



Date Submitted: 6/28/2021

Water Use Efficiency Annual Performance Report - 2020

WS Name: BELLINGHAM-WATER DIVISION CITY OF
 Water System ID# : 05600 WS County: WHATCOM
 Report submitted by: *Riley Grant*

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 *01/01/2020 To 12/31/2020*
 Incomplete or missing data for the year? *No*
 If yes, explain:

Total Water Produced & Purchased (TP) – Annual volume gallons	<i>2,916,230,000</i> gallons
Authorized Consumption (AC) – Annual Volume in gallons	<i>3,188,087,249</i> gallons
Distribution System Leakage – Annual Volume TP – AC	<i>-271,857,249</i> gallons
Distribution System Leakage – DSL = $[(TP - AC) / TP] \times 100 \%$	<i>-9.3 \%</i>
3-year annual average - %	<i>0.0 \%</i> <i>2015, 2016, 2017</i>

Goal-Setting Information:

Enter the date of most recent public forum to establish WUE goal: *10/12/2020*
 Has goal been changed since last performance report? *Yes*

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

Customer WUE Goal (Demand Side):

Maintain average peak day demand between June 1 and August 31 of each year to below 14 mgd during the 2020-2025 program period.

Customer (Demand Side) Goal Progress:

In 2020, 28 single-family customers received water audits; 38 households received rebates for 15 clothes washers and 43 toilets total, for an estimated annual water savings of 196,192 gallons. Twenty-six commercial and institutional customer received water audits and direct installs of aerators, shower heads and pre-rinse spray valves at commercial and institutional locations totaled an estimated annual savings of 340,485 gallons. The multi-family residential program was put on hold due to complications of completing audits during the global pandemic. Additional education measures included youth education, outdoor water conservation advertising and an online pledge. The average Peak Day Demand (PDD) for June-August 2020 was 14.94 mgd, slightly about the goal of 14 mgd. With a new workplan in place, more targeted efforts will be made to reduce summer PDD in accordance with the established goal. Future efforts will include targeted efforts to reach the highest summer water users, tracking high water use notifications, initiating an industrial rebate program, switching to monthly billing and adjusting water rates to promote conservation.

Additional Information Regarding Supply and Demand Side WUE Efforts

The water meter on the demand side of the system has been verified to report inaccurate flows during times of low demand. Current system condition is a 60" main that is reduced down to a 48" pipe where an electromagnetic insertion style flow meter is located. This flow meters is considered one of the most accurate for this size of pipe. Further reductions of pipe size would affect the ability to maintain storage levels at times of high demand. The typical recommended flow range for this meter is 2-20 ft/s. We conducted multiple flow checks on this meter and find flow velocities range from 0.4 to 2.0 ft/s. Of these flow checks 22% were below 1.0 ft/s (8.2 mgd) and 100% of the test flows were below 2.0 ft/s (16.3 mgd). We also did flow checks where we maintained flows below 1.0 ft/s and could not obtain repeatable data to allow for percentage corrections. System layout limits the ability of simple or low-cost system modification.

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 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			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Water level data:

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

Well tag Id number:

Well depth:

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

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

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

Water level parameter name (e.g. depth below measuring point, depth below top of casing, depth below ground surface)

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

Monthly/Seasonal Water Usage:

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

Month	Volume of Water Produced in gallons
January	228,560,000
February	212,230,000
March	216,900,000
April	216,930,000
May	244,360,000
June	24,296,000
July	30,810,000
August	326,640,000
September	282,390,000
October	225,470,000
November	206,200,000
December	206,490,000

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

Do not mail, fax, or email this report to DOH