Chapter 1

1.1 BACKGROUND

Spokane County Utilities provides wastewater management for residential, commercial and industrial customers in the Spokane Valley and North Spokane service areas through an interlocal agreement with the City of Spokane. Currently, wastewater generated in the County is sent, via a sewer network, to the Riverside Park Water Reclamation Facility (RPWRF), which is operated by the City of Spokane. A 1980 inter-local agreement established the basis for the City to treat up to 10 million gallons per day of County generated wastewater. The County expects to exceed that capacity by the end of 2013. Due to physical, environmental and implementation constraints, additional capacity at the RPWRF may not be available for use by the County, or may be insufficient for the County’s long-term needs.

The County began a program in 1980 to eliminate septic tanks and connect customers to the County’s sewer system to protect the Spokane Aquifer. Since the program began, over 20,000 customers have connected. This sewer expansion program is projected to continue through the year 2015 to provide wastewater service to all existing development within the County’s sewer service area. By 2015, it is expected that approximately 11,700 additional existing septic tank customers will connect to the sewer system.

Along with the sewer system extensions, the County’s sewer service area is projected to experience significant growth over the next twenty years to meet growth management requirements. As a result of the septic elimination program and the projected population increase, the population served by the County sewer system may double by 2030 from 80,000 to over 167,000 people. Both factors will sharply increase the quantity of wastewater that must be responsibly managed.

Given this situation, the County has conducted a wastewater facilities planning process to develop long-term wastewater management strategies that will provide reliable service, protect the environment and be economical to local ratepayers.

This 2006 Wastewater Facilities Plan Amendment is the second amendment to the original 2002 Wastewater Facilities Plan issued as final in December 2002. The first amendment was the 2003 Wastewater Facilities Plan Amendment issued as final in February 2003. The chapters in this 2006 Wastewater Facilities Plan Amendment have been revised from the 2002 Wastewater Facilities Plan and the 2003 Wastewater Facilities Plan Amendment. The reader may need to reference the earlier adopted plan and amendment for the original analysis and other information that has remained unchanged for this 2006 Wastewater Facilities Plan Amendment.

1.1.1 2006 Wastewater Facilities Plan Amendment

This 2006 Wastewater Facilities Plan Amendment is focused on updating the previously published and approved 2002 Wastewater Facilities Plan and the 2003 Facilities Plan Amendment. The 2006 Wastewater Facilities Plan Amendment updates the recommendations of the original 2002 Wastewater Facilities Plan and the 2003 Final...
Chapter 1 Introduction

*Wastewater Facilities Plan Amendment* to meet the expected requirements of the Washington Department of Ecology’s Dissolved Oxygen Total Maximum Daily Load (TMDL) which is expected to be finalized in 2007. The June 30, 2006 *Foundational Concepts for the Spokane River TMDL Managed Implementation Plan* provides Spokane County a wasteload allocation and identifies the effluent phosphorus requirements for a Spokane County discharge to the Spokane River through a combination of treatment technology and other offset actions to achieve compliance with the seasonal average 10 µg/l phosphorus target.

### 1.1.2 2002 Wastewater Facilities Plan

On February 19, 2002, the Spokane County Board of Commissioners adopted a Draft *Wastewater Facilities Plan* that established a flexible, long-term management strategy, through a phased implementation program to meet capacity and treatment requirements over the next 25 years. The plan encompassed the following components:

- Controlling wastewater generation through use of programs that are enforceable, technically workable and fair
- Maximizing use of the County’s prior investment in the City of Spokane’s Riverside Park Water Reclamation Facility (RPWRF)
- Building a new treatment plant in the Spokane Valley to serve growth and continued implementation of the septic tank abatement program
- Producing highly treated effluent for discharge to the Spokane River that meets all water quality and regulatory requirements
- Actively pursuing reclaimed water beneficial use measures that are affordable and which will augment the region’s water resources
- Beneficially reusing all biosolids produced at the treatment facilities

A Final *Wastewater Facilities Plan* that incorporated responses to review comments was issued in December 2002.

### 1.1.3 2003 Facilities Plan Amendment

The 2003 *Wastewater Facilities Plan Amendment* was prepared for three primary reasons:

- To provide additional water quality analyses to demonstrate that Spokane County’s wastewater management plan will be protective of aquatic and public health
- To provide additional site-specific detail needed to fulfill the Washington State Department of Ecology’s (Ecology’s) requirements for a Facilities Plan/Engineering Report
- To describe progress on other key implementation activities identified in the 2002 *Wastewater Facilities Plan*.

The major work elements associated with the 2003 *Wastewater Facilities Plan Amendment* were as follows:
Chapter 1

Introduction

- Refine appropriate effluent quality requirements for discharge to the Spokane River through additional near-field dissolved oxygen analyses, participate in Ecology’s dissolved oxygen total maximum daily load (TMDL) process, and perform mixing zone analyses for temperature and toxic constituents.

- Conduct a siting study to identify a suitable site for the new Spokane County Regional Water Reclamation Facility.

- Evaluate alternative treatment technologies and select a treatment concept that will effectively meet anticipated near-term and long-term effluent quality requirements associated with the beneficial reuse practices planned by the County.

- Develop a site-specific, conceptual design of the proposed Spokane County Regional Water Reclamation Facility that meets Ecology’s requirements for a Facilities Plan/Engineering Report, and establishes the level of aesthetic mitigation anticipated for the project.

- Further define pumping stations and pipelines needed to convey wastewater to the Spokane County Regional Water Reclamation Facility.

- Further define pipeline and diffuser requirements needed to convey and discharge treated effluent to the Spokane River.

- Conduct an effective public involvement process to guide the siting study and the definition of appropriate aesthetic mitigation measures for the Spokane County Regional Water Reclamation Facility.

- Prepare a cost-effectiveness analysis to meet the requirements of the State environmental review process (Chapter 173-98-100).

- Update cost estimates and implementation schedules, and document progress on key implementation activities.

In February 2003, a Final Wastewater Facilities Plan Amendment\(^1\) (2003 FPA) was issued. The 2003 Wastewater Facilities Plan Amendment recommended construction of a membrane bioreactor process that incorporates nitrification/denitrification, chemically-assisted phosphorus removal and ultraviolet (UV) disinfection. Two finalist sites were identified and evaluated in detail: the former Stockyards site and the Alki-Fancher site. The Stockyards site was the preferred location for the new regional plant and the property has since been purchased by Spokane County.

1.1.4 Ecology Approval of Wastewater Facilities Plan

The Washington Department of Ecology approved the Spokane County 2002 Wastewater Facilities Plan and 2003 Wastewater Facilities Plan Amendment in a letter dated February

\(^1\) HDR Engineering, Inc., Spokane County Wastewater Facilities Plan Amendment (Final), February 2003.
On November 7, 2003, Ecology wrote a letter to the County stating that it intended to issue an NPDES permit for the new regional plant.

1.1.5 Changes since 2003 Wastewater Facilities Plan Amendment

Since completion of the 2003 Wastewater Facilities Plan Amendment, a number of changes have occurred that affect the timing and treatment performance objectives for the new regional plant. These changes are listed below:

- **City of Spokane Valley Incorporation.** Following the incorporation of the City of Spokane Valley, project implementation was delayed for nine to twelve months as the new city reviewed its governance options for wastewater management. The City has indicated a preference to have Spokane County provide wastewater management for the sewer service area within the City limits.

- **Stockyards Site Purchased.** Spokane County selected the Stockyards site as the preferred location for the Spokane County Regional Water Reclamation Facility and purchased the site, June 2004.

- **Dissolved Oxygen TMDL.** The Washington Department of Ecology published a draft Dissolved Oxygen Total Maximum Daily Load (TMDL) in October 2004 and a lengthy collaboration process culminated in the publication of the *Foundational Concepts Document* on June 30, 2006. This document identifies the effluent phosphorus requirements for a Spokane County discharge to the Spokane River with a combination of treatment technology and other offset actions to achieve compliance with a seasonal average 10 ug/l phosphorus target, which is more stringent than provided for in the analysis conducted for the 2002 Wastewater Facilities Plan and the 2003 Wastewater Facilities Plan Amendment.

1.1.6 Environmental Analysis

To address environmental and community issues, a programmatic Environmental Impact Statement (EIS) was prepared to address the wastewater management concept identified in the Wastewater Facilities Plan. This EIS became final in February 2002. In addition, a Supplemental EIS (SEIS) was prepared to address project specifics and the site selection process for the treatment plant and conveyance facilities. The SEIS became final December 13, 2002. An EIS Addendum was published in December 2006 in conjunction with the 2006 Draft Wastewater Facilities Plan Amendment to update the environmental analysis in response to the Foundational Concepts document, which contains a wasteload allocation for Spokane County, along with target pursuit actions associated with the County’s proposed discharge to the Spokane River.

1.2 AUTHORIZATION

On February 4, 2000, the Spokane County Board of Commissioners authorized HDR Engineering to proceed with preparation of the 2002 Wastewater Facilities Plan (Contract 99-214). In February 2002, the Spokane County Board of Commissioners approved
Amendment No. 2 to prepare the 2003 *Wastewater Facilities Plan Amendment*. In May 2006 the Spokane County Board of Commissioners approved Amendment No. 8 to prepare the 2006 *Wastewater Facilities Plan Amendment*. 