



INFORMATIONAL MEMORANDUM

TO: **Transportation Infrastructure Committee**
FROM: **Hari Ponnekanti, Public Works Director/City Engineer**
BY: **Adib Altallal, Utilities Engineer**
CC: **Mayor Tom McLeod**
DATE: **April 19, 2024**
SUBJECT: **Water Fund – Future Water Reservoir Update**
Project No. 91240102
Siting Update – Discussion Only

ISSUE

Provide an update on the progress of searching for a property for a future water reservoir.

BACKGROUND

During the City of Tukwila's 2015 Water Comprehensive Plan, the consultant identified that the continued growth within the City no longer meets the Department of Health's water storage requirements. As a result, the Water Reservoir and Pump Station was included in the Capital Improvement Program. During the most recent Water Comprehensive Plan update, the City's water storage deficiencies were highlighted again. Further development throughout the City and especially in the Ryan Hill and Tukwila South areas are likely to be hindered or completely halted due to these water storage deficiencies.

Old Fire Station 52 has been identified as a possible future site of the reservoir. The construction of a new reservoir at the site would save the City's General Fund money by taking over the responsibilities of the demolition and mitigation of the building. Further, the project would greatly improve the condition of Hazelnut Park by expanding the area and adding recreational items for the residents' use. Staff most recently discussed this option with Council at the April and July, 2023 Transportation and Infrastructure Services Committee meetings and the subsequent Committee of the Whole meetings.

ANALYSIS

The results of the feasibility study conducted by Carollo and HWA indicated favorable results of the soil test. Though soil stability can vary drastically within the same parcel, soil samples indicated great likelihood that we can excavate to the appropriate depth to construct a fully or partially buried water reservoir. Next steps will include narrowing the design to two general alternatives, advertising for design proposals, then bringing this item back to the Transportation and Infrastructure Services Committee to award a design contract.

RECOMMENDATION

This item is for discussion only.

Attachments: 2024 CIP, Page 56
Water System Slides

CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2023 to 2028

PROJECT: Water Reservoir and Pump Station

Project No. 91240102

DESCRIPTION: Design and construct a new 2.5 MG water reservoir with a pump station.

JUSTIFICATION: The Department of Health is requiring the City provide additional water storage. A pump station is needed for fire flow.

STATUS: Design funds will be used to update and expand the siting study Carollo completed in 2014 and updated in 2021.

MAINT. IMPACT: Additional staff will be needed to provide maintenance for the new reservoir and pumps.

COMMENT:

FINANCIAL (in \$000's)	Through		Estimated								TOTAL
	2021	2022	2023	2024	2025	2026	2027	2028	BEYOND		
EXPENSES											
Design	7					500	500			1,007	
Land (R/W)				750	1,000					1,750	
Const. Mgmt.						500	500			1,000	
Construction						2,000	3,600		7,000	12,600	
TOTAL EXPENSES	7	0	0	750	1,000	3,000	4,600	0	7,000	16,357	
FUND SOURCES											
Awarded Grant										0	
Proposed Grant							1,000			1,000	
Bond				750	1,000	3,000	3,600			8,350	
Mitigation Expected										0	
Utility Revenue	7	0	0	0	0	0	0	0	7,000	7,007	
TOTAL SOURCES	7	0	0	750	1,000	3,000	4,600	0	7,000	16,357	

Location to be determined.

Hazelnut Park Reservoir

Feasibility Study

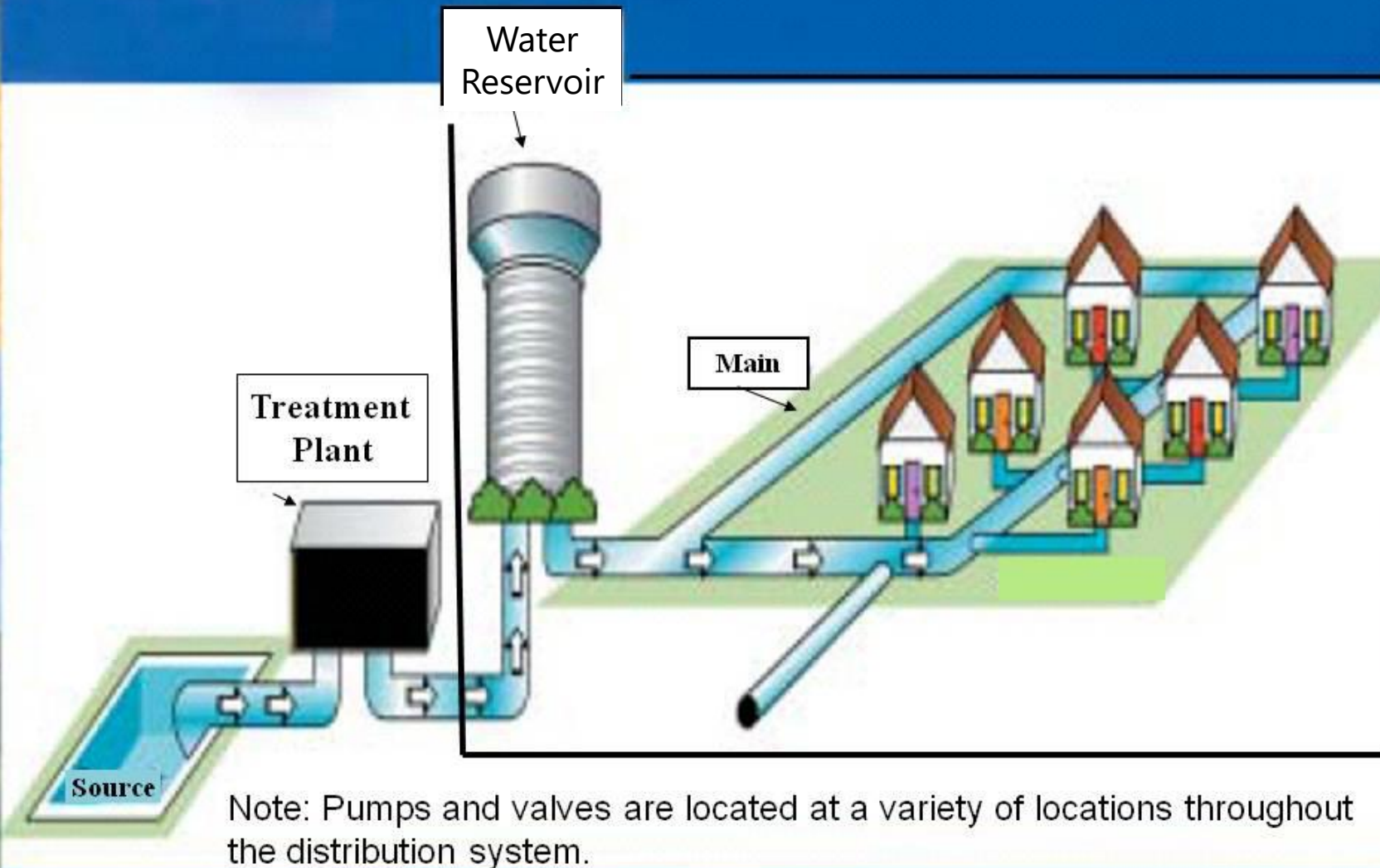
14475 59th Avenue S



OVERVIEW | MARCH 2024



Water Supply Distribution System



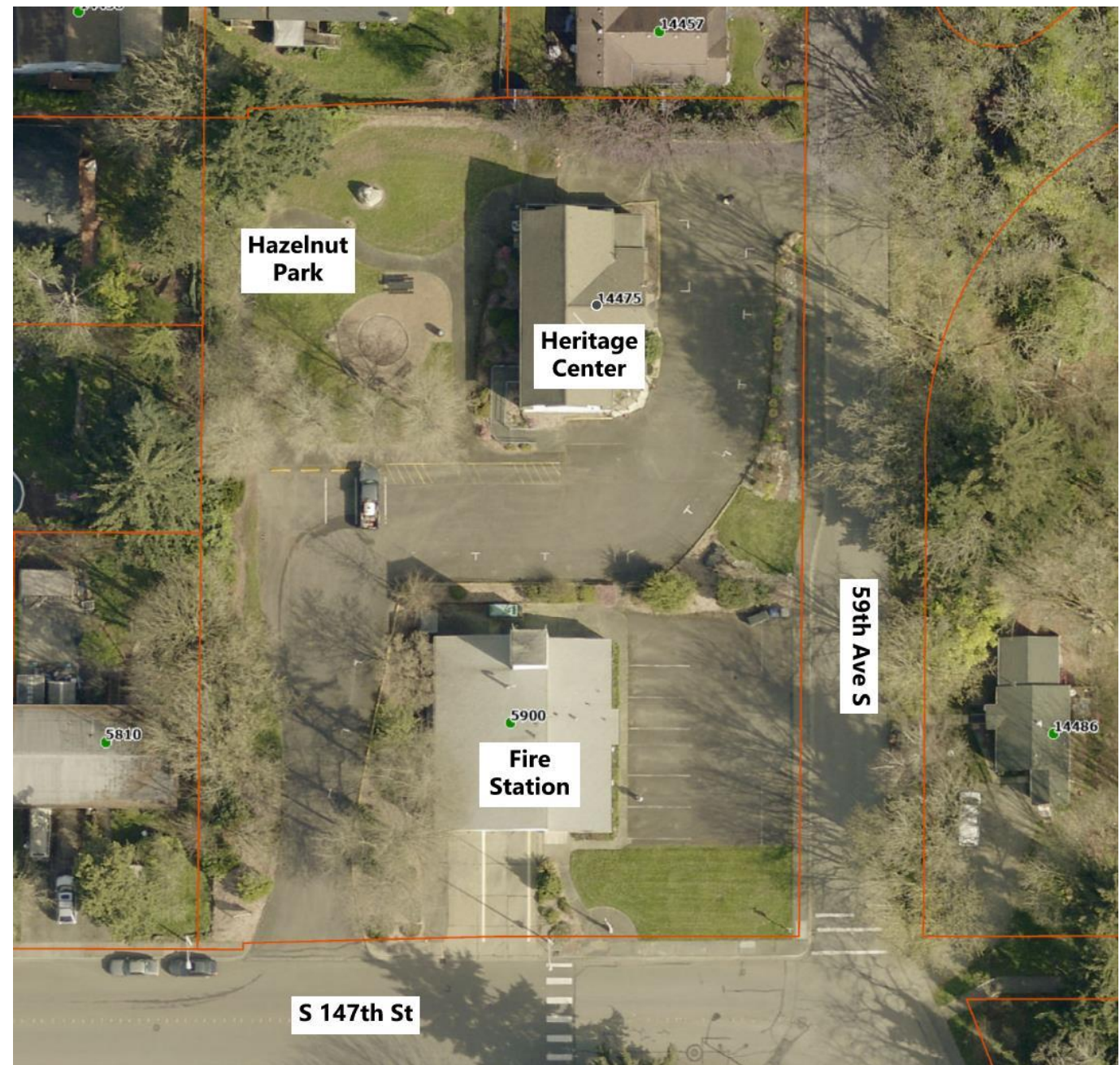
- **Water Source:** We purchase treated water from Seattle, drawn from the Tolt and Cedar rivers.
- **Storage and Distribution:** Our existing and planned reservoirs store and distribute water via pumps and gravity.
- **Interconnected Systems:** Seattle's intertie connects our water systems, ensuring supply reliability.
- **Community Impact:** Both commercial and residential properties benefit from our water distribution, covering approximately 70% of the City.
- **Future Planning:** We're expanding infrastructure to meet growing demands and ensure long-term sustainability.
- 2.5 MG is equivalent to one person taking two baths a day (~40 gallons each), everyday for 85 years.
- ...or 125 Tukwila swimming pools.

Site Location



Existing Improvements

- Hazelnut Park to remain
- Tukwila Heritage and Cultural Center to remain
- Vacated fire station to be demolished
- Adjacent residential properties



Currently Underway: Alternatives Analysis

- Three alternatives:
 - » Concrete reservoir, partially buried
 - » Concrete reservoir, fully buried
 - » Steel tank reservoir, above grade
- Booster pump station required for all alternatives
- Six evaluation criteria →



Example Reservoir (Partially Buried)

- 2.5 MG prestressed, partially buried concrete tank
- 112' diameter, 28' height
- Alpine, CA
- Opportunities to incorporate pickleball or other recreational facilities on top



Example Reservoir (Fully Below Grade)

- Crestview Park, Tukwila
 - » Highline Water District reservoir (7.6 MG)
- Seward Park, Seattle
 - » Seattle Public Utilities CSO storage facility (2.65 MG)



Example Reservoir (Steel Tank)

- Mercer Island, WA
 - » (2) 4 MG reservoirs
- Sammamish Plateau
 - » 2 MG



Next Steps

- Complete alternatives analysis and select preferred alternative
- Finalize Feasibility Study Report (April 2024)
- City determination of whether to proceed with site and alternative
 - » Scope design contract for preferred alternative
 - » Scope design contract for service level intertie to allow multi-zone storage utilization

