

SUMNER REGIONAL WASTEWATER TREATMENT FACILITY

ANNUAL REPORT 2018



SERVED BY THE NUMBERS - ANNUALLY

15+ SQUARE MILES from which collect waste

28,700 RESIDENTS served

860,000,000 GALLONS of flow annually

391,000,000 from Sumner

469,000,000 from Bonney Lake

2,800,000 POUNDS of solids treated

98.2% of solids removed

338 TONS of biosolid given away



STANDARD OF EXCELLENCE

Received 2017
Wastewater
Treatment Plant
Outstanding Performance award

- One of only 111 facilities out of 300 to earn this designation
- Sumner has won this award for seven consecutive years.

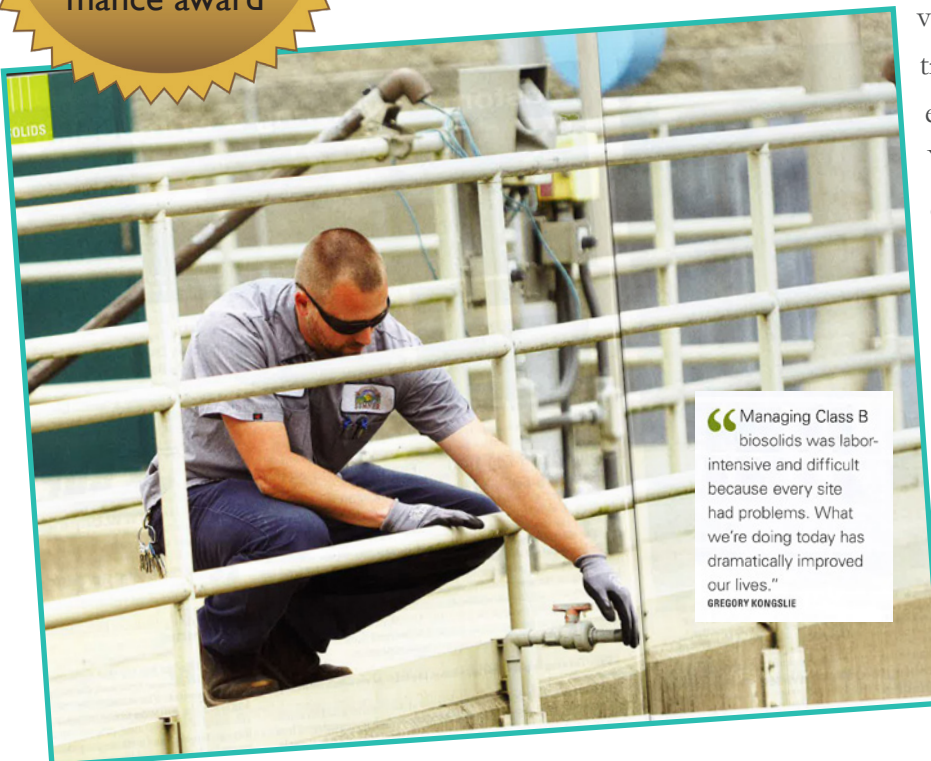
“It takes diligent operators and a strong management team, working effectively together, to achieve this high level of compliance. It is not easy to operate a wastewater treatment plant 24 hours a day, 365 days a year, without

violations. Ecology appreciates the extraordinary level of effort your plant operators demonstrated throughout 2017... Your excellent record is a credit to the dedicated operators who are responsible for running this award-winning plant.”

- Heather Bartlett

Water Quality Program Manager
State of Washington Dept. of Ecology

Nation-wide feature on Sumner's facility and innovations in Treatment Plant Operator magazine in late 2016.



“Managing Class B biosolids was labor-intensive and difficult because every site had problems. What we're doing today has dramatically improved our lives.”
GREGORY KONGSLIE

RECENT ACCOMPLISHMENTS

- Supplemented staff with a full time electrician and instrumentation technician for cost-effective solution to troubleshoot increasingly complex equipment; especially important to maintain the plant's power distribution systems and the electronic instrumentation.
- Both cities working to reduce inflow and infiltration reduction programs, including a comprehensive smoke testing program. Eliminating cross connections with stormwater can restore capacity to the plant and reduce peak flows entering the plant.
- Modified the biological treatment basins to prevent flow from short-circuiting through the basin, increasing the plant's efficiency.
- Significant rehabilitation of the non-potable water pumps that recirculate treated effluent water for use throughout the plant.
- Replaced centrifuge scroll assembly and retained existing unit to be rehabilitated for use as a spare part.
- Installed a movable access platform over the floating digester lid to greatly improve staff's ability to access equipment in this area and eliminating potential injuries.

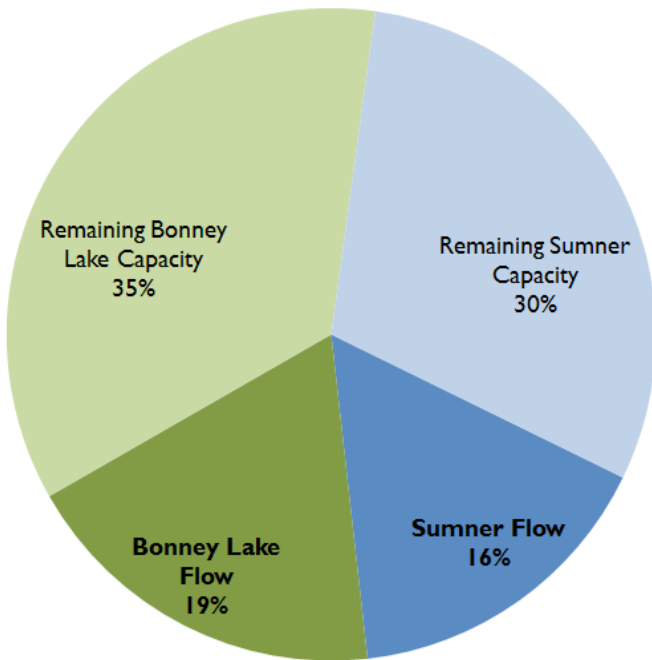
2019-2020 HIGHLIGHTS

- Installation of a second and larger bio-solids dewatering centrifuge, which will require constructing a new work platform and hoist along with a conveyor belt system to move the material produced by the centrifuge. This improvement will provide equipment large enough to handle loads while also providing redundancy to continue processing even if one of the centrifuges need to be removed from service.
- Replacement of dump trucks to transport solids from the plant. By trucking loads of solids to local gardeners, the facility avoids having to truck solids to eastern Washington for disposal, greatly extending the life of each vehicle, yet current vehicles have reached their end of service.
- Investment in additional time and training to meet and exceed increased scrutiny of laboratory operations related to water quality testing. Includes adding software specifically designed to track and record laboratory records.
- Begin transition planning and recruitment for new plant superintendent in anticipation of the current superintendent's retirement in 2019; includes smooth transition of institutional knowledge as current superintendent has been at the plant since 1978.

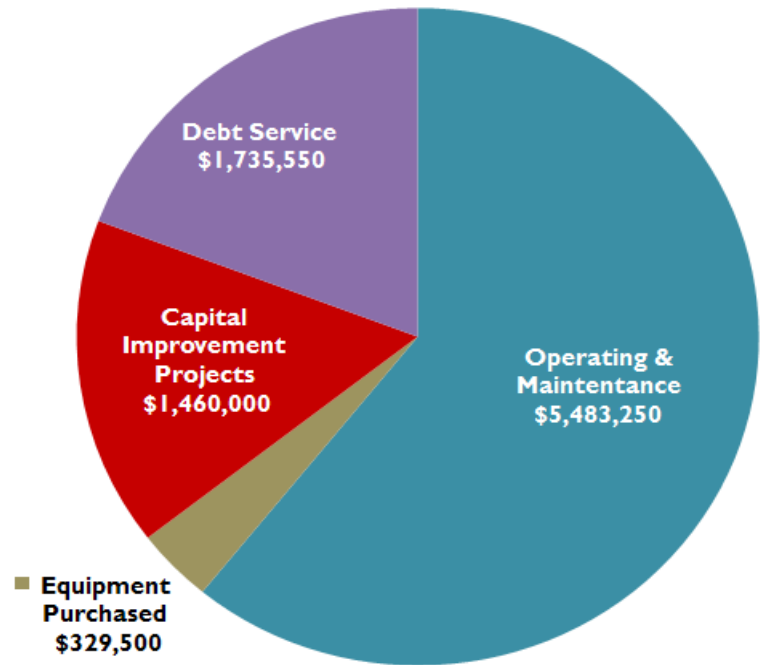
FINANCIALS

- Operations of the plant costs about \$2.7 million / year and is split between the two partner Cities based on the percentage of flow and nutrient loading required by each City's system.
- Investment of over \$26 Million into capital assets associated with the plant since 1973.

2017 FLOW BY CITY

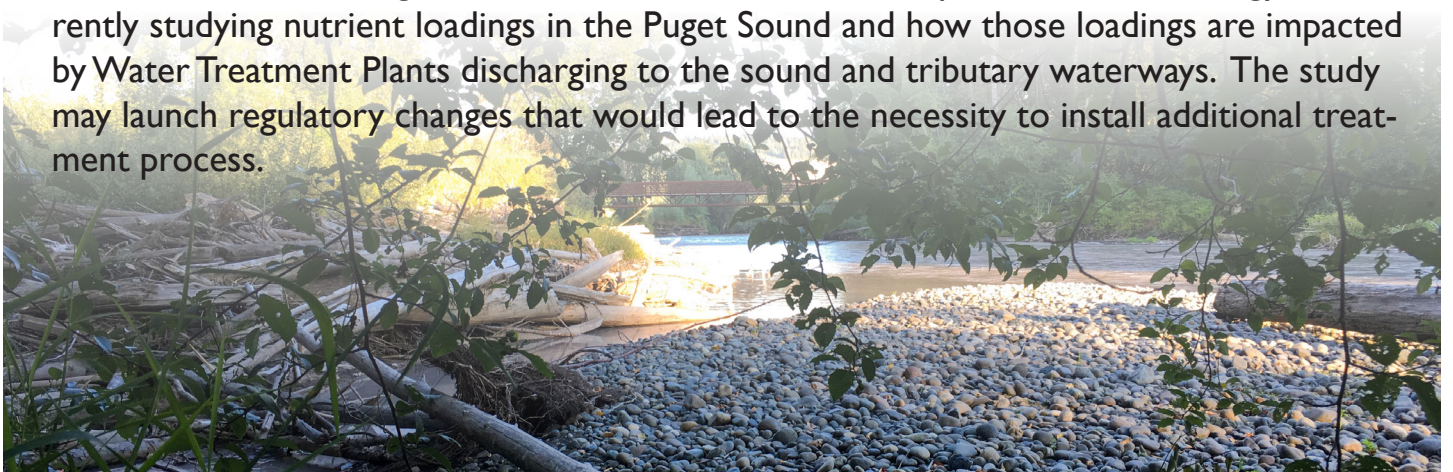


PROPOSED 2019-20 BUDGET



LONG-RANGE PLANS

- Ability to expand at the request of one or both partner cities to accommodate additional regional growth with the addition of additional treatment equipment.
- Tracking of potential changes coming from Department of Ecology, possibly requiring further reduction of nitrogen and ammonia from wastewater plant effluents. Ecology is currently studying nutrient loadings in the Puget Sound and how those loadings are impacted by Water Treatment Plants discharging to the sound and tributary waterways. The study may launch regulatory changes that would lead to the necessity to install additional treatment process.



INNOVATION & EFFICIENCY

- A computer system monitors and identifies process problems so they can be immediately addressed. Staff run tests daily on the influent and effluent, using the plant's laboratory.
- Staff periodically test the biosolids to ensure that the desired level of treatment is being achieved.
- Waste is treated using gravity, U-V rays and micro-organisms. It is not treated with harsh chemicals.
- A ventilation system directs air to a biofilter composed of natural shredded wood on which microorganisms grow and consume odorous compounds, keeping the plant from smelling the area around it.
- Operates 365 days a year with 10 operators plus superintendent, administrative support and engineer -- a fraction of the staffing of other facilities of comparable size and service area.
- Free RV dump offered to community to discourage illegal dumping



“The strength of our staff comes from their ability to not only run the plant well but also complete projects in-house that most other plants have to contract out. They install equipment, process biosolids and ensure that our lab work is defensible in court.”

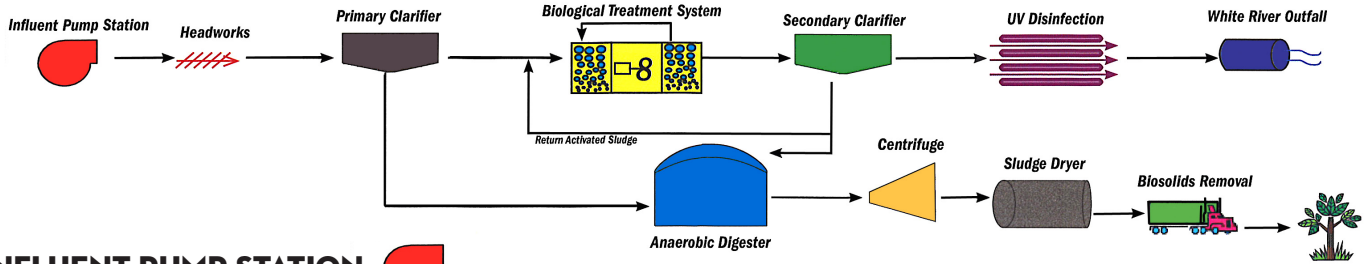
- Greg Kongsli, Plant Supervisor

ENVIRONMENTAL STEWARDSHIP

- Proper operation of the plant protects the White River, the Puyallup River, Puget Sound and the water systems we rely on for recreation and sustainability.
- 100% of biosolids are processed to an Exceptional Quality Class A product that is provided free to the community and used for gardening. Biosolids are an alternative soil amendment to chemical fertilizers and keep us from having to truck loads



INVESTMENTS IN EFFICIENCY



INFLUENT PUMP STATION

Wastewater from both cities is conveyed through separate 36-inch gravity sewers and discharges directly to the influent pump station, which lifts the incoming flows to the headworks.

HEADWORKS

At the headworks, flow meters measure the influent flow from each city. Screening equipment removes and disposes of plastic items, rags and other large debris. Two mechanically cleaned fine screens and a sluice conveyor transport screenings to a disposal dumpster.

PRIMARY CLARIFIER

The screened wastewater enters the primary clarifier; some of the solids and organic matter is physically removed by gravity.

BIOLOGICAL TREATMENT SYSTEM

From the primary clarifiers, effluent flows by gravity to two aeration basins, mixing with a concentrated bacterial culture, called activated sludge, that is recycled from the downstream secondary clarifiers. Activated sludge provides microorganisms to stimulate biological removal of pollutants. Blowers supply the air flow that provides oxygen for the bacterial culture.

SECONDARY CLARIFIER

The mixture of treated wastewater and the activated sludge from the aeration basins flows by gravity to two secondary clarifiers, which provide optimal solids separation by gravity settling. Bacteria settle quickly to the bottom of the secondary clarifiers and allow clear effluent to flow to the top. The clarifiers are covered with aluminum domes to prevent growth of algae and to keep out leaves.

UV DISINFECTION

Clarified effluent flows by gravity from the secondary clarifiers to the ultraviolet (UV) disinfection system, consisting of racks of UV lamps submerged in the effluent in open concrete channels. Exposure to UV light inactivates potentially harmful (pathogenic) organisms. After disinfection, the high quality effluent is discharged to the White River.

RESOURCE RECOVERY

Waste sludge from the clarifiers is thickened, digested, dewatered, thermally dried, and converted into a Class A biosolid available for direct pickup by the public for use on lawns, golf courses and gardens.

REWARDS BEYOND A LIFETIME

