

Exhibit F

Spokane County Solid Waste and Moderate Risk Waste Management Plan

Prepared for:



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A number of SWAC meetings were held during the course of the Plan preparation, where the planning process was presented, the mission statement and objectives were adopted, the existing conditions and alternatives were selected, and the draft plan was recommended for adoption by the County and participating jurisdictions. The schedule of the SWAC meetings is included in **Exhibit 1-2**.

Exhibit 1-2. SWAC Meetings

May 21, 2014
August 20, 2014
December 17, 2014

1.1.3 Public Involvement

Involving the public in solid waste management planning is an important element of developing and updating SWMPs. A general public meeting was held on October 15th to accept input on the Preliminary Draft Plan.

1.2 PLAN GOALS AND OBJECTIVES

At the beginning of the planning process, the SWAC discussed the important solid waste and moderate risk waste (MRW) issues affecting Spokane County.

1. Consider variable tipping fees on specific wastes, such as Construction and demolition waste and other WTE applicable wastes, such as tires or other non-burnables.
2. Reevaluate curbside recycling collection within existing service areas, and based on material types.
3. Evaluate existing recycling goals and methods.
4. Evaluate markets for recyclables, including viability of glass and 3-7 plastics, and current economics associated with continuing to process these materials.
5. Evaluate material recovery facilities (MRFs) and material separation methods.
6. Evaluate new technologies.
7. Review and evaluate system administration and management.
8. Illegal disposal (tires, roadside dumps, enforcement challenges). Yes, this is an ongoing problem.
9. Food waste composting.
10. Construction/Demolition and Inert wastes.

11. Sustainable financing mechanism.
12. HHW.
13. Outreach and Education priorities.

In addition, the SWAC identified specific goals and objectives for the Plan for managing solid waste in Spokane County. This overview helped to focus the Plan on the specific needs of Spokane County, and led to the development and the final conclusions reached by this Plan.

Goal: Manage solid waste in a cost-effective manner that promotes, in order of priority, waste reduction, reuse, and recycling

Objectives:

- Recycle prior to WTE processing or landfill disposal.
- Work towards achieving a 65% recovery rate by 2020.
- Invest in education and rely on voluntary programs.
- Measure progress in achieving goals and objectives.

Goal: Ensure financial integrity and control costs of the county solid waste management system.

Objectives:

- Ensure financial transparency and establish measures for accountability.
- Maintain existing and identify new funding mechanisms.

Goal: Enhance and improve the overall efficiency of waste and recyclables collection and transfer.

Objectives:

- Provide access to cost-effective collection services for all residences, businesses, and industry.
- Promote effective use of the waste management infrastructure to optimize service levels and transportation efficiencies.
- Encourage competition to reduce costs of collection and processing.

Goal: Ensure adequate processing and disposal capacity.

Objectives:

- Promote research opportunities for alternative solid waste management technologies.
- Provide adequate disposal capacity for municipal solid waste (MSW).
- Maximize efficiency at the WTE facility.

Goal: Establish guidelines and strategies for management of specific waste streams.

Objectives:

- Increase public awareness of proper handling and disposal of MRW.
- Encourage the use of alternatives to toxic and hazardous materials.

Goal: Continue public outreach and education efforts.

Objectives:

- Coordinate efforts with other organizations and agencies and encourage mutual support.
- Emphasize aquifer protection and clean water to promote better stewardship of solid and MRW.

Goal: Ensure the County solid waste system is in compliance with State rules and regulations.

Objective:

- Maintain proper monitoring and regulatory procedures.

1.3 SUMMARY OF RECOMMENDATIONS

Evaluations and comparisons of the alternatives discussed in each section leads this Plan to recommend implementing a progressive but monitored approach to solid waste reduction, reuse, recycling, and disposal. This approach will provide for continued progress toward meeting Washington State's diversion goal while maintaining a balance of costs and diversion benefits to Spokane County residents and businesses. Not all alternatives advanced as recommendations. Some alternatives were modified to allow for the assessment or monitoring of an issue as a recommendation (the numbering of the individual recommendations reflects their order as alternatives described in the full text of each section). The recommendations are summarized in **Exhibit 1-3**.

Exhibit 1-3. Solid Waste and MRW Recommendations

#	Subcategory	Recommended Action
Section 4. Source Reduction		
1	Education and Outreach	Expand and coordinate existing education efforts. The County will collaborate with other organizations, including the Spokane River Forum, to tailor educational messages and identify outreach opportunities.

1.4 REGULATORY FRAMEWORK

1.4.1 Purpose and Authority

The purpose and authority for solid waste planning is derived from Ch. 70.95 RCW State Solid Waste Management – Waste Reduction and Recycling Act, which defines the role of counties and cities in solid waste management.

In 1989, the Washington State Legislature amended Ch. 70.95 RCW to provide added direction to local governments to incorporate waste reduction and source separation strategies into coordinated systems of solid waste management. The State’s objective of waste reduction is to reduce the amount of waste that becomes a government responsibility. The objectives of source separation are to remove materials from disposal that have resource value and to effectively isolate hazardous materials from improper disposal.

The revised legislation also addressed two significant issues relevant to the development of SWMPs: solid waste management priorities, and specific elements of local waste reduction and recycling programs.

Solid waste collection, handling, and management priorities are to be implemented in the following order: Waste Reduction; Recycling; Energy recovery/incineration or landfill disposal of separated and mixed wastes, respectively. The amendment also established a goal of achieving a 50 percent MSW recycling rate for the state by 2007.

Statutorily mandated planning requirements have remained the same since 1999. Other changes to Chapter 70.95 RCW have mainly focused on permit exemptions regarding beneficial use, composting bovine carcasses, and the transport and handling of recyclable material.

In 2006 the State Legislature passed Chapter 70.95N RCW, Electronics Product Recycling, which requires manufacturers to provide electronic product recycling services at no cost to households, small businesses, charities, school districts and small governments. The program became fully operations on January 1, 2009.

In 2007, the Public Events Recycling Law (RCS 70.93.093) went into effect, requiring a recycling program at every official gathering and sports facility where vendors are selling beverages in single-use aluminum cans, and/or glass and/or plastic bottles, and there is a commercial curbside recycling collection program in the areas. Beverage vendors are responsible to provide and fund the recycling program at the gathering/sports facility.

1.4.2 Planning Guidelines

Complementing the legal requirement codified in Ch. 70.95 RCW, is guidance on how solid waste plans are to be prepared, as provided in the Guidelines for Development of Local Comprehensive Solid Waste Management Plans and Plan Revisions (Washington State Department of Ecology, Publication No. 10-07-005). These guidelines set forth the required content and recommended organizational structure for SWMPs. The 2014 Plan has been prepared using those guidelines.

1.4.3 Local Hazardous Waste Management

Local governments must develop hazardous waste management plans under the purview of the Hazardous Waste Management Act (HWMA, Ch. 70.105 RCW). Discussion of hazardous waste is not required within local SWMPs, although a county or city may elect to include such a discussion in its plan. Spokane County's Hazardous Waste Management Plan was published as a stand-alone document in 1991. It was updated and incorporated into the 1998 and 2009 Solid Waste Plan. New conditions for combined plans were included in the 2010 Plan Guideline, and require the local hazardous waste section of the combined plan to meet all of the planning requirements prescribed in Local Hazardous Waste Planning Guidelines RCS 70.105.220 and RCW 70.951.020.

For the 2014 Plan update, MRW management has been incorporated into the SWMP in Section 12.

1.4.4 Disposal Facility Siting Criteria

The 1984 amendment to the Solid Waste Management - Reduction and Recycling Act (Ch. 70.95.090 RCW) mandates that each local SWMP assess the planning area for disposal facility siting according to various locational standards. An in-depth analysis of disposal siting was conducted as part of the *1992 Spokane County Comprehensive Solid Waste Management Plan* (Parametrix, 1992). The results of that analysis are summarized in this plan.

1.4.5 Beyond Waste Plan

An important State document that provides guidance and direction in the development of the SWMP is the *Beyond Waste Plan*, the State's solid and hazardous waste management plan (adopted in November 2004 and updated at the end of 2009). The Beyond Waste Plan (BWP) shifts the direction of solid waste planning away from a focus on management and towards a vision of waste prevention. Counties are not mandated to follow the initiatives outlined in the BWP, but are strongly encouraged to pursue initiatives and recommendations that are feasible in their jurisdictions. The BWP identifies five initiatives, or areas of focus:

1. Moving Toward Beyond Waste with Industries
2. Reducing Small-Volume Hazardous Materials and Waste
3. Increasing Recycling for Organic Materials
4. Making Green Building Practices Mainstream
5. Measuring Progress Towards Beyond Waste

The purpose of the BWP is to set a path for waste management in the State and provide a guide for local plans. Though there is currently no requirement that local governments adopt programs envisioned in the BWP, incorporating BWP recommendations into the Spokane County plan can help attain significant reductions in wastes and toxic materials.

The Beyond Waste vision is to use waste as resources thereby eliminating most wastes. Simply put, preventing waste and use of toxic substances is the smartest, cheapest and healthiest approach to waste management.

8.1.3 Facility Operations

8.1.3.1 General Operations

The WTE Facility is designed to process waste 24 hours per day every day of the year except for three scheduled maintenance periods. The facility receives waste from commercial haulers and the public 7 days per week from 7:30 a.m. to 5:00 p.m., closing on six designated holidays (New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, and Christmas).

The available capacity for acceptable MSW is 248,200 tons per year (TPY). Since opening in 1991, the facility has exceeded all operations performance standards. In 2012, the WTE Facility processed 272,799 tons.

The facility includes three scalehouses, two independent refuse receiving areas, and a storage pit area with approximately seven days of disposal capacity. Two overhead cranes mix and sort the waste and deliver it into the hopper for incineration. Combustion occurs in two waterwall furnaces. Each furnace has a design capacity of 400 tons per day of solid waste, having a heating value range of 3,800 to 5,500 British thermal units (Btu's) per pound. As hot gases resulting from combustion move through the boiler sections of the furnace, steam is generated and directed to the condensing turbine generator to produce electricity. The ash generated by the combustion process is approximately 28 percent of the processed material by weight, but only about 10 percent by volume. The Facility's ash is treated at the WTE facility using the Wesphix process. Although the ash is still handled under the special incinerator ash, it consistently passes TCLP, pH, and bioassay tests, and therefore is considered neither a dangerous waste nor special incinerator ash.

8.1.3.2 Energy Generation

The facility is designed to produce a net electric output of at least 505 kWh per ton of solid waste processed on an annual average basis, while processing acceptable solid waste that has a heating value range of 3,800 to 5,500 Btu's per pound. All electricity generated by the facility, except that used for in-plant purposes, is sold under contract to Avista. The agreement with Avista was for three years, beginning on November 16, 2011. This agreement expires on November 16th of 2014, and the City is currently negotiating a new contract with Avista, the term of which is undecided at this point). The electricity enters the transmission system of Avista, Inc., through an interconnection line

The facility produced 170,056 megawatt hours (MWh) of electricity in 2012 and sold 140,298 MWh, with net revenue of \$6,185,432 (City of Spokane, 2014). Revenues generated from electricity sales constitute revenues of the City. If improvements are needed to the facility, the City, as the owner, is responsible for the costs of those improvements.

The WTE Facility processed 272,799 tons of MSW in 2012, resulting in 76,222 tons of ash and 8,702 tons of recovered ferrous metals. **Exhibit 8-2** includes a comprehensive list of tonnage handled by the WTE facility since 2008, including ferrous metals recycled from the ash, ash sent to the Roosevelt Regional Landfill, and white goods collected from the tipping floor for recycling.