



Caroline County Water and Sewer Rate Analysis



Feb 10, 2009

Rate Overview

- Utilities Goal
- Utilities Rate Objective
- Winter Usage for Summer Billing
- Tiered Rates
- Irrigation Rates
- Milford System Integration
- Eliminate Meter Rental Fees
- Capacity Charge (fixed fee)
- Proposed Rates & Structures
- Availability Fees Structure

Utilities Goal

“To establish a viable self sustaining enterprise system that is accountable to all of the shareholders to include the Customers, Board of Supervisors, Regulatory Agencies, General Public and the Environment.”

Utilities Rates Objective

The utilities department will need to continue to develop a rate structure which will provide sufficient revenues to finance operations, maintenance associated with the County's Utility systems & Debt Service. These rate structures will need to be reviewed on an annual basis to ensure that the utilities department will be a self sustaining enterprise fund.

Winter Usage for Summer Billing

- Sewer fees are billed using the water meter consumption due to the inability to meter sewer usage in a cost effective way.
- This impacts the users who are using water for outdoor activities i.e. watering landscape, washing vehicles, filling pools and sprinkler systems.
- This method allows us to average a users water usage during the months of Dec., Jan., and Feb. and apply them to the summer usage billing for June, July and Aug. We then add a 25% increase to the winter usage calculation. The customer is then billed the lesser of the calculated winter average bill or actual usage.

Tiered Rate Structure

- This rate structure allows us to assess fees based on gallons of usage that impact users with higher consumption.
- Tier 4 has the highest rate per gallon and is designed to assist with water conservation.

Irrigation Rates

- Irrigation meters are currently charged the same rate as a residential connection plus a meter capacity fee if applicable.
- As Irrigation Meters are not a necessity and their usage impacts the water system in an unfavorable way. Irrigation Rates have been developed to limit their usage with out unnecessary liability to the system.
- There are currently 12 Irrigation meters in the system.

	<u>Actual</u> <u>2005</u>	<u>Actual</u> <u>2006</u>	<u>Actual</u> <u>2007</u>	<u>Actual</u> <u>2008</u>	<u>Budget</u> <u>2009</u>	<u>Projected</u> <u>2010</u>
Revenues						
Bulk Permit Fee	975	2,441	1,750	1,400	0	1,400
Interest on Investments	34,530	58,515	90,126	53,568	55,543	55,543
Admin Fees	38,171	11,430	4,665	4,100	0	3,115
Refunds	14	2,000	30,776	0	0	0
User Charges - Milford	42,304	45,140	48,787	48,041	51,042	61,511
Other-Milford	1,862	1,516	1,460	2,188	1,230	1,230
Res Charges - Water	39,007	96,999	145,977	154,123	173,402	71,711
Res Charges - Sewer	79,548	143,609	194,331	204,399	229,968	257,270
Res Capacity						204,288
Irrigation						111,568
Comm Charges - Water	174,093	213,284	262,768	313,301	352,492	279,484
Comm Charges - Sewer	287,665	285,699	324,737	339,812	382,320	750,816
Comm Capacity						162,159
Service Charges-other	51,082	52,574	57,680	57,868	0	5,425
Operating Revenues	749,251	913,207	1,163,057	1,178,800	1,245,997	1,965,522
Expenditures						
Utilities Administration	0	0	35,024	255,289	353,222	487,474
Water Supply & Treatment	460,258	440,858	494,046	427,943	412,153	475,264
Wastewater Treatment	502,839	606,422	582,990	553,934	593,856	638,766
Utilities Collections	146,510	168,447	153,903	167,182	172,788	209,619
Milford	71,956	75,060	88,279	62,174	66,724	74,776
Transfer to CIP	815,692	37,788	253,482	0	0	50,000
Total Expenditures	1,997,255	1,328,575	1,607,724	1,466,522	1,598,743	1,935,898
Revenues over Expenditures	-1,248,004	-415,368	-444,667	-287,722	-352,746	29,624
Transfer from General Fund	1,248,004	415,368	444,667	287,722	352,746	0

Milford Cost -VS- County Cost for Operations & Maintenance for Water

	Milford	County
2008 Actual O&M Expences	\$62,174	\$427,943
2008 Comerical Income	\$5,361	\$352,492
Residential Expences =	<u>\$56,813</u>	<u>\$75,451</u>
Number of Resedential Customers	264	532
Rate per month	\$17.93	\$11.82

These rates are strictly O&M and do not include
Utilities Administration and Debt Services

Current Residential Rates

County System

Water User 0-6,000 gallons
(monthly billing)

- \$21.00 Capacity Charge
- Cost per 1,000 gallons above 6,000 gallons per month \$3.675

Sewer User 0-6,000 gallons
(monthly billing)

- \$23.10 Capacity Charge
- Cost per 1,000 gallons above 6,000 gallons per month \$4.20

Milford System

(Shown as monthly billing)

Water User 0-6,000 gallons

- \$11.00 Capacity Charge
- Cost per 1,000 gallons above 6,000 gallons per month \$1.60

Water User 0-18,000
gallons (quarterly billing)

- \$33.00 Capacity Charge
- Cost per 1,000 gallons above 6,000 gallons per month \$1.60

Sewer User

(No Sewer Rate For
Sanitary District)

Proposed Residential Water Rates

Capacity Fee - \$14.00 per bill

- **Tier - 1** - Water Used 0-4,000 gal.
\$1.25 per 1,000 gal. used
- **Tier - 2** -Water Used 4,000-8,000 gal.
\$1.50 per 1,000 gal. used
- **Tier - 3** - Water User 8,000–10,000 gal.
\$3.50 per 1,000 gal. used
- **Tier - 4** - Water User 10,000 - + gal.
\$4.00 per 1,000 gal. used

Percent of Customers Effected By Each Tier

County

Milford

■ Capacity Fee - \$14.00 per bill

0-2,000 = 88 or 17% / 2,000 - 4,000 = 132 or 24%

■ Tier - 1 - (41% of customers)

- Water Used 0-4,000 gal. \$1.25 per 1,000 gal. used

■ Tier - 2 - (39% of customers)

- Water Used 4,000-8,000 gal. \$1.50 per 1,000 gal. used

■ Tier - 3 - (10% of customers)

- Water User 8,000-10,000 gal. \$3.50 per 1,000 gal. used

■ Tier - 4 - (9% of customers)

- Water User 10,000 - + gal. \$4.00 per 1,000 gal. used

532 Residential Customers

■ Capacity Fee - \$14.00 per bill

0-2,000 = 80 or 30% / 2,000 - 4,000 = 72 or 28%

■ Tier - 1 - (58% of customers)

- Water Used 0-4,000 gal. \$1.25 per 1,000 gal. used

■ Tier - 2 - (27% of customers)

- Water Used 4,000-8,000 gal. \$1.50 per 1,000 gal. used

■ Tier - 3 - (5% of customers)

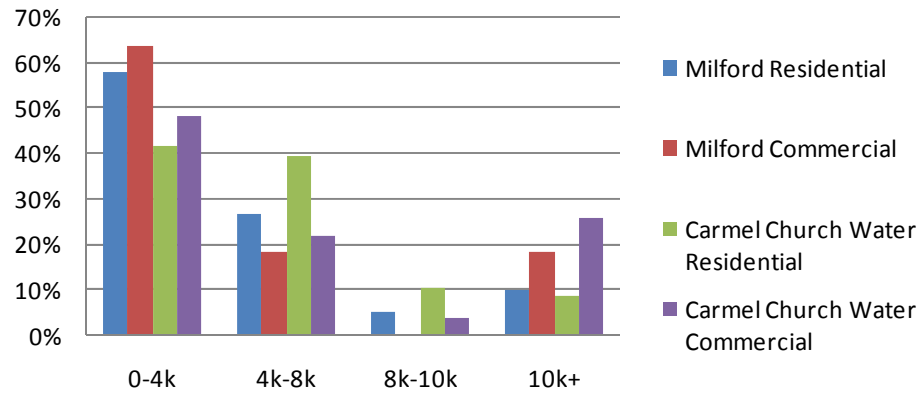
- Water User 8,000-10,000 gal. \$3.50 per 1,000 gal. used

■ Tier - 4 - (10% of customers)

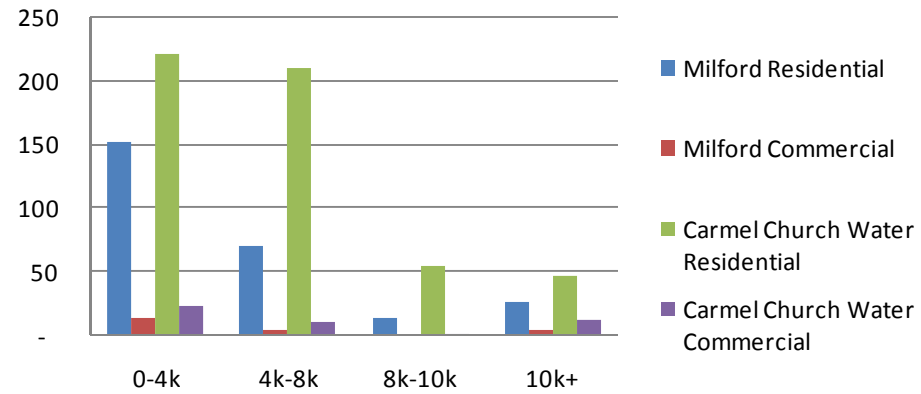
- Water User 10,000 - + gal. \$4.00 per 1,000 gal. used

264 Residential Customers

5/8" Customers Average Monthly Usage Ranges



5/8" Customers Average Monthly Usage Ranges



	Milford Residential	Milford Commercial	Carmel Church Water Residential	Carmel Church Water Commercial
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0-4k	58%	64%	41%	48%
4k-8k	27%	18%	39%	22%
8k-10k	5%	0%	10%	4%
10k+	10%	18%	9%	26%

Number of 5/8" Customers

	Milford Residential	Milford Commercial	Carmel Church Water Residential	Carmel Church Water Commercial
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0-4k	152	14	220	24
4k-8k	71	4	210	11
8k-10k	14	-	55	2
10k+	27	4	47	13
Total	264	22	532	50

Number of 5/8" Customers

Current County Rate -VS- Proposed Rate*

	Monthly <u>Usage</u>	Water <u>Bill</u>	Current Sewer <u>Bill</u>	Total <u>Bill</u>	Proposed Water <u>Bill</u>	Sewer <u>Bill</u>	Total <u>Bill</u>
Res. & Com. 5/8"	2,000	\$21.00	\$23.10	\$44.10	\$16.50	\$34.50	\$51.00
Res. & Com. 5/8"	4,000	21.00	23.10	44.10	19.00	51.00	70.00
Res. & Com. 5/8"	6,000	21.00	23.10	44.10	22.00	68.00	90.00
Res. & Com. 5/8"	8,000	28.35	31.50	59.85	25.00	85.00	110.00
Res. & Com. 5/8"	10,000	35.70	39.90	75.60	32.00	102.50	134.50
Commercial 1"	50,000	182.70	207.90	390.60	252.50	671.25	923.75
Commercial 2"	150,000	675.20	627.90	1,303.10	731.23	1,793.42	2,524.65

* Note: Assumes no winter averaging

System Combined Water

		Current			Proposed	
		Monthly Usage	Milford Water Bill	County Water Bill	Monthly Usage	Water Bill
Res.5/8	Tier - 1	2,000	\$11.00	\$21.00	2,000	\$16.50
Res.5/8	Tier - 1	4,000	\$11.00	\$21.00	4,000	\$19.00
Res.5/8	Tier - 2	6,000	\$11.00	\$21.00	6,000	\$22.00
Res.5/8	Tier - 3	8,000	\$14.20	\$28.35	8,000	\$25.00
Res.5/8	Tier - 4	10,000	\$17.40	\$35.70	10,000	\$32.00

County System

Proposed Residential Sewer Rates

- **Capacity Fee - \$18.00 per bill**
- **Tier - 1 - (36% of customers)**
 - Sewer Used 0-4,000 gal. \$8.25 per 1,000 gal. used
- **Tier - 2 - (29% of customers)**
 - Sewer Used 4,000-8,000 gal. \$8.50 per 1,000 gal. used
- **Tier - 3 - (11% of customers*)**
 - Sewer User 8,000–10,000 gal. \$8.75 per 1,000 gal. used
- **Tier - 4 - (24% of customers*)**
 - Sewer User 10,000 - + gal. \$9.50 per 1,000 gal. used

*Note – these % will decrease with the Winter Billing for summer use

County System

Current Commercial Rates

- Water and sewer user fees are the same as residential fees, plus a meter capacity fee as shown below.
 - Water \$21.00 (0-6,000 gal included and \$3.675 for each 1,000 gal over the 6,000 gal.)
 - Sewer \$23.10 (0-6,000 gal included and \$4.20 for each 1,000 gal over the 6,000 gal.)

- 5/8" No Fee
- 1" \$30.00 per month
- 1.5" \$65.00 per month
- 2" \$125.00 per month
- 3" \$250.00 per month
- 4" \$500.00 per month
- 6" \$1,000.00 per month

County System

Proposed Commercial Rates All Sizes

			Tier 1	Tier 2	Tier 3	Tier 4	
	Number of Customers	Capacity Charge	Up to	From Tier 1 Up to	From Teir 2 Up to	From Tier 3 Up to	
Water			\$1.25	\$1.50	\$3.50	\$4	\$ Per 1,000
5/8"	50	\$14	4,000	8,000	10,000	+	
1"	14	\$35	10,000	20,000	25,000	+	
1.5"	7	\$63	20,000	37,000	46,250	+	
2"	33	\$100	53,400	92,500	115,625	+	
3"	1	\$151	192,240	309,875	387,344	+	
6"	2	\$257	1,461,024	2,076,163	2,595,203	+	
Sewer			\$8.25	\$8.50	\$8.75	\$9.50	\$ Per 1,000
5/8"	35	\$18	4,000	8,000	10,000	+	
1"	13	\$45	10,000	20,000	25,000	+	
1.5"	7	\$81	20,000	37,000	46,250	+	
2"	32	\$129	53,400	92,500	115,625	+	
3"	1	\$194	192,240	309,875	387,344	+	
6"	2	\$331	1,461,024	2,076,163	2,595,203	+	

Comparison of Various Utility Systems within Virginia

Monthly Utility Bill
assuming 5,000 gal/month

<u>Utility System</u>	<u>Water</u>	<u>Wastewater</u>	<u>Total</u>	<u># Connections</u>
Greenville Water and Sewer Authority	\$45.24	\$98.41	\$143.65	1,770
Middleton, Town of	\$45.00	\$55.74	\$100.74	516
Buckingham County PSA	\$49.20	\$49.20	\$98.40	308
Campbell Co PSA	\$31.90	\$65.25	\$97.15	8,700
Onancock, Town of	\$33.71	\$61.30	\$95.01	606
Carroll Co PSA	\$38.50	\$46.50	\$85.00	2,200
Hailifax County Service Auth	\$28.00	\$56.75	\$84.75	40
Hamilton, Town of	\$40.00	\$44.50	\$84.50	484
Appomattox, Town of	\$33.00	\$50.35	\$83.35	672
Bowling Green, Town of	\$23.62	\$59.05	\$82.67	840
Washington County Service Auth	\$31.10	\$51.00	\$82.10	1,385
Gordonsville, Town of	\$32.45	\$48.37	\$80.82	744
Caroline County (Proposed)	\$20.50	\$59.50	\$80.00	796
Montgomery PSA	\$37.65	\$37.65	\$75.30	2,582
Fauquier Co Water & Sanitation Auth	\$30.42	\$42.05	\$72.47	5,407
Purcellville, Town of	\$24.75	\$44.90	\$69.65	2,200
Bedford Co PSA	\$32.50	\$35.00	\$67.50	8,870
Rapidan Service Authority	\$28.33	\$38.98	\$67.31	1,770
New Market, Town of	\$17.30	\$49.56	\$66.86	996
Hanover County	\$17.91	\$38.69	\$56.60	18,041
King George	\$24.60	\$31.95	\$56.55	1,650
Caroline County (current)	\$21.00	\$23.10	\$44.10	532
Spotsylvania County	\$21.64	\$21.66	\$43.30	25,864
Stafford County	\$13.77	\$26.89	\$40.66	32,592
Milford Sanitary District (current)	\$11.00	-	\$11.00	264

Current Availability Fee Structure

AVAILABILITY FEES

Availability Fees are assessed for all new connections to the system based on the anticipated consumption of each individual customer. A Minimum Availability Fee is assessed for all customers with a consumption of 400 gallons per day or less. All other Availability Fees are assessed per gallon of usage.

MINIMUM AVAILABILITY FEE	\$7,000
PER GALLON AVAILABILITY FEE	\$17.50/gallon

Proposed Availability Fee Structure

Meter Size	Water	Sewer	
5/8-3/4 inch meter	\$ 7,000.00	\$ 7,000.00	Multiplier
1 inch meter	\$ 17,500.00	\$ 17,500.00	2.5
1 1/2 inch meter	\$ 35,000.00	\$ 35,000.00	2
2 inch meter	\$ 56,000.00	\$ 56,000.00	1.6
3 inch meter	\$ 112,000.00	\$ 112,000.00	2
4 inch meter	\$ 179,200.00	\$ 179,200.00	1.6
6 inch meter	\$ 358,400.00	\$ 358,400.00	2



Deer Park Bottle
Water \$8.26 per gal



Internet Service
49.99 Per Month
(basic package)



Milk \$4.29 per gal.



Caroline County Water
Cost Per Gallon \$0.00125
(Tier 1)



TV Service
29.99 Per Month
(basic package)



Cell Phone Service
39.99 Per Month
(basic package)

Utilities Goal

“To establish a viable self sustaining enterprise system”

that is accountable to all of the shareholders
to include the Customers, Board of Supervisors,
Regulatory Agencies, General Public and the Environment.”