1RATE - BLR6RATE	consumption charge applied within the given specific water rate block
71 - 78	SRCHGAMT1- SRCHGAMT4*	excess use surcharge amount - up to four surcharge levels
	SRCHGGAL1- SRCHGGAL4*	use levels where excess use surcharges take effect - up to four thresholds

TABLE A-4. SEWER-RELATED DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
81	OTHSEWNO	an outside sewer utility's DEP sewage plant permit number (if applicable)
82	OSEWNAME	name of the outside sewer utility (if applicable)
83	SWUPNUMB	utility's primary water use permit number
84	ONSEPTIC	Indicates whether or not members of a certain customer class are on individual septic tanks
85	OTHERSEW	indicates whether or not the utility has an outside sewer contractor
86	SRATETYP	type of sewer rate structure (i.e., flat rate, uniform rate, inclining block rate, declining block rate, or no separate charge) [NOTE: SRATETYP="S" indicates a special rate for industrial customers where charges pertaining to the water quality of the effluent are levied in addition to charges based on metered volume. Only the volume-related charges are included; water quality charges are not.]
87	SEFFDATE	effective date of the sewer rate structure in the database
88	SCUSCLAS	See Table A-1 for the potential customer classes included in the database.
89	SCLASDET	the way (if any) the utility distinguishes between multi-family residential and commercial customers
90	SMASTUNT	the way the utility determines the number of units served on master-metered accounts
91	SMETRSIZ	where charges are influenced by a customer's meter size, data are included for residential customers (individually and master-metered) with 5/8x3/4" (.625), 1", and 2" meters; and for commercial and industrial customers with 1", 2", and 6" meters. Where meter size has no influence on charges, the meter size is shown as "0"
92	SBASECHG	readiness to serve charge that does not pay for any quantity of sewerage disposal
93	SMASTCHG	readiness to serve charge per unit for master-metered accounts

TABLE A-4. SEWER-RELATED DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
94	SOTHRFIX	any other fixed charges not related to the quantity disposed, such as a billing charge; unless billing charges are specifically associated with sewerage charges, a utility's "other fixed charges" are posted with pertinent water rates
95	TOILADJ	indicates whether or not a utility's customers are billed according to the number of water closets
96	FIRSTOIL	charge for the first toilet if sewerage charges are determined by the number of water closets
97	ADDTOILT	charge for additional toilets (beyond the first) if sewerage charges are determined by the number of water closets
98	PERCENTW	whole number percent of the water use quantity to which the sewerage rate is applied (up to any cap that may exist)
99	PERCENTB	whole number percent of the water bill charges that are to be applied to sewerage charges
100	QUANTCAP	maximum quantity to which sewerage charges apply
101	DOLLRCAP	maximum dollar charge for sewerage disposal
102	SERUADJ	indicates whether or not charges can be adjusted according to the number of units on a master meter; the calculation of master-metered customer sewer bills is geared toward the end user
103	SUSEUNIT	indicates whether sewer charges are applied per 1,000 gallons ("G"), per hundred cubic feet ("C"), or if a flat rate is charged ("F")
104	SFLATCHG	charge (exclusive of other base and fixed charges) that pays for all sewerage disposal, regardless of quantity
105	SBILFREQ	billing frequency in terms of months
106	SBLKFREQ	period upon which the rate blocks are based
107	SMINUCHG	minimum charge if there is a charge for a minimum number of units of sewerage disposal, whether the quantity is used or not
108	SMINUNIT	minimum number of units charged for if there is a minimum charge
109	SMAXBKNO	number of rate blocks used

TABLE A-4. SEWER-RELATED DATA FIELDS		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
110 - 121	SBLK1BGN - SBLK6BGN	quantity at which a given sewer rate block begins (up to six blocks are possible)
	SBLK1RAT - SBLK6RAT	consumption charge applied within the given specific sewer rate block (up to six rates are possible)

TABLE A-5. BILL INFORMATION		
*Indicates a new field added for the 1997 update.		
130	BAVGIUSE*	months over which individual customer historical use is averaged if included on bill; zero of not included on bill
131	BAVGCUSE*	months over which customer class historical use is averaged if included on bill; zero of not included on bill
132	BHISTUSE*	months back of individual customer historical use if included on bill; zero of not included on bill
133	BPERUSE*	billing period use included on bill
134	BAVGDUSE*	average daily use on the bill
135	BAVGDCOST*	average daily cost on the bill
136	BCMB*	services billed together with water on the bill W = water only WS = water and sewer only WO = water and other (no sewer) WSO = water, sewer and other
137	BRATES*	water rate schedule appears on the bill
138	BTIPS*	water conservation tips appear on bill
139	OUTRATES*	separate charges for connections outside the service area [note: these rates are not included in the database]
140	MEETFRQ*	meter reading frequency (in days)
131	REVSTAB*	revenue stabilization feature employed by utility

TABLE A-6. MODELING FIELDS [generated by Bill Model programs]		
*Indicates a new field added for the 1997 update.		
#	**name**	**definition**
79	WATRUSED	user specified water use
80	WATRBILL	water service bill at specified water usage (WATRUSED)
122	SEWRUSED	sewer use calculated from the user specified water use (WATRUSED)
123	SEWRBILL	sewer service bill at calculated sewer usage (SEWRUSED)
124	TOTLBILL	combined water and sewer service bill (WATRBILL+SEWRBILL)
125	MARGUSED	same as WATRUSED
126	SMARGUSE	same as SEWRUSED
127	MARGWATR	water marginal price at specified water usage (MARGUSED)
128	MARGSEWR	sewer marginal price at specified sewer usage (SMARGUSE)
129	MARGTOTL	combined water and sewer price (MARGWATR+MARGSEWR)

Appendix B

Screening Process for Large Commercial and Industrial Classes

Step-Wise Screening Process for Large Commercial and Industrial Class Tables

1. Does the tariff sheet or rate ordinance specify only residential rates?

   Yes - exclude No - include

2. Is it known that the utility does not have 2" lines to serve large commercial or 6" lines to serve industrial customers (as applicable)?

   Yes - exclude No - include

3. Is the service area population reported in the *1995 Estimated Water Use Report* and it is greater than or equal to 15,000[1]?

   Yes - include No - go to step 4

4. Does the utility have an explicit or implicit large commercial or industrial customer class (as applicable)?

   Yes - include No - go to step 5

5. Is the Industrial/Commercial percent of water use, as reported in the *1995 Estimated Water Use Report* greater than or equal to 5%[2]?

   Yes - include No - exclude

6. Is there sufficient gross water use after average residential demands have been satisfied, as reported in the *1995 Estimated Water Use Report*, to support a large commercial or industrial customer at the applicable modeled monthly usage[3]?

   Yes - include No - exclude

7. For Sewer and Combined Water and Sewer Tables Only - Is the sewer rate structure type Flat or Other (commode based)?

   Yes - exclude No - include

---

[1]The average service area population for utilities reporting industrial/commercial use.

[2]The median percentage of reported industrial/commercial use.

[3]The equation used is:
(gross water use x 1,000,000 x 30) - (population x 80 gpcd x 30) - 374,000 or 1,000,000, as applicable. Eighty is the District-wide average gallons per capita daily residential use. If the remainder was greater than zero, the utility was included.