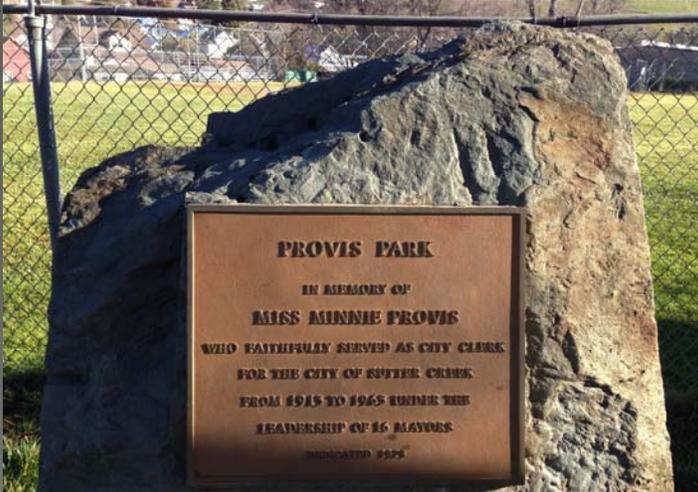


# Appendix H Regional Approach to Reuse Study: Extracted Pages

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# REGIONAL APPROACH FOR REUSE STUDY

Prepared for:  
Amador Water  
Agency



February 2013

Prepared By:  
Aegis Engineering Management & Zw3

Funding Provided By:  
Sierra Nevada Conservancy

# Chapter 1 – Introduction

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## 1.1 Purpose

Formed in 1959, the Amador Water Agency (AWA) conveys wholesale and retail treated water throughout Amador County. The main water service areas include 1) the Amador Water System (AWS), 2) the Central Amador Water System Project, 3) La Mel Heights, and 4) Lake Camanche Village. In October 2005, AWA completed the Amador County Regional Wastewater Management Plan (Plan). The Plan was the first step in analyzing the region's various existing facilities and conceptualizing potential regional facilities that could benefit Amador County as a whole.

The Regional Approach for Reuse Study (Study) brings stakeholders together and investigates the potential of a regional water recycling system by building upon the Plan and other available reports. Water recycling, a local drought resistant water supply, will allow the offset of potable water supply and will reduce the amount of secondary treated wastewater flows currently disposed through the Amador Regional Sanitation Authority (ARSA) outfall system, pasture lands, or Jackson Creek. Additional benefits of using recycled water include resource conservation, the enhancement of wildlife habitat, and the recovery of nutrients.

Funding for this project has been provided by the Sierra Nevada Conservancy (SNC), an agency of the State of California. To facilitate further funding opportunities, the Study follows the format of the *State Water Resources Control Board Guidelines for Planning Studies*.

## 1.2 Scope

AWA has engaged Aegis Engineering Management, Inc. (Aegis) and Zw3, Inc. (Zw3) to prepare this Study. The Study relied primarily upon existing reports, data, and information without independent verification. All project cost estimates were taken from existing reports or are preliminary estimates at a conceptual level, for comparison purposes, and may not represent the final cost of the overall project when constructed.

The Study assesses the viability of serving tertiary treated wastewater for irrigation purposed to existing and future users located within the Cities of Sutter Creek and Jackson, and the Martell service area. Based on the results of this Study, the region may decide to pursue the implementation of a recycled water system to offset potable water demands and minimize discharge of secondary treated wastewater during recycled water demand conditions. Baseline conditions assume that 1) all wastewater flows are available to serve potential recycled water users; 2) secondary wastewater facilities will be expanded or upgraded to accommodate existing and projected flows; 3) tertiary plant(s) will be located at existing treatment plant sites; 3) alternatives to dispose of recycled water during the winter months (storage and disposal

alternatives) will be investigated as part of a refinement study (next stage) of the selected alternative. Note that disposal alternatives of secondary treated wastewater are currently being addressed in the upcoming City of Sutter Creek WasteWater Master Plan Update (not available at the time of this Study).

In summary, the goals of this Study are to:

- Serve as a functional and guiding document for AWA
- Make the Plan available to comparable entities throughout the SNC area of operation
- Execute a Strategic Outreach Plan throughout Amador County to identify stakeholders, participants and potential recycled water users and to provide opportunities for public interaction and involvement
- Develop a recycled water market assessment
- Identify distribution system alternatives and evaluate the economic feasibility of these alternatives,
- Identify the preferred alternative, and
- Prepare documentation that can be used by AWA in their applications for financial support from various agencies for the preparation of a preliminary design report and construction of the recycled water facilities.

### **1.3 Project Overview**

The Study is divided as follows:

- |           |   |
|-----------|---|
| Chapter 1 | Introduction - describes the project purpose, scope, and project overview   |
| Chapter 2 | Study Area Characteristics – defines the study area and presents its hydrologic features, ground water basins, and land use characteristics           |
| Chapter 3 | Treated Water Supply Characteristics – presents an overview of Amador County including sources, customer pricing, water use trends, and water quality |
| Chapter 4 | Wastewater Facilities – presents an overview of wastewater facilities in the Study area   |
| Chapter 5 | Treatment Requirements for Discharge and Reuse – presents the various regulatory requirements associated with the use of recycled water               |
| Chapter 6 | Recycled Water Market – defines the existing and potential market within the study area   |
| Chapter 7 | Treatment Technologies – describes the various options for treatment including centralized and decentralized systems                                  |
| Chapter 8 | Recycled Water Strategic Facility Model and Master Plan – Project Alternatives – presents the various alternatives for recycled water delivery        |

- Chapter 9 Recycled Water Strategic Facility Model and Master Plan – Cost Analysis – provides capital, O&M, and life cycle costs for the final alternatives;
- Chapter 10 Recycled Water Strategic Facility Model and Master Plan – Summary and Implementation Plan – summarizes the study results and describes the plan to implement the recommended alternative including outreach, phasing, permits, schedule, financing, agreements, rules and regulations, process and procedures, site inspection and testing requirements