EXECUTIVE SUMMARY

INTRODUCTION

The City of Sequim 2022 Water System Plan (Plan) provides a long-term planning strategy for the City's water utility for the 10- and 20-year planning periods. It has been prepared consistent with Department of Health requirements specified in Washington Administrative Code Chapter 246-290. This Plan represents a commitment by the City to pursue and implement the Plan's recommendations and capital improvements.

The City's water system currently consists of four sources of supply, three of which are active and regularly used for daily supply: the Infiltration Gallery, the Silberhorn Wellfield, and the Port Williams Wellfield. The Dungeness River is the fourth source of supply and is available to the City. The City's water system includes three storage reservoirs totaling 2.9 Million Gallons of active storage, four booster pump stations and approximately 77 miles of distribution and transmission main piping. The City has six pressure zones.

Significant issues discussed in the Plan include:

- The City's water rights and water right history
- Population and water demand projections and analysis of system capacity with respect to the City's ability to meet projected water system needs
- The City's successes in promoting water conservation and decreasing distribution system leakage that has contributed to the City's water system infrastructure having sufficient capacity to meet the projected 20-year demands
- Improvements to the distribution system needed to remedy deficiencies in available fire suppression flow
- Plans for distribution system expansion to serve future development in the anticipated growth areas within the City of Sequim City Limits and Urban Growth Area (UGA)
- A comprehensive capital improvement program to meet projected growth and water system needs

WATER DEMAND FORECASTING AND SYSTEM CAPACITY ANALYSIS

Population within the City of Sequim UGA is projected to grow at 3.0 percent annually for the next 20 years. Currently, the Sequim water system only serves customers within the UGA,

however not all residents in the City or UGA are on the City water system. The projected service area population is projected to be 14,855 persons in the year 2041. The projected number of Equivalent Residential Units (ERUs) that the City will need to serve in the years 2031 and 2041 are shown in Table E-1.

Table E-1 also summarizes the capacity of each component of the existing water system to serve ERUs. It demonstrates that the existing system components have sufficient capacity to serve projected demands for the 10- and 20-year projections, although Source Capacity Max Day and Storage Capacity are nearing their capacity limitations at the 20-year projection.

Table E-1 – Projected Capacity Needs and Existing System Capacity Summary

Projected Capacity Needs	**Capacity needed, not including DSL and NRW (1) (ERUs)**
Projected Capacity Needs in 2031	7,928
Projected Capacity Needs in 2041	10,655
Existing Capacity Parameter	**Capacity to serve connections after subtracting DSL and NRW(1) (ERUs)**
Source Capacity Max Day	10,789
Source Capacity Average Day	18,789
Water Rights – Annual	23,518
Water Rights – Instantaneous	17,078
Storage Capacity	>10,655
Distribution	>12,000

(1) DSL = Distribution System Leakage, NRW = Non-Revenue Water

WATER SUPPLY STRATEGY

Although Table E-1 shows that the existing sources of water supply are sufficient for the 20-year planning period projections, it is recommended (and the City is planning) to be proactive in improving its water supply sources to address operational issues and ensure sufficient capacity for the future. Planned improvements to sources are addressed below.

SILBERHORN WELLFIELD
Silberhorn Wells No. 2 and No. 3 have experienced decreasing capacity issues in recent years. Plans to drill a new deep well in this vicinity to address capacity and increasing nitrate concentrations are discussed in the Plan.

PORT WILLIAMS WELLFIELD
The City currently has three wells at the Port Williams Wellfield site. City's water right for Port Williams Wellfield allows for the drilling of up to five wells and the withdrawal of up to 2,250 gpm which would be an increase of 490 gpm of the current maximum withdrawal rate. The Plan addresses the drilling of a new well at this site.

DUNGENESS RIVER
The Dungeness River water is available for City use, but direct use of this surface water source would require construction of a surface water treatment facility. The Plan includes a long-term plan for construction of this facility in case it's needed.

CAPITAL IMPROVEMENT PROGRAM
A summary of the City's CIP is shown in Table E-2. A map of the location of these improvements can be seen in Figure 8-1.

Table E-2 –Capital Improvement Plan

Project No.	Project Description	Construction Year	Estimated Project Cost	Funding Source
BS-1	New 635 Zone Booster Station	2023	$1,700,000	Developer / Water Utility Cost Share
BS-2	Simdars Road Booster Station	2027	$740,000	Water Utility
ST-1	New 420 Reservoir	2036	$ 6,300,000	Water Utility
ST-2	Steel Reservoir Exterior Recoating	2022	$ 470,000	Water Utility
S-1	Port Williams Well No.4	2026	$1,300,000	Water Utility
S-2	New Deep Well	2024	$1,300,000	Water Utility
S-3	Dungeness River Surface Water Treatment Facility	2040	$20,000,000	Water Utility
S-4	Infiltration Gallery Flow Control Valve	2028	$240,000	Water Utility
MI-1	New SCADA Installation	2022 through 2024	$500,000 total over 3 years	Water Utility
MI-2	Fixed Based Automatic Meter Reading System	2023 through 2026	$634,534 total over 4 years	Water Utility
MI-3	Development of Unidirectional Flushing Program	2023	$30,000	Water Utility
MI-4	Complete Residential Meter Replacement	2031-2033	$1,000,000	Water Utility

D-1	Hammond Street Water Main	2028	$1,600,000	Developer
D-2	Brown Road Water Main	2027	$1,500,000	Water Utility
D-3	5th Avenue Water Main	2027	$320,000	Water Utility
D-4	Reservoir Road and 7th Avenue Water Main	2023	$960,000	Developer
D-5	Norman Street and Eunice Street	2025	$780,000	Water Utility
D-6	Washington Street Water Main	2028	$1,400,000	Developer
D-7	West Sequim Bay Water Main	2023	$1,800,000	Water Utility/ Grant
D-8	Washington Harbor Loop Water Main No. 1	2026	$2,000,000	Developer
D-9	Fir Street from North Sequim Avenue to North Brown Road	2026	$1,300,000	Water Utility
D-10	Brown Road from East Fir Street to East Washington Street	2026	$950,000	Developer
D-11	East Etta Street from South Sequim Avenue to South Sunnyside Avenue	2023	$400,000	Water Utility
D-12	Marlo Drive West from the End of the Existing Main to River Road	2029	$440,000	Developer
D-13	West Sequim Bay Road from Battelle to Connect with Marina Water System	2029	$1,300,000	Developer
D-14	Pressure Relief Valves	2024	$160,000	Water Utility
D-15	New Water Main from South Lee Chatsfield to Espeth Way	2029	$270,000	Developer
D-16	Washington Harbour Road to Washington Harbor Loop	2029	$540,000	Developer
D-17	Asbestos Cement/Galvanized Iron Water Main Replacement	Annual	$200,000	Water Utility
D-18	Isolation Valves on Washington Street from 5th Avenue to Sequim Avenue	2027	$260,000	Water Utility
D-19	West Prarie Street from South Sequim Avenue to South 5th Avenue	2027	$1,800,000	Water Utility
D-20	South 7th Avenue from Silberhorn Road to McCurdy Road	2024	$740,000	Water Utility
D-21	635 Zone Distribution Piping connecting new booster pump station to Emerald Highlands	2028	$3,240,000	Water Utility
D-22	Ranney Well Water Line Rehabilitation/Replacement	2027	$3,400,000	Water Utility
D-23	Water line at New Carrie Blake Park Entrance	2025	$210,000	Water Utility
D-24	Water line under new Guy Cole Parking Lot	2025	$150,000	Water Utility
D-25	Black Ave Water Main Extension	2025	$150,000	Water Utility

FINANCIAL STRATEGY

The City completed a Rate Study in 2021 that is discussed in Chapter 9 and included in Appendix N. Chapter 9 notes that, based on current plans, the City will need to obtain additional funding through grants, loans, or revenue bonds beginning in 2026. The Rate Study recommended annual utility rate increases. The City's decision to not raise utility rates since 2020 will result in larger rate increases in the future and/or the need to secure additional funding on a shorter timeframe than would otherwise be the case. Note that inflationary pressures, particularly in 2021 and 2022, on all costs, both O&M and capital projects, will also contribute to the increased need for funds.

ACKNOWLEDGEMENTS

The complete Water System Plan that follows was a collaboration between Wilson Engineering and City staff (Operations, Engineering, Finance, Planning, and Management), and we would like to acknowledge the significant contributions from City staff that help to make this planning document accurate, thorough, and useful as the City continues to plan for and achieve its goals of providing the best possible service for its customers.