



Background

- The Liberty Lake Sewer and Water District collects and treats the sanitary wastewater from approximately 4,000 Equivalent Residential Units (ERUs) as well as commercial and light industrial dischargers.
- Current average discharge is 0.8 MGD.



Previous Upgrades

- The District completed minor modifications to the facility by replacing the aerobic digester blowers in 1998 and replacing the chlorination system with the ultraviolet disinfection system in 2002.



Phase I Upgrade

- Phase I was completed in spring of 2006
 - The treatment plant was expanded from 1MGD to 2MGD to accommodate growth.
 - Improved biological nitrogen and phosphorus removal.
 - Provisions for subsequent additional physical and chemical phosphorus removal in anticipation of more restrictive limitations resulting out of the Dissolved Oxygen TMDL.

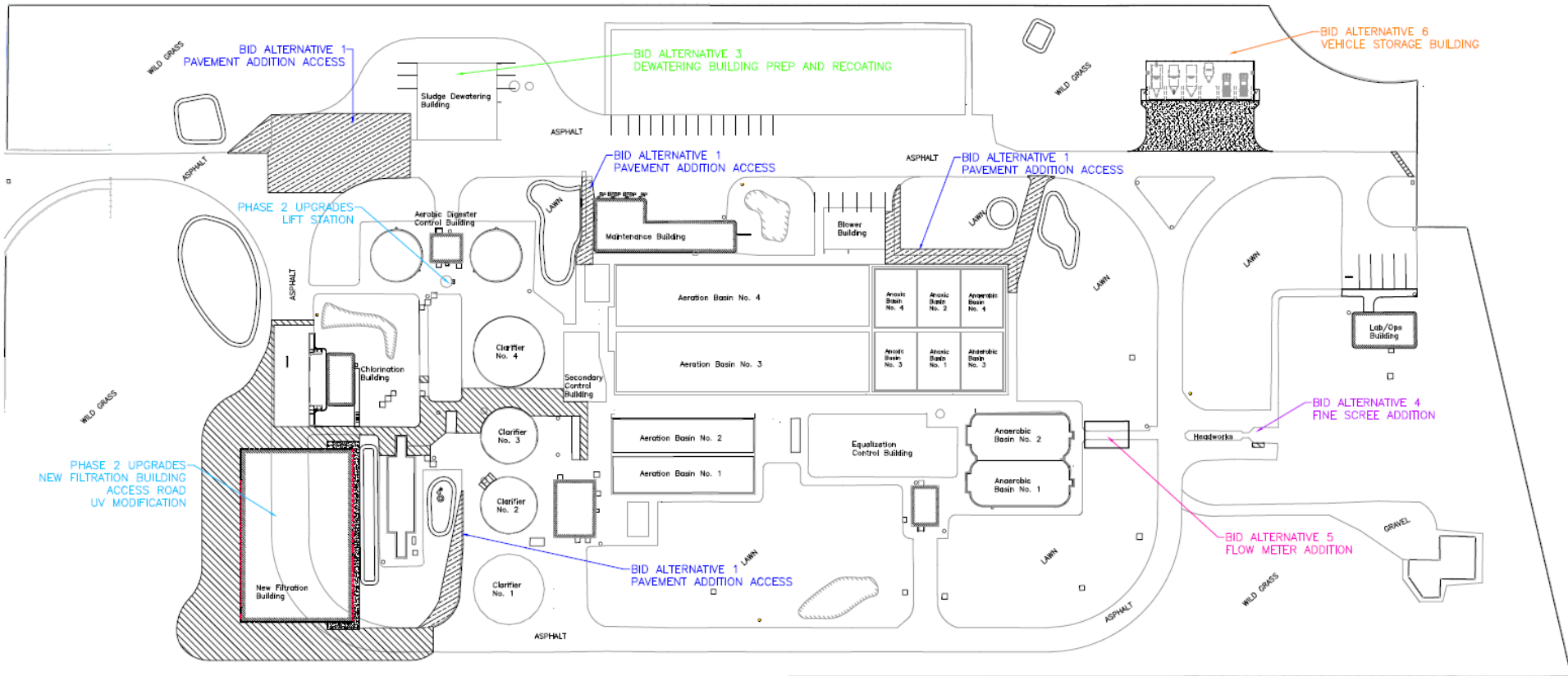


Phase II Upgrade

- Phase II upgrade includes:
 - First-stage chemical precipitation and settling, second stage chemical precipitation and flocculation, process filtration, and upgrades to the existing ultraviolet disinfection system.
- Tertiary treatment and will need to be completed by March 2018 at a total cost of \$17.1 million.



Planned Upgrades and Alternatives



BID ALTERNATIVE 2 ROOFING REPAIRS:
 SECONDARY CONTROL BUILDING
 EQUALIZATION CONTROL BUILDING
 LAB/OPS BUILDING
 SOUTH SITE OF MAINTENANCE BUILDING
 CHLORINATION BUILDING
 AEROBIC DIGESTER CONTROL BUILDING

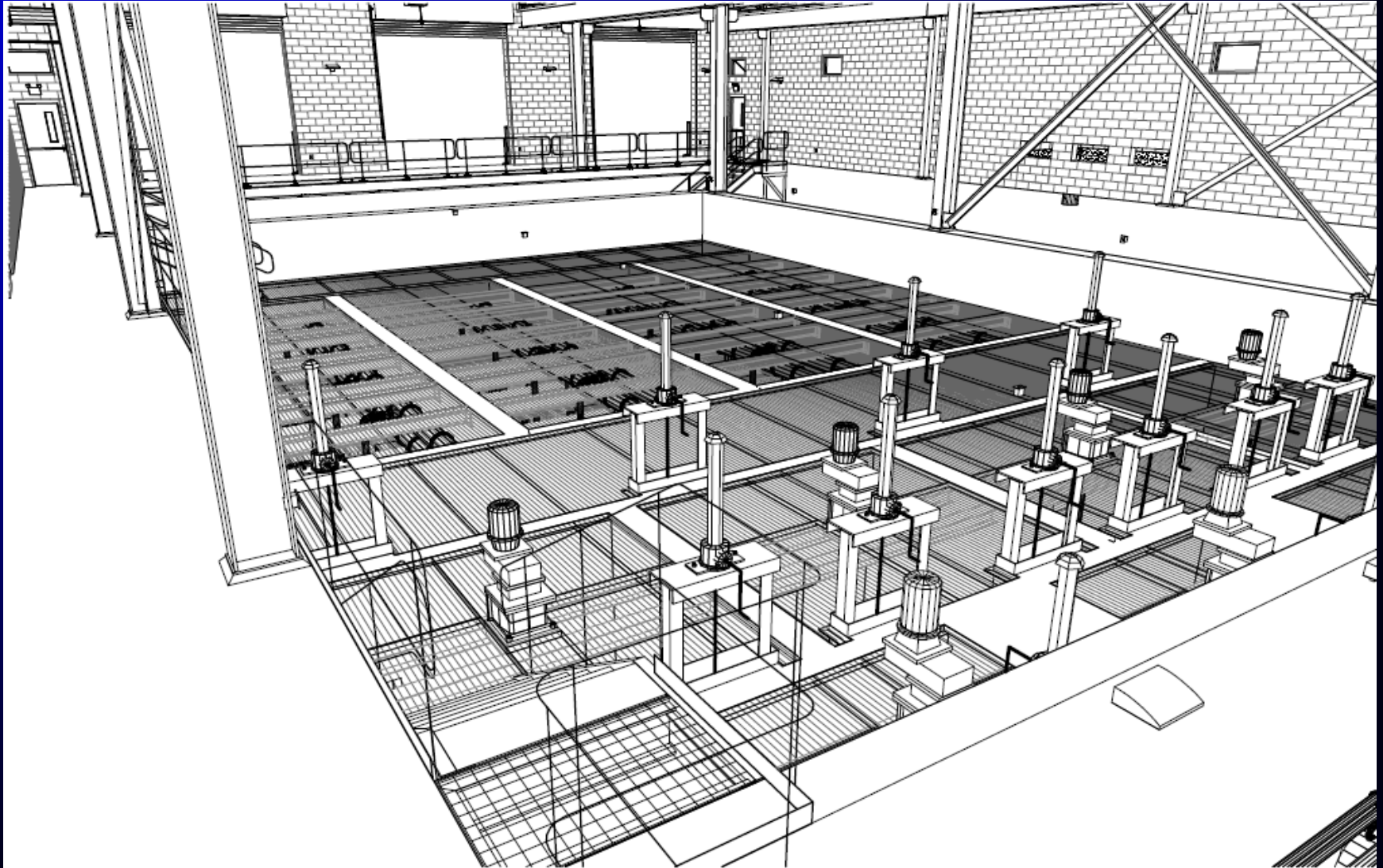


New Filtration Building





Filtration Basins





Implementation Schedule

- May 2015 - Advertise for Membrane System Procurement
- February 2016 - Advertise for Construction Contract
- May 2016 - Notice to Proceed for Construction Contract
- June 2017 - Membrane Delivery
- Summer/Fall 2017 - Commissioning
- March 2018 - Compliance Deadline for System Upgrade On-line
- Evaluate need for Reclaimed Water use based on plant performance
- Potential Diversion of the Effluent for Reclaimed Water Use by 2021



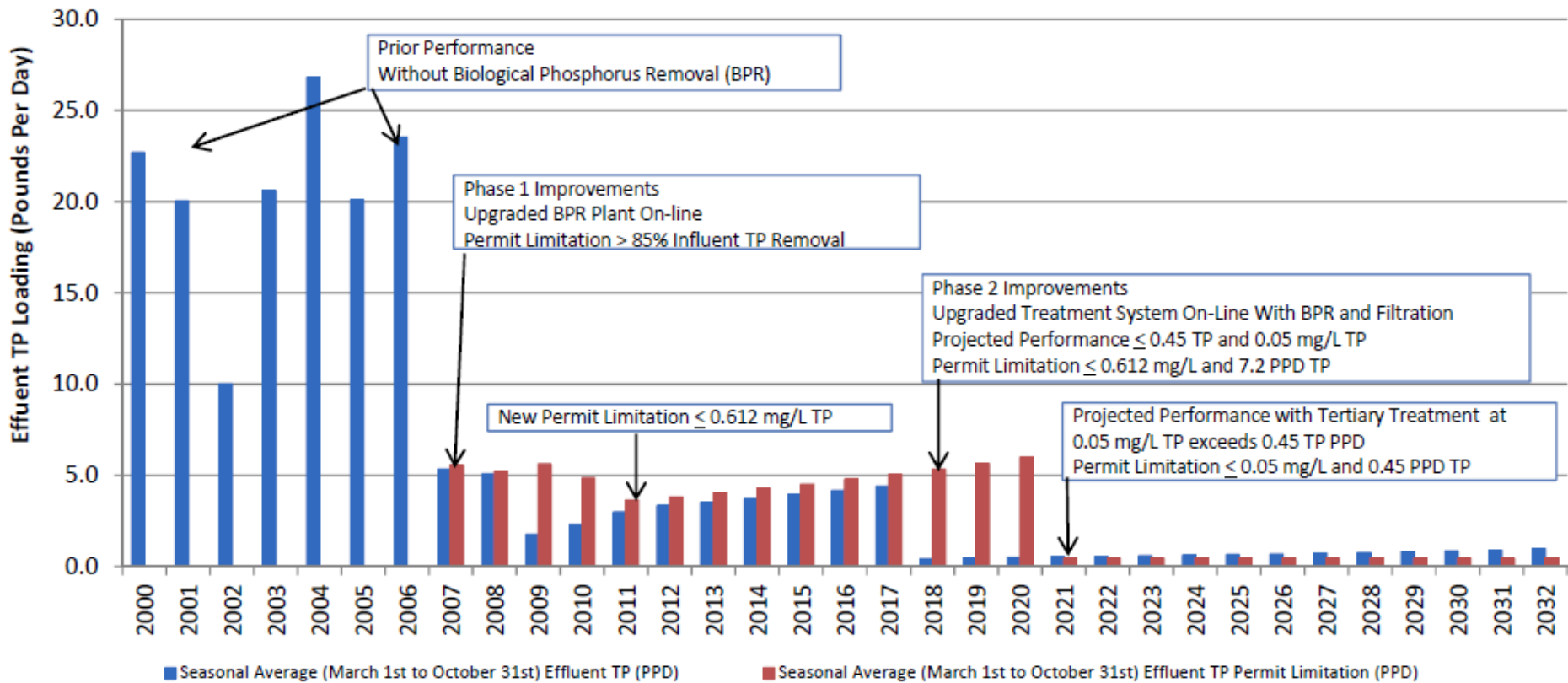
Phase II Cost Estimates

ITEM	TOTAL
<i>Estimated Total at Design</i>	<i>\$ 17,044,790</i>
Design	\$ 899,304
<i>Estimated Total Construction</i>	<i>\$ 16,145,486</i>
Building Purchase	\$ 507,000
<i>Total Construction and Purchase</i>	<i>\$ 16,652,486</i>
SRF Loan	\$ 15,123,251
Green Project Reserve	\$ 29,749
Ineligible Building Cost	\$ 115,546
District Match	\$ 1,384,454
Total Project Budget	\$ 16,653,000



Water Reclamation Facility Phosphorus Removal and Limits

Liberty Lake Sewer and Water District
Treatment Plant Effluent Total Phosphorus Loading





Additional Phosphorus Reduction Efforts

- LLSWD Stormwater requirements
- Annual “Beach and Leaf” cleanup
- Annual “Spring Clean” with the City of Liberty Lake
- Annual Phosphorus free fertilizer giveaway program with Greenstone Corporation
- In addition to the upgrades to the treatment facility, the LLSWD has installed reclaimed water mains in various locations in preparation for future water reuse projects.
 - In early 2014, the LLSWD Commissioners passed a resolution requiring new development to install “purple” pipe wherever it was expected to be beneficial.



Questions

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