

# WATER

## 111 Attachment 1

### City of Moscow Mills

#### Appendix A: Modal Drinking Water User Charge Methodology

**Appendix A to Chapter 111-User Charge System  
Passed by Ordinance #841 on 12/17/18  
OPTION #1 2018 - WITH RETIREMENT**

This appendix presents the methodology to be used in calculating user charge rates and illustrates the calculations followed in arriving at the first year's user charges. The unit costs established in this appendix are based on estimates of expenses. The actual expenses that occur may differ from these estimates and certainly they will change as time passes. Therefore, the unit cost must be reestablished whenever necessary to reflect actual expenses. Once the system is in use, the expenses can be determined from operating records and the unit costs can be adjusted based on these figures. By using the total water metered to customers as a bases for setting the rate, the cost of water loss is distributed even among users.

**1. Expenses: The total annual expenses associated with the treatment works, as defined in article II, Section 8, are estimated as follows:**

<u>Item</u>	<u>Annual Expense</u>
Billing and Collection	\$ 18,450.00
Administration	\$ 4,800.00
Power and utilities	\$ 57,300.00
Labor (including fringe benefits)	\$ 161,774.55
Supplies	\$ 15,500.00
Replacement Costs (see Appendix C)	\$149,915.70
Debt Service	\$ 234,100.00
Fuel & Mileage	\$ 9,000.00
Insurance	\$ 15,125.00
Water Audit	\$ 3,100.00
Engineering	\$ 2,000.00
Legal expenses	\$ 3,000.00
Equipment repair/replacement & system improvements	\$ 70,300.00
Maintenance	\$ 10,000.00
Other (misc.)	\$ 2,450.00
Contracted Services Expense	\$ 7,155.00
Dues & Training	\$ 1,360.00
<b>Total Expenses</b>	<b>\$ 765,330.25</b>

**Revenues Received from Other Sources**

Dedicated Pers. Prop. & Real Estate Tax Revenue	\$ 162,600.00
Other Revenue (all other misc)	\$ 25,000.00
Other Revenue (specify)	\$ -
Other Revenue (specify)	\$ -
<b>Total Revenues form Other Sources:</b>	<b>\$ 187,600.00</b>
<b>Total Expenses to be Derived from User Charges:</b>	<b>\$ 577,730.25</b>

**2. Allocation of Expenses: The total operation and maintenance, including replacement expenses, is allocated in the following manner:**

<u>Minimum</u>		<u>Volume</u>	
Billing and Collection	\$ 18,450.00	Power & Utilities	\$ 57,300.00
Administration	\$ 4,800.00	Labor (including fringe benefits)	\$ 161,774.55
Debt Service* (net of other revenues)	\$ 46,500.00	Supplies	\$ 15,500.00
Replacement (see Appendix C)	\$ 149,915.70	Audit	\$ 3,100.00
		Fuel & Mileage	\$ 9,000.00
		Insurance	\$ 15,125.00
		Legal Expenses	\$ 3,000.00
		Engineering	\$ 2,000.00
		Equipment Repair/replace	\$ 70,300.00
		Maintenance	\$ 10,000.00
		Other (misc.)	\$ 2,450.00
		Contracted Services Expense	\$ 7,155.00
		Dues & Training	\$ 1,360.00
<b>Total</b>	<b>\$ 219,665.70</b>	<b>Total</b>	<b>\$ 358,064.55</b>

\* Note: The amount of debt service collected in the minimum bill is reduced by the revenues derived from the dedicated property & real estate taxes and other misc.

# MOSCOW MILLS CODE

### 3. Annual Metered Water, Billing and, Connection Information

Total water metered to customers	67,165,804 Gallons Per Year
Number of billing periods	12
Number of Service Connections	1,244

### 4. Volume Charge

$$\begin{aligned}
 \text{Volume Unit Charge} &= \frac{\text{Annual cost allocated to volume}}{\text{Total water metered to customers}} \\
 &= \frac{\$ 358,064.55}{67,165,804} \\
 &= \$ 0.005332 \text{ per gallon} \\
 &= \$ 3.500000 \text{ per 1000 gallons (rounded up)}
 \end{aligned}$$

### 5. Minimum Charge

$$\begin{aligned}
 \text{Minimum Charge} &= \text{Annual cost allocated to minimum/Number of service connections/Number of billing periods} \\
 &= \$ 23.00
 \end{aligned}$$

### 6. Example User Charge

Assume 5,000 gallons used.

$$\begin{aligned}
 \text{User Charge} &= \text{Minimum Charge} + [(Gallons Used/1,000) \times \text{Volume Charge per 1,000 gallons}] \\
 &= \$23.00 + [(5,000/1,000) \times \$3.50] \\
 &= \$ 40.50 \text{ per month}
 \end{aligned}$$

### Are rates sufficient?

Annual revenues generated from Minimum Charge	=	Minimum Charge per billing period x Number of Billing Periods x Number of Connections
Annual revenues generated from Minimum Charge	=	\$23.00 x 12 x 1,244
Annual revenues generated from Minimum Charge	=	\$ 343,344.00
Annual revenues generated from Residential Unit Charge	=	Volume Charge x Total Annual Flow in 1000 gallons
Annual revenues generated from Residential Unit Charge	=	\$3.50 x 67,165,804/1000
Annual revenues generated from Residential Unit Charge	=	\$ 235,080.31
Total Annual Revenues	=	Annual revenues generated from Minimum Charge + Annual revenues generated from Residential Unit Charge
Total Annual Revenues	=	\$343,344.00 + \$235,080.31
Total Annual Revenues	=	\$ 578,424.31
Budget Surplus/(Deficit)	=	Total Annual Revenues - Total Expenses to be Derived From User Charges
Budget Surplus/(Deficit)	=	\$578,424.31 - \$577,730.25
Budget Surplus/(Deficit)	=	\$694.06