


**CITY OF LAFOLLETTE  
BOARD OF PUBLIC UTILITIES – WATER DEPARTMENT**

**AWWA WATER AUDIT REPORTING WORKSHEET**



**AWWA Free Water Audit Software:  
Reporting Worksheet**

WAS v5.0  
American Water Works Association  
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Click to access definition

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Water Audit Report for: **LaFollette Utilities Board (0000374)**

Reporting Year: **2019**    7/2018 - 6/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

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To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

**WATER SUPPLIED**

----- Enter grading in column 'E' and 'J' ----->

|                          |        |         |       |
|--------------------------|--------|---------|-------|
| Volume from own sources: | + ? 9  | 738.591 | MG/Yr |
| Water imported:          | + ? 9  | 0.000   | MG/Yr |
| Water exported:          | + ? 10 | 0.000   | MG/Yr |

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**WATER SUPPLIED:**    **731.278** MG/Yr

**Master Meter and Supply Error Adjustments**

|       |   |       |        |   |       |
|-------|---|-------|--------|---|-------|
| Pcnt: | 7 | 1.00% | Value: |   |       |
|       | + | -     | +      | - | MG/Yr |
|       | + | -     | +      | - | MG/Yr |
|       | + | -     | +      | - | MG/Yr |

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

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**AUTHORIZED CONSUMPTION**

|                     |        |         |       |
|---------------------|--------|---------|-------|
| Billed metered:     | + ? 10 | 414.238 | MG/Yr |
| Billed unmetered:   | + ? 10 | 0.000   | MG/Yr |
| Unbilled metered:   | + ? 9  | 101.539 | MG/Yr |
| Unbilled unmetered: | + ?    | 9.141   | MG/Yr |

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**    **524.918** MG/Yr

Click here: ? for help using option buttons below

Pcnt: 1.25%    Value: MG/Yr

Use buttons to select percentage of water supplied OR value

Pcnt: 0.25%    Value: MG/Yr

0.25%    Value: MG/Yr

0.25%    Value: MG/Yr

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**WATER LOSSES (Water Supplied - Authorized Consumption)**    **206.360** MG/Yr

**Apparent Losses**

Unauthorized consumption: + ? 1.828 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: + ? 9 0.000 MG/Yr

Systematic data handling errors: + ? 1.036 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**    **2.864** MG/Yr

**Real Losses (Current Annual Real Losses or CARL)**

Real Losses = Water Losses - Apparent Losses:    **203.496** MG/Yr

**WATER LOSSES:**    **206.360** MG/Yr

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**NON-REVENUE WATER**

**NON-REVENUE WATER:**    **317.040** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

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**SYSTEM DATA**

|  |       |        |                 |
|--|-------|--------|-----------------|
| Length of mains:                                   | + ? 9 | 320.0  | miles           |
| Number of active AND inactive service connections: | + ? 9 | 10,766 |                 |
| Service connection density:                        | ?     | 34     | conn./mile main |

Are customer meters typically located at the curbside or property line?     Yes    (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: + ?

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 9 125.0 psi

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**COST DATA**

|   |        |             |  |
|---|--------|-------------|--|
| Total annual cost of operating water system:            | + ? 10 | \$4,474,024 | \$/Year  |
| Customer retail unit cost (applied to Apparent Losses): | + ? 10 | \$13.04     | \$/1000 gallons (US)   |
| Variable production cost (applied to Real Losses):      | + ? 10 | \$589.54    | \$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses |

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**WATER AUDIT DATA VALIDITY SCORE:**

\*\*\* YOUR SCORE IS: 89 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Unauthorized consumption

3: Systematic data handling errors

See Independent Auditor's Report.

**CITY OF LAFOLLETTE**  
**BOARD OF PUBLIC UTILITIES – WATER DEPARTMENT**  
**AWWA WATER AUDIT REPORTING WORKSHEET (Continued)**

| AWWA Free Water Audit Software:<br>System Attributes and Performance Indicators   |  | WAS v6.0<br>American Water Works Association<br>Copyright © 2014. All Rights Reserved   |
|---|--|---|
| Water Audit Report for: <b>LaFollette Utilities Board (0000374)</b>   |  |   |
| Reporting Year: <b>2019</b> <b>7/2018 - 6/2019</b>  |  |   |
| *** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 89 out of 100 ***  |  |   |
| <b>System Attributes:</b>   |  |   |
|   | Apparent Losses:   | 2.864 MG/Yr   |
|   | + Real Losses:   | 203.496 MG/Yr   |
|   | = <b>Water Losses:</b>                                       | <b>206.360 MG/Yr</b>  |
| ?   | Unavoidable Annual Real Losses (UARL):                       | 152.67 MG/Yr  |
|   | Annual cost of Apparent Losses:                              | \$37,344  |
|   | Annual cost of Real Losses:                                  | \$119,969 <span style="float: right; font-size: small;">Valued at Variable Production Cost<br/>Return to Reporting Worksheet to change this assumption</span> |
| <b>Performance Indicators:</b>  |  |   |
| Financial:  | Non-revenue water as percent by volume of Water Supplied:    | 43.4%   |
|   | Non-revenue water as percent by cost of operating system:    | 5.0% <span style="float: right; font-size: small;">Real Losses valued at Variable Production Cost</span>  |
| Operational Efficiency:   | Apparent Losses per service connection per day:              | 0.73 gallons/connection/day   |
|   | Real Losses per service connection per day:                  | 51.79 gallons/connection/day  |
|   | Real Losses per length of main per day*:                     | N/A   |
|   | Real Losses per service connection per day per psi pressure: | 0.41 gallons/connection/day/psi   |
|   | From Above, Real Losses = Current Annual Real Losses (CARL): | 203.50 million gallons/year   |
| ?   | Infrastructure Leakage Index (ILI) [CARL/UARL]:              | 1.33  |
| * This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline |  |   |