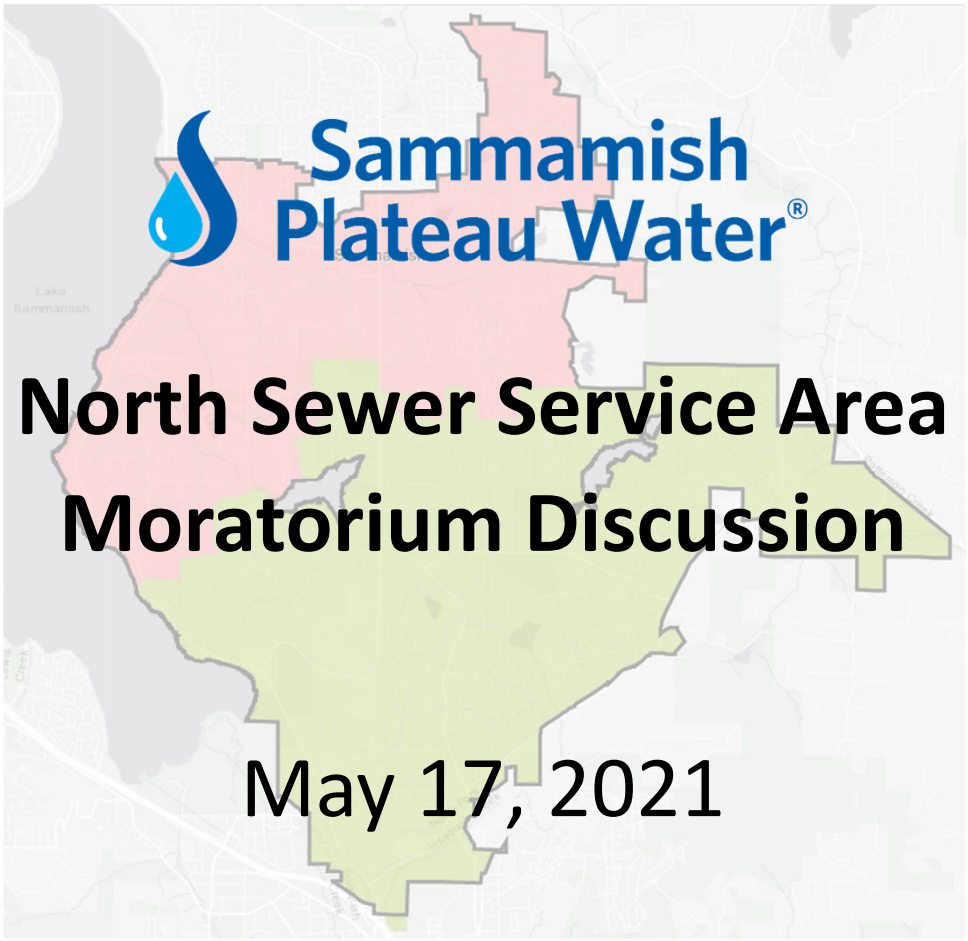
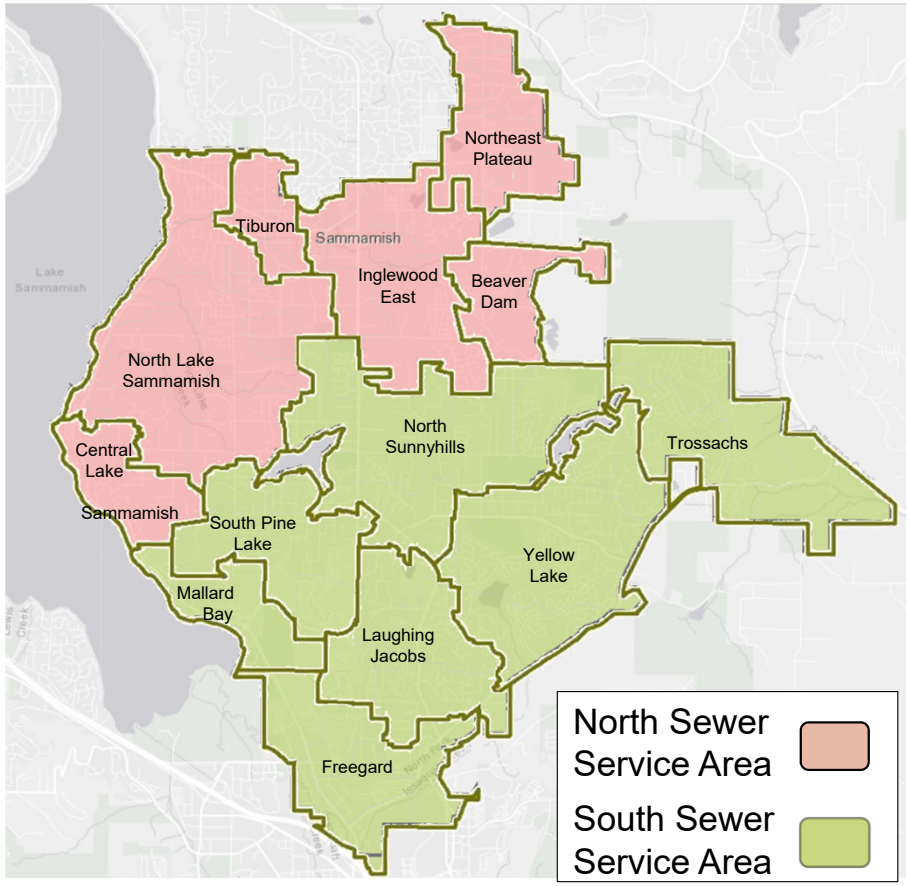


North Sewer Service Area Moratorium Discussion

May 17, 2021

North Sewer Service Area – Moratorium



2/22/2021: 90-day moratorium declared.
4/19/2021: Modified for certain septic requests

Not Allowed

New Certificates of Sewer Availability where Sewer Use Required

- Building a new house
- Remodeling an existing house
- New development

New Connections

- Existing house on septic

Allowed

New Certificates of Sewer Availability

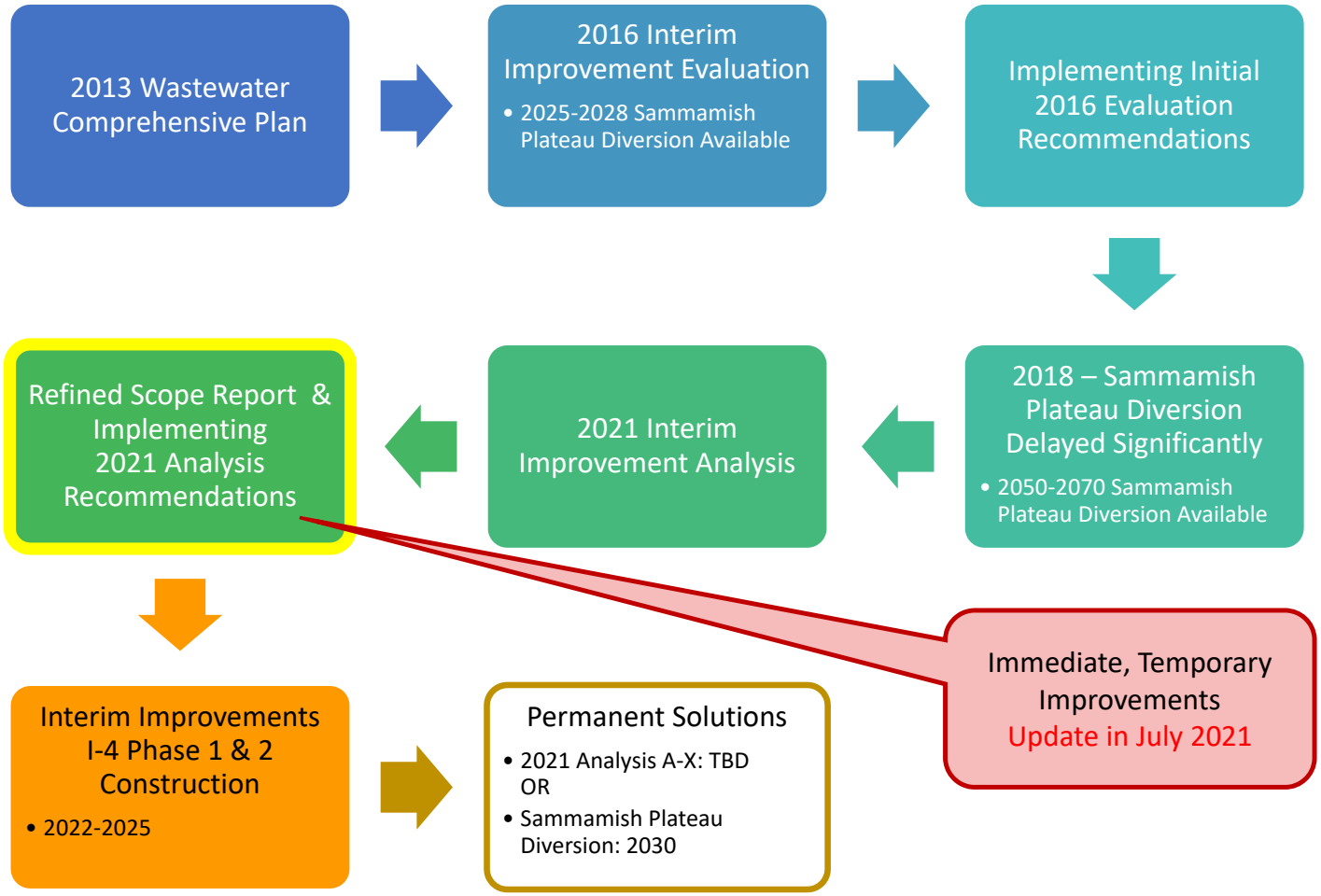
- If you have pre-paid connection charges
- Septic allowed

New Connections

- If your septic system is failing
- If you have pre-paid connection charges
- Developments in process, existing certificates

Certificates of Availability indicate a service commitment.

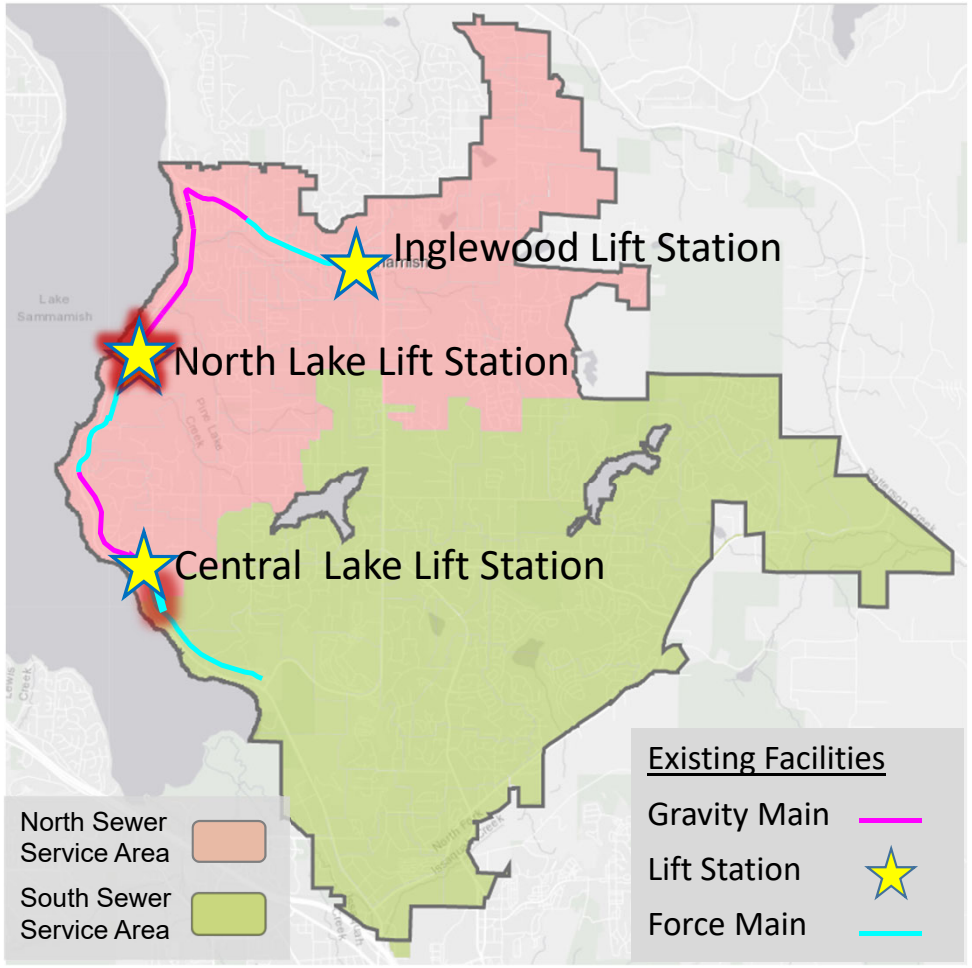
Path to Interim Improvements



Sammamish Plateau Water – Current Facility Bottleneck

North Lake Lift Station
Peak Inflow Trigger
1,200 gpm

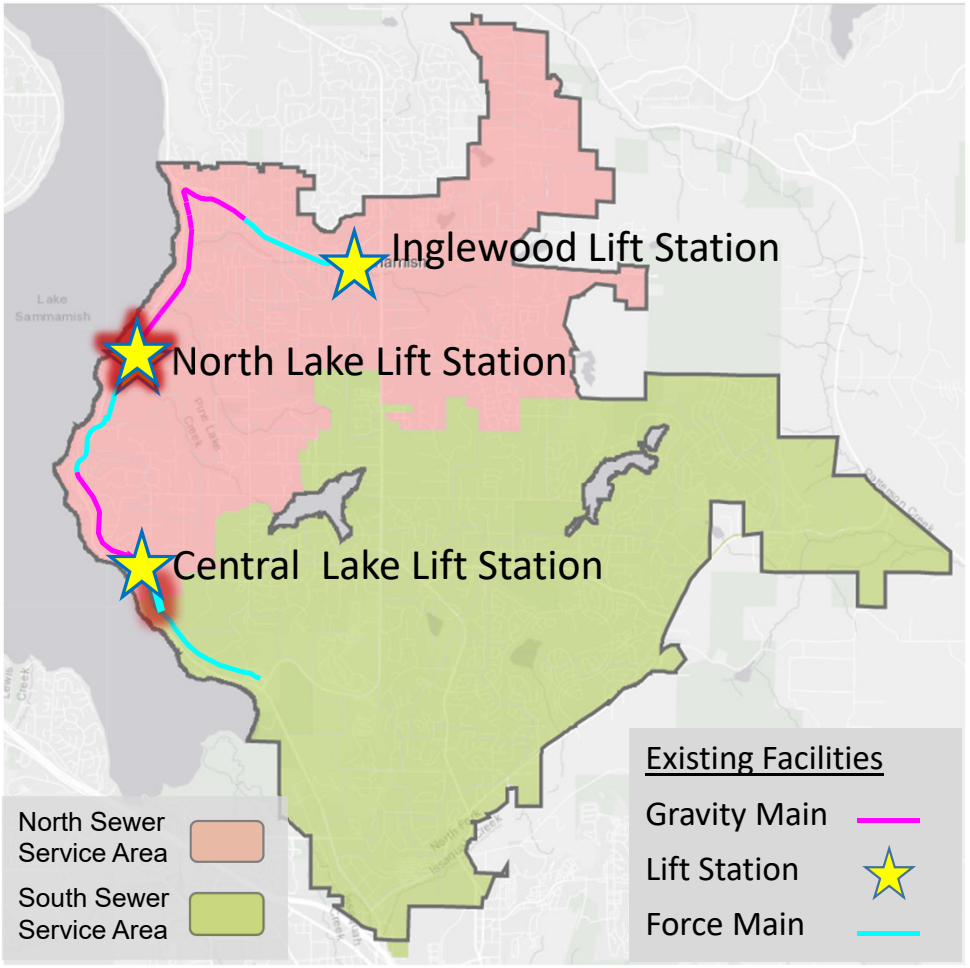
2013 Wastewater Comprehensive Plan	2016 Interim Improvement Evaluation



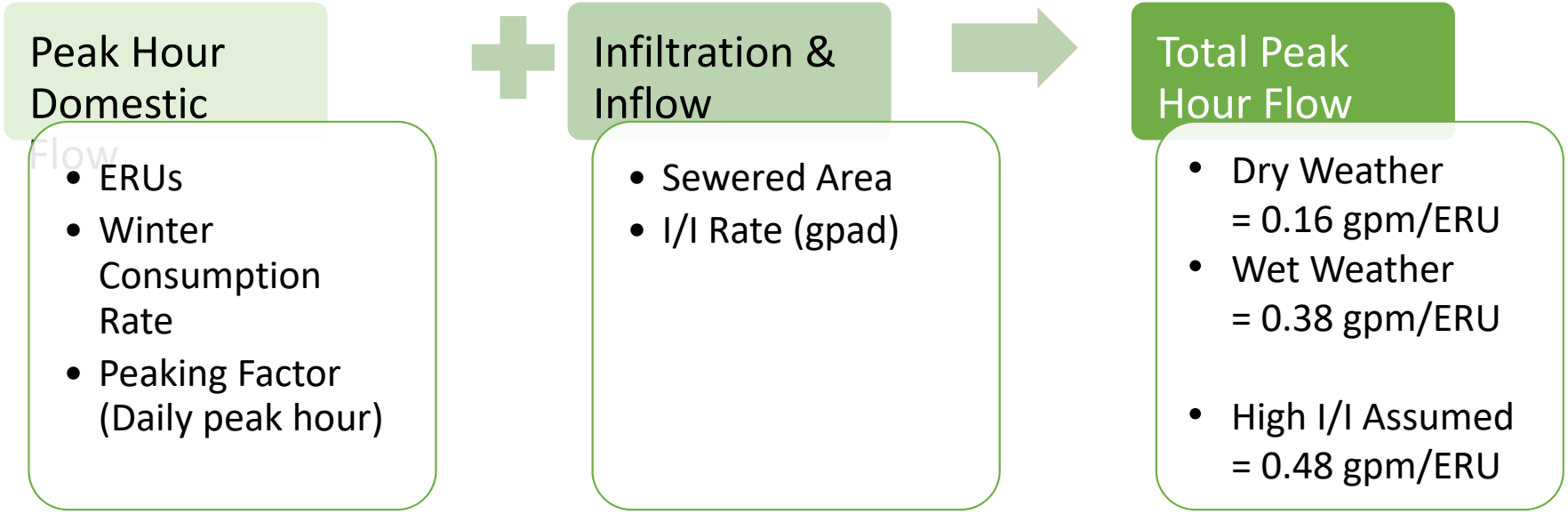
Sammamish Plateau Water – Measured Storm Flows

North Lake Lift Station
Peak Inflow Trigger =1,200 gpm

12/20/2019	2/5/2020 to 2/7/2020	1/3/2021	1/13/2021
4.2”	3.25”	2.72”	4.2”
1,305 gpm	1,300 gpm	1,227 gpm	1,437 gpm



Flow Rate Basis

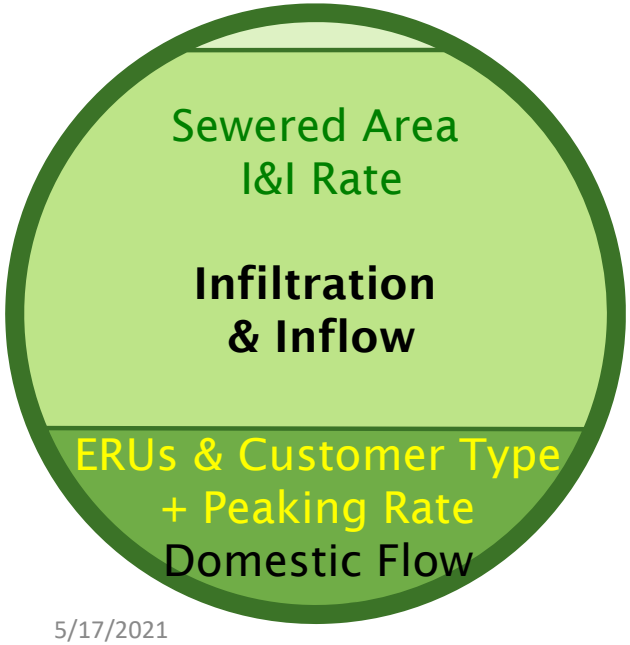


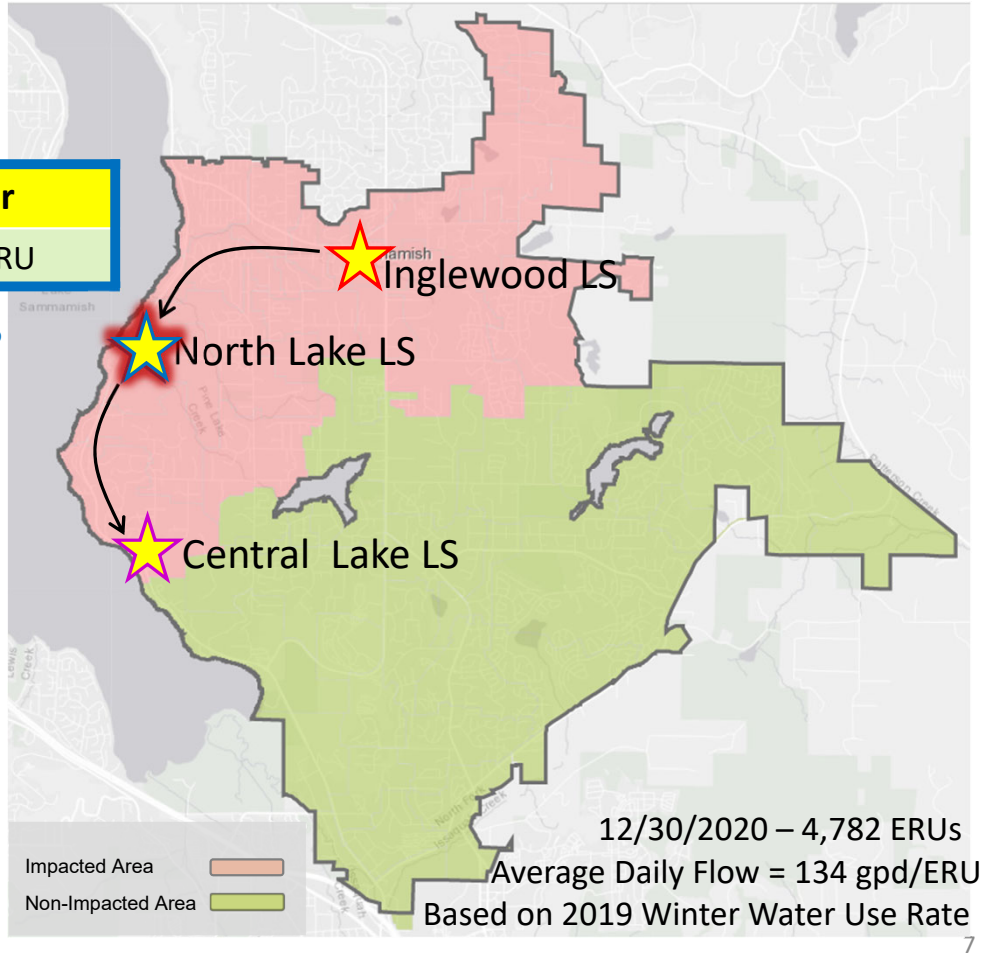
Dry & Wet Weather Flow Rate Comparison

North Lake Lift Station - Dry Weather	
Dry Weather Total Flow	0.16 gpm/ERU

North Lake Lift Station – Wet Weather	
Wet Weather Total Flow	0.38 gpm/ERU

North Lake LS
Is the current
bottleneck





12/30/2020 – 4,782 ERUs
Average Daily Flow = 134 gpd/ERU
Based on 2019 Winter Water Use Rate

ERUs in the Pipeline → Added Flow

Pipeline ERUs at the Lift Station	Non-DEA Certificate (2021)	Complete (2021)	Construction Phase (2022)	Design Phase (2023)	Planning Phase (2024-2025)	Total Pipeline ERUs
Inglewood	0.0	2.0	43.0	0.0	99.0	144.0
North Lake	18.0	2.0	80.0	22.0	242.0	364.0
Central Lake	22.0	17.0	82.0	22.0	245.0	**388.0**

	ERUs added at the North Lake Lift Station				Added Flow (gpm)	
Year	Pipeline	Septic Convert (assumed)	Total Added	Cumulative Added ERUs	Wet Weather 0.38 gpm/ERU	High I/I 0.48 gpm/ERU
2021	20.0	20.0	40.0	40.0	15.2	19.2
2022	80.0	20.0	100.0	140.0	53.2	67.2
2023	22.0	20.0	42.0	182.0	69.2	87.4
2024	121.0	20.0	141.0	323.0	122.7	155.0
2025	121.0	20.0	141.0	**464.0**	176.3	222.7
TOTAL	364.0	100.0	464.0			

District Conveyance System Interim Improvements – Capacity Provided

North Lake Lift Station • February, 2023

Central Lake Force Main • September, 2022

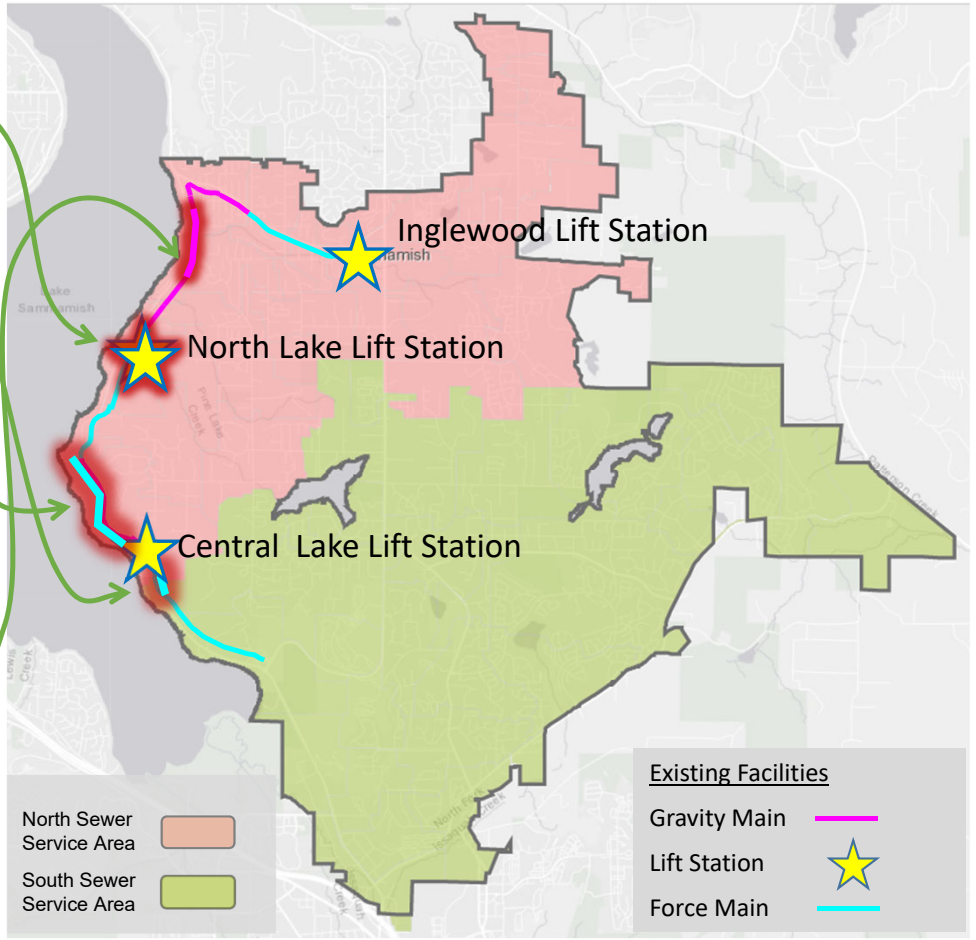
Phase 1: 500 gpm Capacity Increase

North Lake Force Main • June, 2023

Phase 2: 250 gpm Capacity Increase

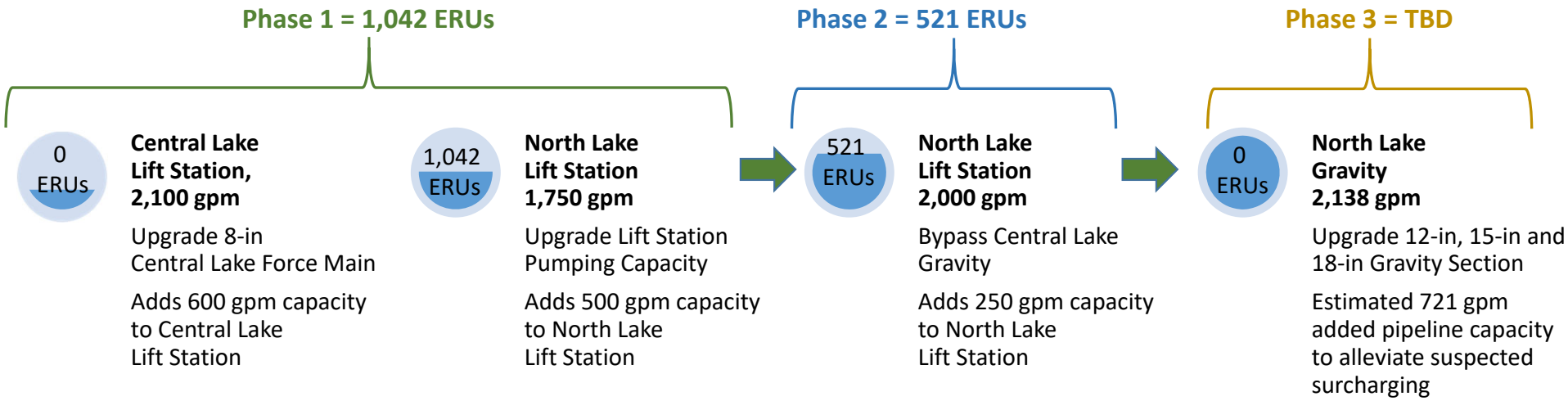
North Lake Gravity Main • 2023-2025

Phase 3 = TBD Based on Surcharge Monitoring



Interim Phasing and Estimated ERU Capacity

I-4 Interim Improvements



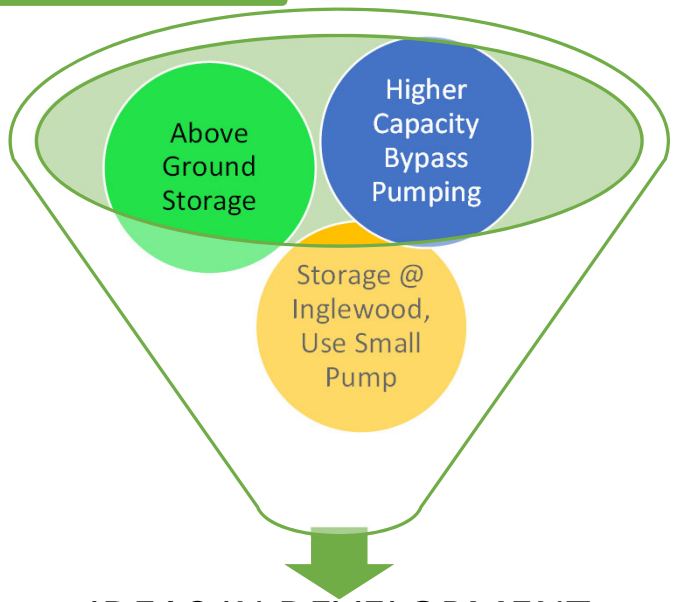
Added ERU Capacity is calculated on the basis of Peak I/I with assumed High I/I = 0.48 gpm/ERU

Immediate, Temporary Improvements

Avoid Overflows

Goals

Implement in Short Time



IDEAS IN DEVELOPMENT

Brainstorm Ideas	Refine Ideas	Options Report	Construct, Install, and Implement
• June 2, 2021	• June - July	• Late July	• August-November

Infiltration & Inflow (I/I) – Program Status

Project Constraints

- Detailed I/I investigation takes time and resources to effectively evaluate a sewer conveyance system.
  - Engage with ADS for Scope of Work on high I/I locations identification
  - Identify assistance for Smoke Testing in areas with suspected I/I
- Weather events are important sources of information. Weather events cannot be scheduled.

Program

Infiltration & Inflow Dashboard

- Fixed flow monitors at Lift Stations
- I/I trends can be monitored
- Areas with higher I/I can be identified

Infiltration & Inflow Refinement

- Portable Flow Monitors
- Fine tune identification of areas for abatement

Infiltration & Inflow Abatement

- Ongoing I/I maintenance activities
- Mainline and side sewer analysis.
- Smoke testing for illicit connections at a home or conveyance pipe deficiencies.
- Other industry investigative techniques.

Sammamish Plateau Water – Pathway Out of the Moratorium

Establish metrics to evaluate system capacity

- Add and improve conveyance system flow measurement
- Development of infiltration & inflow dashboard to monitor water use versus peak flows

Determine basis for lifting moratorium

- Monitor improved system capacity versus triggers
- Timeline for installation of system improvements

Design and implement system improvements

- ✓ Engage engineer to design system improvements identified in prior Analysis
- Immediate, temporary improvements – Avoid overflows
- Interim improvements – improve capacity incrementally

Initiate long-term improvements

- Engage King County to get assurances of long-term improvements
- Evaluate District-initiated long-term/permanent improvements independent of King County

Schedule

3/29/2021	Approve Design Contract
5/2021	Refined Scope Report Completed
5/2021	Initiate Immediate Temporary Improvements Identification

Construction Project Board Touches	Phase 1 Central Lake Force Main	Phase 1 North Lake Lift Station	Phase 2 North Lake Force Main
Initiate Project	4/2021	4/2021	4/2021
30% Design	8/2021	8/2021	11/2021
90% Design	1/2022	1/2022	6/2022
Bid Project	4/25/2022	4/11/2022	10/3/2022
Complete Construction	9/2022	2/2023	6/2023

Sammamish Plateau Water – Status Recap

System Capacity = 1,200 gpm at North Lake Lift Station

Storm Events – Maximum Flow = 1,437 gpm at North Lake

Project 182 ERUs Connections through 2023
(Pipeline + Septic Conversion)

182 ERUs add 69 – 88 gpm increasing flow to 1,506 – 1,525 gpm

Added Capacity is Not Anticipated before 1st Quarter of 2023
(North Lift Station = 500 gpm)

Sammamish Plateau Water – Moratorium Decisions

Release Moratorium

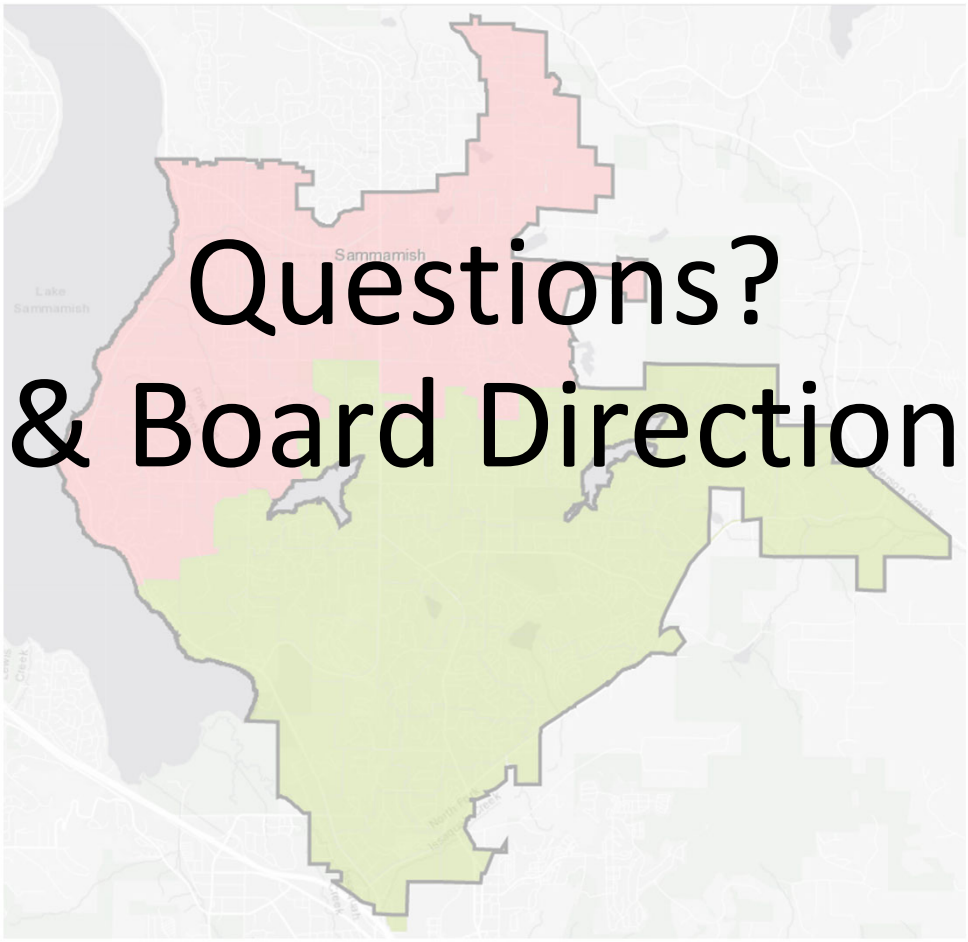
- Allow additional service and increase risk of overflows

Extend Moratorium

- Monitor infiltration & inflow trends
- Monitor ERUs in the pipeline
- Monitor ERUs added through exceptions

If the Moratorium is lifted, consider

- Modifications to financial requirements to obtain Certificates of Availability
- Terms under which the Moratorium would be re-established



Questions?
& Board Direction