

Tualatin Valley Water District Six-Year CIP Planned Expenditures (FY2022-27)

Category / Project Description	Page	2021-2023 Biennial Budget 6-Year CIP							Six-Year FY2022-27	Future Years
		FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected			
<b>SOURCE</b>										
Metzger Supply Improvements for WWSS	1	\$ -	\$ 53,600	\$ 499,000	\$ -	\$ -	\$ -	\$ 552,600	\$ -	
Center St Facility Seismic Roof & Piping Improvements	2	1,035,000	-	-	-	-	-	1,035,000	-	
Cornelius Pass Pipeline Rehabilitation	3	103,500	-	-	-	-	-	103,500	-	
Water Quality Integration Projects	4	227,500	235,500	-	-	-	-	463,000	-	
Center St Backup Generator	5	-	-	-	-	297,000	-	297,000	-	
Booster Chlorination	6	-	-	-	229,500	1,190,000	-	1,419,500	-	
Farmington Fluoride & Flow Control Facility	7	6,130,000	-	-	-	-	-	6,130,000	-	
<b>TOTAL SOURCE</b>		<b>\$ 7,496,000</b>	<b>\$ 289,100</b>	<b>\$ 499,000</b>	<b>\$ 229,500</b>	<b>\$ 1,487,000</b>	<b>\$ -</b>	<b>\$ 10,000,600</b>	<b>\$ -</b>	
<b>STORAGE</b>										
ST-3 Goyak Reservoir Upgrades	8	\$ -	\$ 439,000	\$ 454,500	\$ -	\$ -	\$ -	\$ 893,500	\$ -	
Taylor's Ferry Reservoir Replacements	9	1,185,000	5,690,000	5,580,000	59,700	-	-	12,514,700	-	
North Road Reservoir Mixing	10	82,800	-	-	-	-	-	82,800	-	
ST-1 Rosander 2 Reservoir	11	-	-	-	-	-	1,420,000	1,420,000	2,200,000	
Florence Lane Reservoir Coatings & Cathodic Improvements	12	714,000	-	-	-	-	-	714,000	-	
Steel Reservoir Gutters and Downspouts	13	-	-	22,200	-	-	-	22,200	-	
Somerset Reservoir Modifications	14	301,500	-	-	-	-	-	301,500	-	
189th & Schell Roof Membrane Replacements	15	-	-	-	401,500	-	-	401,500	-	
<b>TOTAL STORAGE</b>		<b>\$ 2,283,300</b>	<b>\$ 6,129,000</b>	<b>\$ 6,056,700</b>	<b>\$ 461,200</b>	<b>\$ -</b>	<b>\$ 1,420,000</b>	<b>\$ 16,350,200</b>	<b>\$ 2,200,000</b>	
<b>PUMP STATIONS</b>										
Barnes Road Pump Station	16	\$ 290,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 290,000	\$ -	
BP-1 Cooper Mountain Booster Pump Station Expansion	17	-	-	356,000	2,960,000	-	-	3,316,000	-	
Sunset Pump Station MCC Replacement	18	259,000	-	-	-	-	-	259,000	-	
Inglewood Pump Station Repairs	19	-	-	388,000	-	-	-	388,000	-	
Goyak Pump Station Upgrades	20	-	32,100	-	-	297,000	1,845,000	2,174,100	-	
BP-6 Rosander Booster Pump Station	21	-	-	-	-	-	1,260,000	1,260,000	1,960,000	
Taylor's Ferry Booster Pump Station	22	62,100	214,000	781,500	-	-	-	1,057,600	-	
SCADA / PLC / Shakealert Upgrades	23	305,500	535,500	1,110,000	-	-	-	1,951,000	-	
189th Pump Station Upgrades	24	-	32,100	277,000	1,720,000	-	-	2,029,100	-	
Pump Replacement Program	25	133,000	137,500	142,500	147,500	152,500	158,000	871,000	5,633,500	
<b>TOTAL PUMP STATIONS</b>		<b>\$ 1,049,600</b>	<b>\$ 951,200</b>	<b>\$ 3,055,000</b>	<b>\$ 4,827,500</b>	<b>\$ 449,500</b>	<b>\$ 3,263,000</b>	<b>\$ 13,595,800</b>	<b>\$ 7,593,500</b>	

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		FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected			
<b>PIPELINE</b>										
Mains Replacement Program - Unidentified Projects	26	\$ 1,760,000	\$ 1,820,000	\$ 1,885,000	\$ 1,950,000	\$ 2,020,000	\$ 2,090,000	\$ 11,525,000	\$ 368,670,000	
SW Barcelona Way Main Replacement	27	-	-	-	-	822,500	-	822,500	-	
SW Cascade Ave / Greenburg / Moore Furniture	28	-	-	-	2,480,000	-	-	2,480,000	-	
NW Oak Hills Dr - Bonneville Lp to 145th	29	-	329,000	-	-	-	-	329,000	-	
Alfred St Main Replacement and Upgrade	30	430,500	-	-	-	-	-	430,500	-	
Multnomah Blvd 12-inch Connection	31	-	-	658,500	-	-	-	658,500	-	
Williams - Rita - Mains replacement	32	-	-	-	3,800,000	-	-	3,800,000	-	
Tremont & Huntington - Mains replacement	33	-	-	1,665,000	1,720,000	2,375,000	4,915,000	10,675,000	7,065,000	
SW Tualatin Valley Hwy - 185th to Elliott Pl	34	-	-	-	-	-	1,215,000	1,215,000	-	
Todd St & Linda Ln - Mainline Replacement & Upgrade	35	-	1,510,000	-	-	-	-	1,510,000	-	
Murray Blvd Main Replacement - Downing to Mill Creek	36	-	-	-	-	1,495,000	-	1,495,000	-	
Ridgewood View - Inglewood to Melnore Main Improvement	37	-	-	-	-	-	452,500	452,500	-	
<b>Pipeline Upgrades and Renewals - Agency Driven</b>										
Unidentified Agency-Driven Pipeline Upgrade & Renewal Projects	38	155,500	535,500	1,275,000	1,320,000	1,365,000	1,415,000	6,066,000	50,425,000	
Walker Rd 12" Replacement - 185th to 174th	39	673,000	-	-	-	-	-	673,000	-	
Murray & Walker 42-inch Relocation	40	1,555,000	1,930,000	-	-	-	-	3,485,000	-	
Cornell 102nd to 114th Main Relocation	41	828,000	-	-	-	-	-	828,000	-	
TV Hwy at 209th Main Relocation	42	621,000	455,500	-	-	-	-	1,076,500	-	
Hall Blvd over Hwy 217	43	248,500	-	-	-	-	-	248,500	-	
Unidentified Water Quality Upgrades & Renewals	44	103,500	107,000	111,000	115,000	119,000	123,000	678,500	-	
<b>Development Opportunity &amp; Reimbursement Projects</b>										
Unidentified Development Opportunity & Reimbursement Projects	45	277,000	287,000	297,000	307,500	318,000	329,000	1,815,500	11,741,500	

Tualatin Valley Water District Six-Year CIP Planned Expenditures (FY2022-27)

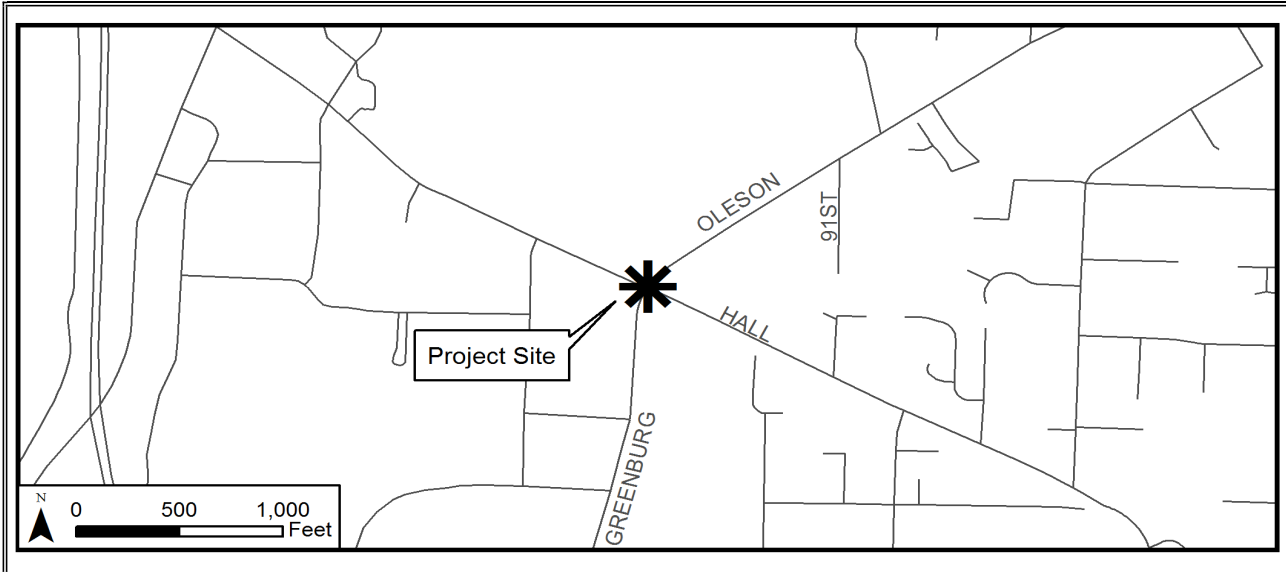
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		FY2022 Requested	FY2023 Requested	FY2024 Projected	FY2025 Projected	FY2026 Projected	FY2027 Projected			
<b>PIPELINE (continued)</b>										
<b>Fire Flow Improvements</b>										
P-80 - Viewmont Dr south of Barnes	46	\$ 298,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 298,000	\$ -	
P-99 - Polsky Rd / Hawthorne Ln / to Scenic Dr	47	-	-	-	-	382,000	3,105,000	3,487,000	-	
Fire Flow P-125 (Hart Dr - 182nd to 179th)	48	-	-	-	-	89,100	213,500	302,600	-	
P-21 185th Crossing Hwy 26	49	-	-	-	-	241,500	584,500	826,000	-	
NW Westlawn Ter. Waterline & PRV	50	-	428,500	-	-	-	-	428,500	-	
Future Fire Flow Improvements	51								72,151,500	
<b>Other Pipeline</b>										
Thompson 575 connection	52	-	-	-	-	57,000	-	57,000	-	
Barnes & Viewmont Piping Improvements	53	596,000	-	-	-	-	-	596,000	-	
Minor System Improvements	54	111,000	115,000	119,000	123,000	119,000	123,000	710,000	-	
Metzger Pipeline East	55	32,314,037	46,444,409	22,678,208	4,257,788	-	-	105,694,443	-	
Metzger Pipeline East Real Estate	56	869,980	-	-	-	-	-	869,980	-	
Metzger Pipeline East System-wide Costs	57	1,606,441	1,512,994	1,453,265	1,536,426	1,675,302	714,099	8,498,527	-	
Hydrant Replacements	58	155,500	160,500	166,500	172,000	178,000	184,500	1,017,000	388,500	
Kemmer Rd 24-inch Connection to Beaverton	59	1,500,000	-	-	-	-	-	1,500,000	-	
PRV / Vault Replacements & Upgrades: Unidentified Projects	60	310,500	535,500	554,500	172,000	272,000	369,000	2,213,500	13,153,000	
Transmission Mains CARV Rehabilitation	61	110,500	114,500	118,500	123,000	127,000	131,500	725,000	-	
Walker and Meadow PRV & Vault Replacement	62	776,500	-	-	-	-	-	776,500	-	
Goyak PRV - 800 to 550 PZ	63	-	160,500	-	-	-	-	160,500	-	
<b>TOTAL PIPELINE</b>		<b>\$ 45,300,458</b>	<b>\$ 56,445,903</b>	<b>\$ 30,981,473</b>	<b>\$ 18,076,714</b>	<b>\$ 11,655,402</b>	<b>\$ 15,964,599</b>	<b>\$ 178,424,549</b>	<b>\$ 523,594,500</b>	

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<b>FACILITIES</b>										
Seismic Upgrades District Headquarters	64	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,455,000
Replace Garage Doors/Install Snow Gaurds (Fleet Shop)	65	36,200	51,400	-	-	-	-	-	87,600	-
Headquarters Yard Modifications	66	247,000	268,000	-	-	-	-	-	515,000	-
Safety and Security Improvements	67	310,500	321,500	-	-	-	-	-	632,000	-
Board Room/Conference Room Audio Visual Improvements	68	207,000	53,600	-	-	-	-	-	260,600	-
District Wide Signage Replacement	69	51,800	53,600	-	-	-	-	-	105,400	-
Vault - Dewatering Facility	70	-	21,400	-	-	-	-	-	21,400	-
Goyak and Cooper Mtn. Driveway Replacement	71	51,800	53,600	-	-	-	-	-	105,400	-
Fuel Dispenser Replacement	72	-	68,000	-	-	-	-	-	68,000	-
<b>TOTAL FACILITIES</b>		<b>\$ 904,300</b>	<b>\$ 891,100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,795,400</b>	<b>\$ 1,455,000</b>
<b>FLEET</b>										
Fleet Replacements (per schedule)	73	\$ 689,000	\$ 780,000	\$ 665,000	\$ 688,500	\$ 712,500	\$ 737,500	\$ 4,272,500	\$ 26,309,500	
<b>TOTAL FLEET</b>		<b>\$ 689,000</b>	<b>\$ 780,000</b>	<b>\$ 665,000</b>	<b>\$ 688,500</b>	<b>\$ 712,500</b>	<b>\$ 737,500</b>	<b>\$ 4,272,500</b>	<b>\$ 26,309,500</b>	
<b>INFORMATION TECHNOLOGY</b>										
Customer Information System	74	\$ 6,640,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,640,000	\$ -
<b>TOTAL INFORMATION TECHNOLOGY</b>		<b>\$ 6,640,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,640,000</b>	<b>\$ -</b>
<b>METERS AND SERVICES</b>										
Service Installations	75	\$ 1,540,000	\$ 1,595,000	\$ 1,650,000	\$ 1,710,000	\$ 1,770,000	\$ 1,830,000	\$ 10,095,000	\$ 65,315,000	
Customer Service: Meter Installations	76	247,000	255,500	264,500	273,500	283,500	293,000	1,617,000	11,859,000	
<b>TOTAL METERS AND SERVICES</b>		<b>\$ 1,787,000</b>	<b>\$ 1,850,500</b>	<b>\$ 1,914,500</b>	<b>\$ 1,983,500</b>	<b>\$ 2,053,500</b>	<b>\$ 2,123,000</b>	<b>\$ 11,712,000</b>	<b>\$ 77,174,000</b>	
<b>JOINT VENTURES</b>										
Joint Venture: WIF	77	\$ 2,158,754	\$ 972,865	\$ -	\$ -	\$ -	\$ -	\$ 3,131,620	\$ -	
Joint Venture: WWSS	78	71,227,035	170,696,854	130,472,179	56,812,648	35,704,561	3,557,506	468,470,783	77,083,807	
JWC Plans, Assessments, and Safety Upgrades	79	134,500	-	-	29,100	27,400	101,500	292,500	992,200	
JWC Misc. Repairs/Replacements, & Minor/Non-CIP	80	119,500	65,300	128,000	208,000	137,000	263,500	921,300	6,129,900	
JWC Other Capital Repairs	81	-	-	-	-	-	121,500	121,500	8,549,000	
JWC Water Line Cathodic Protection	82	25,600	26,500	27,400	28,400	29,400	30,400	167,700	52,400	
JWC Spring Hill Pumping Plant Mitigation Project	83	95,500	10,600	-	-	-	-	106,100	-	
JWC Disinfection Facility (Gaseous Chlorine Replacement)	84	-	-	59,400	394,000	408,000	-	861,400	-	
JWC Land Purchase	85	136,500	-	-	-	-	-	136,500	-	
BRJOC Capital & Improvements	86	42,000	43,500	45,000	46,600	48,200	49,900	275,200	1,779,000	
JWC Equipment Replacement	87	341,200	-	341,200	-	341,200	-	1,023,600	3,753,200	
<b>TOTAL JOINT VENTURES</b>		<b>\$ 74,280,589</b>	<b>\$ 171,815,619</b>	<b>\$ 131,073,179</b>	<b>\$ 57,518,748</b>	<b>\$ 36,695,761</b>	<b>\$ 4,124,306</b>	<b>\$ 475,508,203</b>	<b>\$ 98,339,507</b>	
<b>TOTAL CIP</b>		<b>\$ 140,430,248</b>	<b>\$ 239,152,422</b>	<b>\$ 174,244,852</b>	<b>\$ 83,785,662</b>	<b>\$ 53,053,663</b>	<b>\$ 27,632,405</b>	<b>\$ 718,299,252</b>	<b>\$ 736,666,007</b>	
<b>TOTAL CIP less JOINT VENTURES</b>		<b>\$ 66,149,658</b>	<b>\$ 67,336,803</b>	<b>\$ 43,171,673</b>	<b>\$ 26,266,914</b>	<b>\$ 16,357,902</b>	<b>\$ 23,508,099</b>	<b>\$ 242,791,049</b>	<b>\$ 638,326,500</b>	

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Metzger Supply Improvements for WWSS



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Associated improvements required to take water from the Willamette Water Supply System, and required to be done by 2026.
2.	Asset Condition	Improvement will address condition of the existing pumping facility at Florence Lane.
3.	Reliability	The WWSS will be designed and constructed to current seismic resiliency standards. These improvements will allow for reliable service to the 498 pressure zone. Additional seismic improvements may be needed in the future.

PROJECT DESCRIPTION

These improvements will include operational and any other changes necessary to operate the new supply from the WWSS. The goal of this project is to move water from the WWSS turnout at Hall Blvd & Oleson Road to the Florence Lane tanks with the goal of maintaining low water age. This also includes improvements necessary to move water to the 498 pressure zone, and could include MCC upgrades and other pumping upgrades at Florence Lane. The above-ground flow control facility, meter vault, and valving will be budgeted and delivered by the WWSP.

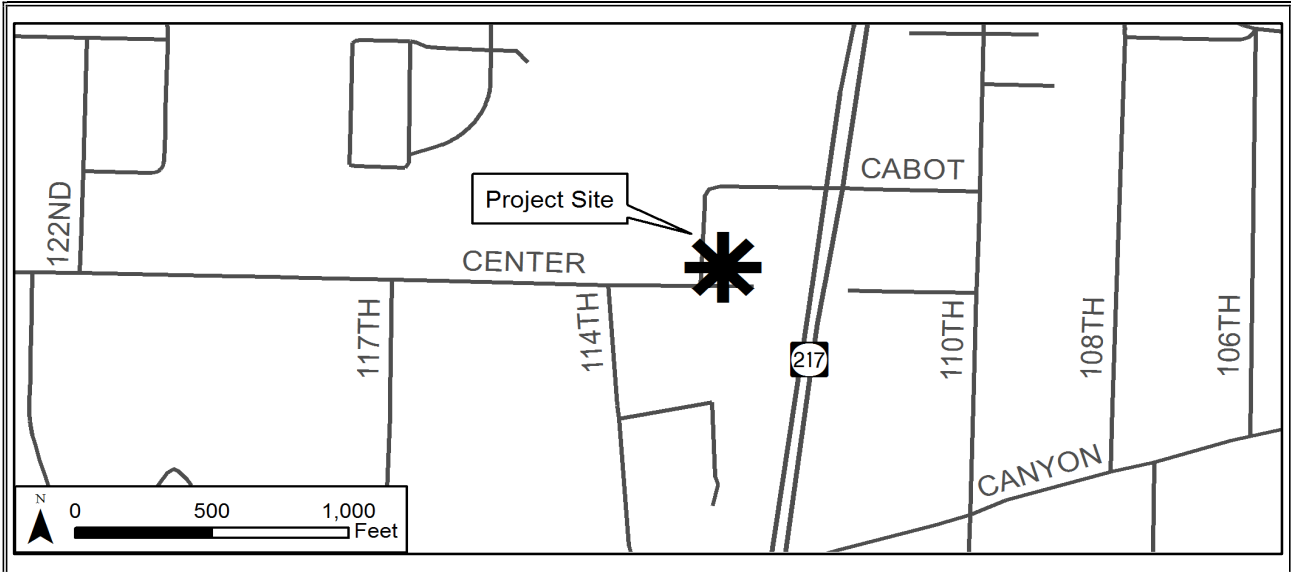
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Source	Water Rates:	Yes	There will be some minor increases to District operating costs for running the pumps more frequently.	
Project Manager:	Nick Augustus	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	61%		
Total Priority Score:	19	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	53,600	499,000	-	-	-	552,600	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Center St Facility Seismic Roof & Piping Improvements



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	Associated improvements will allow for reliable service from the WWSS, and the hydraulic improvements will be done while the WCSL is offline due to other WWSS construction activities. Project is needed prior to 2026.
2.	Asset Condition	Improvements will replace the aging roof, and control valves due to their poor condition.
3.	Reliability	The roof and building will be replaced and upgraded to be more seismically resilient. Additional seismic supports will be added to the mechanical piping and equipment.

**PROJECT DESCRIPTION**

These improvements include replacement of the existing roof which is over 40-yr old. It includes seismic improvements for the above-grade structure, mechanical piping seismic improvements, and replacement of certain control valves in anticipation of the WWSS.

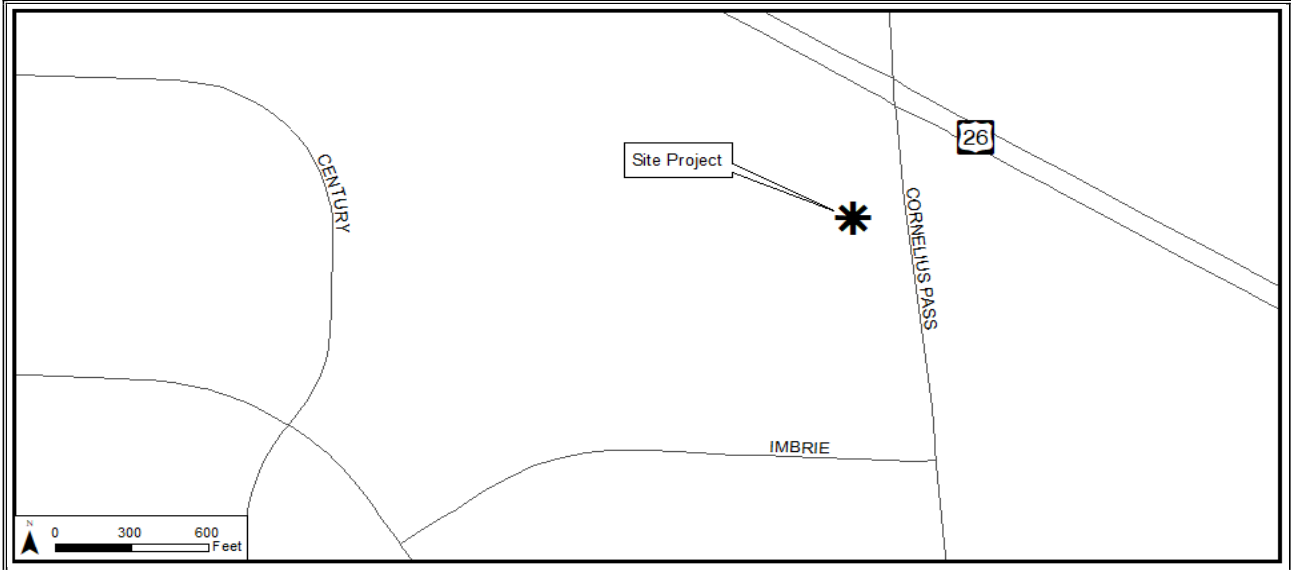
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Source	Water Rates: Yes	No anticipated impact on District operating costs.
		Service Fees: No	
Project Manager:	Sarah Alton	SDC Improvemt. Fee Elg.:	
Work Performed By:	Outside Contract	0%	
Total Priority Score:	19	Partner Cost Percentage:	0%

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	55,000	1,035,000	-	-	-	-	-	1,035,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Cornelius Pass Pipeline Rehabilitation



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	The existing piping was leaking and in need of replacement.
2.	Asset Condition	Part of the existing manifold began leaking due to corrosion in 2020. Condition assessments were performed and it was determined that piping and internal linings were in need of rehabilitation and replacement.
3.	Reliability	This facility is a key supply point for the District and is essential to the District's summer supply strategy.

**PROJECT DESCRIPTION**

Improvements are needed at the fluoride and flow control facility due to the condition of the existing piping. Other improvements are anticipated when the WWSS connects at this location.

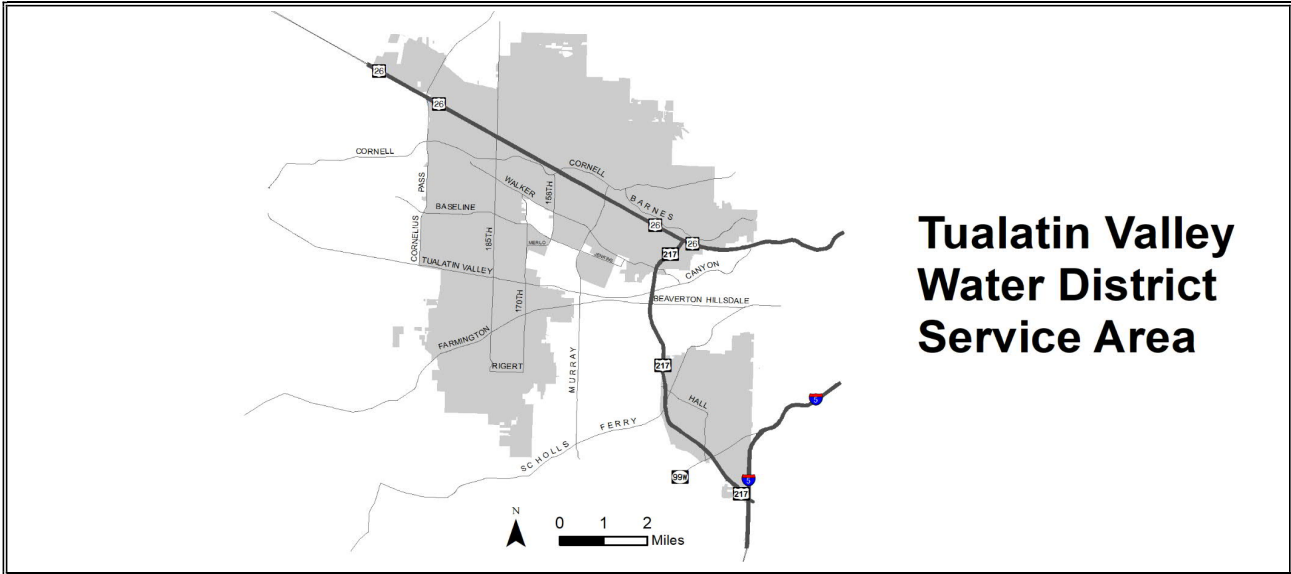
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Source	Water Rates:	Yes	No additional operating costs are anticipated.	
Project Manager:	Ryan Smith	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	103,500	-	-	-	-	-	103,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Water Quality Integration Projects



KEY DRIVERS FOR CIP PROJECT

1.	Water Quality	This project is to address water quality considerations prior to the WWSS being tested and implemented as a source of supply.
2.	Timing	Projects associated with the WWSS allows / supports additional growth and offsets reduction in Portland water.
3.	Customer Criticality	This work impacts the majority of water customers in the District.

PROJECT DESCRIPTION

These projects will be done in collaboration with the water system integration study and recommendations proposed as part of the WWSS. A Water Quality Integration firm has been hired as part of the WWSS and will be developing recommendations in collaboration with District personnel. Projects identified as part of that study will be implemented under this line item. These projects could include removing existing piping and other activities to study the future impact of changing water sources.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Source	Water Rates:	Yes	No anticipated impact on District operating costs.	
Project Manager:	Joel Cary	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	61%		
Total Priority Score:	22	Partner Cost Percentage:	0%		

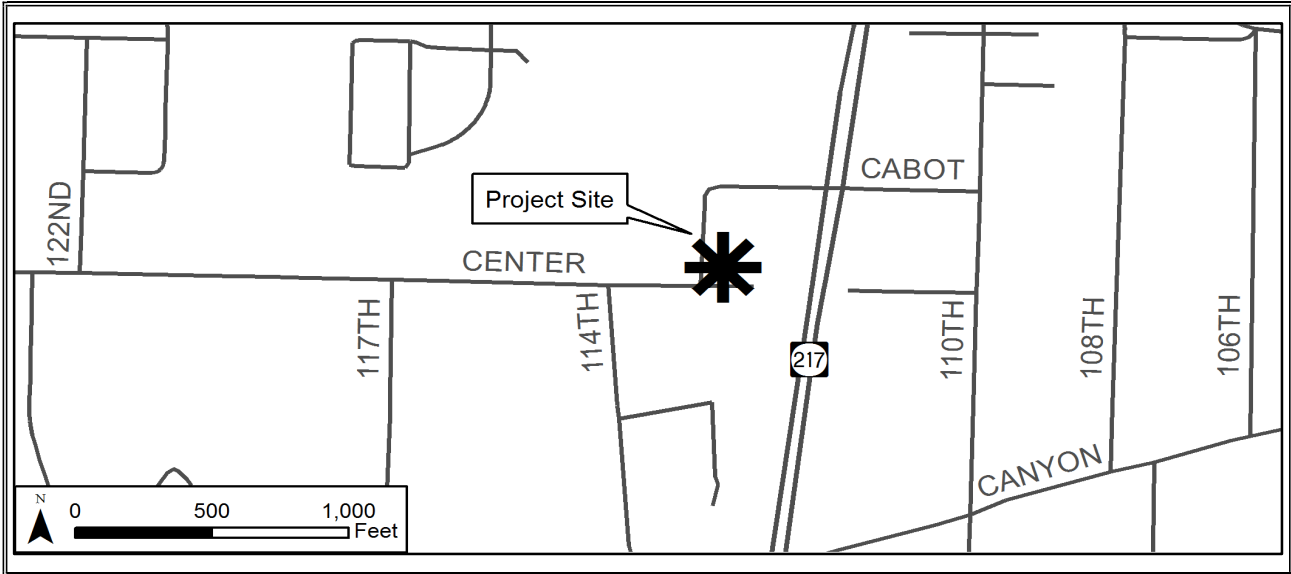
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	227,500	235,500	-	-	-	-	463,000	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Center St Backup Generator



KEY DRIVERS FOR CIP PROJECT

1.	Reliability	This project will add backup power to the Center St flow control facility, allowing the District to have better control of the incoming supply during a power outage.
2.	Customer Criticality	This project will impact a large customer base.
3.	Safety / Security	Adding a generator will provide safety with operators able to view equipment remotely.

PROJECT DESCRIPTION

There is currently no backup power at the Center St flow control and fluoride facility. This project would add a backup power generator which will allow for more reliable control over incoming supply sources.

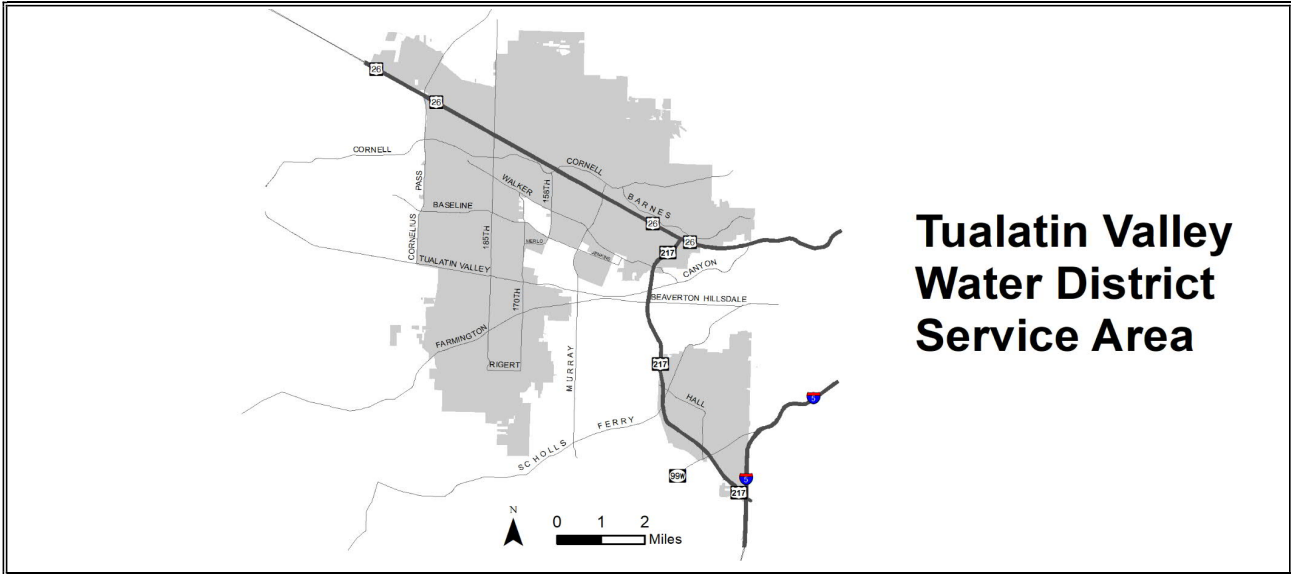
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Source	Water Rates: Yes	A slight increase in operating cost to maintain the new generator will be necessary.
		Service Fees: No	
Project Manager:	Zach Lemberg	SDC Improvemt. Fee Elg.:	
Work Performed By:	Contract & District Staff	0%	
Total Priority Score:	15	Partner Cost Percentage:	0%

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	297,000	-	297,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: **Booster Chlorination**



**KEY DRIVERS FOR CIP PROJECT**

1.	Water Quality	Due to the switch from chloramines to free chlorine, the District may need a booster chlorination system to help manage residual chlorine and control water quality.
2.	Customer Criticality	This project will provide benefits to a large portion of the District.
3.	Cost Effectiveness / Community Benefit	Significant benefits to the community as a whole are anticipated through the proper management of chlorine residual throughout the system.

**PROJECT DESCRIPTION**

This project (including evaluation and implementation) is for a booster chlorination system that is planned to be online when the District switches to the WWSS.

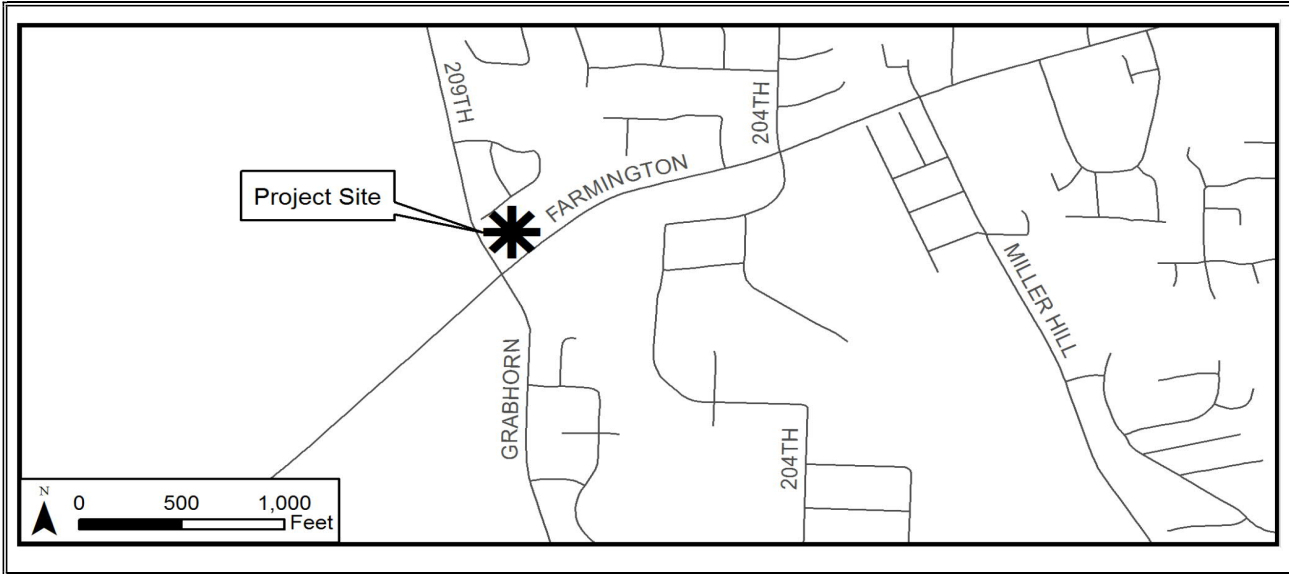
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Source	Water Rates: Yes	A slight increase in operating cost to maintain the new booster chlorination system will be necessary.
Project Manager:	Joel Cary	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: 61%	
Total Priority Score:	21	Partner Cost Percentage: 0%	

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	229,500	1,190,000	-	1,419,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Farmington Fluoride & Flow Control Facility



KEY DRIVERS FOR CIP PROJECT

1.	Timing	The Farmington facility is necessary to be online once the WWSS is online in 2026. Prior to 2026 the facility will be able to draw water from JWC to maintain the new piping.
2.	Customer Criticality	The project will impact the majority of the Cooper Mountain area and the 385 PZ.
3.	Reliability	The project will allow for reliable connection to the WWSS.

PROJECT DESCRIPTION

The Farmington Fluoride and PRV Facility will control flows from the WWSS and add fluoride to the incoming supply. The facility will be designed to accommodate future expansion of the facility, and will allow the District to utilize the WWSS to recharge the ASR well at Grabhorn with water from WWSS. The facility will be designed initially for 6.5 mgd flow capacity, expandable to 17 mgd in future years.

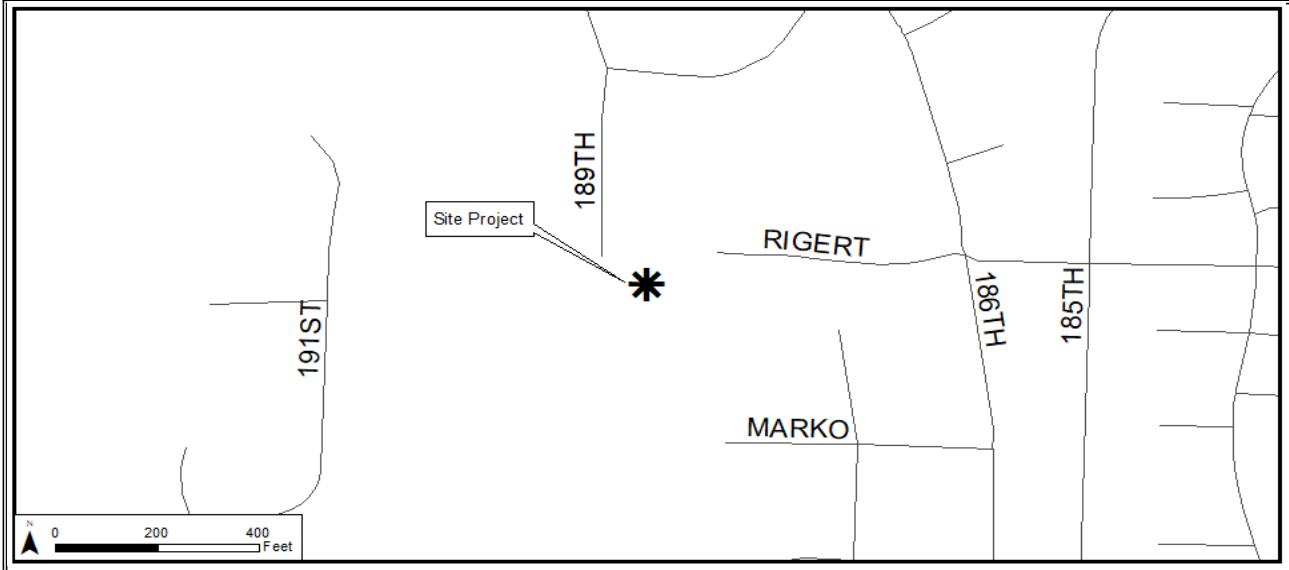
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Source	Water Rates: Yes	An increase in operating costs will be required to maintain the new facility.
		Service Fees: No	
Project Manager:	Andrew Barrett	SDC Improvemt. Fee Elg.: 61%	
Work Performed By:	Outside Contract	Partner Cost Percentage: 0%	
Total Priority Score:	29		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	6,130,000	-	-	-	-	-	6,130,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: ST-3 Goyak Reservoir Upgrades



KEY DRIVERS FOR CIP PROJECT

1.	Timing	The existing facility is in need of roof maintenance and seismic improvements. The reservoir upgrades cannot be completed until a second source of supply to the Cooper Mountain area is complete.
2.	Asset Condition	The facility was constructed in 1974 and is in need of maintenance in order to keep the reservoir functioning as intended.
3.	Reliability	This will bring the reservoir into compliance with seismic standards.

PROJECT DESCRIPTION

Structural upgrades are recommended for the Goyak Reservoir to improve seismic resilience at the facility. These upgrades were first recommended in the Concrete Water Reservoir Seismic Rehabilitation Project (2002, CH2MHILL) with a construction cost of \$340,000. In addition, the updated project includes repairs to fix leaking in the reservoir floor, which was estimated at \$20/square-foot. A connection to a second source atop Cooper Mtn is needed prior to taking this facility off-line for repairs and upgrades.

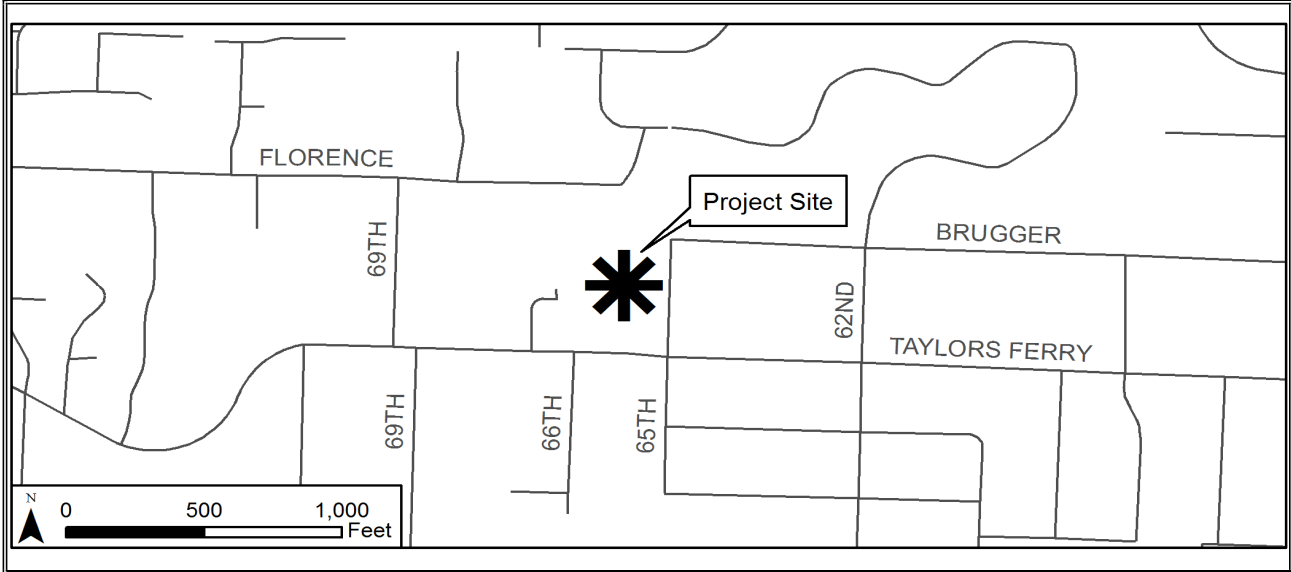
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	This project will reduce immediate maintenance costs, and will bring the tank up to current seismic standards. On-going maintenance is anticipated.	
Project Manager:	Ryan Smith	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	26	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	439,000	454,500	-	-	-	893,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Taylors Ferry Reservoir Replacements



**KEY DRIVERS FOR CIP PROJECT**

1.	Asset Condition	The existing concrete and steel reservoirs are approaching the end of their useful life. The concrete walls are cracked and an internal liner is being used to maintain a leak free reservoir. The steel tank is not seismically resilient, and the roof is in poor condition.
2.	Customer Criticality	This project impacts a number of large businesses and a significant portion of the Metzger service area.
3.	Reliability	Improvements are required to provide a seismically resilient, reliable supply to the Metzger 498 pressure zone.

**PROJECT DESCRIPTION**

The existing reservoirs are at the end of their useful life and in need of replacement. It is recommended that the District replace the existing 1.0-MG Taylors Ferry South Reservoir, and the 2.3 MG steel tank with 2-1.75 MG pre-stressed concrete reservoirs. Land Use approvals were obtained in 2019 for these new reservoirs. As part of this project, the existing office space is planned to be demolished, and a new storage facility for equipment and materials is planned for the site.

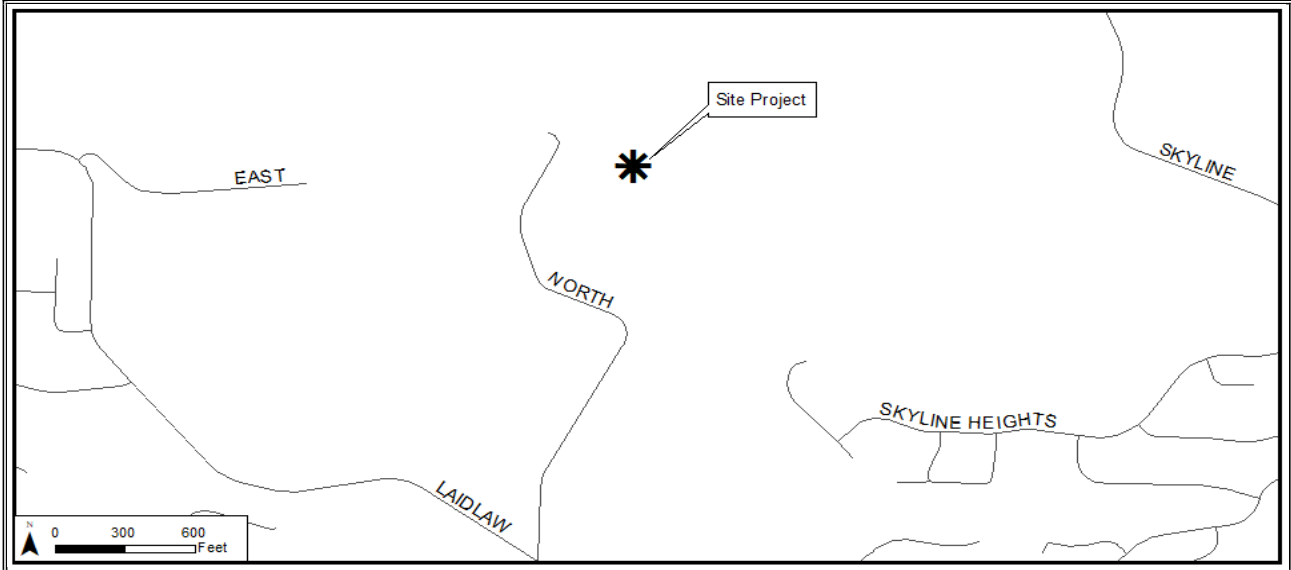
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	Operating costs will be reduced near term by removing the existing reservoirs and constructing new pre-stressed concrete reservoirs.	
Project Manager:	Andrew Barrett	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	31%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
1,030,000	500,000	1,185,000	5,690,000	5,580,000	59,700	-	-	12,514,700	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** North Road Reservoir Mixing



**KEY DRIVERS FOR CIP PROJECT**

1.	Water Quality	The project is being done to improve water quality in the reservoir.
2.	Customer Criticality	The project will impact a significant number of customers.
3.	Cost Effectiveness / Community Benefit	Improvements will add benefits to the community.

**PROJECT DESCRIPTION**

The existing reservoir does not mix well, making it difficult to maintain chlorine residual in that portion of the system. This project will add a mechanical mixer to the reservoir to force mixing with incoming water.

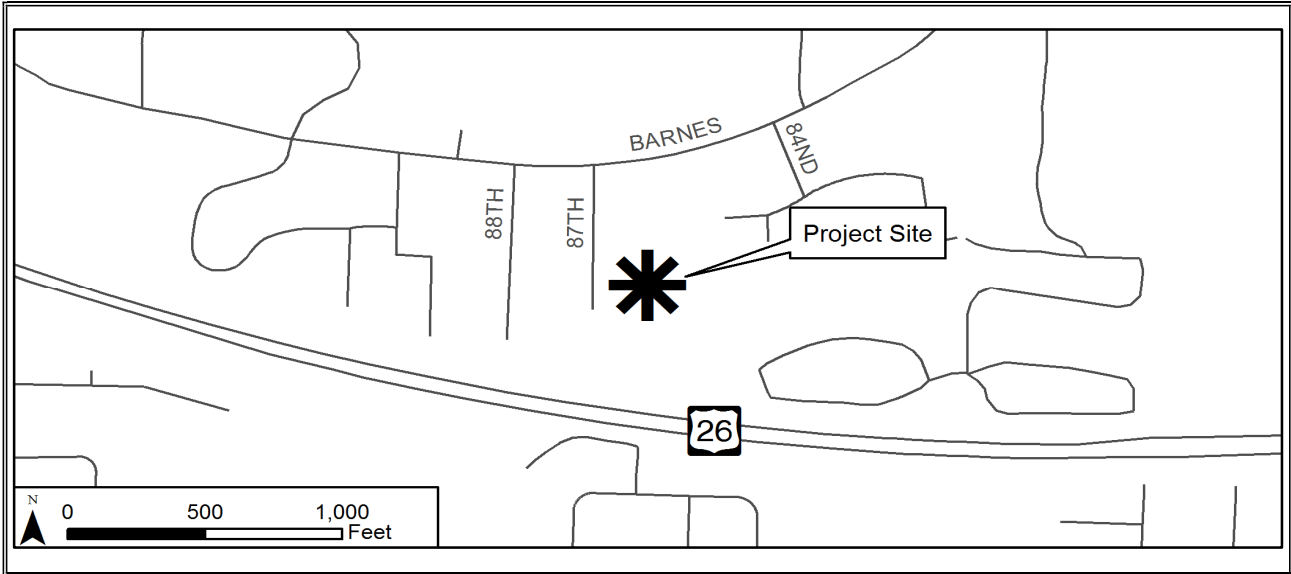
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	A slight increase in operating expenses for power and maintenance of the mixer will be necessary.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	82,800	-	-	-	-	-	82,800	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: ST-1 Rosander 2 Reservoir



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	This project will add additional storage to the 575 pressure zone and is expected to be completed at the end of the 6-yr budget horizon.
2.	Growth / Future Demands	The reservoir will address storage deficiencies due to increased growth in the 575 pressure zone.
3.	Reliability	The new facility will be designed to meet current seismic standards.

**PROJECT DESCRIPTION**

The Rosander 2 Reservoir project is recommended to address long-term storage deficiencies in the West Hills 575 Zone and to provide seismically resilient storage. It is assumed that the existing reservoir will remain in service while a new 1.0-MG reservoir is constructed along with the Rosander Pump Station Project (BP-6).

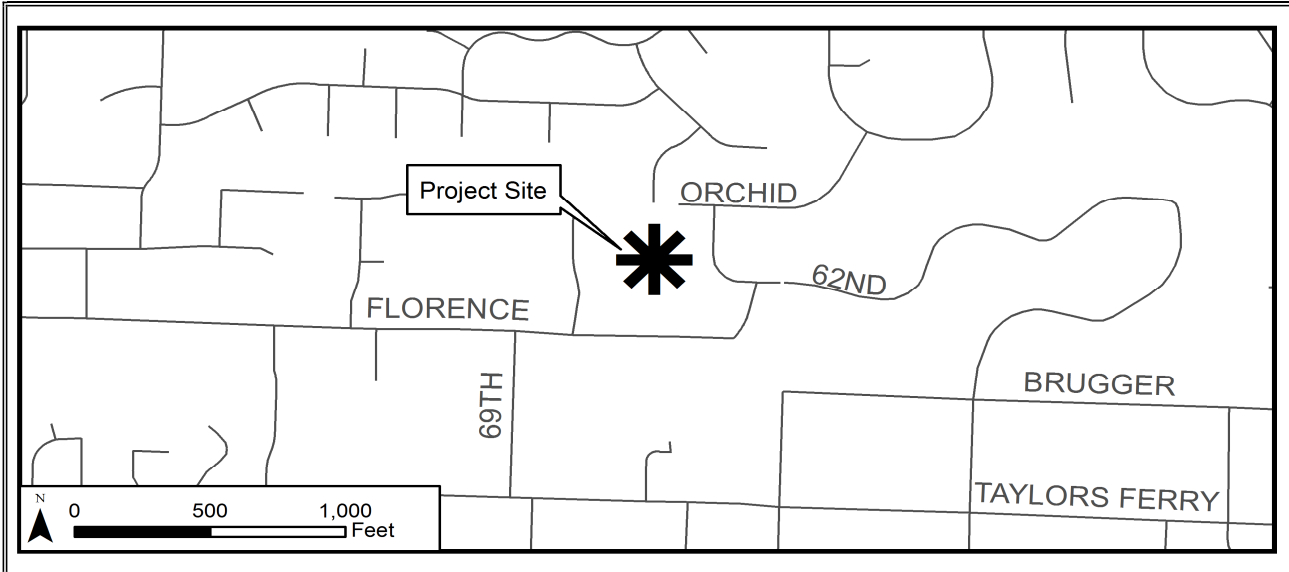
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	There will be a minor increase in operating expenses by adding a new facility.	
Project Manager:	Andrew Barrett	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	50%		
Total Priority Score:	15	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	-	1,420,000	1,420,000	2,200,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Florence Lane Reservoir Coatings & Cathodic Improvements



KEY DRIVERS FOR CIP PROJECT

1.	Timing	This maintenance project should be completed near-term.
2.	Asset Condition	The existing reservoir roof is corroding and in need of repair. This project is anticipated to extend the life of the asset.
3.	Reliability	This project is necessary to maintain reliable service. No seismic improvements are anticipated with this project.

PROJECT DESCRIPTION

The reservoir coatings are in poor condition and are in need of replacement. In addition, gutters and downspouts will reduce algae growth that is common on exterior tank walls, and will extend the life of the new coatings. This project involves sandblasting and recoating areas of coating failures. Containment is required to reduce impact to surrounding properties.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	No anticipated impact on District operating costs.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	21	Partner Cost Percentage:	0%		

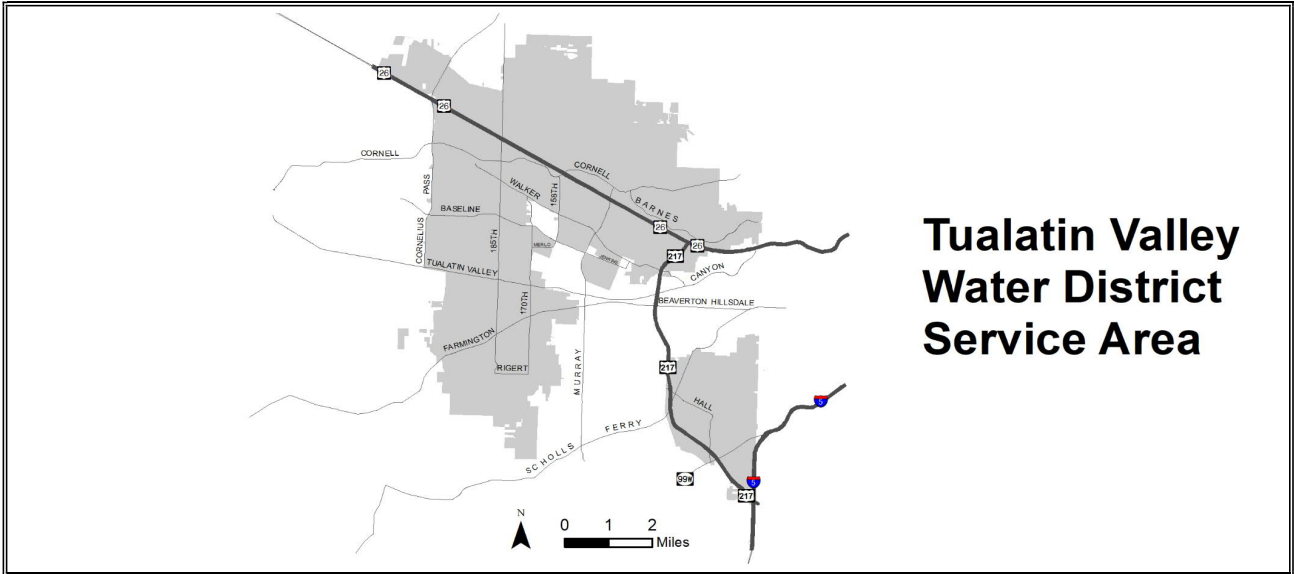
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
696,500	-	714,000	-	-	-	-	-	714,000	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Steel Reservoir Gutters and Downspouts



KEY DRIVERS FOR CIP PROJECT

1.	Timing	This maintenance project should be completed near-term.
2.	Asset Condition	The existing reservoir roof experiences algae growth and issues associated with that growth, reducing the life expectancy of coatings. This project is anticipated to extend the life of the asset.
3.	Reliability	This project is necessary to maintain reliable service.

PROJECT DESCRIPTION

This project would add gutters and downspouts to steel tanks. This will reduce the algae growth that is common on exterior tank walls which will extend the life of the coatings.

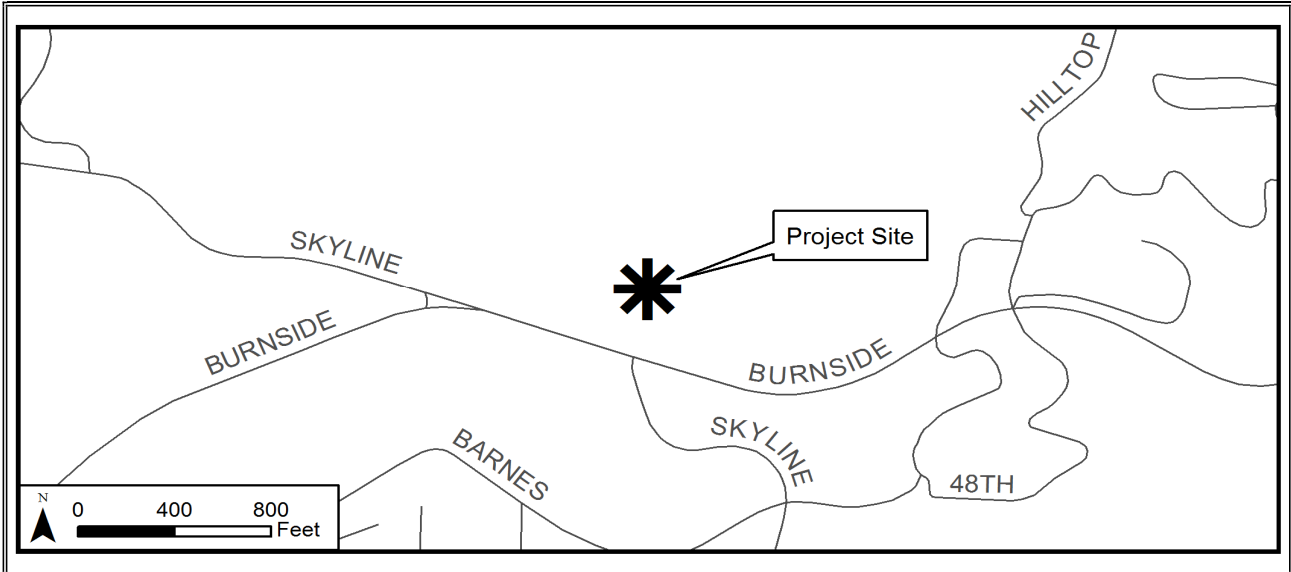
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	No anticipated impact on District operating costs.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	18	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
42,100	-	-	-	22,200	-	-	-	22,200	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Somerset Reservoir Modifications



KEY DRIVERS FOR CIP PROJECT

1.	Timing	This maintenance project should be completed near-term.
2.	Asset Condition	The existing reservoir is showing signs of corrosion and is in need of repair. This project is anticipated to extend the life of the asset.
3.	Safety / Security	The project will reduce risks associated with the outdated entry and access points.

PROJECT DESCRIPTION

This project includes replacing the existing hatch, removing the ladder cage to comply with OSHA standards, and fix exterior coatings on the reservoir.

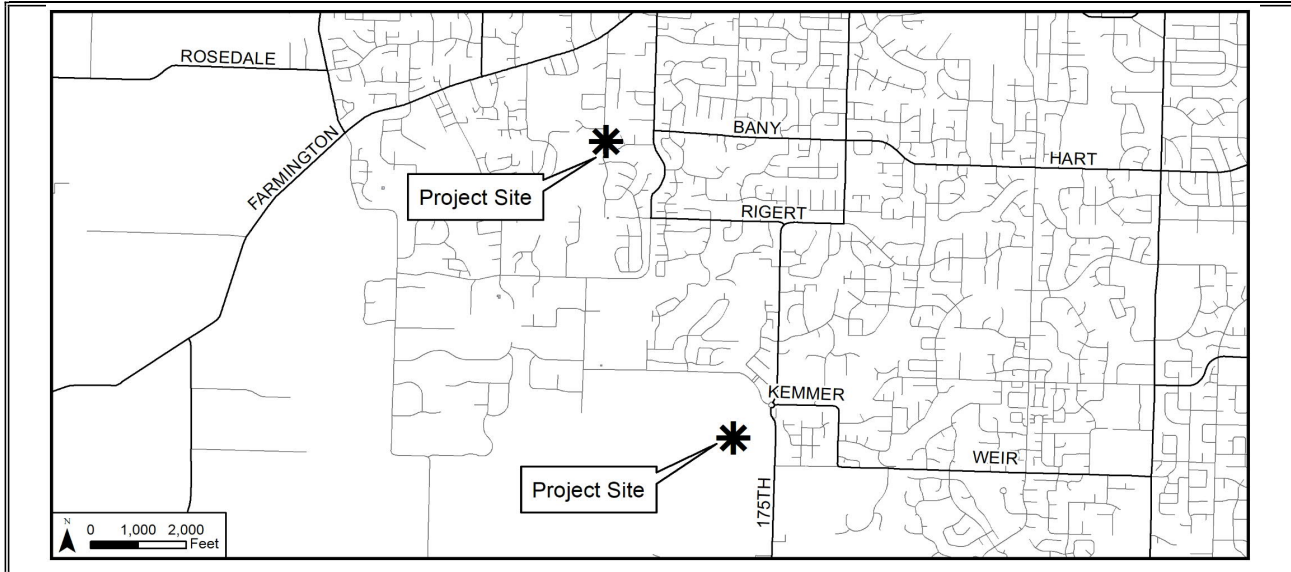
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	No anticipated impact on District operating costs.	
Project Manager:	Sarah Alton	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	30	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
321,500	30,000	301,500	-	-	-	-	-	301,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE: 189th & Schell Roof Membrane Replacements**



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	The roof membranes will need to be fixed once a second source of supply is available on Cooper Mountain.
2.	Asset Condition	The existing reservoirs are aging and in need of maintenance.
3.	Customer Criticality	These reservoirs impact a large number of customers.

**PROJECT DESCRIPTION**

The existing roof membranes are in need of maintenance and replacement to continue to keep the reservoirs fully sealed from rainwater intrusion.

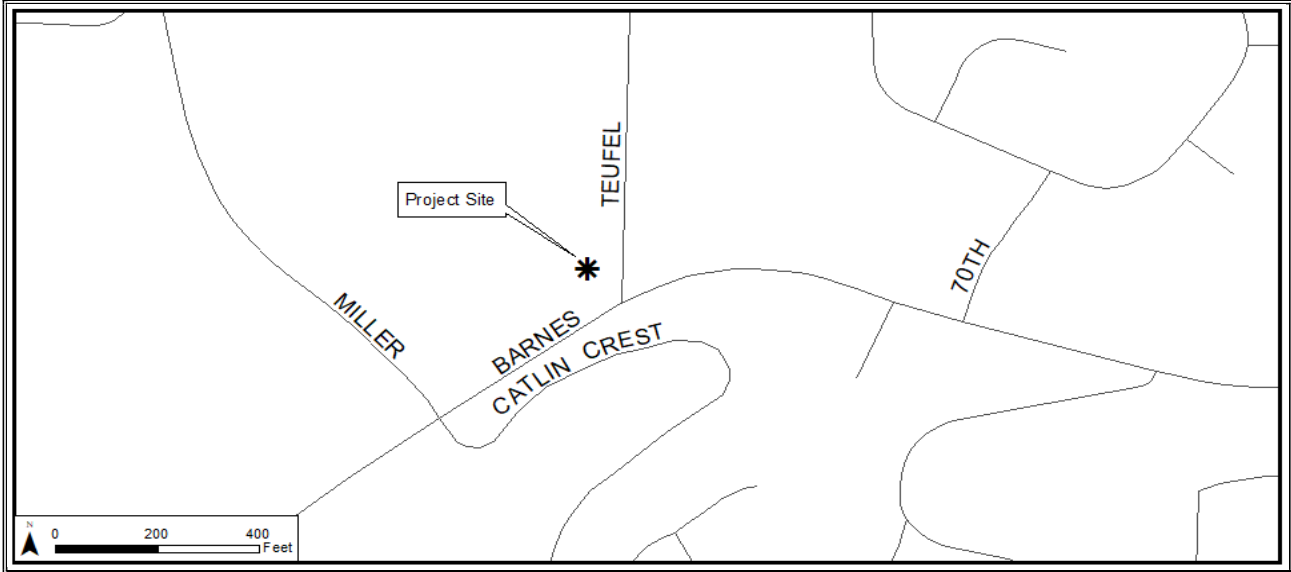
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Storage	Water Rates:	Yes	No anticipated impact on District operating costs.	
Project Manager:	Ryan Smith	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemnt. Fee Elg.:	0%		
Total Priority Score:	21	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	401,500	-	-	401,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Barnes Road Pump Station



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	Project was budgeted the previous biennium, and was delayed.
2.	Asset Condition	The existing facilities are aging and in need of replacement.
3.	Safety / Security	Confined access will be eliminated with the construction of the new pump station. The new pump station will also have backup power through the Teufel Pump Station.

**PROJECT DESCRIPTION**

The Catlin Crest and Viewmont pump stations provide water service to a portion of the West Hills. The pump stations are nearing end of life, and require additional fire flow capacity. Existing pumps are located within vaults with difficult access. The two stations will be replaced with a single pump station. Piping connections to the zones are budgeted separately.

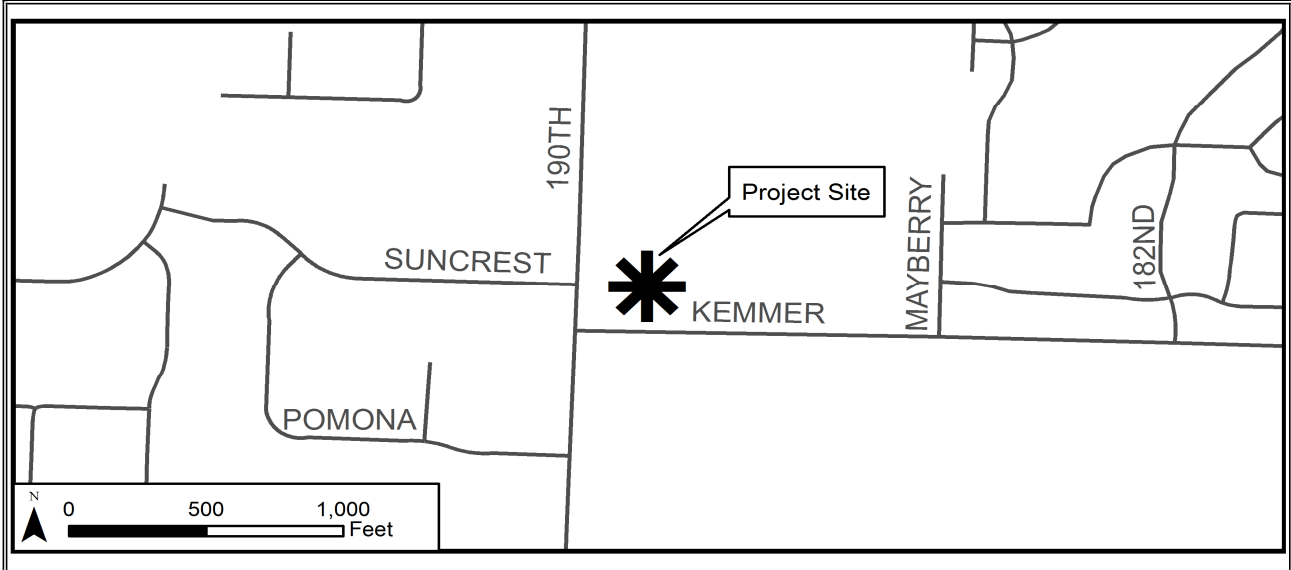
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	A slight decrease in operating costs is anticipated by combining two pump stations into a single pump station.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	30	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	130,000	290,000	-	-	-	-	-	290,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE: BP-1 Cooper Mountain Booster Pump Station Expansion**



**KEY DRIVERS FOR CIP PROJECT**

1.	Safety & Security	This project will help offset fire flow deficiencies in the pressure zones served by the Cooper Mountain Pump Station. The 2015 Master Plan recommended a full replacement of the existing pump station.
2.	Customer Criticality	The Cooper Mountain Pump Station serves a significant portion of the Cooper Mountain area of the District.
3.	Timing	This project will provide additional capacity to accommodate growth and future demands.

**PROJECT DESCRIPTION**

The Zone Supply Analysis determined that the existing Cooper Mountain Booster Pump Station (BPS) is deficient under firm and peak supply criteria. It is recommended that the District construct a new pump station or expand the existing Cooper Mountain BPS to provide an additional 0.5 mgd of firm capacity and 4 mgd of peak capacity for the 920 Operating Area.

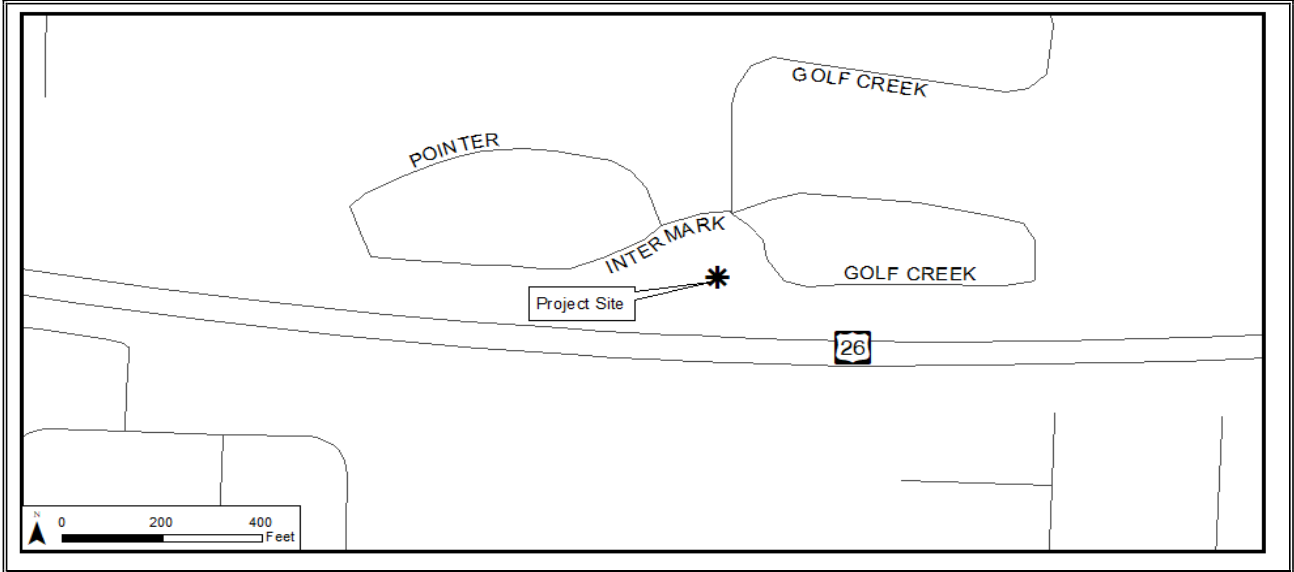
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	This new pump station would replace the existing Cooper Mountain Pump Station resulting in a net no material impact to operating costs. Power costs may decrease slightly due to increased pumping efficiency.	
Project Manager:	TBD	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	100%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	356,000	2,960,000	-	-	3,316,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Sunset Pump Station MCC Replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The existing MCC is in need of replacement.
2.	Cost Effectiveness / Community Benefit	Replacing the MCC allows for additional confidence that the Rosander Pump Station can be pushed out a year or two.
3.	Reliability	Replacing the MCC will allow this pump station to continue to be reliable.

PROJECT DESCRIPTION

This project will replace the Motor Control Center (MCC) in the existing pump station. This will keep the pump station online and operational until the Rosander Pump Station is completed.

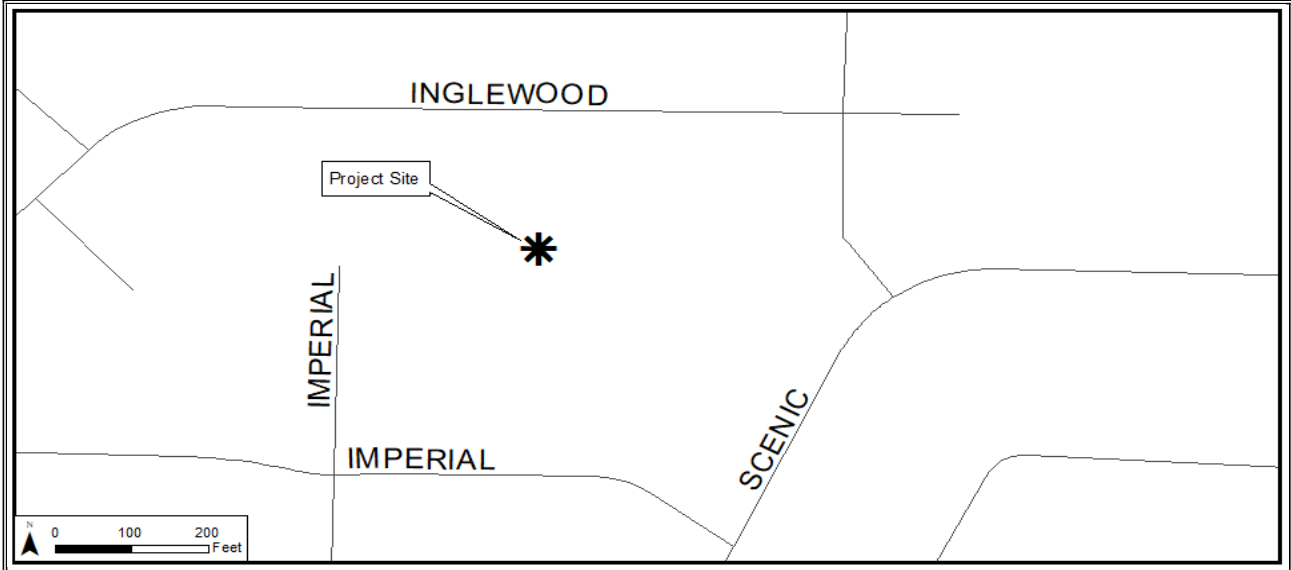
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	No impact to operating costs is anticipated.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	28	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	259,000	-	-	-	-	-	259,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Inglewood Pump Station Repairs



**KEY DRIVERS FOR CIP PROJECT**

1.	Asset Condition	The existing piping and components are in need of rehabilitation.
2.	Cost Effectiveness / Community Benefit	This project will allow the District to continue to save pumping costs.
3.	Reliability	Repairs will keep the pump station functioning properly.

**PROJECT DESCRIPTION**

The pump station is in need of internal repairs including replacement of pipeline coatings, sealing the floor in the fluoride injection room and others.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	No impact to operating costs is anticipated.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	19	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	388,000	-	-	-	388,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Goyak Pump Station Upgrades



KEY DRIVERS FOR CIP PROJECT

1.	Timing	The project cannot be done until a second option to pump to Cooper Mountain is completed.
2.	Customer Criticality	This pump station serves a large portion of the District on Cooper Mountain.
3.	Reliability	The upgrades will increase the reliability of the pump station.

PROJECT DESCRIPTION

The Goyak Pump Station is aging and in need of rehabilitation and upgrade to updated seismic standards. In addition, installation of an automatic transfer switch, upgrade of the backup power generator, and fixing leaking piping have all been identified as part of this project.

PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Pump Station	Water Rates: Yes	No impact to operating costs is anticipated.
Project Manager:	Zach Lemberg	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: 0%	
Total Priority Score:	18	Partner Cost Percentage: 0%	

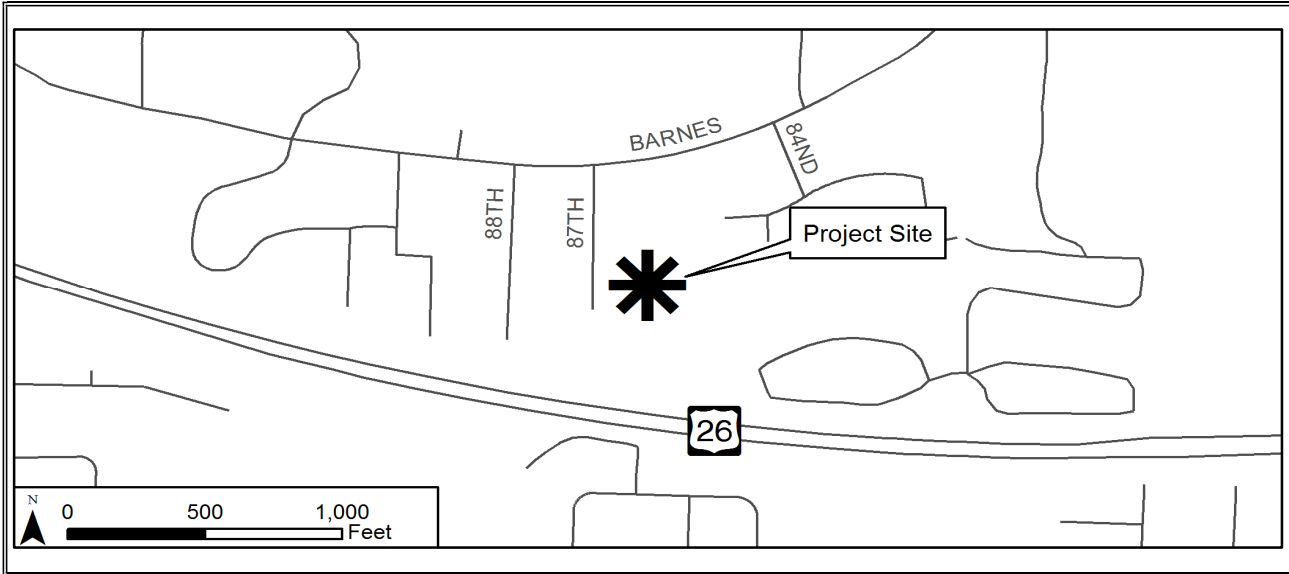
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	32,100	-	-	297,000	1,845,000	2,174,100	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: BP-6 Rosander Booster Pump Station



KEY DRIVERS FOR CIP PROJECT

1.	Reliability	Adds additional reliability and resiliency to the West Hills pumping system.
2.	Timing	Provides pumping capacity to meet the demands of the projected growth in the West Hills area.
3.	Asset Condition	The pump station will replace the existing Sunset Pump Station which is aging.

PROJECT DESCRIPTION

Design, and construction of new Rosander Pump Station and 1,400 ft. of 24" discharge line to connect to existing 12" and 16" transmission lines near SW 84th. This project has been postponed until after 2024. It is intended to be constructed at the same time as the 2nd Rosander Reservoir.

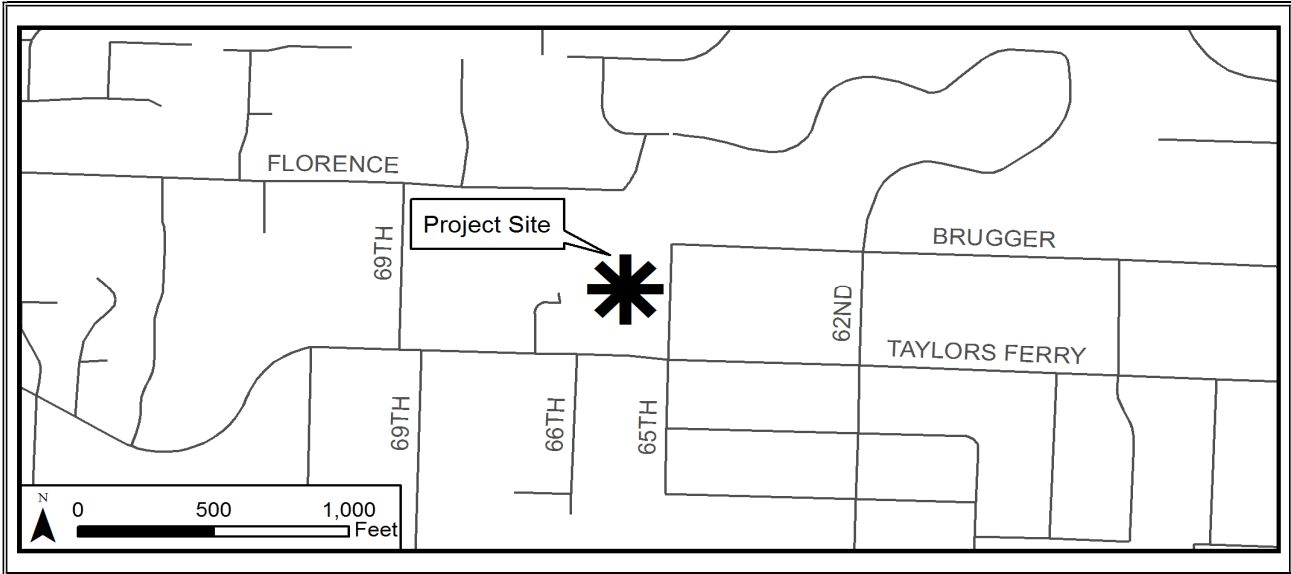
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	The new pump station will replace the Sunset Pump Station and slightly lower the District's maintenance costs in the near-term.	
Project Manager:	Andrew Barrett	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	28	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	-	1,260,000	1,260,000	1,960,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Taylors Ferry Booster Pump Station



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	These improvements need to be done prior to 2026 in order to receive water from the WWSS.
2.	Reliability	The improvements will allow for reliable, seismically resilient supply to the 643 PZ.
3.	Customer Criticality	This project serves the 643 pressure zone.

**PROJECT DESCRIPTION**

Pump station and improvements on the Taylor's Ferry site to pump from the 498 zone to the 643 zone. This will allow the entire Metzger system to be served from the WWSS in 2026.

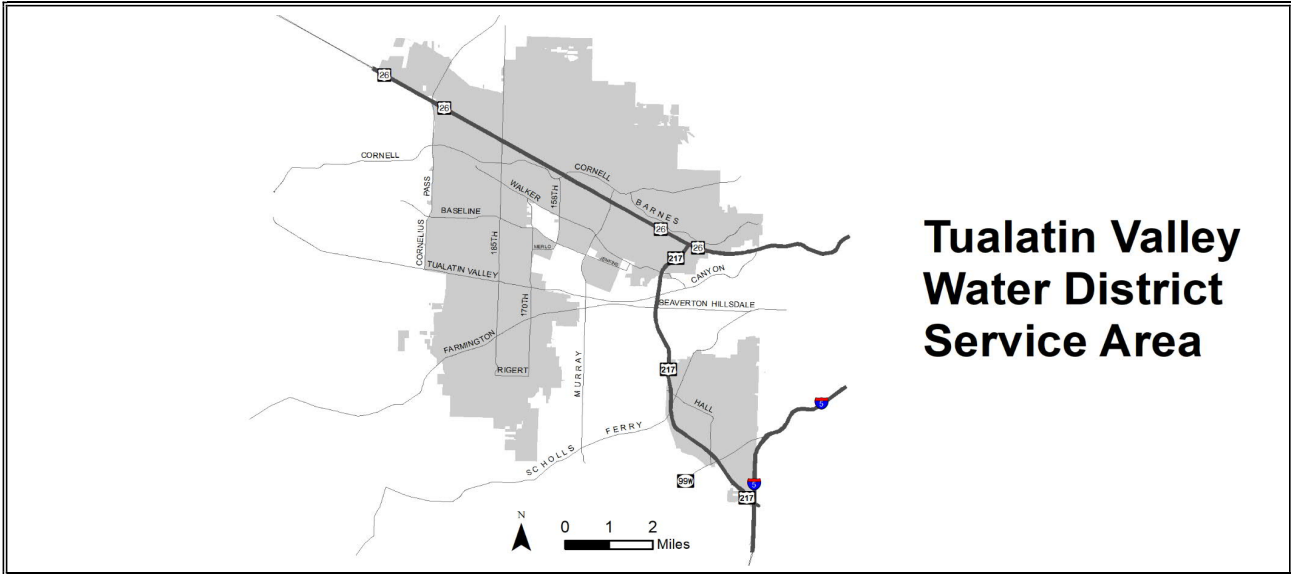
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Pump Station	Water Rates: Yes	Operating costs for pumping to the 643 pressure zone will increase, but will be offset by the District supplying the zone.
Project Manager:	Andrew Barrett	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: 0%	
Total Priority Score:	18	Partner Cost Percentage: 0%	

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
75,000	75,000	62,100	214,000	781,500	-	-	-	1,057,600	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: SCADA / PLC / Shakealert Upgrades



KEY DRIVERS FOR CIP PROJECT

1.	Reliability	The updated SCADA system, coupled with the upgrades for Shakealert will protect the District in the event of an earthquake and will maintain reliable service.
2.	Safety / Security	The safety and security of the district relies on up to date SCADA software.
3.	Asset Condition	It is important to maintain the controls system up to date with technology.

PROJECT DESCRIPTION

The SCADA Master Plan is being done to upgrade and improve the SCADA system which allows operators to control the water system. Included in this are upgrades to programming and implementation of the Shakealert earthquake early warning system.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	No anticipated impact to operating costs.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	21	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	305,500	535,500	1,110,000	-	-	-	1,951,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: 189th Pump Station Upgrades



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The existing pump station is aging and in need of upgrades.
2.	Reliability	The existing pump station is the main source of supply for all of the Cooper Mountain customers and is essential to maintain.
3.	Timing	The project cannot be done until a second source is available for the Cooper Mountain area. Any major shutdown is expected in the winter months only.

PROJECT DESCRIPTION

The 189th pump station is aging and is in need of upgrades to the pump station, including backup power upgrades. Further evaluation of the pump station will occur in the coming biennium, followed by design and construction.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pump Station	Water Rates:	Yes	No anticipated impact to operating costs.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	23	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	32,100	277,000	1,720,000	-	-	2,029,100	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Pump Replacement Program



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The District has pumps that are in need of replacement due to their deteriorating condition.
2.	Cost Effectiveness / Community Benefit	These replacements will allow the District to maintain the pump stations in proper working order.
3.	Reliability	This will allow for reliable service.

PROJECT DESCRIPTION

This program is intended to replace aging existing pumps as they approach the end of their useful life. The budget assumes replacing 2 pumps per year and an average asset life of 30 years.

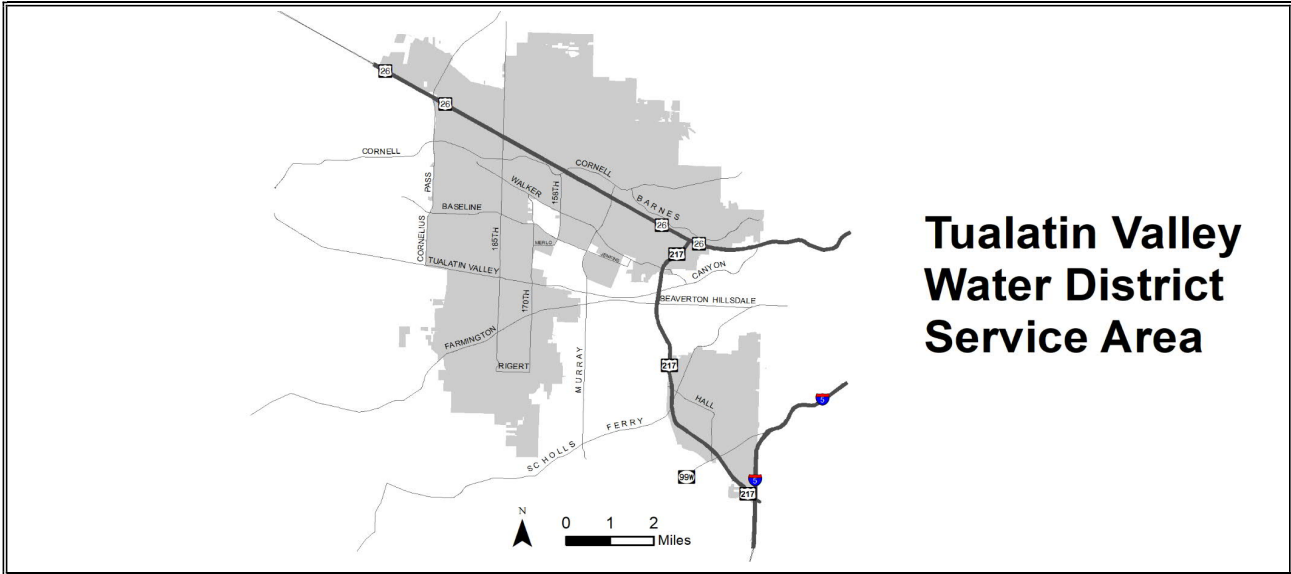
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Pump Station	Water Rates: Yes	Potential for a slight decrease in operating costs due to newer, more efficient pumps.
Project Manager:	Ryan Smith	Service Fees: No	
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.: 0%	
Total Priority Score:	21	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
252,500	50,000	133,000	137,500	142,500	147,500	152,500	158,000	871,000	5,633,500

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Mains Replacement Program - Unidentified Projects



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Replacement of aging infrastructure to provide new resilient pipelines capable of providing long-term, reliable service.
2.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.
3.	Safety / Security	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

PROJECT DESCRIPTION

This work includes projects that are completed as part of the District's Mains Replacement Program. This program is a focused effort to identify, prioritize, design, and replace pipelines based on asset management priorities and recommendations to replace existing failing infrastructure. These projects are water main replacements that are required due to corrosion, or other identified aging condition of the existing water mains. Improvements will result in improved reliability and water quality as well as reduced liability associated with premature pipe failures and leaks.

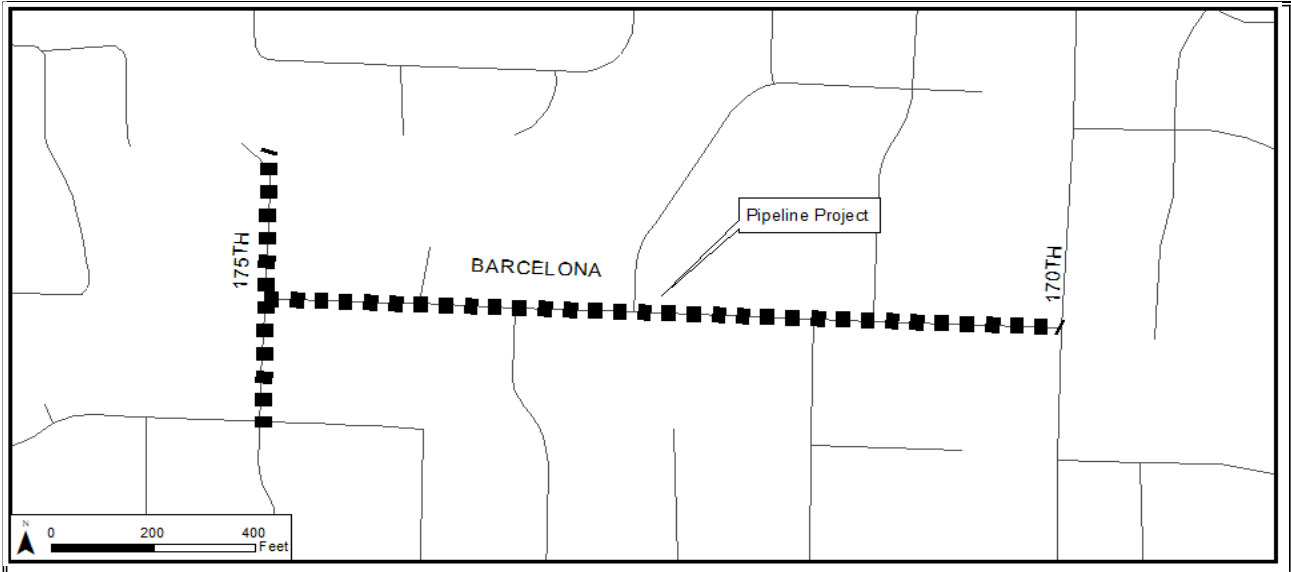
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	There may be a slight reduction in operating costs due to reduced main breaks. Updated standards require a higher level of cathodic protection than previous standards. Site specific corrosion conditions are also evaluated with the intent of extending the life of the new pipeline.	
Project Manager:	Various	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
3,765,000	2,000,000	1,760,000	1,820,000	1,885,000	1,950,000	2,020,000	2,090,000	11,525,000	368,670,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE: SW Barcelona Way Main Replacement**



**KEY DRIVERS FOR CIP PROJECT**

1.	Asset Condition	Replacement of aging infrastructure to provide new resilient pipelines capable of providing long-term, reliable service.
2.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.
3.	Safety / Security	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

**PROJECT DESCRIPTION**

This pipe was identified for replacement as part of the mains replacement program. The pipe was installed in 1977 as Cast Iron pipe with leaks noting rotten pipe, and shear breaks.

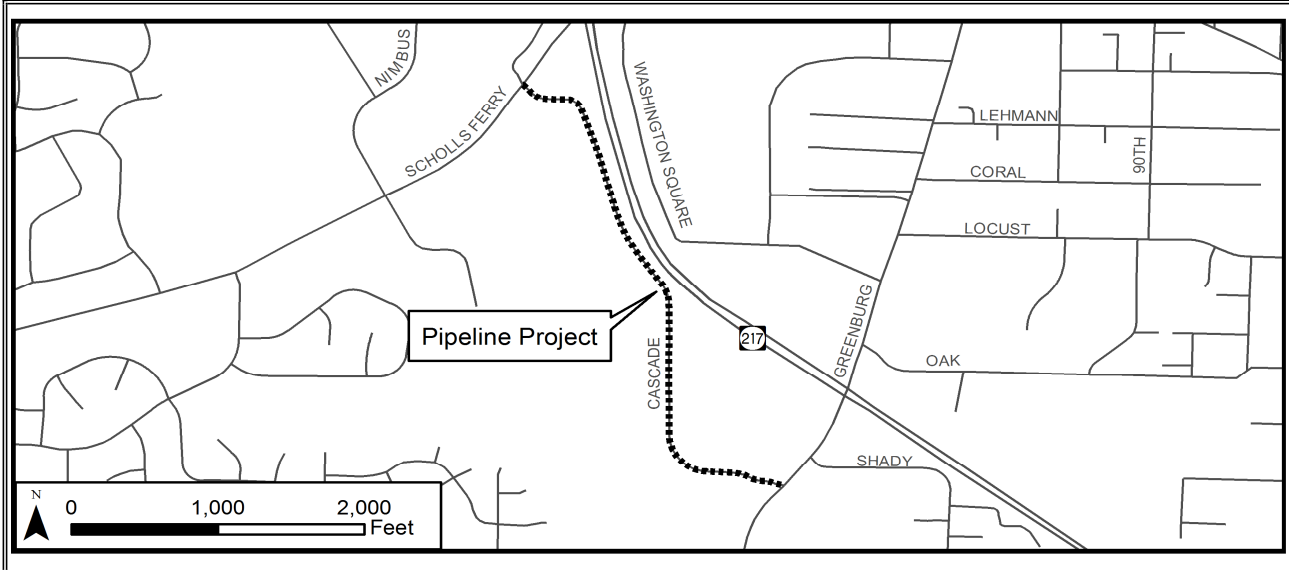
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Potential for a slight decrease in operating costs due to fewer leak repairs.	
Project Manager:	Mohammad Ahmad	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	18	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	822,500	-	822,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: SW Cascade Ave / Greenburg / Moore Furniture



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Replacement of aging infrastructure to provide new resilient pipelines capable of providing long-term, reliable service.
2.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.
3.	Safety / Security	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

PROJECT DESCRIPTION

This project consists of approximately 4,000 feet of 12-inch pipe. It is ranked high on the priority list due to corrosion leaks observed, and the impact it has in a high traffic, commercial area.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Potential for a slight decrease in operating costs due to fewer leak repairs.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	24	Partner Cost Percentage:	0%		

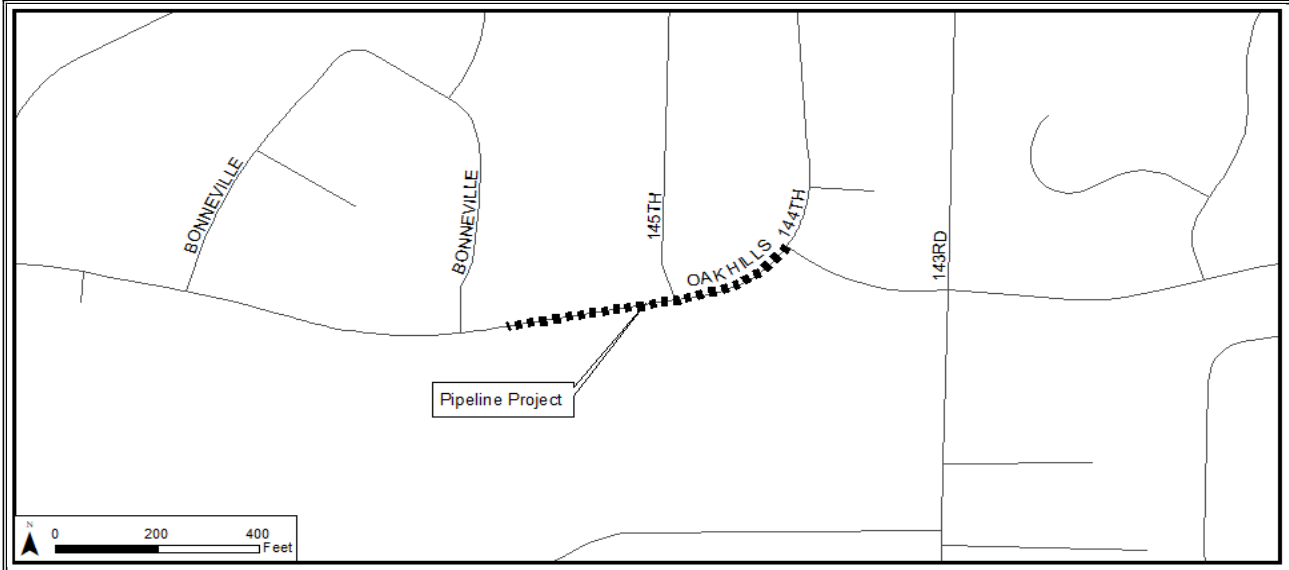
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	2,480,000	-	-	2,480,000	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: NW Oak Hills Dr - Bonneville Lp to 145th



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Replacement of aging infrastructure to provide new resilient pipelines capable of providing long-term, reliable service.
2.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.
3.	Safety / Security	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

PROJECT DESCRIPTION

This main replacement project was identified as part of the Oak Hills neighborhood which has seen a number of large corrosion related main breaks in recent years. In 2020 a large portion of the adjacent main was replaced. This portion will complete the replacement along Oak Hills Dr to 145th.

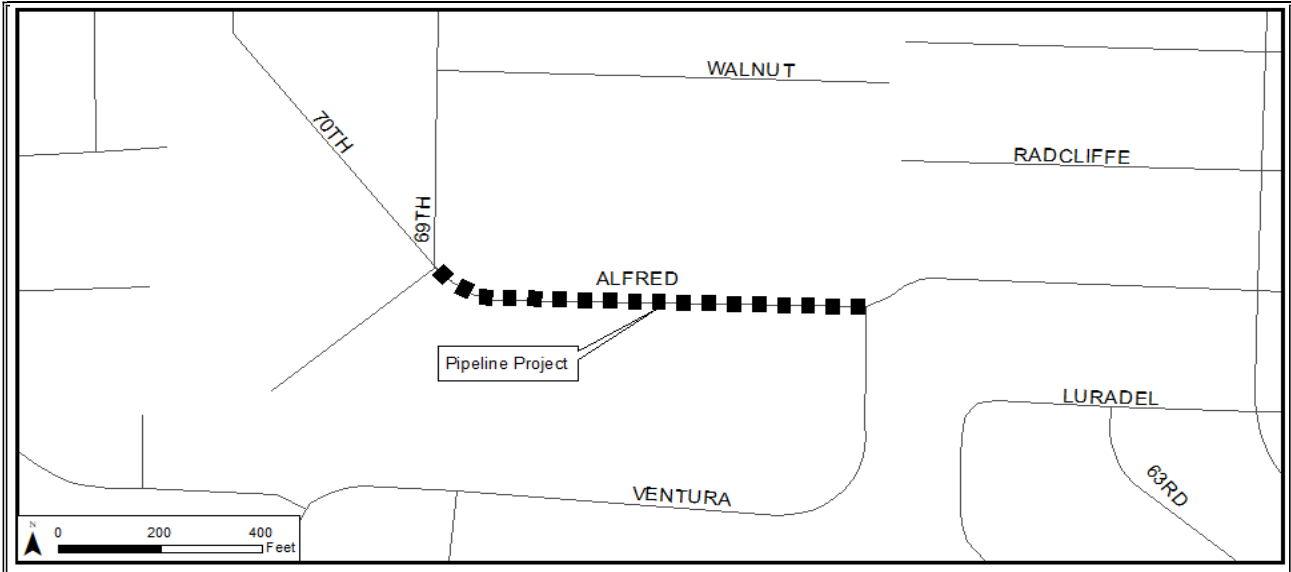
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Potential for a slight decrease in operating costs due to fewer leak repairs.	
Project Manager:	Mohammad Ahmad	Service Fees:	No		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	329,000	-	-	-	-	329,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Alfred St Main Replacement and Upgrade



**KEY DRIVERS FOR CIP PROJECT**

1.	Asset Condition	Replacement of aging infrastructure to provide new resilient pipelines capable of providing long-term, reliable service.
2.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.
3.	Safety / Security	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

**PROJECT DESCRIPTION**

This main replacement project was identified as part of the fireflow upgrades being done in the Metzger service area. The original intent was to complete this project as part of the Metzger N-S improvements, however, the alignment for that project was evaluated and was moved to the west, making this project less desirable to construct as part of that project. The area along Alfred St currently has lower than desired fireflow. This main replacement is planned to increase the line size to meet current fireflow standards.

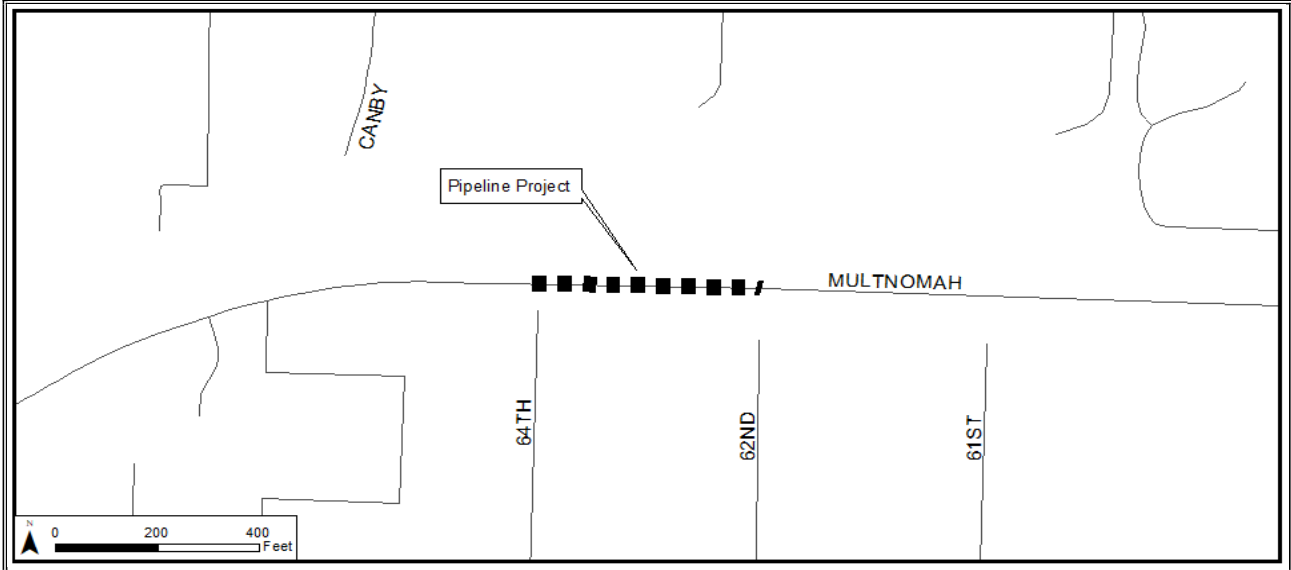
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Operating costs will be slightly reduced due to new piping and less potential for leak repairs.	
Project Manager:	Sarah Alton	Service Fees:	No		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	430,500	-	-	-	-	-	430,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Multnomah Blvd 12-inch Connection



**KEY DRIVERS FOR CIP PROJECT**

1.	Water Quality	The Garden Home Reservoir struggles to maintain chlorine residual in the reservoir and is difficult to have water turnover. This project will force fresh water into the reservoir, allowing the District to maintain high water quality in the northern end of the Metzger system.
2.	Customer Criticality	There are a large number of customers served from the reservoir and would be impacted by improved water quality.
3.	Reliability	This project will increase the reliability of the new WWSS entering the Metzger system.

**PROJECT DESCRIPTION**

This project is being done in order to move water from the WWSS directly to Garden Home Reservoir to be able to cycle the reservoir with fresh water. The reservoir currently requires a connection to Portland to push water into the reservoir to force turnover. Once the WWSS is online, the District desires to maintain this type of arrangement with WWSS water, and this project will allow for that connection. The project includes pipeline and may require an additional control valve and vault.

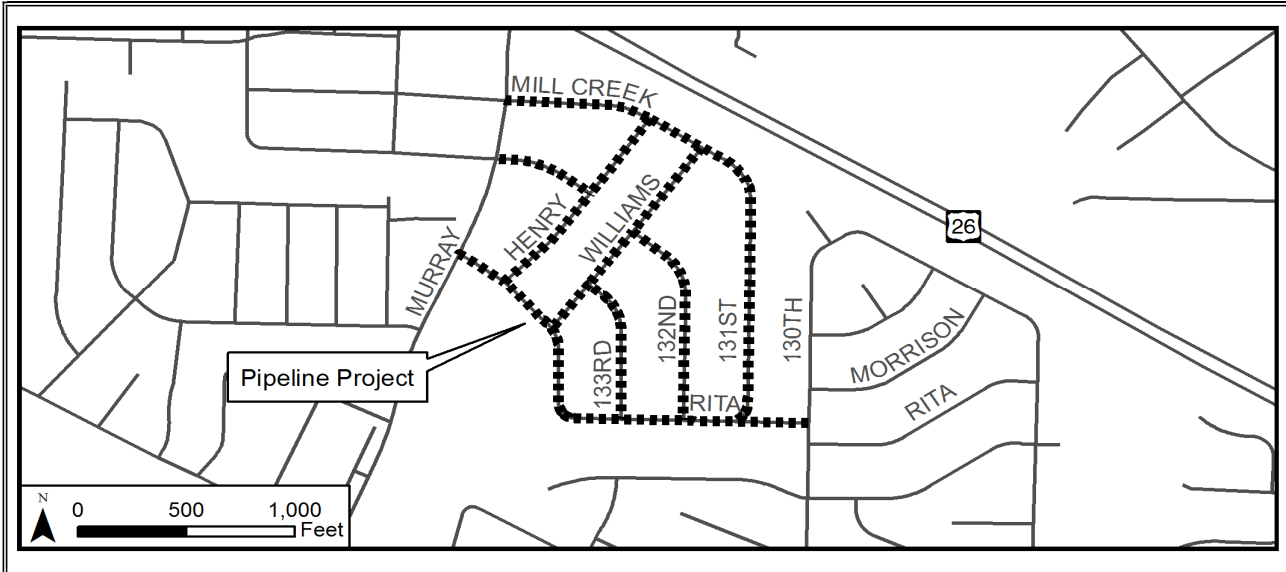
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Adding piping to the system will slightly increase the operating costs of the system.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	658,500	-	-	-	658,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Williams - Rita - Mains replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Pipelines in the area have had multiple leaks. Though the majority have been shear breaks, the main is also old, and requires some additional capacity due to fire flow.
2.	Reliability	Lead-joints are not a good restraint for seismic events. They need to be replaced with pipelines which account for the seismic vulnerabilities.
3.	Water Quality	Areas with lead joints have been identified as potential replacement projects. Further research is being done to determine if the lead joints have potential to be a water quality concern.

PROJECT DESCRIPTION

The existing pipe is aging, has lead-joints, and has had several breaks. The existing pipe was installed in 1949. This project consists of a total of approximately 9,200 LF of 8-inch main being upgraded from 6-inch pipe in accordance with updated District standards.

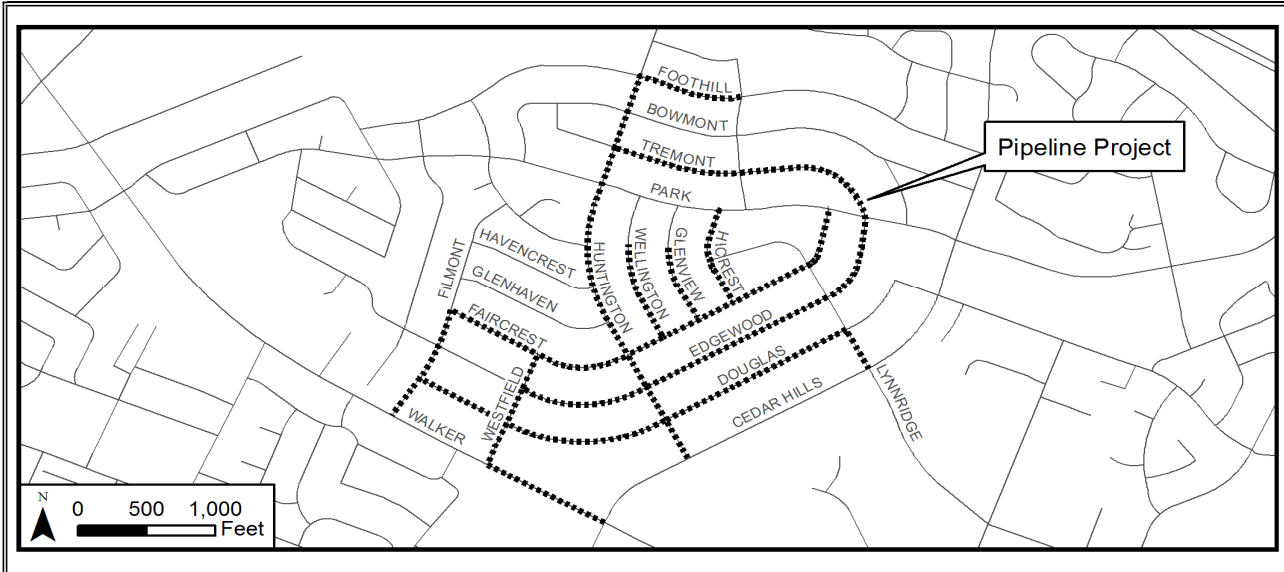
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. Perhaps a slight decrease in operating expenses due to reduced main breaks.	
Project Manager:	Nick Augustus	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	22	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	3,800,000	-	-	3,800,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Tremont & Huntington - Mains replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Pipelines in the area have had multiple leaks. Though the majority have been shear breaks, the main is also old, and requires some additional capacity due to fire flow.
2.	Project Urgency	Lead-joints are not a good restraint for seismic events. They need to be replaced with pipelines which account for the seismic vulnerabilities.
3.	Water Quality	Areas with lead joints have been identified as potential replacement projects. Further research is being done to determine if the lead joints have potential to be a water quality concern.

PROJECT DESCRIPTION

The existing pipe is aging, has lead-joints, and has had several breaks. The existing pipe was installed between 1946 and 1950. This project consists of a total of approximately 3,120 LF of 4-inch main, 38,625 LF of 8-inch main to replace existing 6-inch and 8-inch pipe, and 3,430 LF of 12-inch main to replace existing 10-inch and 12-inch pipe in accordance with District standards.

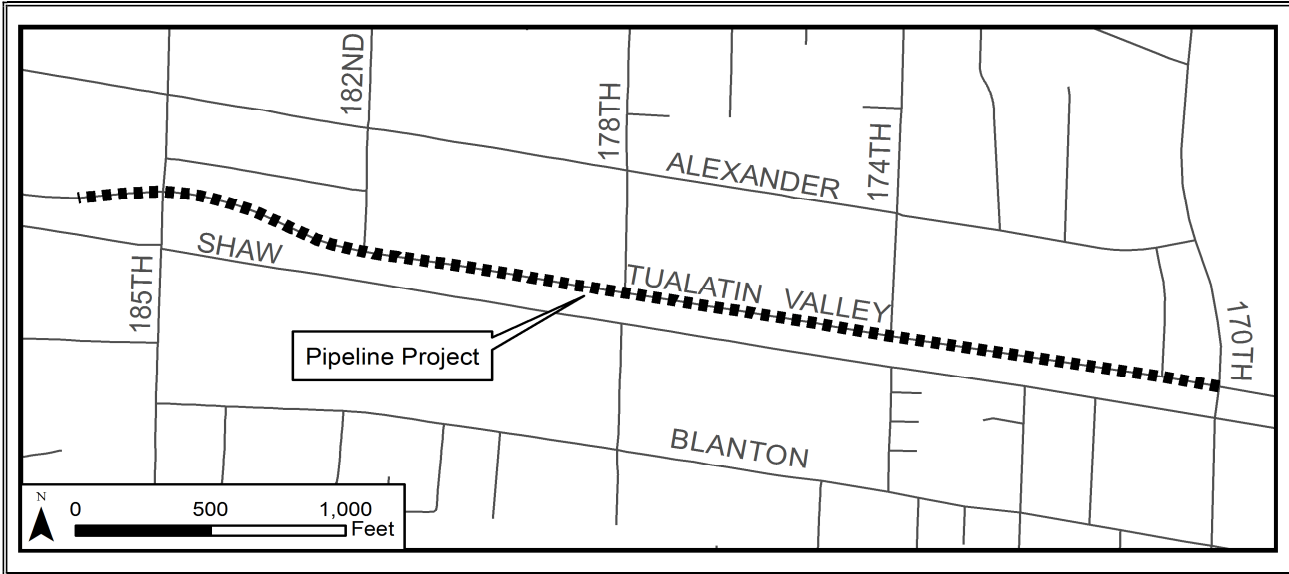
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. Perhaps a slight decrease in operating expenses due to an anticipated reduction in main breaks.	
Project Manager:	Nick Augustus	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	22	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	1,665,000	1,720,000	2,375,000	4,915,000	10,675,000	7,065,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: SW Tualatin Valley Hwy - 185th to Elliott Pl



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The pipeline was observed to be in poor condition and in need of replacement.
2.	Reliability	The replacement piping will add resiliency to the District system in that area.
3.	Customer Criticality	The pipeline serves a signification number of customers including several commercial customers.

PROJECT DESCRIPTION

This project ranks high in the mains replacement program due to the condition observed at various locations during service installations. It is also in a high traffic corridor with a high consequence of failure.

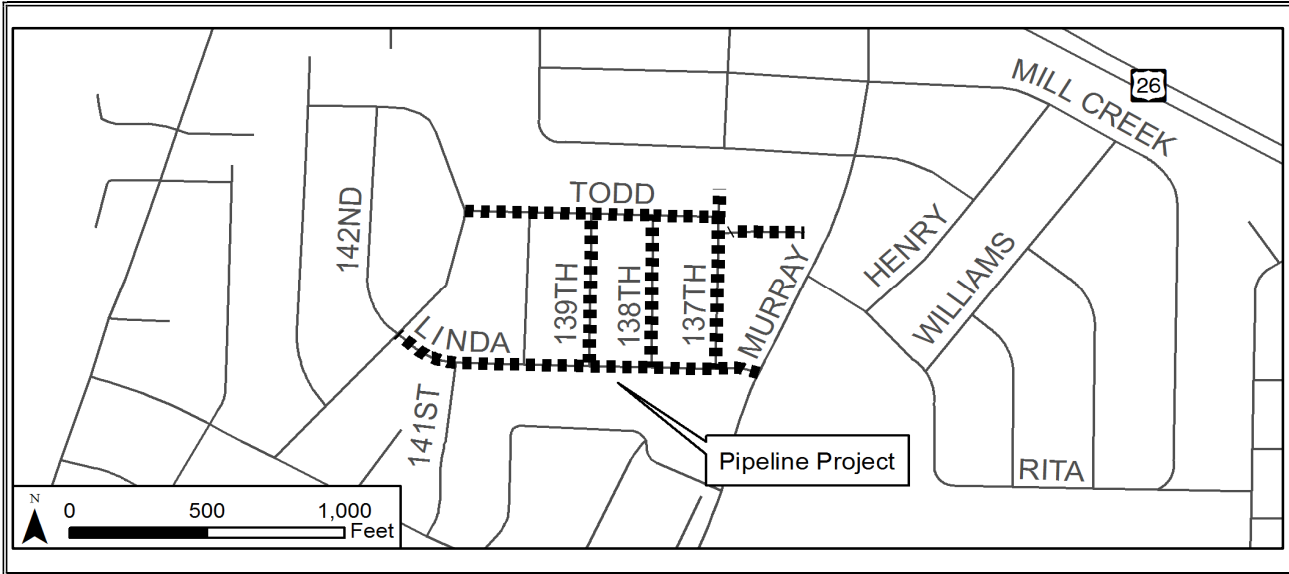
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. Perhaps a slight decrease in operating expenses due to an anticipated reduction in main breaks.	
Project Manager:	TBD	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	24	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
988,500	-	-	-	-	-	-	1,215,000	1,215,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Todd St & Linda Ln - Mainline Replacement & Upgrade



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Pipelines in the area have had multiple leaks. Though the majority have been shear breaks, the main is also old, and requires some additional capacity due to fire flow.
2.	Reliability	Lead-joints are not a good restraint for seismic events. They need to be replaced with pipelines which account for the seismic vulnerabilities.
3.	Water Quality	Areas with lead joints have been identified as potential replacement projects. Further research is being done to determine if the lead joints have potential to be a water quality concern.

PROJECT DESCRIPTION

The existing pipe is lead-jointed, has had several breaks, and is deficient for fire flow. This project consists of a total of approximately 4,400 LF of 8-inch main, 1,650 of which is being upgraded from 4-inch, and the remaining 2,750 being upgraded from 6-inch.

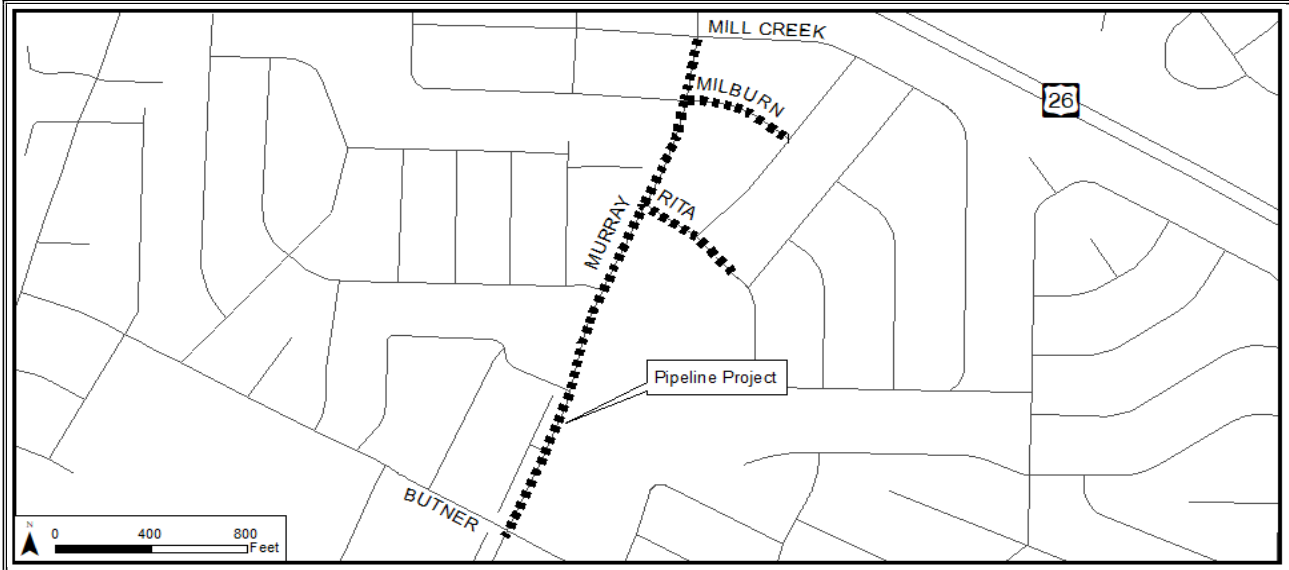
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. Perhaps a slight decrease in operating expenses due to reduced main breaks.	
Project Manager:	Nick Augustus	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	24	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
1,145,000	-	-	1,510,000	-	-	-	-	1,510,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Murray Blvd Main Replacement - Downing to Mill Creek



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Pipelines in the area have had multiple leaks. Though the majority have been shear breaks, the main is also old, and requires some additional capacity due to fire flow.
2.	Reliability	Lead-joints are not a good restraint for seismic events. They need to be replaced with pipelines which account for the seismic vulnerabilities.
3.	Water Quality	Areas with lead joints have been identified as potential replacement projects. Further research is being done to determine if the lead joints have potential to be a water quality concern.

PROJECT DESCRIPTION

The existing pipe is lead-jointed and was installed in 1949. This project consists of a total of approximately 3,500 LF of 8-inch main to be replaced.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. Perhaps a slight decrease in operating expenses due to reduced main breaks.	
Project Manager:	Nick Augustus	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	22	Partner Cost Percentage:	0%		

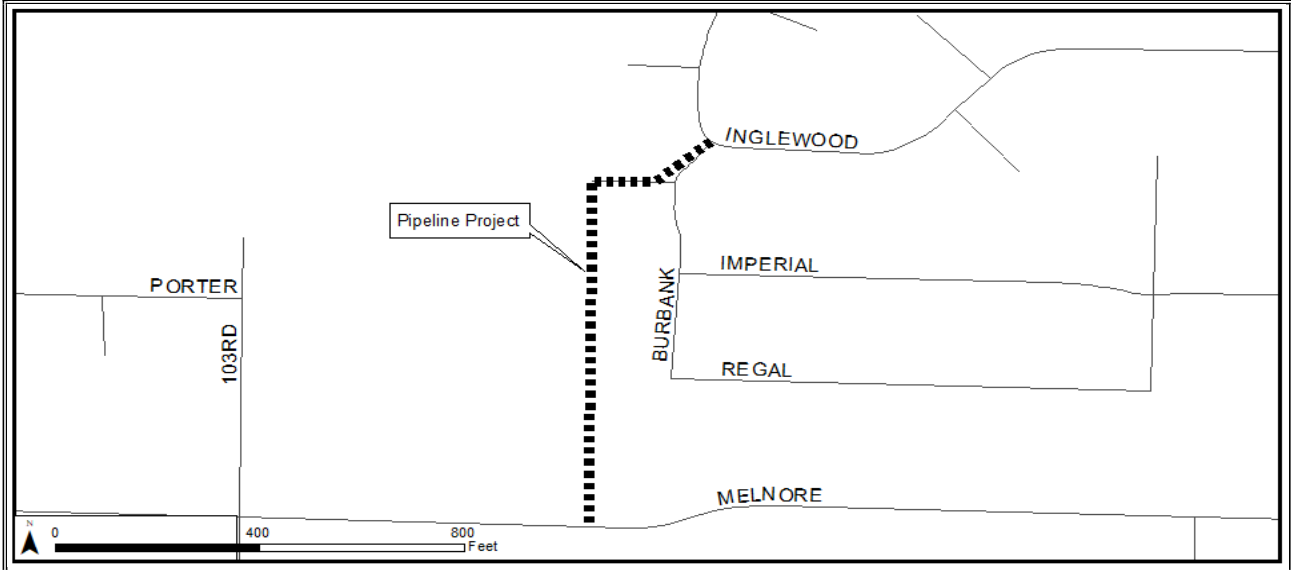
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	1,495,000	-	1,495,000	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Ridgewood View - Inglewood to Melnore Main Improvement



**KEY DRIVERS FOR CIP PROJECT**

1.	Asset Condition	Pipelines in the area have had multiple leaks, and there is risk that a single point of failure would disrupt service to roughly 400 homes.
2.	Timing	Lead-joints are not a good restraint for seismic events, which adds to the risk of a potential failure. This project should occur near term to reduce the risk for this area.
3.	Reliability	This project will greatly benefit the reliability of service to customers to include a 2nd reliable connection.

**PROJECT DESCRIPTION**

The neighborhood along Melnore and to the south is served by a single pipeline in Scenic Drive that was installed in 1960 and serves over 400 parcels. This project adds 1,150 - LF of 8-inch piping as a second feed to that neighborhood, thus adding resilience. Currently a second feed exists, however, it is off due to the fact that it is located beneath a home and would be of greater risk to operate.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. Perhaps a slight decrease in operating expenses due to reduced main breaks.	
Project Manager:	Nick Augustus	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	-	452,500	452,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Unidentified Agency-Driven Pipeline Upgrade & Renewal Projects



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	Upgrades or renewal work to the District's system that develop in response to new projects by Washington County, other public agencies, developers, or based on other needs.
2.	Asset Condition	Replacement of aging infrastructure to provide new resilient structures capability of providing long-term, reliable service.
3.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.

**PROJECT DESCRIPTION**

This is a general category that allows for various pipeline upgrades and replacements typically associated with miscellaneous Washington County, other public agency projects, development, or other needs.

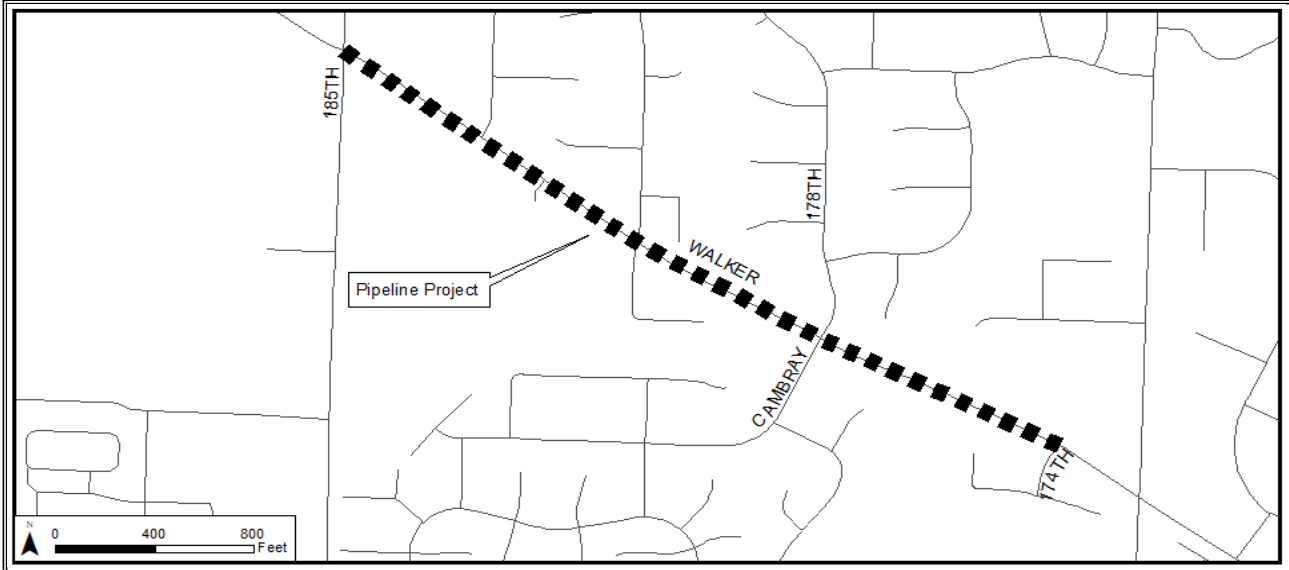
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. New installations designed for site specific corrosion conditions resulting in longer expected design life of pipeline and reduced leakage for system.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	15	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
812,300	-	155,500	535,500	1,275,000	1,320,000	1,365,000	1,415,000	6,066,000	50,425,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Walker Rd 12" Replacement - 185th to 174th



KEY DRIVERS FOR CIP PROJECT

1.	Timing	The county is performing road work requiring relocations be done by the District to avoid conflicts with the road design. Timing is dependent on the county's overall schedule.
2.	Asset Condition	Replacement of aging infrastructure will provide new resilient structures capable of providing long-term, reliable service.
3.	Reliability	Relocations will be designed to maintain reliable and seismically resilient facilities.

PROJECT DESCRIPTION

This project is driven by a Washington County project to widen and improve this stretch of roadway. The county's work includes significant lowering of a portion of the roadway, and improvements to an existing culvert where the existing grade will be raised. The waterline relocation is being done as part of the overall road project in order to avoid conflicts with the adjusted roadway grade. Approximately 1,560 LF of 12-inch pipe is being replaced.

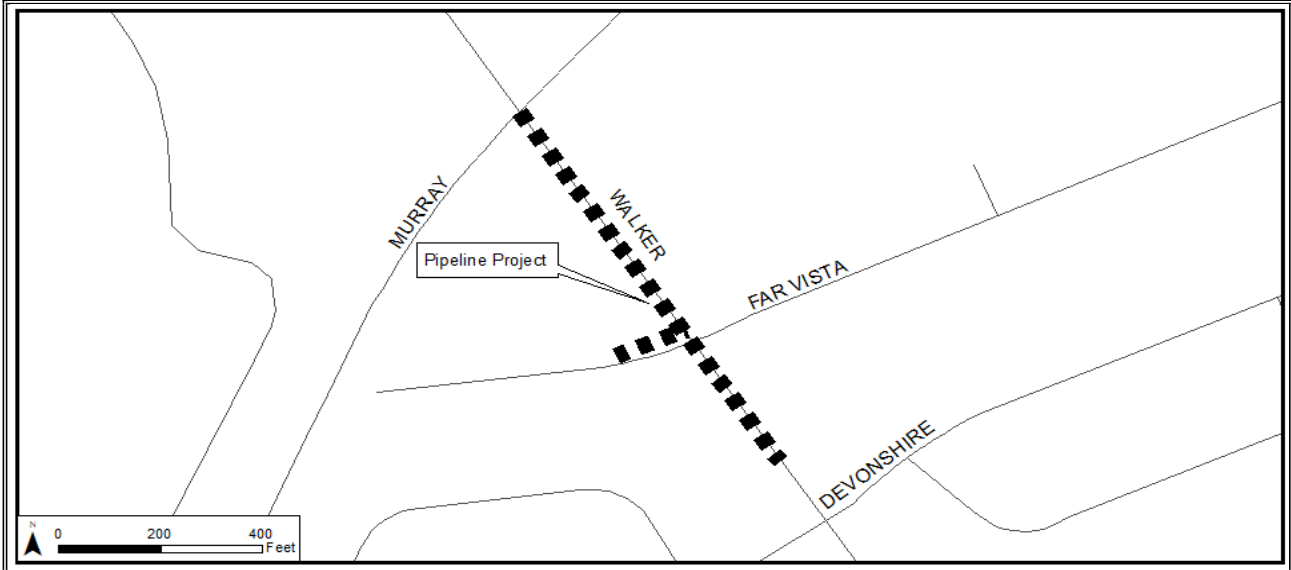
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. New installations designed for site specific corrosion conditions resulting in longer expected design life of pipeline and reduced leakage for system.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	17	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
385,500	-	673,000	-	-	-	-	-	673,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Murray & Walker 42-inch Relocation



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	The county is performing road work requiring relocations be done by the District to avoid conflicts with the road design. Timing is dependent on the county's overall schedule.
2.	Asset Condition	Replacement of aging infrastructure will provide new resilient structures capable of providing long-term, reliable service.
3.	Reliability	Relocations will be designed to maintain reliable and seismically resilient facilities.

**PROJECT DESCRIPTION**

This project is driven by a Washington County project to widen and improve SW Walker Road, east of Murray. The County is replacing a bridge and multiple culverts which requires relocation of multiple pipelines including 8-inch, 12-inch, and 48-inch pipelines. Once complete, this stretch of the District's 48-inch transmission pipeline will be fully resilient and more easily accessible for future maintenance. The length of pipe being relocated includes approximately 295-feet of 8-inch, 845-feet of 12-inch, and 1,177-feet of 42-inch piping. The installation will generally be installed via open-trench methods, but also includes 3 small trenchless sections.

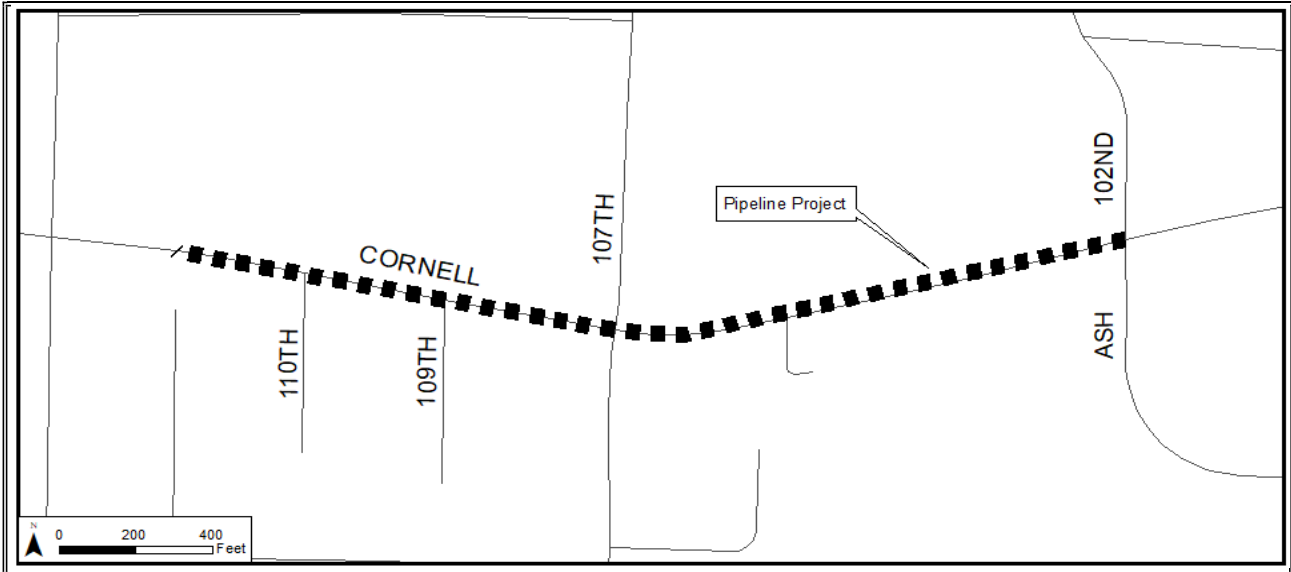
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. New installations designed for site specific corrosion conditions will result in longer expected design life of pipeline and reduced leakage for system.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	1,954,592	1,555,000	1,930,000	-	-	-	-	3,485,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Cornell 102nd to 114th Main Relocation



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	The county is performing road work requiring relocations be done by the District to avoid conflicts with the road design. Timing is dependent on the county's overall schedule.
2.	Asset Condition	Replacement of aging infrastructure will provide new resilient structures capable of providing long-term, reliable service.
3.	Reliability	Relocations will be designed to maintain reliable and seismically resilient facilities. Fireflow is also being improved.

**PROJECT DESCRIPTION**

This project is driven by a Washington County project to widen and improve SW Cornell Road between 102nd Ave and 114th Ave. The District's work includes relocation and replacement of approximately 2,320-feet of 8-inch piping along NW Cornell Road including various connections. Improvements are also being made to the fireflow to take advantage of the relocation work.

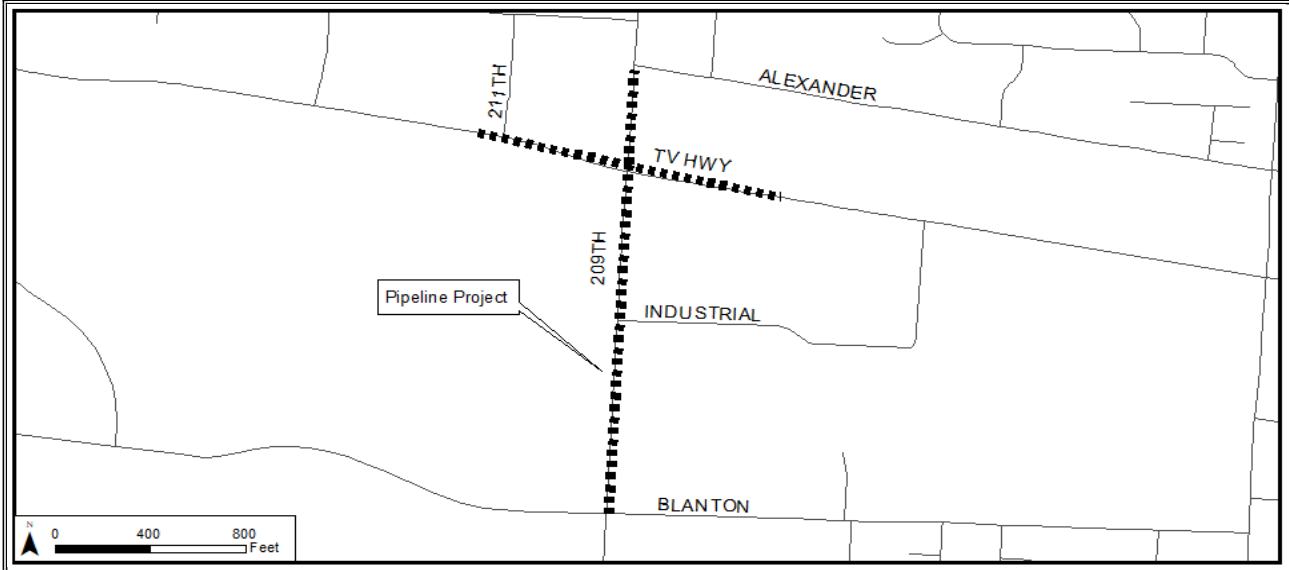
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. New installations designed for site specific corrosion conditions resulting in longer expected design life of pipeline and reduced leakage for system.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	19	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	30,000	828,000	-	-	-	-	-	828,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: TV Hwy at 209th Main Relocation



KEY DRIVERS FOR CIP PROJECT

1.	Timing	The county is performing road work requiring relocations be done by the District to avoid conflicts with the road design. Timing is dependent on the county's overall schedule.
2.	Asset Condition	Replacement of aging infrastructure will provide new resilient structures capable of providing long-term, reliable service.
3.	Reliability	Relocations will be designed to maintain reliable and seismically resilient facilities.

PROJECT DESCRIPTION

This project is driven by a Washington County project to widen and improve TV Highway and SW 209th Ave. The District's work includes relocation and replacement of an aging 10-inch main along TV Highway and relocation of 12-inch, 18-inch, and 30-inch piping along SW 209th Ave required due to the storm drain improvements. The total length of piping being replaced or relocated is approximately 3,200-feet.

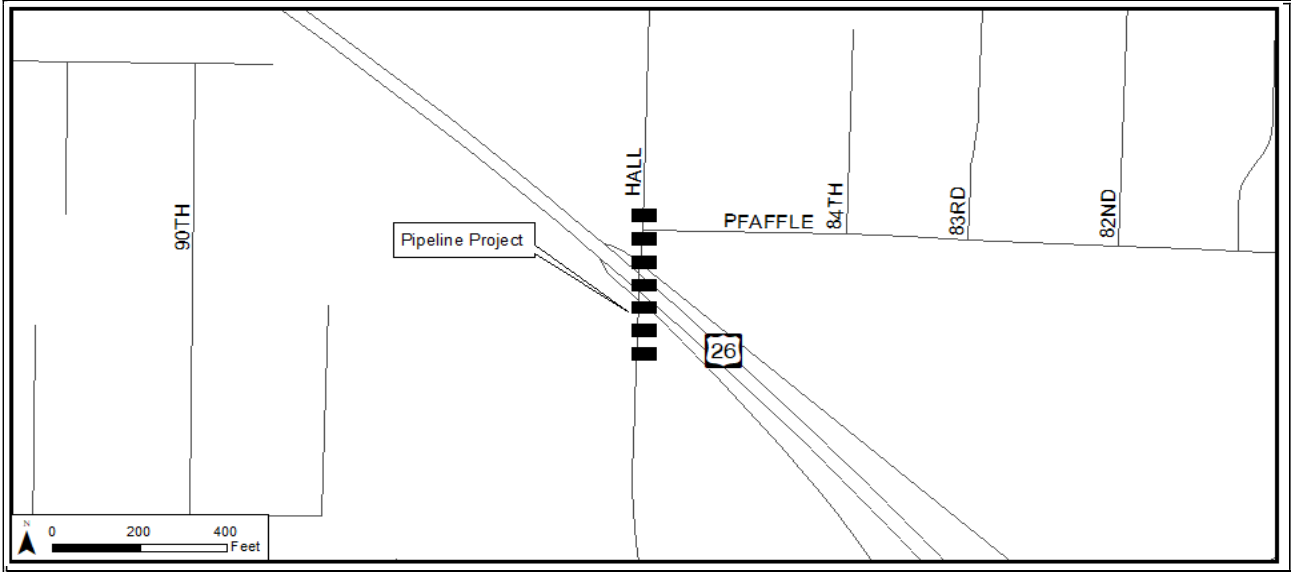
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. New installations designed for site specific corrosion conditions resulting in longer expected design life of pipeline and reduced leakage for system.	
Project Manager:	Eric George	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	19	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	621,000	455,500	-	-	-	-	1,076,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Hall Blvd over Hwy 217



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	ODOT is replacing the southern Hall Blvd bridge crossing over Hwy 217, requiring relocations be done by the District to allow the bridge to be removed and replaced. Timing is dependent on ODOT's overall schedule.
2.	Asset Condition	Replacement of aging infrastructure will provide new resilient structures capable of providing long-term, reliable service.
3.	Reliability	Relocations will be designed to maintain reliable and seismically resilient facilities.

**PROJECT DESCRIPTION**

This project is driven by ODOT which will be replacing the southern Hall Blvd bridge over Hwy 217. The District's work includes replacing the existing approximately 400-feet of 12-inch waterline across the bridge. This work will be done as part of the bridge work near the end of the upcoming Hwy 217 widening.

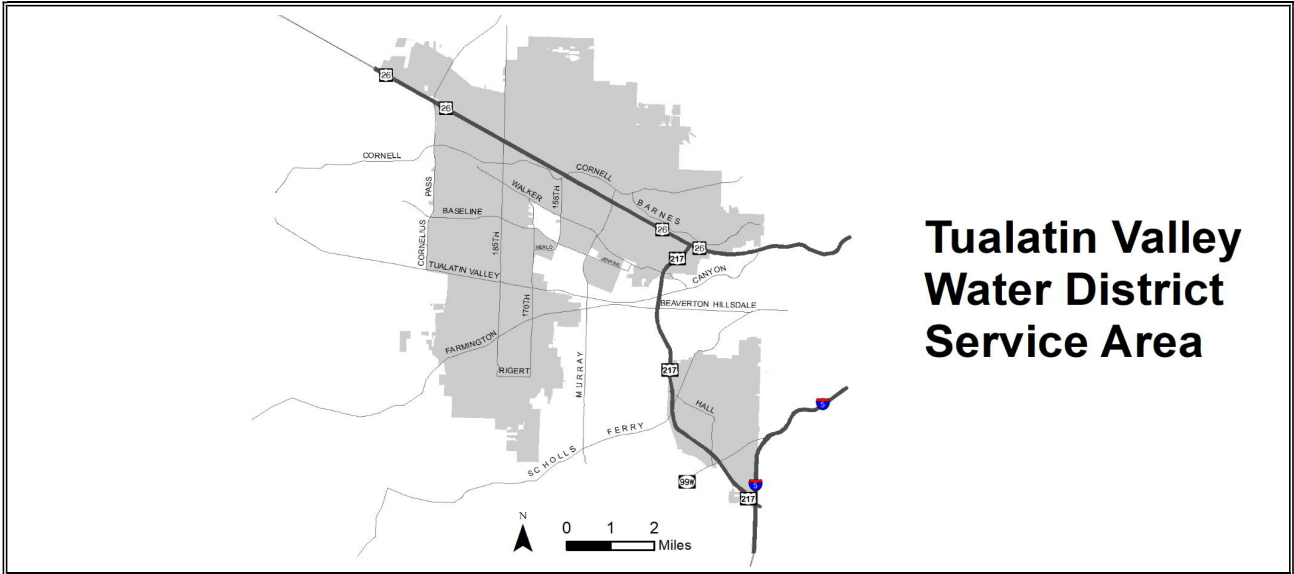
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact. New installations designed for site specific corrosion conditions resulting in longer expected design life of pipeline and reduced leakage for system.	
Project Manager:	Mohammad Ahmad	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	19	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	20,000	248,500	-	-	-	-	-	248,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Unidentified Water Quality Upgrades & Renewals



## Tualatin Valley Water District Service Area

### KEY DRIVERS FOR CIP PROJECT

1.	Water Quality	Projects are anticipated to improve chlorine residual or other water quality related measures.
2.	Customer Criticality	Projects could potentially impact a large portion of the District.
3.	Cost Effectiveness / Community Benefit	Projects are anticipated to be low-cost measures with significant added benefit to reduce the potential for water quality related events.

### PROJECT DESCRIPTION

This is a general project category to implement Water Quality Upgrades as identified by the Water Quality task force. These projects could include jumpers, auto-flushers, sample stations, or other items that will continue to improve and maintain water quality in the District.

PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates: 0	No material impact on operating costs is anticipated.
Project Manager:	Joel Cary	Service Fees: 0	
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.: 0%	
Total Priority Score:	21	Partner Cost Percentage: 0%	

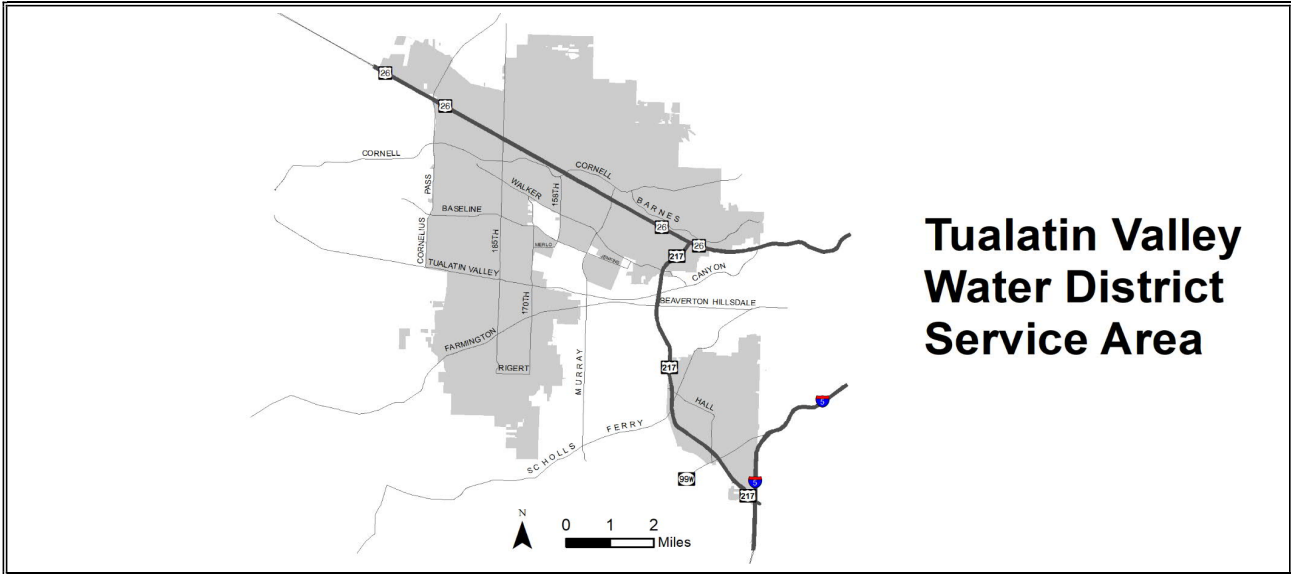
### BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	103,500	107,000	111,000	115,000	119,000	123,000	678,500	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Unidentified Development Opportunity & Reimbursement Projects



KEY DRIVERS FOR CIP PROJECT

1.	Cost Effectiveness / Community Benefit	The District has benefitted from significant cost savings by partnering with development projects to upgrade, replace, or install new pipelines that have been identified as recommended improvements in the 2018 Master Plan Update.
2.	Reliability	Having funding available to participate in opportunity projects will allow the District to construct resilient backbone pipelines and other recommended improvements such as fireflow.
3.	Asset Condition	Having funding available to participate in opportunity projects will allow the District to replace failing pipelines.

PROJECT DESCRIPTION

This is a general project category to implement the 2018 Water Master Plan Update. Specifically, the project will be used to partner with other agencies and developers to install or replace pipelines and other infrastructure as identified in the 2018 Water Master Plan Update or other planning studies to provide fire flow improvements, replace aging infrastructure, or provide resilient backbone piping. By partnering with other projects, significant cost saving can be realized.

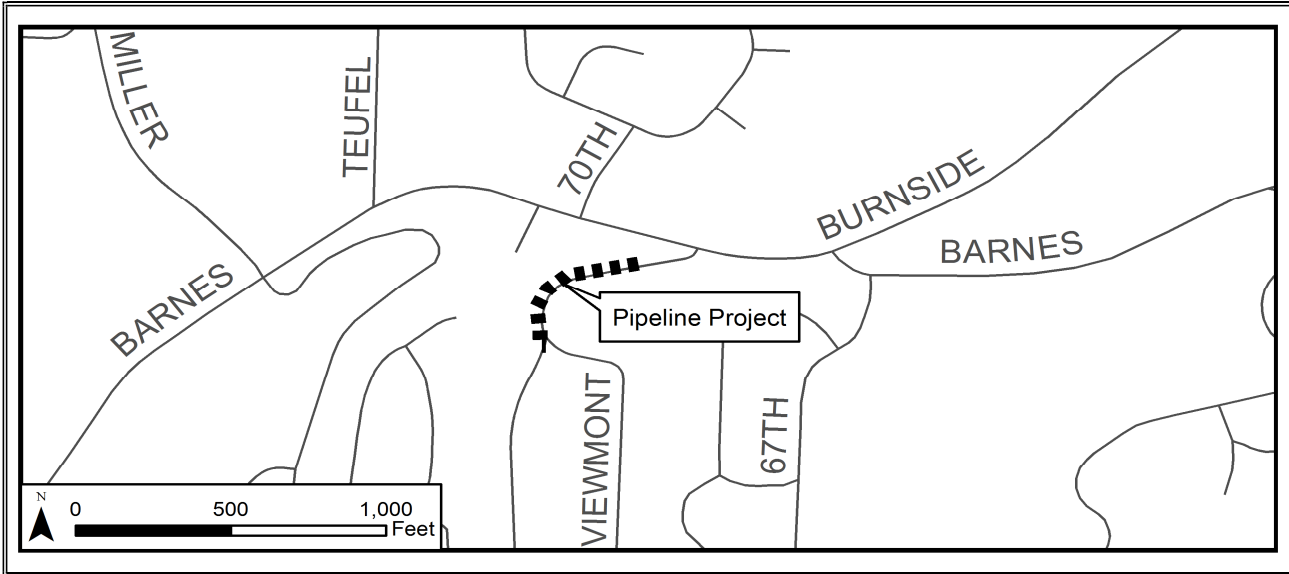
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates: Yes	No anticipated impact on District operating costs.
Project Manager:	Sarah Alton	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: Various	
Total Priority Score:	26	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
527,000	268,000	277,000	287,000	297,000	307,500	318,000	329,000	1,815,500	11,741,500

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: P-80 - Viewmont Dr south of Barnes



KEY DRIVERS FOR CIP PROJECT

1.	Safety and Security	These improvements address fire flow deficiencies that have been identified through the Master Planning process.
2.	Timing	These were prioritized during the Master Planning process and need to be completed in a timely manner.
3.	Reliability	Fire flow projects will address both current and anticipated fire flow demands.

PROJECT DESCRIPTION

This project consists of replacing existing pipe at Viewmont Dr just south of Barnes Rd for fire flow only. This includes approximately 530 LF of 6-inch upgraded to 8-inch piping.

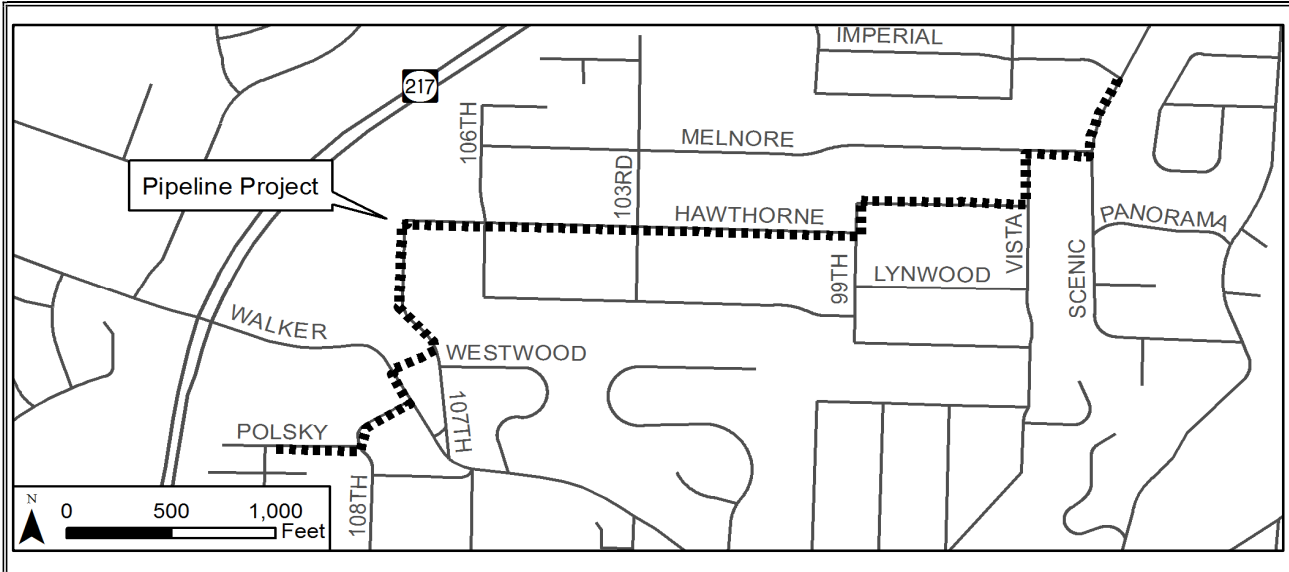
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	As improvements for deficiencies, operating cost impacts are not anticipated. For new pipes and extensions, the District estimates additional operating costs at approx. 0.06% of total capital cost (i.e., \$600 per \$1 million in new pipe segments/extensions) for exercising valves and materials for valve maintenance. Marginal costs for mapping and locating new pipes may also be expected.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	298,000	-	-	-	-	-	298,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: P-99 - Polsky Rd / Hawthorne Ln / to Scenic Dr



KEY DRIVERS FOR CIP PROJECT

1.	Safety and Security	These improvements address fire flow deficiencies that have been identified through the Master Planning process.
2.	Timing	These were prioritized during the Master Planning process and need to be completed in a timely manner. In addition, the existing piping was constructed in 1945 and is at the end of its useful life.
3.	Reliability	Fire flow projects will address both current and anticipated fire flow demands.

PROJECT DESCRIPTION

This project addresses fire flow deficiencies as identified in the master plan and consists of replacing existing pipe at Polsky Rd/110th Ave to 107th Ave, north to Hawthorne Ln, east to SW Scenic Dr for fire flow only. This includes approximately 6,100 LF of 8 and 12-inch piping.

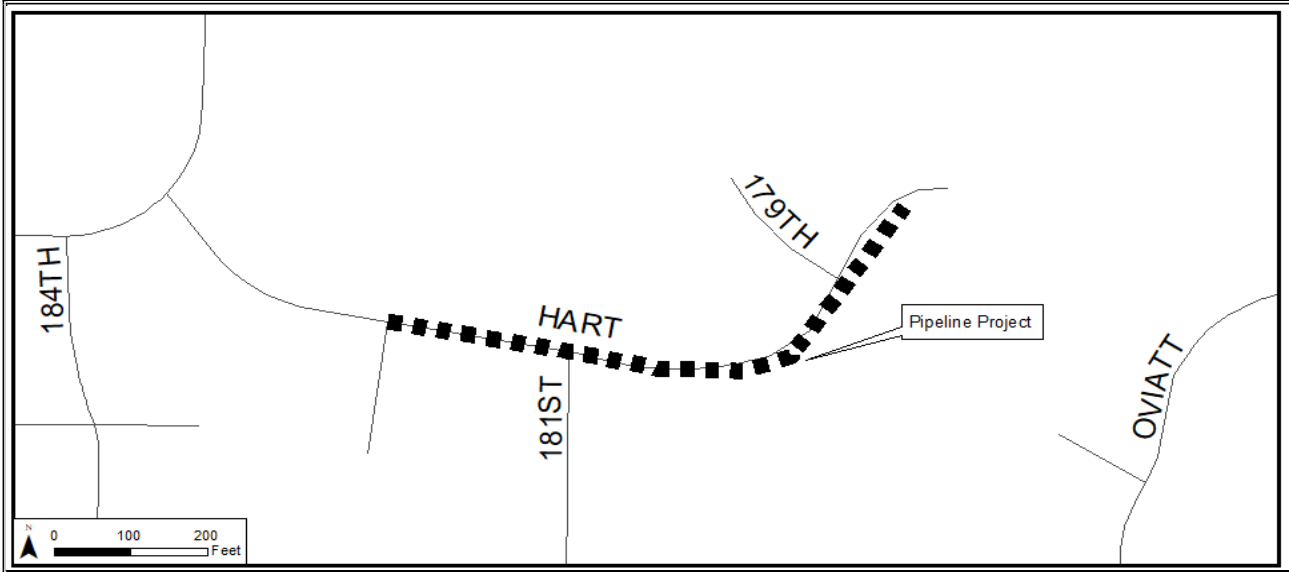
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	As improvements for deficiencies, operating cost impacts are not anticipated. For new pipes and extensions, the District estimates additional operating costs at approx. 0.06% of total capital cost (i.e., \$600 per \$1 million in new pipe segments/extensions) for exercising valves and materials for valve maintenance. Marginal costs for mapping and locating new pipes may also be expected.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	8%		
Total Priority Score:	25	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	382,000	3,105,000	3,487,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Fire Flow P-125 (Hart Dr - 182nd to 179th)



KEY DRIVERS FOR CIP PROJECT

1.	Safety and Security	These improvements address fire flow deficiencies that have been identified through the Master Planning process.
2.	Timing	These were prioritized during the Master Planning process and need to be completed in a timely manner.
3.	Reliability	Fire flow projects will address both current and anticipated fire flow demands.

PROJECT DESCRIPTION

Replace approximately 675-feet of existing pipe at Hart Dr from 182nd PI to 179th PI for fire flow only.

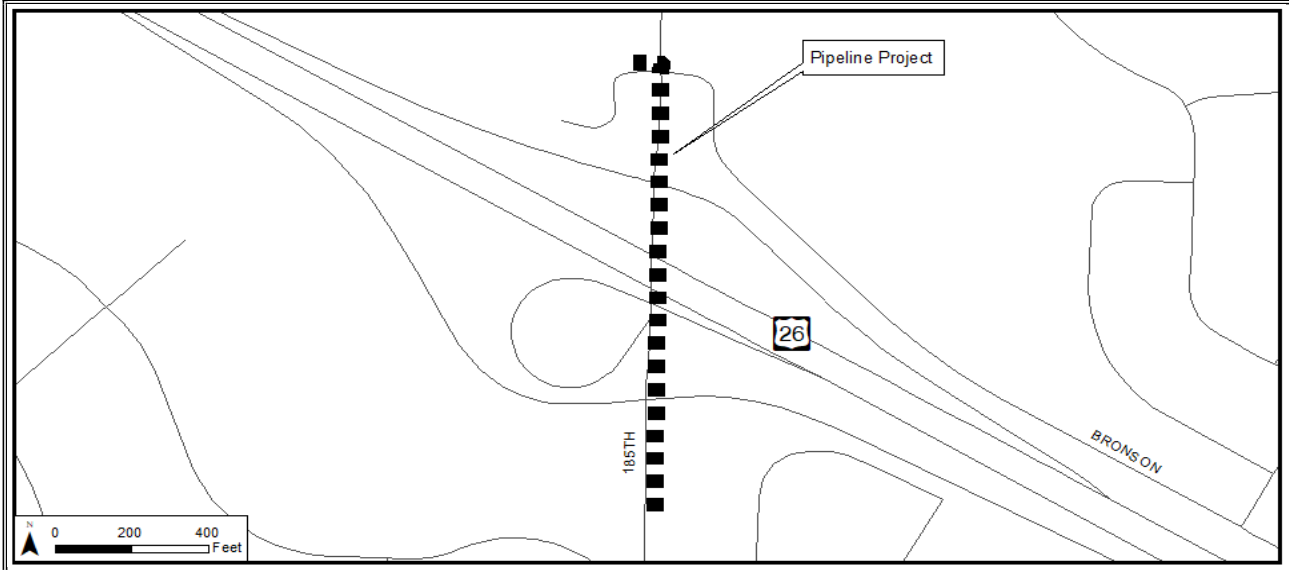
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates:	Yes	As improvements for deficiencies, operating cost impacts are not anticipated. For new pipes and extensions, the District estimates additional operating costs at approx. 0.06% of total capital cost (i.e., \$600 per \$1 million in new pipe segments/extensions) for exercising valves and materials for valve maintenance. Marginal costs for mapping and locating new pipes may also be expected.
Project Manager:	Zach Lemberg	Service Fees:	No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	9%	
Total Priority Score:	14	Partner Cost Percentage:	0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	89,100	213,500	302,600	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: P-21 185th Crossing Hwy 26



KEY DRIVERS FOR CIP PROJECT

1.	Safety and Security	These improvements address fire flow deficiencies that have been identified through the Master Planning process.
2.	Timing	These were prioritized during the Master Planning process and need to be completed in a timely manner.
3.	Reliability	Fire flow projects will address both current and anticipated fire flow demands.

PROJECT DESCRIPTION

Add approximately 1,400-feet of new pipe at 185th Ave from Tanasbourne Dr to Sunset-185th Ramp for fire flow only. This involves a crossing of Hwy 26. Additional planning will need to occur to determine the best option for the crossing.

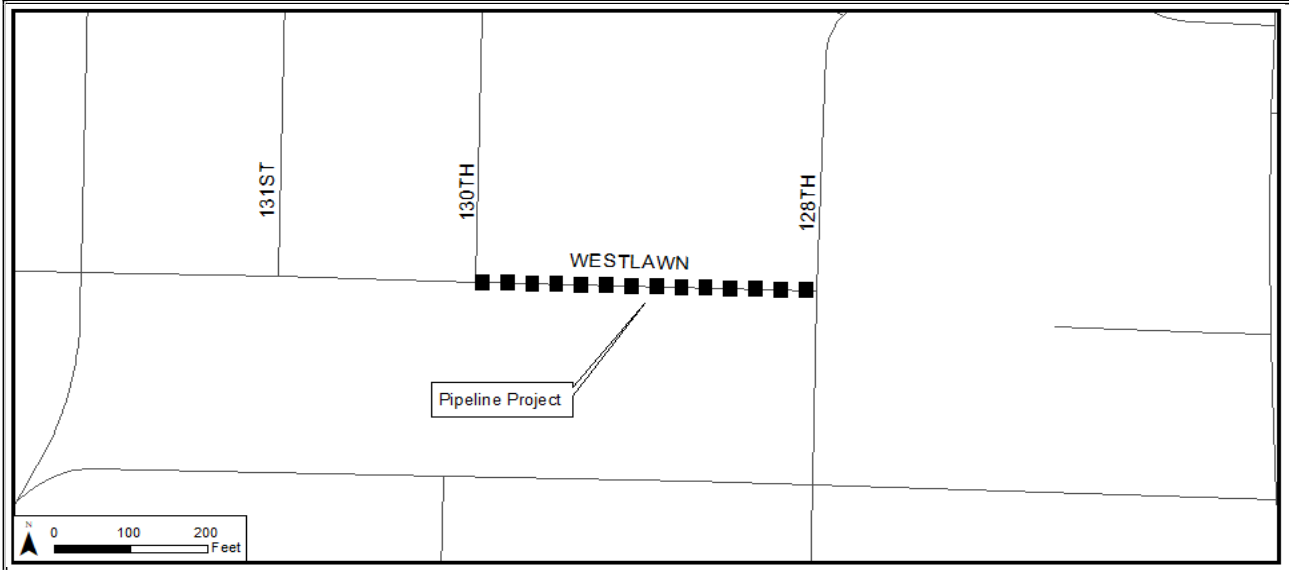
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates:	Yes	As improvements for deficiencies, operating cost impacts are not anticipated. For new pipes and extensions, the District estimates additional operating costs at approx. 0.06% of total capital cost (i.e., \$600 per \$1 million in new pipe segments/extensions) for exercising valves and materials for valve maintenance. Marginal costs for mapping and locating new pipes may also be expected.
Project Manager:	Eric George	Service Fees:	No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	47%	
Total Priority Score:	11	Partner Cost Percentage:	0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	241,500	584,500	826,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: NW Westlawn Ter. Waterline & PRV



KEY DRIVERS FOR CIP PROJECT

1.	Water Quality	Improvements were identified and recommended by the Water Quality Task Force to help increase the chlorine residual in the 513 pressure zone. This project will complete those improvements.
2.	Reliability	These improvements not only will help the chlorine residual in the 513 zone, but it will also address fire flow deficiencies that have been identified through the Master Planning process.
3.	Cost Effectiveness / Community Benefit	This project addresses multiple priorities through an innovative solution.

PROJECT DESCRIPTION

Replace approximately 450-feet of existing 2-inch and 6-inch pipe with new 8-inch pipe, and install a PRV from the 575 pressure zone to the 513 pressure zone. There have been multiple breaks on the existing piping requiring replacement of the existing pipelines. In addition, by adding a PRV, the District is better able to control the chlorine residual in the area. By adding a PRV in this area, approximately 2,000 feet of 12-inch piping was eliminated from the planned fireflow improvements identified in the Master Plan.

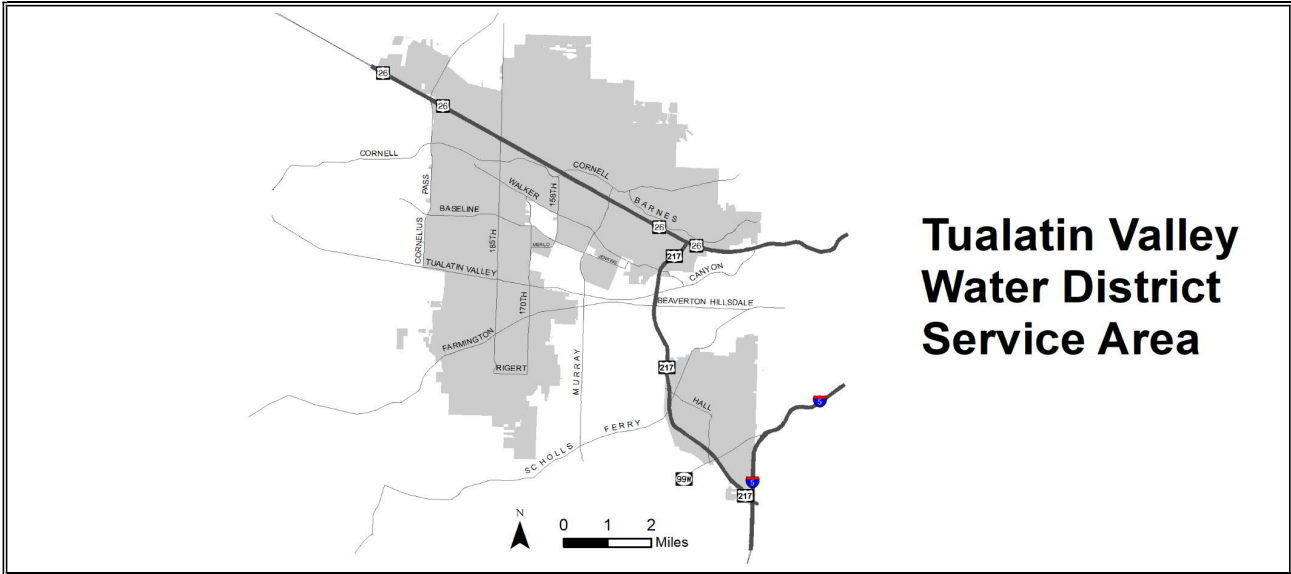
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	A slight increase in operating costs will be necessary to maintain the new PRV.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	23	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	428,500	-	-	-	-	428,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Future Fire Flow Improvements



**KEY DRIVERS FOR CIP PROJECT**

1.	Safety and Security	These improvements address fire flow deficiencies that have been identified through the Master Planning process.
2.	Timing	These were prioritized during the Master Planning process and need to be completed in a timely manner.
3.	Reliability	Fire flow projects will address both current and anticipated fire flow demands to be consistent with Master Planning reliability criteria.

**PROJECT DESCRIPTION**

The Fire Flow Improvement Program includes recommended pipe improvements that are recommended to address specific fire flow criteria deficiencies. Appendix M of the District's Master Plan (Carollo 2018) provides a detailed list for these projects. The projects in this item are planned for completion in the mid-term time frame.

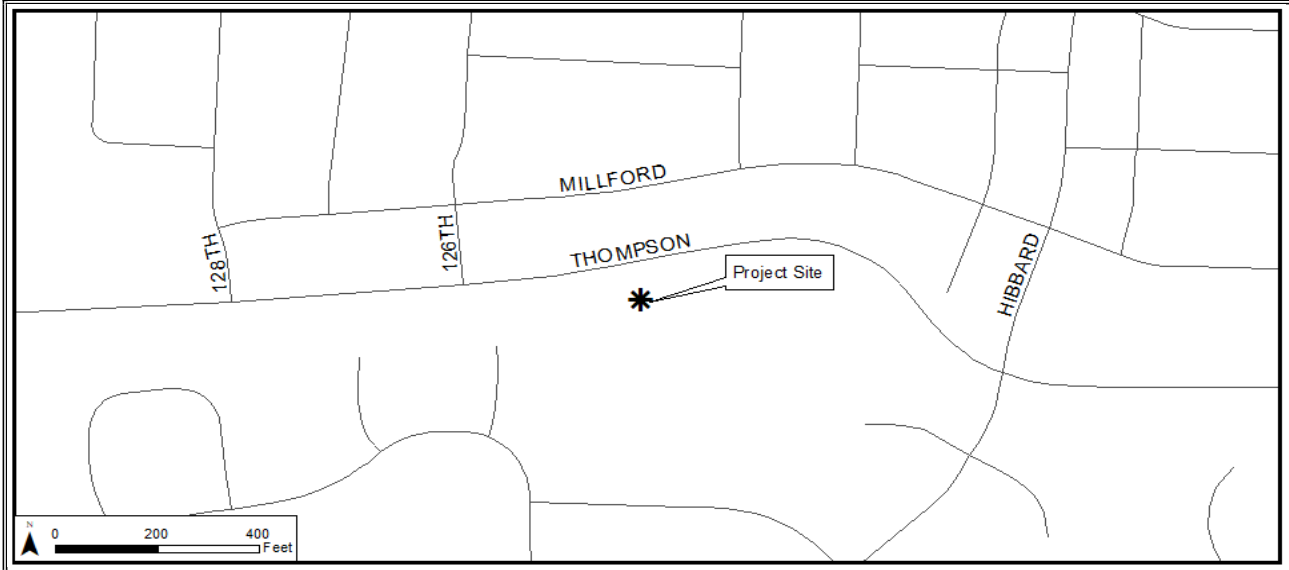
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates:	Yes	As improvements for deficiencies, operating cost impacts are not anticipated. For new pipes and extensions, the District estimates additional operating costs at approx. 0.06% of total capital cost (i.e., \$600 per \$1 million in new pipe segments/extensions) for exercising valves and materials for valve maintenance. Marginal costs for mapping and locating new pipes may also be expected.
Project Manager:	Nick Augustus	Service Fees:	No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	Various	
Total Priority Score:	10	Partner Cost Percentage:	0%	

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	-	-	-	72,151,500

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Thompson 575 connection



KEY DRIVERS FOR CIP PROJECT

1.	Reliability	This project would take advantage of controls and piping in place for provide a connection from the 820 pressure zone to the 575 pressure zone.
2.	Customer Criticality	In an emergency, this project would potentially impact a large number of customers.
3.	Cost Effectiveness / Community Benefit	This small project would add significant benefits in an emergency.

PROJECT DESCRIPTION

This project will connect the 820 pressure zone PRV to the 575 pressure zone as a backup feed in the event of an emergency.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No additional operating costs are anticipated.	
Project Manager:	Sarah Alton	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	16	Partner Cost Percentage:	0%		

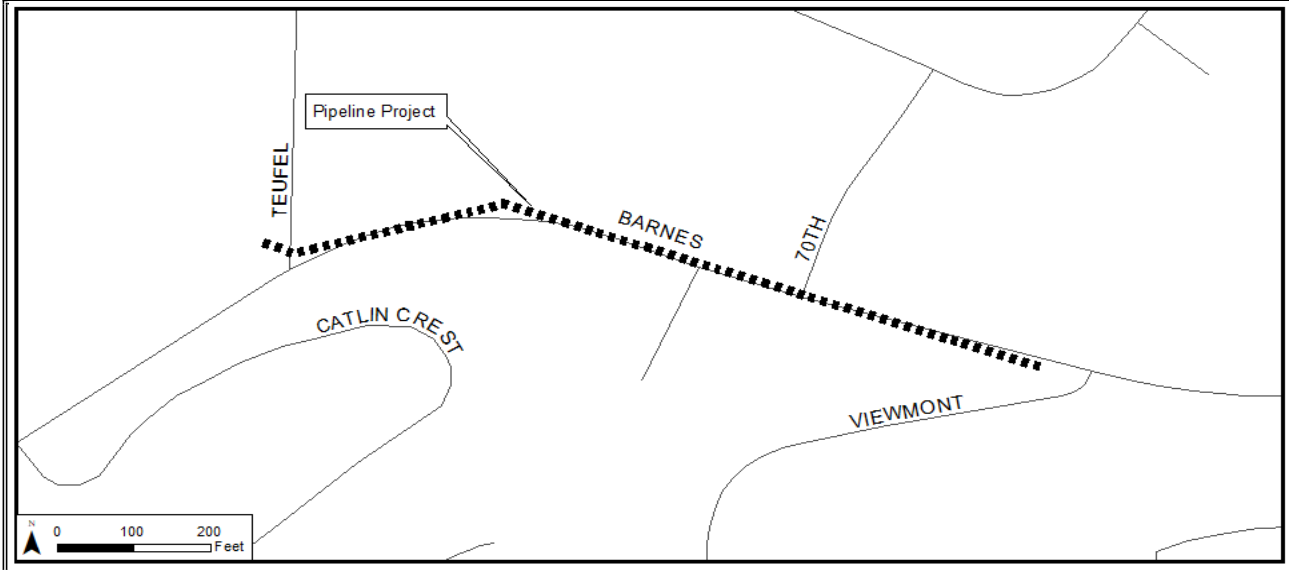
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	57,000	-	57,000	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Barnes & Viewmont Piping Improvements



KEY DRIVERS FOR CIP PROJECT

1.	Timing	The installation of this piping is necessary to connect the new Barnes Rd Pump Station to the piping on Viewmont. This will allow the District to abandon the old Viewmont Pump Station.
2.	Reliability	Fireflow improvements are needed to meet current requirements. A new resilient connection to the new pump station will provide additional reliability.
3.	Cost Effectiveness / Community Benefit	Doing this fireflow improvement at the same time as other piping improvements in the area will help reduce overall impact to customers.

PROJECT DESCRIPTION

These fireflow improvements will complete the fireflow improvements to the Viewmont neighborhood and consists of approximately 550-LF of 8-inch piping installed in 1961.

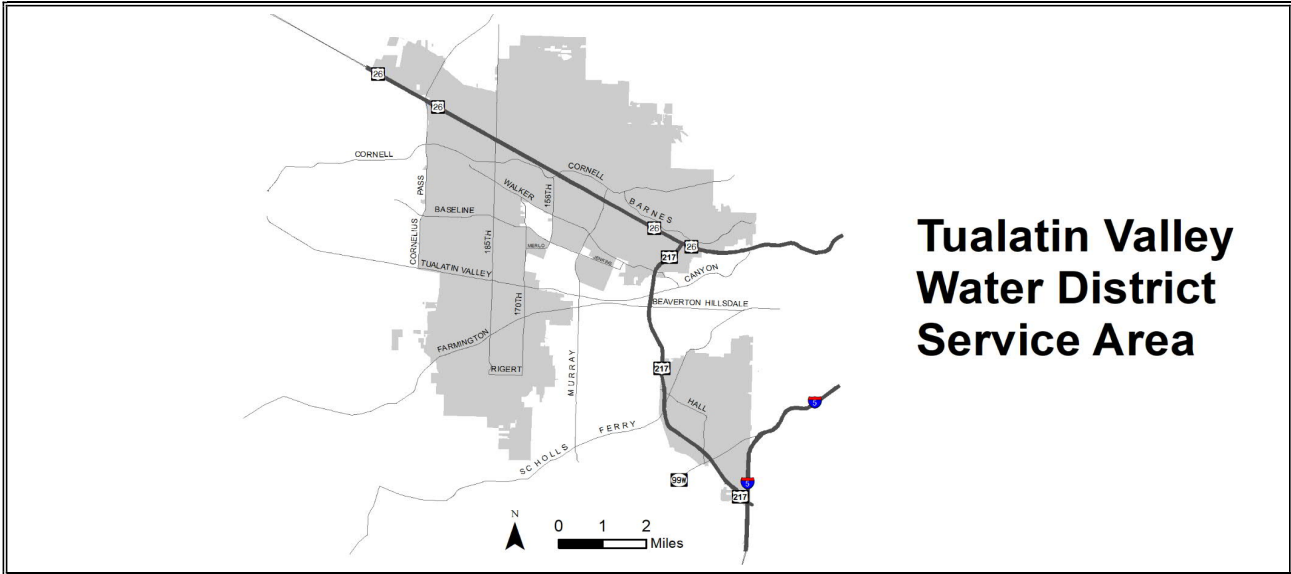
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No additional operating costs are anticipated.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	17	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	20,000	596,000	-	-	-	-	-	596,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Minor System Improvements



**KEY DRIVERS FOR CIP PROJECT**

1.	Reliability	These minor projects will increase the reliability of the system.
2.	Asset Condition	As piping and other components of the water system age, they need to be replaced. These improvements will improve the longevity of the system.
3.	Timing	As development or other assessments are done, these projects will need to be done on a short timeline.

**PROJECT DESCRIPTION**

Minor system improvements are necessary to maintain and improve the operations of the system as development and other projects occur. The projects in this line item could include installing new connections (jumpers), cutting in new valves, or other realignments of pipelines. This work has historically been done as part of General System Maintenance, however, where new infrastructure is being added, it will be tracked as a capital project.

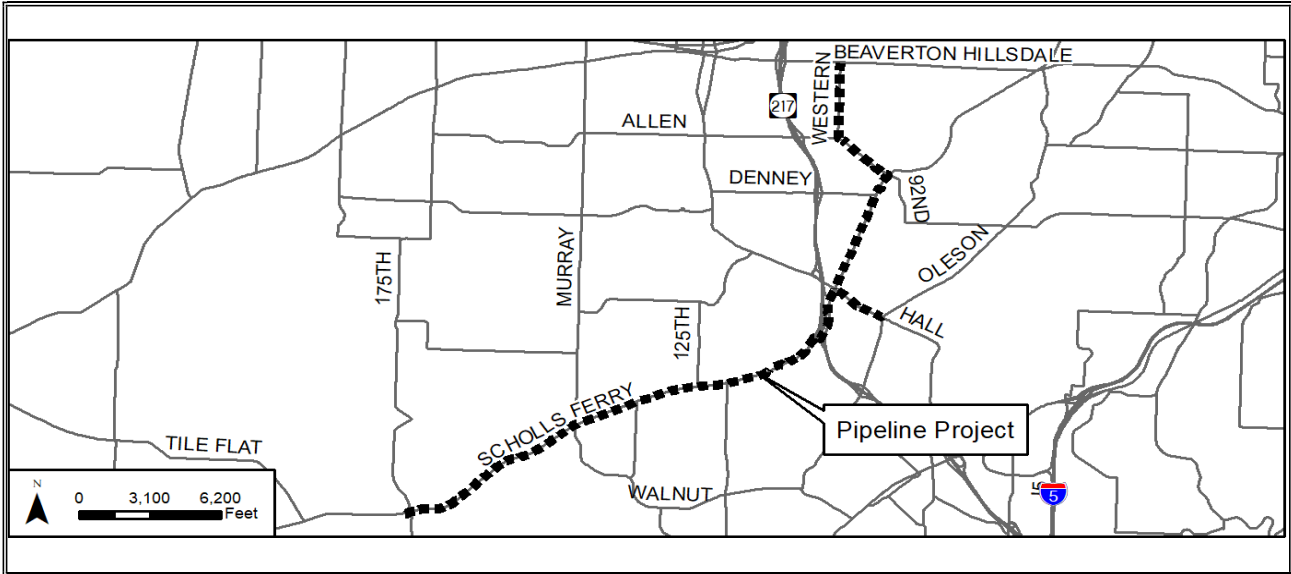
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Operational costs are negligible with this line item, though there may be some slight decrease as aging components are replaced.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	14	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
210,500	107,000	111,000	115,000	119,000	123,000	119,000	123,000	710,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Metzger Pipeline East



**KEY DRIVERS FOR CIP PROJECT**

1.	Customer Criticality	This pipeline will deliver water to the entire District, and will serve as the main source of supply for both the Metzger and Wolf Creek areas.
2.	Timing	The project must be complete prior to the WWSS coming online in 2026.
3.	Reliability	The new pipeline will be a reliable, seismically resilient source of supply.

**PROJECT DESCRIPTION**

The Metzger Pipeline East Project (MPE\_1.0) is a conveyance pipeline for finished water that consists of 36,000 linear feet (6.8 miles) of 48-inch pipe that will connect to the Washington County Supply Line at SW Beaverton-Hillsdale Highway. This project also includes 2,600 linear feet of 24-inch welded steel pipe and an above grade pressure/flow control facility on SW Hall Blvd. that will serve the existing Metzger service area. Subject to further design and regulatory approvals, MPE\_1.0 will replace PLE\_1.0. MPE\_1.0 is divided into three bid phases (MPE\_1.1, MPE\_1.2, and MPE\_1.3). MPE\_1.1 and MPE\_1.2 will be constructed with COB\_1.0 (COB\_1.1 and 1.2, respectively).

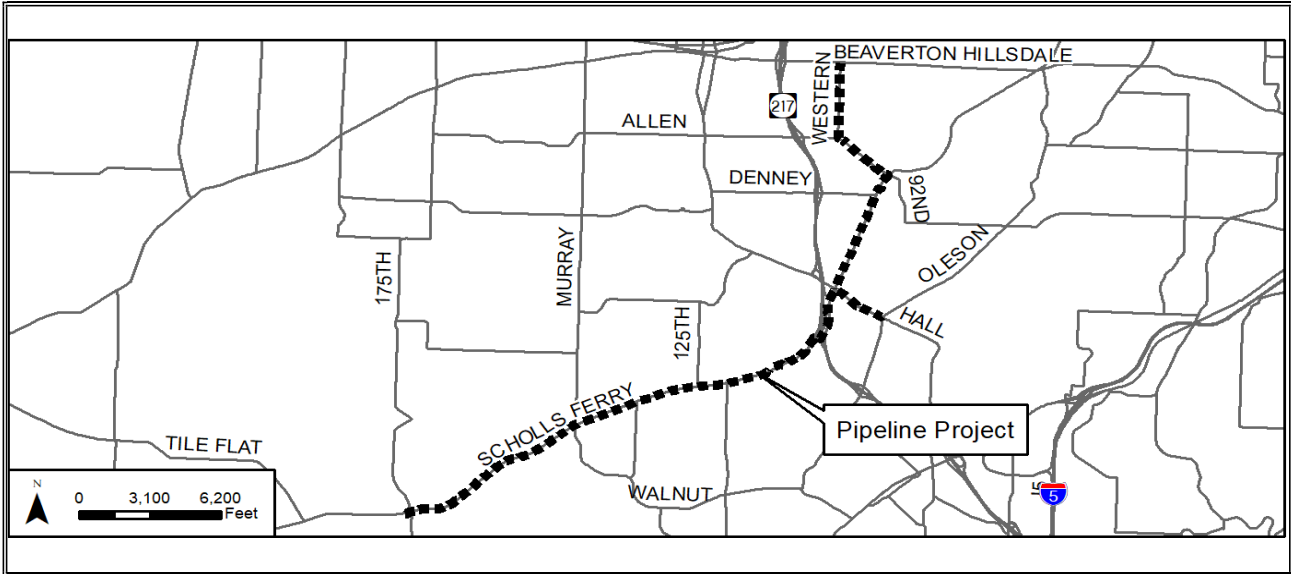
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates:	Yes	This new waterline will add costs for mapping, locating, and operating valves. Based on a WWSS operations cost forecast completed in 2018 and current appurtenance estimates, District staff estimated that the annual cost of exercising valves plus materials for valve maintenance would be approximately \$87,500 in today's dollars.
Project Manager:	WWSP	Service Fees:	No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	61%	
Total Priority Score:	21	Partner Cost Percentage:	0%	

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
10,184,004	6,428,770	32,314,037	46,444,409	22,678,208	4,257,788	-	-	105,694,443	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Metzger Pipeline East Real Estate



KEY DRIVERS FOR CIP PROJECT

1.	Customer Criticality	This pipeline will deliver water to the entire District, and will serve as the main source of supply for both the Metzger and Wolf Creek areas.
2.	Timing	The project must be complete prior to the WWSS coming online in 2026.
3.	Reliability	The new pipeline will be a reliable, seismically resilient source of supply.

PROJECT DESCRIPTION

The costs shown below represent the current projections for real estate related to Metzger Pipeline East.

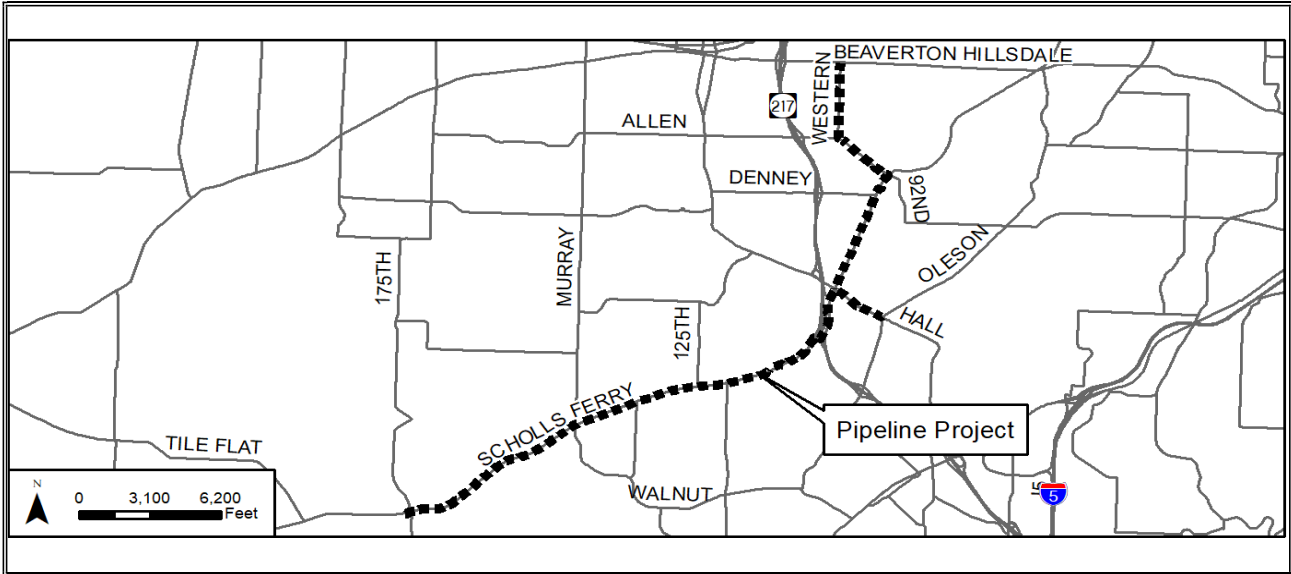
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	There is no anticipated change in operating costs associated with the land for the pipeline.	
Project Manager:	WWSP	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	61%		
Total Priority Score:	21	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
1,053,110	545,570	869,980	-	-	-	-	-	869,980	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE: Metzger Pipeline East System-wide Costs**



**KEY DRIVERS FOR CIP PROJECT**

1.	Customer Criticality	This pipeline will deliver water to the entire District, and will serve as the main source of supply for both the Metzger and Wolf Creek areas.
2.	Timing	The project must be complete prior to the WWSS coming online in 2026.
3.	Reliability	The new pipeline will be a reliable, seismically resilient source of supply.

**PROJECT DESCRIPTION**

The costs shown below represent the current projections for WWSP system-wide costs related to Metzger Pipeline East. These program-level costs support the design and construction of the Metzger Pipeline East, including costs for permitting and mitigation, legal expenses, and program management services.

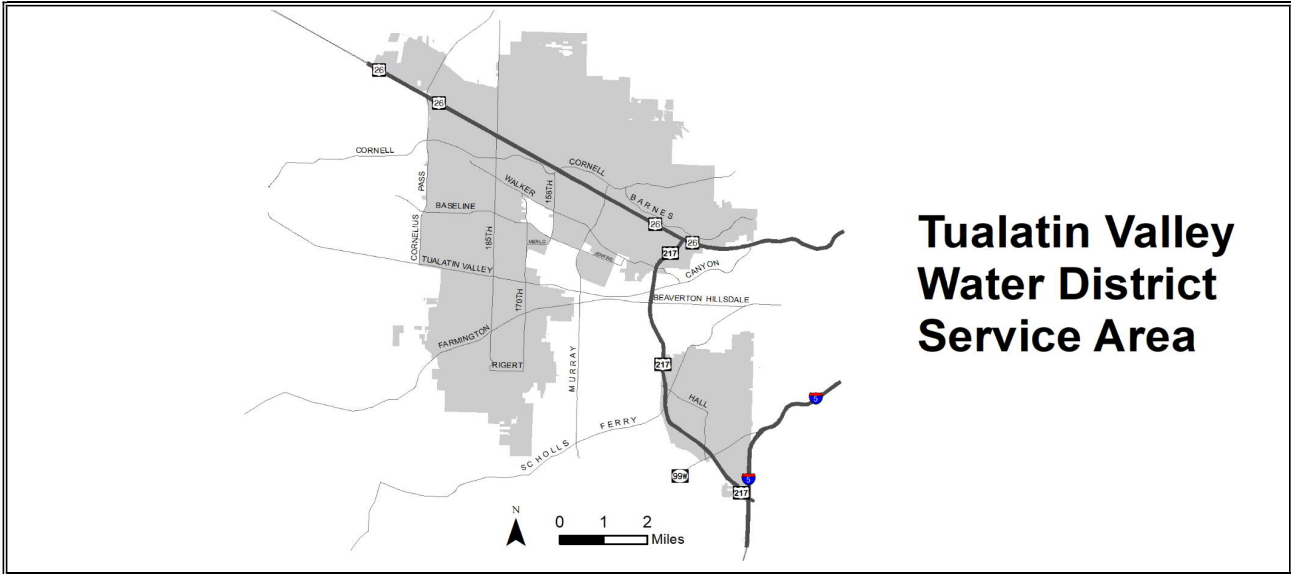
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	There is no anticipated change in operating costs associated with the system-wide costs required for the pipeline.	
Project Manager:	WWSP	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	61%		
Total Priority Score:	21	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
2,938,520	3,185,464	1,606,441	1,512,994	1,453,265	1,536,426	1,675,302	714,099	8,498,527	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

**PROJECT TITLE:** Hydrant Replacements



**Tualatin Valley  
 Water District  
 Service Area**

**KEY DRIVERS FOR CIP PROJECT**

1.	Reliability	It is imperative to have working hydrants when they are needed for fires. This project will replace those hydrants that are aging and in need of replacement.
2.	Asset Condition	Hydrants to be replaced are aging and in need of replacement to meet current District standards.
3.	Safety & Security	This project will add to the safety of customers within the District.

**PROJECT DESCRIPTION**

The District has many hydrants that are outdated and in need of upgrading to current standards. These replacements will be prioritized and completed as part of an overall hydrant replacement program.

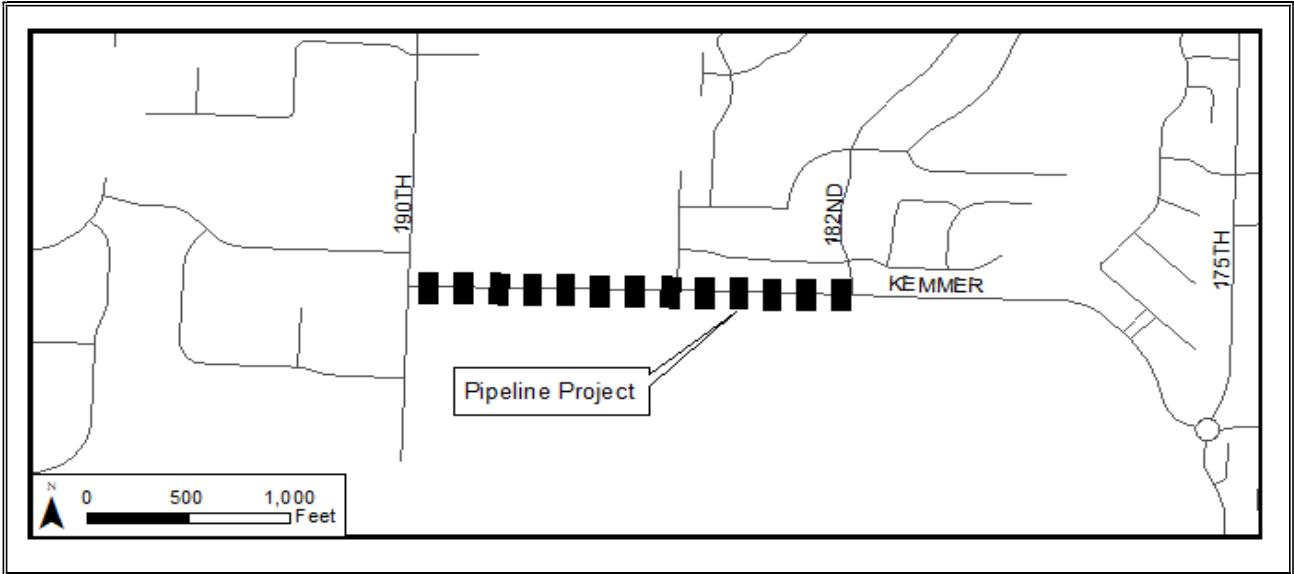
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No anticipated change in operating costs.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	28	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	155,500	160,500	166,500	172,000	178,000	184,500	1,017,000	388,500

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Kemmer Rd 24-inch Connection to Beaverton



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	This project will allow the District to maintain and replace elements in the system that are aging and in poor condition.
2.	Reliability	This will allow an additional connection to a secondary source for a reliable water supply in the Cooper Mountain area.
3.	Cost Effectiveness / Community Benefit	Project costs are anticipated to be shared with the City of Beaverton, and will allow both systems to benefit from the installation of the new piping.

PROJECT DESCRIPTION

This project is being done to provide an additional source of supply to the top of Cooper Mountain. This project is being done in collaboration with the City of Beaverton, and will allow both entities to benefit from the project in the event of an emergency. The project includes a flow meter vault, and 24-inch piping to connect Beaverton's 794 pressure zone to the District's 800 pressure zone. This project will allow the District to delay construction of an additional pump station, and will allow the District to perform needed repairs and upgrades on the Goyak and 189th facilities during low demand periods.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	Minor additional operating costs are anticipated with the new 24-inch piping.	
Project Manager:	Andrew Barrett	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	23	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	1,500,000	-	-	-	-	-	1,500,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: PRV / Vault Replacements & Upgrades: Unidentified Projects



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Several of the District's Pressure Regulating Valves and associated vaults are at the end of their useful life and have experienced failures.
2.	Safety & Security	Operator safety will be improved by replacing or upgrading vaults and improving access.
3.	Customer Criticality	These facilities provide water to significant portions of the District's service area.

PROJECT DESCRIPTION

This line item will include replacements, upgrades, and safety improvements of pressure regulating valve vaults. Included in this line item is the 175th Ave. vault, which needs the piping replaced due to corrosion and the valves resized to fit the pressure zone's needs. Other representative projects include the Siler ridge and Oak street vaults, which also need new piping due to corrosion, and a way to keep the vaults dry so the District can increase the service life of the existing valves.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	The operating costs in general will be the same since valves are being replaced rather than added to the system.	
Project Manager:	TBD	Service Fees:	No		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	22	Partner Cost Percentage:	0%		

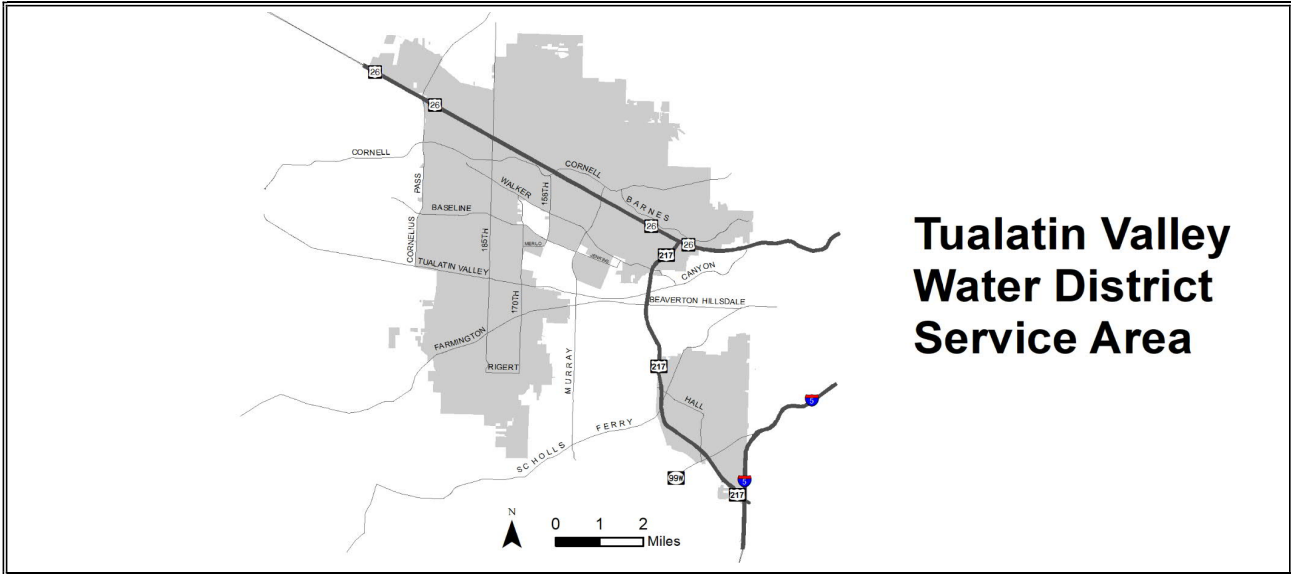
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
450,500	-	310,500	535,500	554,500	172,000	272,000	369,000	2,213,500	13,153,000



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Transmission Mains CARV Rehabilitation



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The district needs to maintain the existing CARVs and bring them up to current standards.
2.	Water Quality	These minor rehabilitation projects will address water quality concerns associated with the old CARVs.
3.	Safety and Security	There is a risk if the CARVs are not maintained, for there to be issues with the transmission pipelines along with potential water quality concerns.

PROJECT DESCRIPTION

This line item will include replacements, upgrades, and safety improvements of CARV valves and vaults. Rehabilitation and proper operation of the CARVs in the system is essential to maintaining pipelines, and avoiding damage to the pipelines.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact to operating expenses.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	24	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
210,500	107,000	110,500	114,500	118,500	123,000	127,000	131,500	725,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Walker and Meadow PRV & Vault Replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The district needs to replace and relocate the existing vault due to its existing condition.
2.	Reliability	Relocation of the existing vault will allow the District to better maintain these critical valves.
3.	Timing	Washington County is working on roadway improvements next to the vault. The vault relocation is anticipated to be complete prior to final paving.

PROJECT DESCRIPTION

The existing vault is located near Walker Road, near the right turn lane which makes traffic control difficult for entering the vault. In addition, access is very challenging, being a confined space with restricted access. A temporary ladder must be used for entering the vault and the existing valves are difficult to maintain. This project will relocate the existing vault and pressure reducing valves to a different space with proper ladders and access for maintenance.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Pipeline	Water Rates:	Yes	No material impact to operating expenses.	
Project Manager:	Zach Lemberg	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	26	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	75,000	776,500	-	-	-	-	-	776,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Goyak PRV - 800 to 550 PZ



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The existing pump stations are in need of improvements and this project will allow those facilities to be taken off-line.
2.	Reliability	This will allow for further reliability in the Cooper Mountain portion of the District's system.
3.	Timing	This project needs to be done ahead of other improvements planned for Cooper Mountain facilities.

PROJECT DESCRIPTION

This project will allow for a direct connection from the 800 pressure zone to the 550 pressure zone, allowing the District to move water back down the hill. While Goyak or 189th pump stations are offline for maintenance it will allow the District to take water from the City of Beaverton and maintain supply to customers.

PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Pipeline	Water Rates: Yes	A slight increase in operating costs are anticipated for maintaining the new valve.
		Service Fees: No	
Project Manager:	Mohammad Ahmad	SDC Improvemt. Fee Elg.:	
Work Performed By:	Outside Contract	0%	
Total Priority Score:	26	Partner Cost Percentage:	0%

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	160,500	-	-	-	-	160,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Seismic Upgrades District Headquarters



KEY DRIVERS FOR CIP PROJECT

1.	Reliability	Upgrades facility to be more likely to withstand a seismic/security event.
2.	Asset Condition	Structural improvements to make the facility capable of providing long-term, reliable service. Opportunity projects such as painting, and carpet replacement will be done at the same time to capitalize on the project.
3.	Safety/Security	Structural improvements will improve safety/life safety/security for District Staff.

PROJECT DESCRIPTION

Planning, design, permitting, and construction of seismic, security, and work process improvements of multiple interior and/or exterior areas at the TVWD Headquarters. The improvements will increase life safety, security, and resilience. FY 2022 project will focus improvements for building seismic upgrade.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	No material impact. No expansion is planned and is already part of the routine maintenance performed by the Facility staff. No long term operating cost impact.	
Project Manager:	Matt Oglesby	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	13	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	-	-	-	1,455,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Replace Garage Doors/Install Snow Gaurds (Fleet Shop)



KEY DRIVERS FOR CIP PROJECT

1.	Safety & Security	Doors lack proper safety features to prevent possible injury. Doors block ceiling mounted lights. Falling ice is a hazard and has caused damage to multiple vehicles.
2.	Asset Condition	Doors have reached the end of their life and need to be updated. Multiple repairs have been made recently and parts are becoming scarce.
3.	Reliability	Doors are becoming more unreliable for the shop with multiple repairs needed.

PROJECT DESCRIPTION

Replacement of the existing Fleet Shop doors to increase Safety and Reliability. Install Snow Guards to prevent falling ice on staff, public, and vehicles.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	Decrease in operating cost is expected due to less repair cost on the doors and damaged vehicles.	
Project Manager:	Collin Fleming	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	15	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	36,200	51,400	-	-	-	-	87,600	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Headquarters Yard Modifications



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Expanding covered storage area to increase the life of multiple assets such as fleet, inventory, and tools/equipment. This should be done soon to preserve the condition of the items listed.
2.	Safety & Security	Increase the safety of pedestrians and vehicle traffic by making dedicated walking and driving paths. Possibly add an additional entry/exit for employees in the south parking lot.
3.	Reliability	Creating more storage by adding racking and additional covered areas will increase the amount of inventory we can store to be able to respond quicker to emergency situations.

PROJECT DESCRIPTION

Planning, design, permitting, and construction of multiple improvement projects to increase pedestrian/vehicle flow, storage, and covered parking for TVWD fleet. Evaluate and study an additional entry/exit from south parking lot to Merlo Rd.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	Small maintenance impact due to expanded building footprint. Some impact of utilities due to increase in enclosed and heated building. Building will have a low maintenance requirement on the Facility staff due to space being unoccupied.	
Project Manager:	Matt Oglesby	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	15	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
289,000	50,000	247,000	268,000	-	-	-	-	515,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Safety and Security Improvements



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Many of the safety and security hardware is at or near its end of life and is counted on to work daily. Replacing/upgrading the systems will make TVWD better equipped to be able to expand in the future.
2.	Safety & Security	Facility safety and security are essential to the operations at TVWD and these systems are critical for that to happen. The safety railing is needed to meet OSHA codes.
3.	Cost Effectiveness / Community Benefit	These systems are more cost effective if replaced before the end of life. Many systems would need to be replaced ASAP if they failed which would be done at a premium cost.

PROJECT DESCRIPTION

Planning, design, purchasing, and installation of critical safety and security hardware. Safety railing needs to be added to many areas on the roof to protect staff from fall hazards per OSHA. The electronic security equipment is in need of replacement due to equipment being at the end of its life. The new equipment and software may be easily expanded in the future. Examples: Alarm Panel Replacement, CyberLock Phase 2, modernization of the Access Control System, Fire Panel, Security Cameras.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	Operating cost should decrease due to the new hardware taking less maintenance and time for reprogramming. Less vendor involvement is anticipated. Safety Improvement: Staff will not have to tie off when on the roof to do maintenance activities which will save them time.	
Project Manager:	Collin Fleming	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	19	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
421,000	50,000	310,500	321,500	-	-	-	-	632,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Board Room/Conference Room Audio Visual Improvements



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	The AV equipment continues to have hardware and software issues that cannot be remedied.
2.	Cost Effectiveness / Community Benefit	Time would be saved with each meeting setup due to the multiple issues that arise with each setup. As the meeting frequency increases the cost savings are amplified.
3.	Reliability	The new equipment would be more reliable and easily scalable to meet the ever growing needs of the Board Room.

PROJECT DESCRIPTION

Replacement of existing audio and visual equipment in the Board Room is necessary due to issues that cannot be fixed. Project includes planning, design, purchase and installation of audio and visual equipment with the option to live stream/record meetings. The existing equipment is beyond its useful life and is increasingly costlier to maintain and set up for various meeting configurations (e.g., TVWD Board, WIF, WWSS, Joint agency boards). The new system would streamline the setup and save time. This project will be closely coordinated with potential building seismic upgrades.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	Operating cost would decrease due to less maintenance need by the vendor (which has increased the last couple years) as well as less labor used to setup and troubleshoot issues.	
Project Manager:	Collin Fleming	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	17	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
186,500	-	207,000	53,600	-	-	-	-	260,600	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: District Wide Signage Replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	New signage is needed in multiple areas to continue the District's logo update. Some signage is needed to be replaced due to the poor condition of the signs that have reached end of their life. New signage has been identified in additional areas.
2.	Cost Effectiveness / Community Benefit	The community will benefit by having consistent signs and logos that are recognizable, and by replacing old signs that are fading and in disrepair, aesthetics of the community will be improved.
3.	Timing	The District's logo has been updated and it is important to have a consistent appearance to the public.

PROJECT DESCRIPTION

New signage is needed in multiple areas to continue the District's logo update. Some signage is needed to be replaced due to the poor condition of the signs that have reached end of their life. New signage has been identified in additional areas.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	Project will not have an effect on operating costs.	
Project Manager:	Collin Fleming	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	21	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	51,800	53,600	-	-	-	-	105,400	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Vault - Dewatering Facility



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Undersized facility that needs to be upsized to decrease storm swale maintenance.
2.	Timing	Improving the dewatering facility in the near-term will help to reduce maintenance costs long-term.
3.	Cost Effectiveness / Community Benefit	These improvements will help reduce long-term costs and impact to the neighboring lots by reducing storm swale maintenance.

PROJECT DESCRIPTION

Need to upsize the vault south of the dewater facility to hold more sediment to reduce maintenance in storm swale.

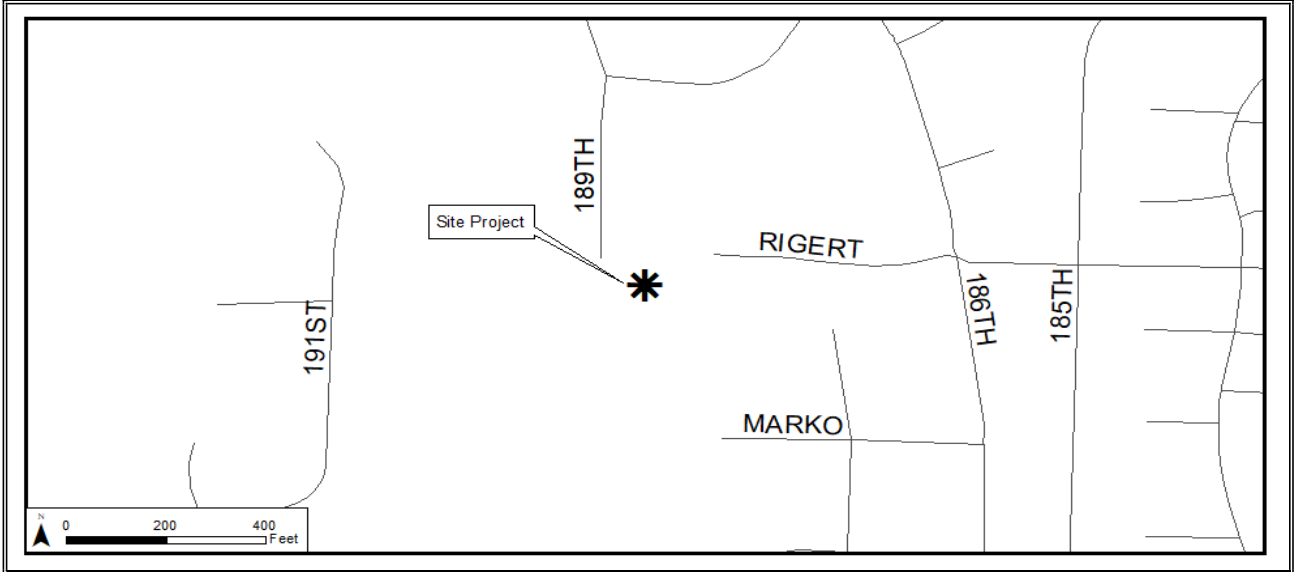
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Facilities	Water Rates: Yes	Project will decrease operating cost by reducing maintenance on storm swale.
		Service Fees: No	
Project Manager:	Collin Fleming	SDC Improvemt. Fee Elg.:	
Work Performed By:	District Staff	0%	
Total Priority Score:	15	Partner Cost Percentage:	0%

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	15,000	-	21,400	-	-	-	-	21,400	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Goyak and Cooper Mtn. Driveway Replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Asphalt surfaces are in need of repair/replacement due to age and usage.
2.	Timing	The asphalt surfaces are failing and in need of replacement.
3.	Cost Effectiveness / Community Benefit	Replacing the asphalt surface will improve the aesthetics, providing community benefits.

PROJECT DESCRIPTION

The driveways need to be resurfaced/replaced per agreement with neighbors. The asphalt surface is at the end of its life.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	No operating cost increase.	
Project Manager:	Collin Fleming	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemnt. Fee Elg.:	0%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	51,800	53,600	-	-	-	-	105,400	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Fuel Dispenser Replacement



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Dispensing pumps and related hardware/software have reached their end of operation life and need to be replaced.
2.	Reliability	Due to the criticality of the TRFF, these pumps need to be highly reliable to meet the goal of this facility to be a regional facility available for the partners 24/7 with minimal downtime.
3.	Cost Effectiveness /Community Benefit	The pumps are at the end of their life the repair costs are increasing exponentially. After the replacement, the pump repair costs and downtime will be reduced to normal maintenance costs.

PROJECT DESCRIPTION

This project will replace four (4) fuel dispensing pumps and related hardware/software on the TVWD operated Tualatin Regional Fueling Facility (TRFF) in partnership with THPRD. The TRFF has been in operation for over 20 years. Some components need to be replaced due to the availability of parts and support.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Facilities	Water Rates:	Yes	Operating cost will decrease due to the pump repairs will be negated and revert back to normal maintenance schedule.	
Project Manager:	Jeremy Kind	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	13	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	68,000	-	-	-	-	68,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 FLEET REPLACEMENT SCHEDULE

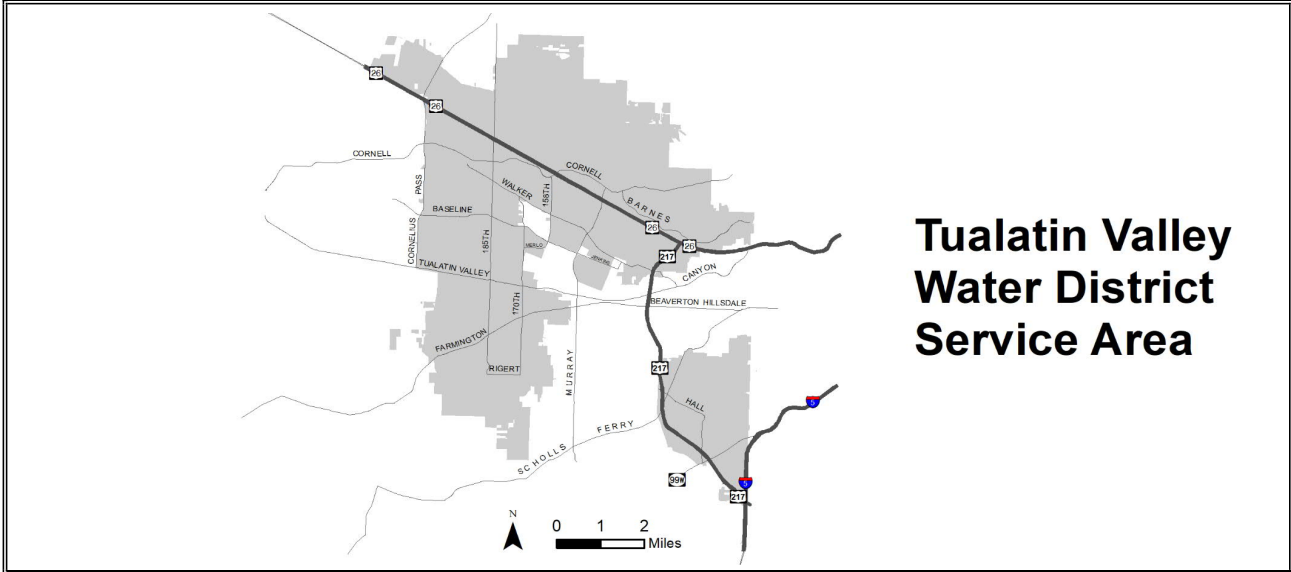
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	FY 21-22	FY 22-23	Total
2021-2023 Fleet Costs	\$ 689,000	\$ 780,000	\$ 1,469,000

DIVISION OR PROGRAM	ITEM	QTY	DESCRIPTIONS & RATIONALE	TOTAL AMT	EST. MONTH NEEDED	EST. YEAR NEEDED
Water Quality-Water Resources Specialist	SUV	1	New Vehicle	\$ 50,000	8	2021
FCS- Meter Reader	Meter Reading Vehicle Unit 36 & 37	2	Age Replacement	\$ 74,000	12	2021
System Ops-Locators	Locating Cargo Minivan Unit 78	1	Age Replacement	\$ 35,000	5	2023
Field Customer Service	Mid-Size Pickup Unit 4 and 6	2	Age Replacement	\$ 80,000	10	2021
DISTRICT - Shared	One Ton Flatbed truck, Unit 22	1	Age Replacement	\$ 80,000	10	2022
DISTRICT - Shared	Potable Hose Trailer	1	New Trailer	\$ 25,000	10	2022
Water Ops-Const/Maint	Back Hoe and Compactor Unit 119	1	Age Replacement	\$ 160,000	12	2021
Water Ops-Const/Maint	Medium Duty Box Truck, Unit 113	1	Age Replacement	\$ 100,000	12	2021
System Ops	One-Ton Service Truck, Unit 80 and 142	2	Age Replacement	\$ 170,000	6	2022
DISTRICT - Shared	Passenger Vehicle, Unit 19	1	Age Replacement	\$ 50,000	8	2021
System Ops	Full Size Pickup Unit 148 and 146	2	Age Replacement	\$ 110,000	5	2022
System Ops-Locators (Add Package)	Locating Cargo Minivan	1	New Vehicle	\$ 35,000		
Water Ops-Const/Maint	Vacuum Excavator Truck Unit 130	1	Poor Performance	\$ 500,000	3	2023
				\$ -		
				\$ -		
				\$ -		

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Customer Information System



## Tualatin Valley Water District Service Area

### KEY DRIVERS FOR CIP PROJECT

1.	Timing	The District's legacy utility billing system is outdated, requires significant internal support and lacks functionality necessary to meet District objectives such as improving the customer experience.
2.	Customer Criticality	The Customer Information System (CIS) impacts District customers as well as billing partners. Newer CIS technologies are expected to address customer satisfaction by expanding secure customer self-service options.
3.	Reliability	The CIS is a mission-critical system that must be reliable and flexible in order to meet current and future District needs, including potential affordability measures. The new CIS is expected to provide improved system reliability as compared to the legacy utility billing system.

### PROJECT DESCRIPTION

This project, a joint venture with billing partner Clean Water Services, focuses on selecting and implementing a commercial Customer Information System (CIS) to replace the District's legacy utility billing system. The District and Clean Water Services will share costs for the project. CIS project phases will be: selection; implementation; and beginning ongoing operations under the new system. The CIS project timeline through cutover and new system stabilization is anticipated to take approximately three years. The District will continue to refine project cost estimates and staffing requirements throughout the project cycles and provide ongoing reporting to the Board of Commissioners and management. The project will involve extensive customer communications prior to cutover.

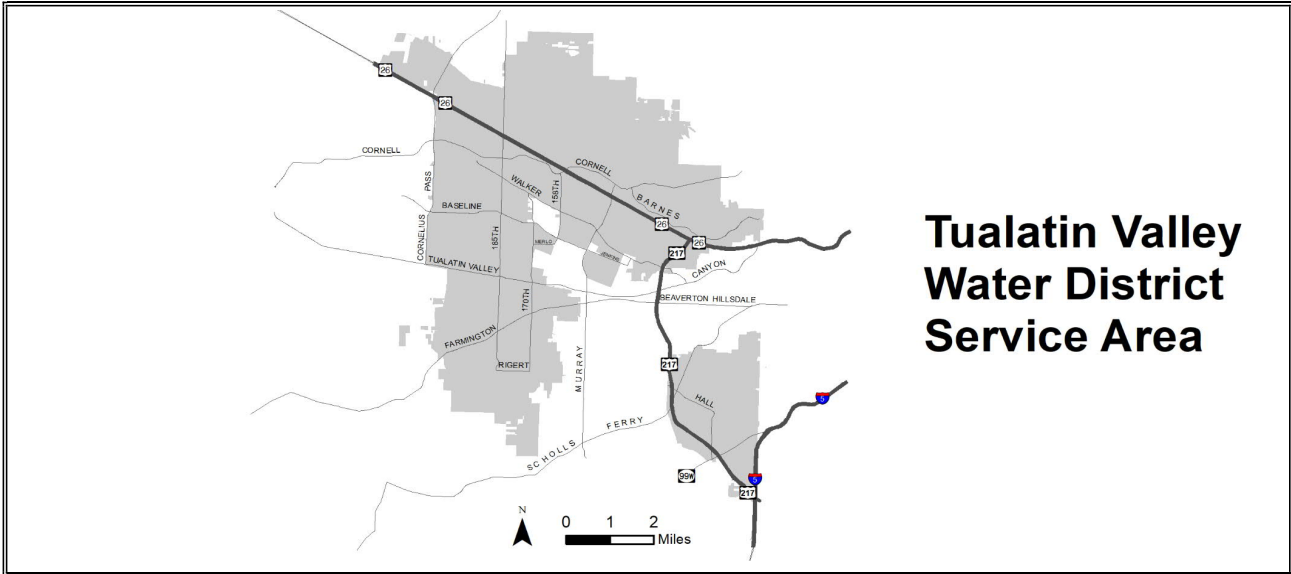
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Information Technology	Water Rates:	Yes	TVWD estimates that internal IT support will be reduced. Annual software licensing and maintenance costs will be incurred. Expanded on-line and mobile payment options may reduce costs for bill printing/presentation, but increase merchant and bank transactions fees. \$105,000 will be incurred for one-time training and software needs in FY2021 and FY2022, with \$50,000 in FY2022 (2021-2023 biennium).	
Project Manager:	Andrew Carlstrom	Service Fees:	No		
Work Performed By:	Contract & District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	18	Partner Cost Percentage:	50%		

### BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
8,180,000	3,081,377	6,640,000	-	-	-	-	-	6,640,000	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Service Installations



**KEY DRIVERS FOR CIP PROJECT**

1.	Timing	Serves new customers as they are added to the District's service area, and replaces aging meters and services as-needed to provide reliable service.
2.	Reliability	Improvements required to maintain reliable water service to customers.
3.	Customer Criticality	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

**PROJECT DESCRIPTION**

This category of work involves the various ongoing installation and replacement of service installations and large meters by District crews in support of new development and customer base growth, and to replace aging infrastructure on an as-needed basis. The service and large meter installation work is completed by TVWD Field Operations. Costs for new service installations are paid by separate development fees.

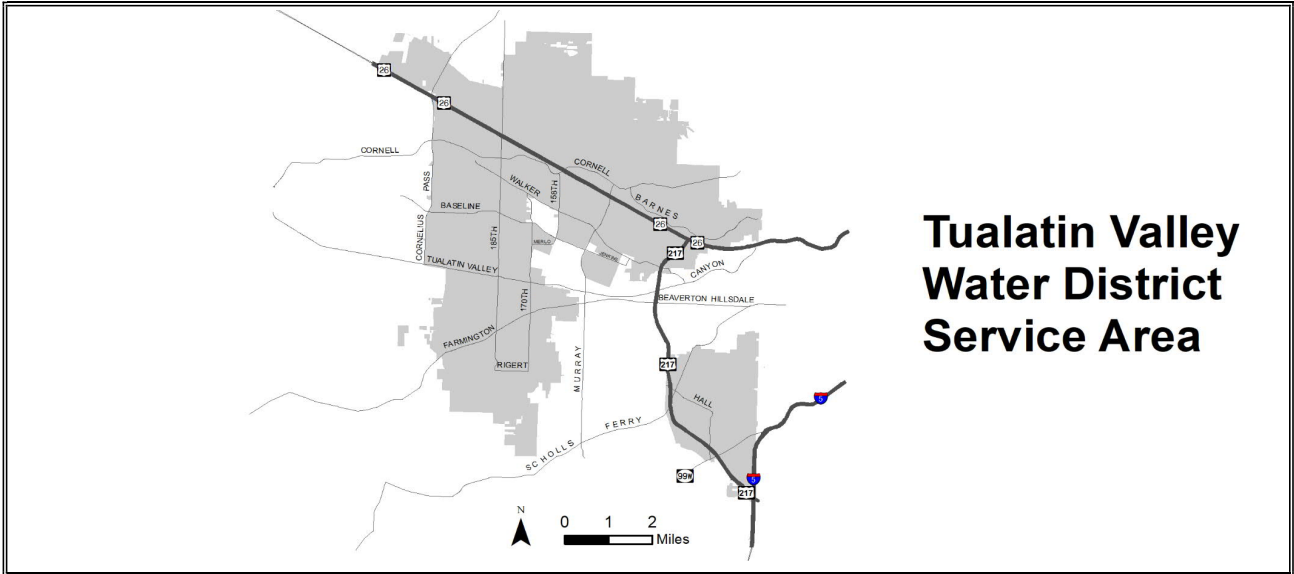
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Meters & Services	Water Rates:	Yes	Meter and service maintenance is an ongoing and routine District activity. Meters and services for new customers are recovered through separate fees.	
Project Manager:	Field Operations	Service Fees:	Yes		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	16	Partner Cost Percentage:	0%		

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
2,825,000	2,455,700	1,540,000	1,595,000	1,650,000	1,710,000	1,770,000	1,830,000	10,095,000	65,315,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Customer Service: Meter Installations



## Tualatin Valley Water District Service Area

### KEY DRIVERS FOR CIP PROJECT

1.	Timing	Serves new customers as they are added to the District's service area, and replacement of aging meters and services as needed to provide reliable service.
2.	Reliability	Improvements required to maintain reliable water service to customers.
3.	Customer Criticality	Enhances safety by improving level of service for customers and providing safe, reliable drinking water.

### PROJECT DESCRIPTION

This category of work involves the various ongoing installation and replacement primarily residential meters and services by District crews in support of new development and customer base growth, and to replace aging infrastructure on an as needed basis. The meter installation work is completed by TVWD Field Customer Service. Costs for new meters installations are paid by separate development fees.

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Meters & Services	Water Rates:	Yes	Meter and service maintenance is an ongoing and routine District activity. Meters and services for new customers are recovered through separate fees.	
Project Manager:	Field Customer Service	Service Fees:	Yes		
Work Performed By:	District Staff	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	16	Partner Cost Percentage:	0%		

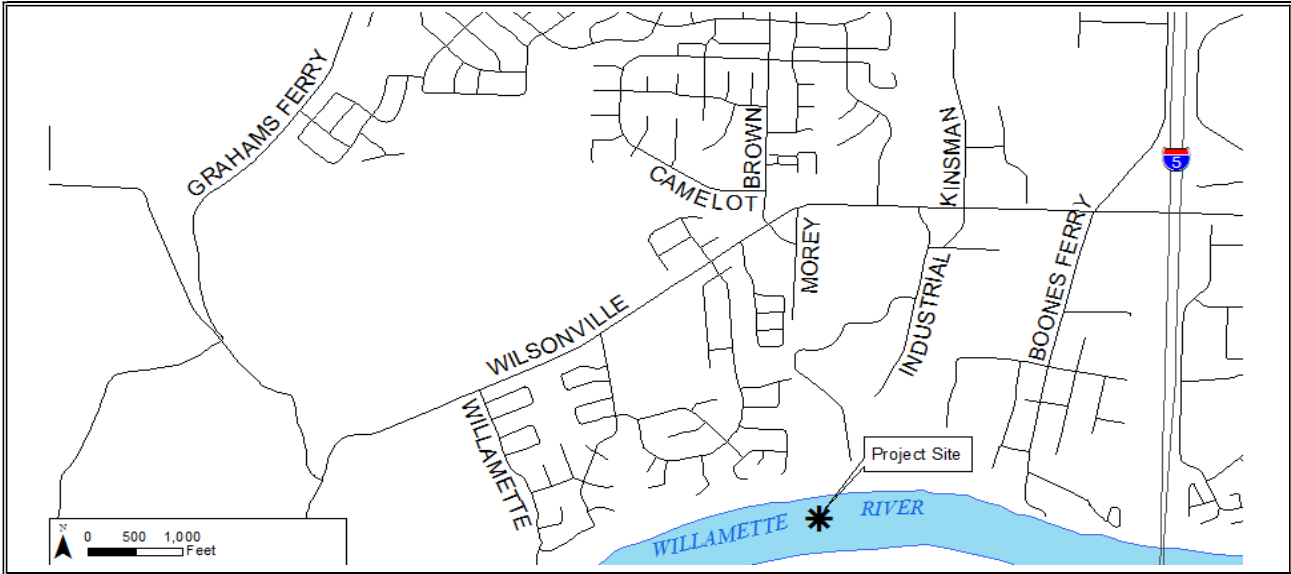
### BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
509,000	336,062	247,000	255,500	264,500	273,500	283,500	293,000	1,617,000	11,859,000



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Joint Venture: WIF



**KEY DRIVERS FOR CIP PROJECT**

1.	Customer Criticality	First piece of the Willamette Water Supply System (WWSS), which will provide reliable and safe drinking water to all of the District's customers.
2.	Timing	Project is a key element of the District's new long-term supply source that will meet current and future demands.
3.	Reliability	WWSS will increase overall reliability by providing a new, seismically hardened source for the District.

**PROJECT DESCRIPTION**

Program level costs associated with the Willamette Intake Facilities (WIF) Commission, including new fish screens, air burst system improvements, and seismic improvements to the expanded intake within the raw water facility at the Willamette River Water Treatment Plant (WRWTP). For more details on the WWSS raw water facility project (RWF 1.0), please see page F-2 in your budget workbook.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Joint Venture	Water Rates: Yes	The water intake improvements are either replacements or static in nature, and should not drive material net impacts on future operating costs.  For details on the estimated cost impact of the future raw water facility (RWF 1.0), please see page F-2 in your budget workbook.
Project Manager:	David Kraska	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: 61%	
Total Priority Score:	20	Partner Cost Percentage: 0%	

**BUDGET INFORMATION & PROJECTED COSTS**

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
3,622,465	1,876,143	2,158,754	972,865	-	-	-	-	3,131,620	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: Joint Venture: WWSS



KEY DRIVERS FOR CIP PROJECT

1.	Customer Criticality	Willamette Water Supply System (WWSS) will provide reliable and safe drinking water to all of the District's customers.
2.	Timing	WWSS will be a new long-term supply source to meet current and future demands.
3.	Reliability	WWSS will increase overall reliability by providing a new, seismically hardened source for the District.

PROJECT DESCRIPTION

Program level costs associated with supporting the development and implementation of the Willamette Water Supply System (WWSS), including design and construction of the WWSS projects, costs for real estate and easements, permitting and mitigation, legal expenses, program management services, and management reserves. For more details on individual WWSS projects, please see pages F-1 through F-12 in your budget workbook.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

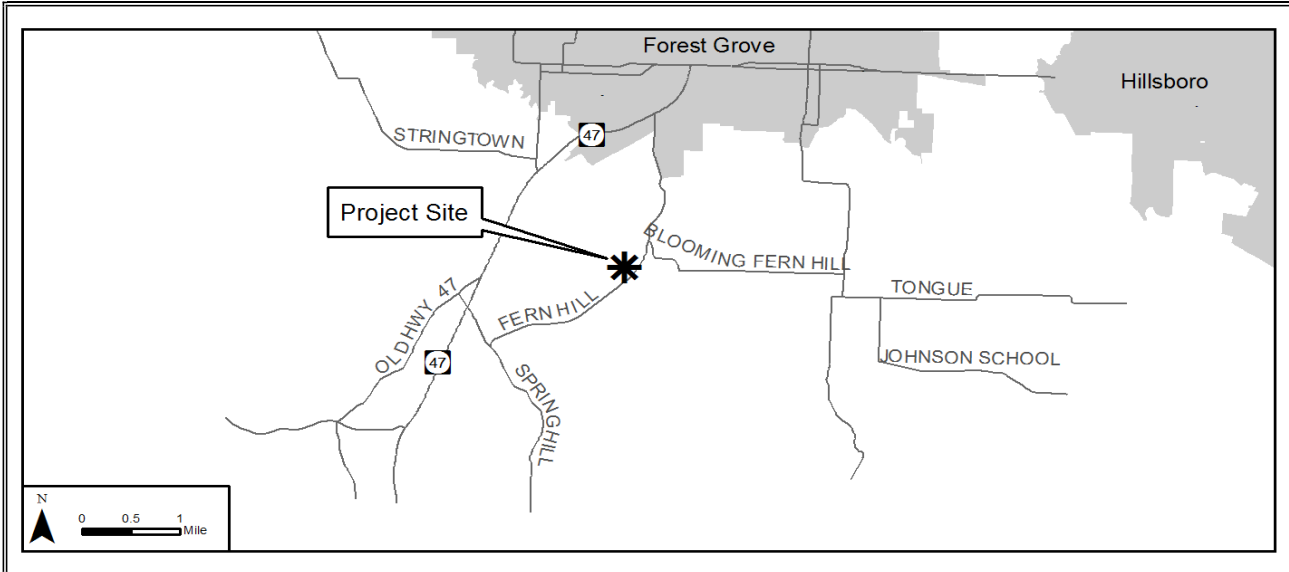
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	Joint Venture	Water Rates:	Yes	Overall, the WWSS will result in significant savings by eliminating purchased water costs from Portland. The District is projecting net savings of approximately \$5 million in FY2027 (i.e., a 36% decrease from FY2026), after shifting from 100% purchased water costs to a new balance of JWC water purchases plus the costs of WWSS treatment and pumping power.	
Project Manager:	David Kraska	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	61%		
Total Priority Score:	20	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future (FY2028-36)
109,780,923	88,225,342	71,227,035	170,696,854	130,472,179	56,812,648	35,704,561	3,557,506	468,470,783	77,083,807

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Plans, Assessments, and Safety Upgrades



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Maintains supply for multiple water supply partners, and is needed near-term.
2.	Customer Criticality	Reserves funds to ensure continuity of service in the event of unanticipated maintenance or equipment repair needs.
3.	Reliability	Improvements required to maintain reliable supply.

PROJECT DESCRIPTION

The last JWC Master plan was published in 2009. Master Plan documents help identify shortcomings and expected needs for infrastructure as well as the organization. This plan will provide the basis for the next 5-yr planning horizon. Master plan will provide year-by-year recommendations for capital improvement projects. The total original engineering estimate was \$630,000 for the Master Plan. The fee estimate from consultant is around \$700,000. Additionally JWC staff time is estimated \$70,000 and the management reserve consideration is \$55,000. The total estimated cost is now \$825K.

This budget also includes potential additional costs for safety upgrades and funding a study to test and assess the South Transmission Line and provide recommendations for repairs, upgrades, and seismic improvements.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs

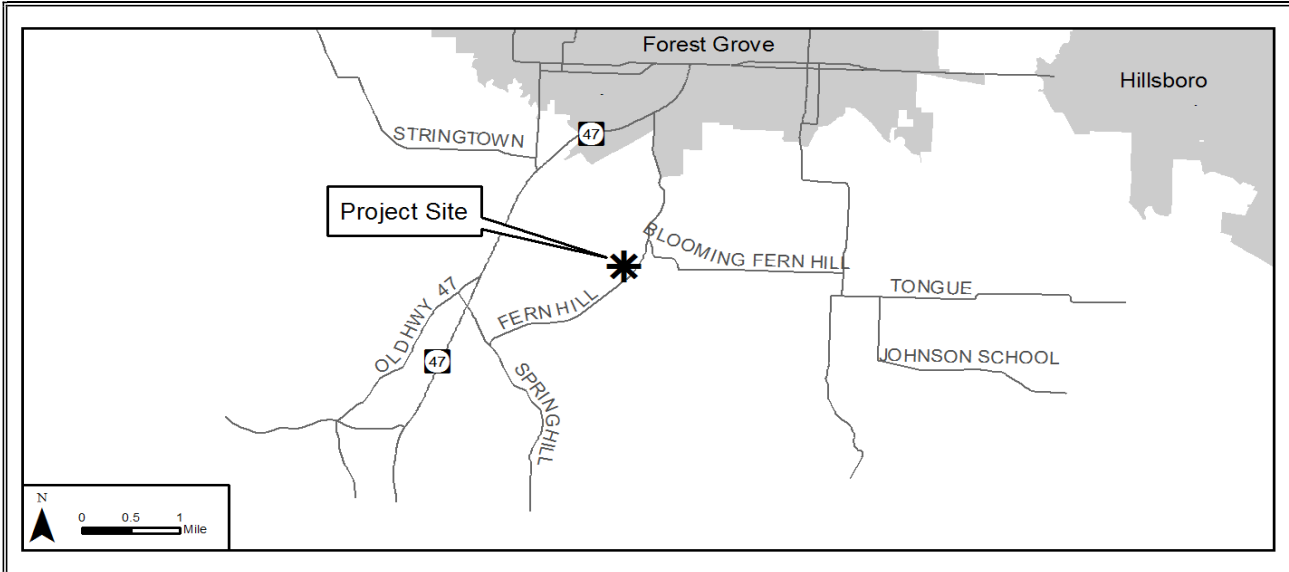
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	JWC	Water Rates:	Yes	No material impact anticipated.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage:	TBD		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
147,983	147,983	134,500	-	-	29,100	27,400	101,500	292,500	992,200

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Misc. Repairs/Replacements, & Minor/Non-CIP



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Some pumps are from the 1970's, so they are unreliable, energy inefficient, and there are no spare parts available.
2.	Cost Effectiveness / Community Benefit	In order to maximize savings in engineering and installation, the future replacement of two pumps was accelerated to be concurrent with the end-of-life replacement of two other pumps.
3.	Safety / Security	Some of these projects will repair facility roofs, while another will replace chemical storage buildings.

PROJECT DESCRIPTION

This collection of projects consists of minor capital repairs, replacements, updates, and unplanned miscellaneous expenses. Included are replacements of finished water and backwash pumps and motors, electrical assessments and improvements, a new FW 10 pump with a variable frequency drive, concrete in sedimentation basins (basins A, B, and C), roof repairs, replacement of the operations and chemical storage buildings, and future annual capital repairs.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

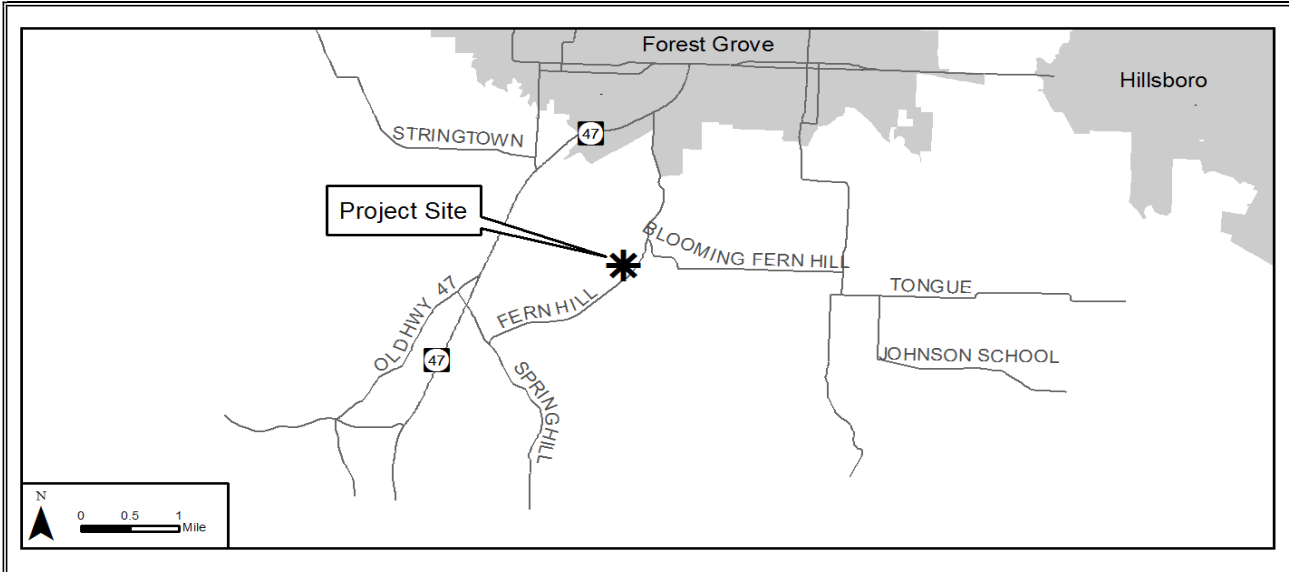
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	JWC	Water Rates:	Yes	Costs for JWC operations are passed through to JWC partners based on ownership shares and water purchases. Most of these capital projects are minor equipment upgrades and replacements, which will not have a significant operating cost impact.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
375,517	110,464	119,500	65,300	128,000	208,000	137,000	263,500	921,300	6,129,900

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Other Capital Repairs



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Maintains supply for multiple water supply partners.
2.	Customer Criticality	Reserves funds to ensure continuity of service in the event of unanticipated maintenance or equipment repair needs.
3.	Reliability	Improvements required to maintain reliable supply.

PROJECT DESCRIPTION

This is a placeholder for future capital project costs. Annual JWC cost estimates begin in FY2027.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

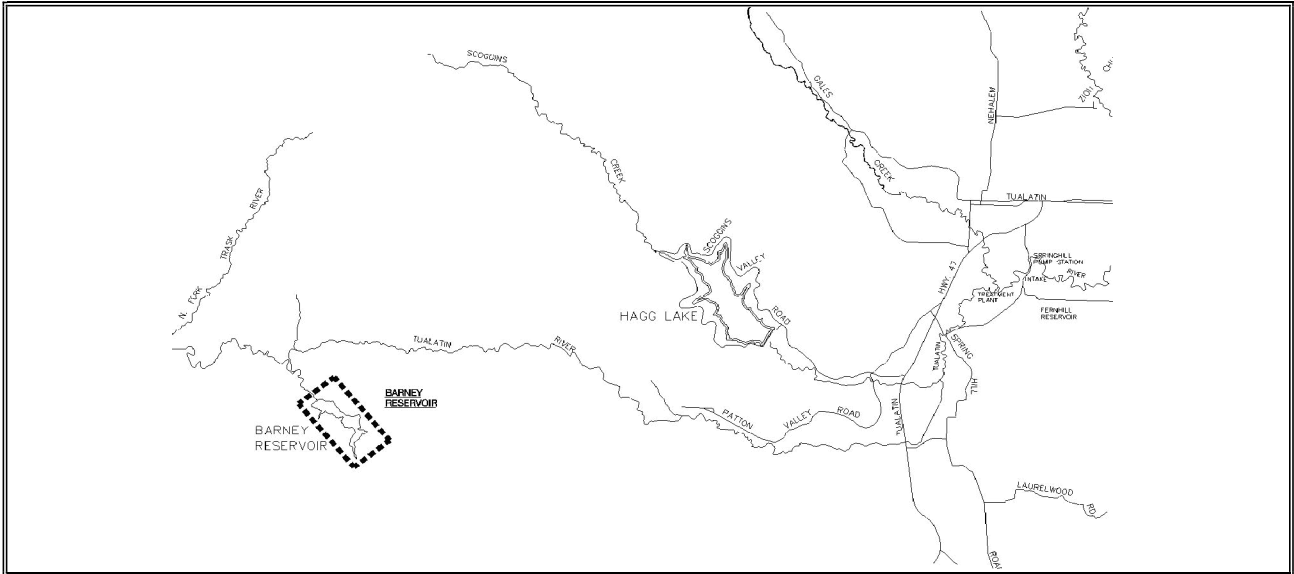
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	JWC	Water Rates:	Yes	No material impact anticipated.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
-	-	-	-	-	-	-	121,500	121,500	8,549,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Water Line Cathodic Protection



KEY DRIVERS FOR CIP PROJECT

1.	Asset Condition	Project will reduce corrosion in water transmission lines.
2.	Cost Effectiveness / Community Benefit	Project will increase the useful lives of water transmission lines.
3.	Reliability	Cathodic protection reduces the risk of service interruption due to leaks caused by corrosion.

PROJECT DESCRIPTION

Multiyear project to install cathodic protection devices to water transmission lines. FY 19-20 budget is for a study to identify optimal placement. Inspection will assess soil conditions and other factors to identify specific locations to install anodes. Thereafter, the budget is for installation of cathodic protection devices on identified sections of pipelines until project completion. Will increase the useful life of assets by reducing corrosion.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

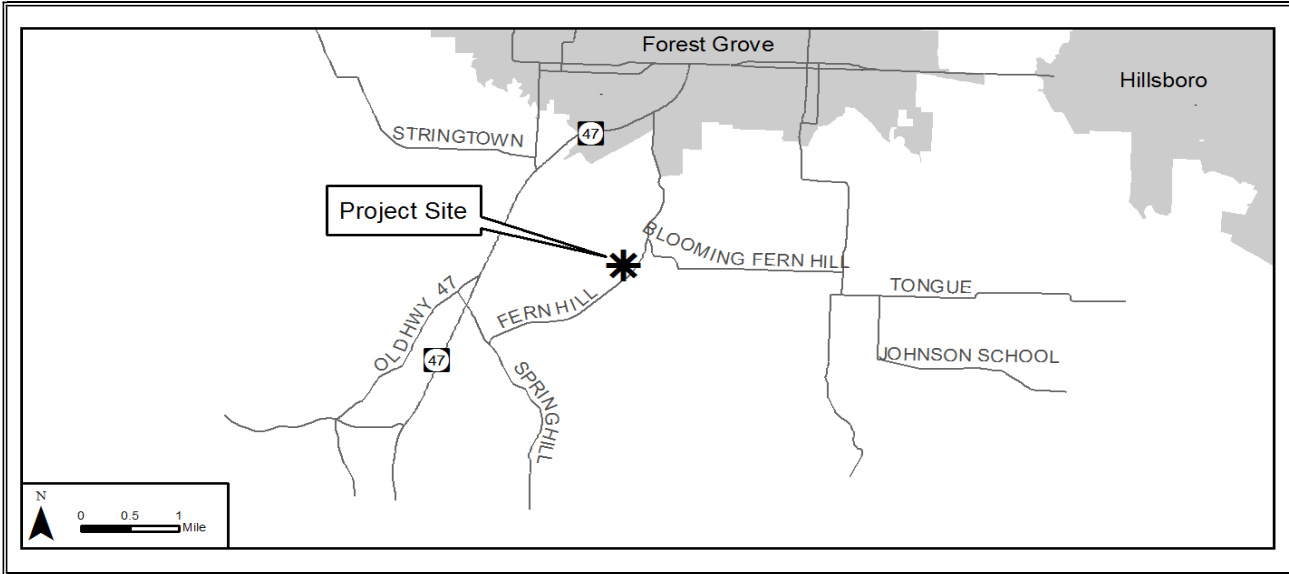
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT
Project Category:	JWC	Water Rates:	Yes	Cathodic protection is anticipated to mitigate premature transmission line failure due to corrosive soils, thereby reducing future maintenance and repair costs.
Project Manager:	Pete Boone	Service Fees:	No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%	
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage:	0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
66,900	25,590	25,600	26,500	27,400	28,400	29,400	30,400	167,700	52,400

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Spring Hill Pumping Plant Mitigation Project



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Existing fish screen does not meet criteria set by National Marine Fisheries Service (NMFS) and the Oregon Department of Fish and Wildlife (ODFW).
2.	Cost Effectiveness / Community Benefit	Mitigation, potentially in the form of a small culvert replacement, aims to avoid costs associated with the entire Spring Hill Pump Plant.
3.	Environment	Culvert replacement satisfies NMFS and ODFW criteria for providing safer fish passage.

PROJECT DESCRIPTION

The fish screen at the Spring Hill Pump Plant (SHPP) does not meet criteria set by NMFS and ODFW. When JWC submitted a new supplemental water right application on the Tualatin River for non-peak season flows, ODFW let us know that they will not approve the water right without a fish screen that meets their criteria (including approach velocities, sweeping velocities, and slot size). NMFS has signed off on the fish screen due to the small number of endangered and threatened fish that are present, so the Bureau of Reclamation and Tualatin Valley Irrigation District do not have any motivation or requirement to update the fish screen of the facility. In order to avoid paying costs associated with the entire SHPP, JWC proposed mitigation in lieu of fish screen or intake replacement. JWC completed a fish passage and impingement study over the last year that indicates that a mitigation project will be required for the JWC portion of the intake. JWC is investigating a small culvert replacement for the mitigation project.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs

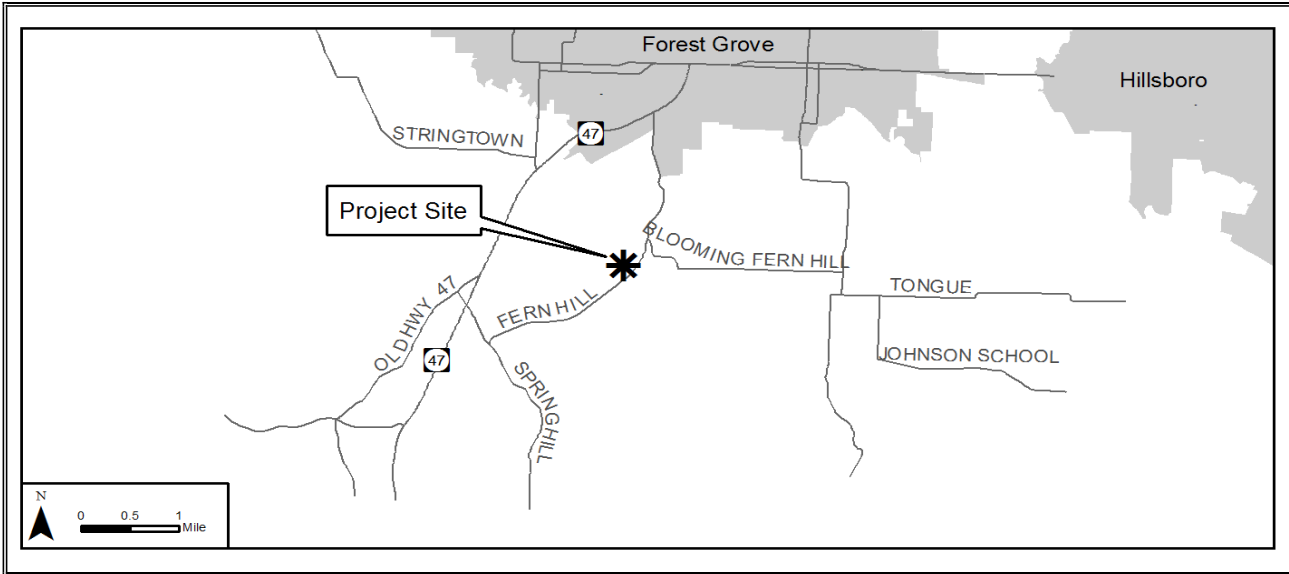
PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT	
Project Category:	JWC	Water Rates:	Yes	No material impact anticipated. Avoids capital cost of replacing fish screen at the Spring Hill Pump Plant.	
Project Manager:	Pete Boone	Service Fees:	No		
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%		
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage:	0%		

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
140,200	52,204	95,500	10,600	-	-	-	-	106,100	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Disinfection Facility (Gaseous Chlorine Replacement)



KEY DRIVERS FOR CIP PROJECT

1.	Reliability	Improvements required to maintain reliable supply.
2.	Safety / Security	Producing chlorine on an as-needed basis will reduce chemical storage requirements.
3.	Asset Condition	This project will modernize operations at the JWC treatment facility.

PROJECT DESCRIPTION

The disinfection facility is a replacement to the existing chlorine gas system. Generating chlorine on-site will reduce the need to store large amounts of chlorine gas.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

PROJECT INFORMATION		FUNDING SOURCES		FUTURE OPERATING COST IMPACT
Project Category:	JWC	Water Rates:	Yes	No material net impact is anticipated. There will be new operating costs associated with the facility, however, these costs will be offset by the reduction in costs from safely transporting and storing chlorine gas.
Project Manager:	Pete Boone	Service Fees:	No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.:	0%	
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage:	0%	

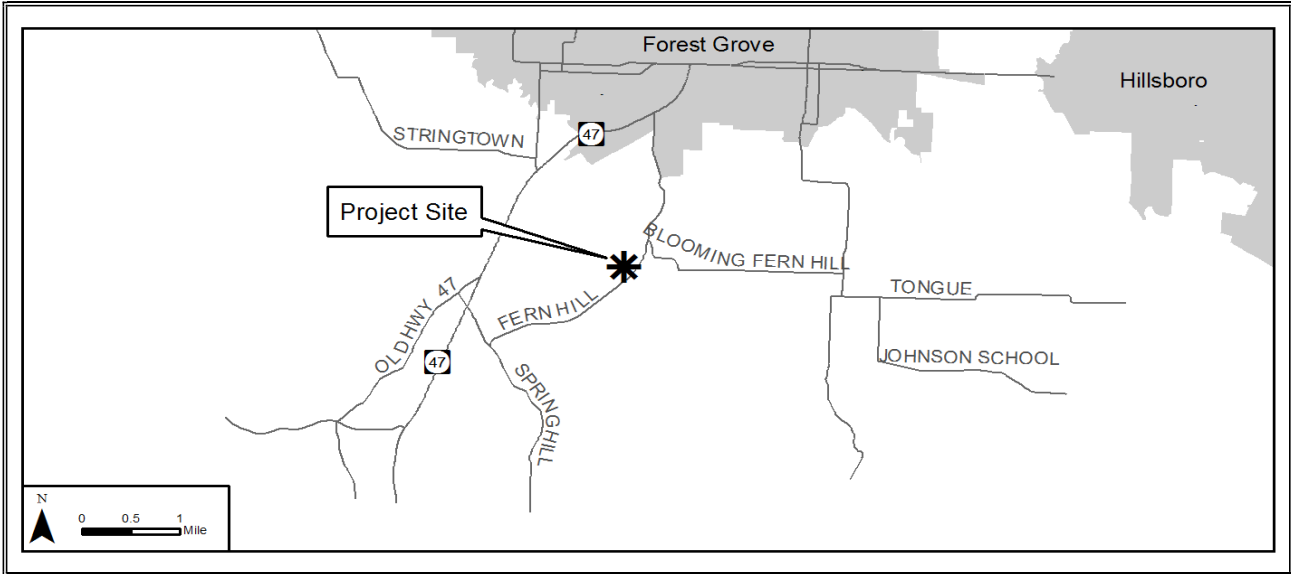
BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
18,300	-	-	-	59,400	394,000	408,000	-	861,400	-



Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
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PROJECT TITLE: JWC Land Purchase



KEY DRIVERS FOR CIP PROJECT

1.	Customer Criticality	The future larger intake will provide additional capacity for the JWC partners and their customers.
2.	Timing	Additional site space is required to expand the intake facility to meet growing demands cost effectively.
3.	Reliability	Improvements required to maintain reliable supply.

PROJECT DESCRIPTION

Purchase land to site a new intake facility in the future. This will replace the existing intake facility with a larger intake. The JWC would like this to be complete by the end of FY20-21, but it is not clear whether the property owners are willing to sell. Due to the uncertainty of the purchase, the JWC will continue to roll forward the cost balance until it is able to purchase land.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

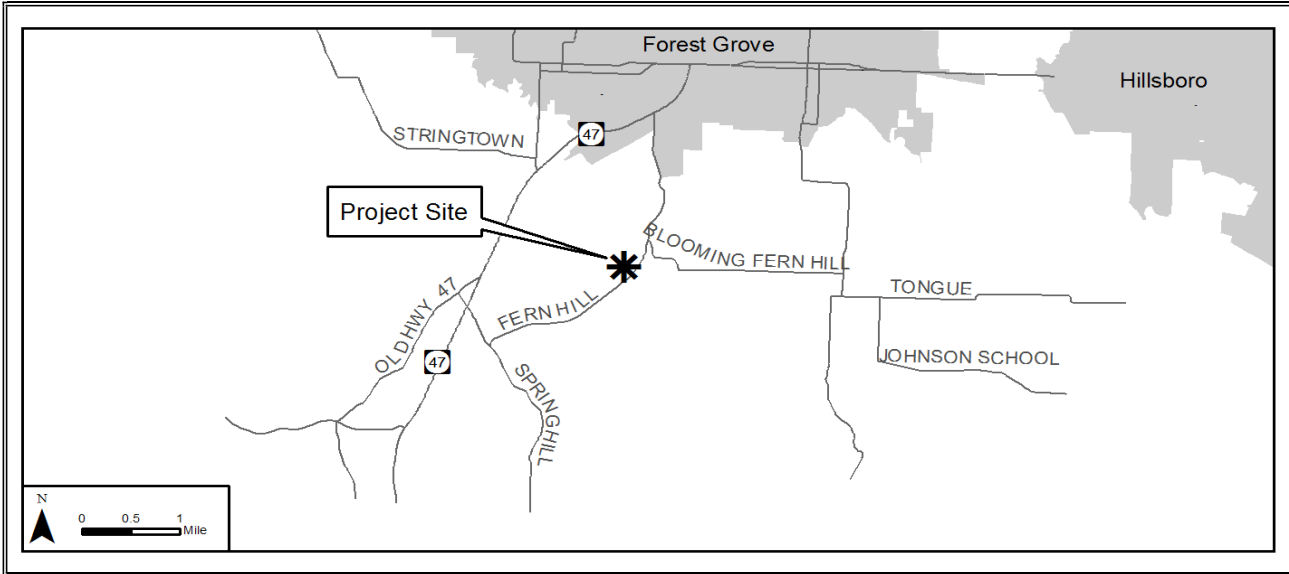
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	JWC	Water Rates: Yes	There is no anticipated change in operating costs associated with the land for the expansion site.
Project Manager:	Pete Boone	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: 0%	
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
136,480	-	136,500	-	-	-	-	-	136,500	-

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: BRJOC Capital & Improvements



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Maintains supply for multiple water supply partners.
2.	Customer Criticality	Reserves funds to ensure continuity of service in the event of unanticipated maintenance or equipment repair needs.
3.	Reliability	Improvements required to maintain reliable supply.

PROJECT DESCRIPTION

This project funds a reserve for unanticipated capital expenses for the Barney Reservoir Joint Ownership Commission (BRJOC) partners. Reserve funds are allocated based on ownership shares of the reservoir facilities, of which the District is a 35% owner. Establishment of the reserve provides resources to the BRJOC in the event of unplanned capital expenditure needs. Use of the reserve requires approval by all BRJOC partners including the District.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

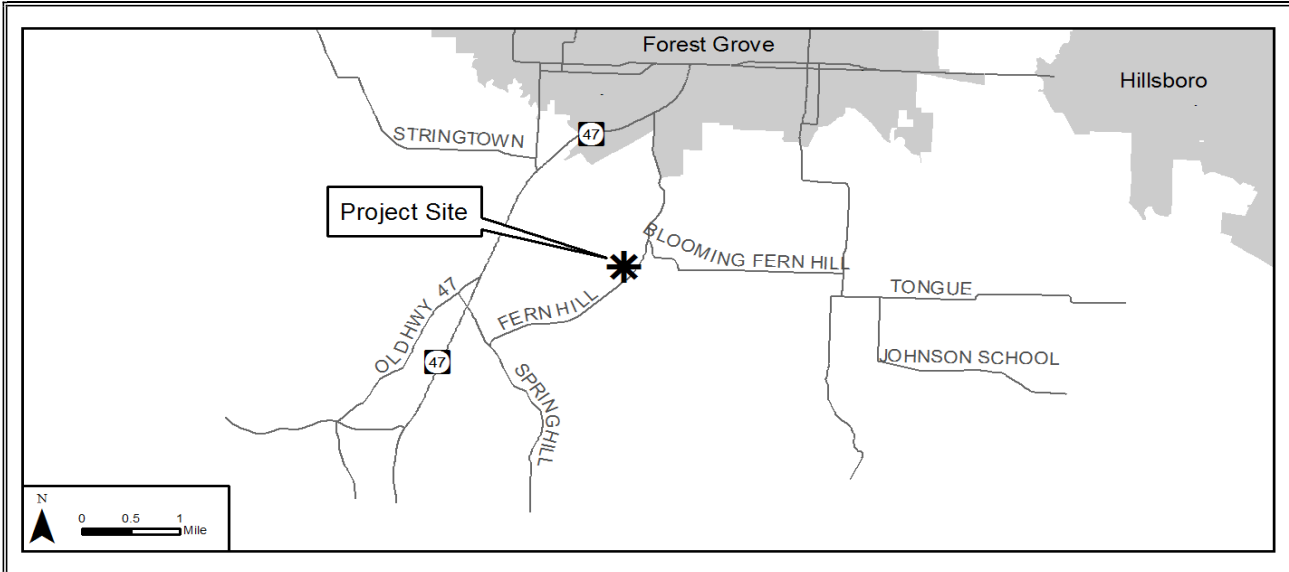
PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	JWC	Water Rates: Yes	No material impact anticipated.
Project Manager:	Pete Boone	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: TBD	
Total Priority Score:	This is a partnership project, agreed to by the JWC.	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
128,200	-	42,000	43,500	45,000	46,600	48,200	49,900	275,200	1,779,000

Tualatin Valley Water District  
 Adopted Capital Improvement Plan  
 2021-23  
 (Six-Year Projection)

PROJECT TITLE: JWC Equipment Replacement



KEY DRIVERS FOR CIP PROJECT

1.	Timing	Maintains supply for multiple water supply partners.
2.	Customer Criticality	Reserves funds to ensure continuity of service in the event of unanticipated maintenance or equipment repair needs.
3.	Reliability	Improvements required to maintain reliable supply.

PROJECT DESCRIPTION

This project funds a reserve for unanticipated capital expenses for the Joint Water Commission partners. Reserve funds are allocated based on ownership shares of Joint Water Commission facilities, of which the District is a 16.67% owner. Establishment of the reserve provides resources to the JWC in the event of unplanned capital expenditure needs. Use of the reserve requires approval by all JWC partners including the District.

Costs shown below are TVWD's share of projected total project costs. Therefore, under Funding Sources, the partner cost percentage (of the costs shown) is zero (0%).

PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	JWC	Water Rates: Yes	No material impact anticipated.
Project Manager:	Pete Boone	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elg.: 0%	
Total Priority Score:	NA	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 19-21 Budget	FY 19-21 Projected	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Projected	FY 24-25 Projected	FY 25-26 Projected	FY 26-27 Projected	Six-Year (FY2022-27)	Future Years (FY2028-50)
341,200	-	341,200	-	341,200	-	341,200	-	1,023,600	3,753,200