

RESOLUTION 2021-H

A RESOLUTION OF THE TOWN OF EATONVILLE, WASHINGTON APPROVING UPDATES TO THE EATONVILLE WATER SYSTEM PLAN AND ALLOWING FOR A 4 YEAR EXTENSION

WHEREAS, The Town of Eatonville's Water Department has been required to update the Water System Plan every 6 years. Legislation now allows for update every 10 years; and

WHEREAS, the Town Council passed Resolution 2019-Y on November 25, 2019 authorizing a professional service consult agreement with RH2 for updates to the Eatonville Water System Plan; and

WHEREAS, RH2 has completed the updates to the Town of Eatonville Water System Plan; and

WHEREAS, the Water System Plan Extension Request letter, attached as exhibit A will extend the approval period of the Town's Water System Plan to October 17, 2023; now, therefore,

THE TOWN COUNCIL OF THE TOWN OF EATONVILLE, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

THAT: The Town Council approves the Town of Eatonville Water System Plan Updates and Extension Request as outlined in exhibit A.

PASSED by the Council of the Town of Eatonville at a regular meeting this 22nd day of February 2021.

Mike Schaub, Mayor

ATTEST:

Miranda Doll, Town Clerk



RH2 ENGINEERING
Bothell

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Bothell, WA 98021
1.800.720.8052 / rh2.com

February XX, 2021

Ms. Jennifer Kropack
Regional Planner
Washington State Department of Health
Northwest Drinking Water Operations
20425 72nd Avenue South, Building 2, Suite 310
Kent, WA 98032-2358

Sent via: Email and US Mail

Subject: Town of Eatonville Water System Plan – Approval Extension Request

Water System ID No. 22300K

Dear Ms. Kropack:

On behalf of the Town of Eatonville (Town), RH2 Engineering, Inc., (RH2) is requesting a 4-year extension for the Town's 2013 *Water System Plan* (WSP) approval. On October 17, 2013, the Town's WSP was approved for a 6-year term. Since then, updated requirements under WAC 246-290-100(9) extended the WSP approval period to 10 years. There have not been any significant changes that were not already documented in the 2013 WSP, and the projects and growth presented in the current WSP are still accurate projections of the Town's current planning efforts.

System Capacity

Demand

The City's annual water demand between 2013 and 2019 has been less than the projected demand in the City's WSP for each corresponding year, both with and without savings projected from the City's Water Use Efficiency Program.

WASHINGTON LOCATIONS

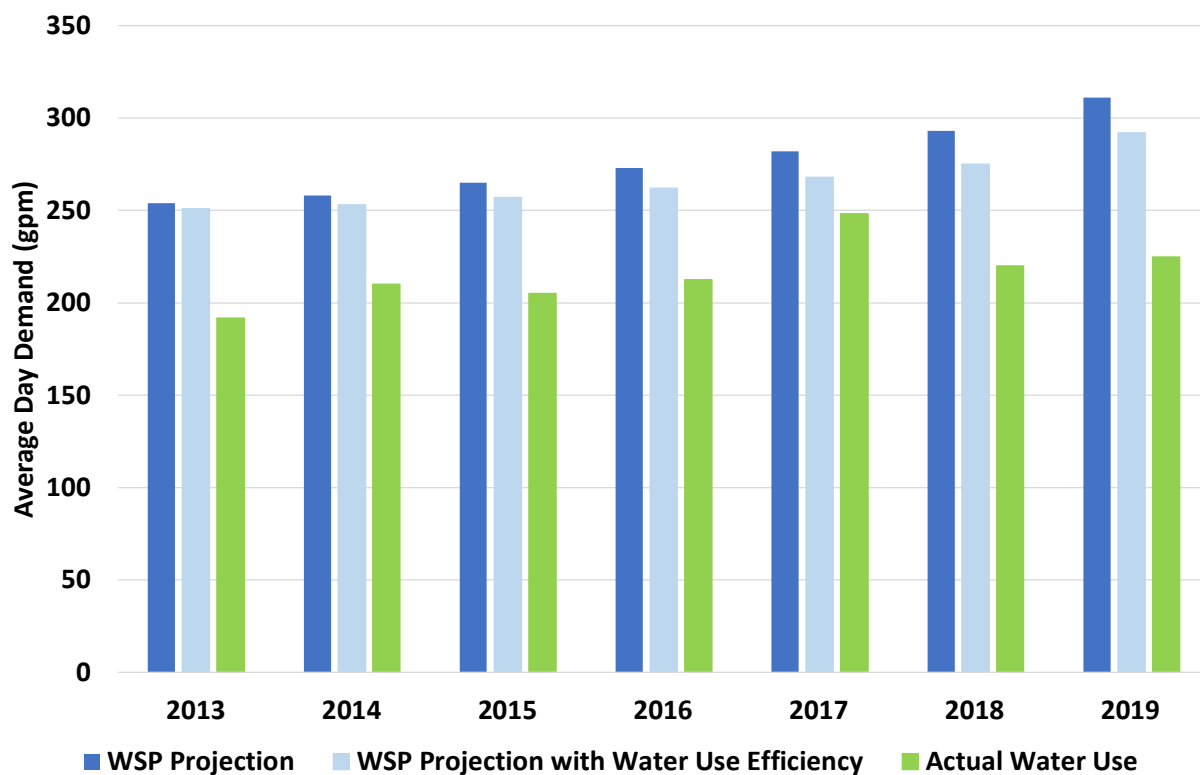
Bellingham
Bothell (Corporate)
East Wenatchee
Issaquah
Richland
Tacoma

OREGON LOCATIONS

Medford
Portland

Chart 1 shows the difference between the annual demand projections in the 2013 WSP, both with and without savings from water use efficiency (WUE), and the actual system demand for the years 2013 through 2019. The projected demand volumes are taken from Table 4-9 of the 2013 WSP. The actual system demands have never exceeded the 2013 demand projections calculated as part of the 2013 WSP. Therefore, many of the conclusions of the analyses performed for the year 2013 are applicable to the year 2019.

Chart 1
Projected vs. Actual Water Demand



Storage

Table 7-9 of the 2013 WSP indicated the system as a whole has an overall storage surplus, however the 1050 Zone has a small existing storage deficiency. With the completion of Capital Improvement Project (CIP) PZ1, the dead storage in the 996 Zone is eliminated, as shown in Table 7-10 in the 2013 WSP. However, the 996 Zone was still anticipated to become storage deficient between 2018 and 2032, as shown in Table 7-11 of the 2013 WSP. The storage deficiencies were projected to be resolved by construction of a new 1050 Zone Reservoir (CIP F13), scheduled for completion in the 2025-2032 timeframe, as shown in 2013 WSP Table 7-12.

Because system demands are significantly less than those projected in the 2013 WSP, the actual storage requirements are lower than those calculated during the 2013 WSP. Specifically, the actual annual demand for 2019, as shown in **Chart 1**, is less than the projected demand for



2013, indicating that storage projects related to growth could potentially be shifted as much as 5 years into the future.

Water Use Efficiency

Two WUE goals were established in the 2013 WSP as follows:

1. Reduce the 4-year rolling average per capita demands by 6 percent by 2018, and by 8 percent by 2032.
2. Reduce distribution system leakage (DSL) to 10 percent or less by 2015.

The Town is continuing to work towards both goals. Various conservation programs have been implemented, including education and outreach, a leak detection and repair program, informational mailers, and meter testing and calibration.

In its 2017 Water Use Efficiency Annual Performance Report submitted to the Washington State Department of Health (DOH), the Town updated its WUE goals. The new goal is to reduce water loss by 5 gallons per minute (gpm) over the next 10 years.

The annual DSL reported in the Town's WUE reports is shown in **Table 1**. The Town is looking into possible explanations for the system's leakage. The Town's Water Treatment Plant includes a small filter for reclaimed water; however, it does not operate properly, and backwash water overflows to the Wastewater Treatment Plant. Another possibility is inaccuracies in the amount billed to customers. In addition, the Town found and repaired several large distribution leaks in late 2019 and early 2020.

Table 1
Distribution System Leakage

Distribution System	
Year	Leakage
2013	22.6%
2014	23.7%
2015	21.9%
2016	26.4%
2017	33.1%
2018	24.2%
2019	29.2%

Capital Improvement Plan

The Town has worked to complete capital improvement projects per the schedule outlined in Chapter 9 of the 2013 WSP.



Since 2013, the following CIP projects have been completed.

- Water Treatment Plant Replacement Membranes
- 996 Zone Reservoir Roof Repair
- Telemetry and Supervisory Control Improvements
- Leak Identification at the Water Treatment Plant Site

The Town is currently working on its 1077 Zone Improvements (CIP PZ1 in 2013 WSP), and the Clear Well No. 3 improvements are in progress (CIP F11). In addition, the Town has been implementing CIP F19 (Telemetry and Supervisory Control Expansion) and only has one site remaining, which is slated to be upgraded this year. The Town is committed to ensuring a safe and reliable water service. An updated CIP list with the Town's current priorities is provided in **Table 2**.

Table 2
Capital Improvements Implementation Schedule

No.	Description	Estimated Cost (2020 \$\$)	20-Year Schedule of Improvements Planned Year of Project and Estimated Cost in 2020 \$\$						
			2019	2020	2021	2022	2023	2024	2025-35
Water Main Improvements									
WM1	Annual Water Main Replacement Program	\$650,000	\$0K	\$0K	\$0K	\$50K	\$50K	\$50K	\$500K
Pressure Zone Improvements									
PZ1	1077 Zone Improvements	\$135,000		\$135K					
PZ2	1050 Zone Individual Booster Pump	\$6,000			\$6K				
Pressure Reducing Station Improvements									
PRV1	Ridge Road PRV and Water Main Replacement	\$155,100					\$155K		
Facility Improvements									
F1	Water Treatment Plant Replacement Membranes	\$483,300		\$161K				\$161K	\$161K
F2	Water Treatment Facility Third Skid	\$1,169,000		\$1,169K					
F3	Water Treatment Facility Expansion	\$2,983,100							\$2,983K
F4	Water Rights Claim Investigation	\$23,800				\$12K	\$12K		
F5	Increase Monitoring of Existing Sources	\$6,000			\$6K				
F6	River Diversion Improvements	\$149,200			\$149K				
F7	Alternative Water Source Feasibility Study	\$238,600				\$17K	\$17K	\$205K	
F8	Additional Water Rights and Source of Supply	\$11,693,900							\$11,694K
F9	Well Nos. 1 and 2 Improvements	\$596,600						\$597K	
F10	Abandonment of Well Nos. 3, 4, and 5?	\$35,800	\$36K						
F11	Clear Well No. 3 Construction	\$231,000			\$231K				
F12	Clear Well No. 1 and No. 2 Rehabilitation	\$158,700				\$159K			
F13	1050 Zone Reservoir	\$1,597,800							\$1,598K
F14	996 Zone Reservoir Roof Repair	\$77,600	\$78K						
F15	996 Zone Reservoir Replacement	\$4,450,000			\$45K	\$223K	\$4,183K		
F16	Center Street Booster Pump Station Improvements	\$422,400							\$422K
F17	Hilltop Booster Pump Station Improvements	\$682,500						\$683K	
F18	Telemetry and Supervisory Control Improvements	\$40,600	\$41K						
F19	Telemetry and Supervisory Control Expansion	\$45,000			\$45K				
F20	Water Treatment Facility Cross Connection Improvements	\$35,000			\$35K				
Miscellaneous Improvements									
M1	Annual PRV Testing and Inspection	\$36,000		\$2K	\$2K	\$2K	\$2K	\$2K	\$24K
M2	1050 Zone Reservoir Level Reading Improvement	\$9,500			\$10K				
M3	Update the Water Development and Construction Standards	\$11,900					\$12K		
M4	Update the Water Sections of the Eatonville Municipal Code	\$9,500			\$10K				
M5	Hydraulic Model Calibration	\$15,500				\$16K			
M6	Leak Identification at the Water Treatment Plant Site	\$6,000	\$6K						
M7	Water Use Efficiency Program and Leak Detection	\$150,000		\$10K	\$10K	\$10K	\$10K	\$10K	\$100K
M8	Cross-Connection Control Program	\$15,000		\$1K	\$1K	\$1K	\$1K	\$1K	\$10K
M9	Watershed Control Program	\$15,000		\$1K	\$1K	\$1K	\$1K	\$1K	\$10K
M10	Billing System Modifications⁺	\$0							
M11	Comprehensive Water System Plan Extension	\$10,000		\$10K					
M12	Comprehensive Water System Plan Update (Every 10 Years)	\$310,000				\$78K	\$78K		\$155K
M13	Seismic Assessments for Other Facilities	\$130,000							\$130K
M14	Seismic Retrofits for Other Facilities	\$900,000							\$900K
M15	Risk & Resiliency Assessment and Emergency Response Plan	\$100,000			\$50K				\$50K
Total Estimated Project Costs of Town Funded Improvements									
		\$27,784,400	\$160K	\$1,490K	\$600K	\$567K	\$4,521K	\$1,710K	\$18,737K
Developer-Funded Improvements									
DF1	1140 Pressure Zone	\$1,513,100			Timing of Project Based on Timing of Future Developments				
DF2	1060 Pressure Zone	\$4,343,500			Timing of Project Based on Timing of Future Developments				
DF3	Eatonville Highway W 8-inch Water Main	\$2,690,800			Timing of Project Based on Timing of Future Developments				
Total Estimated Project Costs of Developer Funded Improvements		\$8,547,400							

¹ Project completed in-house by the Town in 2012.



Water Rights Self-Assessment Update

An updated water rights self-assessment has been completed as part of this WSP Extension request and has been attached to this letter.

Land Use and Growth

The Town's land use and growth projections have changed since the 2013 WSP was prepared. The revised zoning map for the Town's land uses is attached.

As stated in the **Demand** section, the actual 2019 system demand was less than the 2013 baseline demand projection in the 2013 WSP, despite population growth that has occurred over this time. During the writing of the 2013 WSP, land use and population were evaluated against the Town's 2005 *Comprehensive Plan*. Per the Town's updated 2015 *Comprehensive Plan*, population is estimated to be 3,289 people in 2035. This is less than the population projected for 2032 (5,770 people) in the 2013 WSP. This decrease in projected population is due to a buildable lands report prior to the 2005 *Comprehensive Plan* that did not account for non-buildable lands. In addition, there are new Town-owned conservation lands in the Urban Growth Area that are no longer buildable. Therefore, it is not anticipated that the revised population growth projections will adversely impact the system's capacity within the 4-year extension period.

Policies and Design Criteria

The City's policies and design criteria, as presented in Chapter 5 of the 2013 WSP, have not been updated since the completion of the WSP. The Town is committed to operating its system and constructing new projects according to these policies and criteria.

Financial Program

The financial analysis in Chapter 10 of the 2013 WSP includes the capital improvements the Town is currently pursuing. The Town is continuing to fund and construct capital improvement projects as economically feasible.

SEPA Compliance

An updated SEPA checklist and Determination of Non-Significance is attached to this letter.

The Town will place the WSP Extension Request letter on the public agenda in a February 2021, Town Council meeting, where the required meeting of consumers and approval and adoption will take place. Attached to this letter is the Town's updated Consistency Statement checklist for the WSP extension.

The Town requests, and RH2 recommends, that the 2013 WSP's existing approval be extended by 4 years as the analyses and recommendations contained in the WSP are still valid, and the WSP currently meets the Department of Health's water system planning requirements.



If you have any questions regarding this submittal, please contact me directly at (425) 951-5394.

Sincerely,

INSERT PE STAMP(S)

Michele Campbell, PE

Project Manager

MRC/ZS/Proofer/sp

Attachments: Local Government Consistency Determination Form
Water Rights Self-Assessment
Official Zoning Map
SEPA Checklist and Determination of Non-Significance

CC: