

CHAPTER 1

INTRODUCTION

GENERAL

The City of Baker City operates a water system that is one of the most unique in the state and widely acclaimed for its water quality. The water system is gravity fed from the intakes within the watershed to the ground storage reservoirs, then onto the distribution system and water services. From the time the system was developed in the early 1900s, Baker City has actively maintained and upgraded the water system in order to continue to serve the City with its unique water supply.

In the early 1980s, Baker City developed a similar Facilities Plan that provided long-term improvement guidelines. Much of those improvements have been completed, most of which relate to the distribution system and watershed intakes. The next 20-year Plan will relate more to overall water supply, water supply delivery, isolated distribution system needs, and effects of growth. Just as regulations governing wastewater have become more restrictive, regulations governing water supply have continued to increase, putting pressure on water purveyors to meet these regulations. Water quality limits for filtered and unfiltered surface water sources continue to be more restrictive. In light of the course of regulations, Baker City has continued to explore and implement means for maintaining the water quality of the water supply. This Facilities Plan further expounds on the various options available.

PURPOSE OF THE STUDY

This report presents the results of a Water Facilities Plan authorized by agreement between the City of Baker City, Oregon, and Anderson-Perry & Associates, Inc., dated April 6, 1998. The purpose of the planning document is to provide the City with planning guidelines to meet the needs for water facilities over the 20-year planning period. The Water Facilities Plan addresses water supply, treatment, storage, and distribution. These needs are based upon existing conditions, design criteria for the planning period, and regulatory requirements.

The planning document was also developed to be flexible in order to evaluate impacts of large water users on differing growth trends. As the City grows or is confronted with a potential large water user, the City should be able to evaluate the impacts.

PROJECT SCOPE

The following describes the project scope:

Study Area Evaluation. A study area evaluation will be performed in order to develop design criteria for both the water and wastewater plans. The evaluation includes defining service area and boundaries, City-wide and growth area population projections, present and future flows and loadings, regulatory standards, and service goals. Growth

area design criteria will include three estimates: low, medium, and high projections. The study area evaluation will also include an overview environmental description.

Water Supply. The individual components of the existing water supply system will be analyzed considering capacity, compliance with current water quality standards, water rights, condition of components, operation dependability, and cost of operation. The water supply needs for the planning period will be developed and alternatives for meeting long-term water supply needs will be identified, including alternatives for correcting existing system deficiencies. Estimated cost and design schematics for the preferred alternatives will be presented, and general operation and maintenance recommendations for the water supply system will be outlined.

Water Storage. The existing water storage facilities will be analyzed considering capacity, condition of reservoirs, etc. Recommended storage capacity will be analyzed considering emergency storage, operational storage, and fire flow storage. Alternatives for meeting the storage requirements of the water system for the planning period will be identified, including design schematics and estimated costs for alternatives. The majority of the effort will concentrate on equalizing storage requirements needed for the east side of Baker City.

Water Distribution System. Utilizing existing distribution maps and City records, a general review of the distribution system condition and adequacy will be made. In addition to this general review, the adequacy of perimeter distribution piping adjacent to the north, west, and east unserved areas will be evaluated using computer modeling. Alternatives for meeting current and future needs will be identified including associated estimated cost.

Computer Model. A computer model of the distribution system will be prepared which will analyze the hydraulic capacity of the distribution system. Distribution deficiencies such as low fire flow capacities, dead end or undersized lines, etc., will be noted. Alternatives for correcting noted deficiencies will be modeled. Additionally, an updated map of the existing distribution system will be prepared and, based upon the availability of existing records, the map could include line age, line sizes, line types, hydrant locations, etc. The base maps will be taken from the aerial map being performed.

Recommendations. Based upon review with the City, recommended system improvements will be identified for water supply, storage, and distribution. Included with these recommendations would be a prioritization of needs, cost estimates, and an initial environmental overview.

PLAN OUTLINE

The following provides a general description of chapters included in this Plan.

Chapter 2 describes in general the existing water system, environmental and demographic conditions, and projected population estimates to be used in the Plan.

Chapter 3 describes the water system requirements including regulatory requirements and requirements to meet developed design criteria.

Chapter 4 details the evaluation of water supply and treatment.

Chapter 5 details the evaluation of water storage.

Chapter 6 describes the evaluation of the distribution system.

Chapter 7 details the implementation schedule and the proposed funding methods. This section will be developed in conjunction with City staff.