

SUMMARY

OBJECTIVE

This Water System Plan was prepared to meet the requirements set forth in WAC 246-290-100 and the Municipal Water Supply – Efficiency Act Chapter 5, Laws of 2003. The overall objective is the evaluation of the water system and recommendation of improvements needed to provide service for projected growth in the City of Ferndale through the year 2026. The plan projects water system demands based upon the City of Ferndale growth projections, adopted Urban Growth Areas and conservation policies.

RESULTS AND RECOMMENDATIONS

Water demands based upon historical records were used to evaluate the various components of the water system. A summary of the results follows:

Water Rights and Contracts

The City of Ferndale has existing ground water rights and a Contract with Public Utility District No. 1 of Whatcom County for additional surface water from the Nooksack River. The water rights versus demand is described in Chapter 2, Section 2.3, on page 2-16 of the Plan and is summarized below.

For the 20 year planning period, the available water exceeds the projected demand by 3,560 gallons per minute for instantaneous flow rate, and by 5,636 acre feet per year.

Water rights are considered sufficient for the 20 year planning period.

Water Treatment Plant Capacity

The existing water treatment plant has recently been updated and is described in Chapter 3, Section 3.3.2 on page 3-4 of the plan. The forecasted water demand for the maximum day demands is listed in table 2-15 on page 2-11 of the plan.

For the 20 year planning period, the plant capacity exceeds the projected demand by 0.38 million gallons per day.

Water Treatment Plant Capacity is considered adequate for the 20 year planning period.

Water Storage

The City of Ferndale has two storage reservoirs which are described in Chapter 3, Section 3.3.3 on page 3-5 of the plan. Tables 3-2 and 3-3 of the same Section list the projected storage surplus/deficit by year.

For the 6 year planning period the projected combined surplus storage capacity is 93,000 gallons. For the 20 year planning period the projected storage deficit is 630,000 gallons.

Water Storage Facilities are considered adequate for the 6 year planning period, but the City will need more capacity at or near the end of the period. It is recommended that a new tank be constructed in 2014.

Distribution System

The City of Ferndale distribution system contains five pressure zones and four pumping stations, described in chapter 3, Section 3.3.4 on page 3-7 of the plan. A hydraulic analysis of the distribution system was performed, and is included in Appendix G. A list of deficiencies to the distribution system is included in Chapter 3, Section 3.4, Page 3-10 of the plan. The location of deficiencies and recommended improvements can be found on Plan Sheets 1 and 2.

Several areas of the City do not have enough fire flow to comply with City Standards. It is recommended that pipelines in these areas be replaced, looped or upgraded as specified in the Plan. It is also recommended that the Thornton Road Pump Station serving the Bakerview Pressure Zone be replaced with a new pump station and generator.

Capital Improvements

A Capital Improvement Plan, including prioritization and cost estimates is included in Chapter 8. Capital Improvements include minor water treatment plant improvements, upgrading the main pumps at the plant with variable frequency drives, replacing the Thornton Road Pump Station with a new facility to supply the large growth area North of the City, construction of a new water storage reservoir East of the Nooksack river, and several pipeline addition and replacement projects. A rate analysis is also proposed to establish equitable rates and connection fees required to finance the proposed capital improvements and provide for growth in the proposed growth areas of the city.