

## CHAPTER 8

### IMPROVEMENT PROGRAM

This chapter provides a summary of the capital improvements recommended for the Town of Friday Harbor's Water System, and project costs associated with these improvements. These recommended improvements are projected through the six and twenty-year planning horizons. A summary of the recommended improvements, in order of priority, is shown in Table 8-1.

**Table 8-1. Summary Of Recommended Capital Improvements**

<b>Project</b>	<b>Year Planned</b>	<b>Cost</b>
Upgrade 327-foot zone Pump Station and improved distribution system piping	2003	\$315,000
Treatment and Disinfection System Pilot Study	2003	To be determined
Upgrade Transmission Line	2005-2009	\$2,000,000
Chlorine System Improvements	2007	\$180,000
Update Comprehensive Water Plan	2008	\$60,000
Raise Trout Lake Dam	2015	\$4,500,000
	<b>TOTALS</b>	<b>\$7,055,000</b>

Upgrading of the 327-foot zone pump station will allow for higher demands and increased pressure for fire flows. Addition of a 750 gpm pump with 220 ft head, together with the installation of 2,500 ft of new distribution system piping will mitigate current deficiencies during fire flow demands.

Pilot testing of alternative treatment and disinfection strategies at the WTP are needed in order to reduce finished water THM and TOC levels.

The 5.5 mile raw water transmission line from the Water Treatment Plant is composed mostly of asbestos-cement (AC) was installed over 50 years ago. This pipeline is nearing the end of its expected design life. The 1990 WSP recommended replacing this pipeline, and approximately 5,400 feet was replaced in 1993. The remaining 23,400 feet should also be replaced, which could be accomplished in phases. Increasing the size of the main will also decrease pumping costs at the water treatment plant.

Chlorine system improvements include the addition of an onsite liquid chlorine generation system in order to eliminate the containment and safety issues associated with gas chlorine sufficient to meet the 20-year planning period.

An update to the Comprehensive Water Plan is required by the State in 2008.

Finally, raising Trout Lake Dam an additional 6 feet will provide for an additional 141 million gallons of raw water storage (from 368 MG currently to a projected 509 MG), which will be sufficient to meet demands through the 20-year planning horizon.