



Date Submitted: 4/20/2022

## Water Use Efficiency Annual Performance Report - 2021

WS Name: BONNEY LAKE WATER DEPARTMENT CITY

Water System ID# : 07650 WS County: PIERCE

Report submitted by: Todd Tandecki

### Meter Installation Information:

Estimate the percentage of metered connections: 100%

If not 100% metered – Did you submit a meter installation plan to DOH? No

Within your meter installation plan, what date did you commit to completing meter installation?

Current status of meter installation:

### Production, Authorized Consumption, and Distribution System Leakage Information:

12-Month WUE Reporting Period 01/01/2021 To 12/31/2021

Incomplete or missing data for the year? No

If yes, explain:

<b>Total Water Produced &amp; Purchased (TP)</b> – Annual volume gallons	1,331,599,000 gallons
<b>Authorized Consumption (AC)</b> – Annual Volume in gallons	1,249,752,688 gallons
Distribution System Leakage – Annual Volume TP – AC	81,846,312 gallons
Distribution System Leakage – DSL = $[(TP - AC) / TP] \times 100 \%$	6.1 %
3-year annual average - %	8.0 % 2019, 2020, 2021

### Goal-Setting Information:

Enter the date of most recent public forum to establish WUE goal: 03/03/2018

Has goal been changed since last performance report? No

*Note: Customer goal must be re-established every 6 years through a public process.*

### Customer WUE Goal (Demand Side):

*Achieve additional system wide average water use reduction of 5% by the year 2010 and 10% by the year 2024 with 2004 as the base year. Increase awareness among all water users of the value and importance of conserving water and all of the methods available to achieve reductions in water use.*

### Customer (Demand Side) Goal Progress:

The initial baseline per capita consumption in 2004 was 100 GPD. In 2021 the per capita consumption was 90 GPD. The five-year average per capita consumption is 87 GPD. The City continues to educate customers and encourage conservation through the annual Consumer Confidence Report (CCR), utility bill stuffers, printed news sources, and social media outlets including the City website, Facebook, and the City Blog. The City continues to provide customers with water consumption history on their utility bills and notifies customers of higher-than-normal consumption during the monthly reading and billing cycles. The City continues to use a four-tier rate structure during higher demand summer months, and a two-tier rate structure during the winter months. With the continued efforts to implement an AMR/AMI metering system, the City is able to provide customers with detailed account information and educate them on how and when their water is used. The City also conducts an annual leak detection survey and alerts customers to service line leaks detected during the survey.

### Additional Information Regarding Supply and Demand Side WUE Efforts

*In 2021 the City saw a decrease in the DSL from 8.11% down to 6.15%. The City continues to budget \$250,000 - \$300,000 annually to replace water meters with new AMR meters. The budget amount allows for the replacement of approximately 10% of the systems meters annually. The City continues to aggressively follow up on 'zero consumption' meters identified during monthly read and billing cycles and replaces all that are found to be faulty as soon as possible. The City also continues conducting an annual leak detection survey covering approximately 20-25% of the entire distribution system. The survey is a 'point to point' survey that listens to all appurtenances including individual service lines, meters, fire hydrants, valves, underground blow-offs, and air release valves. City staff immediately performs repairs as leaks are identified. The City continues to analyze data related to water main failures and is scheduling replacements based on these results, as budgetary limitations will allow. City maintenance Staff also identifies problematic areas prone to service line failures, and proactively replaces these service lines. In 2021 the City replaced an old propeller style meter with a new high accuracy ultrasonic meter at the water production source.*

### Describe Progress in Reaching Goals:

- Estimate how much water you saved.
- Report progress toward meeting goals within your established timeframe.
- Identify any WUE measures you are currently implementing.
- If you established a goal to maintain a historic level (such as maintaining daily consumption at 65 gallons per person per day for the next two years) you must explain why you are unable to reduce water use below that level.

*The City has been actively replacing water meter over the last 7 year and only has 3,400 meter left for total replacement.*

*In 2021 the leak detection survey found a total of 22 leaks on the City side of the meter. With an estimated water loss of 61.5 GPM, 88,560 GPD, 2656,800 Gallon per month, and 31,881,600 Gallons per year.*

*The City has also been performing their own leak detection in house as time permits.*

The following questions will help DOH better understand water usage, water resources management and drought response. The data will be used to provide technical assistance, not for regulatory purposes.

#### All questions are voluntary

Month	Date of Measurement	Static Water Level (feet below measuring point)	Dynamic Water Level (feet below measuring point)
January	01/11/2021	17.1	17.1
February	02/11/2021	19.7	19.7
March	03/08/2021	19.7	19.7
April	04/07/2021	18.8	18.8
May	05/10/2021	9.6	9.6
June	06/11/2021	7.1	7.1
July	06/11/2021	10.4	10.4
August	07/16/2021	9.4	9.4
September	08/04/2021	10.3	10.3
October	09/14/2021	13.1	13.1
November	11/15/2021	7.4	7.4
December	12/08/2021	20.5	20.5

#### Water level data:

Please provide the following information (if known) to help us better utilize the water level data.

Well tag Id number: WTP 004

Well depth: 287.0

Water level accuracy (within 0.01 ft < 1 ft ~ 1 ft) <1

Completion type (e.g., cased open interval, cased open-ended, cased open-ended with perforations, etc...) open ended with perforations

Location coordinates (latitude, longitude) and accuracy of the coordinates (< 1ft, ~1ft, >1000ft) ~1

Water level parameter name (e.g. depth below measuring point, depth below top of casing, depth below ground surface) Amount of water above top of well pump

Elevation of top of casing OR elevation of measuring point if different than top of casing (as specified in question 7) 287

**Monthly/Seasonal Water Usage:**

What was your maximum daily water demand for the previous year (in gallons per day)? 8,000,000

Month	Volume of Water Produced in gallons
January	70,183,000
February	70,932,100
March	78,045,400
April	97,427,000
May	103,250,500
June	154,617,500
July	205,759,100
August	181,323,200
September	125,084,800
October	77,699,000
November	74,586,072
December	72,122,160

**Water shortage response:**

Did you activate any level of water shortage response plan the previous year?

- ☐ Yes      ☒ No      ☐ There was no need to

If you activated a water shortage response plan the previous year, what level did you activate? (Check all that apply)

- ☐ Advisory Conservation      ☐ Voluntary Conservation  
☐ Mandatory Conservation      ☐ Rationing      ☐ Other

What factors caused your water shortage the previous year?

- ☐ Drought      ☐ Fire      ☐ Landslides      ☐ Earthquakes  
☐ Flooding      ☐ Water Supply Limitations      ☐ Other

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