

**FILED<sup>3</sup>**

**MAY 27 2011**

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

**Missouri Public  
Service Commission**

In the Matter of the Joint Application of )  
Aqua Missouri, Inc. and the City of Taos, )  
Missouri, for Authority to Acquire Certain Assets ) Case No. SO-2011-0331  
of Aqua Missouri, Inc., and in Connection )  
Therewith, Certain Other Related Transactions. )

**CITY OF TAOS' SECOND SUPPLEMENTAL RESPONSE TO FIRST SET OF STAFF**

**DATA REQUESTS TO CITY and REQUEST FOR EXPEDITED REVIEW**

COMES NOW, the City of Taos, by and through undersigned counsel, and for its second supplemental responses to the First Set of Staff Data Requests, states as follows:

**DATA REQUEST 1:**

To clarify our initial response, when the entire project becomes operational, the rates for former Aqua customers will be increased to the same amount as other new customers. See response to Data Request 3 below.

**DATA REQUEST 2:**

The facility plan (preliminary engineering report) and detailed design plans and specifications have been approved by the DNR.

**DATA REQUEST 3:**

Using the methodology attached, based upon the bids received by the City for completion of the entire sewer project, the City's engineers have estimated that the monthly fee for each user will be approximately \$68.20. This rate reflects the current construction budget including contingencies and 197 users being inherited from Aqua MO. The voters in Taos that approved the bond issue to construct the project were told that the City's goal rate was between \$50-70 per month.

**DATA REQUEST 11:**

Additionally the City will be eliminating several discharges from the Aqua facilities that flow through the city and need to be upgraded. The private certificated provider had no plans to eliminate the discharges or serve the citizens of Taos.

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**CERTIFICATE OF SERVICE**

The undersigned certifies that a true and correct copy of the foregoing document was sent by electronic mail or by U.S. Mail, postage prepaid, and/or hand-delivered on May 27, 2011, to the following:

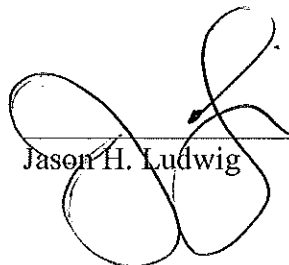
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Jason H. Ludwig

## Appendix A to User Charge System

This appendix presents the methodology to be used in calculating user charge rates and surcharges, illustrates the calculations followed in arriving at the first year's user charges and surcharges. The unit costs established in this appendix are based on estimates of expenses, including those associated with transporting and treating inflow and infiltration, and loadings. The actual expenses and loadings 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 and loadings. Once the system is in use, the expenses and loadings can be determined from operating records and the unit costs can be adjusted based on these figures.

**Expenses:** The total annual expenses associated with the treatment works, as defined in Article 9, Section 9, are estimated as follows:

<u>Item</u>	<u>Annual Expense</u>	
Debt Service (See Side Calculation)	\$ 227,220.00	<b>Estimated Project Cost</b>
Billing and Collection	\$ 2,000.00	\$6,150,000.00
Administration	\$ 10,000.00	<b>MDNR Clean Water 40% Grant</b>
Chief Operator	\$ 15,000.00	\$2,000,000.00
Assistant Operator/Lab Testing	\$ 5,000.00	<b>MDNR Rural Sewer Grant</b>
Contract Labor/Repairs	\$ 5,000.00	\$275,000.00
Insurance	\$ 10,000.00	<b>Clean Water SRF - Loan</b>
Payroll Taxes	\$ 8,000.00	Amount (A/P) \$3,500,000.00
Sludge Hauling - \$300 Bi-weekly	\$ 7,800.00	Loan Term (n) 20 Years
Gas, Oil, Fuel	\$ 3,000.00	Interest Rate (i) 2.62%
Taxes and License	\$ 3,000.00	(A/P, i, n) 0.06492
Replacement Costs (see Appendix B)	\$ 9,562.40	<b>Annual Debt Service</b>
Chemicals	\$ 2,000.00	\$227,220.00
Power	\$ 14,400.00	
Headworks Maintenance	\$ 500.00	
Collection System Repairs & Maintenance	\$ 1,000.00	
Flow Measurement Calibration & Maintenance	\$ 500.00	
Aqua Missouri Purchase (See Side Calculation)	\$ 29,551.00	<b>Aqua Missouri Purchase</b>
Miscellaneous Expenses	\$ 2,000.00	Amount (A/P) \$290,000.00
Reserves	\$ 5,000.00	Loan Term (n) 20 Years
		Interest Rate (i) 8.00%
		(A/P, i, n) 0.1019
		<b>Annual Debt Service</b>
		\$29,551.00
<b>Total Expenses:</b>	<b>\$360,533.40</b>	
<b>Revenues Received from Other Sources</b>		
Dedicated Capital Improvement Sales Tax Revenue	\$ -	
Other Revenue (specify)	\$ -	
Other Revenue (specify)	\$ -	
Other Revenue (specify)	\$ -	
Other Revenue (specify)	\$ -	
<b>Total Revenues from Other Sources:</b>	<b>\$ -</b>	
<b>Total Expenses to be Derived From User Charges:</b>	<b>\$ 360,533.40</b>	

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

Annual Dollars to Treat Annual Flow = XX% annual cost allocated to flow x (total annual O&M budget minus labor, administration, and % of debt for minimum service charge)

$$= \boxed{40\%} \times \$ 360,533.40 - \$ 282,220.00$$

$$= \$ 31,325.36$$

Annual Dollars to Treat Annual BOD = XX% annual cost allocated to BOD x (total annual O&M budget minus labor, administration, and % of debt for minimum service charge)

$$= \boxed{30\%} \times \$ 360,533.40 - \$ 282,220.00$$

$$= \$ 23,494.02$$

Annual Dollars to Treat Annual SS = XX% annual cost allocated to SS x (total annual O&M budget minus labor, administration, and % of debt for minimum service charge)

$$= \boxed{30\%} \times \$ 360,533.40 - \$ 282,220.00$$

$$= \$ 23,494.02$$

Annual Dollars to Treat Annual Other = XX% annual cost allocated to Other Pollutant x (total annual O&M budget minus labor, administration, and % of debt for minimum service charge)

$$= \boxed{0\%} \times \$ 360,533.40 - \$ 282,220.00$$

$$= \$$$

**100%**

*(Note: In this example, the billing, collection, administration, and debt expenses are deducted from the total O&M budget at this point because each user will pay the same for these expenses per billing period. See paragraph 5 for Minimum Charge calculation. In some situations other appropriate expenses may be handled in the same manner. Costs associated with debt can be collected as part of the unit/volume charge or as a combination of the Minimum Charge and Unit Charge. The ordinance writer should adjust the allocation of percentages to Flow, BOD, and SS to fit their specific type of treatment works.)*

## 2. Loadings

The number of system users is:

**408** Customers

The initial hydraulic loading (less I/I) is estimated to be:

**37,230,000** Gallons/year

The initial BOD loading is estimated to be:

**77,400** Pounds/year

The initial SS loading is estimated to be:

**77,400** Pounds/year

The initial Other Pollutant (specify) loading is estimated to be:

**-** Pounds/year

*(Note: If the loading estimates for BOD, SS, and Other Pollutant(s), are based on historical data from the Treatment Works and the concentration is different from the definition of Normal Domestic Wastewater, please see note in paragraph 6 before completing the Residential Unit Charge Calculation.)*

Normal Domestic BOD based on above loadings:

**250** mg/l

Normal Domestic SS based on above loadings:

**250** mg/l

Normal Domestic Other Pollutant based on above loadings:

**-** mg/l

**4. Unit Costs:**

Initial unit cost for flow in \$/gallon	=	<u>Annual \$ to treat annual flow</u> Estimated annual hydraulic loading - inflow & infiltration
	=	$\frac{\$ 31,325.36}{37,230,000}$
	=	\$ 0.000842 per gallon
Initial unit cost for BOD in \$/pound	=	<u>Annual \$ to treat annual BOD</u> Estimated annual BOD loading
	=	$\frac{\$ 23,494.02}{77,400}$
	=	\$ 0.303541 per pound
Initial unit cost for SS in \$/pound	=	<u>Annual \$ to treat annual SS</u> Estimated annual SS loading
	=	$\frac{\$ 23,494.02}{77,400}$
	=	\$ 0.303541 per pound
Initial unit cost for Other Pollutant(s) in \$	=	<u>Annual \$ to treat annual Other Pollutant(s)</u> Estimated annual Other Pollutant(s) loading
	=	$\frac{\$ .}{.}$
	=	\$ . per pound

(Note: The unit costs for BOD, SS, and Other Pollutants are to be inserted in Article IV, Section 4 of the ordinance.)

**5. Minimum Charge:**

Number of users:	408	
Billing Period:	12	
Annual Debt Service	=	\$ 227,220.00
Labor & Administration	=	\$ 55,000.00
Other	=	\$ .
Total Annual Minimum Cost	=	\$ 282,220.00
Minimum Charge	=	Total Annual Minimum Cost/Billing Period/Number of Users
	=	\$ 57.65

(Note: The Annual Debt Service collected through the minimum charge is the Total Annual Debt Service less any other revenues dedicated to debt retirement as indicated in the budget.)

(Note: The minimum charge, per user, per billing period is to be inserted in Article IV, Section 3 of the ordinance.)

#### **6. Residential User Unit Charge:**

The residential user unit charge is calculated as follows using the Normal Domestic pollutant concentrations as defined in Article II, Section 2 of this ordinance. **Note: If the estimated loadings in paragraph 3 result in pollutant concentrations that are different than those defined in Article II, Section 2 of this ordinance, then the definition must be revised or the contributors of extra strength wastewater must be identified (see paragraph 7).**

$$\text{Residential Unit Charge} = \text{unit flow charge} + [(\text{unit BOD charge}) \times (\text{BOD}_{\text{ND}}) \times (.00834)] + [(\text{unit SS charge}) \times (\text{SS}_{\text{ND}}) \times (.00834)]$$

Where:

Residential unit charge is in \$/1,000 gallons;  
Unit BOD charge is in \$/pound of BOD from paragraph 4;  
Unit SS charge is in \$/pound of SS from paragraph 4;  
 $\text{BOD}_{\text{ND}}$  is the Normal Domestic BOD strength in milligrams per liter (mg/l) as defined in Article II, Section 2, of the ordinance;  
 $\text{SS}_{\text{ND}}$  is the Normal Domestic SS strength in milligrams per liter (mg/l) as defined in Article II, Section 2, of the ordinance; and,  
.00834 is a unit conversion factor.

$$= \$0.0008 \times 1000 + [(\$0.3035 \times (250 \text{ mg/l}) \times (0.00834))] + [(\$0.3035) \times (250 \text{ mg/l}) \times (0.00834)]$$

$$= \$2.11 \text{ per 1,000 gallons}$$

(Note: The total residential unit charge is to be inserted in Article IV, Section 3, of the ordinance.)

An example calculation of a monthly residential charge is as follows:

$$\text{Assumed flow} = 5,000 \text{ gallons}$$

$$\$57.65 + [(5,000/1,000) \times \$2.11] = \$68.20 \text{ per month}$$

#### **7. Extra Strength Users:**

For users who contribute wastewater that has a greater strength than Normal Domestic wastewater, the user charge will be calculated as follows:

$$\text{Total Monthly Charge for Extra Strength User} = \text{Minimum Charge} + \text{Residential Unit Charge} + \text{surchage for BOD (if applicable)} + \text{surchage for SS (if applicable)} + \text{surchage for other pollutant(s) if applicable.}$$

$$\text{Total Monthly Charge for Extra Strength User} = \text{Minimum Charge} + v(\text{Residential Unit Charge}) + v(\text{unit BOD charge})(\text{BOD}_{\text{ES}} - \text{BOD}_{\text{ND}})(.00834) + v(\text{unit SS charge})(\text{SS}_{\text{ES}} - \text{SS}_{\text{ND}})(.00834) + \text{and so on for any other pollutant(s) if applicable.}$$

Where:

Total monthly charge to extra strength user is in dollars;  
Minimum charge is in dollars as calculated in paragraph 5;  
 $v$  is the volume of wastewater in 1000 gallons discharged by the extra strength user during the month;  
Residential unit charge is in \$/1000 gallons as calculated in paragraph 6  
Unit BOD charge is in \$/pound BOD from paragraph 4;  
Unit SS charge is in \$/pound SS from paragraph 4;  
 $\text{BOD}_{\text{ES}}$  is the average BOD concentration in milligrams per liter (mg/l) contributed by the extra strength user during the

month;  
 $SS_{ES}$  is the average SS concentration in milligrams per liter (mg/l) contributed by the extra strength user during the month;  
 $BOD_{ND}$  is the Normal Domestic BOD strength in mg/l as defined in Article II, Section 2, of the ordinance;  
 $SS_{ND}$  is the Normal Domestic SS strength in mg/l as defined in Article II, Section 2, of the ordinance; and,  
.00834 is a unit conversion factor.

An example user charge calculation for an extra strength user follows:

Assumed flow	=	30,000 gallons
Assumed $BOD_{ES}$	=	400 mg/l
Assumed $SS_{ES}$	=	350 mg/l
Monthly Charge	=	$\$57.65 + [(30,000/1000)(\$2.11)] + [(30,000/1000)(\$0.30)(400 - 250)(0.00834)] + [(30,000/1000)(\$0.30)(350 - 250)(0.00834)]$
Monthly Charge	=	$\$57.65 + \$63.30 + \$11.39 + \$7.59$
Monthly Charge	=	<del>139.94</del>

#### ~~Are rates sufficient?~~

Annual revenues generated from Minimum Charge	=	Minimum Charge per billing period x Number of Billing Periods x Number of Customers
Annual revenues generated from Minimum Charge	=	$\$57.65 \times 12 \times 408$
Annual revenues generated from Minimum Charge	=	<del>\$ 282,254.40</del>
Annual revenues generated from Residential Unit Charge	=	Residential Unit Charge x Total Annual Flow in 1000 gallons
Annual revenues generated from Residential Unit Charge	=	$\$2.11 \times \text{Gallons/year}/1000$
Annual revenues generated from Residential Unit Charge	=	<del>\$ 78,555.30</del>
Total Annual Revenues	=	Annual revenues generated from Minimum Charge + Annual revenues generated from Residential Unit Charge
Total Annual Revenues	=	$\$282,254.40 + \$78,555.30$
Total Annual Revenues	=	<del>\$ 360,809.70</del>
Budget Surplus/(Deficit)	=	Total Annual Revenues - Total Expenses to be Derived From User Charges
Budget Surplus/(Deficit)	=	$\$360,809.70 - \$360,533.40$
Budget Surplus/(Deficit)	=	<del>\$ 276.30</del>