



Coquitlam Lake and Intake

Coquitlam Lake Water Supply Project

PROJECT UPDATE

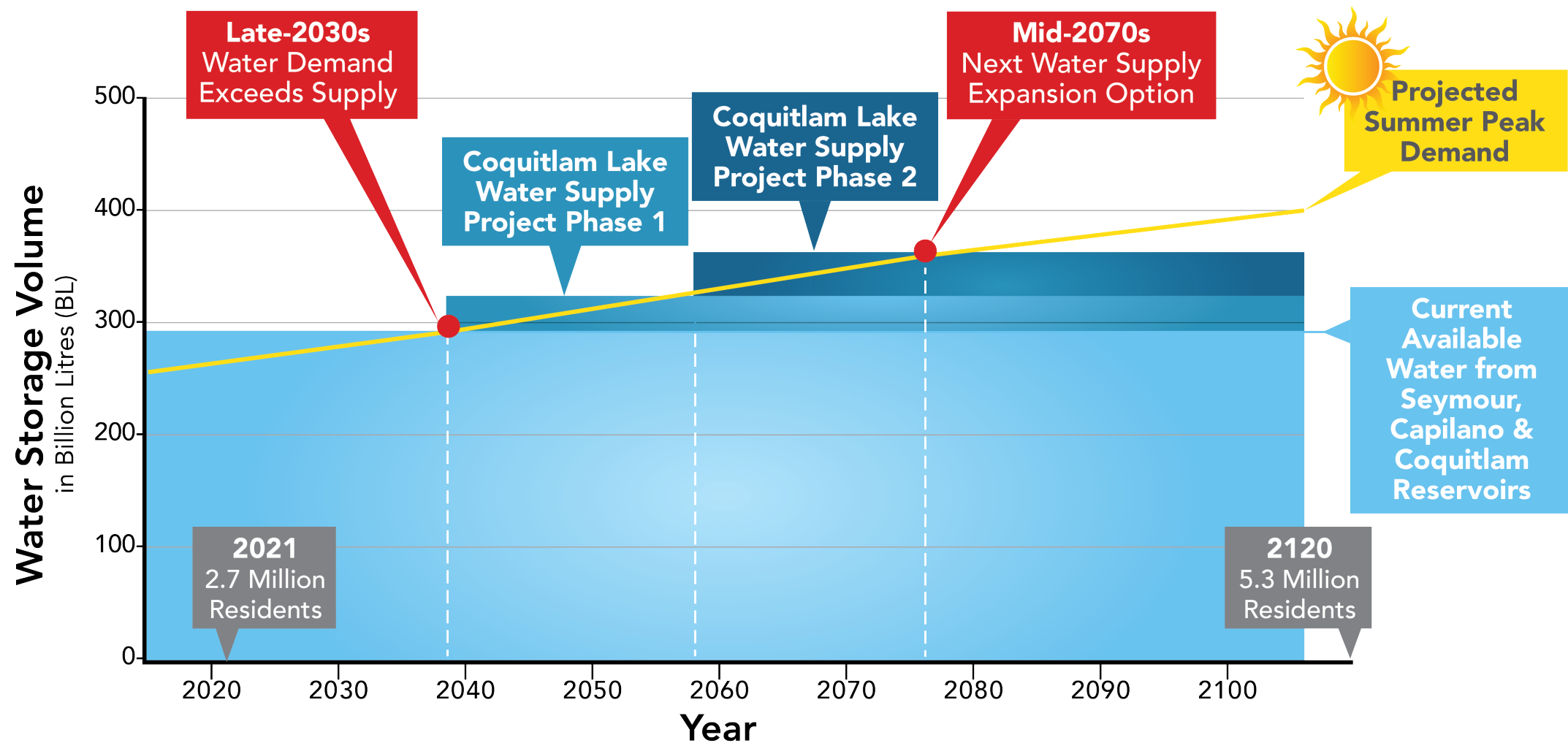
Bob Cheng, P.Eng.

Project Manager, Project Delivery

Finance and Intergovernment Committee – September 8, 2021
46935011

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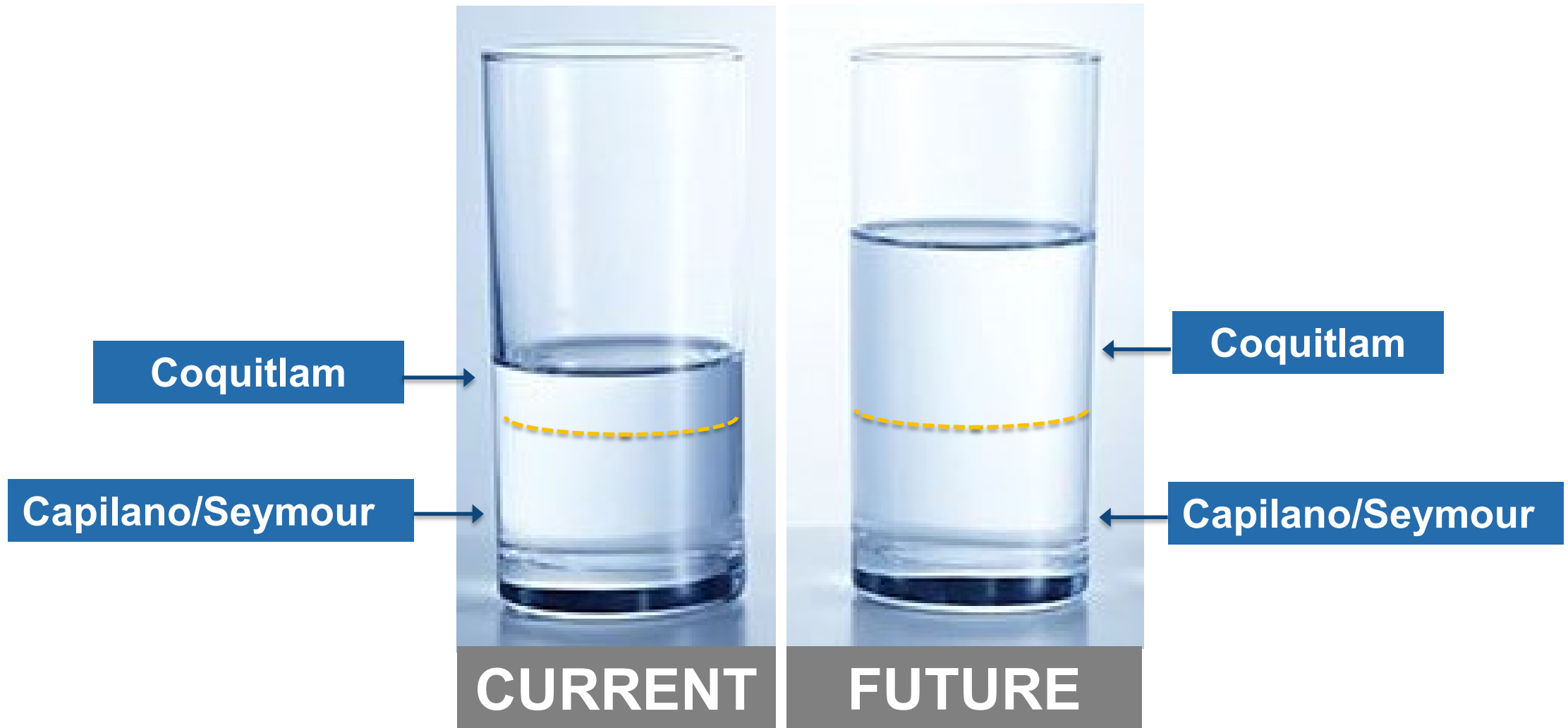
MAJOR WATER PROJECTS TIMELINE



PROJECT HISTORY

- 1996: Board approval – Coquitlam expansion as next increment of supply
- 2005: Feasibility studies and water quality monitoring
- 2017: Began project definition work
- 2018: Board endorsement for North Intake – Phased Filtration
- 2020: Water Committee and Board updates

REGIONAL WATER SUPPLY SOURCES



PROJECT DRIVERS

New infrastructure needed to access additional water

Existing intake isn't deep enough, big enough, or in the right location to withdraw sufficient quantities of water

New intake would allow Metro Vancouver to access the full volume of water allocated

Filtration enables improved system performance and risk management



Proposed Intake Location

Proposed Tunnel Location



Coquitlam Lake

Existing Intake

Existing Tunnel & Transmission Mains

Cross-over Connection

Coquitlam Dam

Existing Ozone Plant

Existing UV Plant

Proposed Treatment Plant Location

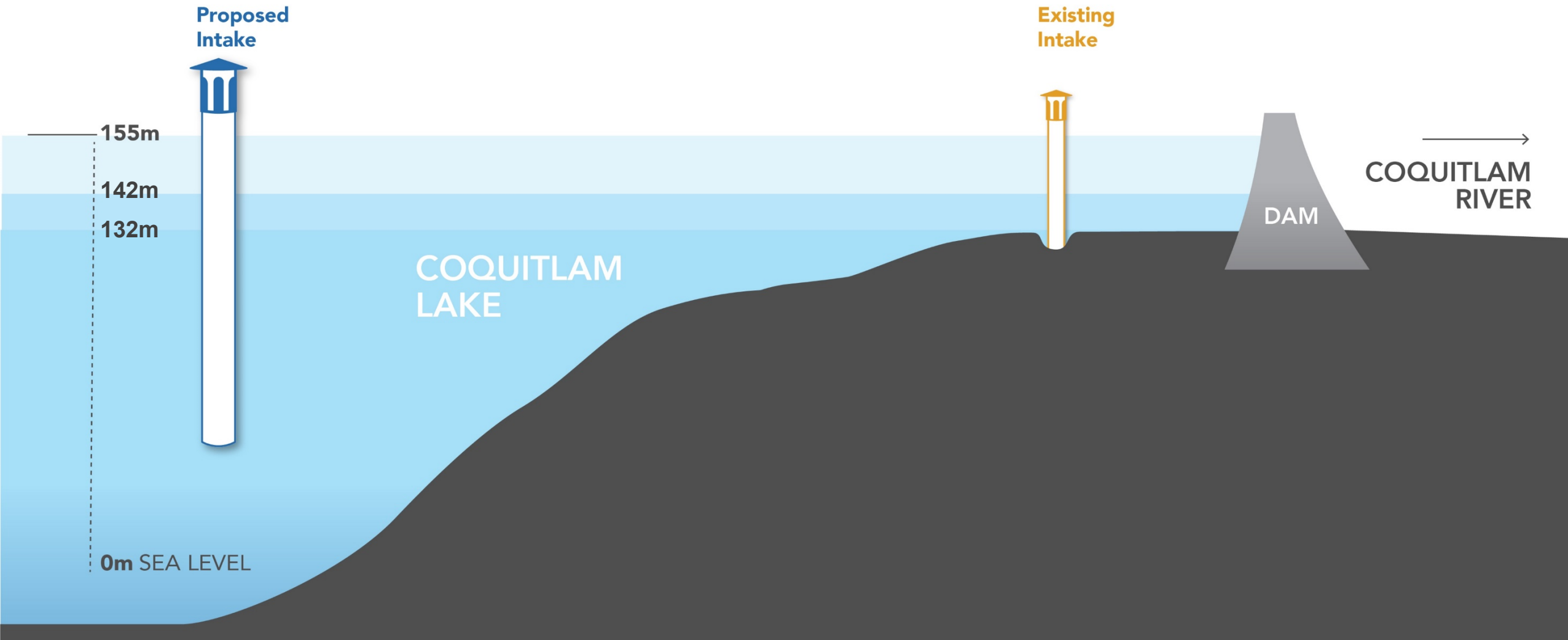
Phase 2 Phase 1

Coquitlam Watershed

Coquitlam River
Pipeline Road

CITY OF COQUITLAM

PROPOSED INTAKE





Coquitlam
Watershed

LEGEND

- Property line
- Treatment Plant

Phase 2

Phase 1

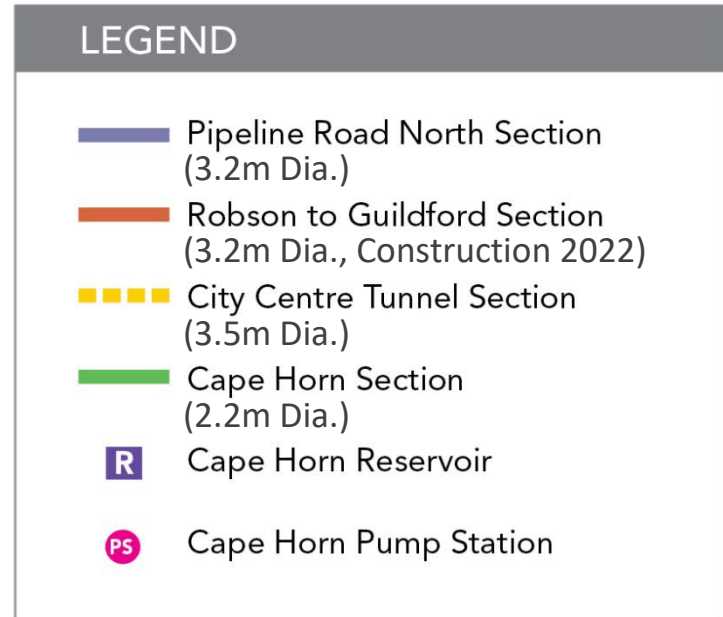
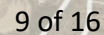
Pinecone Burke
Provincial Park

Pipeline Rd

Upper
Coquitlam
River Park



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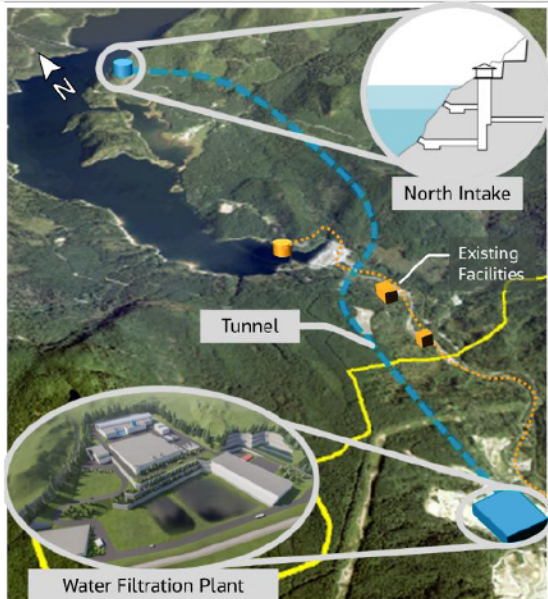


VALUE ENGINEERING OPTIMIZED PROJECT OPTIONS

2021 Options Assessment

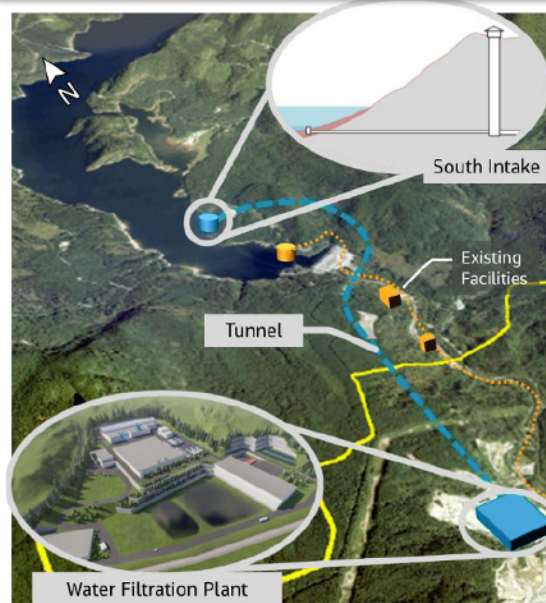
01

North intake
phased filtration



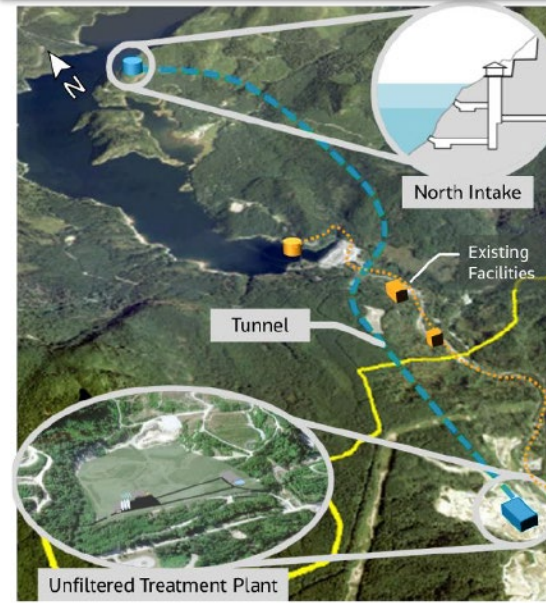
02

South intake
phased filtration



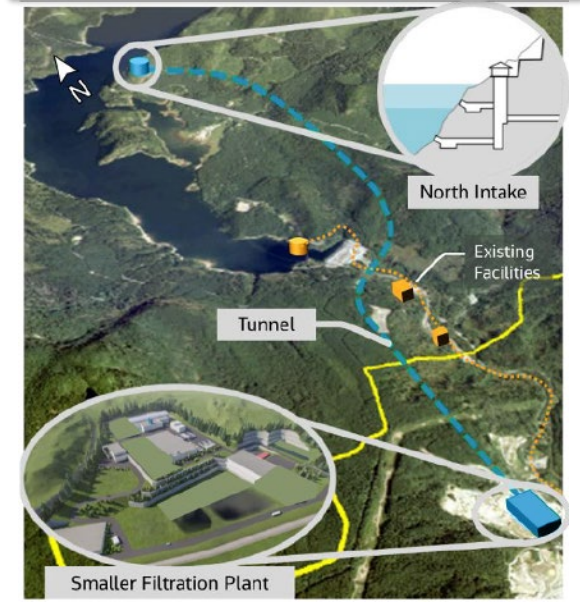
03

North intake
deferred
filtration



04

North intake
smaller initial
filtration



PROJECT OPTIONS

2021 Options assessment - Summary

	2018 North intake phased filtration	01 North intake phased filtration	02 South intake phased filtration	03 North intake deferred filtration	04 North intake smaller initial filtration
Life cycle cost (Phases 1 & 2)	\$7.6B	\$7.0B	\$7.0B	\$7.4B	\$6.6B
Capital cost (Phase 1)	\$4.1B	\$3.9B	\$3.8B	\$3.1B	\$3.9B
Filtration capacity (Phase 1)	1,300 MLD	1,300 MLD	1,300 MLD	0 MLD	900 MLD
Filtration capacity (Phase 2)	2,600 MLD	2,600 MLD	2,600 MLD	2,600 MLD	2,600 MLD
Turbidity treatment before phase 2	YES	YES	YES	NO	YES

PREFERRED OPTION

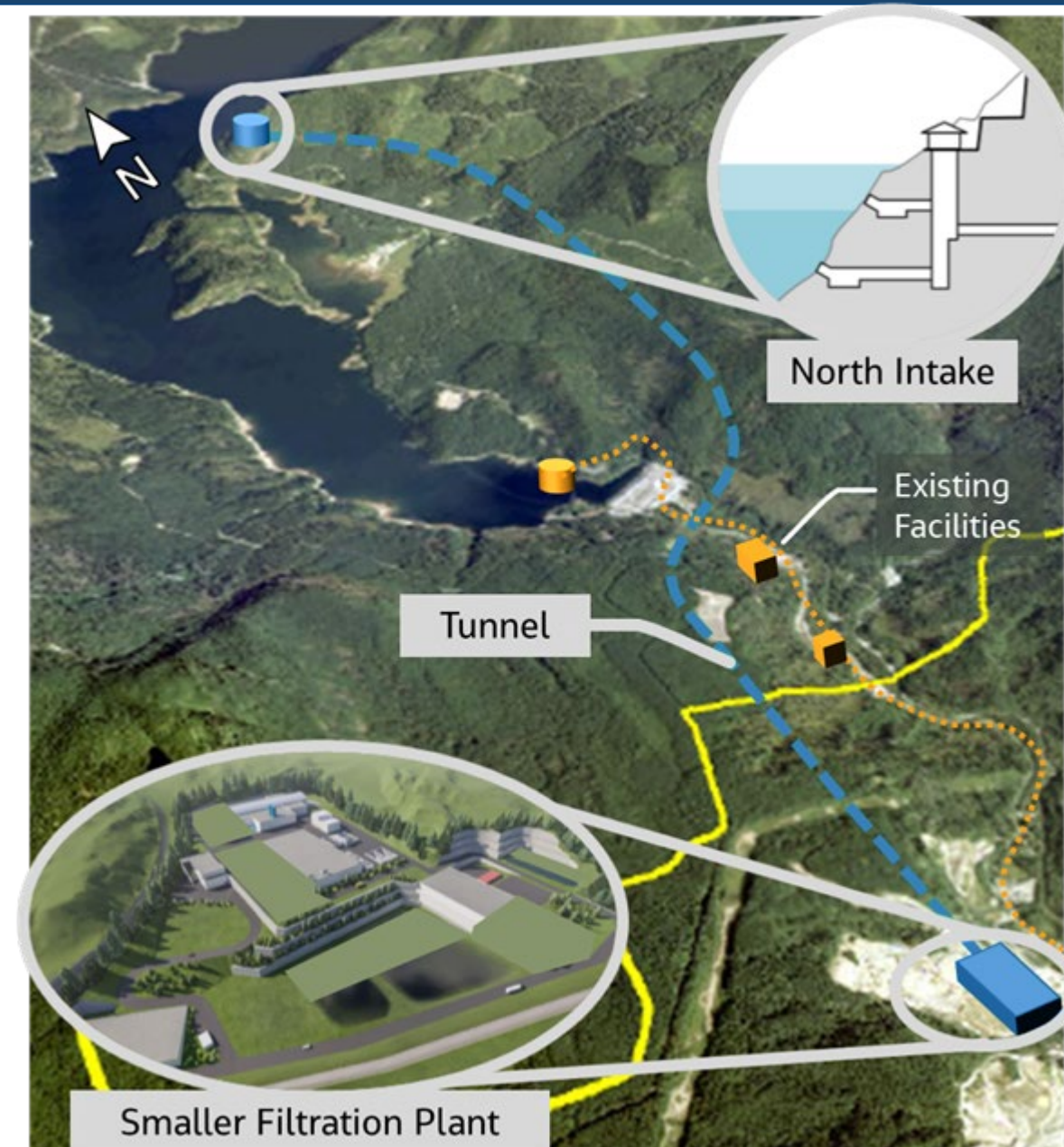
North Intake with Smaller Initial Filtration

Phase 1 Features:

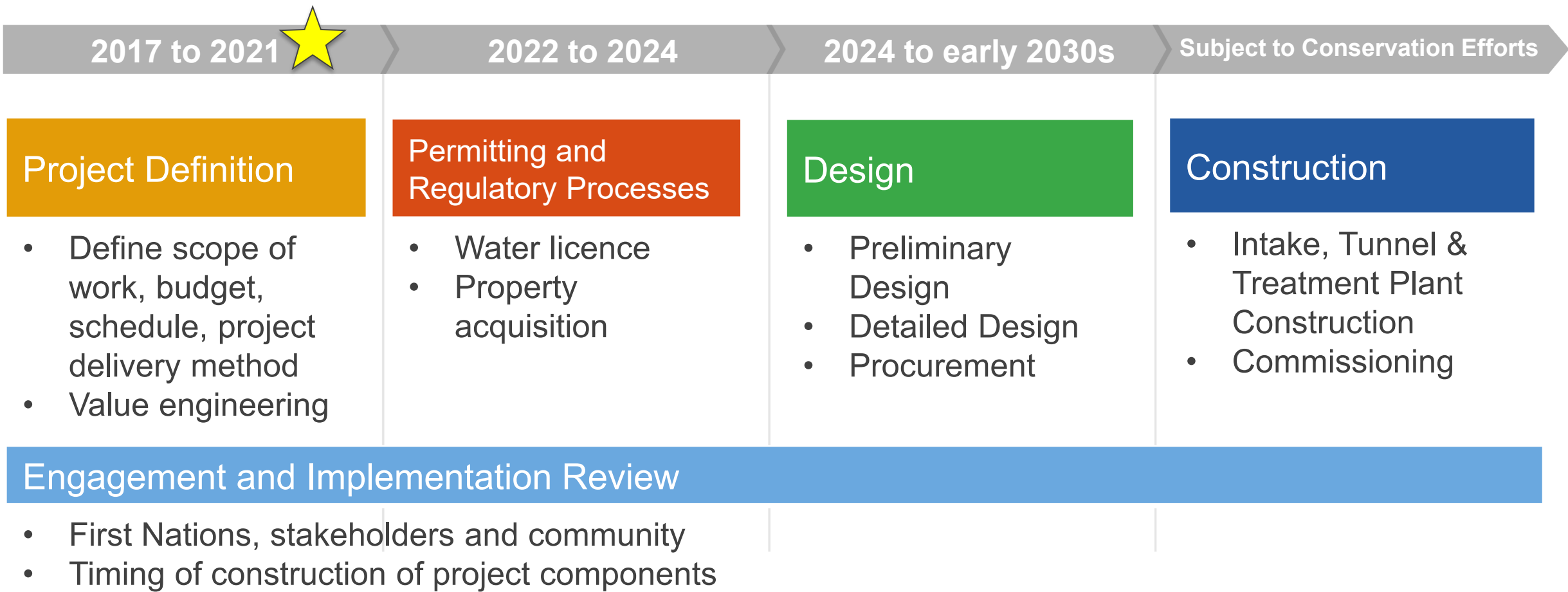
- Intake: North with 2 depths
- Tunnel: 5.6 km rock + 2.8 km soil = 8.4 km total
- Filtration capacity: approx. 900 ML/d

Phase 2 Features:

- Additional filtration capacity: approx. 1700 ML/d

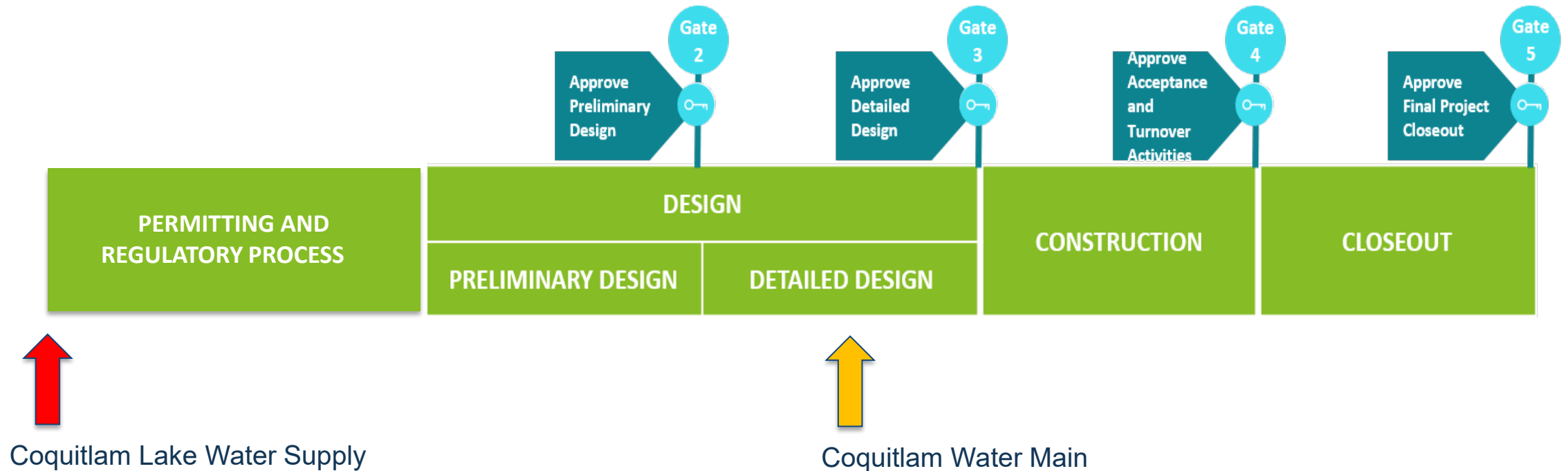


ANTICIPATED SCHEDULE



COQUITLAM WATER SUPPLY PROJECTS

Stage Gate Status



Project updates will continue in addition to stage gate reviews

NEXT STEPS

- GVWD Board – September 2021
- Transition to permitting and regulatory phase – Q4 2021
- Continue engaging with City of Coquitlam and Kwikwetlem First Nation – Ongoing
- Property acquisition – 2022
- Additional planning work – 2022
 - Phase 2 site investigations
 - Treatment pilot testing



Coquitlam Lake

Questions?

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Together we make our region strong