North Sewer Service Area
Status Update
City of Sammamish

Update from April 6, 2021 City Council Meeting
Sammamish Plateau Water – Impacted Sewer Basins

Sammamish Plateau Diversion - Phase 1 (aka North Diversion)
District Initiatives/Actions Since April 6, 2021 Meeting

Engaged Consulting Engineer (April 1, 2021):

- Evaluated Potential Immediate Improvements (July 20, 2021)
- Initiated Design of Interim/Permanent Improvements (April 1, 2021)
- Evaluated Infiltration & Inflow Sources and Abatement (October 4, 2021)

Moratorium Expired on August 24, 2021
District Conveyance System Interim Improvements

**North Lake Lift Station**
- February, 2023

**Central Lake Force Main**
- September, 2022

Phase 1: Capacity Increase 1,388 ERUs

**North Lake Force Main**
- June, 2023

Phase 2: Capacity Increase 694 ERUs

**North Lake Gravity Main**
- 2023-2025

Phase 3: Capacity TBD Based on Monitoring

Existing Facilities
- Gravity Main
- Lift Station
- Force Main

North Lake Lift Station

Central Lake Lift Station

Inglewood Lift Station

North Sewer Service Area

South Sewer Service Area

10/12/2021
Inglewood Lift Station
- November, 2021
  - Operational Flow Reduction
  - Add Temporary Storage

North Lake Lift Station
- November, 2021
  - Bypass Pump: Capacity Increase 694 ERUs

Central Lake Lift Station
- November, 2021
  - Add Temporary Storage
Interim Phasing and Estimated ERU Capacity
Immediate and I-4 Interim Improvements

**Immediate Improvements**
- North Lake Lift Station
- Bypass Pump
- 694 ERUs

**I-4 Phase 1:**
- Central Lake Force Main & North Lake Lift Station
- 694 ERUs

**I-4 Phase 2:**
- Bypass Central Lake Gravity
- 694 ERUs

**I-4 Phase 3:**
- North Lake Gravity
- 0 ERUs

**Sammamish Plateau Diversion:**
- Permanent Solution
- 7,000+ ERUs

Added ERU Capacity is calculated on the basis of 0.36 gpm/ERU
## ERUs in the Certificate/DEA Pipeline

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As of 12/31/2020

10/12/2021
Infiltration & Inflow (I&I) – Where Does It Come From?

Infiltration

• Groundwater seeps into sewer pipes through holes, cracks, joint failures, and faulty connections.

Inflow

• Stormwater flows into sewers via roof drain downspouts, foundation drains, storm drain connections, and holes in manhole covers.

The District’s capacity constraints occur during wet weather events.
Sammamish Plateau Water – Smoke Testing
Internal I&I Investigation

- 89 Potential Sources of I&I
  - 16 Significant Contributors to Inflow
- Following up with remaining 73 I&I Locations
  - 19 District owned
  - 39 Privately owned facilities
  - 12 Other field observations to research
- Repair of the 16 locations could equate to 174 ERUs
King County Regional Infiltration & Inflow (I&I)

When compared with the region, the District’s amounts of Infiltration & Inflow are low.

Map source: King County Wastewater Treatment Division

Maximum Calculated 20-Year Peak I/I Hourly Flow Rates
file: MdlBsnGPAD_20yrPeak_20150522.mxd

GPAD = Gallons per acre per day.
SEWER METRICS

Measure Flows
Monitor flows in and out and compare to design capacity

Observe/Assess Flows
Assess effectiveness/impacts of I&I abatement

Project Demands/Available Capacity
Track future connections/projected added demands vs. design capacity and future programmed capacity

Revise Assumptions
Use data to manage commitments vs. capacity

Sewer Capacity
**District Initiatives/Actions – Capacity Additions**

**District North Sewer Service Area**

Immediate Improvements = 694 ERUs

Interim Improvements = 1,388 ERUs

Infiltration & Inflow Abatement = 174 ERUs

**TOTAL = 2,256 ERUs**

Citywide Growth Target: ??? Housing Units

King County Programmed
Sammamish Plateau Diversion – Phase 1
Capacity Improvements by 2030
Questions?