

**HIGHLINE WATER DISTRICT
King County, Washington**

RESOLUTION 22-12-21D

RESOLUTION ADOPTING THE 2023 CAPITAL IMPROVEMENT PROGRAM

WHEREAS, the Capital Improvement Program (CIP) is a resource document to help plan directions the District will consider for the future; and

WHEREAS, Staff and the Board of Commissioners hold annual workshop meetings to establish an Operating Budget, a Capital Improvement Program and set Goals for the upcoming year; and

WHEREAS, the Capital Improvement Program is not a permanent fixed plan, but is a guideline or tool to help reflect future goals and future resources at the time budgets are being planned; and

WHEREAS, the commitment of funds and resources can only be made through the budget process.

NOW, THEREFORE, BE IT RESOLVED:

The Board of Commissioners hereby adopts the 2023 Capital Improvement Program, attached as Exhibit A, and incorporated herein by this reference.

ADOPTED BY THE BOARD OF COMMISSIONERS of Highline Water District, King County, Washington, at an open public meeting held this **21st** day of **December 2022**.

BOARD OF COMMISSIONERS

DocuSigned by:

Polly Daigle

Polly Daigle, President

DocuSigned by:

Todd Fultz

Todd Fultz, Commissioner

DocuSigned by:

Kathleen Quong-Vermeire

Kathleen Quong-Vermeire, Commissioner

DocuSigned by:

Daniel Johnson

Daniel Johnson, Secretary

DocuSigned by:

Vince Koester

Vince Koester, Commissioner

EXHIBIT A



2023 CAPITAL IMPROVEMENT PROGRAM



2023 CAPITAL IMPROVEMENT PROGRAM TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
2023 – CAPITAL IMPROVEMENT PROGRAM BUDGET	4
CAPITAL IMPROVEMENT PROGRAM GOALS AND OBJECTIVES	5-7
2022 COMPLETED CAPITAL PROJECTS	8-10
2023 CAPITAL IMPROVEMENT PROJECT NARRATIVES	
<i>Project 18-2 International Blvd at SR 509 Road Improvements</i>	11-13
<i>Project 21-1 Des Moines 24th Ave S Water Main Replacement</i>	14-16
<i>Project 21-2 SeaTac 32nd Ave S Water Main Replacement</i>	17-19
<i>Project 21-3 Mansion Hill 2.5 MG Reservoir Int/Ext Recoat and Safety Improvements</i>	20-21
<i>Project 22-1 King County Lake to Sound Trail Relocation</i>	22-24
<i>Project 22-2 2023 AC Water Main Replacement (Huntington Park)</i>	25-26
<i>Project 22-3 SR509 Phase 2 Water Main Relocation</i>	27-28
<i>SW22-1 Emergency Tank Vent Replacement</i>	29
<i>23-1 DMTP/PS2 Electrical Upgrades and Generator Replacement</i>	29
<i>23-2 McMicken Onsite Hypochlorite Generation Replacement</i>	30
SMALL WORKS PROJECTS/EMERGENCY PROJECTS	31
FUTURE UNSCHEDULED IMPROVEMENTS	31-32
MITIGATION IMPROVEMENTS	32
METERS, HYDRANTS, AND SERVICES	32

EXECUTIVE SUMMARY

Highline Water District's goal is to provide high quality and reliable water service to all customers in accordance with the rules and regulations governing water purveyors. The District's Capital Improvement Program (CIP) is an on-going effort with the primary mission of improving the District's aging infrastructure with modern, more reliable technology and materials.

In the fall of each year, District staff prepares a draft CIP plan for review by the Board of Commissioners. The plan includes budgets and narratives for the proposed Capital Additions for the upcoming year. Each narrative includes a project description; the purpose; a budget allocation and/or estimated project costs (if known from preliminary engineering at the time of budget preparation); a breakdown of funding sources; and an estimated project schedule.

Staff presents the draft CIP to the Commissioners at a regularly scheduled Board meeting. Management makes changes based on the Board's input and prepares a final draft. Typically, the Board considers the final draft of the CIP simultaneously with the District's annual Operations and Maintenance Budget for approval at a regularly scheduled meeting in December of each year.

By the close of 2022, the District will be substantially complete with three (3) capital projects: *Project 18-5 34th Ave S Water Main Replacement*; *Project 20-1 Star Lake Military Road Water Main Relocation*; *Project SW22-3 S272nd St-Star Lake Road Emergency Replacement*. The projects replaced approximately 4,650 LF of various-sized, aging main with ductile iron pipe. The proposed 2023 CIP includes ten (10) identified projects in various phases of planning, design, and construction. The 2023 projects include:

- *Project 18-2 International Blvd S at SR 509 Road Improvements*
- *Project 21-1 24th Ave S Water Main Replacement (2022 AC Project)*
- *Project 21-2 32nd Ave S Water Main Replacement (City of SeaTac)*
- *Project 21-3 Mansion Hill 2.5MG Reservoir Int./Ext. Recoat and Safety Improvements*
- *Project 22-1 King County Lake to Sound Trail Relocation*
- *Project 22-2 2023 AC Water Main Replacement (Huntington Park)*
- *Project 22-3 SR509 Phase 2 Water Main Relocation*
- *Project SW22-1 Emergency Tank Vent Replacement*
- *Project 23-1 DMTP/PS2 Electrical Upgrades and Generator Project*
- *Project 23-2 McMicken Onsite Hypochlorite Generation Replacement*

The estimated Total Capital Additions (expenditures) for 2022 is \$4.07 million, including an estimated \$365,000 reimbursement from Sound Transit to accommodate the Federal Way Link Light Rail Extension (FWLE) and from other outside sources. The approved 2022 CIP Budget included \$6.0 million in expenditures. Several projects scheduled for construction in 2022 were delayed by their lead agencies (city) for various reasons. Debt service for 2022 was \$490,000.

For 2023, the Total Capital Additions is estimated at \$7.7 million. The District will fund the CIP through a combination of water rates, capital reserves, and development connection charges. Debt service reduces to \$416,000 in 2023, as the District continues to retire existing loans.

See **Page 4** for overall capital addition funding and the body of this report for project narratives, budgets, and locations.

3 & DEBT SERVICE (2022-2026)

OBJECTS

	Projected					Totals
Year	2022	2023	2024	2025	2026	
17,264	\$ 35,000	\$ 275,525	\$ 240,525			\$ 5,368,314
59,581	\$ 895,944	\$ 50,000				\$ 1,005,525
1	\$ 385,000					\$ 385,000
30,033	\$ 225,000					\$ 855,033
34,875	\$ 16,995	\$ 1,060,000	\$ 510,000			\$ 1,621,870
	\$ 87,070	\$ 1,289,640	\$ 1,816,960			\$ 3,193,670
59,665	\$ 37,500	\$ 1,089,000	\$ 2,309,000			\$ 3,495,165
12,834	\$ 28,208	\$ 985,250				\$ 1,026,291
	\$ 125,000	\$ 275,000	\$ 1,250,000	\$ 2,725,000		\$ 4,375,000
	\$ 21,000	\$ 586,500	\$ 119,500			\$ 727,000
	\$ 105,000	\$ 35,000				\$ 140,000
	\$ 1,600,000	\$ 150,000				\$ 1,750,000
		\$ 200,000	\$ 850,000			\$ 1,050,000
		\$ 100,000				\$ 100,000
			\$ 200,000	\$ 1,250,000	\$ 2,500,000	\$ 3,950,000
			\$ 100,000	\$ 250,000	\$ 250,000	\$ 600,000
83,595			\$ 100,000	\$ 1,000,000	\$ 1,500,000	\$ 2,683,595
				\$ 75,000	\$ 375,000	\$ 450,000
				\$ 100,000	\$ 750,000	\$ 850,000
				\$ 100,000	\$ 1,000,000	\$ 1,100,000
				\$ 300,000	\$ 150,000	\$ 450,000
					\$ 100,000	\$ 100,000
97,846	\$ 3,561,716	\$ 6,095,915	\$ 7,495,985	\$ 5,800,000	\$ 6,625,000	\$ 35,276,462

	\$ -	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 1,400,000
	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000
	\$ 400,000	\$ 650,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 2,250,000
	\$ 71,488	\$ 583,135	\$ 250,000	\$ 250,000	\$ 250,000	\$ 1,404,623
97,846	\$ 4,073,204	\$ 7,719,050	\$ 8,535,985	\$ 6,840,000	\$ 7,665,000	\$40,531,085

Year	2022	2023	2024	2025	2026	Totals
	\$ 364,819					\$ 364,819
	\$ 475,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,475,000
	\$ 839,819	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,839,819

	2022	2023	2024	2025	2026	Totals
	\$ 489,999	\$ 415,882	\$ 363,797	\$ 317,820	\$ 317,820	\$ 1,905,318
	\$ 489,999	\$ 415,882	\$ 363,797	\$ 317,820	\$ 317,820	\$1,905,318

	2022	2023	2024	2025	2026	Totals
97,846	\$ 4,563,203	\$ 8,134,932	\$ 8,899,782	\$ 7,157,820	\$ 7,982,820	\$ 42,436,403

CAPITAL IMPROVEMENT PROGRAM GOALS AND OBJECTIVES

The District's Mission Statement is:

"Our mission is to provide high quality water and excellent customer service while effectively managing District infrastructure for a reliable water system today and for future generations."

Highline Water District's goal is to provide high quality and reliable water service to all customers in accordance with the rules and regulations governing water purveyors. The District's Capital Improvement Program (CIP) is an on-going effort with the primary mission of improving the District's aging infrastructure with modern, more efficient, reliable technology and materials.

In the fall of each year, District staff prepares a draft CIP plan for review by the Board of Commissioners. The plan includes budgets for the proposed Capital Additions in the upcoming year. The Capital Additions budget includes the following five components:

- **Capital Projects** – improvement projects identified in the approved Comprehensive Plan or other planning documents and capitalized over the life of the asset.
- **Small Works/Emergency Projects** – improvement projects not identified or postulated during development of the annual CIP (e.g. a smaller main replacement project in advance of a city overlay). If an unplanned project spans beyond the budget year, the project will be converted to a Capital Project in subsequent budgets. If unused, these funds remain in capital reserves.
- **Mitigation Improvements** – improvements to District facilities to ward against man-made and natural disasters or security improvements in support of the Hazard Mitigation Plan and the Security Vulnerability Assessment.
- **Meters/Hydrants/Services** – purchases of materials for the installation of new pipe/meters/hydrants/services installed by District personnel and capitalized over the life of the asset.
- **Capital Asset Purchases** – specific asset purchases greater than \$5,000 per item used to replace aging assets or to increase production and efficiency (e.g. vehicles or equipment).

This document includes narratives for Capital Projects, Small Works/Emergency Projects and the Mitigation Improvement budgets. Each narrative includes a project description; the purpose; a budget allocation and/or estimated costs (if known from preliminary engineering at the time of budget preparation); a breakdown of funding sources; and an estimated project schedule. The annual **Operation and Maintenance Budget** and the **District's Goals and Objectives** provides narratives and descriptions for the Meters/Hydrants/Services and Capital Asset Purchases.

District staff presents the draft CIP to the Commissioners at a regularly scheduled Board meeting. Staff makes changes based on the Board's input and prepares a final draft. Typically, the Board considers the final draft of the CIP simultaneously with the annual Operations and Maintenance Budget for approval at a regularly scheduled meeting in December of each year.

Prioritization of Projects

Several issues confront water agencies when evaluating and comparing projects. When completing the District's Comprehensive Water System Plan, the Board of Commissioners, management, staff and consultants review the needs of the water system. Specifically, the Washington State Department of Health (DOH) requires water agencies to review the adequacy of its sources of supply, treatment facilities, storage, and distribution system. In addition, the District evaluates funding sources to ensure financial sustainability.

DOH places a priority on deficiencies in source, treatment and storage. Generally, distribution mains are only required to be upgraded if they cannot provide adequate fire flow to support future development. Highline generally follows this priority strategy; however, the District emphasizes the need to improve the distribution system at a rate greater than the depreciation of the existing assets. In addition to fire flow limitations, Highline also considers historical issues of the water mains (main repairs, leaks, dead ends, water quality complaints, location, safety, looping, land use issues, etc.) when prioritizing replacement projects.

As of late, the District's primary factor in selecting projects is based on outside agencies impacting the existing water distribution system. Utilities must relocate their facilities to accommodate city-owned infrastructure and projects. In addition, many cities issue a moratorium on pavement cuts for up to five years after completion of a city project. It maximizes public value to replace water facilities with these road construction projects. Some projects included with city work may not be the District's highest replacement priority; however, partnering helps lower overall project costs and minimize public inconvenience during construction. The result is continued reinvestment into the water system at a lower cost and impact to the ratepayers.

Capital Addition Funding

Project funding is an important component in the process. Because of limited resources, the District cannot fund all projects contemplated in the Comprehensive Water System Plan. Capital Additions are typically funded by rates or other outside sources (General Facility Connection Charges [GFC], revenue bonds, low-interest loans, or developer contributions/reimbursements.) The estimated GFC revenue for 2022 is \$475,000 and \$500,000 for the proposed 2023 budget.

Public Works Trust Fund (PWTF) low interest loans are an excellent way to reinvest in infrastructure by reducing the financial burden to the ratepayers. Repayment periods are up to 30 years at interest rates as low as 1.5%, depending on the loan term, local funding match, and project completion incentives by the State. Typically, the District selects repayment schedules and local match funding to minimize interest over the life of the loan. However, due to fiscal constraints, the Washington State Legislature has reduced funding for the PWTF. Future PWTF resources continue to remain uncertain.

Grant money opportunities for infrastructure projects are limited and extremely competitive. The District will pursue grant funding, if available. The District's association memberships help to inform agencies of possible grant opportunities.

Each year, staff works with the Board to determine availability of outside funding (PWTF loans, Federal grants, etc.) for CIP projects that do not have other funding sources. Staff evaluates the water system's needs and prioritizes projects for outside funding. Applications for outside funding sources are subject to approval by the Board of Commissioners.

CIP Project Implementation

As projects secure funding and accepted by the Board, the following general steps are taken to design and construct a scheduled CIP project. Please note that these steps do not necessarily apply to emergency work:

1. Staff may issue a Request for Proposals for more technically challenging projects or may review listed and/or requested information from consultants identified on the MRSC Consultant Roster.
2. Staff evaluates the consultant's general Statement of Qualifications (SOQ) and/or Request for Proposals (RFP), may request interviews, and will recommend to the Board the most competent consultant to complete the project design.
3. Staff negotiates the contract then presents the consultant's proposal to the Board for their review and approval.
4. Upon approval, the consultant begins working with staff to complete the design. At each regular meeting, the Board receives a brief status report for each project in the Manager's Report.
5. Upon completion of the design, staff informs the Board of the project's advertisement and bid opening dates for soliciting a construction contract.
6. District staff and the consultant review the bids and make a recommendation to the Board to award to the lowest responsive, responsible bidder, in accordance with state public works statutes.
7. The recommendation to award/not award is brought before the Board along with an authorization to execute a construction contract at the next available Board meeting.
8. Construction of the project begins, and the Board receives updates on the status of each project in the Manager's Report.
9. The Board must approve or deny contract revisions over \$25,000 per contract unless contingency is authorized by resolution and/or included the contract.
10. Upon completion of the project, staff and the consultant make a recommendation to the Board to accept the project as complete. The recommendation is then considered at the next available Board meeting.
11. If the project was an approved PWTF project or Federal grant, staff will complete the close-out of the project as required by the PWTF Board or Federal agency.
12. Staff completes the necessary closeout paperwork.

2023 Capital Addition Budget

For 2023, the District's anticipated Capital Addition Budget is \$7.7 million. The figure includes budget to support the five Capital Addition components. The District will fund the 2023 CIP through water rates, capital reserves, connection charges, and developer reimbursements.

Please see **Page 4** for a breakdown of the overall capital additions and funding sources.

2022 COMPLETED CAPITAL PROJECTS

Project 18-5 34th Ave S Water Main Replacement

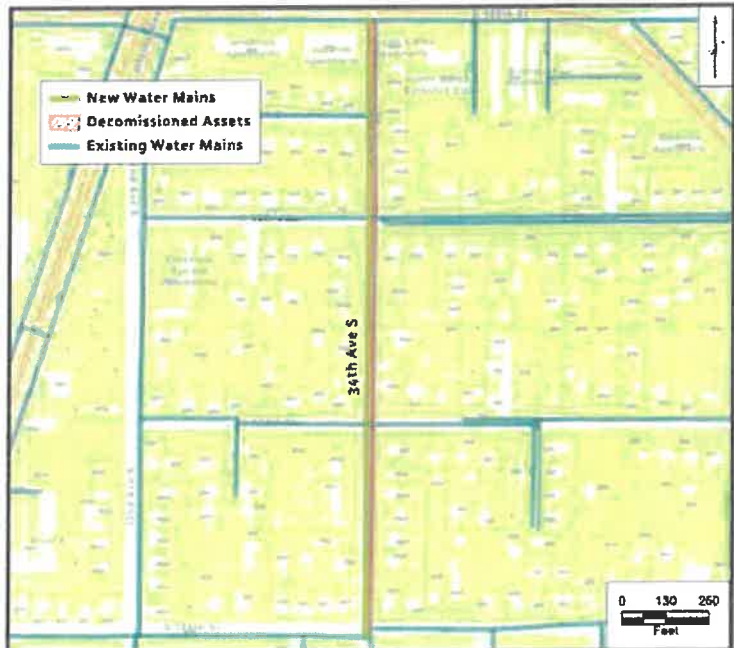


In August 2018, the City of SeaTac informed the District of their plans to improve the road along 34th Ave S from S 160th St to S 166th St. The City project included the installation of curb, gutter, sidewalk, new storm drainage along with on-street parking. The City will also overlay the road upon completion in early 2023. Construction was originally scheduled for spring 2020 but was delayed due to Covid and ROW acquisition.

The District maintained approximately 1,850 LF of 6-inch water main within this section of road in conflict with the City's improvements. The project included replacing the existing main with a new 12-inch diameter DI pipe to connect an existing 12-inch main on each end of the project limits, thereby eliminating a bottleneck. In addition, by replacing this main, the District eliminated additional aging AC pipes, prevented the need to disturb the newly constructed road, and avoided the cost of an overlay at the District's expense.

The District selected Parametrix, Inc. as the firm to design the water project. Parametrix was also selected by the City to design the road improvements. The City agreed to allow the District to partner on the project as a separate schedule on the City contract through an ILA in September 2021. The City advertised and awarded the project to Aila Construction. The bid for the District schedule was \$770,000. Water work began Spring 2022 and was completed by summer. The City work will continue into 2023 to complete final restoration.

The anticipated final project cost is \$1.01 million including design, construction, and other allied costs. Highline funded the project by existing rates and capital reserves.



Project 20-1 Star Lake Military Road Water Main Replacement

Highline owns an existing 12-inch cast-iron water main from S 272nd St to Star Lake Road along the west side of Interstate 5. The main is primarily on private property within easements granted to the District.

The proposed Sound Transit Link Light Rail Federal Way Extension conflicted with the existing main. Sound Transit did not include this work as part of their original Design-Build Contract and requested the District to evaluate and propose acceptable alternatives to address the conflict.

The District determined the feasible and equitable replacement would be to install a new water main along Star Lake Road/Military Road near the I5 undercrossing (Phase 1) and along Star Lake Road from S 272nd St to an existing main serving Club Palisades Apartments (Phase 2). The total length of the project was approximately 1,450 LF and was constructed with 12-inch DI pipe. Sound Transit funded the District design and construction.

Pace Engineers designed the replacement work. The District advertised and rejected all bids for the work due to the low bidder claiming an error in their bid and the subsequent bidders exceeding the authorized budget. Because of the potential damages caused by the delay of the project, the Board of Commissioners declared an emergency exists and authorized staff to proceed with the work and waiving competitive bidding requirements. District crews proceeded to perform the replacement work.

The District crews replaced the water main along Star Lake Road and Military Road as part of Phase 1 in spring 2021. This allowed for the removal of the existing main. The work on Star Lake Road and S 272nd St was completed spring of 2022.

The estimated final cost of the project is \$855,000 and was funded by Sound Transit.



Project SW22-3 S. 272nd St-Star Lake Road Emergency Replacement

The District maintains and operates an existing 8-inch diameter CI water main in right-of-way along S 272nd St from 20th Pl S to Interstate 5 that is critical in providing fire flow for the Star Lake area. On August 27, 2022, the main ruptured at the intersection of S 272nd St and Star Lake Road causing severe buckling and damage of the road surface. The failure is the third break along the segment of pipe and its condition indicated the main is nearing the end of its useful life.



To add to the project's complexity, Sound Transit is constructing the Federal Way Link Light Rail Extension project and performed significant construction activities in the general vicinity of the water main. The work increased the risk of a future failure caused by disturbance of the aging pipe. Sound Transit will overlay S 272nd St upon completion of their work which will prohibit future access to the main due to a pavement cut moratorium issued by the City.

On September 1, 2022, the Board of Commissioners declared an emergency and waived competitive bidding requirements. The District contacted KLB Construction, a firm working on behalf of Sound Transit, who is performing the civil improvements along the project area. KLB began construction to replace approximately 1,300 LF of main with 12-inch DI pipe. Work was performed at night to avoid conflicts with Sound Transit.

The work began in September 2022 and was complete in November. The anticipated project cost is \$1.75 million. The District is working on final construction billings and paperwork. A more accurate complete project cost will be included with the Annual Report to the Board in April 2023. The project was funded by existing capital reserves.

2023 CAPITAL PROJECT NARRATIVES

Each project narrative includes a project description; the purpose; a budget allocation and/or estimated project costs (if known from preliminary engineering at the time of budget preparation); a breakdown of funding sources; and an estimated project schedule. Not all projects will have specific breakdowns of project costs, only budget allocations. Upon completion of preliminary engineering, staff will refine these allocations into specific project costs and budgets.

The projects scheduled for work in 2023 include:

Project 18-2 International Blvd at SR509 Road Improvements (Phase 1B)

The Washington State Department of Transportation (WSDOT) proposes to extend the SR509 freeway from S 188th St to Interstate 5 as part of the Connecting Washington and the Puget Sound Gateway projects. Phase 1B will be the first section constructed starting from Kent-Des Moines Road and Interstate 5 and stopping at 24th Ave S in SeaTac. Subsequent phases include extending the road from 24th Ave S through the Tye Golf Course to S 188th St and the existing SR509. WSDOT selected Atkinson Construction to be the Design-Build Contractor for Phase 1B (Interstate 5 to 24th Ave S).



SR 509 After

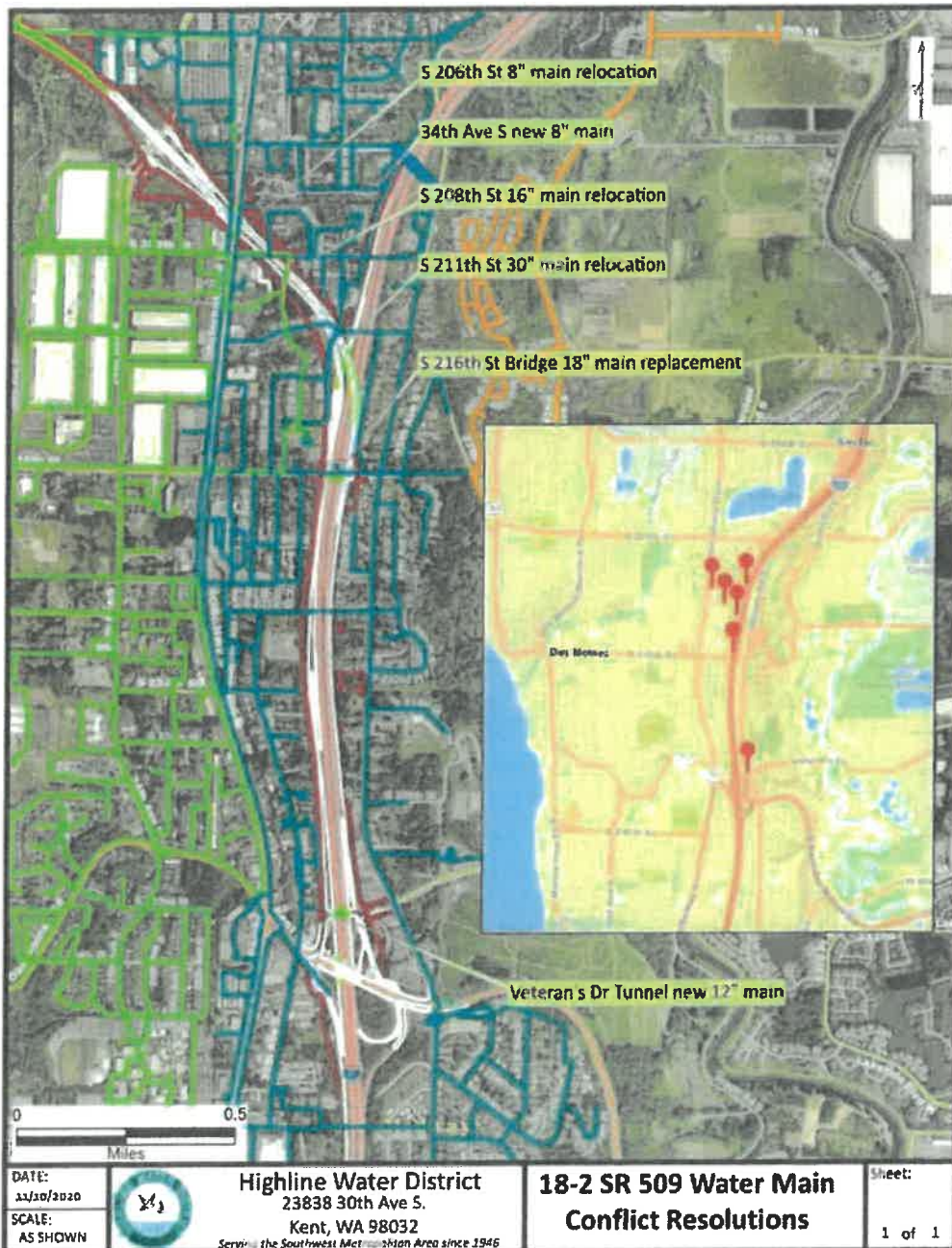
WSDOT's design of Phase 1B requires a freeway overpass for International Blvd S (ILB) at SR509 near S 206th St. Sound Transit (ST) simultaneously plans for the Federal Way Link Light Rail to cross ILB in the same general vicinity. Because ST will construct their infrastructure first, WSDOT contracted with ST to construct the overpass on their behalf during the light rail construction. The effort help avoid multiple contractors working in the same general area on separate Public Works contracts.

Project 18-2 includes design and construction of the necessary improvements for the bridge work and crossing at International Blvd and for the other SR509 impacts identified for Phase 1B. The District entered into a Task Order Agreement with Sound Transit to construct the temporary bypass of the existing piping at SR99. The anticipated cost of the relocation is \$1.3 million. Construction of the bypass began late 2020 and was complete in early 2021.

Other impacts to the District's infrastructure for Phase 1B include: relocating the existing 30" transmission main across the new freeway alignment; replacing several mains along S 208th St between ILB and I5, a new distribution main along a future 34th Ave S from S 204th St to S 208th St; a new freeway crossing at a new bridge at S 216th St and I5; and other water improvements near KDM and I5. At the end of 2022, bridge work is complete; 30-inch Transmission Main

relocation is complete; and the contractor is working on replacement work along Kent Des Moines Road.

The District executed an ILA with WSDOT on May 20, 2020. The ILA included a negotiated lump sum payment to WSDOT for the water work. In 2021, the District paid the lump sum payment of \$3.2 million. The ILA allows for a contingency of up to 15% for WSDOT identified changes. The overall estimate to complete all SR509 work including the bridge bypass is \$5.5 million. Work will be funded by existing capital reserves and water rates.



**PROJECT 18-2 INTERNATIONAL BLVD @ SR-509 ROAD IMPROVEMENTS
ESTIMATED PROJECT COSTS**

CATEGORY	Prior Years	2022	2023	2024	TOTAL
Engineering - Design	\$ 196,109	\$ -	\$ -	\$ -	\$ 196,109
WSDOT ILA Payment	\$ 3,207,000	\$ -	\$ 240,525	\$ 240,525	\$ 3,688,050
SR 509/Sound Transit TO4 Bridge Bypass	\$ 1,337,440				\$ 1,337,440
Staff Labor and Benefits	\$ 54,775	\$ 30,000	\$ 30,000	\$ 15,000	\$ 129,775
Miscellaneous / Other	\$ 20,382	\$ 5,000	\$ 5,000	\$ 5,000	\$ 35,382
Legal	\$ 1,557	\$ -		\$ -	\$ 1,557
TOTAL	\$ 4,817,264	\$ 35,000	\$ 275,525	\$ 260,525	\$ 5,388,314

FUNDING FOR PROJECT					
CATEGORY	Prior Years	2022	2023	2024	TOTAL
Rates/Reserves	\$ 4,817,264	\$ 35,000	\$ 275,525	\$ 260,525	\$ 5,388,314
					\$ -
TOTAL	\$ 4,817,264	\$ 35,000	\$ 275,525	\$ 260,525	\$ 5,388,314

ESTIMATED SCHEDULE FOR PROJECT COMPLETION	
Description	Date
30% RFP Documents Complete	May 2020
WSDOT RFP Advertisement	June 2020
WSDOT Contractor Selection	December 2020
WSDOT Contractor Retention	February 2021
Begin Construction	May 2022
Project Final Completion	2024

Project 21-1 24th Ave S Water Main Replacement (2022 AC Replacement Project)

The City of Des Moines informed the District that it proposes roadway improvements along 24th Ave S from S 223rd Street to Kent-Des Moines Road. The City plans to widen the road, install sidewalks, and storm improvements on the east side of 24th Ave S. The original proposed City schedule was for design and ROW acquisition in 2021 and construction beginning in 2022. The City is in negotiations to address conflicts with other utilities resulting in construction being postponed into 2023 (or later).

The District maintains an existing 10-inch AC watermain along the section of road. The water main conflicts with the proposed road improvements. The District must relocate the main in accordance with the terms of the franchise agreement with the City. The proposed water work will include approximately 2,500 LF of 12-inch DI water main along with new hydrants and services.

The City selected Parametrix as the design consultant and the District will piggyback for the water design. The two agencies will negotiate and enter an Interlocal Agreement in late 2022 or early 2023. The 2023 and 2024 budgets include \$1.06 million and \$510,000 for design and construction, respectively. The District will fund the project through existing water rates and capital reserves.

**PROJECT 21-1 24th Ave S WATER MAIN REPLACEMENT
ESTIMATED PROJECT COSTS**

CATEGORY	Prior Years	2022	2023	2024	TOTAL
Engineering - Design	\$ 33,279	\$ 11,644	\$ 30,000		\$ 74,923
Construction	\$ -		\$ 900,000	\$ 450,000	\$ 1,350,000
Construction Administration	\$ -		\$ 90,000	\$ 45,000	\$ 135,000
Staff Labor and Benefits	\$ 1,596	\$ 5,351	\$ 30,000	\$ 10,000	\$ 46,947
Miscellaneous / Other	\$ -		\$ 10,000	\$ 5,000	\$ 15,000
TOTAL	\$ 34,875	\$ 16,995	\$ 1,060,000	\$ 510,000	\$ 1,621,870

FUNDING FOR PROJECT					
CATEGORY	Prior Years	2022	2023	2024	TOTAL
Rates and Reserves	\$ 34,875	\$ 16,995	\$ 1,060,000	\$ 510,000	\$ 1,621,870
TOTAL	\$ 34,875	\$ 16,995	\$ 1,060,000	\$ 510,000	\$ 1,621,870

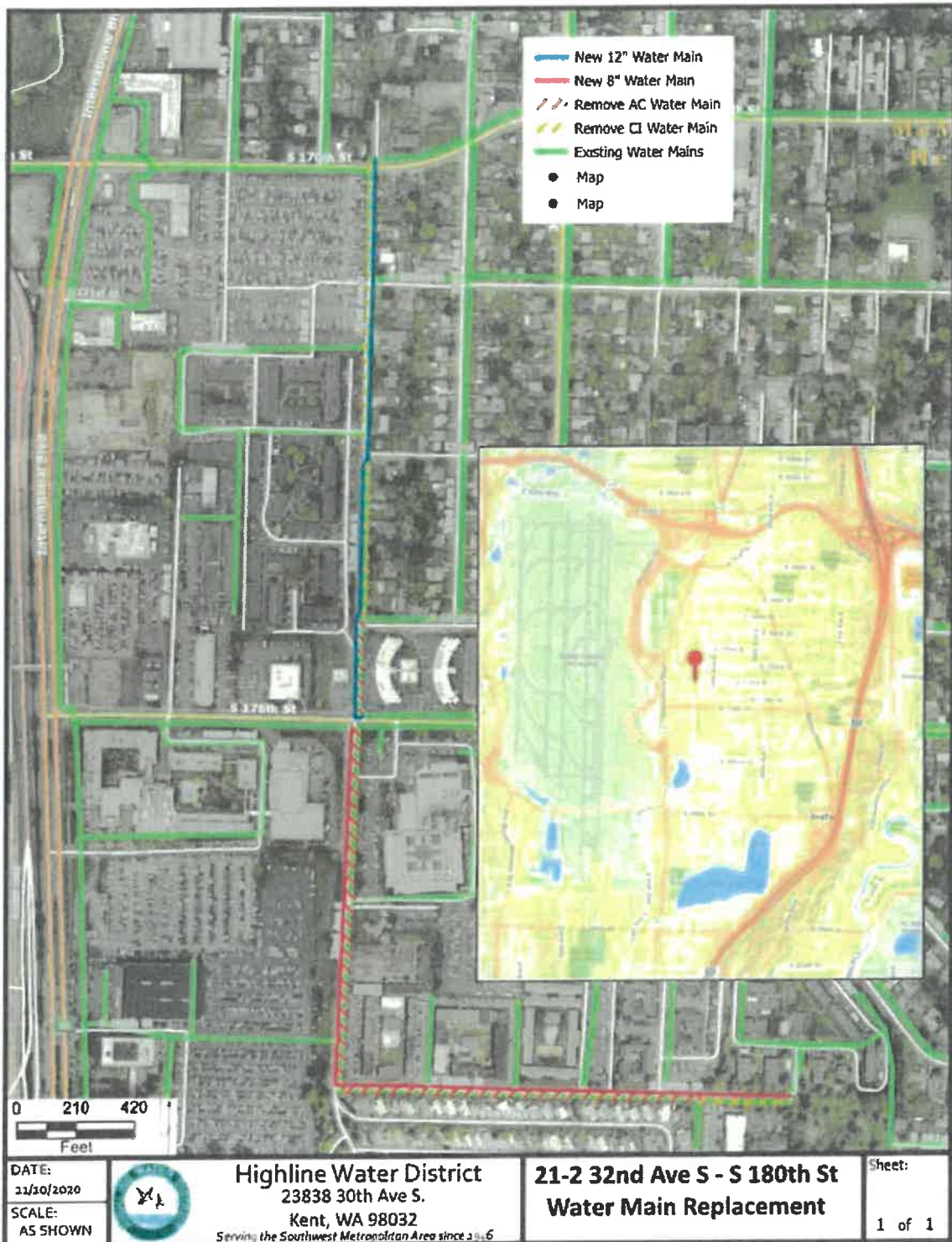
ESTIMATED SCHEDULE FOR PROJECT COMPLETION		
Description	Month	Year
Design Engineering (Complete)	February	2023
Award Construction Contract (City Project)	February	2023
Begin Construction	May	2023
Project Final Completion	Spring	2024

Project 21-2 32nd Ave S – S 180th St Water Main Replacement (City of SeaTac)

In late summer 2020, the City of SeaTac informed the District of an upcoming road improvement project scheduled for design and construction in the next two years. The project has two parts: roadway reconstruction and replacement of curb, gutter, and sidewalk improvements along 32nd Ave S from S 170th St to S 176th St; and pedestrian improvements along 32nd Ave S from S 176th St to S 180th St and along S 180th St to the Bow Lake Trailer Park. The project is part of the City Council's goal to improve multimodal transportation within the City.

The District operates approximately 5,000 LF of various sized water mains throughout the corridor. The mains are either cast iron or AC and is beneficial for the District to replace the mains as part of the City's work. It is unclear of the magnitude of direct conflicts with District infrastructure as the City has only recently begun the planning and design stage. During the preparation of the budget, the City provided a limited description of their overall project scope. There is possibility of a reduction in the scope for the District work depending on the City's design.

The District KPG/PSOMAS in early 2022 to design the project. KPG is also the lead designer on behalf of the City. For the 2023 budget, the District assumed all water mains within the project limits require replacement. The budget includes \$1.3 million and 1.8 million for the costs of design and construction in the 2023 and 2024 respectively. The project will be funded by existing water rates and reserves.



**PROJECT 21-2 32nd Ave S - S 180th St WATER MAIN REPLACEMENT
ESTIMATED PROJECT COSTS**

CATEGORY	2022	2023	2024	TOTAL
Engineering - Design	\$ 82,570	\$ 70,000	\$ -	\$ 152,570
Construction	\$ -	\$ 987,200	\$ 1,480,800	\$ 2,468,000
Construction Cost Escalator (10%)	\$ -	\$ 98,720	\$ 148,080	\$ 246,800
Construction Administration	\$ -	\$ 98,720	\$ 148,080	\$ 246,800
Staff Labor and Benefits	\$ 4,500	\$ 25,000	\$ 30,000	\$ 59,500
Miscellaneous / Other	\$ -	\$ 10,000	\$ 10,000	\$ 20,000
TOTAL	\$ 87,070	\$ 1,289,640	\$ 1,816,960	\$ 3,193,670

FUNDING FOR PROJECT

CATEGORY	2022	2023	2024	TOTAL
Rates and Reserves	\$ 87,070	\$ 1,289,640	\$ 1,816,960	\$ 3,193,670
TOTAL	\$ 87,070	\$ 1,289,640	\$ 1,816,960	\$ 3,193,670

ESTIMATED SCHEDULE FOR PROJECT COMPLETION

Description	Month	Year
Design Engineering (Complete)	March	2023
Award Construction Contract	Spring	2023
Begin Construction	Summer	2023
Project Final Completion	Summer	2024

Project 21-3 Mansion Hill 2.5MG Reservoir Int./Ext. Recoat and Safety Improvements

The District completed the Sound Transit improvements at the Mansion Hill tank site in 2021. The previous work included completion of the new, 4.5 MG reservoir and Pump Station No 9. The next phase of work will include retrofitting the existing 2.5 MG 490 Zone ground reservoir.

The existing 2.5MG reservoir was constructed in 1959. The tank was last coated in 2002 and the coatings are nearing the end of their useful life. The base layer of the exterior contains lead and has been top coated several times in the past. The recoating effort will require a complete removal of the exterior with lead abatement and surface preparation for a full recoat on the interior and exterior. The exterior color will match the new 4.5 MG reservoir.



In addition to the recoating, the District would benefit by installing safety and security improvements to the tank. The scope includes installing stairs to replace the existing ladder and safety cage to meet current safety regulations and installing a handrail around the perimeter roof. These measures will improve safety for District personnel.



The project was scheduled for construction in 2022. Due to Covid and other impacts, the District decided to postpone the project until second half of 2023.

The District budgeted \$1.09 million and \$2.3 million for design and construction in 2023 and 2024, respectively. The project will be funded by existing water rates and capital reserves.

**PROJECT 21-3 MANSION HILL 2.5 MG RESERVOIR
INTERIOR/EXTERIOR RECOAT AND SAFETY IMPROVEMENTS
ESTIMATED PROJECT COSTS**

CATEGORY	Prior Years	2022	2023	2024	TOTAL
Engineering - Design	\$ 58,039	\$ 35,000			\$ 93,039
Construction			\$ 1,000,000	\$ 2,200,000	\$ 3,200,000
Construction Administration			\$ 80,000	\$ 100,000	\$ 180,000
Staff Labor and Benefits		\$ 2,500	\$ 7,500	\$ 7,500	\$ 17,500
Miscellaneous / Other	\$ 1,626		\$ 1,500	\$ 1,500	\$ 4,626
TOTAL	\$ 59,665	\$ 37,500	\$ 1,089,000	\$ 2,309,000	\$ 3,495,165

FUNDING FOR PROJECT					
CATEGORY	2021	2022	2023		TOTAL
Rates and Reserves	\$ 59,665	\$ 37,500	\$ 1,089,000	\$ 2,309,000	\$ 3,495,165
					\$ -
TOTAL	\$ 59,665	\$ 37,500	\$ 1,089,000	\$ 2,309,000	\$ 3,495,165

ESTIMATED SCHEDULE FOR PROJECT COMPLETION		
Description	Month	Year
Design Engineering (Complete)	March	2023
Award Construction Contract	June	2023
Begin Construction	August	2023
Project Final Completion	August	2024

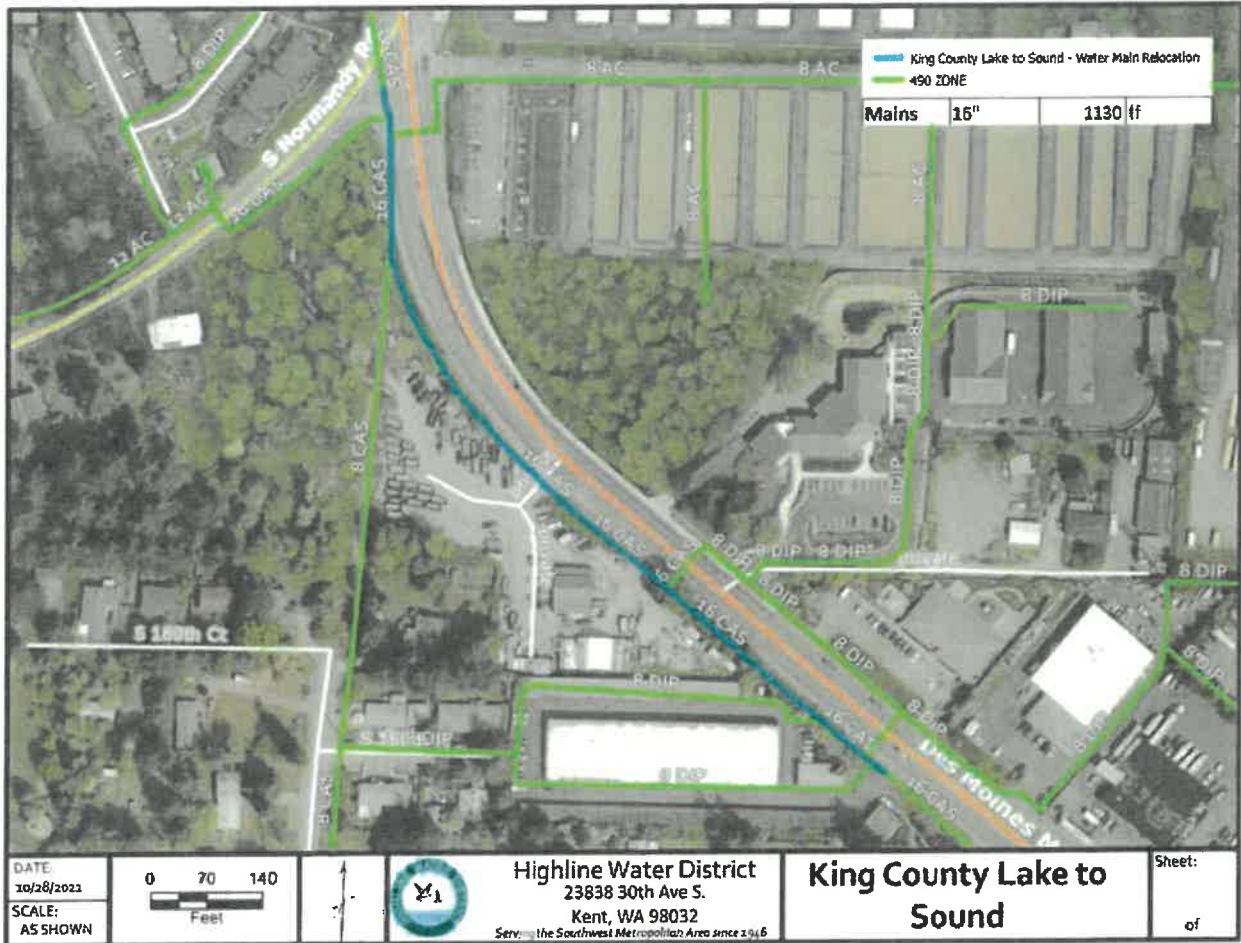
Project 22-1 King County Lake to Sound Trail Relocation

King County, in partnership with the cities of Burien and SeaTac, plans to construct a new trail from S 200th St to S Normandy Road and Des Moines Memorial Drive. The trail will connect the Des Moines Creek trail to the regional trail network operated by King County.

In early 2021, the District received notice by the City of Burien to relocate an approximately 1,200 LF of existing 16-inch cast iron water main in conflict with several retaining walls. The proximity of the main prevents excavation work for the foundation of the walls.

The District retained Parametrix, the same consultant who is designing the trail, to facilitate design of the relocation. The work will be a bid schedule on the County construction contract. Highline and King County will need to execute an ILA to include the work.

The anticipated project cost is \$1.02 million. Work is tentatively scheduled for 2023; however, King County has yet to provide the District the final project schedule. The water design work is complete, and the District-King County are at tentative agreement for the ILA. Water work will be funded by existing rates and capital reserves.



**PROJECT 22-1 DES MOINES MEMORIAL DR
WATER MAIN RELOCATION (LAKE TO SOUND TRAIL)
ESTIMATED PROJECT COSTS**

CATEGORY	Prior Years	2022	2023	TOTAL
Engineering - Design	\$ 12,834	\$ 21,708	\$ 10,000	\$ 44,541
Construction			\$ 852,500	\$ 852,500
Construction Administration			\$ 85,250	\$ 85,250
Staff Labor and Benefits		\$ 5,000	\$ 35,000	\$ 40,000
Miscellaneous / Other		\$ 1,500	\$ 2,500	\$ 4,000
TOTAL	\$ 12,834	\$ 28,208	\$ 985,250	\$ 1,026,291

FUNDING FOR PROJECT				
CATEGORY	Prior Years	2022	2023	TOTAL
Rates and Reserves	\$ 12,834	\$ 28,208	\$ 985,250	\$ 1,026,291
				\$ -
TOTAL	\$ 12,834	\$ 28,208	\$ 985,250	\$ 1,026,291

ESTIMATED SCHEDULE FOR PROJECT COMPLETION			
Description		Month	Year
Design Engineering (Complete)		December	2022
Award Construction Contract		January	2023
Begin Construction		March	2023
Project Final Completion		December	2023

Project 22-2 2023 Water Main Replacement (Huntington Park)

Huntington Park is a private community, condominium-type property located in Des Moines. The Huntington Park Homeowners Association reached out to the District inquiring our intent to replace existing water infrastructure in the future. The Association plans to overlay the existing roads in 2026.

The District owns and operates several small diameter AC water mains in Huntington Park. Highline inherited these mains when Water District No 56 dissolved and was incorporated into the District. The neighborhood is located on several tax lots and the existing water mains are within inherited easements.

The District has an excellent opportunity to replace the aging infrastructure in partnership with the Homeowner's Association. It allows for updating the existing easements and upgrade the water system with modern materials and construction techniques.

The project includes replacing approximately 10,000 LF of AC mains, including valves, hydrants, and services. Design and easement acquisition would commence in 2022 and be complete the end of 2023. Construction will follow in 2024-2025.

Project 22-2 includes \$275,000, \$1.25 million, and \$2.73 million for years 2023, 2024 and 2025, respectively. A detailed budget will be prepared once the project is fully scoped in design. The District will fund the project by rates and capital reserves.



Project 22-3 SR509 Phase 2 Water Main Relocation

As part of the Connecting Washington and Puget Sound Gateway Project, WSDOT proposes to construct a new tollway connecting Interstate 5 and SR509. Phase 1 (Project 18-2) includes constructing a 4-lane highway between Interstate 5 and 24th Ave S in SeaTac. The second phase (this project) includes completing the freeway from 24th Ave S to Des Moines Memorial Dr and S 188th St where SR509 currently ends.

The District has identified two locations of potential conflict with the new tollway:

- At S 192nd St near Des Moines Memorial Drive, WSDOT will construct a new overpass for the city street, severing an existing 8-inch water main and requiring it to be affixed to the new bridge.
- At Des Moines Memorial Drive near S 196th St, a new stream culvert will require an 8-inch water main to be relocated.

The full scope, budget and schedule for the project has yet to be determined. The District included \$587,000 for design services and payment to WSDOT in 2023 and allocated \$120,000 in 2024. There is the possibility of relocation work to be added to accommodate two onramps/offramps/round-a-bouts that conflict with an existing 16-inch cast-iron water main at Des Moines Memorial Drive and S 188th St. A full scope and budget will be prepared once additional details are provided by WSDOT.



Project SW22-1 Emergency Tank Vent Replacement

In fall 2021, the Department of Health (DOH) performed a Sanitary Survey of the District's facilities. The Sanitary Survey is an inspection of the system to ensure compliance with State and Federal standards for water purveyors. During the investigation, DOH found three tank vents not up to new standards and directed the District to replace the vents immediately.

The Board of Commissioners declared an emergency and authorized the District to retain a contractor to replace the vents. The District contacted T. Bailey Inc., the contractor who constructed the recent 4.5MG reservoir at Mansion Hill. T. Bailey has replaced two vents: one at Star Lake Tank and one at Bow Lake Tank.



One vent remains at North Hill Tank to be replaced. Due to conflicts with cell providers, the Federal Aviation Administration (FAA) and SeaTac Airport, the North Hill vent remains incomplete. The contractor must obtain FAA approval to provide a crane to install the vent. Work should be complete in early 2023.

The anticipated project costs are \$140,000 and will be funded by capital reserves.

Project 23-1 DMTP/PS2 Electrical Upgrades and Generator Replacement

The District has an existing generator serving Pump Station No 2 at the Des Moines Treatment Plant site. The generator is nearing the end of its useful life, is not connected to the well or treatment plant, and is undersized to power the remaining facility. This project will replace the generator with one adequately sized to provide backup power to the Des Moines Well, the Treatment Plant and Pump Station No 2.

The project budget is \$1.05 million to be spanned over 2023 and 2024. The District will need engineering services to determine generator sizing and electrical requirements in early 2023. A more detailed budget will be prepared when the District receives a cost estimate by the consultant.



Project 23-2 McMicken Onsite Hypochlorite Generation Replacement

The District operates a Wallace & Tiernan onsite hypochlorite generation system at the McMicken Treatment Plant. The unit uses salt and electricity to create a weak solution of sodium hypochlorite (bleach) used for water disinfection at the treatment plant. The system has been in operation for 10 years and is nearing the end of its useful life.

The 2023 budget includes \$100,000 to replace the unit. Since the commissioning of the original system, newer technologies are available to increase production and lower costs.

The District will need to assistance of a firm to help evaluate the optional solutions to replace the unit.



SMALL WORKS / EMERGENCY PROJECTS

The Small Works / Emergency Projects budget is an allocation of funds set aside for capital projects not specifically identified during the budgeting process but arise during the year. It is typically used for smaller sized projects, such as a short main replacement in anticipation of a City driven overlay project. In addition, the District can also use the budgeted money to fix facilities that have immediate maintenance issues or improve system efficiency.

For 2023, the District allocated \$350,000 for the Small Works budget. The District will continue to work with the local Cities to determine the replacement of water mains in conjunction with road improvement projects.

FUTURE UNSCHEDULED IMPROVEMENTS

Per the District's 2016 Comprehensive Water System Plan, the following needs were assessed:

1. Source/Treatment: The District's contract with SPU satisfactorily addresses source of supply needs through 2062. SPU and HWD are discussing amendments to the source contract during the current 20-year renegotiation provision.

The District will continue to explore the feasibility of purchasing water from Lakehaven Water and Sewer District (LWSD). LWSD is a stakeholder in the Tacoma Public Utilities filtration plant that became operational in 2015. LWSD has approximately 2.0 MGD excess water supply available for purchase. The District selected Carollo Engineers to study the potential source in 2020 and their report was complete in 2021. The District will also need to evaluate the Tyee Well mitigation.

The District plans to add backup power generation at the Angle Lake Well and Des Moines Treatment Plant/Pump Station 2 site. The latter project is included in the 2023 CIP.

2. Storage: There are no significant short-term storage deficits. The City of Tukwila and KCWD 54 expressed interest in purchasing or leasing additional storage from Highline.
3. Distribution System: The District will continue to use its 2008 Asset Management Plan (AMP) to use as a guide to create prioritization strategies for future projects to evaluate water mains that will soon begin to meet the end of their useful life and need to be replaced. The next scheduled update of the Asset Management Plan is 2020 but subsequently delayed due to the required Vulnerability Assessment and Emergency Response Plan updates as required by EPA. We will reevaluate the AMP in a subsequent year.

In 2012, staff discussed with the Board the goal to replace AC water mains within in the District over the next 30 years. The District will continue to focus efforts replacing small diameter mains adjacent to sensitive/critical areas like steep slopes or wetlands. In addition, the District will work to replace mains identified in the comprehensive plan to improve fire suppression. The District will work with Cities to replace water mains in consort with City projects to reduce costs. Future budgets include allocation of funds for this effort.

The District will explore the feasibility of changing the 560 Pressure Zone into a 600 Pressure Zone. The effort will increase lower pressures around Mansion Hill, eliminate some aging infrastructure and improve reliability and redundancy. The District will proceed with a feasibility study in the next few years.

Another future improvement will allow look at adding pressure monitoring to existing PRV stations to provide for real time monitoring through SCADA of pressure zones. This effort will help assist staff monitor the system in the event of pressure fluctuations or surge and during a main failure event.

MITIGATION IMPROVEMENTS FOR 2023

The District allocates funding for improvements to District facilities to ward against man-made and natural disasters. Improvements include security cameras and technologies, fencing, security software, access control devices and other types of security improvements. The budget for 2023 includes \$40,000 for mitigation improvements.

METERS, HYDRANTS AND SERVICES BUDGET

The Meter, Hydrants and Services budget is an allocation of funds used for new or replaced capital assets performed by District personnel. Typically, the assets are pipes, meters, hydrants and/or water services. For example, the budget would fund a small water main replacement project by District crews. The costs are capitalized over the life of the asset. The budget is evaluated annually by reviewing the goals and objectives for the subsequent year and comparing the figures with the overall annual budget.

For 2023, the budget includes \$650,000 for the meters, hydrants, and services. The budget includes materials for the replacement of approximately 25 hydrants, 50 water services, and three (3) small water main replacement projects for the field crew. There are several projects identified for the service crews to replace mains for upcoming city projects in 2023. Because of supply chain concerns, the budget was increased by \$250,000 as the District plans to purchase bulk materials for inventory to avoid delay in acquiring hard-to-find parts. Please see the **2023 Goals and Objectives** document for more specific information on specific goals by the field crews for capital improvements.

Agenda Item No.: 5.4
Agenda Date: 12/21/22
Reviewed By: 

Subject: Adopt 2023 Capital Improvement Program

CATEGORY	
Executive	<input type="checkbox"/>
Administrative	<input type="checkbox"/>
Engineering/Operations	<input checked="" type="checkbox"/>

FINANCIAL						
Expenditures?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
Budgeted?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
Amount: \$					<u> </u>	
<i>Plus WSST</i>						

ATTACHMENTS:

1. Resolution #22-12-21D
2. Exhibit A – 2023 Capital Improvement Program

COMMENTS:

Each year staff and the Commissioners review the needs of the District and establish a Capital Improvement Program (attached to the resolution as Exhibit A).

Staff recommends approval of this resolution.