

**HIGHLINE WATER DISTRICT
King County, Washington**

RESOLUTION 19-12-18B

RESOLUTION ADOPTING THE 2020 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 2020 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 **18th** day of **December 2019**.

BOARD OF COMMISSIONERS



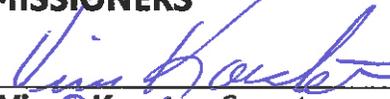
Kathleen Quong-Vermeire, President



Todd Fultz, Commissioner



George Landon, Commissioner



Vince Koester, Secretary



Daniel Johnson, Commissioner

EXHIBIT A



2020 CAPITAL IMPROVEMENT PROGRAM



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EXECUTIVE SUMMARY

The District's Goal is to provide high quality and reliable water service to all customers in accordance with the 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 management and 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 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.

In 2019, the District completed three capital projects. The projects include:

- *Project 18-4 McMicken Well Repair*
- *Project 19-3 KDM/PHS and 9th Pl S Water Main Replacement – 629 LF*
- *Project 19-4 S 216th St Emergency Water Main Replacement – 600 LF*

The 2020 CIP includes seven projects in various phases of planning, design and construction:

- *Project 16-2 Pump Station No 8 (Crestview) and Project 16-6 Mansion Hill Pump Station*
- *Project 16-3 Mansion Hill Reservoir Relocation*
- *Project 18-2 International Blvd S at SR 509 Road Improvements*
- *Project 18-5 34th Ave S Water Main Replacement*
- *Project 19-1 2019 AC Water Main Replacement (Areas around North Hill)*
- *Project 19-2 2020 Water Main Replacement (Normandy Park Manhattan CI Replacement)*

The estimated Total Capital Additions for 2019, which includes CIP Expenditures, Small Works/Emergency Projects, Mitigation Improvements, Meters, Hydrants & Services, and Capital Asset Purchases, was \$10.5 million, including an estimated 5.6 million reimbursement from Sound Transit to accommodate the Federal Way Link Light Rail Extension (FWLE). Debt service for 2019 was \$713,000.

For 2020, the Total Capital Additions is estimated at \$17.7 million. The District will fund the CIP through a combination of water rates, development connection charges and partner agency reimbursements. The effective Capital Additions based on District contributions (rates, connection charges and capital reserves) is \$12.7 million. The remaining funding is from Sound Transit for the FWLE and other agency reimbursements. Debt service reduces to \$708,000 in 2020, 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.

2020 CIP - OUTSTANDING FUNDING & DEBT SERVICE (2019-2023)

CAPITAL PROJECTS

| CAPITAL PROJECTS | | Prior | Projected | | | | | |
|------------------|---|--------------|--------------|---------------|--------------|--------------|--------------|---------------|
| CIP # | Project Title | Years | 2019 | 2020 | 2021 | 2022 | 2023 | Totals |
| 16-2 | Pump Station No 8 (Crestview) | \$ 842,301 | \$ 103,500 | \$ 3,930,363 | \$ 451,263 | | | \$ 5,327,426 |
| 16-3 | Mansion Hill Reservoir Relocation | \$ 1,148,411 | \$ 6,891,660 | \$ 1,217,234 | | | | \$ 9,257,305 |
| 16-6 | Mansion Hill Pump Station | \$ - | \$ 243,974 | \$ 1,871,042 | \$ 214,838 | | | \$ 2,329,854 |
| 18-2 | International Blvd at SR 509 Road Improvements | \$ 21,712 | \$ 180,000 | \$ 4,127,500 | \$ 55,000 | \$ 55,000 | | \$ 4,439,212 |
| 18-5 | 34th Ave S Water Main Replacement | \$ 23,490 | \$ 38,520 | \$ 811,000 | | | | \$ 873,010 |
| 19-1 | 2019 AC Water Main Replacement (Areas around North Hill) | \$ - | \$ 259,500 | \$ 4,256,000 | | | | \$ 4,515,500 |
| 19-2 | 2020 Water Main Replacement (Manhattan CI Replacement) | | | \$ 200,000 | \$ 1,550,000 | | | \$ 1,750,000 |
| 19-3 | KDM/PHS and 9th Pl S Water Main Replacements | \$ 44,513 | \$ 449,541 | | | | | \$ 494,054 |
| 21-1 | PRV/SCADA Pressure Modifications | | | | \$ 175,000 | | | \$ 175,000 |
| 21-2 | Emergency Power-Angle Lake Well and Des Moines Treatment Plant | | | | \$ 750,000 | | | \$ 750,000 |
| 21-3 | Mansion Hill 2.5MG Reservoir Int./Ext. Recoat and Safety Improvements | | | | \$ 200,000 | \$ 1,700,000 | | \$ 1,900,000 |
| Future | 2021 AC Water Main Replacement (Budget Allocation) | | | | \$ 125,000 | \$ 3,000,000 | | \$ 3,125,000 |
| Future | 2022 AC Water Main Replacement (Budget Allocation) | | | | | \$ 150,000 | \$ 4,500,000 | \$ 4,650,000 |
| Future | 2023 AC Water Main Replacement (Budget Allocation) | | | | | | \$ 150,000 | \$ 150,000 |
| | | | | | | | | \$ - |
| | Subtotal of Capital Projects | \$ 2,080,427 | \$ 8,166,695 | \$ 16,413,139 | \$ 3,521,101 | \$ 4,905,000 | \$ 4,650,000 | \$ 39,736,361 |

| | | | | | | | | |
|--|---|--------------|---------------|---------------|--------------|--------------|--------------|---------------|
| | Small Works/Emergency Projects (19-4 S 216th Emergency WM Replacement*) | | \$ 475,000 | \$ 350,000 | \$ 350,000 | \$ 350,000 | \$ 350,000 | \$ 1,875,000 |
| | Mitigation Improvements | | \$ 25,015 | \$ 40,000 | \$ 40,000 | \$ 40,000 | \$ 40,000 | \$ 185,015 |
| | Meters/Hydrants/Services (Refer to O&M Budget) | | \$ 1,470,432 | \$ 600,000 | \$ 400,000 | \$ 400,000 | \$ 400,000 | \$ 3,270,432 |
| | Capital Asset Purchases (Refer to O&M Budget) | | \$ 348,000 | \$ 321,908 | \$ 250,000 | \$ 255,000 | \$ 260,000 | \$ 1,434,908 |
| | Total Capital Additions | \$ 2,080,427 | \$ 10,485,142 | \$ 17,725,047 | \$ 4,561,101 | \$ 5,950,000 | \$ 5,700,000 | \$ 46,501,716 |

| Less: Outside Funding Sources | Prior Years | 2019 | 2020 | 2021 | 2022 | 2023 | Totals |
|--|--------------|--------------|--------------|------------|------------|------------|---------------|
| Sound Transit Reimbursement (Projects 16-3 and 16-6) | \$ 1,148,411 | \$ 5,639,373 | \$ 2,636,067 | \$ 210,042 | | | \$ 9,633,893 |
| Other Outside Sources (Des Moines and Midway SD) | | | \$ 1,034,000 | | | | \$ 1,034,000 |
| General Facility Charges | | \$ 900,000 | \$ 700,000 | \$ 500,000 | \$ 500,000 | \$ 500,000 | \$ 3,100,000 |
| | | | | | | | |
| Total Outside Funding | \$ 1,148,411 | \$ 6,539,373 | \$ 4,370,067 | \$ 710,042 | \$ 500,000 | \$ 500,000 | \$ 13,767,893 |

| Debt Service | 2019 | 2020 | 2021 | 2022 | 2023 | Totals |
|---------------------------|------------|------------|------------|------------|------------|--------------|
| | \$ 713,060 | \$ 708,087 | \$ 585,024 | \$ 489,999 | \$ 415,882 | \$ 2,912,052 |
| Total Debt Service | \$ 713,060 | \$ 708,087 | \$ 585,024 | \$ 489,999 | \$ 415,882 | \$ 2,912,052 |

| | | | | | | | |
|---|--------------|---------------|---------------|--------------|--------------|--------------|---------------|
| | | 2019 | 2020 | 2021 | 2022 | 2023 | Totals |
| Capital Additions + Debt Service (Total) | \$ 2,080,427 | \$ 11,198,202 | \$ 18,433,134 | \$ 5,146,125 | \$ 6,439,999 | \$ 6,115,882 | \$ 49,413,768 |

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."

The District's Goal is to provide high quality and reliable water service to all customers in accordance with the 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 management and the Board of Commissioners. The plan includes budgets for the proposed Capital Additions for 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** – funds allotted for improvement projects not identified or postulated during development of the annual CIP (i.e. a smaller main replacement project in advance of a city overlay project). If unused, these funds remain in capital reserves.
- **Mitigation Improvements** – funds allocated for improvements to District facilities to ward against man-made and natural disasters in support of the Hazard Mitigation Plan and the Security Vulnerability Assessment
- **Meters/Hydrants/Services** – funds for the purchase 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)

The plan includes narratives for the Capital Projects, the Small Works/Emergency Project 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 **Goals and Objectives** and the **Operation and Maintenance Budget**, 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 which projects take precedence over others. 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, per WAC 246-290, 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 viability.

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 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.

The District's primary consideration as of late is due to outside agencies impacting the overall CIP. Highline must continually reprioritize projects for City-initiated road and redevelopment. Utilities must relocate their infrastructure to accommodate City-owned facilities. In addition, many cities issue a moratorium on pavement cuts for up to five years after completion of a City project. It makes good "business sense" to replace water facilities with road construction projects as it reduces overall impact to the public. Some projects included with the City work may not be the District's highest replacement priority. However, partnering helps lower overall project costs and achieve the District's goal of replacing aging infrastructure. The result is continued reinvestment into the system at a lower cost and impact to the ratepayers.

Capital Addition Funding

Project funding is an important component of the process. Because of limited resources, the District cannot fund all projects contemplated in the Comprehensive Water System Plan. Capital Additions are typically funded from rates or from other outside sources (General Facility Connection Charges [GFC], revenue bonds, low-interest loans, or developer contributions/reimbursements.) The estimated GFC revenue for 2019 is \$900,000. The proposed 2020 budget for GFC revenue is \$700,000.

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 0.25%, 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, in the quest to balance the State budget, the Washington State Legislature has reduced and/or eliminated funding for the PWTF. Future PWTF funding continues to remain uncertain. The District applied for the 2019 PWTF Cycle for the *Pump Station No. 8* project but was not selected for funding.

Grant money opportunities for infrastructure projects are 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 repair 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, per State Public Works Statutes.
7. The construction contract is brought before the Board to award 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 any contract revisions over \$15,000 per contract that may occur unless specifically authorized by resolution.
10. Upon completion of the project, staff and the consultant make a recommendation to the Board to accept the project as complete. This recommendation is then approved or denied 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.

2020 Capital Addition Budget

For 2020, the District's anticipated Capital Addition Budget is \$17.7 million. The figure includes budget to support all five Capital Addition components. The District will fund the 2020 CIP through water rates, capital reserves, connection charges, and developer reimbursements. Of the Capital Addition Budget, the District's contribution through existing rates, connection charges and capital reserves is \$12.7 million. The remaining portion of the budget is from Sound Transit reimbursement for the Federal Way Link Light Rail Extension and other outside partnering agencies.

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

2019 COMPLETED CAPITAL PROJECTS

In 2019, the District completed three CIP projects. The projects include:

Project 18-4 McMicken Well Repair

In 2012, the District completed construction of the McMicken Well and Treatment Plant project. The initial well production was 500 gpm on a continuous basis; however, over time, production began to decline. In September 2017, production was near 375 gpm and the District elected to have PumpTech, Inc., the pump supplier, to remove and diagnose any problems with the mechanical equipment.

During the removal process, the piping separated at a joint coupling causing the pump and motor to drop into the bottom of the well. The piping exhibited extensive corrosion on the pipe and threads along with the presence of iron-oxidizing bacteria.

PumpTech retrieved the pump and the District retained RH2 Engineering to evaluate causes and solutions for the failure. The indication for the pipe separation is the bacteria corroded the threads resulting in the pipe to detach from the coupler. The pump was damaged beyond repair from the corrosion and the fall. The District filed an insurance claim for the damaged components caused by the falling of the equipment in the well.

The District contracted Hokkaido Drilling to remove debris, clean, inspect and repair the damaged well casing from the fall. Their work was complete in early 2018.

RH2 recommended using thicker Schedule 80 galvanized steel column piping with sections of stainless steel in areas of high turbulence that caused a corroding effect to relatively thinner Schedule 40 galvanized steel pipe. The pump was replaced with stainless steel parts to help inhibit corrosion.

Pump Tech ordered the replacement pump and motor. The pump was installed on August 7, 2019 and put online shortly thereafter. As a proactive measure, the District installed a pressure transducer on the pump outlet to detect changes in discharge pressure to be used as a preliminary indication of problems with the mechanical piping equipment.

The total cost of the repair work was \$275,279.40. The District received an insurance reimbursement of \$156,278.83. The project was funded by a combination of capital reserves and insurance.

Project 19-3 KDM/PHS and 9th Pl S Water Main Replacements

In 2018, the District experienced several main ruptures attributed to a variety of causes. Two specific breaks exceeded the capability of District personnel to repair and required outside consulting and contracting.

The first break occurred on September 7, 2018 at Kent-Des Moines Road (KDM) and Pacific Highway South (PHS). The 12" cast iron water main ruptured during construction by a third party working in the area. The ten-foot deep main, the close proximity to the foundation of the traffic

light on the highway and the complexity of multiple utilities in the area prevented the District crews from making the repair.

The District crews installed an isolation valve to temporarily restore water service to the businesses in the area while a permanent solution was developed. The project required a new main be installed parallel to the old main within in the right-turn and HOV lanes on KDM and PHS to avoid existing utility conflicts. The work included installing approximately 300 LF of 12 DI pipe and associated connections and fittings.



A second break occurred on August 13, 2018 at S 240th St and 9th Place S. An existing service line broke at the water main causing the pipe to rupture. The break caused significant damage to one existing home. During the repair, the 4-inch AC water main was observed to be soft and in poor condition causing the District concern over potential future ruptures.

The Board of Commissioners declared an emergency on August 15, 2018 and authorized the General Manager to retain a consultant and contractor to replace the facilities. The District retained Pace engineers to survey and design the replacement. The District requested proposals from several contractors in August and September 2018. One firm declined due to the overall volume of construction work. A second contractor's bid was several times higher compared to a typical construction cost if a publicly bid project. Availability of contractors was also impacted by a recent union strike involving operator engineers.

Pace Engineers was selected to design the replacement at both locations and combined the segments into one construction project. The District advertised the project and awarded to Reed Trucking and Excavation on April 15, 2019. Work began in June and was completed in September 2019. The estimated project cost was \$494,000 (in final closeout) and funded by existing capital reserves.

Project 19-4 S 216th St Emergency Water Main Replacement

In summer 2019, the District became aware of a leak in a section of 18" water main along a transmission main in S 216th St near 18th Ave S. The District crews repaired the leak; however, during the repair a second leak was discovered. The pipe was deep and found to be steel. Staff believed all steel main in the District was previously replaced because of its high susceptibility for corrosion and leaks.

The main is critical to District operations. It transports water from PS2 (SPU) and the Des Moines Treatment Plant to the Mansion Hill Tank site. Because of the criticality of the pipe, the Board of Commissioners declared an emergency on August 27, 2019 and authorized staff to retain a contractor to repair the main. It is believed the steel main was a local requirement by WSDOT to be installed across the old SR509 alignment at S 216th St in the 1960's

The section to be replaced was within the project limits of the S 216th St Roadway Improvements by the City of Des Moines. The District contracted with the City's contractor, Ceccanti, Inc. to

replace approximately 600 LF of 18" steel pipe with ductile iron pipe. The contractor coordinated the work in consort with the City project prior to final road restoration.

The final project cost is estimated at approximately \$475,000 (project is still in final closeout stage.) The emergency work was funded through the emergency capital reserves in the District's annual budget.

2019 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 2019 include:

Project 16-2 Pump Station No 8 (Crestview)

Project 16-6 Pump Station No 9 (Mansion Hill Pump Station)

Highline Water District's majority storage facility serving the 560 Pressure Zone is the 7.6 MG Crestview Reservoir. Water stored in Crestview or source water from Seattle Public Utilities must pump through Pump Station 6 (PS6) to enter the 560 zone.

The 2016 Comprehensive Water System Plan identified the need for a second pump station to serve the 560 zone from SPU and Crestview. The project would improve redundancy and resiliency in the overall water system in the event of a failure of PS6. The new pump station (PS8) will use modern equipment and receive electrical service from Puget Sound Energy, a different electric utility than PS6 (Seattle City Light).

The District selected RH2 Engineering to perform the preliminary engineering services including evaluating local properties in the general area of S 160th St and 42nd Ave S for siting the station. The designers narrowed the search based on elevations, proximity to Crestview Reservoir and PS6, cost and adverse impacts to the neighborhood. RH2 completed the preliminary assessment in December 2016.

The District selected to site the station at the Harper property located at 16032 42nd Ave S. The property housed an existing derelict structure in foreclosure. The home housed criminal activity and was a nuisance for the surrounding properties. The District closed the sale in November 2016 and subsequently demolished the structure in early 2017.

RH2 Engineering evaluated several design concepts. The preliminary design includes a 5,000 GPM split-level pump station; pumps and piping are below ground and electrical and equipment storage in an above ground building. The station will include the capability to discharge into a 600 Pressure Zone in the event the District decides to change the hydraulic grade line of the 560 pressure zone. RH2 retained Page and Beard Architects to design the above ground building to blend in with the surrounding properties.

Staff coordinated with the City of Tukwila and obtained the Unclassified Use Permit (UUP) in early 2018. The intake and outlet piping is within existing SeaTac right-of-way will require a city issued ROW permit. All permits were obtained in 2019.

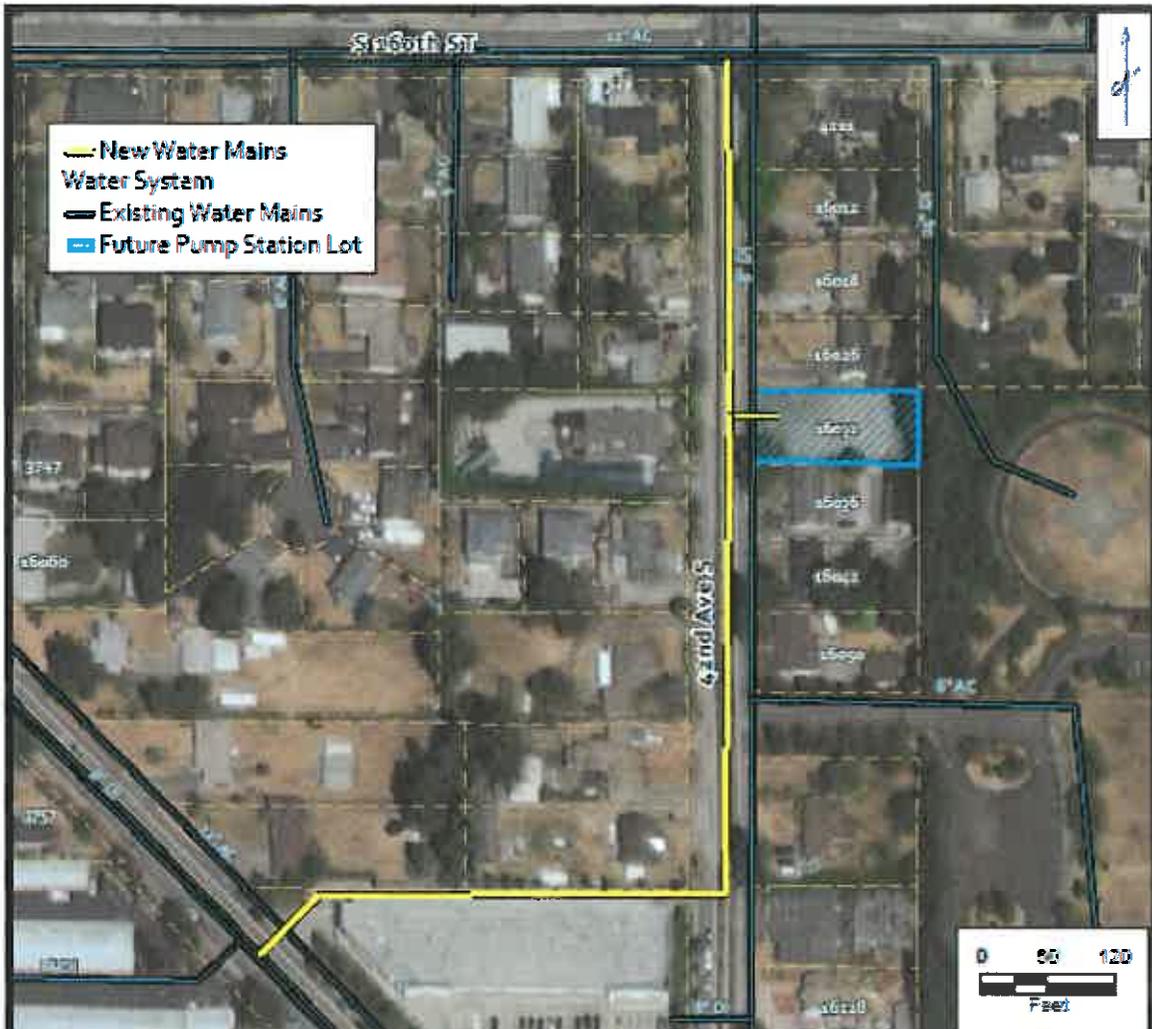
The District completed the design effort in spring 2019 but elected not to advertise the project due to lack of competition in the construction market and being late in the 2019 construction season. Staff recommended to the Board to postpone construction until the beginning of the 2020 construction season to obtain more favorable construction timing.

In 2019, the District began design work for Project 16-6 Mansion Hill Pump Station (PS9). PS9 will replace the storage capacity for the 0.25 MG elevated tank removed at Mansion Hill to accommodate the FWLE project by Sound Transit. The base design will be for a triplex 3,000 GPM station pumping from the 490 Pressure Zone into the 560 Pressure Zone at the Mansion Hill tank site.

The project required the District to retain a consultant for design and construction administrative services but believed there would be significant economies of scale by adding Pump Station 8 and 9 into one construction contract under separate schedules. The District intends to advertise the combined project in early 2020. Construction is anticipated to be completed within a year.

The District allocated \$3.9 million and \$450,000 in the 2020 and 2021 budgets for Pump Station 8, respectively. The total anticipated project cost for PS8 is \$5.3 million and funded by existing water rates and capital reserves.

For Project 16-6 the District budgeted \$1.9 million and \$220,000 in 2020 and 2021, respectively. Sound Transit will reimburse the District for the pump station costs less any improvements considered betterments. The budget includes approximately \$200,000 in District capital reserve funding to upsize pumping capacity from 3,000 to 4,000 gpm and adding flexibility in the event the District decides to change the 560 Pressure Zone into a 600 Pressure Zone. Upsizing is considered a betterment.



Project Notes:

- Consultant: RH2 Engineers
- Estimated Project Cost: \$5.3M
- Bid Date: 1st Quarter 2020
- Estimated Construction Duration: 12 Months

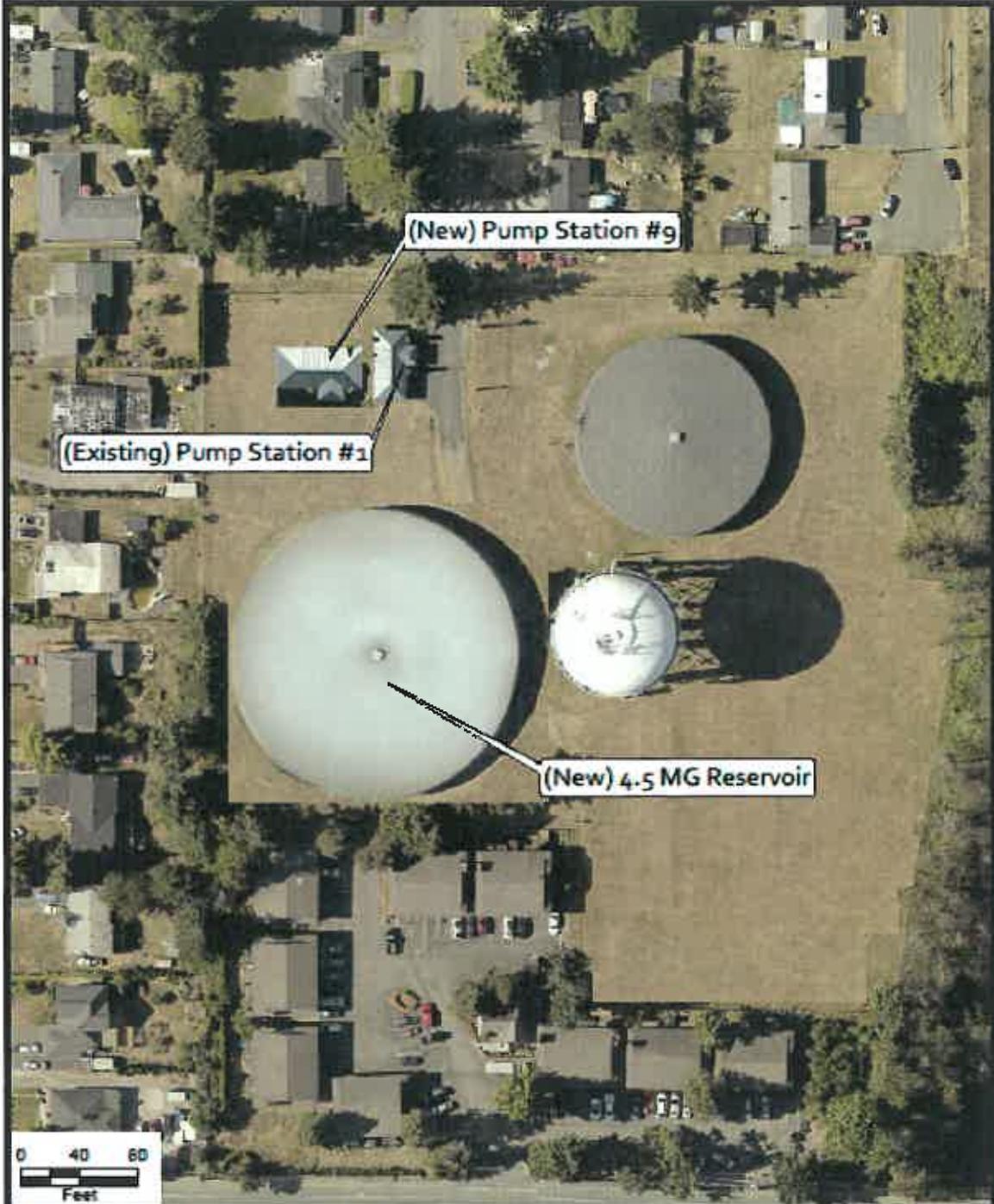
DATE:
2/21/2020
SCALE:
AS SHOWN



Highline Water District
28888 30th Ave S.
Kent, WA 98082
Serving the Southwest Metroplex with Area since 1956

**16-2:
Pump Station 8**

Sheet:
**CIP
1 of 1**



DATE:
02/01/2009
SCALE:
AS SHOWN



Highline Water District
23838 30th Ave S.
Kent, WA 98032
Serving the Southwest Metropolitan Area since 1950

**Mansion Hill
Pump Station #9**

Sheet:
CIP
1 of 1



**16-2 PUMP STATION No. 8
ESTIMATED PROJECT COSTS**

| CATEGORY | Prior Years | 2019 | 2020 | 2021 | TOTAL |
|-----------------------------|--------------------|-------------------|---------------------|-------------------|---------------------|
| Engineering - Design | \$ 534,217 | \$ 85,000 | | \$ - | \$ 619,217 |
| Construction | \$ 27,490 | \$ - | \$ 3,651,863 | \$ 405,763 | \$ 4,085,115 |
| Construction Administration | | \$ - | | | \$ - |
| Staff Labor and Benefits | \$ 19,827 | \$ 7,500 | \$ 240,000 | \$ 35,000 | \$ 302,327 |
| Permitting | \$ 16,005 | \$ 9,500 | \$ 30,000 | \$ 5,500 | \$ 61,005 |
| Property Acquisition | \$ 238,763 | \$ - | | | \$ 238,763 |
| Miscellaneous / Other | \$ 3,769 | \$ 1,500 | \$ 5,000 | \$ 5,000 | \$ 15,269 |
| Legal | \$ 2,230 | \$ - | \$ 3,500 | \$ - | \$ 5,730 |
| TOTAL | \$ 842,301 | \$ 103,500 | \$ 3,930,363 | \$ 451,263 | \$ 5,327,426 |

| FUNDING FOR PROJECT | | | | | |
|----------------------------|--------------------|-------------------|---------------------|-------------------|---------------------|
| CATEGORY | Prior Years | 2019 | 2020 | 2021 | TOTAL |
| Rates/Reserves | \$ 842,301 | \$ 103,500 | \$ 3,930,363 | \$ 451,263 | \$ 5,327,426 |
| | | | | | |
| TOTAL | \$ 842,301 | \$ 103,500 | \$ 3,930,363 | \$ 451,263 | \$ 5,327,426 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|---------------|
| Description | Date |
| Design Engineering (Complete) | March 2019 |
| Award Construction Contract | February 2020 |
| Begin Construction | April 2020 |
| Project Final Completion | March 2021 |

**16-6 PUMP STATION No. 9
ESTIMATED PROJECT COSTS**

| CATEGORY | 2019 | 2020 | 2021 | TOTAL |
|-----------------------------|-------------------|---------------------|-------------------|---------------------|
| Engineering - Design | \$ 234,474 | | | \$ 234,474 |
| Construction | \$ - | \$ 1,609,542 | \$ 178,838 | \$ 1,788,380 |
| Construction Administration | | \$ 211,500 | \$ 23,500 | \$ 235,000 |
| Staff Labor and Benefits | \$ 4,500 | \$ 20,000 | \$ 5,000 | \$ 29,500 |
| Permitting/Approvals | \$ 5,000 | \$ 25,000 | \$ 5,000 | \$ 35,000 |
| Miscellaneous / Other | | \$ 5,000 | \$ 2,500 | \$ 7,500 |
| TOTAL | \$ 243,974 | \$ 1,871,042 | \$ 214,838 | \$ 2,329,854 |

| FUNDING FOR PROJECT | | | | |
|-----------------------------|-------------------|---------------------|-------------------|---------------------|
| CATEGORY | 2019 | 2020 | 2021 | TOTAL |
| Rates/Reserves | | \$ 187,104 | \$ 4,796 | \$ 191,900 |
| Sound Transit Reimbursement | \$ 243,974 | \$ 1,683,938 | \$ 210,042 | \$ 2,137,954 |
| TOTAL | \$ 243,974 | \$ 1,871,042 | \$ 214,838 | \$ 2,329,854 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|---------------|
| Description | Date |
| Design Engineering (Complete) | December 2019 |
| Award Construction Contract | February 2020 |
| Begin Construction | April 2020 |
| Project Final Completion | March 2021 |

Project 16-3 Mansion Hill Reservoir Relocation

In late 2015, Sound Transit (ST) selected the SR509/I-5 route for the Federal Way Link Light Rail Project. The proposed alignment passes adjacent to the District's 5.0 MG 490 Zone reservoir and 30-inch Transmission Main at the Mansion Hill Tank site. The close proximity of the light rail will require the relocation of the tank and transmission main.

The first phase of work included preliminary engineering, including survey, geotechnical investigation, planning, permitting and overall project scoping. The work also included contract negotiations with ST for cost reimbursement. In 2016, the District executed an Interlocal Agreement for preliminary engineering with ST and a separate consultant contract with Stantec to determine the impacts to the water system and the preferred mitigation options.

From the preliminary engineering effort in 2017, the District identified the system conflicts and developed several methods to mitigate the impact. Each mitigation became a separate project: Project 16-3 Mansion Hill Reservoir Relocation; Project 16-4 Mansion Hill 30" Transmission Main Relocation; and Project 16-6 Mansion Hill Pump Station Project (PS9). In 2018, the 30" Transmission Main project was reassigned to a Developer Extension due to Sound Transit's federal reimbursement requirements for work within public ROW. The transmission main will be constructed by Sound Transit's Design-Build Contractor in early 2020 at their expense.



Project 16-3 includes the construction of a new, 4.5 MG 490 Zone reservoir to replace the existing 5.0 MG reservoir; however, the new location conflicted with the existing 0.25 MG elevated tank. The project includes the demolition of both tanks. The elevated tank will be replaced by the proposed pump station identified as Project 16-6.

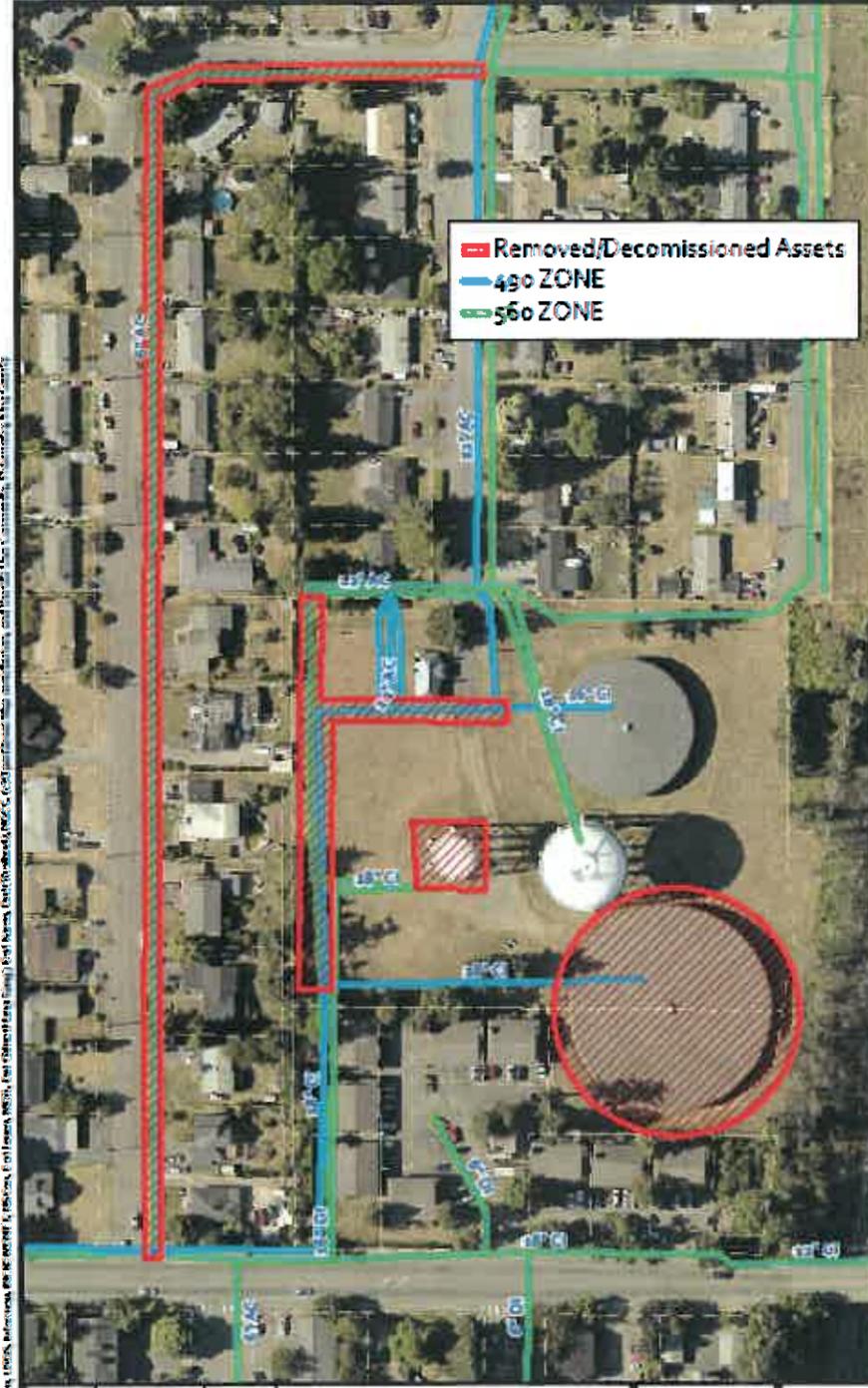
The District executed a contract amendment with Stantec to perform final design services, permitting and contract document preparation for Project 16-3. Their effort was complete in September 2018.

The District advertised and awarded the construction contract to T Bailey, Inc. on October 23, 2018. The award amount was \$7,372,535.50. Notice to proceed for construction was issued in November, 2018 and work is expected to be complete in early spring 2020.

During construction, the District became aware of toxic soils contaminated with arsenic and lead around the perimeter of several tanks. It is believed the primary source of the soils was from sandblasting activity during recoating of the tanks in the early 1970's. The District executed a change order with T Bailey to remove and lawfully dispose the contaminated soils.

The District budgeted \$9.3 million for Project 16-3, including \$1.7 million for security, lighting, onsite betterments and offsite water main work funded by the District. Sound Transit will reimburse the District for the remaining expense through their Property Acquisition Group and a Letter of Eligibility for Reimbursement process. The estimated reimbursement is \$7.5 million. At the end of 2019, work is approximately 80% complete.





Project Notes:

- Consultant: Stantec
- Contractor: T. Bailey Inc.
- Award Date: 23-Oct-2018
- Estimated Project Cost: \$9.4M
- Notice to Proceed: 29-Nov-2018
- Construction Administration: Gray & Osborne inc.

| NO. | DATE | BY | REVISION |
|-----|------|----|----------|
| | | | |
| | | | |
| | | | |

DATE:
02/14/2019

SCALE:
AS SHOWN



Highline Water District
 23898 30th Ave S.
 Kent, WA 98052
Serving the Southwest Metropolitan Area since 1948

16-3:
**Mansion Hill 4.5 MG Reservoir
 Relocation**

Sheet:
CIP
 1 of 1

**16-3 MANSION HILL RESERVOIR RELOCATION
ESTIMATED PROJECT COSTS**

| CATEGORY | Prior Years | 2019 | 2020 | TOTAL |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|
| Engineering - Design | \$ 914,195 | | | \$ 914,195 |
| Construction | \$ 34,384 | \$ 6,521,195 | \$ 1,150,799 | \$ 7,706,377 |
| Construction Administration | | \$ 308,465 | \$ 54,435 | \$ 362,900 |
| Staff Labor and Benefits | \$ 53,644 | \$ 48,000 | \$ 12,000 | \$ 113,644 |
| Permitting/Approvals | \$ 116,498 | \$ 7,500 | | \$ 123,998 |
| Miscellaneous / Other | \$ 6,497 | \$ 5,000 | | \$ 11,497 |
| Legal | \$ 23,193 | \$ 1,500 | | \$ 24,693 |
| TOTAL | \$ 1,148,411 | \$ 6,891,660 | \$ 1,217,234 | \$ 9,257,305 |

| FUNDING FOR PROJECT | | | | |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|
| CATEGORY | Prior Years | 2019 | 2020 | TOTAL |
| Rates/Reserves | | \$ 1,496,261 | \$ 265,105 | \$ 1,761,366 |
| Sound Transit Reimbursement | \$ 1,148,411 | \$ 5,395,399 | \$ 952,129 | \$ 7,495,939 |
| TOTAL | \$ 1,148,411 | \$ 6,891,660 | \$ 1,217,234 | \$ 9,257,305 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|--------------|
| Description | Date |
| Design Engineering (Complete) | August 2018 |
| Award Construction Contract | October 2018 |
| Begin Construction | January 2019 |
| Project Final Completion | April 2020 |

Project 18-2 International Blvd at SR509 Road Improvements

The Washington State Department of Transportation (WSDOT) proposed to extend the SR509 freeway from S 188th St to Interstate 5 as part of the Connecting Washington and the Puget Sound Gateway project. The project will be completed in two phases: Phase 1 is from Kent-Des Moines Rd (KDM) to 24th Ave S in SeaTac; Phase 2 is from 24th Ave S to S 188th St. WSDOT anticipates contractor selection for Phase 1 to begin as early as 2020 and the overall project completion of both phases by 2028; however, the final project schedule is not fully defined and may be impacted by the recent Initiative 976 passage reducing car tabs.

WSDOT's design 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 desires 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.

Highline Water has three water mains in the vicinity of the bridge. The District must relocate their infrastructure in advance of the bridge work and then affix the mains to the bridge after construction. The District retained Pace Engineers to perform the preliminary planning work to identify all potential impacts of the project and other locations to accommodate WSDOT.

Project 18-2 will include design and construction of the necessary improvements for the bridge work and crossing at International Blvd and for the other future SR509 impacts. Other impacts 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.

The District expended approximately \$180,000 for the project in 2019 for evaluation, design alternatives and preparation of preliminary 30% design documents to be used by WSDOT for cost evaluation and contractor retention. The budget in 2020 and beyond includes a negotiated lump sum payment of \$4.1 million to WSDOT to construct the other impacted District infrastructure along SR509. In exchange for the lump sum payment, WSDOT and their Design-Build Contractor will be responsible for deigning and addressing the conflicts along the project. The overall estimate to complete all SR509 work is \$4.4 million.

Staff will amend the budget with updated costs and schedule once the impacts of the recent I-976 Car Tab initiative is disclosed by WSDOT. The measure could impact the timing of the project and the need by the District to fund the project in 2020.

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

| CATEGORY | Prior Years | 2019 | 2020 | 2021 | 2022 | TOTAL |
|--------------------------|--------------------|-------------------|---------------------|------------------|------------------|---------------------|
| Engineering - Design | \$ 19,969 | \$ 160,000 | | | | \$ 179,969 |
| WSDOT ILA Payment | \$ - | | \$ 4,100,000 | | | \$ 4,100,000 |
| Staff Labor and Benefits | \$ 1,743 | \$ 12,500 | \$ 20,000 | \$ 50,000 | \$ 50,000 | \$ 134,243 |
| Miscellaneous / Other | \$ - | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 20,000 |
| Legal | | \$ 2,500 | \$ 2,500 | \$ - | | \$ 5,000 |
| TOTAL | \$ 21,712 | \$ 180,000 | \$ 4,127,500 | \$ 55,000 | \$ 55,000 | \$ 4,439,212 |

| FUNDING FOR PROJECT | | | | | | |
|----------------------------|--------------------|-------------------|---------------------|------------------|------------------|---------------------|
| CATEGORY | Prior Years | 2019 | 2020 | 2021 | 2022 | TOTAL |
| Rates/Reserves | \$ 21,712 | \$ 180,000 | \$ 4,127,500 | \$ 55,000 | \$ 55,000 | \$ 4,439,212 |
| | | | | | | \$ - |
| TOTAL | \$ 21,712 | \$ 180,000 | \$ 4,127,500 | \$ 55,000 | \$ 55,000 | \$ 4,439,212 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|--------------|
| Description | Date |
| 30% RFP Documents Complete | October 2019 |
| WSDOT RFP Advertisement | TBD |
| WSDOT Contractor Selection | TBD |
| WSDOT Contract Execution (DB Contractor) | TBD |
| Begin Construction | TBD |
| Project Final Completion | TBD |

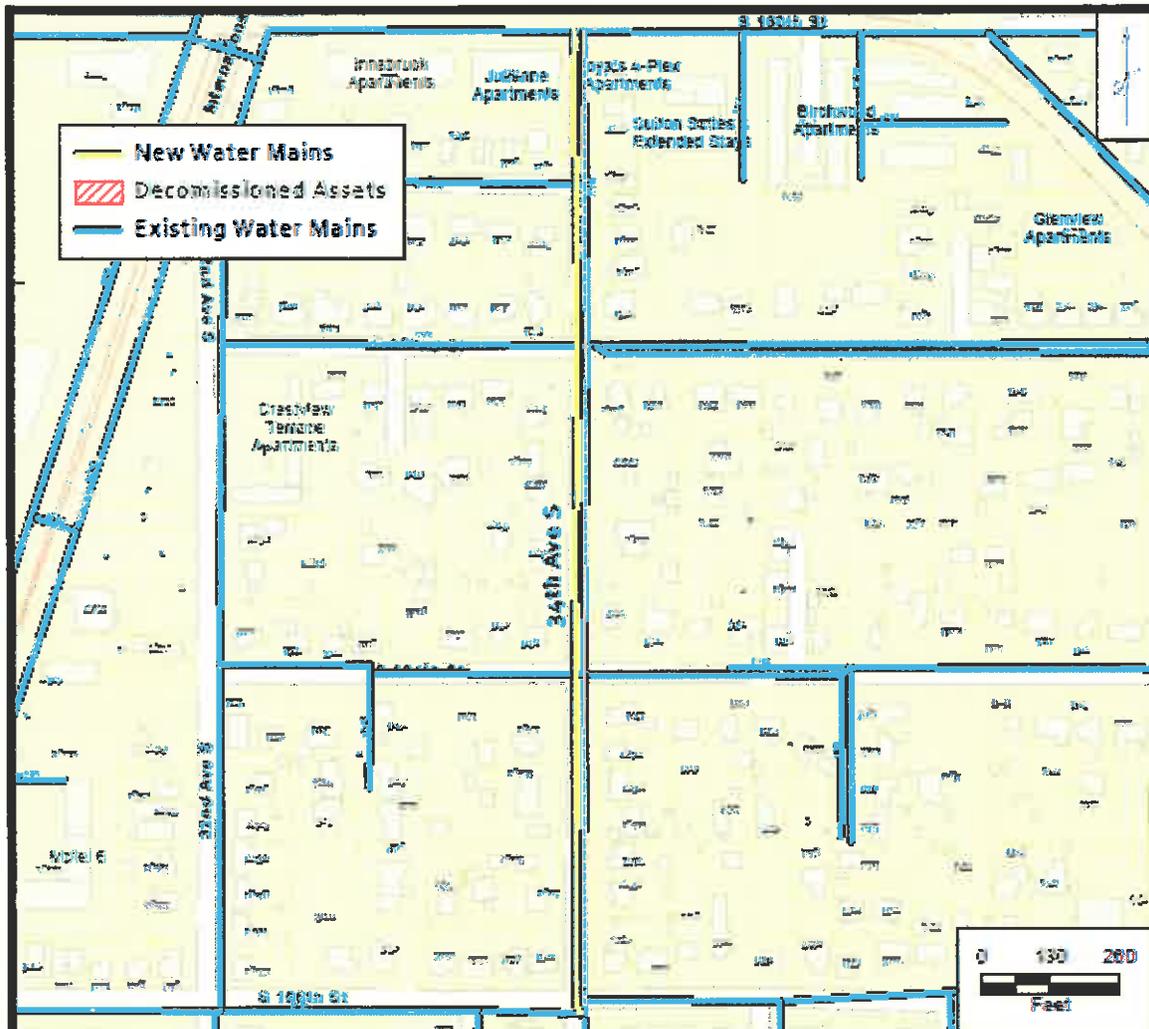
Project 18-5 34th Ave S Water Main Replacement

In August 2018, the City of SeaTac informed Highline Water of their plans to improve the road along 34th Ave S from S 160th St to S 166th St. The City plans to install curb, gutter, sidewalk, new storm drainage and add on-street parking. The City will also overlay the road upon completion. Their work is scheduled for spring 2020.

The District maintains approximately 1,850 LF of 6-inch AC water main within this section of road. The project will replace the existing main with a new 12-inch diameter DI pipe and 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 would eliminate additional aging AC pipes, prevent the need to disturb the newly constructed road, and avoid 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. The District work will be a separate schedule on the City contract and will implement through an ILA with the City. Design will be complete by the end of the year for early 2020 construction.

For the 2020 budget, the District allocated \$811,000 for construction and other allied costs. The total project cost is estimated at \$875,000. Construction will begin in early 2020 with all work complete by end of summer. Highline will fund the project by existing rates and capital reserves.



Project Notes:

Consultant: Parametrix
 Project Scope: 1,250 LF of 12" DI
 Estimated Project Cost: \$710K
 Bid Date: 1st Quarter 2020
 Anticipated construction: Spring/Summer 2020

Construction to be completed in participation with the City of Seatac project.

DATE:
 12/16/2019
 SCALE:
 AS SHOWN



Highline Water District
 28898 30th Ave S.
 Kent, WA 98032
 Serving the Southwest Metropolitan Area since 1964

18-5
34th Ave S Water Main

Sheet:
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 1 of 1

**PROJECT 18-5 34th AVE S WATER MAIN REPLACEMENT
ESTIMATED PROJECT COSTS**

| CATEGORY | Prior Years | 2019 | 2020 | TOTAL |
|------------------------------------|--------------------|------------------|-------------------|-------------------|
| Engineering - Design | \$ 21,980 | \$ 30,020 | \$ - | \$ 52,000 |
| Construction | \$ - | | \$ 710,000 | \$ 710,000 |
| Construction Administration (City) | \$ - | \$ - | \$ 71,000 | \$ 71,000 |
| Staff Labor and Benefits | \$ 1,510 | \$ 5,000 | \$ 30,000 | \$ 36,510 |
| Miscellaneous / Other | \$ - | \$ 1,500 | | \$ 1,500 |
| Legal | | \$ 2,000 | | \$ 2,000 |
| TOTAL | \$ 23,490 | \$ 38,520 | \$ 811,000 | \$ 873,010 |

| FUNDING FOR PROJECT | | | | |
|----------------------------|--------------------|------------------|-------------------|-------------------|
| CATEGORY | Prior Years | 2019 | 2020 | TOTAL |
| Rates/Reserves | \$ 23,490 | \$ 38,520 | \$ 811,000 | \$ 873,010 |
| | | | | \$ - |
| TOTAL | \$ 23,490 | \$ 38,520 | \$ 811,000 | \$ 873,010 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|---------------|
| Description | Date |
| Design Engineering (Complete) | December 2019 |
| Award Construction Contract (SeaTac) | May 2020 |
| Begin Construction | June 2020 |
| Project Final Completion | October 2020 |

Project 19-1 2019 AC Water Main Replacement

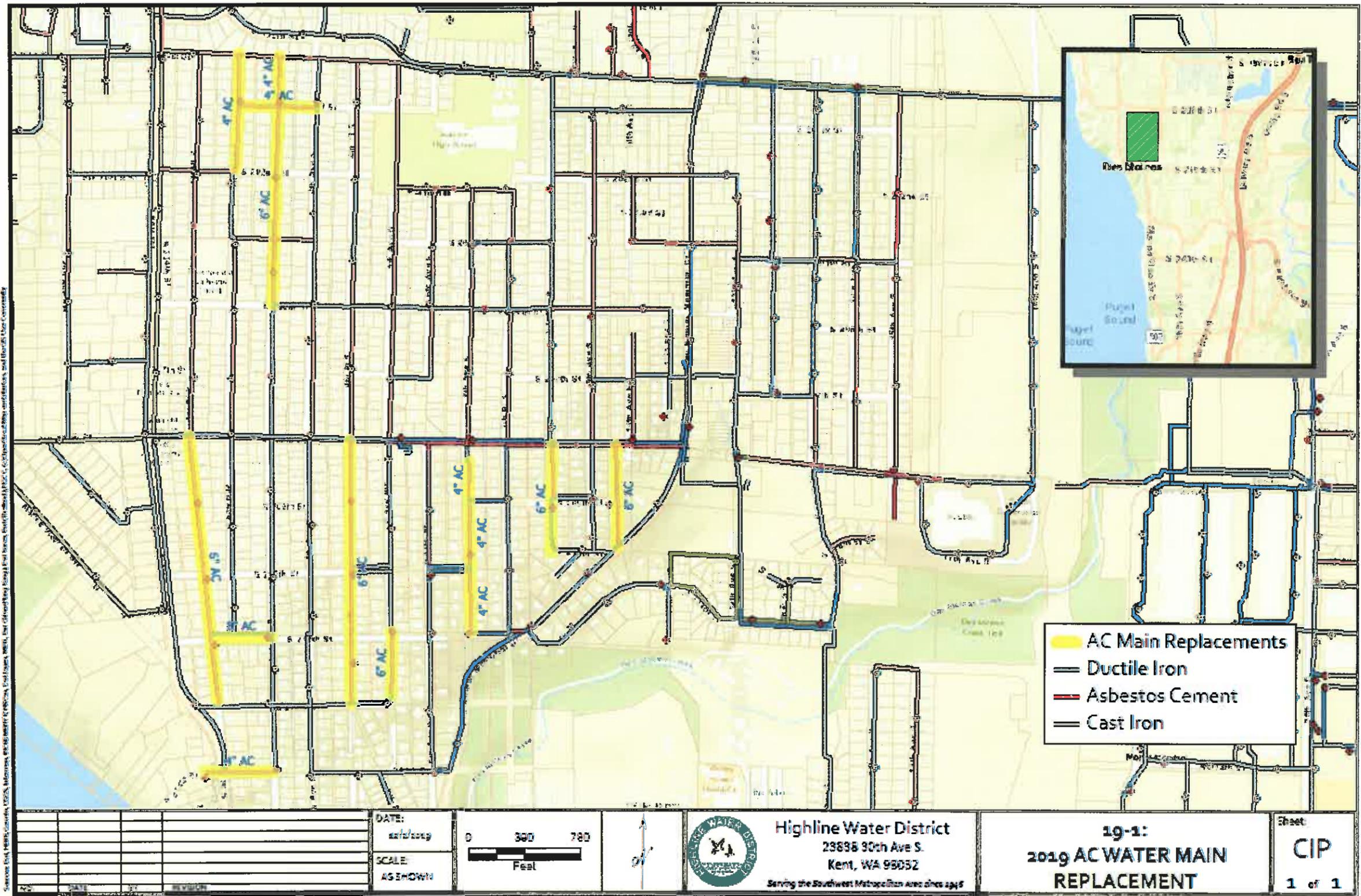
Highline Water District conducts an annual asbestos cement (AC) water main replacement with the goal of eliminating the aging mains over the next few decades. Each year the District identifies a project based on mitigating factors (for example: main repairs, leaks,, partnering projects with other agencies, etc.) and prioritizes replacement projects. For 2019, the District selected areas on and around North Hill within the City of Des Moines.

The District owns and operates many small diameter AC water mains on North Hill. On June 12, 2018, Highline experienced a break in a 4-inch AC main on 3rd Ave S and S 214th St. The break demonstrated the potential damage a main rupture causes on the steep area like North Hill. Six homes were damaged and several properties required extensive restoration. The District would benefit by reducing risk of a future break by replacing the aging AC mains with new, modern ductile iron pipe and materials.

Project 19-1 will be the first of several future main replacement projects with the goal to replace all aging small diameter AC mains on North Hill. This first project will focus on the relatively higher pressure and steeper grade locations. All AC mains on the steep portion south of S 208th St between Marine View Dr. and Des Moines Memorial Drive will be replaced. In addition, the project will upgrade pipes in the higher-pressure areas along 1st Ave S and 2nd Ave S between S 200th St and S 208th St and along 9th Ave S and 10th Ave S, north of S 208th St (See Project Map, next page). At the completion of the project, approximately 14,000 LF of AC, including all 4-inch diameter AC pipes on North Hill will be replaced.

The City of Des Moines approached the District to partner for road restoration work in same the general area of Project 19-1. The City desires to repave several roads along the same alignment as some main replacements. The District executed and ILA with the City in November 2019. In addition, Midway Sewer District plans to replace approximately 930 LF of sewer main on 1st Pl S as part of the work.

The estimated project cost for Project 19-1 is \$4.5 Million, including approximately 1.0 million in reimbursements from Des Moines and Midway Sewer. Design began in early 2019 with advertisement and bidding to be in early 2020. The District will fund the project by existing rates and capital reserves.



**PROJECT 19-1 2019 AC WATER MAIN REPLACEMENT (NORTH HILL)
ESTIMATED PROJECT COSTS**

| CATEGORY | 2019 | 2020 | TOTAL |
|-----------------------------|-------------------|---------------------|---------------------|
| Engineering - Design | \$ 242,000 | | \$ 242,000 |
| Construction | | \$ 4,113,000 | \$ 4,113,000 |
| Construction Administration | | \$ 103,000 | \$ 103,000 |
| Staff Labor and Benefits | \$ 10,000 | \$ 35,000 | \$ 45,000 |
| Miscellaneous / Other | \$ 5,000 | \$ 5,000 | \$ 10,000 |
| Legal | \$ 2,500 | | \$ 2,500 |
| TOTAL | \$ 259,500 | \$ 4,256,000 | \$ 4,515,500 |

| FUNDING FOR PROJECT | | | |
|--------------------------------|-------------------|---------------------|---------------------|
| CATEGORY | 2019 | 2020 | TOTAL |
| Rates/Reserves | \$ 259,500 | \$ 3,222,000 | \$ 3,481,500 |
| Des Moines/Midway Sewer Reimb. | | \$ 1,034,000 | \$ 1,034,000 |
| TOTAL | \$ 259,500 | \$ 4,256,000 | \$ 4,515,500 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|----------------|
| Description | Date |
| Design Engineering (Complete) | January 2020 |
| Award Construction Contract | March 2020 |
| Begin Construction | April 2020 |
| Project Final Completion | September 2020 |

Project 19-2 2020 Water Main Replacement (Manhattan CI Replacement)



Highline Water owns and operates several small diameter cast iron (CI) water mains in the general location of 2nd Place SW between SW 171st St and SW 176th St in the Maple Lane subdivision of Normandy Park. Typically, CI mains are not the District's highest priority for replacement; however, these unlined, 6-inch diameter pipes were constructed in the late 1950's by the Normandy Park Water Company. Over the years, the inside of unlined pipe corrodes and the buildup of rust deposits (tubercles) causes flow restrictions and water quality issues. This area is one of the few locations of record where the District has unlined, cast iron pipes still in service.

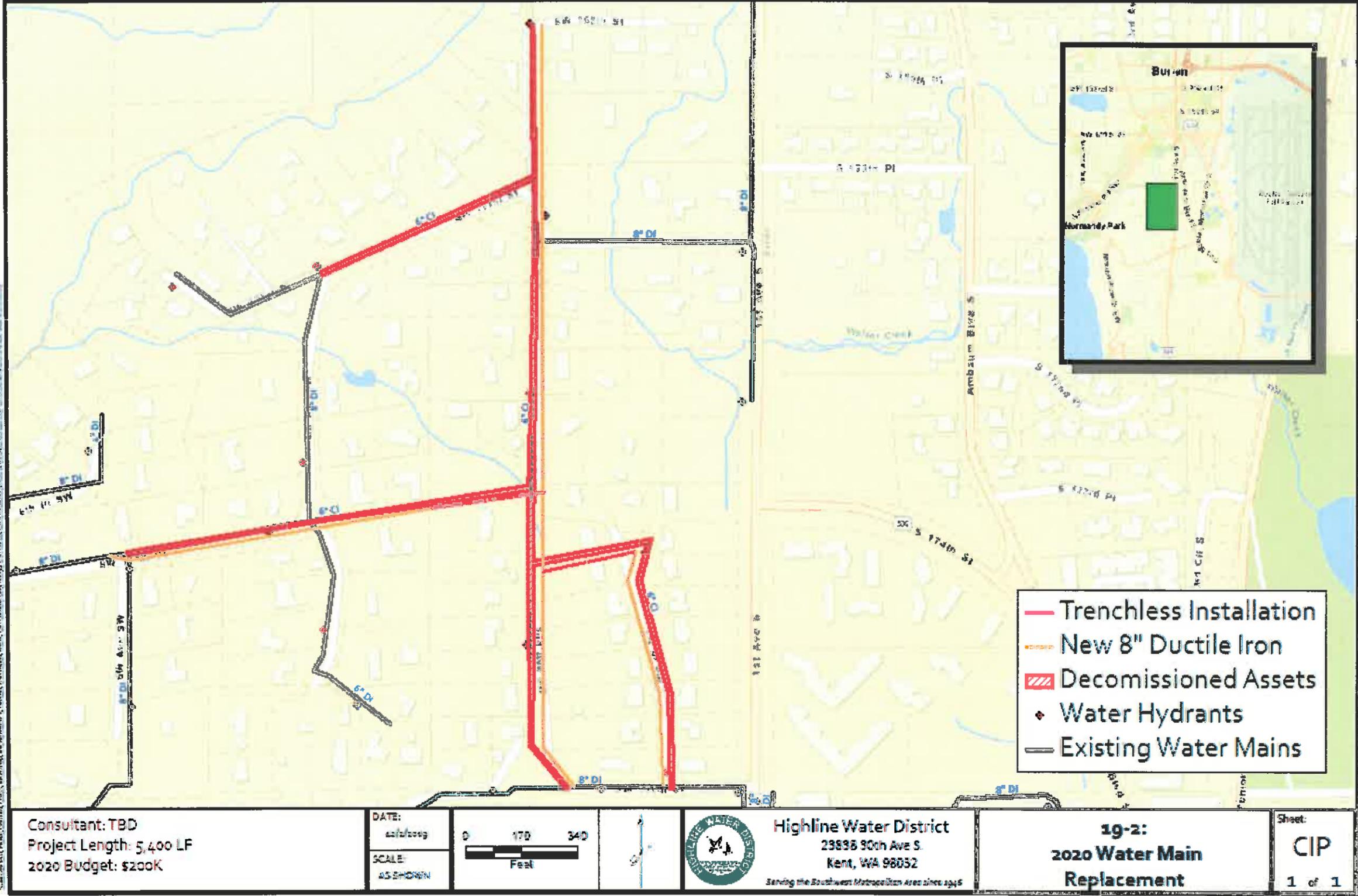
Most of these pipes are within easements in undeveloped, sensitive areas with limited valving and redundancy. One pipe crosses under a stream tributary to Miller Creek. Many pipes cross private property under steep banks, trees or retaining walls. The District experienced previous ruptures and the location complicates repairs due to limited access.

The total footage of pipe requiring replacement is approximately 5,400 LF. Due to complexity of access, the District must first study alternatives to determine the most feasible method replace the main. Solutions may include trenchless technologies, like pipe bursting or directional drilling, or more traditional open cut methods. The District must select a consultant experienced in trenchless construction to determine the best alternative.



In 2020, the District will begin the planning, design and permitting effort in anticipation for 2021 construction season. The goal is to advertise early in 2021 to increase the probability for a favorable bid.

The District selected Carollo Engineers to begin the planning effort. The 2020 budget includes \$200,000 in 2020 for preliminary study, design engineering and permitting. Future budgets include \$1.7 million for construction and other expenditures in 2021. After completion of the preliminary study, the consultant will prepare more precise construction and project costs for the selected alternative to budget future CIP's plans.



Consultant: TBD
 Project Length: 5,400 LF
 2020 Budget: \$200K

DATE:
 11/15/2019
 SCALE:
 AS SHOWN



Highline Water District
 23838 90th Ave S.
 Kent, WA 98052
Serving the Southwest Metropolitan Area since 1946

**19-2:
 2020 Water Main
 Replacement**

Sheet:
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 1 of 1

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 2020, 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 2015 Comprehensive Plan Update, the following needs were assessed:

1. Source/Treatment: The District's contract with SPU satisfactorily addresses source of supply needs through 2060.

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 allocated funding under Project 14-2 to further study the source, perform a blending study and to make capital improvements to the system in anticipation of purchasing LWSD water. Project 14-2 was converted to an engineering expense and not included in the 2019-2020 CIP. The District will continue to study the potential source in 2020 including retaining a consultant to determine the necessary capital improvements.

The District plans to add backup power generation at the Angle Lake Well and the Des Moines Treatment Plant/Pump Station 2 site.

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 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.

In 2012, staff discussed with the Board the goal to replace AC water mains within the District over the next 30 years. The District will 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 continue to 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.

The District 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 2020

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 2020 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 pipe, meters, hydrants and/or water services. For example, the budget would fund a small water main replacement project by District crews. The costs will be 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 2020, the budget includes \$600,000 for the meters, hydrants, and services. The budget includes the replacement of approximately 25 hydrants, 50 water services, and three (3) small water main replacement projects for the field crew. In 2020, the budget also includes funding to continue the project to replace small diameter meters across the District. By the end of 2019, the District will complete approximately 18,400 of 18,700 meters. The replacement program should be completed in early 2020. Please see the *2020 Goals and Objectives* document for more specific information on specific goals by the field crews for capital improvements.

Agenda Item No.: 5.2
Agenda Date: 12/18/19
Reviewed By: 

Subject: Adopt 2020 Capital Improvement Program

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

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

ATTACHMENTS:

1. Resolution #19-12-18B
2. Exhibit A – 2020 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.