

# Industrial Wastewater System (IWS) Segregation Meters Budget Increase Request

Presenters:

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# Background and Justification

- **Scope:** Install four Total Organic Carbon analyzers into the Industrial Wastewater System (IWS) that will sample wastewater prior to lagoon storage.
- **Purpose:** Segregation of stormwater with higher and lower levels of contamination.
- **Goal:** Maintain compliance with King County and Washington Department of Ecology permits and be in alignment with the All Known Available Reasonable Methods of Treatment initiative.

# IWS Segregation Meters Project Location

(southwest end of airport)



# Actions to Meet Future Effluent Limitations

Measures to Meet Reduced Limits	Implementation	Compliance Schedule
Hybrid Deicing Trucks (50% fleet)	Complete	2019
IWS to the SDS Diversions	IAF, NSAT, Concourse D SAMP NTP	2019 SAMP NTP
TOC Meter Project	Capital Project Underway	2020
Blend to Temperature <ul style="list-style-type: none"> <li>• 50% applicators</li> <li>• 100% applicators</li> </ul>	50%: Complete 100%: New Facility	2023 2025
Upgrade IWTP Controls	IWTP Controls Project	2024
High Concentration Storage (Minimum 1M gal)	Snow Melt Improvements	2025
Lagoons Mixing Pumps	IWTP Improvement Project	2025

# Potential project risks

<u>Risk</u>	<u>Description</u>	<u>Prob.</u>	<u>Impact</u>	<u>Mitigation Plan</u>
Weather delay	Project is dependent on dry weather for construction	M	H	Delay construction until weather improves. IWTP must remain operational.
Project delay	Bid irregularity, bid protest	M	H	Increased project budget. Added additional contingency. Will conduct contractor outreach during advertisement.
FAA approval	Due to project proximity to FAA Fiber Optic lines, detailed coordination required prior to construction starting	L	H	Continue to have detailed coordination meetings with FAA. Submitted updated documents to FAA for review.

# Project Cost Estimate and Budget Request

Authorized Capital Budget	\$2,242,000
Current Estimate at Completion (Ready to Bid)	\$3,857,000
<b>Total Additional Budget Request</b>	<b>\$1,615,000</b>

## Primary Cost Drivers

- Aggressive construction schedule (6 day work schedule)
- Concrete Encased Duct Bank for TOC meter fiber
- Temporary Erosion Control for duct bank construction
- TOC Analyzers (Two to Four)
- Class 1 Division 1, Electrical Classification for electrical equipment
- Procurement/project delivery method
- Additional Security (X ray support)

# Critical project milestones

- 2/23/21 Advertise for Construction
- 3/25/21 Bid Opening
- 5/4/21 Construction Contract Executed
- 6/17/21 Notice to Proceed Issued to Contractor
- 9/15/21 Substantial Completion

# Alternatives

## **Alternative 1 – Do not install four new Meters**

Cost Implications: \$450,000 in capital costs spent to date would need to be expensed.

### Pros:

- No Capital Costs required.

### Cons:

- The Port of Seattle would not be in compliance with King County and Washington Department of Ecology permits.
- The IWTP will continue to mix low level and high level contaminated wastewater and discharge that wastewater for treatment at a cost to Port of Seattle.
- Does not ensure the Port of Seattle meets King County Discharge Permit restrictions and the Port will not be in alignment with the All Known Available Reasonable Methods of Treatment initiative.

This is not the recommended alternative.



# Alternatives

## **Alternative 2 – Install four new analyzers**

Cost Implications: \$3,857,000 in capital is required.

### Pros:

- The IWTP will be able to segregate low level and high level contaminated wastewater and discharge only the wastewater that requires treatment to Valley View Sewer District sanitary sewers and to the King County South Wastewater Treatment Plant and thus reduce the fees paid by the Port of Seattle for wastewater treatment.
- The Port of Seattle remains in compliance with King County and Washington Department of Ecology permits.
- The Port of Seattle meets King County Discharge Permit restrictions and is in alignment with the All Known Available Reasonable Methods of Treatment initiative.

### Cons:

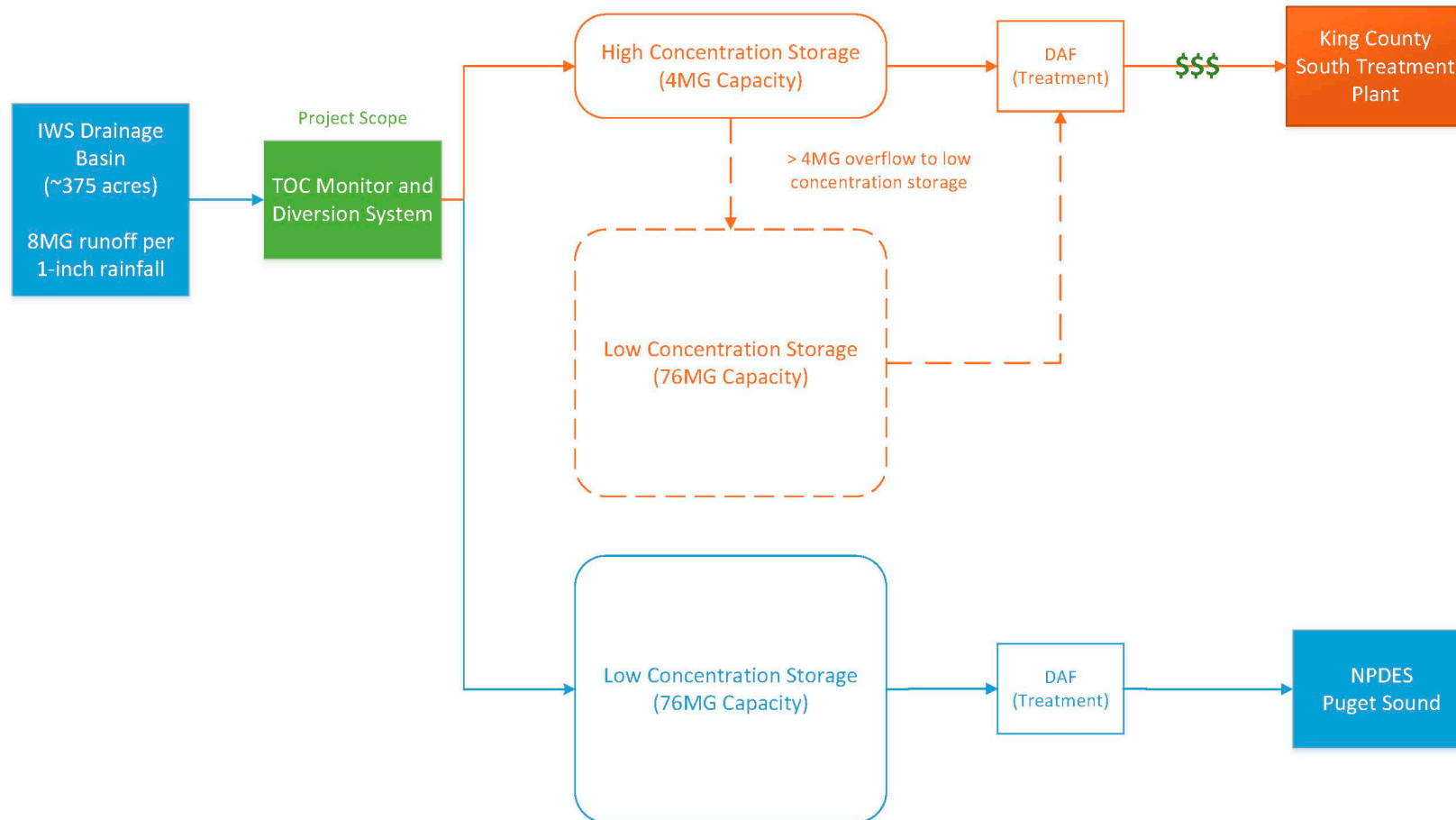
- Requires a capital investment total of \$3,857,000.

***This is the recommended alternative.***

# Appendix

# Improve IWS Segregation

## High and Low Aircraft Deicer Concentration



# Cost Increase Detail

Concrete Encased DuctBank	\$176,000
Temporary Erosion Control	\$36,000
TOC Meters & Elec	\$190,000
Escalation/DD	\$4,000
Covid/GC, HO, OH, Bond & Profit	\$112,000
Construction Contingency: 10%-15%	\$141,000
Sales Tax	\$68,000
Maint Support	\$16,000
Xrays	\$214,000
A/E Design and Construction	\$240,000
Project Management	\$86,000
Construction Management	\$103,000
Test/Safety/Survey/Directs/Misc.	\$120,000
Project Contingency 5%	\$109,000
Total Project Cost Estimate Increase	\$1,615,000