

## CHAPTER 2 – INTRODUCTION

### 2.1 INTRODUCTION

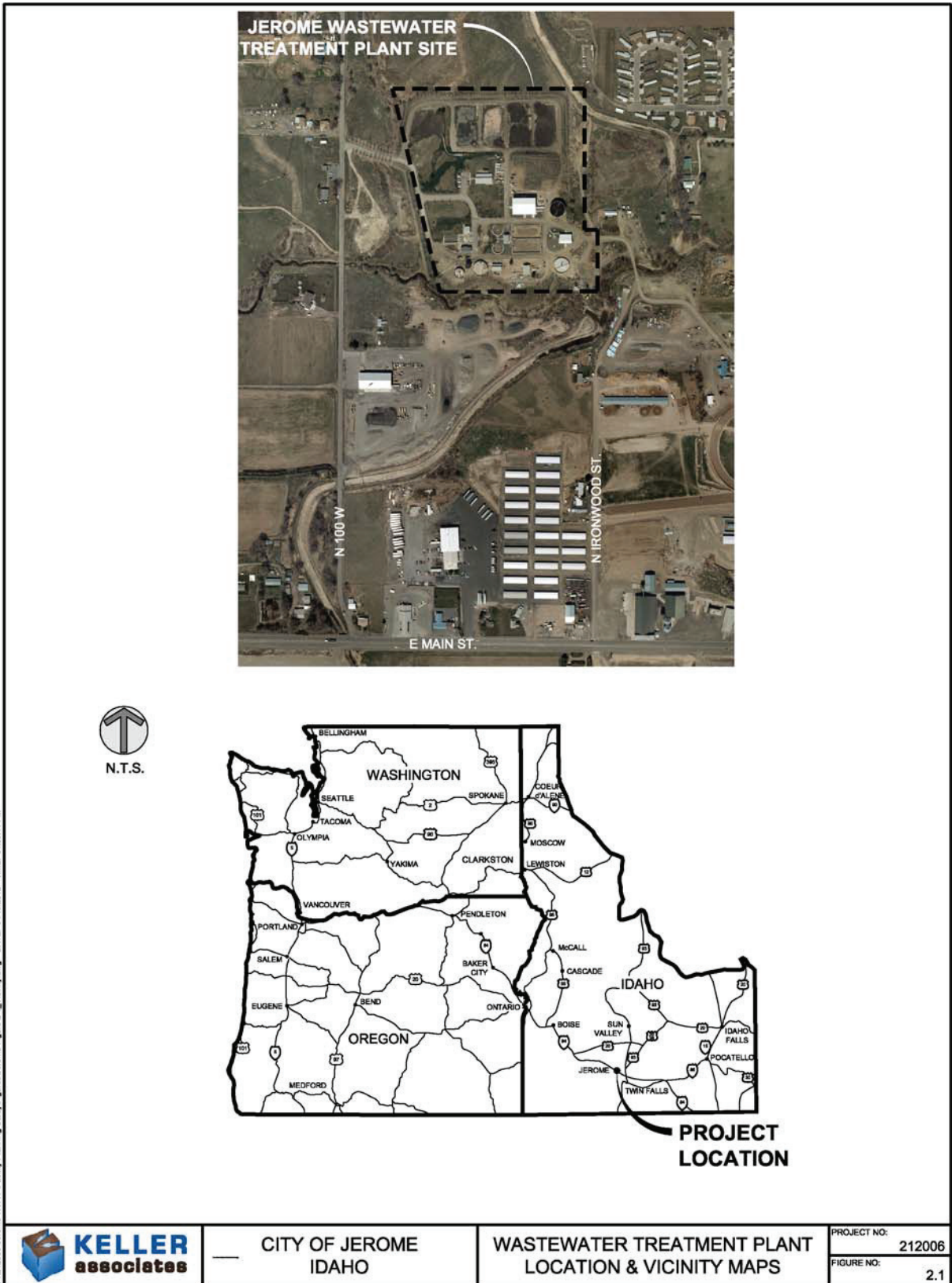
The City of Jerome, Idaho is located in Jerome County in south central Idaho (see Figure 2.1). The City owns and operates a Class IV wastewater treatment plant (WWTP), which provides wastewater treatment service for the City of Jerome. The City service area includes commercial retail, some light industrial, and residential. The facility also receives industrial wastewater from three significant industrial users: Jerome Cheese, Idaho Milk Products, and Darigold Inc.

Figure 2.2 illustrates the general service area and collection system maintained by the City. The City's wastewater system service area has room to grow on all sides. The region's economic base includes dairy industries which have seen significant growth over the last decade.

The City disposes of treated effluent into the J8 Canal which eventually outfalls to the Snake River (after approximately 20 miles). The discharge is regulated under a National Pollution Discharge Elimination System (NPDES) permit. Biosolids generated during the treatment process are further treated with aerobic digestion, dewatered with a filter press, and then hauled to the landfill.

Prior to 2008, the wastewater treatment facilities for the City of Jerome consisted of preliminary treatment, a bio-tower, and an activated sludge process. In September of 2008, the City completed the construction to convert the facility from an activated sludge plant to a membrane bioreactor (MBR) with biological nutrient removal. The upgrade also included conversion to ultraviolet disinfection. Other recent improvements were completed in December of 2010, which included construction of a second bio-tower. Since converting to a membrane facility the treatment plant has experienced three upsets (see section 3.5).

FIGURE 2.1 – WWTP LOCATION AND VICINITY MAPS



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**FIGURE 2.2 - WWTP SERVICE AREA**

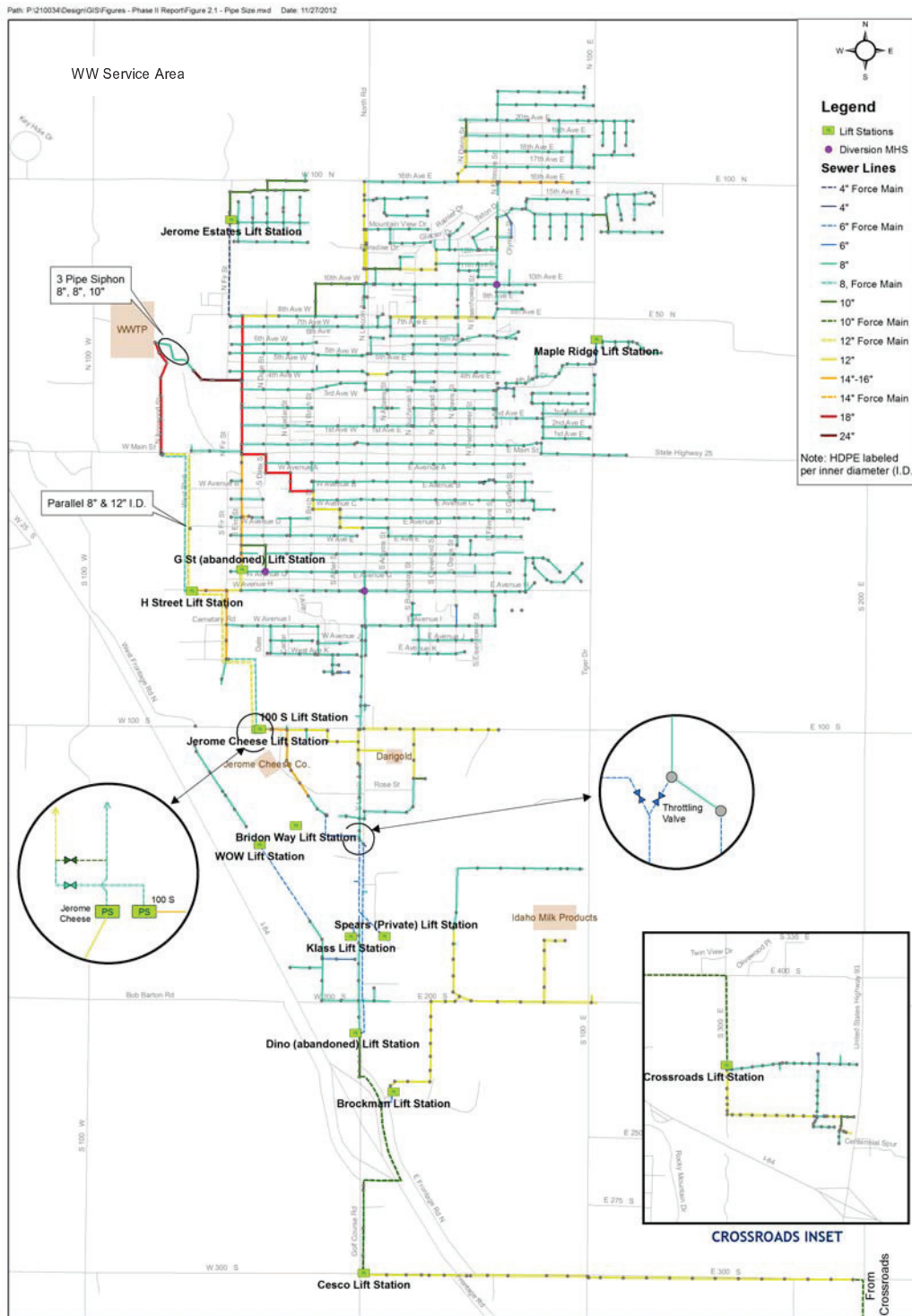


Figure: <b>2.1</b>	Title: <b>EXISTING SYSTEM BY PIPE SIZE</b>	<b>WASTEWATER FACILITIES PLANNING STUDY 2011</b>	Prepared for: <b>CITY OF JEROME, IDAHO</b>	
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## 2.2 RELATED STUDIES

Prior planning studies have been completed for the City of Jerome's treatment and collection system, including the Water Reclamation Facility Plan in September 2004, the Feasibility Study completed in August 2011, and the Wastewater Collection System Master Plan completed in September 2011. Since completion of the last comprehensive facility planning study, the City's wastewater treatment plant has experienced a drastic increase in both flows and loading. The quantity and quality of the influent into the wastewater treatment plant (WWTP) has also changed with new commercial, industrial, and residential development. Consequently, this facility plan is intended to evaluate the existing infrastructure and present solutions that will address existing deficiencies and accommodate future needs.

## 2.3 SCOPE OF WORK

The following list highlights the major tasks included in this study:

- Evaluation of disposal alternatives
- Completion of an Environmental Information Document
- Assess the existing treatment plant
- Review regulatory requirements and evaluate future conditions
- Evaluate the plant control system
- Develop treatment alternatives to correct existing deficiencies and meet future needs
- Establish a best apparent alternative
- Review staffing and testing requirements for the facilities
- Develop a capital improvement plan with both capital and maintenance costs
- Conduct a plant operations evaluation to improve plant performance and provide operational support and training
- Summarize findings in a facility planning study report

## 2.4 AUTHORIZATION

In February of 2012, the City of Jerome, Idaho contracted with Keller Associates, Inc. to complete the wastewater treatment plant facility planning study. Funding for the study came from the City of Jerome and a grant from the Idaho Department of Environmental Quality (DEQ).

## 2.5 PUBLIC PARTICIPATION

Various avenues to inform the public of the City's ongoing facility planning efforts have been used. Information has been made available to the public through council meeting updates. The first of these updates was provided on March 20, 2012. A second update was provided at a May 8, 2012 workshop with the City Council. Workshops on July 10<sup>th</sup> and 31<sup>st</sup>, 2012 presented the needs of the existing plant and improvement alternatives. The outline in Appendix A identifies the plan for future public involvement.

## 2.6 ACKNOWLEDGEMENTS

Key to the success of this project was the support and direction of the following individuals: Jerome Mayor, John Shine; City Council members; City Engineer, Rick Wuori; Consulting Engineer, Scott Bybee; the Wastewater Director, project steering committee members; and City wastewater operators.

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