

**HIGHLINE WATER DISTRICT
King County, Washington**

RESOLUTION 18-12-19B

RESOLUTION ADOPTING THE 2019 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 2019 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 **19th** day of **December 2018**.

BOARD OF COMMISSIONERS



Daniel Johnson, President



Kathleen Quong-Vermeire, Secretary



Todd Fultz, Commissioner



Vince Koester, Commissioner



George Landon, Commissioner

2019

EXHIBIT A



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 2018, the District completed three AC water main replacement projects totaling 16,350 LF, or 3.1 miles of aging main. The replacement projects include:

- *Project 17-1 2017 AC Water Main Replacement (Various Locations) – 9,020 LF*
- *Project 17-3 12th Pl S – 13 Ave S, S 200th St Water Main Replacement (SeaTac) – 4,400 LF*
- *Project 18-1 S 223rd St Water Main Replacement (16th Ave S – 24th Ave S) 2,930 LF*

The 2019 CIP includes nine projects in various phases of planning, design and construction:

- *Project 16-2 Pump Station No 8 (Crestview)*
- *Project 16-3 Mansion Hill Reservoir Relocation*
- *Project 16-6 Mansion Hill Pump Station*
- *Project 18-2 International Blvd S at SR 509 Road Improvements*
- *Project 18-4 McMicken Well Repair*
- *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)*
- *Project 19-3 KDM/PHS and 9th Place Water Main Replacement*

The estimated Total Capital Additions for 2018, which includes CIP Expenditures, Small Works/Emergency Projects, Mitigation Improvements, Meters, Hydrants & Services, and Capital Asset Purchases, is \$5.80 million. Debt service for 2018 is \$1.01 million.

For 2019, the Total Capital Additions is \$16.2 million. The District will fund the CIP through a combination of water rates, development connection charges and Sound Transit developer reimbursements. The effective Capital Additions based on District contributions (rates, connection charges and capital reserves) is \$10.2 million. The remaining funding is from Sound Transit. Debt service reduces to \$713,060 in 2019, 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.

2019 CIP - OUTSTANDING FUNDING & DEBT SERVICE (2018-2022)

CAPITAL PROJECTS

| CAPITAL PROJECTS | | Prior | | | | | | |
|-------------------------------------|---|--------------|--------------|---------------|--------------|--------------|--------------|------------------|
| CIP # | Project Title | Years | 2018 | 2019 | 2020 | 2021 | 2022 | Totals |
| 16-2 | Pump Station No 8 (Crestview) | \$ 496,013 | \$ 334,300 | \$ 2,393,000 | \$ 1,950,500 | | | \$ 5,173,813.19 |
| 16-3 | Mansion Hill Reservoir Relocation | \$ 690,254 | \$ 444,000 | \$ 7,148,879 | \$ 1,069,594 | | | \$ 9,352,727.45 |
| 16-6 | Mansion Hill Pump Station (Budget Allocation) | | | \$ 325,000 | \$ 500,000 | \$ 2,000,000 | | \$ 2,825,000.00 |
| 17-1 | 2017 Water Main Replacement Project (Various Locations) | \$ 1,397,218 | \$ 1,483,574 | | | | | \$ 2,880,791.45 |
| 17-3 | 12th Pl S -13th Ave S/S 200th St Water Main Replacement Project (SeaTac) | \$ 66,441 | \$ 981,164 | | | | | \$ 1,047,604.88 |
| 18-1 | S 223rd St Water Main Replacement (Des Moines 16th Ave S-24th Ave S) | \$ 33,295 | \$ 795,731 | | | | | \$ 829,025.61 |
| 18-2 | International Blvd at SR 509 Road Improvements (Budget Allocation) | | \$ 25,000 | \$ 35,000 | \$ 525,000 | \$ 475,000 | | \$ 1,060,000.00 |
| 18-4 | McMicken Well Repair | | \$ 65,000 | \$ 275,000 | | | | \$ 340,000.00 |
| 18-5 | 34th Ave S Water Main Replacement | | \$ 32,500 | \$ 675,000 | | | | \$ 707,500.00 |
| 19-1 | 2019 AC Water Main Replacement (Areas around North Hill) | | | \$ 2,687,333 | \$ 1,319,167 | | | \$ 4,006,500.00 |
| 19-2 | 2020 Water Main Replacement (Manhattan Cl Replacement) | | | \$ 100,000 | \$ 1,700,000 | | | \$ 1,800,000.00 |
| 19-3 | KDM/PHS and 9th Pl S Water Main Replacements | | \$ 21,500 | \$ 447,100 | | | | \$ 468,600.00 |
| Future | PRV/SCADA Pressure Modifications | | | | \$ 175,000 | | | \$ 175,000.00 |
| Future | Emergency Power-Angle Lake Well and Des Moines Treatment Plant | | | | \$ 100,000 | \$ 950,000 | | \$ 1,050,000.00 |
| Future | Mansion Hill AC Offsite Replacement (Formerly 16-4) | | | | \$ 66,000 | \$ 920,500 | | \$ 986,500.00 |
| Future | 2021 AC Water Main Replacement (Budget Allocation) | | | | \$ 75,000 | \$ 3,700,000 | | \$ 3,775,000.00 |
| Future | 2022 AC Water Main Replacement (Budget Allocation) | | | | | \$ 100,000 | \$ 3,700,000 | \$ 3,800,000.00 |
| Future | SR509 Water System Modifications (Budget Allocation) | | | | | \$ 250,000 | \$ 3,000,000 | \$ 3,250,000.00 |
| | | | | | | | | \$ - |
| Subtotal of Capital Projects | | \$ 2,683,221 | \$ 4,182,769 | \$ 14,086,313 | \$ 7,480,261 | \$ 8,395,500 | \$ 6,700,000 | \$ 43,528,062.58 |

| | | | | | | | | |
|--|--|--------------|--------------|---------------|--------------|--------------|--------------|---------------|
| | Small Works/Emergency Projects | | \$ 34,447 | \$ 350,000 | \$ 350,000 | \$ 350,000 | \$ 350,000 | \$ 1,434,447 |
| | Mitigation Improvements | | \$ 40,000 | \$ 55,000 | \$ 40,000 | \$ 40,000 | \$ 40,000 | \$ 215,000 |
| | Meters/Hydrants/Services (Refer to O&M Budget) | | \$ 1,300,069 | \$ 1,400,000 | \$ 350,000 | \$ 400,000 | \$ 400,000 | \$ 3,850,069 |
| | Capital Asset Purchases (Refer to O&M Budget) | | \$ 231,038 | \$ 348,910 | \$ 225,000 | \$ 230,000 | \$ 230,000 | \$ 1,264,948 |
| | Total Capital Additions | \$ 2,683,221 | \$ 5,788,323 | \$ 16,240,223 | \$ 8,445,261 | \$ 9,415,500 | \$ 7,720,000 | \$ 50,292,527 |

| Less: Outside Funding Sources | 2018 | 2019 | 2020 | 2021 | 2022 | Totals |
|--|------------|--------------|--------------|--------------|------------|---------------|
| Sound Transit Reimbursement (Projects 16-3 and 16-6) | \$ 390,738 | \$ 5,924,293 | \$ 1,433,215 | \$ 1,375,000 | | \$ 9,123,246 |
| Insurance Reimbursement | | \$ 142,232 | | | | \$ 142,232 |
| General Facility Charges | \$ 450,000 | \$ 700,000 | \$ 500,000 | \$ 500,000 | \$ 500,000 | \$ 2,650,000 |
| | | | | | | |
| Total Outside Funding | \$ 840,738 | \$ 6,766,525 | \$ 1,933,215 | \$ 1,875,000 | \$ 500,000 | \$ 11,915,478 |

| Debt Service | 2018 | 2019 | 2020 | 2021 | 2022 | Totals |
|---------------------------|--------------|------------|------------|------------|------------|--------------|
| | \$ 1,013,371 | \$ 713,060 | \$ 708,087 | \$ 585,024 | \$ 489,999 | \$ 3,509,541 |
| Total Debt Service | \$ 1,013,371 | \$ 713,060 | \$ 708,087 | \$ 585,024 | \$ 489,999 | \$ 3,509,541 |

| | | | | | | | |
|---|--------------|--------------|---------------|--------------|---------------|--------------|---------------|
| | | 2018 | 2019 | 2020 | 2021 | 2022 | Totals |
| Capital Additions + Debt Service (Total) | \$ 2,683,221 | \$ 6,801,694 | \$ 16,953,283 | \$ 9,153,348 | \$ 10,000,524 | \$ 8,209,999 | \$ 53,802,068 |

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, 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 Water generally follows this priority strategy; however, the District emphasizes the need to improve the distribution system. 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, potential property damage, looping, land use issues, etc.) when prioritizing replacement projects.

The District must continually reprioritize proposed 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 2018 is \$675,000. The proposed 2019 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, as of late, the State Legislature eliminated funding for the PWTF. Future PWTF funding remains uncertain.

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 provided and/or requested information from consultants identified on the MRSC Consultant Roster.
2. Staff evaluates the consultant's general Statement of Qualifications (SOQ) 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 takes 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 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 Law.
7. The contract is then 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.

2019 Capital Addition Budget

For 2019, the District's anticipated Capital Addition Budget is \$16.2 million. The figure includes budget to support all five Capital Addition components. The District will fund the 2019 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 \$10.2 million. The remaining portion of the budget is from Sound Transit reimbursement for the Federal Way Link Light Rail Extension.

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

2018 COMPLETED CAPITAL PROJECTS

In 2018, the District completed three AC water main replacement projects totaling 16,350 LF, or 3.1 miles of aging main. The replacement projects include:

Project 17-1 2017 AC Water Main Replacement

The Board of Commissioners authorized Project 17-1 in October 2016 for the 2017 construction season. The District selected Gray and Osborne for design and construction administration services. The four project locations include:

- 3rd Ave SW/3rd Pl SW at SW 200th St in Normandy Park
- S 232nd St & 14th Ave S in Des Moines
- 16th Ave S from S 240th St To KDM in Des Moines
- S 268th St from Military Rd S to 40th Ave S In Kent



This project replaced approximately 7,700 LF of existing AC water mains with new, ductile iron pipe, in addition to new services, hydrants, services and appurtenances. Staff selected the project locations due to recent water main breaks, proximity to sensitive environmental areas and in anticipation of future city overlay projects.

The District advertised and awarded the project to Kar-Vel Construction on June 7, 2017. The bid price was \$1.87 million. Work commenced in August 2017 and scheduled for completion spring 2018.

On September 3, 2017, the District experienced the failure of an existing 6" AC water main on S 176th Street in the City of SeaTac causing significant damage to the road and adjacent properties. The condition, size and material type of the water main indicates a high likelihood of repeated failures in the near future. The Board of Commissioners declared an emergency pursuant to RCW 39.04.280(1)(e) and authorized Staff to retain Kar-Vel through a change order to replace the failing main. The additional work includes approximately 1,100 LF of 12" DI water main.

The final project cost was \$2.88 million, including design, construction and the emergency work. The project was funded by existing rates and capital reserves.



Project 17-3 12th Pl S and 13th Ave S Water Main Replacement

In February 2017, the City of SeaTac identified the neighborhood bounded by S 200th St - S 207th St, and 12th Pl S - 13th Ave S for their 2017 Asphalt Overlay Replacement Program. The District's infrastructure in the area is primarily small diameter AC water mains.



Upon discovery of the proposed project, the District discussed a partnership with the City to replace the existing water mains prior to the overlay. Understanding the District would perform excavation work, the City elected to increase their project scope to replace aging storm pipes throughout the neighborhood and shift construction to spring 2018. The project is a model of two governmental agencies working together on a construction project to provide public value to the neighborhood and community.



The District selected Murray Smith, Inc. to perform design services. Work included the replacement of 4,500 LF of small diameter AC main with new, 8-inch DI pipe that is upsized to improve fire flow within the neighborhood. Murray Smith completed the design in late 2017 and the City began construction 2018.

The City executed a contract with Kar-Vel Construction on April 18, 2018. Construction began in May and was completed in September, 2018. The total project cost including design and construction was \$1.05 million and funded by existing rates and capital reserves.

Project 18-1 S 223rd St Water Main Replacement (16th Ave S – 24th Ave S)

The City of Des Moines identified the need to improve the road surface along S 223rd St from Marine View Drive to 24th Ave S. The road is major east-west route to downtown with heavy use by transit busses, fire vehicles, DM Public Works and Highline School District. The road is severely damaged by alligator cracking and spalling of asphalt. Immediate repair was required.

The District identified the need to replace a small diameter AC water main between 16th and 24th Ave S. The project included the installation of approximately 2,850 LF of 8-inch diameter DI main and other appurtenances.

Pace Engineers designed the water portion of the project. Construction began summer 2018 and completed in late fall. The City was the lead agency and Highline entered into an Interlocal Agreement (ILA) to construct the water main. Des Moines requested the District fund the cost of the overlay and trench patching in a lump sum payment through the ILA and in exchange, the City would take responsibility for the surface restoration.

The final project cost was \$830,000. The project was funded by existing water rates and capital reserves.



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)

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 into 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 project's first phase was preliminary engineering, feasibility and a station siting evaluation. The District selected RH2 Engineering to perform the preliminary services. RH2 evaluated ten local properties in the general area of S 160th St and 42nd Ave S. The designers narrowed the search based on elevations, proximity to Crestview Reservoir and PS6, cost and 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 on November 16, 2016. District staff 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. 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 to determine the preliminary requirements for the project. The District obtained the Unclassified Use Permit (UUP) and approval by the City Council in early 2018. The intake and outlet piping is within existing SeaTac right-of-way will require additional permitting.

The District is currently negotiating for an easement with the property owner of Scott Plaza, located at 16256 Military Rd S. The easement will assist the District by making way for a less complex connection of the discharge piping to the existing pipeline on Military Road S.

Construction is expected to begin in July 2019 and be completed within 12 months.

The District allocated \$2.4 million and \$1.9 million in the 2019 and 2020 budgets, respectively. The total anticipated project cost is \$5.2 million and funded by existing water rates and capital reserves.



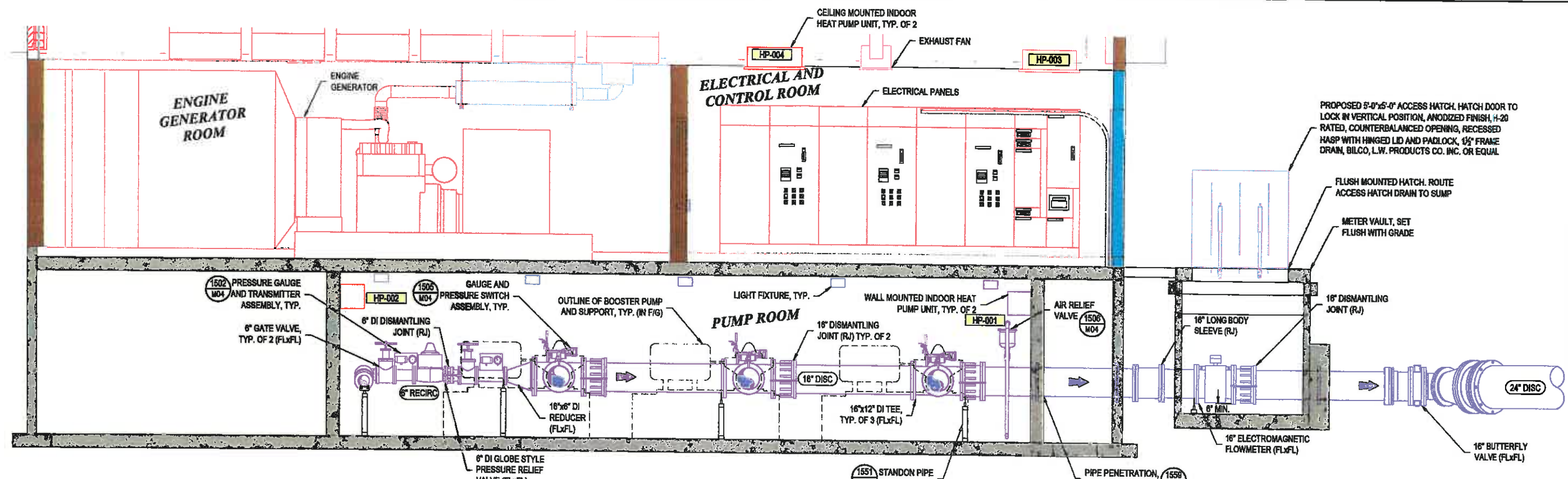
Project Notes:

Consultant: RH2 Engineers
 Estimated Project Cost: \$5.2M
 Bid Date: 2nd Quarter 2019
 Estimated Construction Duration: 12 months

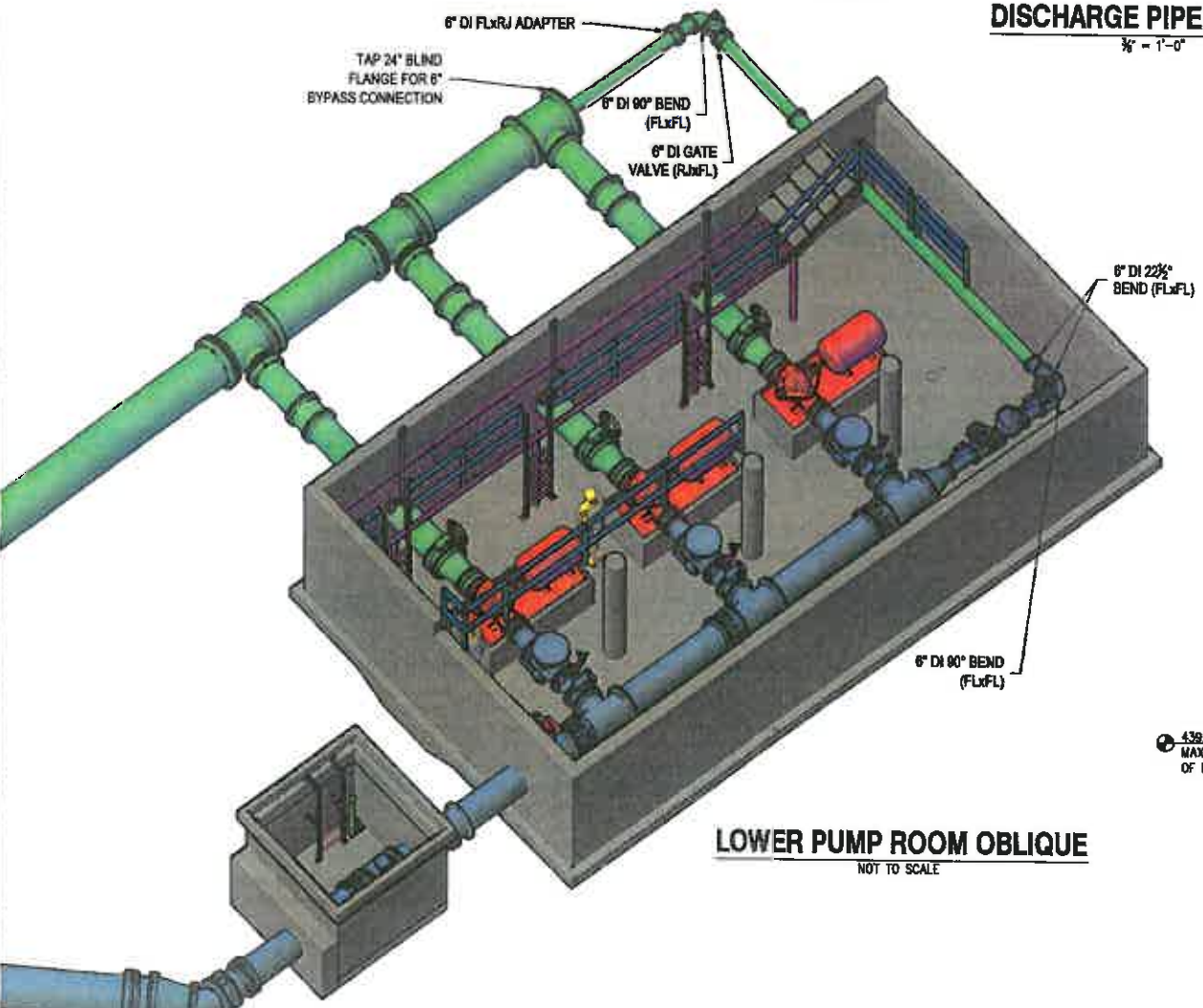


Project 16-2: Pump Station 8

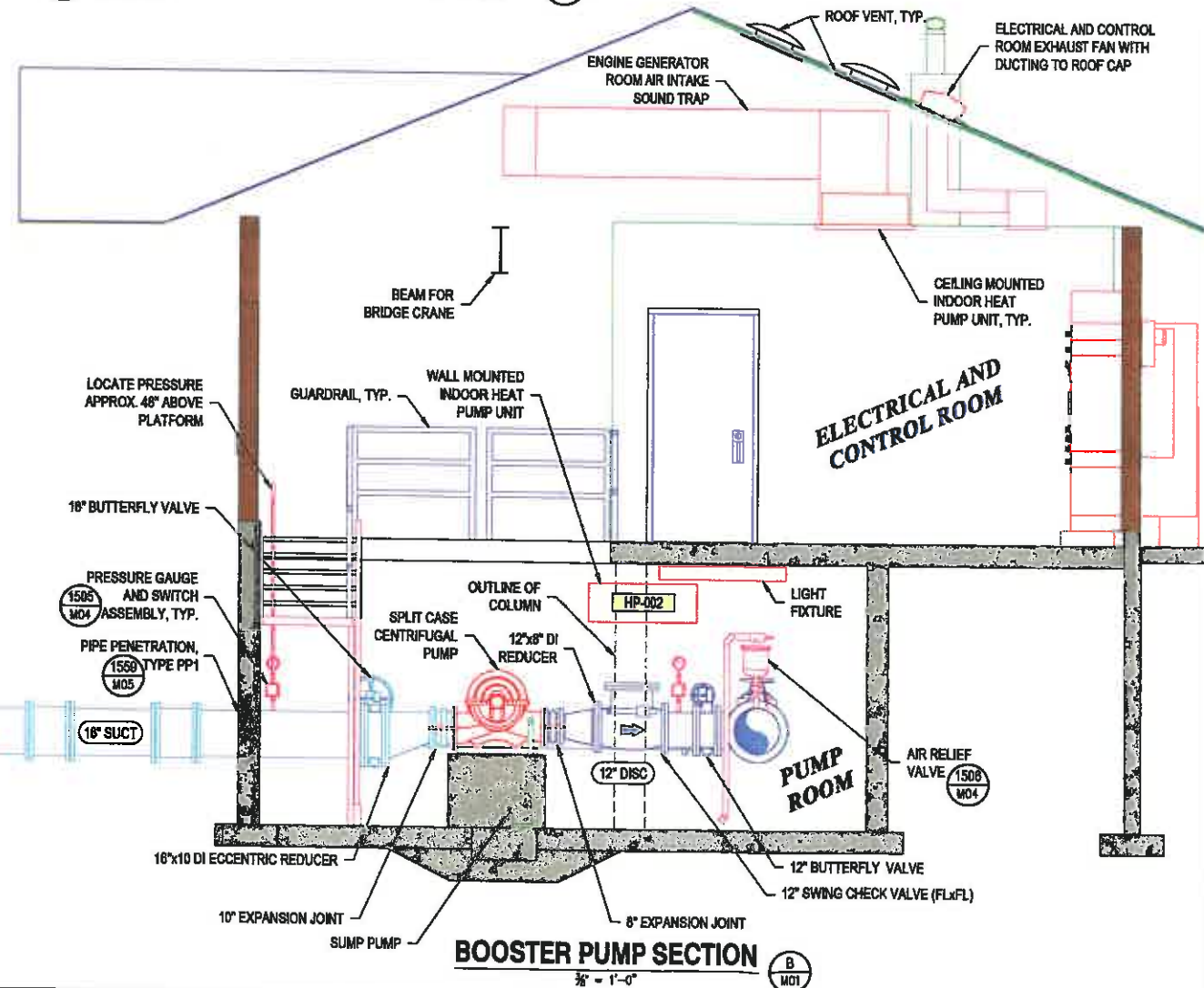




DISCHARGE PIPE SECTION
 3/8" = 1'-0" (A M01)



LOWER PUMP ROOM OBLIQUE
 NOT TO SCALE



BOOSTER PUMP SECTION
 3/8" = 1'-0" (B M01)

HIGHLINE WATER DISTRICT
 PUMP STATION NO. 1-301-0001
 MAJOR MECHANICAL SECTIONS
 X1

| | | | | | |
|---|--------------------------|---------------|----------|-------|----------|
| NO.: | 11408 | DATE: | 11/18/19 | BY: | |
| DRAWN: | EH | CHECK: | NHD | DATE: | 11/18/19 |
| DESIGNED: | EH | PLOTTED: | 11/18/19 | DATE: | 11/18/19 |
| REVISIONS FOR CONSTRUCTION. NOT FOR AGENCY REVIEW ISSUED FOR AGENCY REVIEW | | | | | |
| SCALE: | SHOWN | | | | |
| DRAWING IN FULL SCALE WHEN | DIMENSIONS ARE IN INCHES | | | | |
| SHEET NO.: | M02 | TOTAL SHEETS: | 36 | DATE: | |

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

| CATEGORY | Prior Years | 2018 | 2019 | 2020 | TOTAL |
|-----------------------------|--------------------|-------------------|---------------------|---------------------|---------------------|
| Engineering - Design | \$ 228,058 | \$ 290,000 | \$ 30,000 | \$ - | \$ 548,058 |
| Construction | | | \$ 2,100,000 | \$ 1,750,000 | \$ 3,850,000 |
| Construction Administration | | | \$ 210,000 | \$ 175,000 | \$ 385,000 |
| Staff Labor and Benefits | \$ 16,438 | \$ 5,000 | \$ 25,000 | \$ 15,000 | \$ 61,438 |
| Permitting | \$ 12,219 | \$ 2,800 | \$ 19,500 | \$ 5,500 | \$ 40,019 |
| Property Acquisition | \$ 238,763 | \$ 35,000 | | | \$ 273,763 |
| Miscellaneous / Other | \$ 535 | \$ - | \$ 5,000 | \$ 5,000 | \$ 10,535 |
| Legal | | \$ 1,500 | \$ 3,500 | \$ - | \$ 5,000 |
| TOTAL | \$ 496,013 | \$ 334,300 | \$ 2,393,000 | \$ 1,950,500 | \$ 5,173,813 |

| FUNDING FOR PROJECT | | | | | |
|----------------------------|--------------------|-------------------|---------------------|---------------------|---------------------|
| CATEGORY | Prior Years | 2017 | 2018 | 2019 | TOTAL |
| Rates/Reserves | \$ 496,013 | \$ 334,300 | \$ 2,393,000 | \$ 1,950,500 | \$ 5,173,813 |
| | | | | | |
| TOTAL | \$ 496,013 | \$ 334,300 | \$ 2,393,000 | \$ 1,950,500 | \$ 5,173,813 |

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

Project 16-3 Mansion Hill Reservoir Relocation

Project 16-6 Mansion Hill Pump Station

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 three significant impacts to the water system at Mansion Hill. Each impact 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 (PS5). 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.



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 will conflict 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 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 will be issued in late November, 2018 and work is expected to be complete in 14 months.

The District budgeted \$9.4 million for Project 16-3, including \$1.6 million for security, lighting, onsite betterments and the 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 \$7.8 million.

In 2018, the District will begin design work for Project 16-6 Mansion Hill Pump Station. The pump station will replace the capacity for the existing 0.25 MG elevated tank. This separate project will require the District to retain a consultant for design and construction administrative services. Design will commence in 2019 and into 2020 with construction to begin late 2020 and be complete in 2021.

The District's CIP includes a budget allocation for Project 16-6 of \$325,000, \$500,000 and \$2,000,000 in the 2019, 2020, and 2021 budgets, respectively. Once preliminary design effort is complete, District staff can refine the budget to more accurately account for the cost of the project.



Project 16-3: Mansion Hill Reservoir Relocation

Project Notes:

Consultant: Stantec

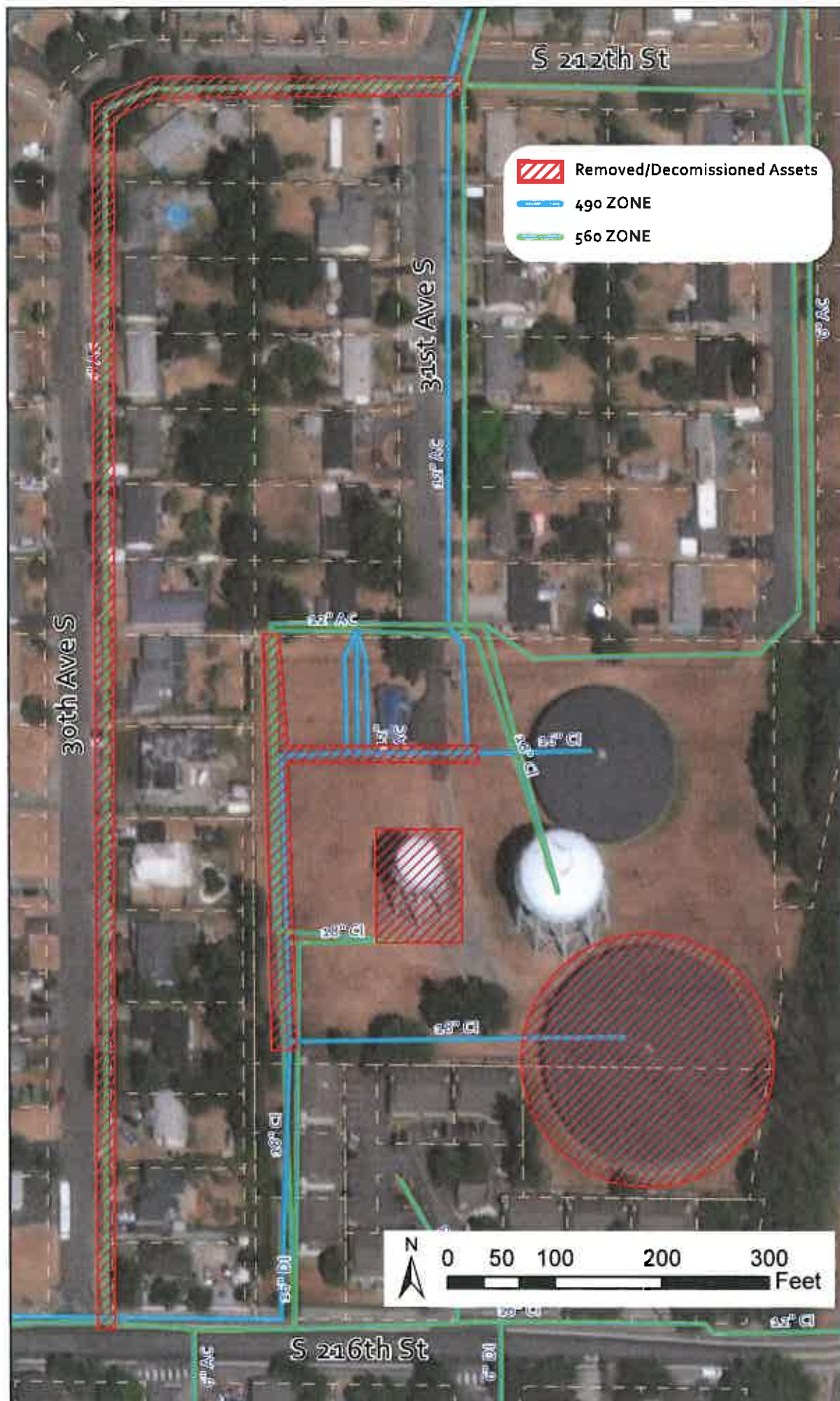
Contractor: T. Bailey Inc.

Award Date: 23-Oct-2018

Estimated Project Cost: \$9.4M

Notice to Proceed: 29-Nov-2018

Construction Administration: Gray & Osborne Inc.



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

| CATEGORY | Prior Years | 2018 | 2019 | 2020 | TOTAL |
|-----------------------------|--------------------|-------------------|---------------------|---------------------|---------------------|
| Engineering - Design | \$ 643,994 | \$ 250,000 | | | \$ 893,994 |
| Construction | | \$ 35,000 | \$ 6,747,263 | \$ 993,899 | \$ 7,776,162 |
| Construction Administration | | \$ 10,000 | \$ 330,616 | \$ 49,695 | \$ 390,311 |
| Staff Labor and Benefits | \$ 21,983 | \$ 35,000 | \$ 50,000 | \$ 20,000 | \$ 126,983 |
| Permitting | \$ 10,648 | \$ 106,000 | \$ 15,000 | \$ - | \$ 131,648 |
| Miscellaneous / Other | \$ 147 | \$ 3,000 | \$ 5,000 | \$ 5,000 | \$ 13,147 |
| Legal | \$ 13,484 | \$ 5,000 | \$ 1,000 | \$ 1,000 | \$ 20,484 |
| TOTAL | \$ 690,254 | \$ 444,000 | \$ 7,148,879 | \$ 1,069,594 | \$ 9,352,727 |

| FUNDING FOR PROJECT | | | | | |
|-----------------------------|--------------------|-------------------|---------------------|---------------------|---------------------|
| CATEGORY | Prior Years | 2018 | 2019 | 2020 | TOTAL |
| Rates/Reserves | | \$ 53,262 | \$ 1,549,586 | \$ 136,378 | \$ 1,739,227 |
| Sound Transit Reimbursement | \$ 690,254 | \$ 390,738 | \$ 5,599,293 | \$ 933,215 | \$ 7,613,501 |
| TOTAL | \$ 690,254 | \$ 444,000 | \$ 7,148,879 | \$ 1,069,594 | \$ 9,352,727 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|---------------|
| Description | Date |
| Design Engineering (Complete) | August 2018 |
| Award Construction Contract | October 2018 |
| Begin Construction | January 2019 |
| Project Final Completion | February 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 Puget Sound Gateway project. The project will be completed in two phases: Phase 1 is from Kent-Des Moines Rd to 24th Ave S in SeaTac; Phase 2 is from 24th Ave S to S 188th St. WSDOT anticipates construction to begin as early as 2020 and completed by 2028; however the final project schedule is not fully defined.

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 design and 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.

Project 18-2 will include design and construction of the necessary improvements for the bridge work and crossing at International Blvd only. The other impacts caused by SR509 will be a separate project to be defined in the future. The District allocated \$35,000 for the project in 2019 for evaluation and design alternatives. The budget includes \$1.0 million for design and construction distributed in the two subsequent years (2020/2021). The final piping configuration and other conflicts along the length of the 509 Project are not yet defined.

Staff will amend the budget with updated costs and schedule upon completion of the preliminary planning work, scope of water project and confirmation with WSDOT on the project schedule. Construction is tentatively scheduled for 2020 and beyond.

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 375 gpm. The District elected to have PumpTech, Inc., the pump supplier, to remove and diagnose any problems the pump and motor.

The pump removal process involved pulling the pump and pipe column from within the well by crane to the surface. Each 20-ft length of pipe connects to the next section by way of a threaded coupler. The pump and motor connect the last section of pipe approximately 300-ft below the surface.

During the removal process by PumpTech, 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 from the corrosion and the motor from the fall. Both components were damaged beyond repair. 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.

The 2019 budget includes \$275,000 for replacement of the pump, motor and piping. The pump is ordered and manufacturer anticipates delivering the pump in spring 2019.



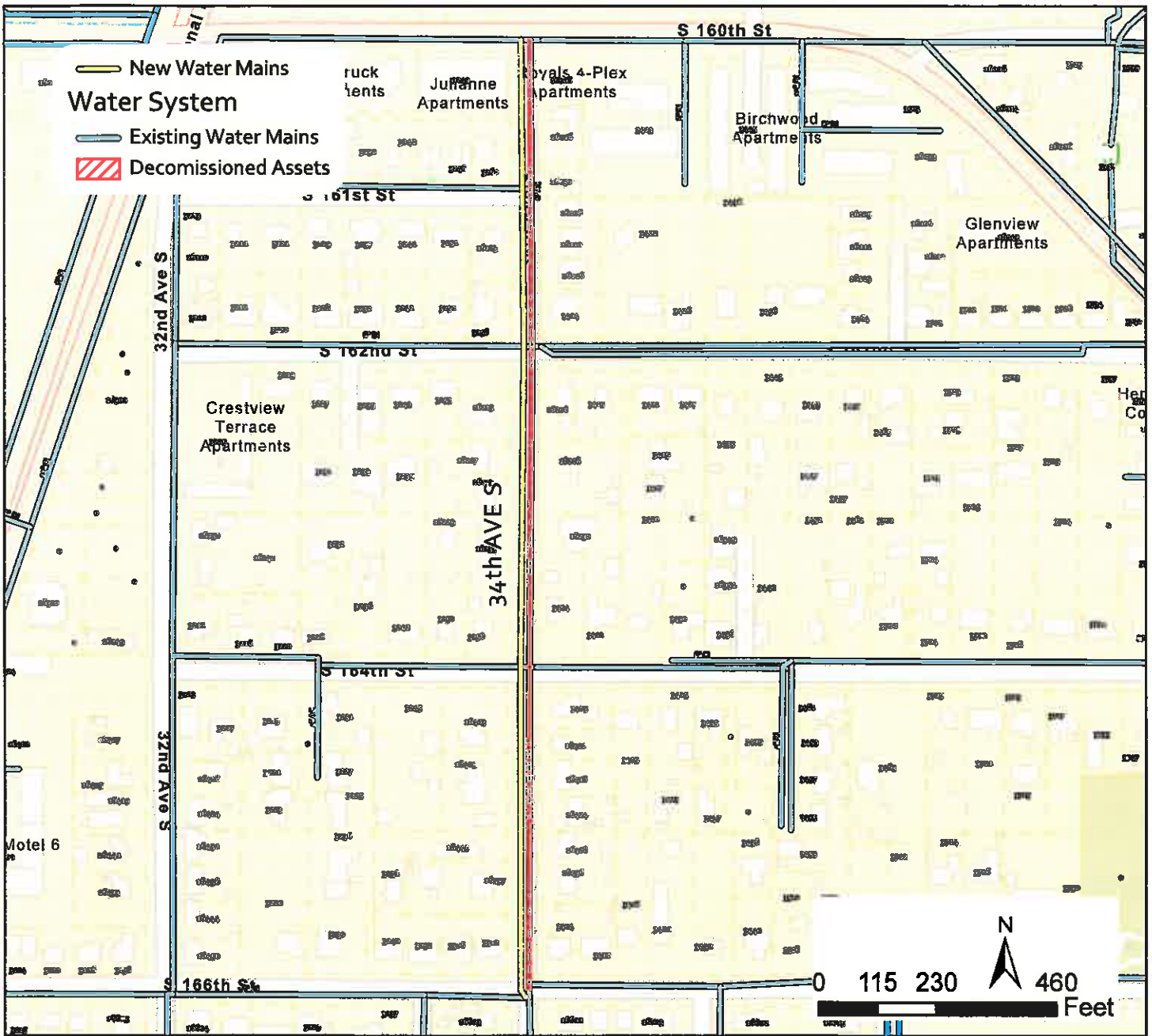
Project 18-5 34th Ave S Water Main Replacement

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 on-street parking. The City will also overlay the road upon completion. Their work is scheduled for summer 2019.

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 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 City desires the District solicit their own public works project and not piggyback on their project.

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 has agreed to allow the District use their survey information. The Board authorized the contract with Parametrix on October 23, 2018. Design will be completed by the end of the year.

For the 2019 budget, the District allocated \$675,000 for construction and other allied costs. Construction will begin in early 2019 with all work complete by June 2019 to meet the City's schedule. Highline will fund the project by existing rates and capital reserves.



Project Notes:

Consultant: Parametrix
 Project Length: 850 LF of 12" DI
 Estimated Project Cost: \$710K

Construction to be completed in anticipation of City of Seatac project along the same corridor Summer 2019



Project 18-5: 34th Ave S

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

| CATEGORY | 2018 | 2019 | TOTAL |
|-----------------------------|------------------|-------------------|-------------------|
| Engineering - Design | \$ 30,000 | \$ 25,000 | \$ 55,000 |
| Construction | \$ - | \$ 550,000 | \$ 550,000 |
| Construction Administration | \$ - | \$ 27,500 | \$ 27,500 |
| Staff Labor and Benefits | \$ 2,500 | \$ 30,000 | \$ 32,500 |
| Permitting | | \$ 35,000 | \$ 35,000 |
| Miscellaneous / Other | \$ - | \$ 5,000 | \$ 5,000 |
| Legal | | \$ 2,500 | \$ 2,500 |
| TOTAL | \$ 32,500 | \$ 675,000 | \$ 707,500 |

| FUNDING FOR PROJECT | | | |
|----------------------------|------------------|-------------------|-------------------|
| CATEGORY | 2018 | 2019 | TOTAL |
| Rates/Reserves | \$ 32,500 | \$ 675,000 | \$ 707,500 |
| | | | \$ - |
| TOTAL | \$ 32,500 | \$ 675,000 | \$ 707,500 |

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

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, dead ends, water quality complaints, location, safety, potential property damage, looping, partnering projects with other agencies, etc.) when prioritizing replacement projects. For 2019, the District will focus on 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 has approached the District to partner for their 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. Subsequent discussions with the City will happen in early 2019 to confirm interest in partnering the two projects.

The estimated project cost for Project 19-1 is \$4.0 Million. Design will begin in early 2019 with advertisement and bidding to be late summer. The project will span the late 2019 and early 2020 construction seasons. The District will fund the project by existing rates and capital reserves.



Project 19-1: AC Water Main Replacement

Project Notes:

Consultant: TBD
Project Length: 14,000 LF
Estimated Project Cost: \$4.0M

This project will eliminate all
4" AC pipe in the 530 Zone.



**PROJECT 19-1 2019 AC WATER MAIN REPLACEMENT
ESTIMATED PROJECT COSTS**

| CATEGORY | 2019 | 2020 | TOTAL |
|-----------------------------|---------------------|---------------------|---------------------|
| Engineering - Design | \$ 294,000 | | \$ 294,000 |
| Construction | \$ 2,253,333 | \$ 1,246,667 | \$ 3,500,000 |
| Construction Administration | \$ 48,667 | \$ 21,333 | \$ 70,000 |
| Staff Labor and Benefits | \$ 56,333 | \$ 31,167 | \$ 87,500 |
| Permitting | \$ 20,000 | \$ 15,000 | \$ 35,000 |
| Miscellaneous / Other | \$ 12,500 | \$ 5,000 | \$ 17,500 |
| Legal | \$ 2,500 | | \$ 2,500 |
| TOTAL | \$ 2,687,333 | \$ 1,319,167 | \$ 4,006,500 |

| FUNDING FOR PROJECT | | | |
|----------------------------|---------------------|---------------------|---------------------|
| CATEGORY | 2018 | 2019 | TOTAL |
| Rates/Reserves | \$ 2,687,333 | \$ 1,319,167 | \$ 4,006,500 |
| | | | \$ - |
| TOTAL | \$ 2,687,333 | \$ 1,319,167 | \$ 4,006,500 |

| ESTIMATED SCHEDULE FOR PROJECT COMPLETION | |
|--|----------------|
| Description | Date |
| Design Engineering (Complete) | June 2019 |
| Award Construction Contract | August 2019 |
| Begin Construction | September 2019 |
| Project Final Completion | April 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 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 2019, the District will begin the planning, design and permitting effort in anticipation for 2020 construction season. The goal is to advertise early in 2020 to increase the probability for a favorable bid. Because of the additional design step to evaluate alternatives and the potential complexity in permitting associated with sensitive areas, the District will need to select a consultant early in 2019 to meet the project schedule.

The District budgeted \$100,000 in 2019 for preliminary study, design engineering and permitting. Future budgets include \$1.7 million for construction and other expenditures in 2020. 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.





Project 19-2: 2020 Water Main Replacement

Project Notes:

Consultant: TBD
Project Length: 5,400 LF
Estimated Project Cost: TBD
2019 Budget: \$100,000



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, 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 installed an isolation valve to temporarily restore water service to the businesses in the area. The permanent solution requires a new main be installed parallel to the old main within in the right-turn and HOV lanes to avoid existing utility conflicts. The work will include installing approximately 300 LF of 12 DI pipe and associated connections and fittings. The City of Kent, who owns the ROW, may require the work to be at night due to traffic concerns.

The restoration will include a 12-inch thick trench patch and overlay of the disturbed travel lane.

The 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 an existing home. During the repair, the existing 350 LF, 4-inch AC water main was observed to be in poor condition and caused 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.

Because of the challenges finding a contractor, the District proposed delaying construction to the following spring. District operations throttled the existing valve serving the cul-de-sac so if a future rupture occurs, the resulting flow would minimize potential damage. The District informed South King Fire to reopen the valve to resume available fire flow in the event of a fire.

Pace Engineers will complete the contract documents and package both locations into one project. The District will advertise the construction contract in early 2019. The 2019 budget includes \$470,000 for construction and other costs. Work should be complete by mid-spring.



Project 19-3: KDM / PHS & 9th PL S. Water Main Replacements

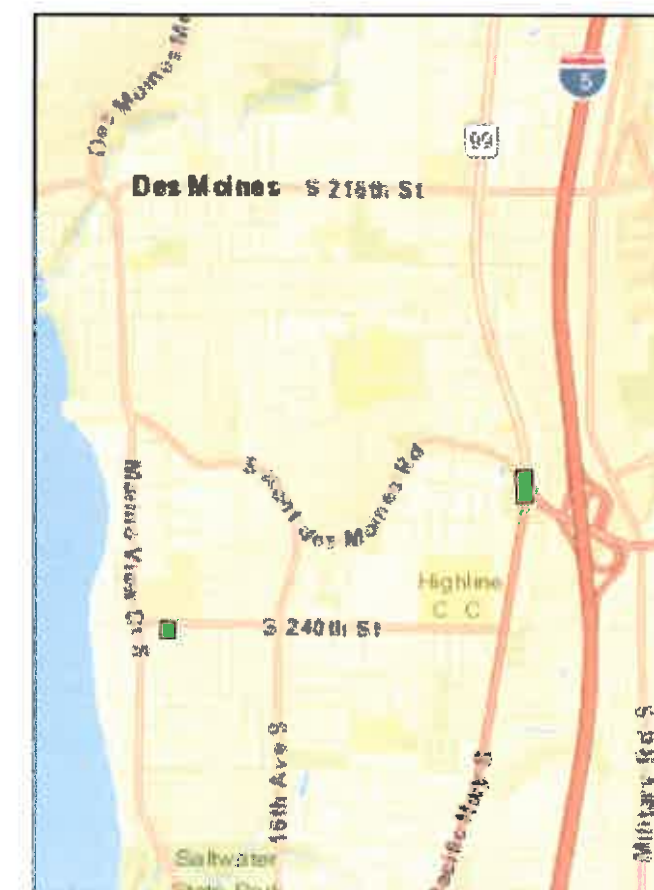
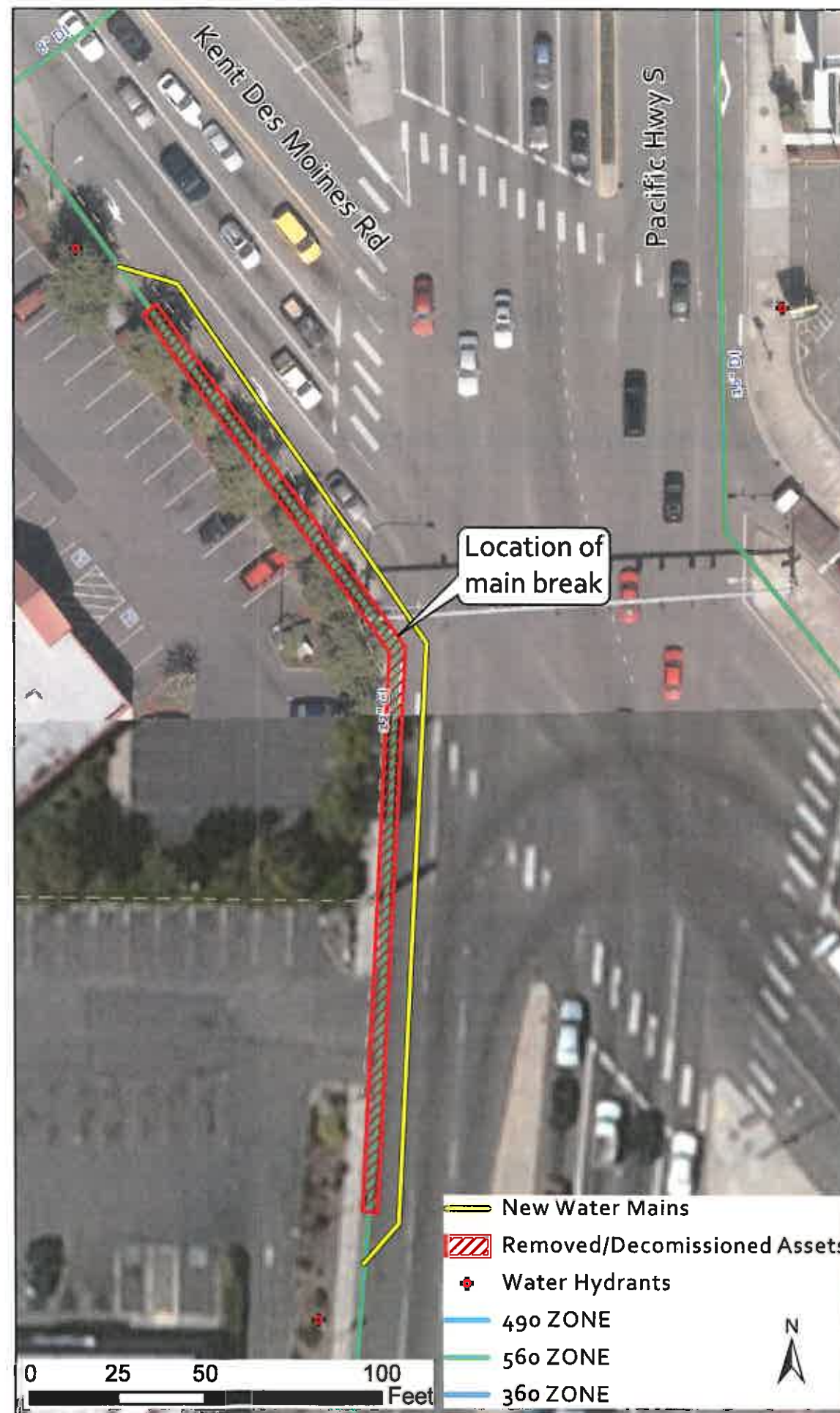
Project Notes:

Consultant: PACE Inc.

Project Length: 500 LF

Estimated Project Cost: \$470,000

Bid date: 1st Quarter 2019



**PROJECT 19-3 KDM/9th PI S WATER MAIN REPLACEMENT
ESTIMATED PROJECT COSTS**

| CATEGORY | 2018 | 2019 | TOTAL |
|-----------------------------|------------------|-------------------|-------------------|
| Engineering - Design | \$ 20,000 | \$ 23,000 | \$ 43,000 |
| Construction | | \$ 380,000 | \$ 380,000 |
| Construction Administration | | \$ 11,400 | \$ 11,400 |
| Staff Labor and Benefits | \$ 1,500 | \$ 15,200 | \$ 16,700 |
| Permitting | | \$ 10,000 | \$ 10,000 |
| Miscellaneous / Other | | \$ 5,000 | \$ 5,000 |
| Legal | | \$ 2,500 | \$ 2,500 |
| TOTAL | \$ 21,500 | \$ 447,100 | \$ 468,600 |

| FUNDING FOR PROJECT | | | |
|----------------------------|------------------|-------------------|-------------------|
| CATEGORY | 2018 | 2019 | TOTAL |
| Rates/Reserves | \$ 21,500 | \$ 447,100 | \$ 468,600 |
| | | | \$ - |
| TOTAL | \$ 21,500 | \$ 447,100 | \$ 468,600 |

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

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 2019, 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 Utility District (LUD). LUD is a stakeholder in the Tacoma Public Utilities filtration plant that became operational in 2015. LUD 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 LUD water. Project 14-2 was converted to an engineering expense and not included in the 2018-2019 CIP. The District will continue to study the potential source in 2019 including retaining a consultant to determine the necessary capital improvements.

2. Storage: There are no significant short-term storage deficits. The City of Tukwila 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 in 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. There is approximately 67 miles of AC pipe remaining in service at the end of 2018.

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 2020.

MITIGATION IMPROVEMENTS FOR 2019

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 2019 includes \$55,000 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 2019, the budget includes \$1.4 million 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 2019, the budget also includes funding to continue the project to replace small diameter meters across the District. By the end of 2018, the District will complete approximately 11,500 of 17,800 meters. The replacement program should be completed in 2019 or early 2020. Please see the *2019 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: 12/19/18
Reviewed By: JSD / M.E.

Subject: Adopt 2019 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"/> |
| | | | <i>Amount: \$</i> _____ |
| <i>Plus WSST</i> | | | |

- Attachments
1. Resolution #18-12-19B
 2. Exhibit A – 2019 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.