

SCHEDULE OF IMPROVEMENTS

The results of prioritizing the improvements assisted with establishing an implementation schedule that can be used by the City for preparing its 6-year CIP and yearly water budget. The implementation schedule for the proposed improvements is shown in **Table 9-1 – Proposed Improvements Implementation Schedule (6-year CIP)**, **Table 9-4 – Proposed Improvements Implementation Schedule (10-year CIP)**, and **Table 9-5 – Proposed Improvements Implementation Schedule (20-year CIP)**.

Future Project Cost Adjustments

All cost estimates shown in the tables are presented in year 2015 dollars. Therefore, it is recommended that future costs be adjusted to account for the effects of inflation and changing construction market conditions at the actual time of project implementation. Future costs can be estimated using the Engineering News Record (ENR) Construction Cost Index for the Seattle area, or by applying an estimated rate of inflation that reflects the current and anticipated future market conditions.

**Table 9-4
Proposed Improvements Implementation Schedule (10-year CIP)**

CIP No.	Description	Estimated Cost	Year
S1	Flume Trestle Rehabilitation (Design)	\$ 25,000	2015
S2	CWA Water Rights Purchase (White River and TPU)	\$ 391,000	2015
F1	Grainger Springs Upgrades (Design)	\$ 191,000	2015
F2	SCADA Telemetry Upgrade	\$ 150,000	2015
PZ1	Lakeridge Booster Pump Station No. 2	\$ 1,400,000	2015
P1	Water System Plan Update	\$ 150,000	2015
2015 TOTAL		\$ 2,307,000	
WM1	Interlake Island to Inlet Lake Bed Crossing (Design)	\$ 50,000	2016
WM2	Public Works Center Water Extension Looping (Design)	\$ 105,000	2016
S1	Flume Trestle Rehabilitation	\$ 100,000	2016
F3	Emergency Generator Upgrade - Tacoma Point	\$ 100,000	2016
S2	CWA Water Rights Purchase (White River and TPU)	\$ 391,000	2016
S3	South Prairie Intertie - Additional Booster Pumps	\$ 150,000	2016
S4	Ball Park Wells Cooling System	\$ 50,000	2016
ST1	Ponderosa 748 Reservoir Recoating (Internal and External)	\$ 375,000	2016
F1	Grainger Springs Upgrades (Construction)	\$ 950,000	2016
A1	Flushing Program	\$ 26,000	2016
A2	Valve and Fire Hydrant Program	\$ 15,000	2016
A3	Reservoir Video and Inspection/Repair Program	\$ 37,000	2016
A4	Leak Detection Program	\$ 26,000	2016
A5	Meter Replacement Program (Radio Read)	\$ 258,000	2016
A6	Infrastructure Renewal Program	\$ 155,000	2016
A7	New Service Connections - Meter Installation Program	\$ 93,000	2016
A8	R&M - Replacement and Unscheduled Projects	\$ 52,000	2016
2016 TOTAL		\$ 2,933,000	
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**Table 9-4
Proposed Improvements Implementation Schedule (10-year CIP) (continued)**

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CIP No.	Description	Estimated Cost	Year
ST2	Lakeridge 810 Zone Reservoir - Property Acquisition	\$ 250,000	2017
WM3	192nd Water Main Replacement	\$ 543,000	2017
WM4	Eastown Water Main Extension	\$ 951,000	2017
WM1	Interlake Island/Inlet Lake Bed Crossing Water Main Replacement	\$ 450,000	2017
WM5	12" Water Main Replacement - Myers Road - To City Limits (Design)	\$ 75,000	2017
WM2	Public Works Center Water Extension Looping (Construction)	\$ 1,200,000	2017
S2	CWA Water Rights Purchase (White River and TPU)	\$ 391,000	2017
F4	Public Works Yard (Design)	\$ 350,000	2017
F5	Pressure Relief Stations	\$ 58,000	2017
A1	Flushing Program	\$ 27,000	2017
A2	Valve and Fire Hydrant Program	\$ 16,000	2017
A3	Reservoir Video and Inspection/Repair Program	\$ 38,000	2017
A4	Leak Detection Program	\$ 27,000	2017
A5	Meter Replacement Program (Radio Read)	\$ 265,000	2017
A6	Infrastructure Renewal Program	\$ 159,000	2017
A7	New Service Connections - Meter Installation Program	\$ 96,000	2017
A8	R&M - Replacement and Unscheduled Projects	\$ 53,000	2017
2017 TOTAL		\$ 4,949,000	
WM5	12" Water Main Replacement - Myers Road - To City Limits	\$ 525,000	2018
S2	CWA Water Rights Purchase (White River and TPU)	\$ 391,000	2018
F6	Victor Falls Watershed Fencing	\$ 605,000	2018
F4	Public Works Yard (Construction)	\$ 2,000,000	2018
ST3	Lakeridge 810 Zone Reservoir	\$ 4,480,000	2018
A1	Flushing Program	\$ 28,000	2018
A2	Valve and Fire Hydrant Program	\$ 17,000	2018
A3	Reservoir Video and Inspection/Repair Program	\$ 39,000	2018
A4	Leak Detection Program	\$ 27,000	2018
A5	Meter Replacement Program (Radio Read)	\$ 273,000	2018
A6	Infrastructure Renewal Program	\$ 164,000	2018
A7	New Service Connections - Meter Installation Program	\$ 98,000	2018
A8	R&M - Replacement and Unscheduled Projects	\$ 55,000	2018
2018 TOTAL		\$ 8,702,000	
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**Table 9-4
Proposed Improvements Implementation Schedule (10-year CIP) (continued)**

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CIP No.	Description	Estimated Cost	Year
WM6	225th Water Extension Looping	\$ 500,000	2019
S5	Wholesale 800 to 748 Zones Connection	\$ 500,000	2019
F7	Public Works Center (Design)	\$ 1,500,000	2019
A1	Flushing Program	\$ 29,000	2019
A2	Valve and Fire Hydrant Program	\$ 17,000	2019
A3	Reservoir Video and Inspection/Repair Program	\$ 41,000	2019
A4	Leak Detection Program	\$ 28,000	2019
A5	Meter Replacement Program (Radio Read)	\$ 281,000	2019
A6	Infrastructure Renewal Program	\$ 169,000	2019
A7	New Service Connections - Meter Installation Program	\$ 101,000	2019
A8	R&M - Replacement and Unscheduled Projects	\$ 56,000	2019
2019 TOTAL		\$ 3,222,000	
WM7	16" Water Main Replacement- BPA Alignment	\$ 1,566,000	2020
WM8	Cedar View Water Main Replacement Program (Design)	\$ 250,000	2020
F7	Public Works Center (Construction)	\$ 8,600,000	2020
ST4	Tacoma Point Water Reservoir Replacement	\$ 4,480,000	2020
PZ2	Northwest Plateau Pressure Zone Improvements	\$ 44,000	2020
PZ3	Southwest Plateau Pressure Zone Improvements	\$ 22,000	2020
A1	Flushing Program	\$ 30,000	2020
P4	Security System Updates	\$ 350,000	2020
A2	Valve and Fire Hydrant Program	\$ 18,000	2020
A3	Reservoir Video and Inspection/Repair Program	\$ 42,000	2020
A4	Leak Detection Program	\$ 29,000	2020
A5	Meter Replacement Program (Radio Read)	\$ 290,000	2020
A6	Infrastructure Renewal Program	\$ 174,000	2020
A7	New Service Connections - Meter Installation Program	\$ 104,000	2020
A8	R&M - Replacement and Unscheduled Projects	\$ 58,000	2020
2020 TOTAL		\$ 16,057,000	
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**Table 9-4
Proposed Improvements Implementation Schedule (10-year CIP) (continued)**

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CIP No.	Description	Estimated Cost	Year
WM9	16" Replacement - Sumner Buckley Highway	\$ 870,000	2021
F8	Victor Falls Metering Improvement	\$ 110,000	2021
P1	Water System Plan Update	\$ 200,000	2021
A1	Flushing Program	\$ 31,000	2021
A2	Valve and Fire Hydrant Program	\$ 18,000	2021
A3	Reservoir Video and Inspection/Repair Program	\$ 43,000	2021
A4	Leak Detection Program	\$ 30,000	2021
A5	Meter Replacement Program (Radio Read)	\$ 300,000	2021
A6	Infrastructure Renewal Program	\$ 180,000	2021
A7	New Service Connections - Meter Installation Program	\$ 108,000	2021
A8	R&M - Replacement and Unscheduled Projects	\$ 60,000	2021
2021 TOTAL		\$ 1,950,000	
WM8	Cedar View Water Main Replacement Program	\$ 1,213,000	2022
A1	Flushing Program	\$ 32,000	2022
A2	Valve and Fire Hydrant Program	\$ 19,000	2022
A3	Reservoir Video and Inspection/Repair Program	\$ 44,000	2022
A4	Leak Detection Program	\$ 31,000	2022
A5	Meter Replacement Program (Radio Read)	\$ 307,000	2022
A6	Infrastructure Renewal Program	\$ 185,000	2022
A7	New Service Connections - Meter Installation Program	\$ 111,000	2022
A8	R&M - Replacement and Unscheduled Projects	\$ 61,000	2022
2022 TOTAL		\$ 2,003,000	
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**Table 9-4
Proposed Improvements Implementation Schedule (10-year CIP) (continued)**

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CIP No.	Description	Estimated Cost	Year
ST5	Lakeridge 748 Zone Water Reservoir	\$ 2,660,000	2023
A1	Flushing Program	\$ 33,000	2023
A2	Valve and Fire Hydrant Program	\$ 20,000	2023
A3	Reservoir Video and Inspection/Repair Program	\$ 46,000	2023
A4	Leak Detection Program	\$ 32,000	2023
A6	Infrastructure Renewal Program	\$ 190,000	2023
A7	New Service Connections - Meter Installation Program	\$ 114,000	2023
A8	R&M - Replacement and Unscheduled Projects	\$ 63,000	2023
2023 TOTAL		\$ 3,158,000	
P2	Develop Unilateral Flushing Program	\$ 50,000	2024
A1	Flushing Program	\$ 34,000	2024
A2	Valve and Fire Hydrant Program	\$ 20,000	2024
A3	Reservoir Video and Inspection/Repair Program	\$ 47,000	2024
A4	Leak Detection Program	\$ 33,000	2024
A6	Infrastructure Renewal Program	\$ 196,000	2024
A7	New Service Connections - Meter Installation Program	\$ 118,000	2024
A8	R&M - Replacement and Unscheduled Projects	\$ 65,000	2024
2024 TOTAL		\$ 563,000	
GRAND TOTAL (10-year CIP)		\$ 45,844,000	

**Table 9-5
Proposed Improvements Implementation Schedule (20-Year CIP)**

No.	Description	Est Cost	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Water Main Improvements												
WM10	36th Street East	\$ 208,000	\$ 208,000									
WM10	Jenks Point Way	\$ 250,000	\$ 250,000									
WM11	189th CT East	\$ 374,000	\$ 374,000									
WM12	Banker's Island	\$ 624,000		\$ 624,000								
WM13	184th Avenue East	\$ 208,000		\$ 208,000								
WM14	43rd Street East/183rd Avenue East	\$ 292,000		\$ 292,000								
WM15	185th Avenue East	\$ 250,000		\$ 250,000								
WM16	Bonanza Drive	\$ 936,000		\$ 936,000								
WM17	La Rita Drive & 107th Street East	\$ 687,000			\$ 687,000							
WM18	West Tapps Drive	\$ 1,268,000			\$ 1,268,000							
WM19	Myers Road	\$ 1,565,000				\$ 1,565,000						
WM20	58th Street East & 59th Street East	\$ 624,000					\$ 624,000					
WM21	193rd Avenue CT East	\$ 312,000					\$ 312,000					
WM22	202nd Avenue East	\$ 728,000						\$ 728,000				
WM23	108th Street East	\$ 520,000							\$ 520,000			
WM24	178th Avenue East	\$ 624,000							\$ 624,000			
WM25	Bonney Lake Boulevard	\$ 1,621,000								\$ 1,621,000		
WM26	West Tapps Highway	\$ 624,000									\$ 624,000	
WM27	Church Lake Road	\$ 624,000									\$ 624,000	
WM28	206th Avenue East	\$ 624,000									\$ 624,000	
WM29	Locust Avenue East	\$ 1,247,000										\$ 1,247,000
WM30	Sumner Tapps Highway East	\$ 416,000										\$ 416,000
Storage Improvements												
ST6	Repainting Program	\$ 1,100,000		\$ 500,000				\$ 300,000				\$ 300,000
Facility Improvements												
F8	Water Quality Treatment	\$ 1,000,000									\$ 1,000,000	
F9	Victor Falls Upgrades	\$ 1,000,000					\$ 1,000,000					
F10	Pump Replacement Program	\$ 100,000						\$ 50,000				\$ 50,000
F11	Public Works Shop	\$ 500,000			\$ 500,000							
Planning and Operational Improvements												
P6	Reclamation and Reuse Program	\$ 1,000,000	\$ 1,000,000									
P7	Telemetry Upgrades	\$ 100,000								\$ 100,000		
P8	Wellhead Protection Program	\$ 500,000				\$ 500,000						
P9	Security system	\$ -										
P10	Water System Plan Update	\$ 400,000				\$ 200,000					\$ 200,000	

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Table 9-5
Proposed Improvements Implementation Schedule (20-Year CIP) (continued)

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No.	Description	Est Cost	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Annual Programs												
A1	Flushing Program	\$ 397,109	\$ 34,640	\$ 35,679	\$ 36,750	\$ 37,852	\$ 38,988	\$ 40,157	\$ 41,362	\$ 42,603	\$ 43,881	\$ 45,197
A2	Valve and Fire Hydrant Program	\$ 238,449	\$ 20,800	\$ 21,424	\$ 22,067	\$ 22,729	\$ 23,411	\$ 24,113	\$ 24,836	\$ 25,581	\$ 26,349	\$ 27,139
A3	Tank Video and Inspection/Repair Program	\$ 554,279	\$ 48,350	\$ 49,801	\$ 51,295	\$ 52,833	\$ 54,418	\$ 56,051	\$ 57,732	\$ 59,464	\$ 61,248	\$ 63,086
A4	Leak Detection Program	\$ 385,530	\$ 33,630	\$ 34,639	\$ 35,678	\$ 36,748	\$ 37,851	\$ 38,986	\$ 40,156	\$ 41,361	\$ 42,601	\$ 43,880
A6	Infrastructure Renewal Program	\$ 2,311,347	\$ 201,620	\$ 207,669	\$ 213,899	\$ 220,316	\$ 226,925	\$ 233,733	\$ 240,745	\$ 247,967	\$ 255,406	\$ 263,068
A7	New Service Connections - Meter Installation Program	\$ 1,387,703	\$ 121,050	\$ 124,682	\$ 128,422	\$ 132,275	\$ 136,243	\$ 140,330	\$ 144,540	\$ 148,876	\$ 153,343	\$ 157,943
A8	R&M - Replacement and Unscheduled Projects	\$ 769,685	\$ 67,140	\$ 69,154	\$ 71,229	\$ 73,366	\$ 75,567	\$ 77,834	\$ 80,169	\$ 82,574	\$ 85,051	\$ 87,602
	TOTAL ESTIMATED PROJECT COSTS	\$ 26,370,101	\$ 2,361,255	\$ 3,355,073	\$ 3,016,365	\$ 2,843,146	\$ 2,531,431	\$ 1,691,234	\$ 1,775,571	\$ 2,371,458	\$ 3,741,912	\$ 2,702,950