

**RICHMOND  
WATER & SEWER**

**WASTEWATER INDUSTRIAL BILLING POLICY**

The following policy is for wastewater billing for the Industry Class in the Town of Richmond. This identifies how the fees will be calculated and the billing schedule, but does not include the revenue in the approved rates for the system. The rates are determined at the Annual Meeting each May and are listed on the rate chart as "Industry". Since there is not an extraordinary need from Industry Class for water at this time, water will be billed to them at the commercial rate.

**Industrial Class Wastewater Billing**

The waste water billing for industrial users will consist of three parts: 1) Biochemical Oxygen Demand (BOD) load charges; 2) Fixed Rate charges; and 3) Flow charges. The billing relies in part on the State Report submitted monthly by the individual businesses in the Industry Class. This report is referenced below.

**BOD Load Charges**

The following calculations show how the variable charges are calculated for the excess BOD that the Industry sends to the facility. This is to account for the variable costs incurred by the facility to treat wastewater with higher than average BOD.

**Step 1:** Start with the total gallons for the month. This is found in the column on the State Report labeled "Flow Gallons". Use the "TOTAL" figure at the bottom of this column. Enter this figure on the billing sheet in the cell labeled "Flow Gallons for the Month".

**Step 2:** The cell below this labeled "Monthly Flow in MGD for BOD" will then auto populate with a formula which divides the above figure by 1,000,000 to get Millions of Gallons Per Day (MGD)

**Step 3:** Fill in the "BOD strength per state report, mg/L". This is found in the column on the State Report labeled "BOD mg/l". Use the "Average" figure at the bottom of this column. Enter this figure on the billing sheet in the cell labeled "BOD strength per state report, mg/L"

**Step 4:** The sheet will use a formula to calculate the "Total BOD lbs (monthly flow in MGD X 8.34 X BOD strength)". The formula is the monthly flow in millions of gallons per day X 8.34 (which is the weight of one gallon of water in pounds) X the BOD strength.

**Step 5:** A formula calculates for the cell labeled "Less normal load (monthly flow in MGD X 8.34 X 250 BOD strength)". This formula is calculating what an average BOD would be for wastewater. It is the same formula as in Step 4 except it uses an industry standard of 250 mg/l for the BOD strength. The result is what would be expected for BOD from non-industry wastewater.

**Step 6:** "Excess loading (total BOD lbs – normal load)" is calculated with a formula in the sheet which subtracts the normal BOD load (Less normal load (monthly flow in MGD X 8.34 X 250 BOD strength)) from the Industry's BOD load (Total BOD lbs (monthly flow in MGD X 8.34 X BOD strength)). This results in the amount of excess BOD load that is contained in the Industry's wastewater over the load

found in average wastewater.

**Step 7:** The rate is calculated by taking the budgeted wastewater load costs for the year (These are shown at the bottom of the sheet and are a total of the variable costs associated with wastewater treatment. The total variable cost is in the line at the bottom of the sheet labeled "Wastewater Load Costs (WWLC)") divided by the total pounds of BOD the facility treats in a year. (this is shown at the bottom of the sheet as "Total Influent BOD Pounds") This is shown as "BOD cost calculation: WWLC / lbs of BOD per yr for the WWTF" on the sheet and stays constant for the fiscal year.

At the end of Step 7 the total amount owed for BOD is shown in the cell labeled "MONTHLY BOD COST ABOVE NORMAL LOAD"

### **Fixed Rate Charges**

The Industrial user will pay a Commercial base rate on a monthly basis. This shall be the annual base rate for the Commercial class, divided by 12. They will also pay a surcharge to reserve the load capacity for the excess BOD of 15%.

**Step 1:** Enter the commercial annual wastewater fixed rate in the cell referenced as "Commercial/Government Wastewater base rate"

**Step 2:** There is a formula in the cell referenced as "Monthly Base Rate for Industry", which takes the commercial base rate and divides it by 12.

**Step 3:** There is a formula in the cell referenced as "Fee to reserve loading (15% x Monthly Base Rate for Industry)" which multiplies the "Monthly Base Rate for Industry" by 0.15.

**Step 4:** The results of steps 2 and 3 are added together by a formula in the cell referenced as "MONTHLY BASE RATE CHARGES". This is the total monthly base rate for Stone Corral.

### **Flow Charges**

The Flow charge will be based upon the Commercial wastewater flow charge rate per 1,000 gallons. For Commercial and Residential accounts the wastewater flow is calculated using the water flow numbers, assuming that all the water that goes into a building also goes out in the form of wastewater. For the Industrial users this is not the case as some water that flows into the building leaves in the form of beer, high strength waste, or solids in the holding tank. In order to get an accurate calculation for how much water leaves the facility in the form of wastewater the following procedure is used:

**Step 1:** The Industrial user will supply water meter reading from the beginning and end of each month. Calculate the gallons used for the month and enter it into the cell referenced as "Water usage for the month based on water meter".

**Step 2:** This step subtracts the gallons of beer produced. This is found in the column on the State Report labeled "Beer produced gallons". Use the "Total" figure at the bottom of this column. Enter this

figure on the billing sheet in the cell labeled “minus beer produced”

**Step 3:** This step subtracts the gallons of high strength beer waste. This is found in the column on the State Report labeled “HSWB gallons”. Use the “Total” figure at the bottom of this column. Enter this figure on the billing sheet in the cell labeled “minus high strength beer waste (HSBW)”

**Step 4:** This step subtracts the gallons of solids from the holding tank. This is found in the column on the State Report labeled “SFHT gallons”. Use the “Total” figure at the bottom of this column. Enter this figure on the billing sheet in the cell labeled “minus solids from holding tank (SFHT)”

**Step 5:** A formula in the cell referenced as “Total wastewater to be billed for flow:” will subtract the figures in Steps 2, 3 and 4 from the total water in Step 1. This is now the total amount of water that leaves the building and flows to the wastewater facility. The BOD gallons are not subtracted because the “BOD Load Charges” only charged for excess BOD. This water is now being billed at the commercial rate as if it is flowing to the wastewater facility with an average BOD strength.

**Step 6:** Enter the commercial metered rate in the cell referenced as “Commercial metered rate Wastewater rate per 1000 gallons”.

**Step 7:** “MONTHLY FLOW COST” is calculated with a formula that multiplies “Total wastewater to be billed for flow” by 0.001 to get it into thousands of gallons and multiplies that result by “Commercial metered rate Wastewater rate per 1000 gallons”. The result is the metered cost of wastewater.

### Final Bill

The final bill is calculated by a formula in the cell referenced “TOTAL, ALL REGULAR COSTS TO BE BILLED FOR THIS MONTH”. The formula adds together “MONTHLY BOD COST ABOVE NORMAL LOAD” and “MONTHLY BASE RATE CHARGES” and “MONTHLY FLOW COST”

### Billing Schedule

The billing for Industrial users shall be compiled and billed monthly, with a 30-day due date. If the Industrial user fails to complete or file the tests or reports required to calculate the monthly bill, an estimated bill based on the most recent three month reported monthly flow and loading composites available will be generated.

Adopted: 10.7.2019

  
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