

Bull Run Water Supply Decision Re-Evaluation

June 6, 2022

Presented by:

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Presentation Overview

- Background, Drivers
- Existing Water Supply Sources
- Water Demand
- Changes to Portland Supply
- Water Supply Alternatives
- Schedule
- Recommendation & Next Steps
- Q&A

Existing Water Supply

Today, water is supplied from three sources

Portland Wholesale Supply

Purchase unfiltered treated water from Portland : 3 (mgd)

Alder Creek Surface Water Source

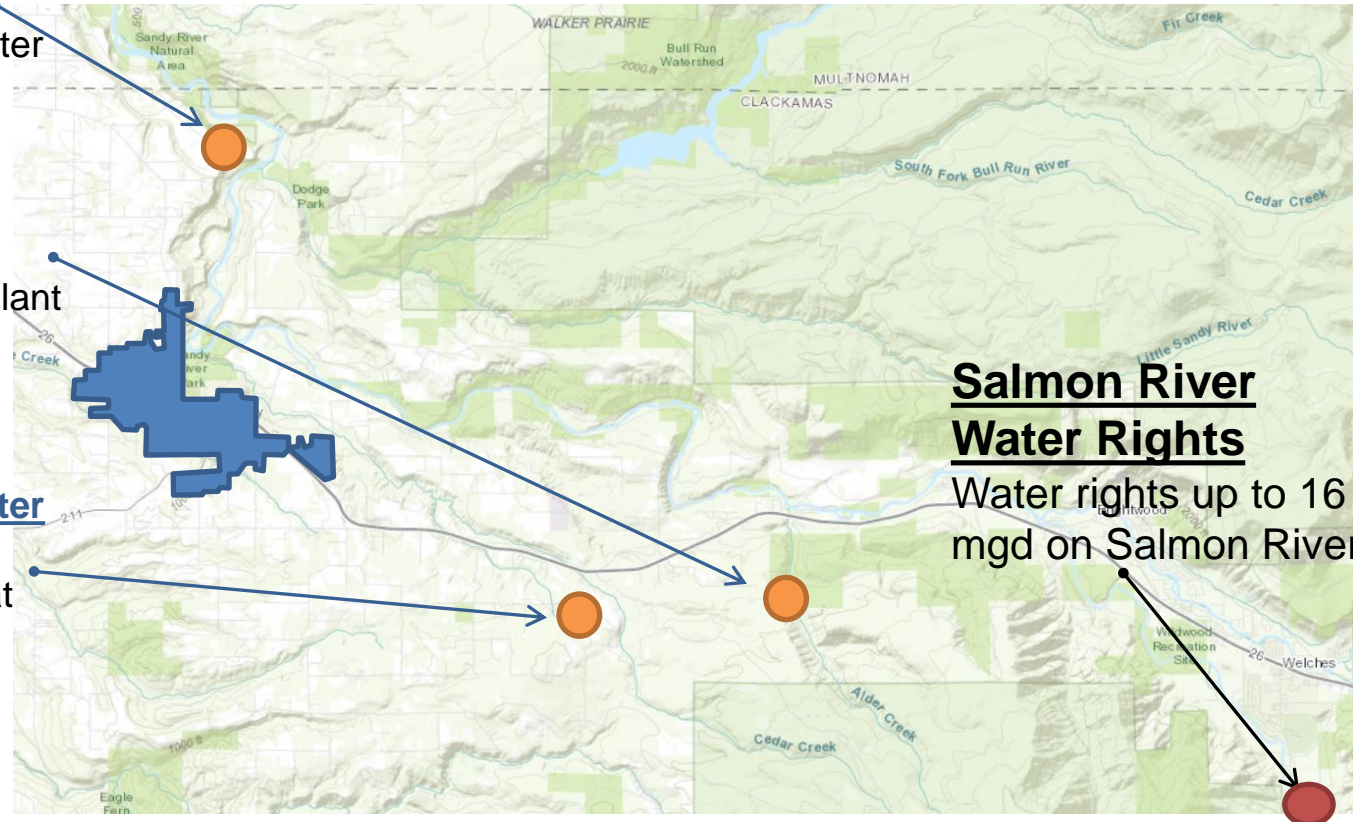
City owned Water Treatment Plant on Alder Creek: 0.9 mgd

Brownell Springs Groundwater Source

City owned groundwater well at Brownell Springs: 0.12 mgd

Salmon River Water Rights

Water rights up to 16 mgd on Salmon River



■ **Water Rights Review**

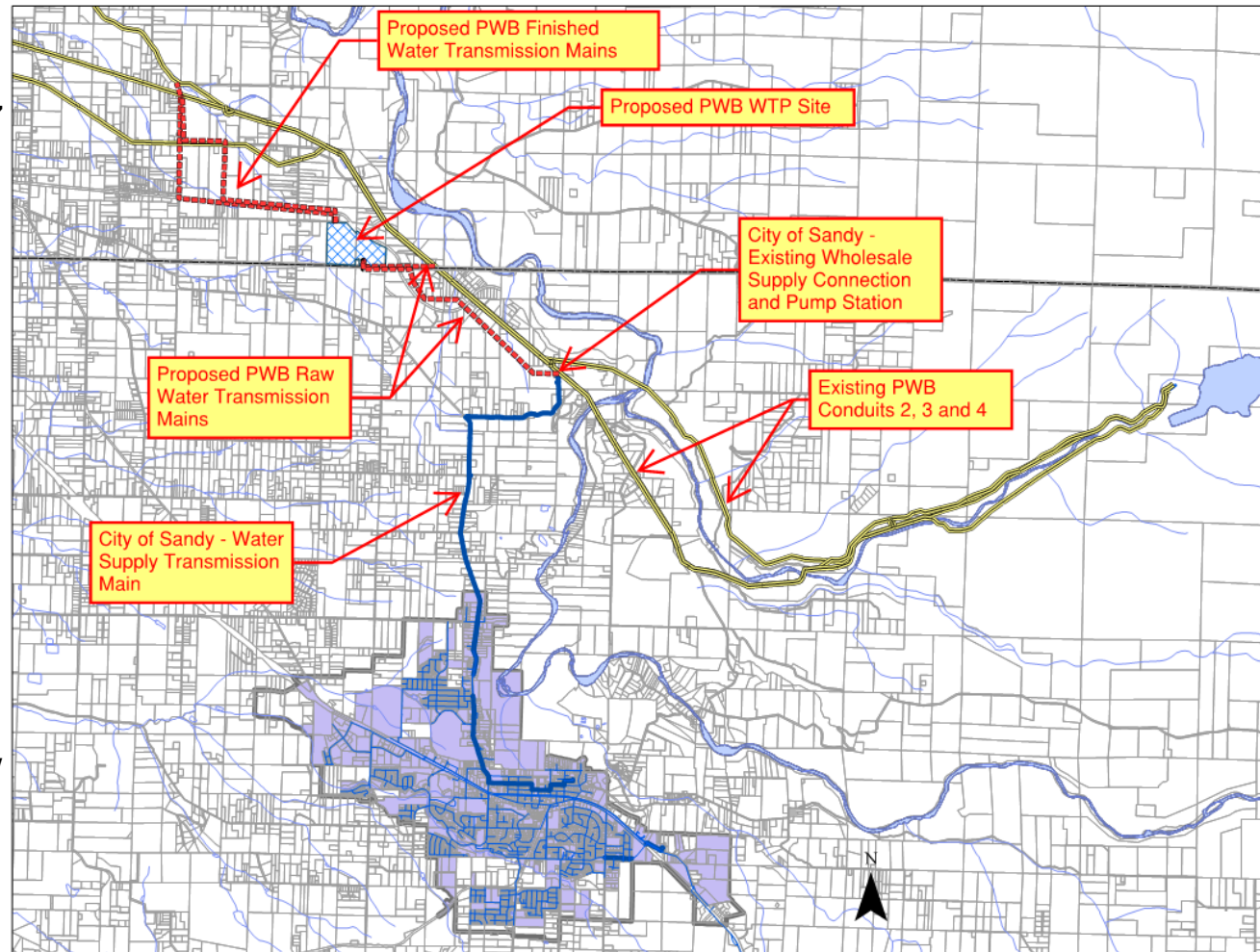
- Brownell Springs & Alder Creek @ 2.7 MGD water right priority
- Undeveloped Salmon River Permit – 16.2 MGD– significant regulatory hurdles.
 - Surface water to groundwater transfer of permit to a well on the Sandy River downstream of Salmon River confluence may be feasible.
 - Uncertain outcome, cannot happen by 2027

■ **Groundwater Review**

- Unlikely a wellfield could produce 5 MGD

Changes to Portland Supply

- Portland is building a new filtration plant to meet Surface Water Treatment Rules
 - Must be in service by fall 2027
 - Treated water will not be available to Sandy when plant goes in service without constructing improvements
 - Sandy can buy untreated water from Portland and build a treatment plant
- or*
- Sandy can buy filtered water from Portland and build a new pipeline from Portland's WTP to existing connection at Lusted Road and Hudson Road



Sandy Water Supply History

2008 20-year Water Supply Agreement w/ PWB

2011 Sandy constructs infrastructure to connect to PWB

2018 Sandy Agreement w/OHA treat Bull Run Water for Cryptosporidium by **September 2027**

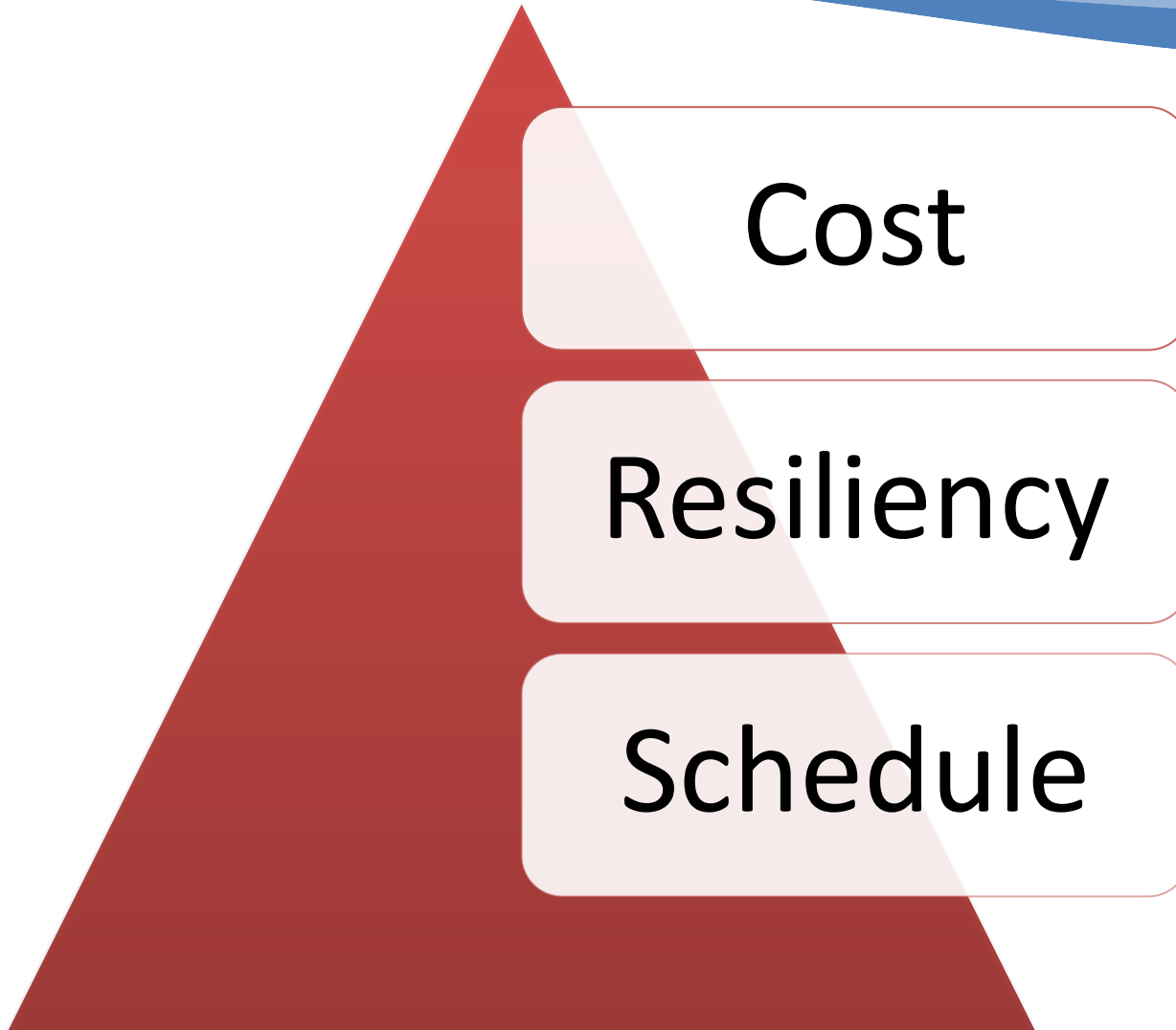
June 2021 Sandy chooses water treatment plant & purchase unfiltered water from PWB

May 2022 Revisit Decision based on updated costs

Compliance Status with OHA

Bilateral Compliance Agreement	Date Issued	Due Date	Closed Date
Submit Master Plan	Sept 2018	December 2020	OVERDUE
Begin Construction	Sept 2018	July 31, 2024	
Correct Water Quality Deficiencies	Sept 2018	September 30, 2027	

Decision Drivers

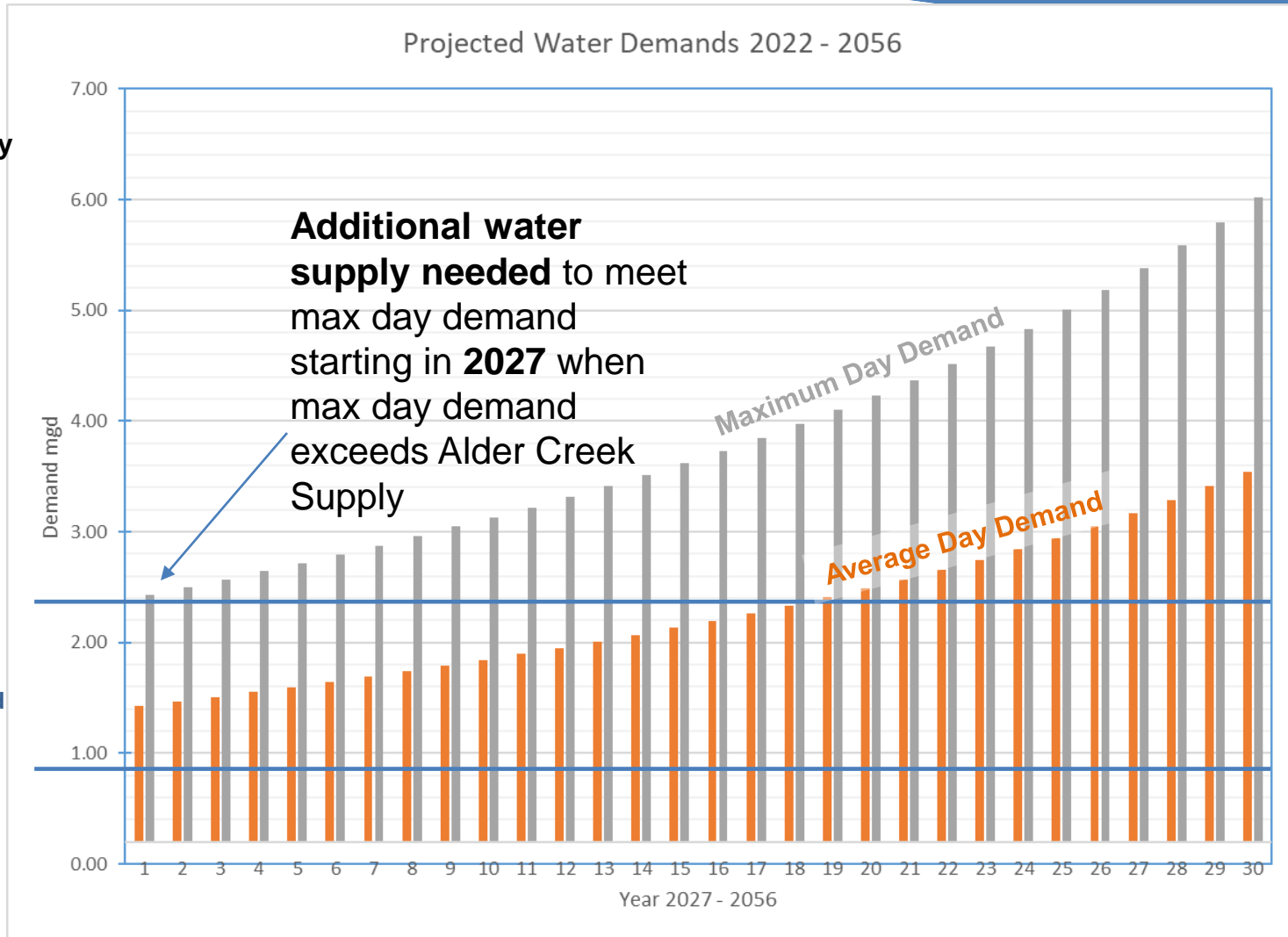


Water Demand

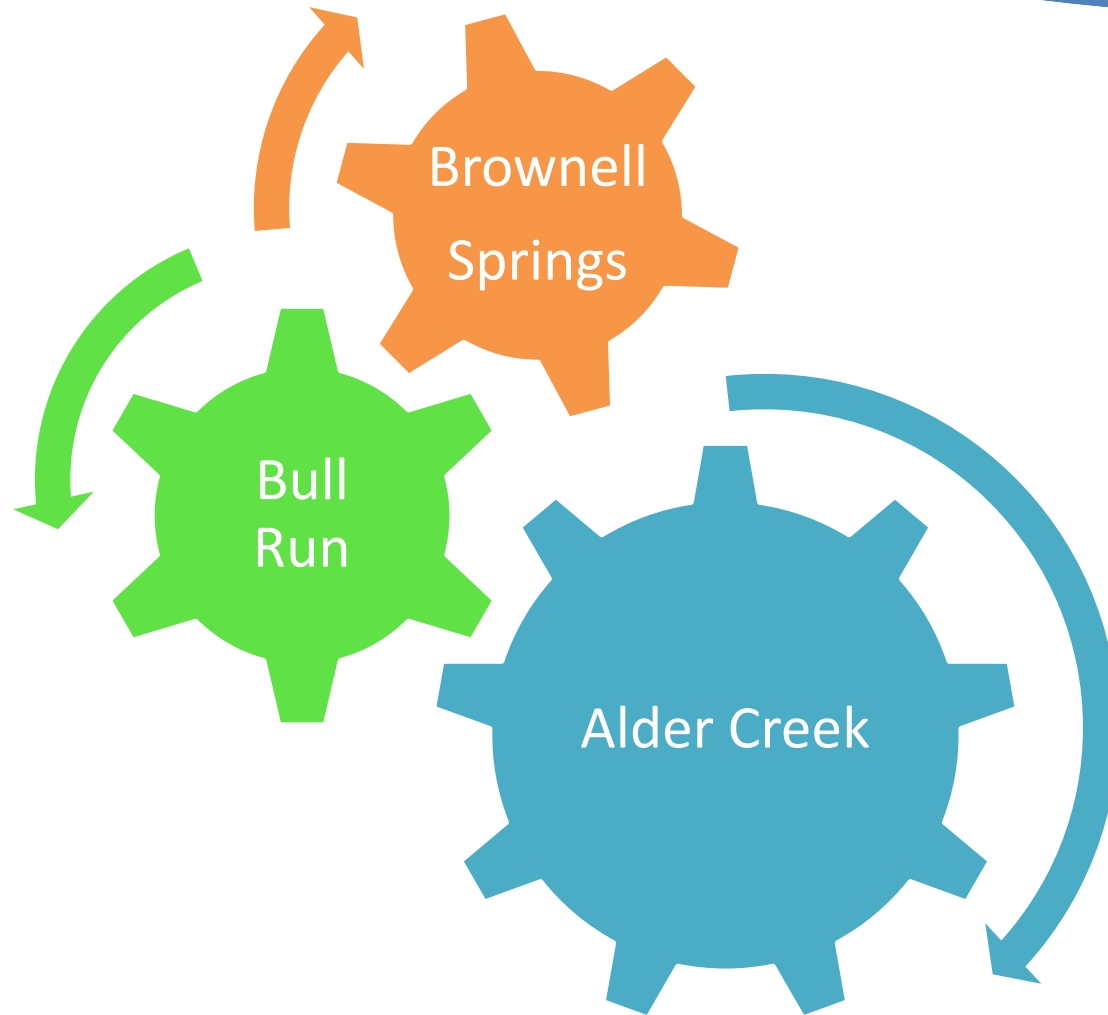
- **Additional water supply needed in 2027** to meet max day demand
- **Size of additional supply varies** depending on capacity of Alder Creek
- **Brownell Springs provides** additional 0.12 mgd in the winter
- **Max day demand** occurs in summer
- **Today max day demand** is 2.1 mgd (ADD is 1.2 mgd)

ALDER CREEK
Maximum future capacity 2.4 mgd

ALDER CREEK
Current reliable capacity 0.9 mgd



Water Supply Alternatives Screening



Water Supply Alternatives Screening

Upgrade existing supply at Alder Creek,

- Maintain existing capacity of 0.9 mgd with minor maintenance
- Improve supply to 1.4 mgd with major maintenance
- Maximize supply to 2.4 mgd with upgrades

PLUS:

A) Purchase raw water & build second treatment plant;

or

B) Purchase filtered water and build Pipeline

Pipeline Alignment for Finished Water

Potential PWB Backfeed Pipeline

Would need to be oversized to feed Sandy

Bluff Rd. Pipeline

New low-head pump station – 5 mgd

PWB obtaining easement

New pipeline
11,500 FT – 24" dia.

Exist.
Connection and
pumpstation

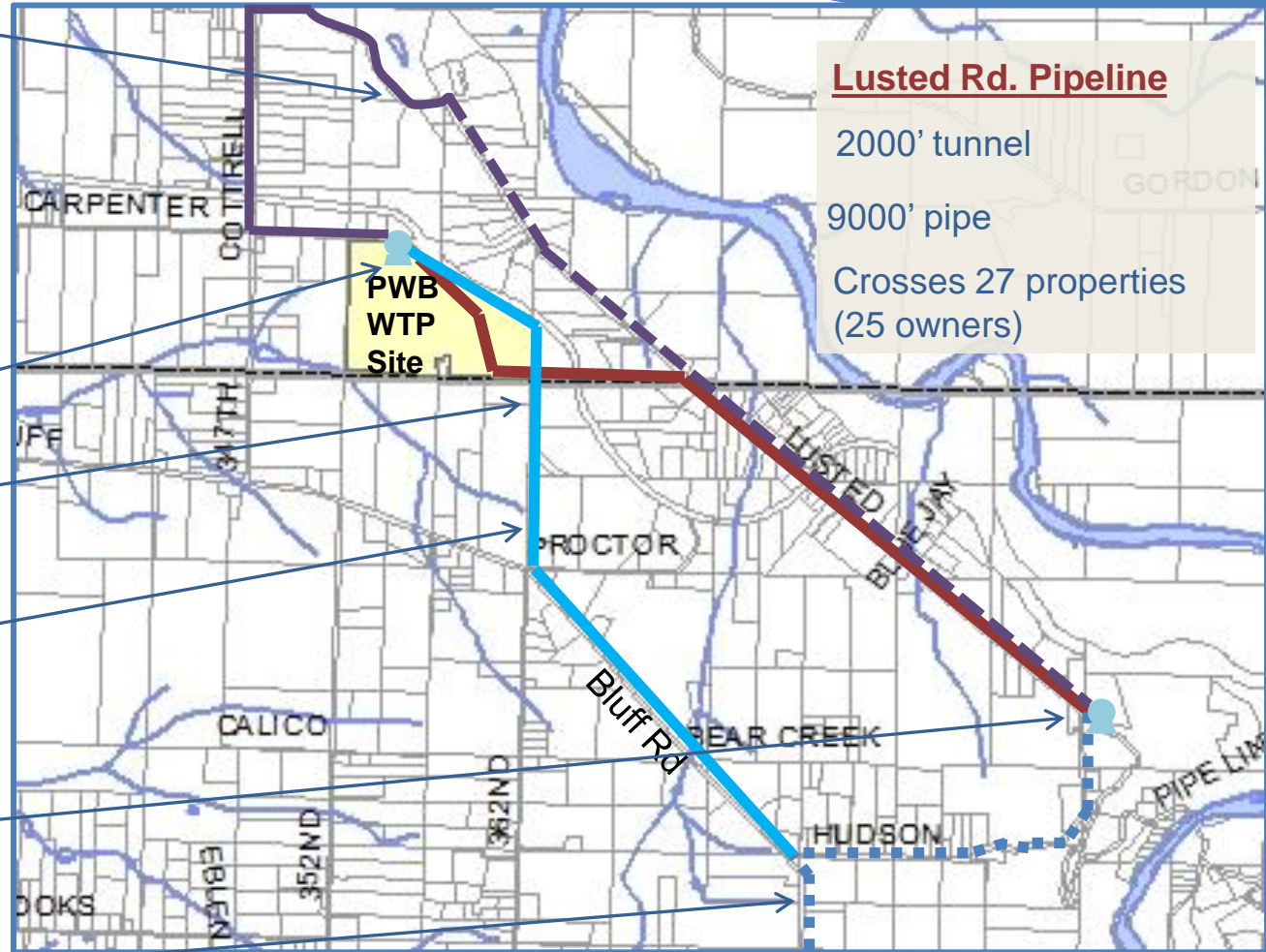
Exist. Sandy
supply pipeline

Lusted Rd. Pipeline

2000' tunnel

9000' pipe

Crosses 27 properties
(25 owners)



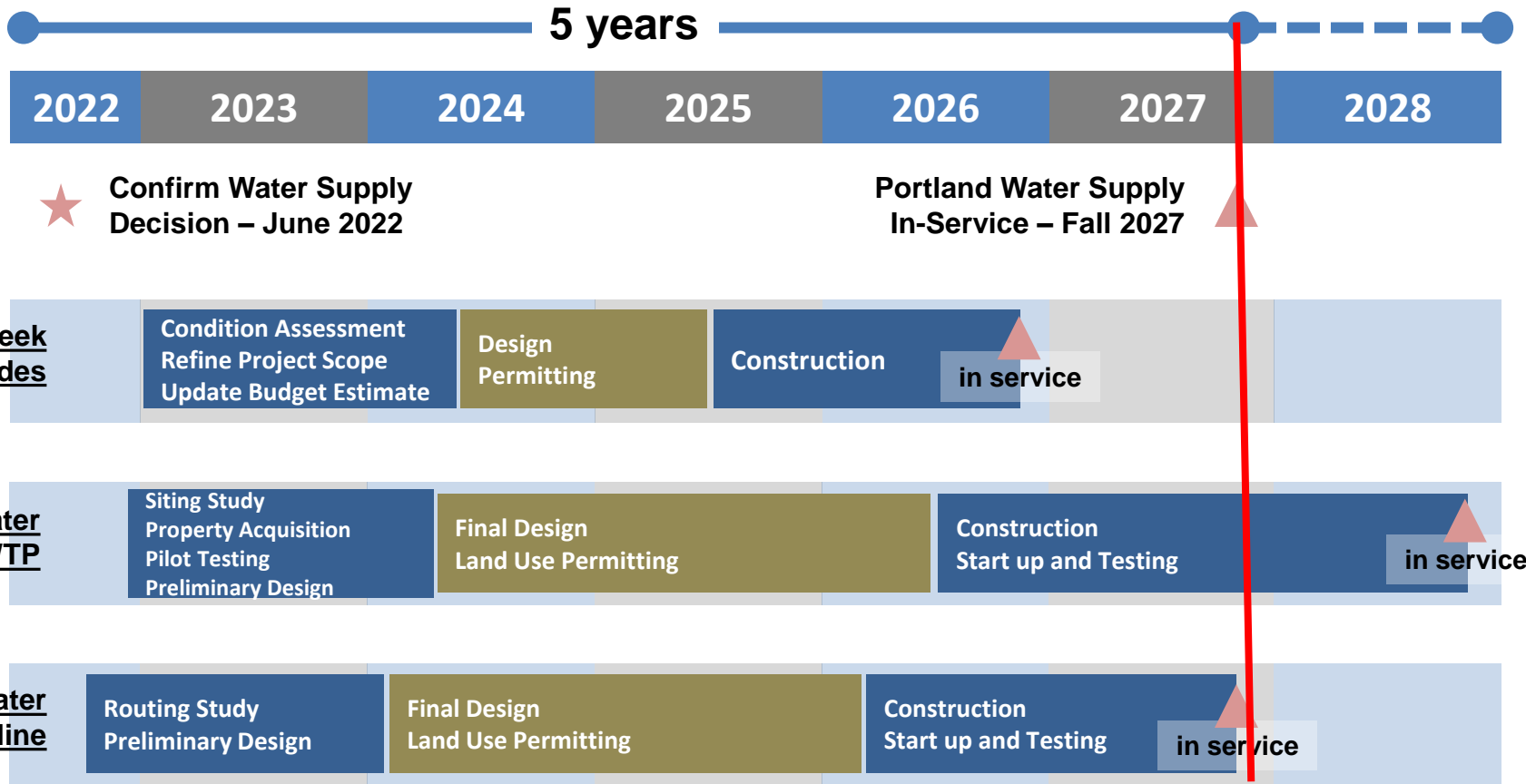
Supply Alternatives Filtered vs. Unfiltered Water Purchase

CRITERIA	PURCHASE FILTERED WATER FROM PDX BUILD BLUFF ROAD PIPELINE			PURCHASE RAW WATER FROM PDX BUILD WATER TREATMENT PLANT			
Water Supply Cost (30-yr cost in 2026 \$)	LifeCycle Cost:	\$85.6M	+	LifeCycle Cost:	\$143.4M	-	
	Total Investment:	\$47.2M		Total Investment:	\$ 58.4M		
Cost of Portland Water (in 2026 \$)	30-yr Cost:	\$10.7M	-	30-yr Cost:	\$ 6.1M	+	
Implementation Risk	<ul style="list-style-type: none"> * Entire pipeline must be built - <u>can't</u> be phased * Requires Carpenter Ln Easement * All construction is outside the City * Without pipeline, City can't meet summer demand in 2027 			-	<ul style="list-style-type: none"> * WTP can be built in phases * Requires one (1) 3-to-5-acre property near existing pipeline * Land use permitting provides some uncertainty 		+

Supply Alternatives including Alder Creek Upgrades

CRITERIA	PURCHASE FILTERED WATER FROM PDX BUILD BLUFF ROAD PIPELINE		PURCHASE RAW WATER FROM PDX BUILD WATER TREATMENT PLANT	
Water Filtration	<ul style="list-style-type: none"> * Water Treatment Plant (WTP) built by Portland * WTP cost shared by wholesale purchasers & Portland rate payers 	+	<ul style="list-style-type: none"> * City builds and owns new WTP * WTP paid for by City Rate Payers 	-
Operational Complexity	<ul style="list-style-type: none"> * Minimal O&M cost for pipeline * Need To evaluate disinfection approach * City operates only upgraded Alder Creek WTP and new pumpstation * PWB responsible for compliance 	+	<ul style="list-style-type: none"> * City operates two water treatment plants * Higher O&M cost * City responsible for compliance 	-
Resilience / Reliability	Portland groundwater supply provides redundancy	+	Portland groundwater supply not available for raw water option	-

Water Supply Program Schedule



Recommendation

- Upgrade Alder Creek & Install Bluff Road Water Transmission Pipe, **purchase filtered water**
- Capital Cost **\$47.2 Million**
- 30-year Lifecycle cost **\$85.6 Million**
- Lowest Capital and Lifecycle Costs, Faster Schedule, and Resiliency/Groundwater access

Next Steps

- **Council Formalize** purchase decision
- **Refine condition assessment** to maximize Alder Creek WTP and determine water system CIP
- **Complete Master Plan**
- **Evaluate land use and permitting** associated with building a pipeline
- **Develop funding** approach for program
- **Hire** program manager/design team

Questions

