

CHAPTER 8

CAPITAL IMPROVEMENT PROGRAM

INTRODUCTION

This chapter presents the Capital Improvement Plan (CIP) for the 6- and 20-year planning periods. Recommended water system improvements and associated costs, along with scheduling information is presented in the following sections according to analyses, identified deficiencies, and recommendations identified in earlier chapters of this plan. For the proposed projects identified in this chapter, preliminary cost estimates are provided in Appendix J. The costs associated with these projects include construction, administrative and engineering costs (25%), and a contingency factor (20%). The project costs are in 2008 dollars.

In the future other projects may arise which are not identified as part of the Association's CIP. Such projects may be deemed necessary for ensuring water quality, preserving emergency water supply, accommodating transportation improvements proposed by other agencies, or addressing unforeseen problems with the Association's water system. Due to budgetary constraints, the completion of these projects may require that the proposed completion dates for projects in the CIP be rescheduled. The Association retains the flexibility to reschedule projects, as best determined by the Association when new information becomes available for evaluation. Each capital improvement project should also be reevaluated to consider the most recent planning efforts, as the proposed completion date for the project approaches.

6-YEAR CAPITAL IMPROVEMENT PLAN

Table 8-1 summarizes the proposed capital improvement projects for the 6-year planning period. Each project is discussed further in the paragraphs below. Figure 8-1 shows the locations of proposed 6-year capital improvements. Detailed cost estimates for the capital improvement projects are included in Appendix J. Rate impacts associated with capital project financing are discussed in Chapter 9.

SOURCE

S-1 – Upgrade Rattlesnake/Uplands Telemetry and Hydraulic Level Controls

Currently, the Association is only able to operate one well at a time. Running both wells concurrently causes the Rattlesnake Reservoir to fill prior to the Uplands Reservoir and thus shut off the pumps before the Uplands Reservoir is full. This is caused by a lack of sufficient controls between the reservoirs. This project would involve installing telemetry

improvements and an altitude valve on the Rattlesnake Reservoir to allow the Association to run both wells at the same time with the water levels in both reservoirs being utilized to control well flows and the Rattlesnake Reservoir being controlled by taking it off line when it is full and the Uplands Reservoir still calls for water.

The Association has other telemetry projects that also need to be completed. These projects include completing the telemetry and controls at the Lower Mt Si booster station and the River Point booster station. Estimated project cost \$120,000.

S-2 – Additional Well At Rattlesnake

The Association has agreed to supply supplemental mitigation water to the City of North Bend for use in conjunction with its new water right. The quantity of water required will increase with time as development occurs in the urban growth area, and, while the Association's well production rates are capable of supplying the water, an additional well is needed to ensure redundancy of source in case one well were to fail due to a pump failure or a physical reduction in production occurs. The Association will need a well and controls, plus a waterline from the well to move that water to the Association. Estimated project cost is \$225,000.

STORAGE

ST-1 – Tanner Reservoir and Booster Pump Station

This project is needed to allow the Association to receive water from the City of North Bend in repayment of mitigation water the Association supplies to the City as well as water purchased from the City to serve the urban growth area. The project will initially consist of the installation of a new 1,500,000-gallon reservoir near the site of the existing Tanner Booster Pump Station and a new booster pump station capable of moving 1,500 gpm to the 793 Zone with redundant pumps and standby power. Estimated project cost is \$2,700,000.

BOOSTER STATION

BS-1 – River Point Booster Station

The River Point Booster Station will be modified to include a second pump for redundancy and allow for a manual, auxiliary power connection. Currently, the booster station consists of a single pump and cannot operate during power outages. This project will allow the Association to reliably transfer storage between the River Point and Terrel Reservoirs, thus eliminating a storage deficiency in the Terrel Reservoir. Estimated Project Cost: The estimated project cost is \$29,000.

BS-2 – Mt. Si Booster Station

This project will install a second pump for redundancy purposes. No additional capacity is planned.

The estimated Project cost is \$6,000.

DISTRIBUTION

D-1 – PRV Vault Improvements

The Association will replace/upgrade its PRVs and PRV vaults throughout the system to improve reliability and eliminate a number of confined spaces. The Association's PRVs are old and generally are the roll seal type of PRV. The PRVs will be replaced with hydraulically operated globe valve PRVs as budget allows. Estimated Annual Project Cost: \$50,000.

D-2 – Water Main Replacement

The Association's distribution system is approaching 40 years old. With the exception of recently placed pipe, the distribution system is composed of asbestos cement (AC) pipe and relatively low working pressure PVC pipe. During the 20-year planning horizon, the Water Association will begin a main replacement program based upon segments of waterline identified as having a higher incident of repairs as well as being undersized pipe. Estimated Annual Project Cost: \$100,000.

D-3 – Edgewick Road Water Main Replacement

This project replaces 2,400 LF of existing 8-inch AC water main with a new 12-inch water main along Edgewick Road (468th Avenue SE), between North Bend Way and SE 153rd Street. This project will not require any additional land or easements. This project will provide fire flow to the developments south of I-90. Estimated project cost is \$530,000.

D-4 – Cascade East Water Main

Two long, dead end water mains currently serve the homes located south and east of SE 153rd Street and 468th Avenue SE. The fire flow availability near the end of these water mains is limited due to high head losses. This project consists of installing approximately 350 linear feet of water main along SE 159th Street to connect these two dead ends near the end of SE 160th Street. This will improve the available fire flow throughout the area and improve water quality by eliminating two long dead end water mains. Estimated Project Cost: \$80,000.

D-5 – 432nd Avenue Water Main

The water main located along 432nd Avenue SE is a 6-inch PVC water main. The available fire flow at the end of this main is 660 gpm, which does not meet the 1,000 gpm requirement. This project will extend an 8-inch water main along the north side of I-90, creating a loop to the 436th Avenue water main. Water quality will be improved by eliminating a dead end water main. Estimated Project Cost: \$274,000.

D-6 – Terrel Fire Flow Improvements

The area to the southeast of the Terrel Reservoir (480th Avenue SE) is served by a 6-inch PVC water main that cannot deliver the 1,000 gpm fire flow requirement. Approximately 1,350 LF of 8-inch water main will be constructed to improve the fire flow availability in this area. Estimated Project Cost: \$246,900.

D-7 – Terrel Water Main Extension

The service area immediately west of the Riverpoint Reservoir experiences low pressures due to its close proximity to the reservoir. This project consists of the installation of approximately 800 LF of 8-inch water main parallel to the existing main to serve this area from the Terrel Reservoir (1,009 Zone). This improvement will provide additional reliability to the local distribution system and eliminate existing fire flow deficiencies. Estimated Project Cost: \$165,000.

Table 8-1 provides a summary and proposed schedule of the identified projects. The location of the projects are shown on Figure 8-1.

TABLE 8-1

6-Year Capital Improvements

Project	2009	2010	2011	2012	2013	2014	After 2014
New Office	\$60						
New Billing and Accounting Software	\$75						
PRV Vault Improvements ⁽¹⁾	\$50	\$50	\$50	\$50	\$50	\$50	
Water main Improvements ⁽¹⁾		\$100	\$100	\$100	\$100	\$100	\$100
S-1 Upgrade Rattlesnake/Uplands Telemetry and Hydraulic Level Controls	\$120						
Mt. Si Booster Station		\$7					
River Point Booster Station		\$29					
Tanner Reservoir and Booster Pump Station		\$1,350	\$1,350				
Additional Well At Rattlesnake				\$225			
Edgewick Road					\$530		
Cascade East Water Main						\$80	
432 nd Avenue Water Main							\$274
Terrel Fire Flow Improvements							\$246
Terrel Water Main Extension							\$165
Total	\$305	\$1536	\$1500	\$375	\$680	\$230	

All costs are in \$1,000 and in 2008 dollars.

(1) Ongoing project with limited upgrades occurring on an annual basis

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