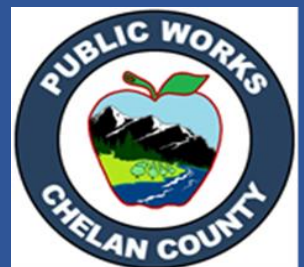




# Chelan County Solid Waste Management Plan

Draft: November 2022

Prepared by Chelan County Public Works with Solid Waste  
Advisory Committee



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## EXECUTIVE SUMMARY

### INTRODUCTION

This Solid Waste Management Plan (or “Plan”) was prepared to provide a guide for solid waste activities in Chelan County. This Plan addresses recent changes while also looking forward to the future needs of Chelan County. The Plan was developed through a team effort by Chelan County, the Solid Waste Council and the cities, through their Public Works Departments and the Solid Waste Advisory Committee (SWAC). SWAC members represent the interests of their agencies and businesses, and as residents and members of the community. The Council is made up of elected officials who develop policies and represent the public’s interest.

This document was developed in response to the Solid Waste Management Act, Chapter 70A.205.040 of the Revised Code of Washington (RCW), which states:

*“Each county within the state, in cooperation with the various cities located within such county, shall prepare a coordinated, comprehensive solid waste management plan.” (Section 70A.205.040 RCW)*

The minimum contents of this Plan are specified by state law (RCW 70A.205.045) and further described in Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions, issued by the Washington Department of Ecology (Ecology 2010). The Solid Waste Management Act specifies that this Plan must “be maintained in a current and applicable condition” through periodic review and revisions (RCW 70.85.110).

### GOALS AND OBJECTIVES

- Manage solid wastes in a manner that promotes, in order of priority: waste reduction; recycling; energy recovery, incineration or landfilling of separated; and finally energy recovery, incineration or landfilling of mixed wastes.
- Encourage public involvement and ensure the representation of the public in the planning process.
- Increase public awareness of the importance of waste reduction and recycling. Develop programs that promote recycling and help the state achieve its goal of a 50% recycling rate.
- Emphasize local responsibility for solving problems associated with solid waste, rather than relying on the state or federal government to provide solutions.
- Develop an economically responsible and environmentally sound solid waste management system by analyzing the waste management priorities.
- Minimize adverse impacts on the environment and preserve public health through sound solid waste management operating procedures.
- Develop a regional solid waste management system that complies with state regulations for solid waste handling.
- Develop an educational system to inform the public about the solid waste system and opportunities for reducing toxics, waste reduction, proper hazardous waste disposal, and recycling.
- Provide infrastructure through creative economic programs to support the necessary programs for proper hazardous waste disposal, waste reduction, and recycling.
- Ensure that adequate disposal capacity exists for the present and future residents of Chelan County.

## **PLAN ORGANIZATION**

Chapter 1 of the *Chelan County Solid Waste Management Plan* describes the purpose and goals of this Plan, its relationship to other plans, and the process and schedule for updating the Plan. Chapter 2 provides information about demographics, waste quantities, and other basic information about Chelan County.

Chapters 3 through 10 discuss the various elements of the solid waste management system in Chelan County and provide the information and analysis for the recommendations. Chapter 11 provides a summary of the recommendations shown in Chapters 3 through 10, and also provides additional information about the implementation schedule and other details for those recommendations.

## **BACKGROUND**

The latest Washington state survey 2018, for 2016 amounts of solid waste generated in Chelan County is approximately 135,360 tons per year. Of this, an estimated 34% is diverted through recycling and other programs, while the remaining 66% (88,440 tons in 2016) is shipped to the Greater Wenatchee Regional Landfill.

The amount of waste generated in Chelan County is expected to increase to 169,200 tons per year by 2037. At the current recycling and composting rate, 57,528 tons per year of that future amount will be diverted by recycling and other methods, while 111,672 tons per year will need to be shipped to a landfill or other disposal facility. If the recycling and diversion rate can be increased to 40% by 2027, the amount of waste disposed will remain about the same as in 2016 while the amount recycled and diverted will approximately increase by half (increasing from 57,528 tons in 2016 to 86,292 tons in 2027). In 2037, there would be an additional 7,000 tons of waste per year that would be recycled and diverted instead of being disposed of (leaving only 104,672 tons per year that would be landfilled) at a 40% recycling and diversion rate.

## **PROCESS AND SCHEDULE FOR ADOPTION OF THE PLAN**

This copy of the *Chelan County Solid Waste Management Plan* is a “final draft” that incorporates comments received on a “preliminary draft” that was distributed to the Solid Waste Advisory Committee (include is the Chelan Douglas Health District) in October 2022. Once reviewed by the Department of Ecology, Department of Agriculture and Washington Utilities and Transportation, as well as Public Review, comments will be considered and edits made, the plan will be adopted by the County and on behalf of the five cities, and then final approval by the Department of Ecology.

## **RECOMMENDATIONS**

The recommendations proposed by this Plan are shown below. The recommendations are numbered using an abbreviation for the topic (for example, Recommendation WR2 is the second recommendation for Waste Reduction). Additional details on the recommendations can be found in the appropriate chapter of the Plan and are also summarized in Chapter 11.

### **Chapter 3: Waste Reduction**

Waste reduction is defined as those methods that prevent a waste from being created, or that reduce the toxicity of the wastes that are generated. Chapter 3 of the Plan discusses waste reduction techniques and provides the following recommendations:

- WR1) Expand waste reduction programs in governmental offices**
- WR2) Encourage waste reduction programs for commercial and industrial businesses**
- WR3) Support private reuse programs and businesses**

### **Chapter 4: Recycling**

Chapter 4 of the Plan discusses existing recycling programs and provides several recommendations for additional efforts:

- R1) Adopt UGAs from *Chelan County Comprehensive Plan* as urban areas for purposes of recycling services.**
- R2) The list of designated materials, and process for amending this list, is adopted.**
- R3) Support glass recycling that would encourage the recycling of glass.**
- R4) Minimum service levels are adopted.**
- R5) Coordinate funding for education efforts with waste reduction programs.**
- R6) Provide information annually to local businesses and residents with both garbage and recycling rates.**
- R7) Continue curbside programs in Cashmere, Leavenworth and Wenatchee and voluntarily in unincorporated areas.**
- R8) Re-evaluate drop-box system in urban and rural designated areas.**
- R9) Encourage multi-family dwelling owners to contract with private recycler.**
- R10) Encourage municipal permitting agencies to recommend that builders incorporate recycling collection areas into their building plans for multi-family and commercial buildings.**
- R11) Continue and expand recycling programs in governmental offices.**
- R12) Support a monitoring/reporting system.**
- R13) Continually investigate and encourage local, cost-effective markets.**
- R14) Support government procurement policies.**
- R15) Evaluate any proposals for recycling through mixed waste processing in cooperation with the local municipalities.**



- R16) Support Contamination Reduction Outreach Program with available resources for education through media.**

## **Chapter 5: Organics Management**

Chapter 5 of the Plan discusses the goals and regulatory framework for composting and other organics management methods, describes existing composting programs in Chelan County, reviews the needs and opportunities for expanding upon existing practices, describes and evaluates alternatives, and provides the following recommendations:

- O1) Encourage Compost businesses to continue and aid in siting new compost operations and production.**
- O2) Continue brush disposal and yard waste diversion in the Chelan County, and continue collection in Wenatchee, Leavenworth, Chelan, Entiat and Cashmere.**
- O3) Continue to support Backyard Composting.**
- O4) Explore options and partnerships for septage disposal, biosolids, and fruit land application.**
- O5) Continue and promote curbside collection of yard waste, organics, and food waste collection in quarantine area. Expand screening efforts with education and provide options for green waste in quarantine areas of the County.**
- O6) Explore diversion of organics throughout the county, including clean lumber from construction and demolition waste, forested slag for bio-char.**
- O7) Support procuring compost material developed in local areas.**  
Counties and Cities with populations over 25,000 are required to procure compost, with first attainment from locally produced compost. A County Compost procurement Resolution will be adopted by January 2023.

## **Chapter 6: Solid Waste Collection**

Chapter 6 of the Plan examines the current system for collecting solid waste in Chelan County. In general, the existing solid waste collection system is functioning well; however, recommendations include utilizing County facilities and collection fees that support programs in this Plan. The following recommendations are made:

- WC1) All areas of Chelan County should use collection systems and rates that encourage resource conservation.**
- WC2) Provide for recycling programs throughout the unincorporated areas of Chelan County by a minimum voluntary curbside collection.**
- WC3) Regional Waste Haulers shall use local facilities. County transfer stations in Chelan and Dryden shall be the designated deposit site for garbage collection of haulers in those areas respectively. Chelan area shall be the Lake Chelan Valley and Dryden shall be the site for waste collected west of Monitor.**

**WC4) Continue a fee upon solid waste collection services of solid waste companies within the unincorporated areas to be paid to Chelan County to fund the administration and planning expenses of moderate risk waste collection that may be incurred in complying with the requirements in RCW 36.58.**

## **Chapter 7: Transfer and Disposal System**

Chapter 7 of the Plan examines the system of transfer stations currently used in Chelan County, and includes major renovations and improvements needed to keep up with growing demands:

- T1) Construction improvements to the existing Transfer stations should be prioritized and implemented. Dryden transfer station an expansion for operation purposes by constructingh a second tipping floor and enhancingsorting for recycling. A separate area for sorting and storage of construction and demolition waste will improve recycling organic waste and provide affordable items for citizens construction. Secure fencing is needed to surround the property.**
- T2) Chelan transfer station needs facility improvements with a scale house and scales, for aid with consistent load measuring and handling of refuse and recyclables. Other associated infrastructure such as fencing, access, and shop will aid in both proper garbage disposal and recycling handling.**
- T3) Evaluate and consider future centralized Wenatchee waste transfer system, including the privately owned Wenatchee transfer station for expansion or relocation for recycling provisions or a new facility.**

Chapter 7 also addresses the significant amounts of solid waste being brought into Chelan County from other areas, or “waste import”. Waste imports are primarily waste from Douglas County that’s being brought to the South Wenatchee and Chelan transfer stations. All of Chelan County’s waste is sent to a landfill in Douglas County (“waste export”), and depending solely on that one facility causes some concerns for stability and competition. These factors led to two recommendations:

- WI1) Consider higher rates for out-of-county wastes.**  
Periodically evaluate options for charging higher rates to provide extra funds for needed infrastructure.
- WI2) Host fees should be considered for Miscellaneous Waste.**
- WE1) Explore options for waste export.**  
Periodically review options and costs for exporting waste to other disposal sites.

Lastly, Chapter 7 also discusses landfill disposal and makes the following recommendations.

- L1) Identify potential sites for landfills/Incinerator, and limited purpose landfills.**

- L2) Continually review and evaluate other landfill disposal options, including long haul or railway transportation.**
- L3) Consider final post-closure of Manson Landfill in Chelan County.**

## **Chapter 8: Moderate Risk Wastes**

Chapter 8 examines existing and potential practices for disposal of hazardous wastes from homes and businesses in Chelan County. A newly built Moderate Risk Waste facility, MRW, has been successful with providing a needed service for residents and businesses hazardous waste disposal.

- MRW1) Continue operation at the permanent MRW facility.**
- MRW2) Continue to provide education and an annual disposal program for Small Quantity Generators.**
- MRW3) Continue to work with WSDA to collect agricultural wastes.**
- MRW4) Explore methods to reduce MRW waste and associated costs of proper disposal.**

## **Chapter 9: Miscellaneous Wastes**

Chapter 9 reviews the generation, handling and disposal methods for several specific wastes in Chelan County. The following recommendations are supported:

- S1) Continue asbestos disposal using approved and permitted methods.**
- S2) Continue to support Pharmacy collection of sharps and other biomedical waste disposal.**
- S3) Support the salvage of reusable materials, such as Habitat for Humanity.**
- S4) Seek other collection and chipping sites established at the transfer stations for clean, not treated or painted, lumber.**
- S5) Education for hazards in building materials..**
- S6) Continue current practices for agriculturally contaminated soils by supporting local disposal options.**
- S7) Encourage proper disposal of tires.**
- S8) Consider the uses and investigate engineering and other alternative applications for tires.**
- S9) Support the state to further research use for used tires.**
- S10) Seek and provide assistance for the collection and treatment of waste resulting from Natural Disasters.**

## **Chapter 10: Administration and Regulation**

Solid waste management activities discussed in Chapter 10 of the Plan are organized into two sections: 1) Administration and Regulation and 2) Public Education. The following recommendations are made:

- A1) Provide adequate staffing for solid waste programs.**
- A2) Continue to improve interagency coordination and oversight.**
- A3) Designate County transfer stations, Dryden and Chelan, as the only repositories for waste in the Dryden and Chelan areas respectively as designated.**
- A4) Continue the Collection Service Fee (RCW 36.58.045).**
- A5) Continue to apply for grant money for the funding of solid waste programs.**
  
- PE1) Continue and expand educational efforts to promote waste diversion methods.**
- PE2) Encourage waste haulers and municipalities involved in collection to conduct annual (at a minimum) publicity for waste collection and recycling.**

## **CHAPTER 1: INTRODUCTION**

### **1.1 ROLE AND PURPOSE**

This *Solid Waste Management Plan* (Plan) was prepared to provide long-term guidance to Chelan County, including its residents, businesses and municipalities. The programs addressed in this Plan include garbage collection and disposal, recycling, composting and hazardous waste disposal.

This Plan has been developed in accordance with the Solid Waste Management Act, Chapter 70A.205 of the Revised Code of Washington (RCW), which states:

“Each county within the state, in cooperation with the various cities located within such county, shall prepare a coordinated, comprehensive solid waste management plan” (Section 70A.205.040).

The Solid Waste Management Act also specifies that these plans must “be maintained in a current condition” through periodic review and revisions (RCW 70A.205.075), hence the need for this Plan. This document is an update of the *2017 Chelan County Comprehensive Solid Waste Management Plan* and is intended to provide citizens and decision-makers in the region with a guide to implement, monitor, and evaluate future solid waste activities for a 20-year period. Recommendations developed for the Plan provide guidance for policy and financial decisions, including guidance for expending local funds and state grants for local solid waste projects.

This introductory chapter of the Plan provides information on the Plan’s legislative mandate and goals; the Solid Waste Advisory Committee (SWAC) and Solid Waste Council (SWC); the planning process; and historical information.

### **1.2 PARTICIPATING JURISDICTIONS**

As indicated above, RCW 70A.205 delegates the authority and responsibility for the development of solid waste management plans to the counties, and the Chelan County Public Works Department has taken the lead role in developing this Plan. Solid waste planning is conducted by the Public Works Department under the guidance of the Solid Waste Council, which is comprised of elected officials from each municipality in Chelan County. The Council provides policy direction and approves solid waste and waste reduction programs and projects.

Assistance is provided by another group, the Solid Waste Advisory Committee (SWAC), in developing and recommending programs. Recommendations made by the SWAC may be taken to the Solid Waste Council or other municipal councils for review and adoption. These municipal councils may include the Board of County Commissioners, the County Planning Commission and the governments of the five incorporated cities in the county. The five incorporated cities are Cashmere, Chelan, Entiat, Leavenworth and Wenatchee.

By state law, cities may fulfill their solid waste management planning responsibilities in one of three ways: 1) by participating with the county in preparing a joint plan, or 2) by preparing their own plan for integration into the county’s plan, or 3) by authorizing the county to prepare a plan that includes the city. The five cities in Chelan County are actively participating in the countywide solid waste system through an Interlocal Agreement (ILA). The Solid Waste Council reviewed the

current ILA and concluded that it would remain in effect through the planning process and also through the planning period, and that the Cities would participate with the county in preparing a joint plan. A copy of the ILA is shown in Appendix A.

Other governing bodies (Tribes and federal agencies) can participate in the planning process or conduct their own plans. There are two Tribes with interests in Chelan County: the Wenatchi Tribe and the Colville Tribe, although the Wenatchi Tribe may also currently be considered a band of the Confederated Tribes of the Colville Reservation. The Tribes are not actively involved in solid waste management programs in Chelan County at this time. Federal agencies with significant activities in Chelan County include the U.S. Forest Service and the Department of the Interior (the National Park Service). The primary federal agency in Chelan County is the U.S. Forest Service, which currently does not have a representative on the SWAC. The Tribes and federal agencies generally use the county's waste disposal facilities, and because this Plan may impact their current and future solid waste management options, these organizations are encouraged to review this plan and provide input as appropriate to their needs.

### **1.3 REQUIRED MINIMUM CONTENTS OF PLAN**

The minimum contents of this Plan are specified by state law (RCW 70A.205.045) and further described in Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions issued by the Washington Department of Ecology (Ecology 2010). To summarize, solid waste management plans must contain:

- An inventory of existing permitted solid waste handling facilities, including an assessment of any deficiencies in meeting current disposal needs.
- The estimated needs for solid waste handling facilities for a period of 20 years.
- A program for the development of solid waste handling facilities that is consistent with this Plan and meets all applicable regulations. The development program must also take into account land use plans, provide a six-year construction and capital acquisition program, and provide a financing plan for capital and operational costs.
- An inventory of solid waste collection needs and operations, including information on collection franchises, municipal operations, population densities and projected solid waste collection needs for a period of six years.
- A comprehensive waste reduction and recycling element that provides for reduction of waste quantities, provides incentives and mechanisms for source separation and provides opportunities for recycling source-separated materials.
- Waste reduction and recycling strategies, including residential collection programs in urban areas, drop-off or buy-back centers at every solid waste handling facility that serves rural areas, monitoring methods for programs that collect source-separated materials from nonresidential sources, yard debris collection programs and education programs.
- A Moderate Risk Waste plan for the planning and prevention of capturing toxic materials from homeowners and small businesses.
- An assessment of the impact that implementation of the Plan's recommendations will have on solid waste collection costs.
- A review of potential sites for solid waste disposal facilities.

- Other details for specific programs and activities.

## **1.4 PREVIOUS SOLID WASTE PLANS**

Washington State enacted RCW 70.95.080 (requiring counties to develop solid waste plans) in 1969, and Chelan County adopted its first plan in 1972. A subsequent plan was adopted in 1982, which was a joint plan with Douglas County. The more recent plans adopted in 1994, 2007, and 2017 solely address Chelan County.

### **1.4.1 The 1994 & 2007 & 2017 Chelan County Comprehensive Solid Waste Management Plans**

The goal of the 1994, 2007, and 2017 plans were “to develop an economical and coordinated county solid waste management system that meets the needs of the present and future citizens of the area, while at the same time eliminating practices that may cause environmental degradation and foster unhealthy and hazardous situations.”

A number of objectives were identified in order for this goal to be accomplished:

- Develop an acceptable solid waste management system of storage, collection, transportation, processing, disposal and recycling.
- Develop an organizational structure to coordinate all solid waste activities in the area.
- Develop a program to better inform the public on solid waste activities.

The 1994 plan adopted the regional landfill concept that continues in place today. Many, but not all, of the recommendations from the 1994 and 2017 plans have been implemented. A summary of the 2017 recommendations are shown in Appendix B.

### **1.4.2 Other Solid Waste Documents**

Other relevant solid waste documents include the *Chelan-Douglas Moderate Risk Waste Management Plan* (Parametrix 1991), *The State Solid and Hazardous Waste Plan 2021-2026: Moving Washington Beyond Wastes and Toxics* (Ecology 2021), the *Chelan County Yard Waste Co-Composting Feasibility Study* (E&A 1995), and the *Co-Compost Operations Study* (Emcon 1996). The *Moderate Risk Waste Management Plan* is discussed in greater detail in Chapter 8, the composting studies are discussed in Chapter 5, and the *Beyond Waste* plan is discussed in several places as appropriate to the topics in each chapter. The Contamination Reduction and Outreach Plan for recyclables is outlined in Chapter 4. As well as Ecology’s Guidelines for Development of Local Comprehensive Solid Waste Management Plans and Plan Revisions

Copies of *The State Solid and Hazardous Waste Plan 2021-2026: Moving Washington Beyond Wastes and Toxics* can be viewed and downloaded on the Department of Ecology’s website ([www.ecology.wa.gov/](http://www.ecology.wa.gov/)) and copies of the others plans can be viewed at the offices of the Chelan County Public Works Department and Chelan County web site..

## **1.5 RELATIONSHIP TO OTHER PLANS**

This Plan must function within a framework created by other plans and programs, including policy documents and studies that deal with related matters.

### **1.5.1 Comprehensive Land Use Plans**

The planning guidelines require that the Plan reference all comprehensive land use plans for all participating jurisdictions. These plans include the comprehensive land use plans for the six planning areas in Chelan County (each city has its own land use plan and zoning ordinance). The reason for considering the local plans is to ensure that the Plan is consistent with policies set forth in the other documents, and it is not intended that this Plan will take precedence over the land use plans. The most important aspect for consistency purposes is the siting of new facilities and ensuring that siting meets local land use policies. This plan also addresses the 2021 State Solid Waste Plan and its priorities.

### **1.5.2 Zoning Codes**

Zoning regulations classify land according to permissible uses within those land areas. The regulations usually address the size of structures allowed and include some site design requirements, including setbacks from property lines. In addition, the siting of any new solid waste management facilities will be guided by the criteria discussed in Appendix F.

The Chelan County Zoning Code (CC 2017) addresses solid waste handling and disposal facilities through conditional use permits, as “Public facility, High impact,” including composting facilities, transfer stations, inert waste landfills and sanitary landfills.

### **1.5.3 Shoreline Plans**

Shoreline plans establish policies and regulations for development along shorelines. Shorelines are defined as all waters of the state, including reservoirs, floodplains and their associated wetlands. Portions of rivers having a mean annual flow of less than 20 cubic feet per second and lakes less than 20 acres in size are excluded from the regulations.

The shoreline plan in this area is the *Shoreline Master Program for Chelan County*, (Chelan County Planning Department 2021). This plan generally establishes policies prohibiting solid waste disposal along the shorelines of major waterways, in accordance with Health District regulations, but previously established facilities that have been legally established will be allowed as a non-conforming use.

### **1.5.4 2021 State Solid & Hazardous Waste Plan**

The Washington state plan priorities move the state closer to the vision. The priorities are as follows:

- Mitigate climate change
- Move upstream by increasing focus on design, manufacturing, and use - not just end-of-life issues.
- Reduce toxic threats in products and industrial processes.
- Address systemic issues with recycling (including organic processing).



## 1.6 SOLID WASTE COUNCIL AND SOLID WASTE ADVISORY COMMITTEE

### 1.6.1 Role of the Solid Waste Council

The Solid Waste Council (SWC) is comprised of elected officials and includes a representative of the county and each of the five cities. The responsibilities of the SWC are shown in the Inter Local Agreement (see Appendix A), and includes providing policy direction, establishing goals, developing annual solid waste programs and projects, approving annual budgets, and helping to resolve issues and/or conflicts that may arise in program development. The SWC typically meets quarterly (four times per year).

On Feb. 2, 2015, the SWC reviewed the current Interlocal Agreement and concluded that it was working well and could remain in effect through the process of developing and implementing this Plan. August of 2017, the Interlocal agreement was re-written and adopted by the Cities and County.

<b>Table 1.1 Chelan County Solid Waste Advisory Committee</b>	
<b>Official Members</b>	<b>Representing</b>
<b>Brenda Blanchfield</b>	<b>Chelan County</b>
<b>Steve Croci</b>	<b>City of Cashmere</b>
<b>Jake Youngren</b>	<b>City of Chelan</b>
<b>Mark Botello</b>	<b>City of Entiat</b>
<b>Tom Wachholder</b>	<b>City of Leavenworth</b>
<b>Aaron Kelly</b>	<b>City of Wenatchee</b>
<b>Scott Reynolds</b>	<b>Health District</b>
<b>Tyler Mackey</b>	<b>Waste Management</b>
<b>Glen Austin</b>	<b>Zippy Disposal</b>
<b>Michele Mulrony</b>	<b>Department of Ecology</b>
<b>Jana Fischback</b>	<b>Sustainable Wenatchee</b>

### 1.6.2 Role of the Solid Waste Advisory Committee

The Solid Waste Advisory Committee (SWAC) is the focal point of the public involvement effort for this Plan. The SWAC membership, as shown in Table 1.1, includes representatives from citizen groups, recycling and environmental interests, business, agriculture and local government.

The formation, membership makeup and role of the SWAC are specified by state law:

*“Each county shall establish a local solid waste advisory committee to assist in the development of programs and policies concerning solid waste handling and disposal and to review and comment upon proposed rules, policies, or ordinances prior to their adoption. Such committees shall consist of a minimum of nine members and shall represent a balance*

*of interests including, but not limited to, citizens, public interest groups, business, the waste management industry, agriculture, and local elected public officials. The members shall be appointed by the county legislative authority.” (RCW 70A.205.110 (3)).*

Two of the primary responsibilities of the SWAC are to advise on the development of this Plan and to assist in the Plan adoption process. The SWAC is anticipated to participate in the development of this Plan by:

- (1) Providing recommendations to the Solid Waste Council;
- (2) Reviewing draft documents;
- (3) Providing input and comment on all issues covered by the Plan;
- (4) Acting as a liaison to their constituencies;
- (5) Relaying information to city councils;
- (6) Reviewing the complete draft and final plans;
- (7) Participating in public workshops;
- (8) Facilitating the public review process; and
- (9) Recommending the SWMP for adoption by the participating jurisdictions.

## **1.7 GOALS AND OBJECTIVES OF THE PLAN**

The vision for this Plan is based on the concepts legislated by the state and adopted through a state solid waste plan, but in addition it addresses issues of specific importance to the residents of Chelan County. The intent of this work was to create a framework by which a solid waste plan would be developed, adopted and implemented. This Chelan County Solid Waste Management Plan is an outgrowth of that effort.

The following mission statement is endorsed by the SWAC and is intended to be implemented through this Plan:

*“The mission of the Solid Waste Program is to provide technical and financial assistance to all participating jurisdictions and to support the Washington State Solid Waste Management-Reduction and Recycling Act (RCW 70.95). The program strives to improve the quality of human life through waste reduction, recycling and reuse throughout Chelan County and the incorporated cities within.”*

This Plan is also based on the following general goals (specific goals for each component of solid waste management are shown in the appropriate chapter):

- Manage solid wastes in a manner that promotes, in order of priority: waste reduction; recycling, with source-separation of recyclables as the preferred method; energy recovery; incineration or landfilling of separated waste; and energy recovery, incineration or landfilling of mixed wastes.
- Encourage public involvement and ensure the representation of the public in the planning process.
- Increase public awareness of the importance of waste reduction and recycling. Develop programs that promote recycling and help the state achieve its goal of a 50% recycling rate.

- Emphasize local responsibility for solving problems associated with solid waste, rather than relying on the state or federal government to provide solutions.
- Develop an economically responsible and environmentally sound solid waste management system by analyzing the waste management priorities.
- Minimize adverse impacts on the environment and preserve public health through sound solid waste management operating procedures.
- Develop a regional solid waste management system that complies with state regulations for solid waste handling.
- Develop an educational program to inform the public about the solid waste system and opportunities for toxics reduction, waste reduction, proper hazardous waste disposal, and recycling.
- Provide infrastructure through creative economic programs to support the necessary programs for proper hazardous waste disposal, waste reduction and recycling.
- Ensure that adequate disposal capacity exists for the present and future residents of Chelan County.

## **1.8 PROCESS FOR UPDATING THE PLAN**

### **1.8.1 Plan Development Process**

The Plan development process involves the major steps shown in Figure 1.1. The preparation of the Plan began with a review of the 2017 Plan and a compilation of information on the background of the planning area. The next step was to inventory solid waste handling systems and programs to determine existing conditions. These existing conditions were then analyzed for adequacy in meeting current needs, conformance with regulatory standards and consistency with Plan goals. Solid waste handling needs for all systems were projected for the planning period (2022-2042). Alternative systems for meeting future needs and improving existing conditions were defined and evaluated. Based on this evaluation, recommendations were made. These recommendations will provide the guidance for decision making by solid waste facility owners/operators, regulatory officials and planners. An implementation strategy was developed that contains a schedule as well as financial information.

During the course of the preparation of this draft, numerous meetings were held with the SWAC to obtain information and guidance. After reviewing each element of the Chelan County solid waste system, a complete draft of the Plan was prepared and reviewed by the SWAC and the Solid Waste Council. Following this review, the plan was revised and that draft was distributed in 2017 for public review and comment as well as Ecology and WUTC review. A public hearing was held on the Preliminary Draft Plan as part of that review process.

Review of the Plan began in 2020 by addition of the required CROP. Phased chapters were reviewed by the SWAC and Solid Waste Council, followed by a council and public hearing process. The Draft chapters were distributed to the SWAC and Solid Waste Council in 2022. Comments received on the Draft were reviewed with the SWAC and Solid Waste Council in 2022 and revisions were made. Draft documents were made available to the Public, beginning with a Public notice and meetings, including City Council meetings. Further revisions were made and the Final Draft was adopted by the county and the five cities through SWAC (see Appendix F), Health District, WUTC, Department of Agriculture and Ecology. When granted final approval by

Ecology, this will become the final plan. Only after Ecology has approved of the final draft does the Plan become effective.

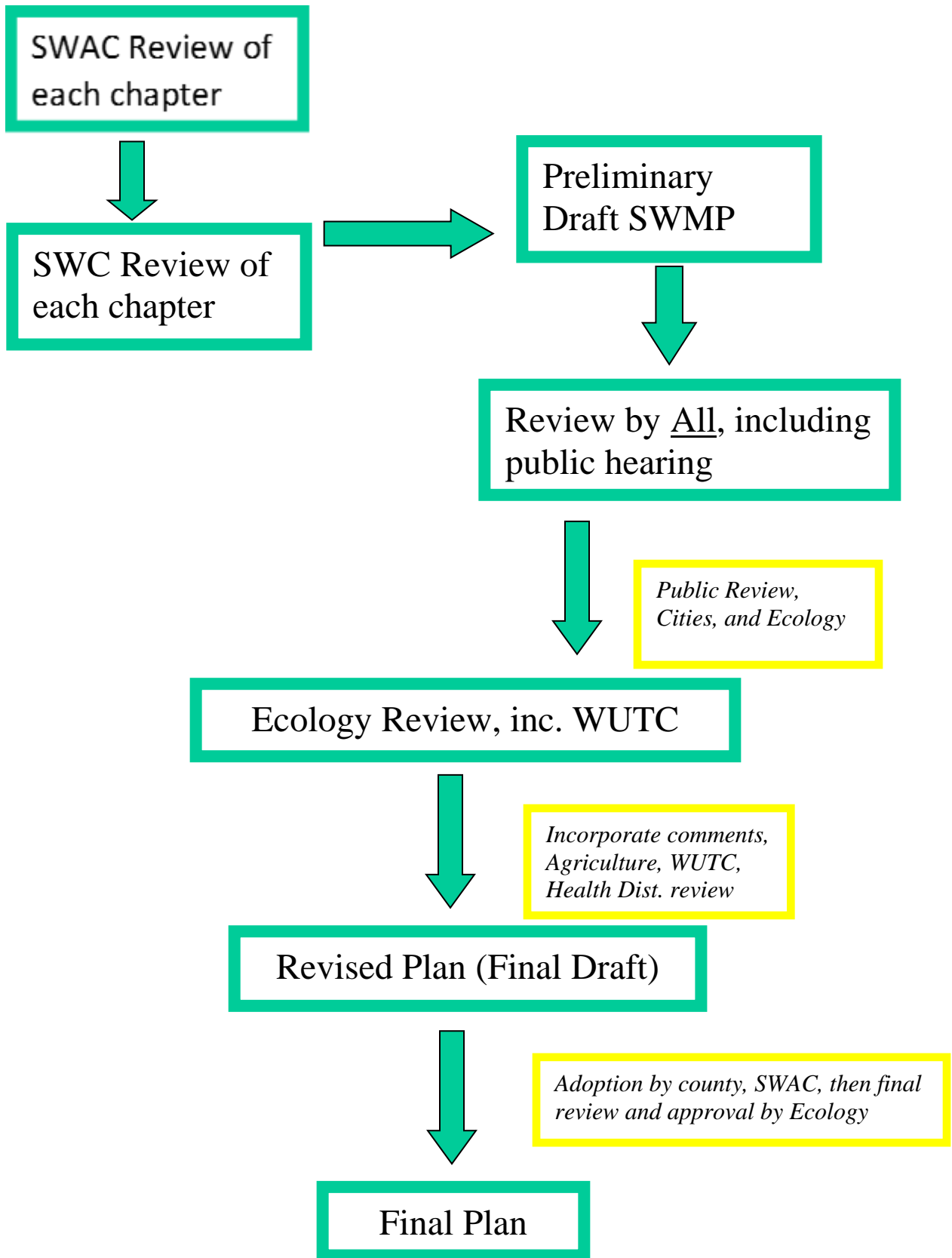
### 1.8.2 Plan Amendment Process

During the Plan’s implementation, changes may occur in planned activities, assigned roles and responsibilities, and budget requirements. These changes may occur as new information is gathered, as state legislation or regulations are revised or adopted, and as other events occur that influence planned activities. Changes that the SWAC determines to be minor and consistent with the Plan will not require a plan amendment. Such changes will be documented, however, and provided to the cities and towns in the county. The steps to be taken to amend the plan are shown in Table 1.2.

This plan will also be reviewed periodically to determine if amendments or updates are necessary.

<b>Table 1.2 Plan Adoption Process</b>	
1)	Before any significant changes to the Plan are undertaken, a review of the Plan will be prepared by the participating jurisdiction initiating the change.
2)	The proposed plan will be presented to the SWAC for review and comment. SWAC will consider which participating jurisdictions are affected by the plan and determine its regional significance.
3)	The SWAC will act upon the plan proposed by the initiating participating jurisdiction and form its recommendations in a timely manner.
4)	The SWAC’s recommendation will be forwarded to the SWC for its review. The SWC could take a variety of actions, such as forwarding the plan (with or without revisions) to the participating jurisdictions, requesting clarifications or rejecting it.
5)	The proposed plan will then be reviewed by all participating jurisdictions, including the Health District.
6)	The proposed plan will then be subject to public review and comment. At a minimum, one public hearing will be held to allow citizens and other interested parties the opportunity to present their views.
7)	The proposed plan will then be revised as necessary and submitted to Ecology for review and comment. Ecology will submit the proposed plan to the Department of Agriculture and Washington Utilities and Transportation Commission. Ecology has 120 days for an initial review.
8)	The proposed Plan will then be revised as necessary and presented to the participating jurisdictions for adoption.
9)	Once the amendment has been adopted, it will be submitted to Ecology for 45 days for final approval. Approval will be coordinated through Ecology's Central Regional Office.

Figure 1.1 Planning Process



### **1.8.3 Environmental Review Process**

The State Environmental Policy Act (SEPA) requires an environmental evaluation of actions that involve decisions on policies, plans or programs (WAC 197-11-310). The purpose of this evaluation is to determine if decisions on policies, plans or programs could lead to actions that would have a significant adverse impact on the environment. Chelan County has determined that adoption of this Plan would not lead to actions that would have a significant adverse impact on the environment. A copy of the Determination of Non-Significance (DNS) is shown in Appendix E.

## **1.9 ORGANIZATION OF THE PLAN**

The remainder of the *Chelan County Solid Waste Management Plan* is organized into the following chapters, each addressing particular elements of the County's solid waste management system:

- Chapter 2: Background of the Planning Area
- Chapter 3: Waste Reduction
- Chapter 4: Recycling and CROP
- Chapter 5: Management of Organic Materials
- Chapter 6: Solid Waste Collection
- Chapter 7: Transfer and Disposal System
- Chapter 8: Moderate Risk Wastes
- Chapter 9: Special Wastes
- Chapter 10: Administration and Public Education
- Chapter 11: Implementation Plan

Chapter 2 provides important information about demographics, waste quantities and other factors common to the remaining chapters. Chapters 3 through 10 address each component of the solid waste system in a format that:

- Reviews existing programs, activities and policies in Chelan County and the cities for each element of the solid waste system.
- Identifies needs, problems or opportunities not addressed by existing activities and programs.
- Examines alternatives to meet the identified needs, problems and opportunities.
- Recommends future programs or actions as appropriate to the needs and abilities of the county's and cities' residents, businesses and service-providers.
- Presents implementation schedules and costs for the recommended programs and facilities.

Chapter 11 provides a summary of the implementation details (costs, schedule, responsible parties and priority level) for each of the recommendations shown in Chapters 3 through 10. The appendices to this plan contain information relevant to the planning process, including the WUTC Cost Assessment Questionnaire and the SEPA Checklist.

## CHAPTER 2: BACKGROUND OF THE PLANNING AREA

### 2.1 INTRODUCTION

This chapter describes the existing physical and economic characteristics of Chelan County and also provides information about the current quantities and composition of the county's solid waste stream. This information is required by the Department of Ecology and it is useful background information for several of the following chapters of this *Solid Waste Management Plan* (Plan).

### 2.2 DESCRIPTION OF THE PLANNING AREA

An understanding of the environmental, demographic and land use conditions in Chelan County is important because it provides a frame of reference for discussions about existing solid waste practices and future solid waste handling needs.

#### 2.2.1 General Physical Features

Chelan County is located at the geographic center of Washington State. The exact center point is about 10 miles west/southwest of Wenatchee. Chelan County contains 2,921 square miles, which comprises 4.4% of the state's 66,511 square miles. Chelan County is approximately 85 miles long (measured north to south) and 40 miles wide. About 80% of Chelan County is mountainous land, divided into three major valleys: the Wenatchee River Valley, Lake Chelan and the Entiat River Valley. Changes in elevation in Chelan County vary greatly, from valley floors that are located between 600 and 1,000 feet above sea level to the east slopes of the Cascade Mountain range that reach typical heights of 2,000 to 3,000 feet. The highest elevations in Chelan County are Mt. Stuart (9,415 feet) near the southern boundary and Clark Mountain (8,576 feet) in north central Chelan County.

#### 2.2.2 Climate

The climate of Chelan County is influenced by elevation, topography, distance and direction from the ocean, prevailing westerly winds and the position and intensity of the high- and low-pressure centers in the western Pacific Ocean. Table 2.1 lists the average maximum, minimum and mean temperatures for specific locations in Chelan County.

Precipitation is generally light in summer, increases in the fall and peaks in the winter with a gradual decrease in the spring. Table 2.2 shows average monthly and total annual precipitation for specific locations in Chelan County. Elevation and topography play key roles in the amount of precipitation an area will receive. The higher elevations of Chelan County receive 60 to 80 inches of annual rainfall while 10 to 35 inches is the norm for the lower slopes and higher valleys.

The amount of precipitation and snowfall can affect solid waste operations. Rain and snow affect collection vehicle mobility and total leachate generation. Many areas are prone to flooding, which eliminates them as potential landfill or facility sites. These areas include major tributaries to the Columbia River and some canyon areas. Average winter snowfalls range from 13 to 35 inches in lower elevations, 40 to 80 inches in intermediate areas and 100 inches or more along the east slopes of the Cascades. Singular events, such as the 0.45 inches received in the Wenatchee area on Oct. 17, 2004, can cause temporary transportation problems due to rockslides and flooding.

Station	Data	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Chelan	Average Max	34.3	41.7	51.9	62.1	71.9	77.9	86.6	87.0	77.2	62.2	45.7	34.9	61.1
	Average Min	21.6	24.3	30.3	37.5	46.2	53.0	59.1	58.1	49.2	38.8	29.5	22.6	39.2
	Mean Temp.	28.0	33.0	41.1	49.8	59.1	65.5	72.9	72.6	63.2	50.5	37.6	28.8	50.2
Leavenworth	Average Max	33.5	42.4	52.0	61.3	71.0	77.2	87.0	86.9	77.9	62.1	43.9	33.6	60.7
	Average Min	19.4	21.1	26.3	32.0	39.7	45.8	51.0	50.3	41.7	33.1	26.2	20.0	33.9
	Mean Temp.	26.5	31.8	39.2	46.7	55.4	61.5	69.0	68.6	59.8	47.6	35.1	26.8	47.3
Plain	Average Max	33.7	40.2	48.0	57.3	66.8	72.9	81.9	81.9	74.0	58.0	41.7	32.4	57.4
	Average Min	21.3	22.7	26.9	31.7	39.1	45.0	50.2	49.3	41.6	33.4	27.2	21.4	34.2
	Mean Temp.	27.5	31.5	37.5	44.5	53.0	59.0	66.1	65.6	57.8	45.7	34.5	26.9	45.8
Stehekin	Average Max	32.3	37.8	46.5	57.5	68.6	74.4	84.3	83.3	72.5	55.8	40.0	32.3	57.1
	Average Min	24.8	26.0	29.8	35.8	43.8	49.9	55.9	55.2	47.8	37.8	30.4	25.6	38.6
	Mean Temp.	27.5	31.9	38.2	46.7	56.2	62.2	70.1	69.3	60.2	46.8	35.2	29.0	47.8
Stevens Pass*	Average Max	29.6	32.4	37.9	42.6	49.5	57.1	63.8	65.6	57.6	47.4	32.8	28.3	45.5
	Average Min	20.6	22.5	26.3	29.6	34.7	40.2	45.4	46.5	40.6	34.3	24.1	19.1	32.1
	Mean Temp.	25.1	27.5	32.1	36.1	42.1	48.7	54.6	56.1	49.1	40.9	28.5	23.7	38.8
Wenatchee	Average Max	35.8	43.9	54.3	63.9	73.2	79.6	89.0	88.2	78.8	63.3	46.6	36.2	62.7
	Average Min	25.6	27.6	33.4	40.4	49.3	55.8	62.1	61.1	52.3	41.3	32.3	26.4	42.3
	Mean Temp.	30.7	35.8	43.9	52.2	61.3	67.7	75.6	74.7	65.6	52.3	39.5	31.3	52.6

All of the above figures are in degrees Fahrenheit (F), for the period from 1991 through 2020.  
Source: Office of the Washington State Climatologist ([www.climate.washington.edu/climate.html](http://www.climate.washington.edu/climate.html)).

Station	Elevation (ft)	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Chelan	1,110	1.52	1.22	1.09	0.75	1.05	0.87	0.42	0.32	0.34	1.04	1.51	1.83	11.96
Leavenworth	1,128	4.12	2.90	2.46	1.22	1.40	1.04	0.45	0.37	0.76	2.37	4.08	4.52	25.69
Plain	1,860	4.57	2.95	2.43	1.25	1.31	0.88	0.48	0.42	0.79	2.61	4.58	4.97	27.24
Stehekin	1,150	6.75	3.72	3.60	1.44	1.07	0.75	0.46	0.49	1.05	3.66	6.73	7.16	36.88
Stevens Pass	4,085	14.14	9.33	10.04	5.76	3.66	2.84	1.12	1.43	3.90	10.25	14.89	13.22	90.58
Wenatchee	634	1.32	0.92	0.73	0.58	0.75	0.60	0.22	0.18	0.24	0.72	1.15	1.59	9.00

All of the above figures are averages for the period 1991 through 2020.  
Source: Office of the Washington State Climatologist ([www.climate.washington.edu/climate-data/](http://www.climate.washington.edu/climate-data/)).



The prevailing wind direction in the area is influenced by topography and seasonal changes. Winds are predominantly northwest to southeast in the summer in Chelan County. The winds are strongest in the spring and decrease through the summer months. There is usually little wind in the late fall and winter months.

### **2.2.3 Hydrology**

Mountain ranges divide Chelan County into three major drainages: the Wenatchee River, the Entiat River and the Stehekin River, including Lake Chelan. Each of the drainage areas contains a number of canyons, some of which have a high flash flood potential. All surface runoff eventually finds its way to the Columbia River.

The county's major source of domestic water supply comes from surface streams, rivers, lakes, and river-related aquifers. Some domestic water is provided from wells. Groundwater appears to be available in significant quantities only in the immediate vicinity of streams and rivers where sufficient alluvium has been deposited. The remaining land tends to be steep and rocky with frequent outcroppings of bedrock, which generally precludes groundwater storage.

### **2.2.4 Geology**

There are four types of geologic formations in Chelan County in areas where disposal sites may be established. The southeastern portion of the county is underlain with dark gray to black dense aphanitic basaltic rock. The central portion, including the Lake Chelan area, is underlain with granitic rock. The Entiat Valley portions of the Wenatchee Valley and the eastern portion of Lake Wenatchee are underlain with alluvial deposits and glacial drifts containing sand, gravel, silt and clay. Around the foothills of the Columbia River and the lower drainage area of the Wenatchee River, the land is surrounded by Swauk bedrock formations, consisting primarily of sandstone.

### **2.2.5 Soils**

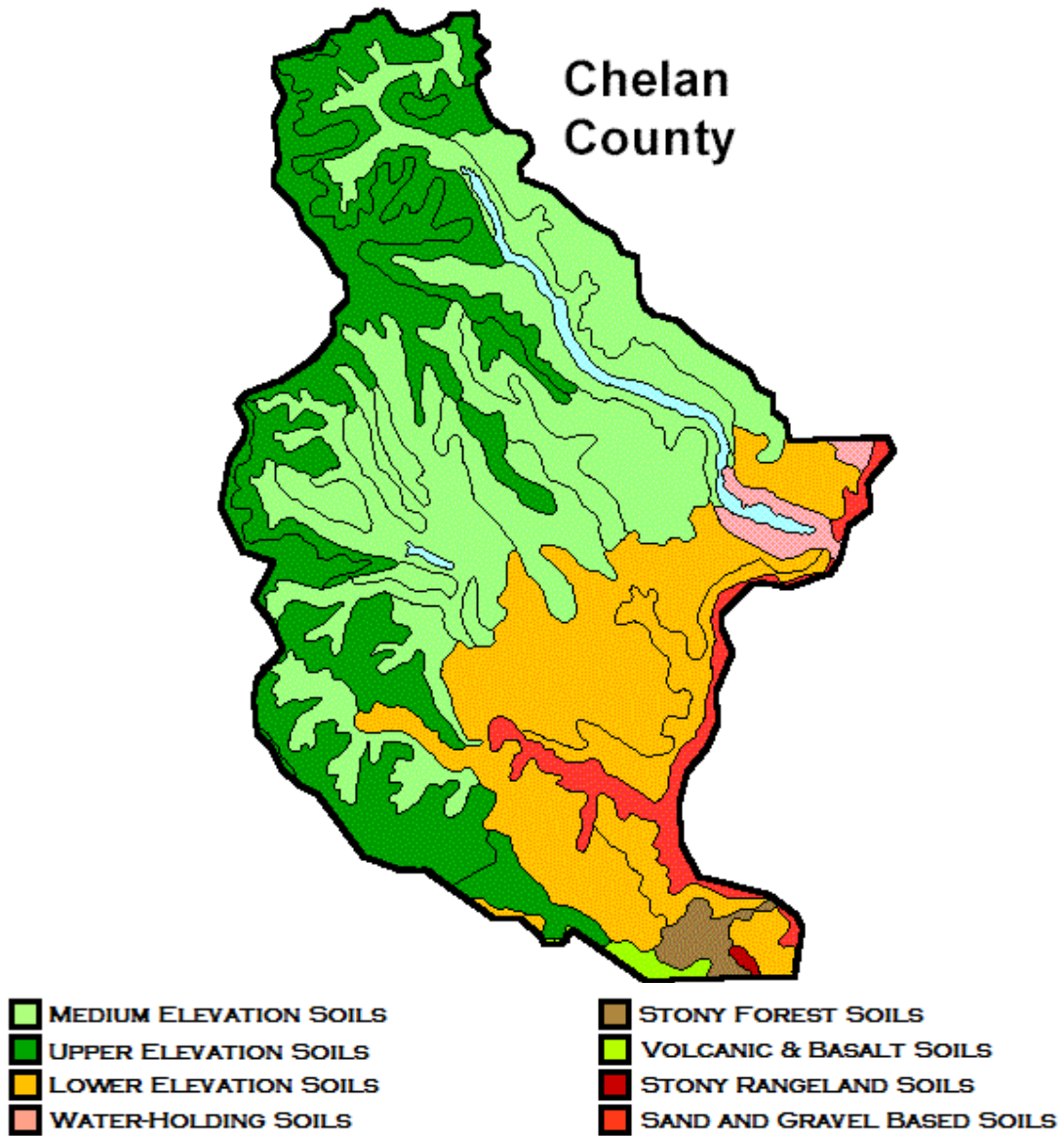
There are several separately recognized soil types in the planning area (see Figure 2.1). The soils along the Columbia River are predominantly sandy and gravelly, affording excellent drainage for the extensive orchard crops. The remaining lowland soils, except for those found in the coulees and other geologic breaks, are usually a form of silt-loam, utilized primarily for dry land farming.

Soil formation is influenced by topography, climate and type of vegetation. The soil types that can be found in Chelan County area can be grouped by elevation:

**Upper elevation soils:** Shown in dark green in Figure 2.1, the soils found at higher elevations include no soil (exposed bedrock) interspersed with deposits of cindery-textured soils containing pumice and ash, with low fertility and low water-holding capacity (the Cattcreek-Vanson-Colter-Sinnice-Minniepeak-Goffpeak soil series). This area also includes a lesser amount of a soil series (Playco-Kindy-Hatchet-Wollard-Getchell-Rock Outcrop) that consists of a layer of pumice or ash-based soil underlain with glacial till or colluvium.

**Medium elevation soils:** Shown in light green in Figure 2.1, the soils found at medium elevations are primarily alternating bands of two types of cool to cold soils: Choralmont-Palmich-Ramparter and Nevine-Chemawa-Choralmont. The former forms on glaciated foothills and mountain slopes

**Figure 2.1 Soil Map for Chelan County**



*Source: Remote Sensing and GIS Lab, Crop and Soil Sciences, Washington State University, 2005. This map can no longer be viewed online and no additional soil surveys have been performed on the Chelan County soil since the 2005 study.*

and is based on pumice and ash deposits, with low fertility, low water holding capacity and low slope stability. The latter is a deep, stony forest soil that forms in valleys and at the foot of slopes. This area also includes a deposit of a third soil type in the southwestern part of the county, the Moscow-Vassar-Prouty-Brickel-Mobate soil series. This soil type is developed from volcanic ash and loess over granitic bedrock on unglaciated foothills and mountain slopes.

**Low elevation soils:** The area shown in orange in Figure 2.1 consists primarily of Nard-Dinkelman-Ampad, which is a loess-influenced soil derived from rocks with some clay content in the subsoil. The area shown in orange also includes, at lower elevations, the Tyee-Ginnis-Yaxon-Dinkels-Taneum-Tieton soil series. The area of orange in the southeastern corner is the Clerf-Bakeoven-Vantage soil series, which is a dry, stony rangeland soil. The small area of orange shown at the south-southwestern edge is a pocket of the Spokane-Tekoa-Dragoon-Schumacher soil series, which is also loess-influenced but primarily derived from rocks with clay-enriched subsoils.

Areas shown in pink in Figure 2.1 include a pocket of Newbon-Swakane-Conconully-Rock Outcrop to the north and Chelan-Suplee-Rock Outcrop around the south end of Lake Chelan. These soils have greater water-holding capacity than the soils at higher elevations and thus are suitable for crops, orchards and rangeland.

The area shown in red in Figure 2.1 is Pogue-Cashmere-Aeneas, which is derived from glacial outwash. These soils have some influence by volcanic ash in the upper portion and are underlain by gravel or sand.

In the southeastern corner of the county, there is a small area of Naxing-Pird-Alfir-Saydab-Darland-Ganis (shown in lime green color), which is a cold, stony soil that stays moist year-round and is formed from volcanic ejecta and basalt. There is also an area consisting of Loneridge-Jumpe-Berson-Para-McGowan-Gunn-Sutkin (shown in brown), which is a cool, stony forest soil. Finally, there is a small area (shown in dark red) of Kuhl-Rock Creek-Badge-Lickskillet soil series, which is a stony rangeland soil with humus-rich topsoil.

The above information is from the Remote Sensing and GIS Lab, Crop and Soil Sciences, Washington State University (WSU 2005).

### **2.2.6 General Land Use**

Approximately 80% of Chelan County is mountainous, sparsely to heavily forested and undeveloped. Major urban-rural development has largely been restricted to the narrow valley floors. The major land use activity within the valley areas is agricultural, consisting largely of the production of apples, pears, grapes, and soft fruits.

Industrial development in Chelan County is limited. For the most part, industrial activities are located along the Columbia River in the Wenatchee urban area. There are some manufacturing activities spotted throughout the agricultural areas, most of which are associated with the fruit production industry.

The main residential and commercial concentrations are located in and around the incorporated towns and cities. There are extensive year-round and summer home developments along the shores of lower Lake Chelan and, to a lesser degree, around Lake Wenatchee. Also, some limited tourist commercial activities are located along U.S. Highway 2 up through the Wenatchee Valley. Leavenworth, at the upper end of the valley, and Chelan, at the north end of Hwy 97-A, have developed extensive tourist and commercial facilities.

Much of Chelan County's land area is reserved for recreational purposes including a number of ski areas, camping facilities, fishing and hunting, boating and hiking. Approximately 74% of the land area within Chelan County is either U.S. Forest Service or National Park Service land.

The amount of land used for agricultural purposes has decreased as land is converted to other uses, especially residential homes. The 2005 Census of Agriculture shows that the amount of farm acreage decreased from 131,200 acres in 1997 to 112,023 acres in 2002, a net loss of 14.6%. The most recent Census of Agriculture (2017) shows that the amount of farm acreage declined from 93,883 acres in 2007 to 59,767 in 2017, a net loss of 36.3%.

### **2.2.7 Economic Activity Centers**

The major economic activity center in the county is the Wenatchee area. It functions as the regional center and distribution point for much of North Central Washington. The towns of Chelan, Cashmere and Leavenworth function as secondary trading centers serving the local market and tourist trade.

Agriculture is one of the two main industries in Chelan County, which houses nearly 60,000 acres of farmland and employs around 21.4% percent of the total covered employment in the area (Chelan Douglas County Profiles by Employment Security Department 2019). This farmland produces a wide variety of fruits and other crops while also generating an increase in the county's population during harvesting seasons.

The climate and natural beauty of the planning area is an important economic resource because it is largely responsible for the increase in tourism, the other main industry in the county. Mountain recreation areas are popular during all four seasons. Lake Chelan and the City of Leavenworth both receive around 2 million visitors each year.

Chelan County contains private and federal commercial timber that is being harvested on a sustained yield basis and provides some income to the private sector and to the County itself. A significant portion of forested federal lands in the county, including those with a wilderness designation, provide varied opportunities and activities for public recreation. Chelan County also contains mineral resources, though mining is mostly related to gold prospecting and the level of such activity varies with the price of gold.

Industrial development in the area has been limited.

### **2.2.8 Transportation Network**

Two major state highways traverse the county providing east-west and north-south transportation. U.S. Highway 2 (across Stevens Pass and along the Wenatchee River Valley to Wenatchee) follows the east-west link from the Puget Sound area. A direct north-south route from California to Canada follows U.S. Highway 97A across Swauk Pass through the Wenatchee and Columbia River Valleys to points in Okanogan County.

Two minor state roads link rural areas of the county with the major north-south and east-west highways as follows: State Route 150 links Manson with Chelan and U.S. Highway 97A; and access to Lake Wenatchee from U.S. Highway 2 is provided by State Route 207.

Railroad service is vital to the area because a portion of the fruit and industrial products originating in the county are transported by rail. The main east-west transcontinental route of the Burlington Northern and Santa Fe Railroad (BNSF) runs through the area, generally paralleling U.S. Highway 2. A spur line extends north along the Columbia River into Okanogan County to the Canadian border. Passenger rail service is provided in the county through an Amtrak station in Wenatchee. Passenger bus service is also available in the county.

There are four airports in Chelan County but no airlines provide regularly scheduled public transportation services to these airports. The nearest such services are provided at Pangborn Memorial Field in East Wenatchee. The four airports in Chelan County include the Chelan Municipal Airport (owned and operated by the city of Chelan), the Stehekin Airfield (operated by WSDOT), the Lake Wenatchee State Airport (a state-owned facility), and the Cashmere-Dryden Airport (a County-owned facility). These airports provide a base of operation for private planes, helicopters and other emergency aircraft, and planes-for-hire for scenic tours and personal trips. The Stehekin Airfield and the Lake Wenatchee State Airport are only operated seasonally (closed in the winter).

River navigation has been restricted due to the construction of hydroelectric dams across the Columbia River. Regular boat service on Lake Chelan serves up-lake communities. Solid waste generated in the Stehekin Valley is transported down-lake by Stehekin Maintenance and Machinery. Recyclable materials from both Stehekin and Holden Village are also transported down-lake by boat.

In Chelan County, there are currently three bridges that are of insufficient weight or height standards to handle larger solid waste collection vehicles. These bridges are listed in Table 2.3.

<b><u>Bridge Name</u></b>	<b><u>Type of Route</u></b>	<b><u>Limiting Factor(s)</u></b>
West Monitor	Arterial	15-ton weight limit
*West Cashmere	Access	21-ton weight limit
*Stemilt Creek	Access	17-ton weight limit

\*The Stemilt Creek Bridge has different weight restrictions for semi-truck types. (Stemilt Creek Bridge: type 3 at 17 tons, type 3-S2 at 28 tons and type 3-3 at 34 tons.)

\*The West Cashmere Bridge also has different weight restrictions depends on the truck type. (Type 3 at 14 tons, type 3-S2 at 21 tons, type 3-3 at 25 tons, SHV (SU4-SU5) at 14 tons, SHV (SU6) at 15 tons, and SHV (SU7) at 17 tons.) ([2018-112 Amending Bridge Weight Restrictions.pdf \(chelan.wa.us\)](#))

Various other Chelan County roads have vehicle weight restrictions placed upon them during the spring thawing period in late February and early March. These restrictions usually extend for a period of three to six weeks. This affects the solid waste system; loaded vehicles to the Greater Wenatchee Regional Landfill may have to be moved with weight-reduced loads during this period. These restrictions should not affect any other aspect of the solid waste system.

Particular attention must be given to these restrictions when designing a transportation network and selecting the types of vehicles to be used. Current road restrictions have a direct effect on collection, transportation and disposal activities by placing greater limitations on the use of some roads and bridges. Thus, it is important to select equipment and locate transportation routes that allow the greatest amount of flexibility.

### 2.2.9 Population Characteristics

The population of Chelan County is estimated to be 79,141 people (2020 U.S. Census). From 2010 to 2020, the county population grew 9%. Population centers are found around three distinct geographic areas: the Columbia River Valley, the Wenatchee River Valley and the Lake Chelan Basin. The largest population distribution extends 42 miles along the Columbia River, an area that includes two incorporated cities, Wenatchee and Entiat.

Both the Washington State Office of Financial Management (OFM) and the Census Bureau provide estimates by county and city for the years that fall between the national census data that is collected every 10 years. Shown in Table 2.4 are population estimates by Census County Division, which are geographic subdivisions of the county.

In addition to permanent residents, Chelan County experiences a pronounced seasonal flux in population. Seasonal changes in population are caused by the farm labor force, tourism and outdoor recreational users and the living patterns of some retired persons. The increase in trailers, campers, resort condominium units and summer homes are reflected by increased summer and winter populations. Tourism’s population affects all aspects of solid waste and should be included to recuperate costs to services. The national census figures do not document the seasonal changes because the census is based on the location of permanent residence.

<b><u>By City</u></b>	<b><u>1990<sup>1</sup></u></b>	<b><u>2000<sup>1</sup></u></b>	<b><u>2010<sup>3</sup></u></b>	<b><u>2019 Estimate</u></b>	<b><u>2020</u></b>	<b><u>2021 Estimate</u></b>	<b><u>2022 Estimate</u></b>
Cashmere	2,544	2,965	3,063	3,166	3,248	3,260	3,280
Chelan	2,976	3,522	3,890	4,219	4,222	4,320	4,390
Entiat	449	957	1,112	1,280	1,326	1,340	1,355
Leavenworth	2,045	2,074	1,965	2,026	2,263	2,390	2,515
Wenatchee	21,829	27,856	31,925	34,318	35,575	35,550	35,650
Unincorporated	22,760	29,242	30,498	33,110	32,507	33,140	33,460
Chelan County Total	52,250	66,616	72,453	77,053	79,141	80,000	80,650

Notes: 1. Population figures are based off the *US Census* and *US Census’ annual resident population estimate for cities and counties 2010-2020 and OFM Populations of Cities, Towns, and Counties* (April 2022).

The *Population Trends: Chelan and Douglas Counties* study completed in 1984 by the Chelan County Planning Department estimated that the apple harvest draws approximately 8,400 workers to Chelan and Douglas counties from other areas. The study further estimated that the tourist population in Chelan County during a typical summer weekend may equal almost half of the resident population and equal the resident population during peak periods.

The population of Chelan County is expected to continue to grow into the future (see Table 2.5). As of 2013, the population of 73,967 is less than the expected medium series projections (OFM 2012). This could be due to the negative effect economic difficulties have had on the area and state (reduction in farms, labor force, etc.). The OFM medium series is based on ideal and expected population trends. Table 2.5 shows the actual growth of the county population based on US Census data (2020)

**Table 2.5 Chelan County Population Trends**

<u>Year</u>	<u>Total Population<sup>1</sup></u>	<u>Annual Percent Change<sup>2</sup></u>
1960	40,744	---
1970	41,090	0.8%
1980	45,061	9.6%
1990	52,250	15.9%
2000	66,616	27.4%
2005	69,066	3.7%
2010	72,453	4.9%
2015	75,030	3.6%
2020	79,141	5.4%
2025	82,993	4.8%

Notes: 1. Population figures for the years 1960 through 2020 are based off the *US Census* and *US Census' annual resident population estimate for cities and counties 2010-2020*.

### 2.2.10 Global Economic and Environmental Trends

Several global trends may have an impact on the factors discussed above and, on the programs, discussed later in this Plan. Three such trends are:

- Climate change
- Oil prices
- International shifts in manufacturing activities and demand for raw materials

It is impossible to predict the exact nature and degree of local impacts that may result from these trends because the magnitude and timing of these trends is highly uncertain. Furthermore, the actual local impacts of these trends could be both positive and negative, and some aspects could even cancel each other out to a degree (at least on a local level).

**Climate change:** The magnitude and causes of climate change are still being debated and researched at the time of this writing, but there is a growing body of evidence that the world is undergoing some type of global warming due to greenhouse gases. The existing climate models are not predicting such severe storms for Washington State or for Chelan County, but it's possible that the summers in the Cascade Mountains will be longer, hotter and drier than they have been in the past. This could increase the demand for water in Chelan County at the same time that runoff might be reduced when it is needed the most (mid to late summer). Even if there were no large changes in Chelan County, however, impacts to other areas could cause high energy prices and material shortages, such as occurred in the summer of 2016 for California drought (extensive wildfires and resulting damages).

One point that should be made about the impact of climate change is that it can lead to more variable weather patterns and severe weather events of any type, including flooding, droughts, and wildfires. These events are most likely to have a significant impact in Chelan County.

A large environmental concern is the release of methane gas from landfills. Methane is produced by decomposing organic material underground. It is one of the most potent greenhouse gases and a large contributor to climate change. Municipal solid waste landfills are the third-largest human related

methane emissions in the United States (EPA 2022). To combat this issue, reducing waste by means of recycling and composting is of great priority.

**Oil prices:** In the long term, the price of petroleum products will increase as the supply of oil shrinks, unless demand shrinks as well. In other words, it is not the point at which the world runs out of oil that is important, but the point at which supply can no longer keep up with demand. Factors that may alter oil prices include increasing demand, over-inflated estimates of reserves, difficulties in extracting the remaining reserves cost-effectively and inadequate investments in oil production systems. Concerns about future supplies and the economic impacts of increased prices are being raised by many different groups now, including the International Energy Agency (IEA). In addition to concerns about economic impacts of increasing prices, the IEA has raised concerns about the amount of oil production in the Middle East. America has increased production through fracking as well. In 2019, about 2.83 billion barrels of crude oil were produced directly from tight oil resources in the United States. This was equal to about 63% of total U.S. crude oil production in 2019.

The oil prices could have both positive and negative impacts on Chelan County's economy and on solid waste programs. Increased gasoline prices will be bad for tourism and industries that depend heavily on shipping (such as fruit and agricultural products in general), although it is also possible that Chelan County could become a significant producer of energy from hydroelectric dams. The net impact to solid waste programs could include:

- There could be more or less solid waste generated if tourism or seasonal population patterns are affected,
- Higher fuel costs will lead to higher prices for collection and other transportation-based programs, thus making waste export less cost-effective and efficient transfer systems more important,
- Recycling could become more or less cost-effective, depending on the competing impacts of transportation costs versus the value of recyclable materials, and
- Local composting systems could become more important.

**International shifts in manufacturing and demand for raw materials:** There is already a large amount of manufacturing capacity that was shifted to China and other countries. Recently, however, there has been decreased exports and imports to China due to new trade taxes, tariffs, and laws are attempting to increase American manufacturing. This plus other factors, such as unpredictable fuel costs, contaminated and banned recycling commodities, make it uncertain whether worldwide shipping practices will continue to be as competitive in the future.

## 2.3 QUANTITY AND COMPOSITION OF SOLID WASTE

This section describes the waste stream in Chelan County, and forecasts future disposal levels. An estimate of the composition and future quantities of solid waste in Chelan County is necessary to provide the basis for determining solid waste handling needs for the next twenty years.

### 2.3.1 Definition

Most of the solid waste in Chelan County is disposed in landfills and some is recycled, incinerated, used as soil amendment or disposed of in sites designated for a specific type of miscellaneous



waste. The largest component of the waste stream is mixed municipal solid waste (MSW). MSW is generally disposed of at landfills, and consists of waste typically generated by residences, businesses and institutions. Wastes generated by industrial and agricultural sources are generally included to the extent that these are handled through the MSW disposal system, but these sources also generate wastes that require or benefit from special handling. Miscellaneous wastes include materials such as bio-solids, demolition debris, petroleum-contaminated soils, hazardous waste, biomedical wastes, asbestos and tires (see Chapter 9).

Figures used in this report reflect a key difference between disposed quantities and generated quantities. As used in this report, disposed solid waste is considered to be all solid waste disposed in landfills within or outside the county. On the other hand, waste generated in the county is the sum of disposed waste and recycled materials.

### **2.3.2 Historical Solid Waste Data**

The Greater Wenatchee Regional Landfill (GWRLF) receives the majority of Chelan County's municipal solid waste. Some waste is directly delivered to GWRLF, but most of the waste is sent there from one of the four transfer stations in Chelan County. The waste accepted at the transfer stations and landfill has been recorded by volume (cubic yards) in the past; however, the landfill, the South Wenatchee Transfer Station and the Dryden Transfer Station have moved to weight-based transactions. At the Chelan Transfer Station, waste deliveries are noted as "compacted" (generally brought in by garbage trucks) and "loose" (generally brought in by "self-haul" customers). The amount of waste handled by each transfer station in 2017 through 2022 is shown in Table 2.6. The Stehekin Transfer Station's waste is shipped down Lake Chelan by barge and is collected at the Chelan Transfer Station and is therefore incorporated in the Chelan Transfer Station's total waste collected.

It should also be noted that the GWRLF is receiving shipments of MSW from Spokane, Washington and Kittitas county, around 140,000 Tons, and continues to seek further contracts from further outside areas. Spokane's waste reduced the current capacity by half with an estimated 89 years remaining to of landfill capacity, per Waste Management. Further contracts will shorten this time span.

**Table 2.6 Solid Waste Received at Transfer Facilities**

<u>Transfer Station</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Chelan Transfer Station	13,419 tons	14,317 tons	14,124 tons	13,783 tons	15,114 tons	14,516 tons (estimated)
Dryden Transfer Station	22,572 tons	21,342 tons	23,140 tons	22,044 tons	23,506 tons	22,264 tons (estimated)
South Wenatchee Transfer Station	8,582 tons**	7,848 tons	5,900 tons	13,552.77 tons	-	-
Stehekin Transfer Station	120.4 tons***	90 tons***	106.5 tons***	36 tons***	-	-

\* Approximations of tonnage/yardage based on a cubic yards-to-tons conversion ratio of 1:0.27. Estimated of 450 lbs./cubic yard

\*\* The dramatic decrease in tonnage at the South Wenatchee Transfer Station is due to a change in dumping policy. In previous years, the transfer station was receiving Waste Management MSW Trucks. These trucks now deliver loads directly to the landfill located in Douglas County.

\*\*\* The Stehekin Transfer Station delivers collected MSW to the Chelan Transfer Station. This data is also included in the total amount of solid waste collected by the Chelan Transfer Station.

\*\*\*\* Many residents, including those of Douglas County, haul refuse to the Dryden Transfer Station due to the lower costs of minimum loads compared to the Wenatchee Transfer Station. Douglas County does not have a transfer station.

**Table 2.7 Waste Deliveries by Type**

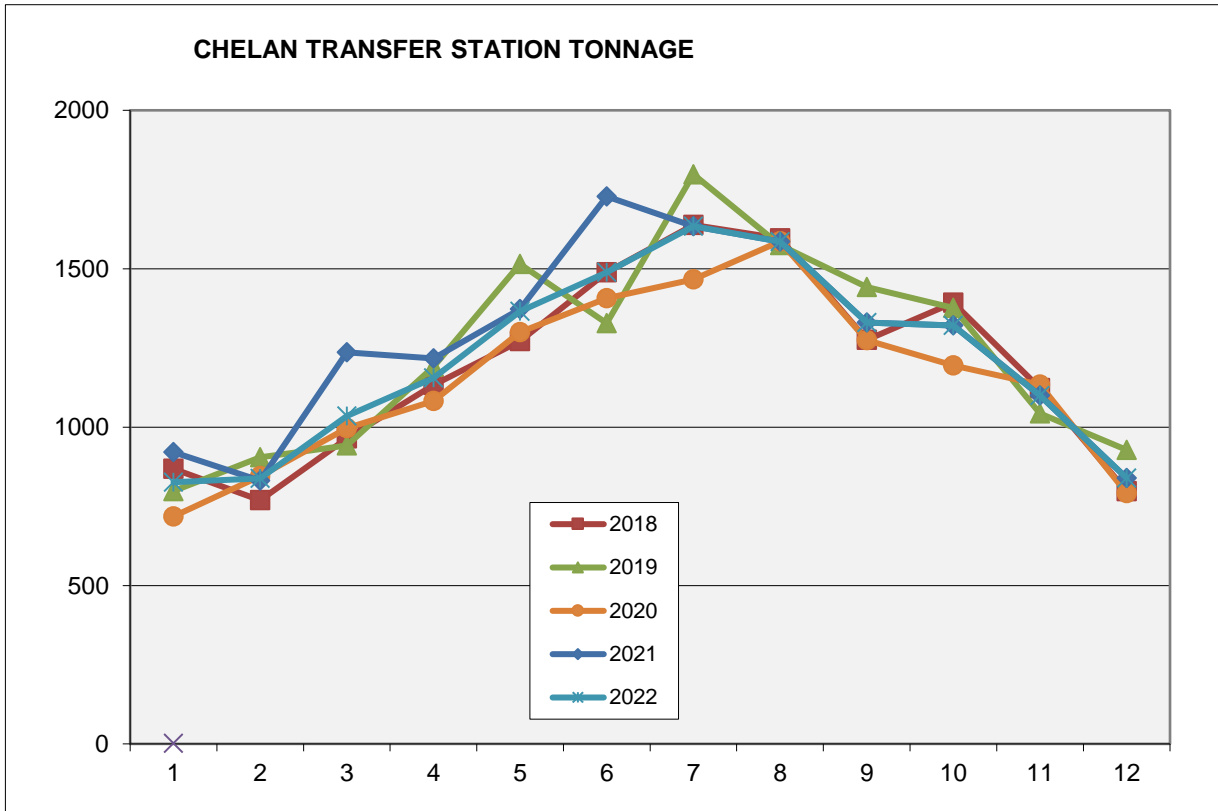
<u>Type of Waste</u>	<u>Rate (%)<sup>1</sup></u>	<u>Tonnage<sup>2</sup></u>
Self-Haul	24.6	27,735
Residential	28.1	31,681
Commercial / Industrial	47.3	53,327
Total		160,500

Notes: These figures are not precise and should only be taken as an indication of the relative amounts of waste in Chelan County’s waste stream. 1. Based on the 2018 MSW tonnage for Chelan County from Ecology’s annual survey (112,742.12 tons) and percentages shown in the column to the left.

The rate at which solid waste is generated varies throughout the year due to seasonal differences in residential and commercial activities. Chelan County is subject to major seasonal population fluctuations. The summer months bring substantial increases in tourist, recreational and farm labor population. The population fluctuations are reflected by commensurate increases in solid waste generation. Federal, State, Public Utility and local parks generate increased disposal volumes during the summer months. The variation in waste delivery amounts for occurring at two of the facilities in Chelan County can be seen in Figure 2.2.

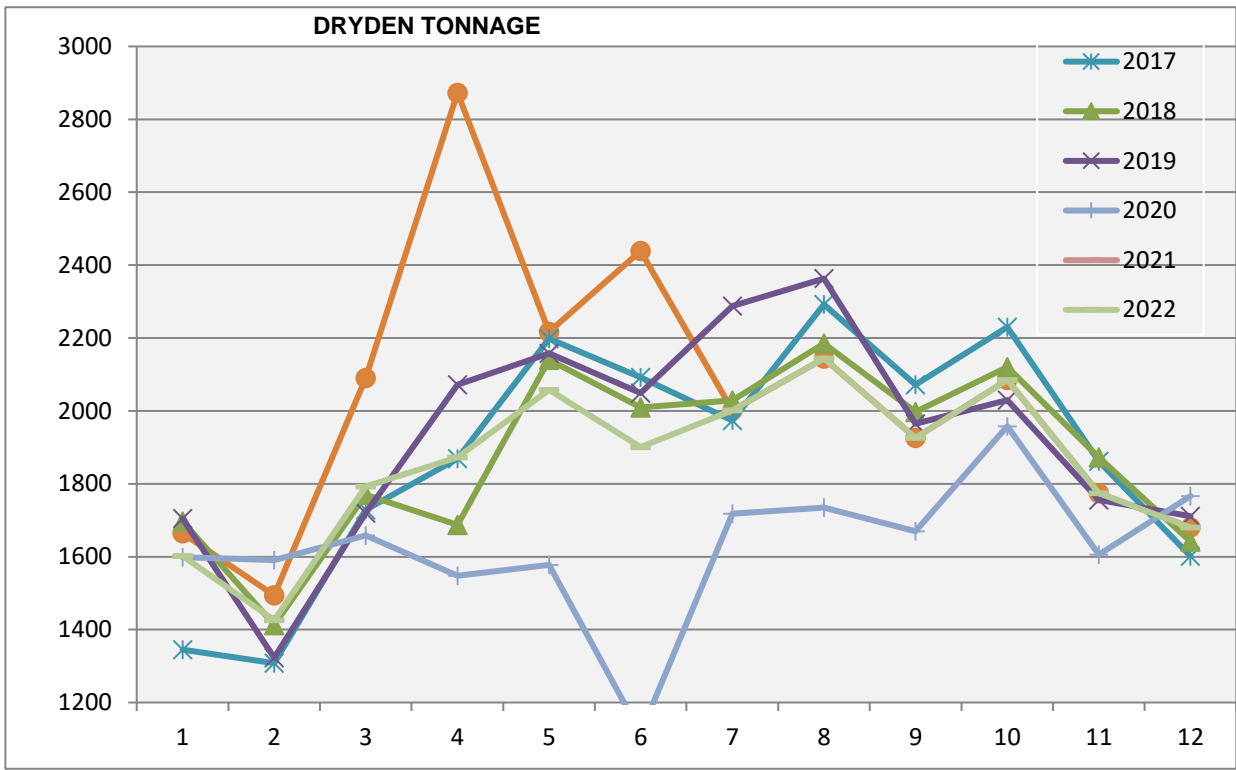
**Figure 2.2 Seasonal Variations in Chelan County's Waste Stream**

**Chelan Transfer Station**



1. Data collected by Chelan County Public Works.

## Dryden Transfer Station



1. Data collected by Chelan County Public Works.

### 2.3.3 Current Recycling Levels

The Department of Ecology’s most recent annual recycling report (2018) estimates that approximately 36.7% of Chelan County’s waste stream (~39,000 tons in 2021) is currently recycled and composted (see Table 2.8). This figure is generally called a “recycling rate,” although it includes composting as well. Data for some materials and some companies is not reported to the Department of Ecology and so is not shown in Table 2.8. In addition, no estimate is available on the current levels of waste reduction. Based on the 2018 data, Chelan County’s diversion rate is approximately 37%. If waste reduction and the missing recycling tonnages could be accounted for, the county’s current diversion rate would be higher. However, since the ban of recycling commodities shipped to China was stopped due to high contamination rates, efforts to streamline recycling has reduced materials accepted for recycling. The amount of recycled material has decreased.

<b>Table 2.8 Recycled Quantities by Material<sup>1</sup></b>					
<b><u>Recycled Materials</u></b>	<b><u>2010</u></b>	<b><u>2013</u></b>	<b><u>2014</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>
Aluminum Cans	111	201.6	123.85	136.06	117.33
Computers and Electronics	16	23.69	275	222.33	33.30
Fluorescent Light Bulbs	6	8.54	6	6.17	9.10
Food Waste and Rendering	NA	NA	NA	5,861.06	3,549.09
Glass	755	1,405	948.14	1,631.05	408.63
Metals, Ferrous	1,895	9,509.8	643	190.76	15,680.56
Metals, Non-Ferrous	339	749.94	147	122.38	1,635.07
Paper, Cardboard	5,533	8,063.9	7,462	8,706.56	10,115.51
Paper, High Grade	4	222	5	213.15	53.03
Paper, Mixed Waste Paper	1,975	4,432.87	2,108	2,428.72	2,613.59
Paper, Newspaper	6,971	1,883.54	1,227	2,747.07	1,136.99
Photographic Film	7	10.10	0	11.30	0.90
Plastic, HDPE Containers	81	167.36	32	109.50	191.76
Plastic, LDPE	138	277.01	77	59.15	100.67
Plastic, PET Containers	106	311.99	249	237.27	261.69
Plastic, Other	49	105.55	193	135.03	163.52
Textiles	209	135	128	0	NA
Steel Cans	71	244.89	180	154.92	157.03
Tires	7	36.75	56	239.92	98.95
Used Oil	862	587.23	618	725.96	692.34
Vehicle Batteries	230	312.18	556	339.45	442.15
White Goods (Appliances)	266	*Included with Ferrous	*Included in Ferrous Metals	*Included in Ferrous Metals	1,678.42
Wood	1,588	4,045.31	1,361	274.16	NA
Yard Waste	<u>4,606</u>	<u>6,493.73</u>	<u>7,785</u>	<u>9,306.46</u>	<u>15,443.95</u>
Tons Recycled	26,141	39,579.57	25,017	37,550.56	33,276.71
<b><u>Diverted Materials</u></b>	<b><u>Tons Diverted</u></b>				
Antifreeze	67	45.95	48.23	38.59	46.40
Asphalt / Concrete	NA	NA	54	NA	1.10
Batteries, Household and Industrial	3	3.55	2.20	1.86	2.16
Oil Filters	15	16.59	21.26	15.13	25.00
Reuse	38	NA	7	NA	
Tires (burned for energy)	286	300.20	245.9	90.44	103.10
Tires (retread)	12	9.70	1.9	NA	5.30
Used Oil (burned for energy)	<u>NA</u>	<u>80.87</u>	78.2	NA	NA
Tons Diverted	6,157	10,391.1	6,314	24,607.41	57,380.5
Tons Disposed	<u>87,261</u>	<u>89,534.2</u>	<u>98,297</u>	<u>82,680.70</u>	<u>103,072.4</u>
Total Tons Generated	106,097	111,334	104,611	107,288.11	160,452.90
Waste Generation Rate, tons/year/person	1.53	1.51	1.51	1.51	~2.06

Recycling/Composting Rate	15.6%	35.55%	25.5%	34%	36.7%
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- Notes:
1. Data on recycled, diverted and disposed tonnages is from Ecology’s annual recycling survey. Diverted tonnages are materials (such as construction debris) or applications (such as incineration with energy recovery) that are a beneficial use but that do not meet the definition of recycling.
  2. To preserve confidentiality for the survey respondents, only those materials with three or more companies reporting are shown above. Data for materials with only one or two respondents, such as high-grade paper, cannot be shown above but are included in the total amount.
  3. NA = Not Applicable, no data reported for that material in that year.

The data shown in Table 2.8 lists “diverted” materials, which includes materials that are not included in the state’s definition of a recyclable material (such as asphalt and concrete) and materials consumed in processes that are not defined as recycling but that are still of beneficial use (such as incineration with energy recovery).

The waste generation rate shown near the bottom of Table 2.8 is the figure for the average number of tons of waste disposed and recycled by each person in the county annually. At 11.00 pounds per person per day, this amount is slightly lower than the state average at 13.17 pounds per day (*Department of Ecology 2018*).

### 2.3.4 Solid Waste Facility Data

The disposal sites for Chelan County serve specific areas. A description of areas serviced by each disposal facility is shown in Table 2.9, and Figure 2.3 shows the locations of solid waste facilities.

### 2.3.5 Forecast Methodology and Results

Table 2.10 shows the projected figures for the amounts of solid waste expected to be disposed and recycled for the duration of the planning period for this Plan.

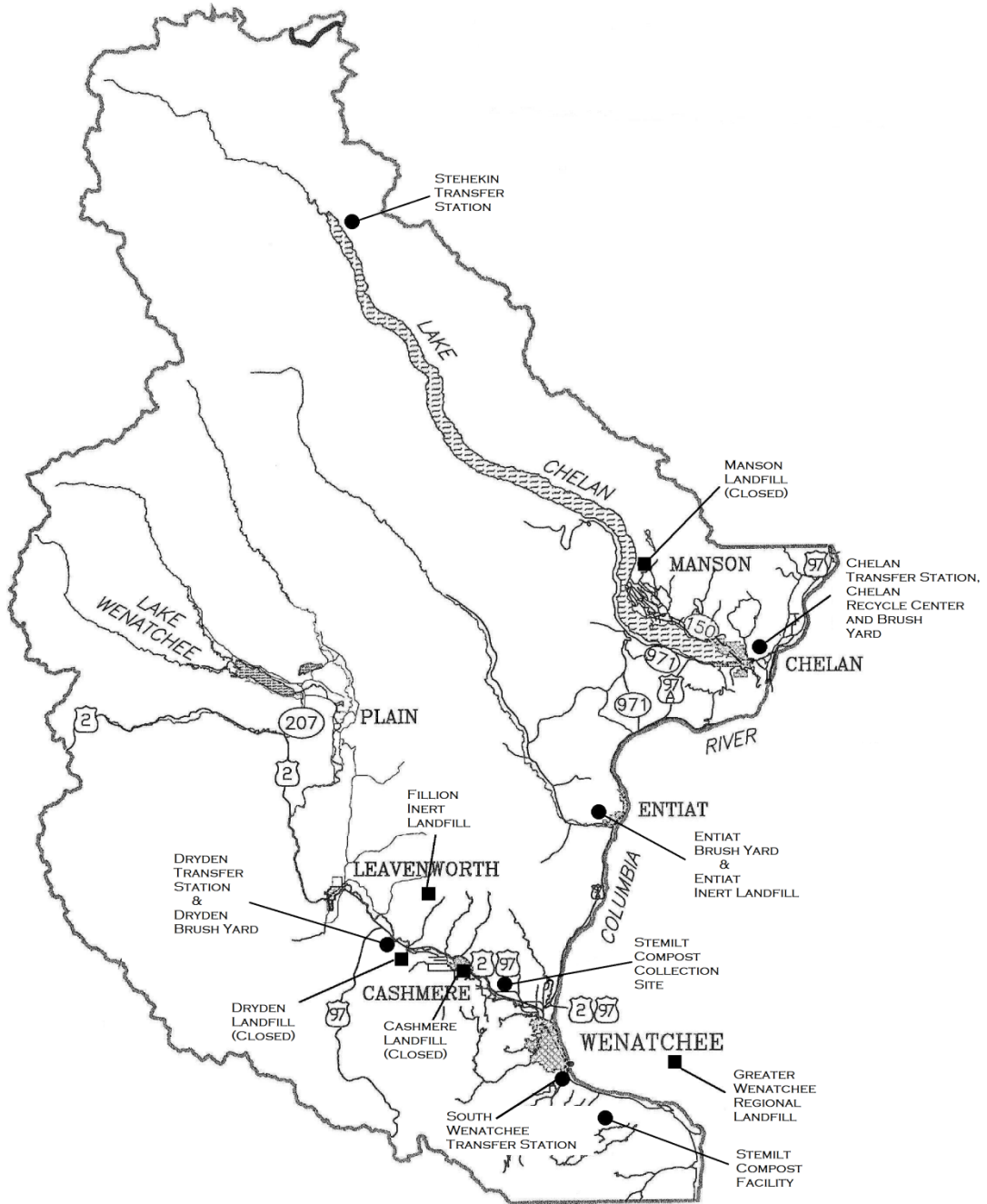
The methodology used to project solid waste generation rates for the next 10 years was based on population forecasts (see Table 2.5). These projections were developed under the following

<u>Disposal Facility</u>	<u>Waste Generation Area</u>	<u>Population Served<sup>1</sup></u>
Chelan Transfer Station	Chelan, Manson area, Stehekin, northern parts of uninc. Chelan County, parts of Douglas and Okanogan counties	21,121 (estimated)
Dryden Transfer Station	Leavenworth, Cashmere <sup>2</sup> and western portions of unincorporated Chelan County and Douglas County	45,566 (estimated)
South Wenatchee Transfer Station	Wenatchee, Entiat, Malaga area, southern parts of uninc. Chelan County, E. Wenatchee and other parts of Douglas Co.	27,850 (estimated)
Stehekin Transfer Station*	Stehekin	135 (estimated)
Greater Wenatchee Regional Landfill	Ultimate disposal site for all waste from Chelan County	80,650 (all)

1. The amount of population served by each facility is an estimate for Chelan County only based on year 2022 census data (see Table 2.4).

\*Some waste collected at the Stehekin Transfer Station is generated by seasonal and recreational population increases. The solid waste generated at the Stehekin Transfer Station is delivered to the Chelan Transfer Station, which includes Stehekin's around 135 permanent residents in total population served.

**Figure 2.3 Solid Waste Facilities**





**Table 2.10 Solid Waste Disposal Projections for Chelan County**

Year	Population	Tons Generated (at current rate of 1.51 tons per year per person)	Recycling Rate	Projected Tonnages		
				Tons Disposed	Tons Recycled	Tons Diverted
2000	71,200	109,600	20%	82,100	21,900	5,580
2010	72,453	117,020	25%	81,800	29,300	5,960
2015	75,030	122,461	30%	73,477	48,984	11,388
2020	79,141	129,709	35%	71,340	58,369	12,063
2025	81,885	136,655	40%	68,327	68,327	12,709

Notes: The above figures assume the recycling/composting goal is met and the diversion rate will increase from 25% (2014 diversion rate) of the total amount of waste generated for years 2015 thru 2025. The population estimates are based on the medium statistics predictions for population growth (OFM 2022).

assumptions, any of which could change in the future due to the recommendations in this Plan or due to other factors:

- The waste generation rate (how much waste is generated per person, household or business) will remain the same through the planning period, at 1.51 tons per person per year.
- The future recycling/composting goal will be met (40% by 2025, with continued increases after that).
- Materials diverted to other beneficial uses will also continue to be diverted from the waste stream, at the same rate (25% of the total amount of generated waste).

Waste generation is influenced by various demographic and economic factors, including changes in levels of employment and personal income, the value of recyclable materials, the price of disposal services, changes in product design and packaging, and changes in behavior affecting waste reduction and recycling levels. Some of these factors are difficult to measure over time, while others are so interrelated that using them in a statistical analysis lowers the accuracy of the forecast. For these reasons, a forecast was developed based solely on population to indicate the potential increase in solid waste disposal within the counties, but it is important to realize that any of these related factors may change within the forecast period. To ensure accuracy for future planning purposes, the waste stream should be monitored periodically.

The forecast presented in Table 2.10 shows that the amount of waste disposed in Chelan County, without taking into account any increases in recycling or composting, is expected to increase by 11% over the forecast period, from 122,461 tons in 2015 to 136,655 tons in 2025. This is based on a per capita waste disposal rate of 1.51 tons per person per year, or 8.27 pounds per person per day, which is assumed to remain constant throughout the forecast period.

One of the goals of this plan is to increase waste reduction and recycling. As new programs decrease the waste generation rate, the amount of landfilled solid waste will be reduced accordingly as also shown in Table 2.10. A recycling rate approximately double the current rate is used in Table 2.10 to illustrate the potential decrease in the amount of waste landfilled.

### **2.3.6 Waste Stream Composition**

Composition data for Chelan County's waste stream is needed to assist in designing solid waste handling and disposal programs. No detailed waste composition study has been performed to date for Chelan County, but studies have recently been completed in other Eastern Washington counties, including Grant, Okanogan and Yakima counties. Based on similarities in agricultural activities and other parameters, the data from Yakima County seems to be the best fit for Chelan County and so this data is shown in Table 2.11.

Waste composition can be expected to change in the future due to changes in consumption patterns, packaging methods, disposal habits, public health emergencies like global pandemics, tourism and other factors. These changes are very difficult to predict in the long term. Furthermore, implementation of this Plan is hoped to affect waste composition in Chelan County by changing purchasing and disposal habits.

The Department of Ecology recently performed a waste characterization study. This study can be found on Ecology's website.

**Table 2.11 Estimated Solid Waste Composition in Chelan County**

Material	Entire Waste Stream		Typical Composition by Waste Stream, % by Wt. <sup>1</sup>			
	Percent by Weight <sup>1</sup>	Tons of Material <sup>2</sup>	Residential	Residential Self-Haul	Non-Res. Self-Haul	Commercial/Industrial
<b>Paper</b>	<b>19.5%</b>	<b>21,984.71 T</b>	<b>24.3%</b>	<b>11.9%</b>	<b>7.2%</b>	<b>21.1%</b>
Cardboard	4.4	967	2.6	4.3	2.9	5.7
Newspaper	2.3	506	4.8	2.2	0.1	1.1
Other Recyclable Paper	6.9	1,517	10.5	3.3	1.4	6.8
Compostable Paper	4.7	1,033	5.6	1.6	0.5	5.9
Non-Recyclable Paper	1.2	264	0.7	0.6	2.3	1.7
<b>Plastic</b>	<b>14.4</b>	<b>16,235</b>	<b>12.7</b>	<b>8.9</b>	<b>5.8</b>	<b>18.5</b>
PET Bottles	0.7	113.64	1.2	0.5	0.04	0.6
HDPE Bottles	0.7	113.64	1.2	0.7	0.04	0.5
Film and Bags	5.3	860	5.6	1.9	3.5	6.7
Other Plastics	7.7	1,250	4.7	5.8	2.2	10.7
<b>Glass</b>	<b>4.4</b>	<b>4,961</b>	<b>4.3</b>	<b>3.3</b>	<b>0.3</b>	<b>5.3</b>
Recyclable Bottles	2.5	124	4.2	2.6	0.2	1.7
Non-recyclable Glass	1.9	94	0.1	0.7	0.1	3.6
<b>Metals</b>	<b>10.6</b>	<b>11,951</b>	<b>8.9</b>	<b>14.4</b>	<b>9.8</b>	<b>10.2</b>
Aluminum Cans	0.6	71.7	0.9	0.4	0.03	0.5
Tin Cans	1.0	120	1.8	0.9	0.03	0.8
Computers, Electronics	1.0	120	2.4	1.5	0.2	0.0
Other Metals	8.0	956	3.8	11.6	9.5	8.9
<b>Organics</b>	<b>19.8</b>	<b>22,323</b>	<b>26.1</b>	<b>19.2</b>	<b>13.6</b>	<b>17.0</b>
Food Waste	12.8	2,857	16.9	6.4	6.1	13.7
Yard Debris	7.0	1,563	9.2	12.8	7.5	3.3
<b>Other</b>	<b>15.7</b>	<b>17,701</b>	<b>21.1</b>	<b>16.0</b>	<b>6.1</b>	<b>13.5</b>
Disposable Diapers	2.5	443	4.9	1.4	0.02	1.7
Textiles	3.1	549	4.0	2.0	0.6	3.2
Tires, Rubber Products	0.3	53.1	0.1	0.8	0.02	0.3
Other Materials	9.8	1,735	12.1	11.8	5.7	8.3
<b>Construction Debris</b>	<b>13.5</b>	<b>15,220</b>	<b>1.6</b>	<b>24.4</b>	<b>54.7</b>	<b>11.9</b>
Wood Waste	9.8	1,492	1.1	17.2	35.5	9.3
Construction Debris	3.7	563	0.5	7.1	19.2	2.7
<b>Special Wastes</b>	<b>2.1</b>	<b>2,368</b>	<b>1.1</b>	<b>2.0</b>	<b>2.5</b>	<b>2.5</b>
Animal Excrement	0.6	14.21	0.7	0.8	0.01	0.4
Other Special Wastes	1.5	36	0.4	1.2	2.5	2.1
<b>TOTAL TONS =</b>		<b>112,742.12</b>				

- Notes: These figures are not precise and should only be taken as an indication of the relative amounts of materials that may be present in Chelan County's waste stream. Furthermore, under no circumstances would 100% of the materials be recoverable through a recycling, composting or other waste diversion program.
1. Percent by weight figures are from Yakima County's data.
  2. Based on the 2017 tonnage for Chelan County (112,742.12 tons) and percentages shown in the column to the left.

## CHAPTER 3: WASTE REDUCTION

### 3.1 INTRODUCTION

The solid waste management activities discussed in this chapter are organized into two sections:

- 3.2 A preface to the Waste Reduction, Recycling and Composting Chapters
- 3.3 Waste Reduction

The following preface to this and the next two chapters is provided here because there is background information that pertains to all three of the waste diversion techniques (waste reduction, recycling and composting).

### 3.2 PREFACE TO THE WASTE REDUCTION, RECYCLING AND ORGANICS CHAPTERS

#### 3.2.1 Introduction

This chapter, together with the following two chapters on recycling and composting, describe existing programs and future plans for activities that reduce the amount of solid waste being generated or disposed in Chelan County. This chapter discusses waste reduction methods that reduce the amount of waste being generated while the next two chapters discuss methods that reduce the amounts being disposed. Collectively, these approaches (waste reduction, recycling and composting) are known as “waste diversion” (although Ecology uses the term “diverted materials” in a broader sense to include energy recovery and other activities).

#### 3.2.2 Purpose

Chapters 3, 4 and 5 provide an update of the county’s waste diversion methods as well as fulfill state requirements regarding waste reduction and recycling programs. The state requirements are based in the “Waste Not Washington” Act (ESHB 1671), which are in turn reflected in various sections of the Revised Codes of Washington (RCW) and the Washington Administrative Codes (WAC). RCW 70A.205.040 requires that local solid waste management plans demonstrate how the following goals (among others) will be met:

- Washington State’s goal is on Waste Reduction.
- There is a statewide goal to eliminate yard debris and organics from landfills in those areas where alternatives exist, and mitigate climate change.
- Address contamination in recycling and composting systems in order to ensure clean and marketable end products.
- Steps should be taken to make recycling as affordable and convenient if not more so than waste disposal.
- RCW 70A.205.040 requires that county and city governments assume the primary responsibility for solid waste management and implement effective waste reduction and recycling strategies.

### 3.2.3 Waste Diversion Goals

The State Plan's 30 year vision is to eliminate most wastes and toxics and use remaining waste as resources, with waste reduction as the highest priority, followed by recycling, and then safe disposal. Each community strives to encourage residents and businesses to reduce waste, RCW 70A.205.

In 2018 (the most recent year we have data available), the statewide recycling rate was 47.7%. This rate includes residential, commercial, and industrial recycling. That rate had declined slightly from previous years (The recycling rate in 2011 was 50.68% and the rate in 2012 was 50.08%). Part of the challenge with the recycling rate is that the overall amount of waste generated in the state has increased, and this figure has climbed from 6.5 pounds per person per day in 2002 to 12.63 pounds per person per day in 2012. At its peak, this figure reached 13.44 pounds per person per day in 2010 and while this figure has dropped slightly to 13.35 pounds per person per day (2018), the figure has generally been increasing over the past decade.

### 3.2.4 Sustainability

Another issue common to waste reduction, recycling and composting is "sustainability." The state Plan promotes a sustainable materials management (SMM) approach, which looks at the full life cycle of materials. Moving Washington beyond Waste and Toxics offers the state vision. The U.S. Environmental Protection Agency (EPA) defines SMM as, "An approach to serving human needs by using/reusing resources productively and sustainably throughout their life cycles, generally minimizing the amount of materials involved and all associated environmental impacts.

The concept of sustainability includes the design and production phase, through the use and reuse phase, to the end-of-life phase when the materials are either disposed or recycled. This approach is much larger than county solid waste management, but can still be considered for future policy and program development.

### 3.2.5 Recent Sustainable and Stewardship

Minimum Post-Consumer Recycled Content (PCR) Requirements are established for plastic beverage containers, trash bags, and household cleaning and personal care product containers.

It is prohibited to sell or distribute in or into Washington three types of expanded polystyrene products: Portable containers designed for cold storage; Food service products; and Void filling packaging products. These restrictions apply beginning June 1, 2023, for void filling packaging products, and June 1, 2024, for cold storage containers and food service products.

Beginning January 1, 2022, food service businesses may only provide single-use utensils, straws, condiment packaging, and beverage cup lids only after affirming that the customer wants the product. Producer reporting requirements are established with household cleaning and personal care products in plastic containers beginning April 1, 2026. They must meet the minimum; postconsumer recycled content for products offered for sale in Washington. Producers must register with requirements in RCW 70A.245.040. Penalties for postconsumer recycled content requirements will be assessed upon the amounts in pounds in the aggregate of virgin plastic, postconsumer recycled content plastic, and other plastic categories.

The single use plastic bag ban passed by legislative session 2020, was an effort to reduce plastic pollution, litter, and waste. This ban will benefit the state's recycling system on several fronts. Reducing

contamination in the recycling and compost system will benefit the new compost developments. Promoting reuse and recycled content will be an education for residents and businesses. Building consistency in policy and enforcement across the state will create more consistency in what the public know and expect from the products, and it supports the recycled paper industry. Plastic bags are a huge pollutant at our solid waste facilities, across the world and in our oceans. Reducing the plastic bags containing chemicals that are toxic once released in the environment can aid in prevention. More legislation is expected to reduce the heavier plastic bags to encourage paper or reusable bags.

The Paint Stewardship is explained further in Chapter 8, where PaintCare is provided to the County and allows more LSWFA grant money to be used towards other parts of the solid waste system. Chapter 70.515 RCW

### **3.3 WASTE REDUCTION**

#### **3.3.1 Introduction**

Methods for reducing the solid waste produced (generated) in Chelan County are discussed in this section, which describes current waste reduction programs and activities, outlines needs and opportunities, examines alternatives for addressing these issues, and makes recommendations for waste reduction programs. Methods for reducing the toxicity of the waste produced are sometimes included in the definition for waste reduction, but these approaches are discussed in the chapter dealing with hazardous waste (see Chapter 8).

Waste reduction is accomplished by changing behavior (consumption patterns) so that new habits or practices are developed that generate less waste. Reusing a grocery bag, buying materials in bulk to reduce packaging waste, and reselling or giving away unwanted items instead of discarding them, are typical examples of waste reduction practices. Waste reduction can also be accomplished through changes in the products and packaging offered to consumers, and through other means.

The basic methods for waste reduction are:

- 1) Decrease the amount of material used to produce or package products.
- 2) Increase the durability or lifetime of products.
- 3) Reuse products for their original or compatible purposes.
- 4) Reduce toxic materials in all products.

As mentioned above, reducing the toxicity of waste products is sometimes defined as a fifth waste reduction method. Public education and information programs can lead to changes in purchasing practices and product reuse, and so are an important part of waste reduction programs, too.

### **3.3.2 Goals and Objectives for Waste Reduction**

Waste reduction is the preferred method for managing solid waste. It is recognized as a viable long-term option for handling part of the solid waste management problems facing communities across the state and nation. By decreasing the amount of waste that must be disposed of, waste reduction programs decrease the costs and environmental problems associated with waste collection, processing and disposal. Successfully reducing waste depends on local, state and federal programs and policies, and the support of businesses, industry and citizens.

The primary waste reduction goal is to reduce the amount of waste generated per capita by educational and legislative efforts directed towards changing consumer and industrial practices. Specifically, Chelan County's waste reduction objectives support the sustainable materials management:

- Develop and support an education program that promotes efforts to manage materials and products on a life-cycle basis.
- Build capacity and integrate materials management approaches in existing government programs.
- Accelerate the broad, ongoing public dialogue on life-cycle materials management.

### **3.3.3 Existing Waste Reduction Programs and Facilities**

Waste reduction practices have been implemented in many offices in both the public and private sectors, including reusing blank sides of paper for drafts, increased use of electronic mail (email), increased double-sided copying, increased use of recycled paper and avoiding non-recyclable packaging. The city of Chelan, for example, uses the blank side of paper for notepads and reuses office equipment. Chelan County re uses computer keyboards and peripherals, desks, chairs, file cabinets and various other equipment within the county offices. The use of email further assists with waste reduction in some offices by providing a fast and convenient mechanism for an internal exchange of used furniture and other items. Washington state's single use plastic bag ban requires residents to use reusable bags when at store or otherwise pay an \$0.08 fee for certain paper or plastic bags.

There are a number of retail stores and personal activities that are occurring in Chelan County that promote the efforts to manage materials on a life-cycle basis. These activities are creating a very significant amount of waste reduction, but are difficult to measure. Improved databases to promote materials management will support existing programs.

- Linen services
- Tire re-treads
- Repair services
- Secondhand stores and consignment shops
- Person-to-person transfers (sales or gifts)
- Garage sales, want ads and swap meets
- Antique stores
- Pawn shops
- Charity and thrift stores
- Bookstores
- Clothing and food banks
- Sales of surplus materials by contractors
- Auto wrecking and parts dealers
- Used car, truck and boat dealers
- Precious metals and coin dealers
- Mail services that reuse Styrofoam “peanuts” and “bubble wrap”
- Internet auction websites (e-Bay and others)

For construction and demolition (C&D) materials, Chelan County residents and businesses use Habitat for Humanity and materials exchanges operated by the Industrial Material Exchange (IMEX), and the website for craigslist.

The County conducts an annual auction of old computers, trucks, furniture and other equipment that is coordinated with other jurisdictions and agencies in the area. Other online purchases such as Craigslist is a growing method of reusing items. The City of Leavenworth reduces paper usage by avoiding a second printing of proposed ordinances at city council meetings.

The Washington State Department of Agriculture sponsors an annual event where farmers are encouraged to bring in empty, triple-rinsed barrels. Other chemical pesticide sales companies have collected these and reused them as barrels or processed them to make new products.

Backyard composting is typically defined as a waste reduction method, but this approach is discussed in the chapter that addresses the management of organic materials (Chapter 5).

As of June 2022, Chelan County is now a participant in the Paint Care Program. Paint Care is a paint stewardship program which is paid for by the paint industry. This paint is combined with other paints and reused. Other new paints are offered for residents to select and reuse paint that would be otherwise disposed. Chelan County’s reuse station is being met with huge success.

### **3.3.4 Service Gaps, Other Needs and Opportunities in Waste Reduction**

Washington State law (Chapter 70A.205 RCW) considers waste reduction a primary method of solid waste management, but local options for legislating and enforcing waste reduction are somewhat limited. Waste reduction through legislated product or packaging bans is generally only effective on the state or federal level. Local efforts must be directed principally at educating citizens and businesses to change their behavior so they can reduce the waste they produce each day.



While waste reduction remains at the top of the solid waste management hierarchy, the general public has more difficulty understanding this approach than other management practices such as recycling, energy recovery, and landfilling. Opportunities remain to increase public understanding of the benefits to be gained from waste reduction, or in other words, to promote the idea that using less packaging, nontoxic household products, and reusable products can serve community efforts to protect the environment, conserve natural resources, reduce landfilling costs, increase public knowledge of waste reduction techniques, and delay the need for development of new disposal options.

Because it is difficult to measure waste reduction, local jurisdictions may encounter hardships when attempting to fund programs. The difficulty arises because it is not possible to simply measure a drop in the total waste stream generated because the waste stream is constantly increasing due to population growth. It is also impacted by household income and other socioeconomic factors. Instead, per capita waste stream reduction could be measured by surveying residents and private industry about their activities to reduce waste, or by conducting waste stream surveys for specific materials, products or packaging.

A more effective approach than quantifying the amount of waste reduction may be to gauge success using a “performance-based standard.” Through a performance-based standard, waste reduction is presumed to be successful based on achieving a specific level of effort or on other criteria. An example of this approach is to use the number of backyard composting bins that might be distributed as a measure of the amount of yard debris that is kept out of the waste stream. Other criteria can be used and these need to be tailored to each specific waste reduction activity.

The collection and disposal of garbage is relatively inexpensive for residents. It has been proven that if residents paid more for collection, or paid on the basis of the volume of garbage disposed, it would provide incentive to reduce the amount of waste going into the garbage can or landfill. Currently, most residents pay slightly more for each additional can of garbage disposed, while in the past, some residents paid a flat rate. Residents in Chelan County, Wenatchee, Leavenworth, Chelan, and Cashmere all pay a “tiered rate” based on the number and size of cans they subscribe for. The rate structure could be re-evaluated at opportune times and possibly re-structured to provide more incentive. This approach is discussed in greater detail in Chapter 6.

### **3.3.5 Waste Reduction Alternatives**

**Residential programs:** There are many alternatives and specific programs that can be implemented to encourage waste reduction in the residential sector. Most center on increased education, legislative action and rate restructuring. Public education is a critical and required element of any successful waste reduction program (see also Chapter 10). Existing or new waste reduction and education programs could be expanded to include more information on the following topics:

- General problem awareness
- Reuse and repair vs. disposal
- Home practices to minimize waste
- Good purchasing habits (less toxics)

The above topics are the primary options for the residential sector, although these can be made to work for the commercial sector as well. Additional options for businesses and governmental agencies are also noted below.

**Waste reduction alternatives for governmental offices:** Local jurisdictions could develop more comprehensive in-house waste reduction programs. By monitoring and reporting on effectiveness, costs, avoided costs and program revenues for the waste reduction programs, the jurisdictions could provide a model for businesses and schools.

By fostering the waste reduction and recycling ethic at work, the counties and municipalities can also encourage their employees to practice waste reduction and recycling at home. Most importantly, by setting an example in their own departments, the jurisdictions could gain additional credibility when trying to persuade residents and businesses to reduce and recycle.

To ensure the program's continued success, county and municipal employees need to receive regular updates about new waste reduction techniques. This information could be provided by informational notices or newsletters that are routed to all personnel semi-annually.

The following activities could be encouraged in all county and municipal departments:

- Double-sided copying
- Routing slips instead of circulating multiple copies
- Electronic-mail for intra-office messages and paperless documents with computer central records repository.
- Scrap pads made from used paper
- Reusing large envelopes
- Procurement policies favoring reusable/durable/recycled materials (see below)
- The use of very small cans for trash in individual offices, with larger containers provided for recycling (especially in central areas such as copy rooms where larger volumes are generated)

Agencies could also conduct waste audits of their own departments to identify areas where waste reduction and recycling would be practical and profitable. For example, agencies that are involved with construction could evaluate their construction and demolition activities, to reuse and recycle as much as feasible. Other ways of encouraging reuse and repair is to support those businesses, such as the second-hand stores, that are involved with this activity.

**Government procurement standards:** The participating jurisdictions could set an example for local businesses and organizations, and become an even greater force in the marketplace, by broadening and upgrading procurement policies. Policies could be adopted that set increasingly higher standards for both the quantity and quality of products purchased by the jurisdiction. The jurisdictions could target products that may include goods that:

- Allow for greater waste reduction, such as purchasing copy machines that make double-sided copies more easily.
- Require replacement or repair less often, such as long-life fluorescent bulbs, rechargeable batteries or durable furniture.
- Are easily repaired, such as machinery with standardized, replaceable parts.
- Can be reused, such as washable plates and glasses.
- Have already been used.

- Can be remanufactured, or by making use of existing remanufacturing programs, such as refilling printer cartridges, re-refining motor oil and retreading tires.
- Are nontoxic or less toxic, such as many cleaning agents and solvents now available.
- Adopting additional procurement policies, such as the compost procurement resolution.

**Waste reduction alternatives for businesses and industries:** County staff, private consultants or citizen action group participants can promote waste reduction to businesses and organizations using fact sheets, a telephone hot line, directories, workshops, demonstration programs, newsletters and on-site consultations. These services can offer the private sector valuable assistance in gaining the experience and knowledge that can take months or years to develop.

The participating jurisdictions could require or request all or some commercial waste generators to prepare and implement waste reduction plans for their operations. Such a request would have to be accompanied by the appropriate forms to fill out and the offer of technical assistance, should any problems or questions arise. Other types of public-private partnerships could be explored as well.

**Government regulations/financial incentives:** The increased costs of disposal brought on by more stringent environmental standards and requirements has created an incentive to reduce the amount of waste generated, while the cost of implementing recycling programs will increase the revenue requirements for a solid waste management system. Cities could also modify service levels to provide for a rate structure that will increase revenue generation while promoting waste reduction and recycling. The City of Chelan's solid waste and recycling program is an excellent example of this. They have successfully modified solid waste collection rate structures while promoting waste reduction and recycling.

**Product and/or packaging legislation:** Regulations banning or restricting non-recyclable materials (for example, mixed materials or materials with wax coatings) and encouraging the use of recyclable products would reduce the amount of solid waste requiring disposal. Many cities, counties and states have proposed legislation designed to reduce their waste stream. These regulations include beverage container legislation and packaging legislation.

Beverage container legislation commonly targets all carbonated beverage containers, including glass, aluminum, and plastic. This legislation places a value on the container. The container either has a per-unit surcharge at the point of purchase, which is refundable upon return, or no surcharge, but a refund available upon return through a redemption system. This type of legislation has been effectively established in eleven states, including Oregon and California, and there is some interest in adopting this approach in Washington State. Other deposits that could be implemented include those on tires, batteries and appliances to encourage reuse by the consumer.

Packaging legislation is a waste reduction strategy that discourages waste generation and encourages the use of recycled materials. This legislation could discourage excess packaging, or packaging produced from virgin materials or that is not recyclable. Labeling requirements could also be established to guide the development of packaging and inform consumers about the impacts of their packaging choices.

Another alternative is to promote the reduction of excess packaging through voluntary actions of the commercial sector. Waste audits can help identify ideal opportunities for such promotional efforts. Other considerations in proposing packaging legislation include the ease of compliance by the affected industry, type of penalty for failure to comply, and means of enforcement. Further analysis would be required at the time legislation is proposed to determine whether any legal restrictions would apply.

**Product or packaging returns:** The state could provide technical assistance to manufacturers and businesses in setting up a separate system for discarded packaging to be returned to the manufacturer without being handled by the solid waste management system. A good example of this would be a return program for barrels and drums used in agriculture. A similar program has been implemented in Chelan County. Farmers are encouraged to bring in empty, triple-rinsed barrels. The Washington State Department of Agriculture sponsors an annual event. Other chemical pesticide sales companies have collected the barrels and reused them as barrels or processed them to make new products.

**Labeling requirements:** The participating jurisdictions could support statewide and federal efforts to promote more effective labeling on products, including: post-consumer recycled content, durability, reusability or recyclability. A successful demonstration of product labeling is the phosphorous content labels on detergents. The jurisdictions may find it difficult to implement additional package labeling requirements on their own because most products are produced outside of the area. However, the jurisdictions could work with or require retailers to participate in a region wide shelf labeling campaign.

The County, if funding allowed, could encourage labeling programs to assist shoppers in making more environmentally sound choices. For example, the “Model Community” program sponsored by the Central States Education Center in Champaign, Illinois, has developed stickers which help shoppers to make the best choice: recyclable, recycled, or safer alternative. Stickers are placed on appropriate products by staff or trained volunteers. When making purchasing choices at the store, consumers are then reminded by the stickers to take into consideration the product's impact on the solid waste system.

**Disposal bans:** Another way to promote waste reduction is to prohibit the disposal of certain materials to the solid waste system. Although this is primarily a recycling tool, and will be discussed in more detail in Chapter 4, disposal bans can also reduce the waste stream. For example, if large appliances were to be banned from solid waste disposal, this may encourage people to take them to second-hand stores.

A major problem associated with disposal bans is the potential for illegal dumping of the banned material. Therefore, an important component of the disposal ban alternative is the availability of alternative disposal methods. For example, if white goods are banned from the solid waste system, one or more designated recycling facilities should be able to receive the banned items.

**Private sector reuse programs:** Another method to reduce waste is to encourage greater reuse of items and materials. This could be done through an established waste exchange or a local program (see below). The participating jurisdictions could promote, develop and monitor use of IMEX (Industrial Materials Exchange), Online Exchanges hosted or the “Pacific Materials Exchange” headquartered in Spokane, which is tied into other regions of the country.

The success of any waste exchange program depends on how well it is managed and promoted. Advertisements in local newspapers and flyers are required to keep the waste exchange visible. Existing waste exchange listings could be made available to local trade associations and business groups. Those groups could also be encouraged to subscribe to the listing independently. With good promotion, a waste exchange can effectively reduce waste.

**Local materials exchanges:** Additional waste reduction can be accomplished by encouraging the reuse of materials and products through barter/borrow boards, “reuse ranches,” private efforts such as retail outlets and other activities. The barter/borrow board involves residents and businesses posting offerings of items for barter or requesting to borrow infrequently used items.

A reuse ranch is where reusable materials are left in a designated area, typically at a disposal site, for pick up by others. Alternatively, arrangements could be made with Goodwill or other charities to place a

container or truck at disposal sites. Several counties in Washington are working with charities such as Goodwill to divert reusable materials through staffed trailers located near the entrance of a landfill or transfer station.

The idea of private retail outlets for reusable C&D materials, such as those that exist in Whatcom County and several other locations, could be explored. Lumber and other wood products are materials that often could be reused more. Additional efforts could also be made to promote the use of reused and recycled building products by homeowners and builders

Swap events, such as the semi-annual SWAC-SWAP that Jefferson County once conducted, have also proven to be very popular. This approach involves a one- or two-day event where people are allowed to bring in and/or take away reusable materials and products (no garbage is allowed). Implementing this activity requires a large area for drop off of reusable products (usually at a fairgrounds or other “free” space), publicizing the event, providing access control and monitoring of materials dropped off, and disposing of a small amount of residual garbage. If free space can be arranged and labor is provided through volunteers, then the cost for this event is minimal (limited to public information printing and distribution, at approximately \$500 - \$800 per event, plus an additional few hundred dollars for signage). This event would need organized by a paid staff person.

**Other reuse programs:** Businesses and nonprofit groups that promote reuse of items include pallet re-manufacturers, diaper services, equipment rental services, printer cartridge re-manufacturers, furniture reupholstering businesses, appliance re-conditioners, and second-hand retail outlets. All such entities provide an infrastructure that supports waste reduction activities. The county can support these activities in a variety of ways, including promotion in county web sites, list serves, reduced business taxes, and reduced regulatory burdens. A reduced disposal fee could be provided for organizations that can demonstrate they are diverting a certain percentage of waste from the waste stream. The participating jurisdictions could provide support at recycling sites for second-hand clothing, reusable/repairable furniture, and other items by aiding with garbage collection. Items used 2 – 3 times spreads the disposal burden to the last user, which may not be economical justice. The low-income residents will generally pay or throw out the item of last use.

### 3.3.6 Evaluation of Waste Reduction Alternatives

Alternatives for reducing waste should be evaluated using the following criteria.

- **Public acceptability:** This criterion assesses how receptive the public (or the private sector, depending on the target audience for the alternative) will be to the program. Issues such as convenience and willingness to participate are considered.

Based on similar programs throughout the country, it is expected that the general public will support business waste reduction and internal waste reduction and procurement policies at government offices (as a model for the community to follow). The public is more likely to oppose disposal bans because the perception of regulating a waste stream due to reuse potential may not be reasonable, particularly if illegal dumping continues.

- **Funding availability:** Alternatives will be evaluated according to the variety of funding and implementation mechanisms available (i.e., grants, private sector involvement or community volunteer effort).

The solid waste management system in the county is mostly operated by the private sector, which limits the revenue available to fund new programs. Because Chelan County does not have control over the entire solid waste collection and disposal system (and the corresponding revenues), it is important to pursue programs that can be funded from a variety of sources. For instance, Ecology offers grant money for many of the recommended programs. Grants are only available on an outcome basis, however, and waste reduction results are difficult to measure.

- **Demand on staff time:** The degree to which the alternative can be incorporated into the workload of existing staff is an important factor. Several alternatives would require a significant amount of staff time to implement and so would be difficult or unlikely to be conducted given current conditions.
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and the SWAC support programs that can achieve the greatest amount of waste reduction for the amount spent.

The Solid Waste Advisory Committee evaluated the rating evaluation of the alternatives and is presented in Table 3.1.

<b>Table 3.1 Evaluation of Waste Reduction Alternatives</b>					
<b>Alternative</b>	<b>Public Acceptability</b>	<b>Demand on Staff Time</b>	<b>Funding Availability</b>	<b>Cost-Effectiveness<sup>1</sup></b>	<b>Conclusion</b>
Residential education	Medium	Low	Low	Medium	Pursue
Waste reduction in government offices	High	Medium	Medium	Medium	Pursue
Government procurement standards	Medium	Low	Low	Medium	Pursue
Alternatives for businesses and industries	High	Low	Medium	High	Pursue
Government regulations	Low	Medium	Medium	High	Don't pursue
Product and packaging legislation	Low	Low	Medium	High	Don't pursue
Product or packaging returns	Low	Medium	Medium	High	Don't pursue
Labeling requirements	High	Low	Medium	Medium	Don't pursue
Disposal bans	Low	Low	High	Medium	Don't pursue
Private reuse programs	Medium	Low	Low	Medium	Pursue
Local materials exchange	High	Low	Low	Medium	Don't pursue
Other reuse programs	Medium	Medium	Medium	Medium	Don't pursue

Note: 1. Based on estimated costs and diversion rates. Little research or other data is available on the measurable effectiveness of waste reduction programs.

### **3.3.7 Recommendations for Waste Reduction**

The recommendations for waste reduction are:

#### **WR1) Expand waste reduction programs in governmental offices**

The expansion of waste reduction in government offices will “lead by example” for area residents and businesses. Possible activities can include encouraging more use of double-sided copying, continuing to present educational information in staff newsletters, encouraging greater use of electronic mail rather than paper, and encouraging efforts to reuse furniture and equipment.

#### **WR2) Encourage waste reduction programs for commercial and industrial businesses**

Commercial and industrial businesses could be encouraged to increase their waste reduction efforts by providing them with specific examples of waste reduction practices. Their efforts could be supported by assisting with questions and encouraging new programs, including public/private partnerships. An additional incentive for them could be created by encouraging the press to cover specific events or activities.

#### **WR3) Support private reuse programs and businesses**

Reuse businesses need support and establishment to provide reuse services. Online businesses and nonprofit local businesses offer reuse through exchanges and sales. Promotion of and assistance to such endeavors provides the public with low-cost items as well as reuses items and reduces disposal.

### **3.3.8 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Waste Reduction**

Many of the waste reduction recommendations are ongoing activities that should be continued throughout the effective period of this Plan. The recommendations do not have significant costs to the county or other participating jurisdictions except for additional demands on staff time.

The ideal monitoring method in this case would be an annual evaluation of the per-capita and per-employee waste generation rates; however, this approach is not very precise at this time, so the monitoring method for waste reduction activities will be to monitor disposal amounts.

## CHAPTER 4: RECYCLING

### 4.1 INTRODUCTION

This chapter of the *Chelan County Solid Waste Management Plan (Plan)* discusses the regulatory framework for recycling, describes existing recycling programs in Chelan County, reviews the needs and opportunities for recycling, describes and evaluates alternatives, and provides recommendations. The discussion of recycling options is organized into three sections:

- 4.2 Overall Recycling Strategy
- 4.3 Source Separation Recycling
- 4.4 Mixed Waste Processing Options

### 4.2 OVERALL RECYCLING STRATEGY

#### 4.2.1 Introduction

This section of this chapter discusses the goals and background information common to the two main types of recycling methods: source separation and mixed waste processing. This material is provided here to avoid redundancy in the next two sections. Source separation is where the generator of the recyclable material keeps it separate from other wastes, and includes “single stream” recycling programs. Mixed waste processing is where garbage is processed to remove recyclables.

#### 4.2.2 Definition of Recycling

“Recycling” refers to the act of collecting and processing materials to return the materials to a similar use. Recycling does not include materials burned for energy recovery, destroyed through pyrolysis and other high-temperature processes, or used as landfill cover.

The official definition of recycling per state rules is “recycling means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration. Recycling does not include collection, compacting, repackaging and sorting for the purpose of transport” (Ch. 173-350 WAC).

#### 4.2.3 Overall Goals and Objectives for Recycling

Chelan County’s primary recycling goal is to increase recycling efforts and opportunities to achieve a 40% recycling rate by 2026, and increase the recycling rate annually thereafter. The objectives used to meet the recycling goals include the following:

- Maintain and encourage public education/information programs.
- Support convenient recycling opportunities that exist for all households, institutions and businesses.
- Raise the current Minimum Level of Service for residential recycling collection, with both drop box recycling and curbside recycling opportunities.



- Support efficiencies of communities adopting to single-stream recycling or keeping source-separated curbside recycling.
- Encourage recycling services for businesses.
- Participate in the development of markets for recycled product.

These goals and objectives apply to both source separation recycling as well as recycling through mixed waste processing and also include composting of organic materials and waste reduction programs.

The state's *Beyond Waste* plan notes that recycling has risen from 20% in 2000 to 56.6% in 2011 to 47.5% in 2018. Since 2000, the solid waste recovery rate (which is the percent of materials collected for recycling, composting, and other beneficial uses) has increased overall, but is no longer at its peak. While disposal has increased by 50%, leading to an overall decline in the recovery rate. The state plan's 4<sup>th</sup> priority is to address systemic issues with recycling (including organic processing).

With the addition of State legislation in RCW 70A.205.045(10), a contamination reduction and outreach plan (CROP) is required to address recycling contamination within the recycling stream.

#### **4.2.4 General Service Gaps, Other Needs and Opportunities in Recycling**

Chelan County's existing recycling rate is estimated to be 36.7% (see Table 2.8). Increasing this rate would provide benefits to the environment and economy of the county. Broad benefits to the residents and businesses in Chelan County would occur through increased sustainability of future activities. Ideally, local recycling activities could also have a more immediate benefit to the county's residents and businesses by providing options for proper management of various waste materials and through partnerships with businesses to help them with their operations.

To increase the recycling rate, recycling programs must be planned, implemented and continued throughout the 20-year planning period. The County should make an effort to coordinate any current and new recycling programs into an integrated system that best serves the needs of County residents and businesses in an efficient and cost-effective manner. Programs should be organized so that any current or future educational and promotional efforts by individual jurisdictions and other organizations can be consistent throughout the region. As a way to reduce government spending and taxes, these programs must also be as cost-effective and financially self-sustaining as possible.

As discussed more thoroughly in the previous chapter, Washington State's priorities must be addressed in solid waste plans, but each county is expected to set its own recommendations based on local conditions and constraints. State planning guidelines (Ecology 2010) require solid waste plans to establish urban-rural boundaries and to designate a list of recyclable materials that must be collected by programs in the county (see the next two sections of this chapter, Sections 4.2.5 and 4.2.6). Solid waste plans must also address markets for recyclable materials, which in this plan is included with the discussion of designated recyclable materials (see Section 4.2.6).

One service gap that has been filled is a permanent moderate-risk waste (MRW) facility that accepts household hazardous waste on a year-round basis for recovery, reuse, and proper disposal. The facility has enabled more reuse and recycling than the annual collection events. New or almost-new condition products are placed on shelving to be taken and then reused by other members of the community.

Various areas of the county are notorious for illegal dumping and need an improved recycling program. A tremendous amount of illegal dumping is occurring at the recycle drop-off sites, creating a health problem.

In this plan, serious considerations have been given through discussions with SWAC and haulers to provide better recycling in areas of Chelan County, particularly the Chelan Valley. The Chelan Recycle center was a state-of-the-art facility for some time; however, it has now closed due to the introduction of single stream curbside recycling in the Chelan area. A more convenient recycling program will enable the County to meet the recycling goal as well as provide programs to meet the requirements of RCW 70A.205 and the local Comprehensive Solid Waste Plan.

Several other state rules and regulations affect the manner in which recycling can be conducted in Chelan County, including RCW 70A.205, and various WACs (most notably the recently adopted Chapter 173-350 WAC). Counties have no authority over most solid waste management options but are allowed to contract for the collection of residential recyclables, or request the Washington Utilities and Transportation Commission (WUTC) to carry out the recycling provisions of this Plan. Cities and private companies have more flexibility, and can conduct their own recycling programs or contract with various companies for recycling services. One opportunity that ties into the WUTC's jurisdiction is the establishment of rate incentives to encourage recycling. Through this Plan, an "incentive rate" structure can be established in the certificate (franchise) areas (see Chapter 6). Cities can also set rates that encourage recycling and waste reduction.

Another opportunity to assist recycling that is noteworthy is through grants available from the Washington State Department of Ecology (Ecology), which provides grants to local agencies to assist with activities that collect or process recyclable materials. However, these funds are challenging because of conditions of use and they require existing staff to implement. Legislation creates further requirements sometimes without accompanying funds. County solid waste systems budgets are not currently sufficient to provide for essential staffing and solid waste infrastructure, and grants only aid with recycling programs and require 25% match.. Funds are awarded based on population, which makes it difficult for small rural counties to construct infrastructure. Infrastructure costs are essential and require a base amount of funds to construct. So, while it would cost the same to construct a Moderate Risk Waste facility in Chelan County as it would in a more populated county, fewer grant dollars are allocated to Chelan County to construct such a facility. Other aspects such as efficiencies and performance reviews of a grant are time consuming and are not enough to provide financial relief for rural or small counties.

Finally, state law also requires a program "to monitor the collection of source separated waste at nonresidential sites where there is sufficient density to sustain a program" (RCW 70A.205.045.715.b.ii). Federal law prevents any actual control over these activities. In Chelan County, monitoring commercial recycling activities is being accomplished by Ecology and others who annually collect information on services offered by the private sector and cities to help promote those services. This monitoring should be continued and any problems detected should be reported to the County. Continued reporting of recycled amounts to the state will continue to assist to determine volumes of state recycling.

#### **4.2.5 Designation of Urban-Rural Boundaries for Recycling Programs**

State law (RCW 70A.205.050) requires that criteria be adopted to designate all areas within the County as either urban or rural, and that recycling and other services be provided as appropriate for each type of area. For urban areas, the recommended minimum service level for recycling is curbside collection (alternatives are allowed if these can be shown to be as or more appropriate). For rural areas, the

minimum service level recommended is promoted to voluntary curbside recycling. Ecology’s most recent planning guidelines (Ecology 2010) suggest using land-use plans, utility service plans, population densities and growth projections, and other relevant data. The designation criteria should also include a process for periodic review and adjustment of urban-rural boundaries. Most of these requirements are satisfied by the existing efforts conducted for another document: the *Chelan County Comprehensive Plan*.

This Plan satisfies the requirements for establishing urban and rural boundaries by adopting the urban boundaries shown in the *Chelan County Comprehensive Plan* (CC 2017). By incorporating by reference the urban boundaries shown in the Comprehensive Plan, including any future revisions, the programs and policies of this solid waste plan are consistent with that important document, and are automatically updated as the urban boundaries are revised in the Comprehensive Plan.

#### **4.2.6 Designation of Targeted Recyclable Materials**

State regulations (RCW 70A.205.045.715.c) require “a description of markets for recyclables.” State planning guidelines also require designation of what materials will be collected for recycling, with marketability being one of the factors to consider in this designation process. The designation of recyclable materials has taken on more importance with the adoption of Ch. 173-350 WAC, which defines recyclable materials as being those materials “that are identified as recyclable materials pursuant to a local comprehensive solid waste plan.”

A description of markets for materials collected in Chelan County is provided below. This is intended to be only a brief report of current conditions and it should be noted that market conditions for recyclables can change drastically in a short amount of time. This is a problem for a long-range document such as this plan. Rather than provide an exhaustive review of current market conditions, this plan will be more useful in the future if it can be responsive to changing conditions. Hence, the list of designated materials includes a description of the process for revising that list.

##### **Market overview:**

With the requirement of no more than 0.5% recycling contamination, China is no longer accepting most recycling produced by the United States. Local markets are adapting to this change through increased recycling infrastructure.

Another important factor for marketing of locally collected materials is the transportation costs incurred in shipping materials to end-markets or to ports (for export to China or other countries) that are generally located in western Washington or Oregon. Recyclers in the Central Washington area have less access to these markets because the transportation cost is a barrier. The low market value of most recyclables limits the number of materials that can be moved cost-effectively to markets and forces the region to develop creative programs and/or focus its efforts on larger portions of the waste stream.

**Paper markets:** Recyclable paper products such as newsprint, corrugated containers and high-grade paper make up approximately 17% (2017) of Chelan County’s disposed waste stream. Local buy-back and drop-off centers currently accept most of these categories of paper. These items are typically recycled because residents can routinely identify these materials as recyclable. Paper densities also allow for efficient collection programs. One difficulty associated with collecting paper is the potential for non-recyclable and lower grades of paper to get mixed in with higher grades of paper, which then decreases the market value of the material. On the other hand, mixing of paper grades is allowed by some markets, depending on the processing methods and end markets. All of the paper grades currently are receiving relatively high market prices.

Old newspapers are often sold to paper mills to be processed into other paper products, and magazines can often be mixed with newspaper for recycling purposes. Most of the newspaper that is collected in Chelan County is used to produce fruit packing trays for locally grown fruit. Both Michelsen's Packaging and Keyes Fiber Corporation use large amounts of newspaper in their daily operations. Old newspapers made up about 7.3% of the materials recycled in Chelan County in 2017.

Large quantities of cardboard boxes are used by commercial industries making this material a worthwhile targeted item for any recycling program. Cardboard is recycled by Keyes Fiber and other Pacific Northwest paper mills. This material is often manufactured into new corrugated containers. Cardboard contributed 23.2% of the materials recycled in Chelan County in 2017. Office paper (largely computer and white ledger paper) is also a commonly recycled commodity. The fiber used to produce these papers usually has a higher market value than other paper such as newspaper and cardboard boxes. Office paper can be recycled into a variety of paper products, including writing paper, computer paper and household paper towels. Most recycling centers in Chelan County collect office paper.

Mixed waste paper is usually a combination of a variety of grades of paper. Mixed paper is used to manufacture low-grade paper products. The market price for mixed paper is generally lower than other grades of paper because processing costs are higher and the value of the end product is lower. Most mixed waste paper collected in Washington is currently exported to Asian markets. Most recycling centers in Chelan County collect mixed paper.

**Glass recycling markets:** Recyclable glass represents approximately 2% of the County's total waste stream. In Chelan County, 1,631 tons of glass were recycled in 2017, which comprises 4% of all materials recycled. Handling and transportation costs are relatively expensive, however, and the raw materials that compete with glass (sand and other common materials) are relatively inexpensive. So, market conditions for glass are generally poor. The markets for clear glass are better than for colored glass because there is more demand for clear bottles in this region. Several products shipped into Washington are contained in green or brown bottles, whereas local bottlers do not use much of the colored glass and so there is generally a surplus of colored glass bottles. The amount of additives required to turn glass from clear to brown or green is very small, so there are strict requirements for keeping these materials separate from clear glass and from each other.

Developing local uses for glass, to the extent that this is possible, is often the best strategy. Some possible uses are utilizing glass as a filter medium in water processing operations, as a fill material for roads, for use in sandblasting or as fiber glass. This process is hampered by the lack of a large, local fiber glass manufacturer and by the high costs of shipping recycled glass. Ground-up glass can be used as road bedding on the road to the Greater Wenatchee Landfill. This might be an effective way to use glass in Chelan County (although it is a reuse of the product rather than recycled) because it reduces transportation costs.

All single stream recycling programs within Chelan County are no longer accepting glass for recycling.

**Metal recycling markets:** Metals in the waste stream include aluminum and tin cans, ferrous and non-ferrous metals, and "white goods" (large appliances). Metals represent approximately 10.6% of the total waste stream in Chelan County, and almost all metals have some market value.

Aluminum cans are relatively easy to handle due to easy identification by generators, and prices for aluminum cans have historically been higher than most other recyclables. Shipping used aluminum beverage cans usually requires the compaction of the cans into bales or size reduction by shredding. Much of the aluminum collected by recycling programs is used by the aluminum industry. An aluminum

recycling plant in Kootenai County, Idaho, ships molten aluminum to the Kaiser plant in Spokane. Also, Seattle Iron and Metal, Fibres International and other plants process aluminum for sale overseas or to domestic markets. Aluminum cans are collected by Reynolds Aluminum in Wenatchee and other facilities.

Ferrous metals are those that contain iron, but tin-plated ferrous cans (“tin cans”) usually must be kept separate from other ferrous metals for recycling. Tin cans are made of steel and covered by a thin layer of tin to protect the container from corrosion. To be recycled, the cans must go through a de-tinning process, which results in steel that can be used in a manufacturing process. Once removed, the tin plating on ferrous cans typically receives a higher price per ton than ferrous metals.

Currently there are not any permitted scrap metal collector in Chelan County. E-Z Auto Towing & Wrecking and Wenatchee Valley Salvage (both located in Douglas County) take certain types of scrap metals.

Chelan County has developed a metals collection yard at both the Dryden and Chelan transfer stations to reduce illegal disposal of scrap metal. Scrap metal, appliances and refrigeration units may be disposed at this site for recycling at a reasonable cost. In the past, various salvaging companies have offered to crush and haul the material to metal recyclers in the western part of the state; this has been contracted to Schnitzer Steel in Tacoma. As of 2017, the market for recyclable metals decreased substantially. If this trend continues, it may make the shipment of metal recycling through a contractor less viable which may require higher rates for recycling metal or implementing alternate processes for metal collection and recycling. At this time, it is a viable avenue for recycling large amounts of metal in Chelan County.

**Plastics recycling markets:** Plastics in the waste stream include PET and HDPE bottles, film and bags, expanded polystyrene (“Styrofoam”), and other plastics (see Table 4.1 for plastics identification information). Plastics are commonly used for packaging, but a lot of plastics are also used to make a variety of products, from toys to building materials. Approximately 14.4% of Chelan County’s total waste stream is plastic, of which slightly less than half is packaging.

Four recycling centers in the region currently accept some plastics, such as PET bottles (pop bottles) and HDPE bottles (milk jugs). Dolco Packaging will accept No. 6 plastic (Styrofoam). Several locations (mailing and shipping services) also accept Styrofoam “peanuts” for reuse.

<b>Table 4.1 Plastics Identification Guide</b>			
<b>Abbreviation</b>	<b>Full name</b>	<b>Typical products</b>	<b>SPI Code</b>
PET	Polyethylene terephthalate	Bottles: soft drink, liquor, dish detergent, peanut butter jars.	1 (PET)
HDPE natural	High density polyethylene	Jugs: milk, distilled water. Bottle: juice (not clear), large vinegar.	2 (HDPE)

HDPE colored	High density polyethylene	Bottles: laundry and dish detergent, fabric softener, bleach, saline solution.	2 (HDPE)
PVC	Polyvinyl chloride	Bottles: mineral water, salad dressing, mouthwash. Also blister pack “bubbles” and building materials such as windows, wiring, conduit.	3 (V)
LDPE	Low density polyethylene	Usually appears in flexible film bags for dry cleaning, bread, trash, etc.; also some rigid containers such as food storage containers and flexible lids	4 (LDPE)
PP	Polypropylene	Battery cases, medical containers, some dairy tubs and yogurt cups, combs, snack wraps.	5 (PP)
PS	Polystyrene	Some yogurt cups and tubs, clear carryout trays, most fast food cutlery, desk accessories.	6 (PS)
EPS	Expanded (or foamed) polystyrene	Some carryout containers (clamshells etc.), meat and produce trays, hot cups, egg cartons, packing peanuts. Commonly called “Styrofoam.”	6 (PS)
Other	Varies	Plastics other than the six most common or made of multiple layered resins (i.e. microwaveable serving ware, most snack bags, squeezable bottles for condiments)	7 (OTHER)

Sources: Resource Recycling, May 1990 and Recycling Today, January 1991.

**Wood and yard debris markets:** Markets for wood and yard debris are discussed more thoroughly in the next chapter, but are briefly mentioned here because of the need to consider these for the list of designated recyclable materials. Pending greater details on markets in the next chapter, it is assumed that an area such as Chelan County, with a significant amount of agricultural activities, can absorb large amounts of composted yard debris and other organics. Likewise for wood wastes, it can be assumed that local markets can be found for a variety of products made from wood wastes.

**Food waste markets:** If food waste could be effectively collected and composted, it too could be absorbed by agricultural lands. The difficulty and expense of collecting food waste from residential sources may prevent this material from being added to the list of designated materials, but the next chapter will discuss the possibility of similar materials being collected from commercial and industrial sources. At a recent environmental conference held in Chelan County, conference organizers utilized a hog farm to recycle all source-separated food waste generated by the event. The Winton compost facility opened September 2022. The City of Leavenworth is hauling yard waste to the facility, and is coordinating with Waste Loop to set up drop off containers for collection of food waste.

**Other recycling markets:** Other materials collected for recycling in Chelan County include computers, fluorescent light bulbs, textiles, car batteries, antifreeze and motor oil. Markets for these materials are generally good, although not so good in many cases that collection services can be provided without charge. Even where services are provided for a charge, however, for all but textiles there is another compelling reason (toxicity) for keeping these materials separate from the waste stream.

**Designated recyclable materials:** As mentioned above, state laws and Ecology guidelines require that counties develop and adopt a list of recyclable materials that are designated as the materials to be commonly recycled in the county. In this case, the list is not intended to create the requirement that every recycling program in Chelan County collect every designated material. Instead, the intent is that through a combination of programs offered throughout the County, residents and businesses should have an opportunity to recycle all of the designated materials through at least one program. In other words, if plastics are on the designated materials list, then at least one program in the County should collect plastics. Ideally, there would actually be an opportunity to recycle each material in each of the three recycling service areas in the County (see discussion in Section 4.2.7).

The criteria for designating recyclable materials should include:

- Potential waste stream diversion.
- Collection efficiency and feasibility.
- Processing requirements (including costs).
- Market conditions.

Table 4.2 shows an evaluation of the recyclability of various materials according to these four criteria (diversion potential, collection efficiency, processing requirements and market factors). The main factor considered for evaluating a material's potential for waste stream diversion is the percent (by weight) of the material in Chelan County's total waste stream, but with consideration given to volume in the case of PET and HDPE plastic bottles. The primary consideration used to evaluate the collection efficiency of a single-stream recyclable material is a relative assessment of how easily the material can be handled, both in preparation and collection/loading. Processing requirements were evaluated by assessing the relative degree of difficulty and the reliability of the technology used to prepare the material for market. The assessment of market factors is based on the preceding discussion of markets. Note that the evaluations shown in Table 4.2 assume a single stream recycling or mixed waste processing.

<b>Table 4.2 Evaluation of Recyclable Materials</b>				
<b>Recyclable Material</b>	<b>Diversion Potential</b>	<b>Collection Efficiency</b>	<b>Processing Requirements</b>	<b>Market Factors</b>
<b>Paper:</b>				
Cardboard *	High	High	High	Medium
Newspaper *	Medium	High	High	Medium
High-grade paper *	Medium	High	High	Medium
Magazines/catalogs *	Low	High	Medium	Low
Mixed waste paper *	High	High	Medium	Low
<b>Glass:</b>				
Clear glass bottles	Medium	low	Low	low
Brown glass bottles	Low	Low	Low	Low
Green glass bottles	Low	Low	Low	Low
<b>Metals:</b>				
Aluminum cans *	Low	High	Medium	Medium
Tin cans	Medium	Low	Medium	Medium
Electronics	Low	High	Medium	Low
White goods	Low	High	High	Moderate
Ferrous metals *	High	Medium	Medium	High
Non-ferrous metals *	Low	Medium	Medium	High
<b>Plastics:</b>				
PET bottles *	Medium	Medium	Low	High
HDPE bottles *	Medium	Medium	Low	High
Other bottles (3-7)	Very low	Low	Medium	Low
Styrofoam	Low	Low	Medium	Low
Plastic film, bags	High	Medium	High	Low
Other plastic pkg.	Medium	Low	High	Low
<b>Organics:</b>				
Yard debris *	High	High	High	High
Wood waste	Very high	High	High	Medium
Food waste	Very high	Low	High	Medium
Industrial wastes	High	High	High	High
Biosolids	High	High	High	Medium
<b>Other:</b>				
Construction debris	High	Medium	High	Low
Motor oil *	Low	High	Medium	Medium
Tires	Low	High	High	Low

The rating system for the above criteria is:

Diversion potential; high = more than 3% remaining in the waste stream, medium – 1-3%, and low = less than 1%.

Collection efficiency; the rating is a relative assessment of the ease of preparation and handling.

Processing requirements; the rating is a relative assessment of the ease of processing the material (note: this approach assumes some degree of separation by the waste generator for single stream systems and mixed waste processing, all processing = high and market factors are generally diminished by one grade).

Market factors; the rating system shows high for high-value materials, low for materials hard to transport to market.

\* Shown on the list of designated recyclable materials (see Table 4.3).



<b>Table 4.3 List of Designated Recyclable Materials</b>	
<b>Material</b>	<b>Amount in the Waste Stream<sup>1</sup></b>
Cardboard	8,707 TPY
Newspaper	2,747
Office paper/other high-grade paper	2,642
Magazines/catalogs and phone books	
Mixed waste paper	
Aluminum cans	136
Ferrous/non-ferrous scrap	468
PET and HDPE plastics	347
Yard debris and brush	12,948
Used motor oil	725
Automobile batteries	339
Electronics –computers and CRT/TV	222
Fluorescent Lamps	N/A

- Notes:
1. “Washington State Department of Ecology Recycling Survey,” based on 2017 quantities from all sources (residential, commercial and agricultural).
  2. TPY = tons per year. All figures shown are in tons per year.
  3. NA = data not available.

Based on the evaluation shown in Table 4.2 and information presented in other parts of this Plan, the proposed list of designated recyclable materials is shown in Table 4.3. This list of designated recyclables should be used to help guide program development and implementation. As mentioned above, however, the list of designated materials is not intended to be universally mandatory. Residents and businesses in Chelan County should have the opportunity to recycle these items through at least one program in each of three service areas (see discussion later in this chapter about service areas).

**Process for revising the list of designated recyclables:** The list of designated recyclable materials should be evaluated periodically to consider adding or subtracting specific materials. The above list is based on existing conditions (collection programs and markets), so future markets and technologies may warrant changes in this list. There could be many possible reasons for revising the list, including but not limited to:

- The market price for an existing material becomes so low that it is no longer feasible to collect, process and/or ship it to markets, or no market can be found for an existing recyclable material, causing the material to be stockpiled with no apparent solution in the near future.
- New local or regional processing or demand for an existing material occurs.
- Local markets and/or brokers expand their list of acceptable items based on new uses for additional materials or technologies that increase demand for a new material.
- The potential for increased or decreased amounts of diversion.
- Other conditions not anticipated at this time.

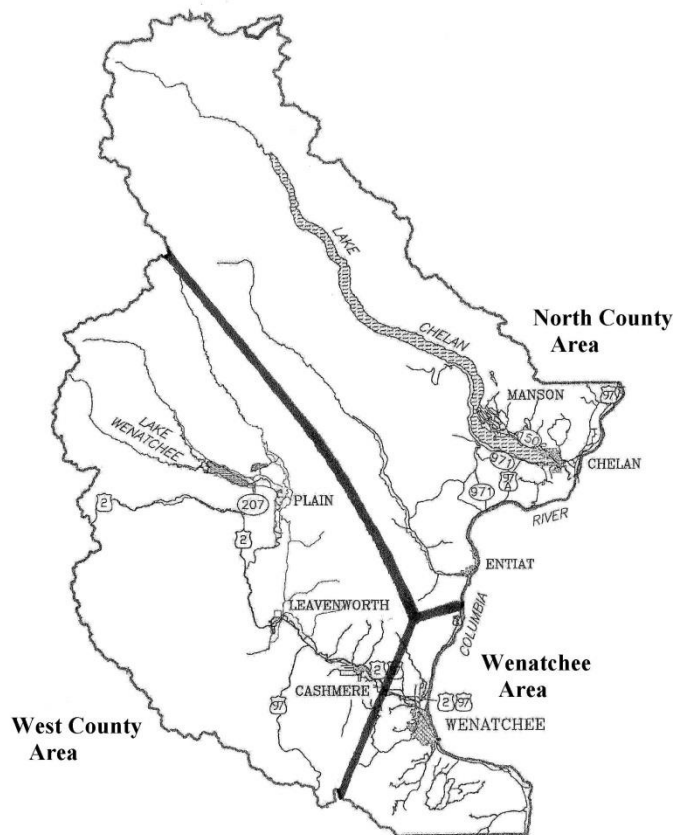
Any proposed changes in the list of designated materials should be submitted to the SWAC and SWC for their discussion and approval. The SWAC membership may at any designated meeting recommend

changes to the designated recyclables list and then forward the recommended changes to the SWC. The list of designated materials also should be reviewed at least annually by the SWAC. The SWC should review and discuss any suggested changes during a regular meeting, and then the committee should vote on whether to adopt the change or not. Only until the SWC has voted with a quorum of members, as stated in the by-laws, can the list be officially changed. A change in the list of designated materials does not require an amendment to the Plan.

#### 4.2.7 Service Areas and Minimum Service Levels

Since Wenatchee is the primary business hub in Chelan County, the recycling centers there (especially Central Washington Recycling) provide an important opportunity to recycle for residents throughout the County. It should not be assumed, however, that all residents will always be able to enroll in curbside recycling service. Chelan County can be divided into three service areas that recognize population centers and traffic flows (see Figure 4.1). These three service areas are the Wenatchee Area, the West County Area (Cashmere to Leavenworth) and the North County Area (Entiat to Chelan to Manson). Providing a full-service recycling center or a combination of services within each of these areas will ensure that no resident is too far from a recycling opportunity. What can be viewed as “access” to recycling opportunities can vary, however, depending on the type of participant (see Table 4.4).

**Figure 4.1 Chelan County Recycling Service Areas**



<b>Table 4.4 Minimum Service Level by Area</b>				
<b>Type of Customer and Source</b>	<b>Area</b>			<b>Current Service Gaps</b>
	<b>Chelan / Entiat/Manson (North County)</b>	<b>Leavenworth / Cashmere (West County)</b>	<b>Wenatchee</b>	
Single-Family Homes within city limits	C, D	C, D	C, D	
Single-Family Homes, unincorporated	C, D	C, D	C, D	All unincorporated areas strive to have curbside recycling.
Multi-Family	D	D	D	Lacks funding and space and reduced available recycling options
Commercial, Industrial, Institutional	D, S	D, S	D, S	Only cardboard recycling is available to businesses
Yard Debris and Brush	D	D	C, D	Curbside yard waste is only in Wenatchee. Drop-off brush is available at County transfer stations
Transfer Station Customers	D	D		

- Key:
- C = Curbside recycling services should be available.
  - D = Drop-off facilities should be available in the service area. For yard debris, the minimum service level could be satisfied by seasonal drop-off locations (open during the growing season and during spring and fall cleanup periods, with some provision for Christmas tree recycling).
  - S = Special services (primarily pickup services from the business location) should be promoted to handle large quantities of materials and also special materials generated by industry and other non-residential sources.

Table 4.4 shows the minimum level of services proposed for each area of Chelan County. As shown in this table, a distinction is made between single-family homes within city limits and outside of city limits, based on the fact that the service providers are different for these two areas.

Once approved through the adoption of this Plan, any changes to the minimum service levels shown in Table 4.4 should be implemented similarly to changes in the list of designated materials. In other words, any proposed changes in the minimum service levels should be submitted to SWAC and SWC for their discussion and approval. The SWAC membership may at any designated meeting recommend changes to the service levels and forward the recommended changes to SWC. SWC should review and discuss any suggested revisions during a regular meeting, and then the committee should vote on whether to adopt the change or not. Only until SWC has voted with a quorum of members, as stated in the by-laws, can the list be officially changed. If SWC initiates the proposed revision to the service levels, its recommendation should be reviewed by SWAC before proceeding. The minimum service levels should also be reviewed at least annually by SWAC. A change in the minimum service levels does not require an amendment to the Plan.

## 4.2.8 Recommendations for Recycling Programs in General

The recommendations for recycling and composting programs in general include:

**R1) Adopt UGAs from *Chelan County Comprehensive Plan* as urban areas for purposes of recycling services.**

This Plan adopts the urban areas, including the urban growth boundaries (UGAs) shown in the *Chelan County Comprehensive Plan* (see Figure 4.1), as the urban areas for the purposes of solid waste service levels. The remainder of the county, which is not designated by the Comprehensive Plan as an urban area or UGA, is hereby designated as the rural areas for the purposes of solid waste service levels.

**R2) The list of designated materials, and process for amending this list, is adopted.**

The list of materials shown in Table 4.1 is hereby adopted as the list of materials designated for recycling in Chelan County. The process for updating this list in the future will be conducted through SWAC.

**R3) Support Glass Recycling, that would encourage the recycling of glass.**

Look at other recycling programs that encourage to recycle glass. Encourage glass manufacturers to locate in central Washington.

**R4) Minimum service levels are adopted.**

Adopt minimum service level for voluntary curbside recycling in unincorporated areas.

## 4.2.9 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Recycling Programs in General

The approval of this Plan is all that is needed to implement R1 and R2, although both of these recommendations may require periodic updates in the future, per the processes and criteria described in this Plan.

Solid waste service levels should be revised as necessary to reflect any changes in the rural areas as shown in the Comprehensive Plan, and any required revisions to solid waste services should be implemented within 90 days after adoption of this Plan. Changes in service levels per future revisions to the urban boundaries in a new or amended *Chelan County Comprehensive Plan* should also be adopted within 90 days after changes to the comprehensive plan are approved.

## 4.3 SOURCE SEPARATION RECYCLING

### 4.3.1 Introduction

Recycling strategies that rely on source separation must be addressed in solid waste plans. “Source separation” is where the waste generator (a home or business) keeps recyclable (or compostable) materials separate from non-recyclable wastes. Because the recyclable materials are kept separate, the materials stay cleaner and are more easily recycled. Source separating is difficult and costly for haulers due to the specialized equipment with separate compartments and the labor injuries and extra time associated with the collection and sorting at the truck.

### 4.3.2 Existing Source Separation Recycling Programs and Facilities

Numerous private recyclers, volunteer organizations and municipal agencies provide various recycling services within Chelan County. An inventory of existing recycling drop-off and buy-back sites is shown in Table 4.5.

**Drop-off/buy-back programs:** Several private and public organizations are involved in the collection of recyclable materials. A variety of materials are collected through these programs.

**North Chelan County Recycling Project:** The North Chelan County Recycling Project has closed and the Chelan area has now switched to single stream curbside recycling. A review concluded that single stream recycling in the community would be more efficient and less costly and was then adopted.

The North Chelan County Recycling Project is no longer operating. Businesses in Chelan, Entiat and Manson may request curbside collection services for recyclables. In all other areas of Chelan County, businesses have curbside services available.

Glass recycling has been discontinued in Chelan. To the extent possible and storage space permitting, materials are accumulated and held until market prices are the most favorable.

**Stehekin:** The National Park Service is responsible for solid waste collection and disposal within the boundaries of the Lake Chelan National Recreation area. The Park Service provides recycling drop-off services there and the recyclables are transported by Stehekin Maintenance and Machinery to the North Chelan Recycle Center. The ferry system operated by Stehekin Maintenance also carries the vehicle that hauls recyclables from Holden Village. Currently a new transfer station is planned for construction in a location outside of the flood plain. The new facility will have improved recycling opportunities. In remote areas, such as Stehekin where garbage and recyclables are barged over waters, it is cost efficient to utilize recyclables locally, particularly compost. Transportation will be less costly if organics are kept out of the garbage and composted locally.

**Central Washington Recycling:** Central Washington Recycling operates a drop-off/buy-back center behind the Sav-Mart furniture store in Wenatchee. Materials collected include newspaper, cardboard, and magazines/catalogues. The newspaper is used by the other division of the company, Michelsen's Packaging that produces fruit trays for the region's crops. Approximate amounts of the various recyclable materials collected are shown in Table 4.7.

**Leavenworth:** The city of Leavenworth provides a cardboard recycling box for use by city residents and businesses and also conducts a cardboard collection route for businesses in the downtown area, which is described more fully below with other commercial programs. Waste Management provides single stream recycling pickup to residents and businesses. Leavenworth also maintains a recycle center located at 216 14<sup>th</sup> St. This recycle center is open for city residents only, two days a week (depending on the weather/season) and accepts cardboard, mixed paper, PET plastic and aluminum cans.

<b>Table 4.5 Quantities collected at Central Washington Recycling/Michelsen's (2019)</b>	
<b>Material</b>	<b>Tons/year</b>
Newspaper/mixed paper	0
Cardboard	5,240
Clear glass	N/A
Aluminum cans	N/A
Used motor oil	N/A
PET plastic	N/A
HDPE plastic	N/A
Annual total	5,240

<b>Table 4.6 Recycling in Chelan County</b>	<b>Cashmere Curbside</b>	<b>Dryden Transfer Station</b>	<b>Unincorp. curbside</b>	<b>Entiat Town Hall Center</b>	<b>Central Wash. Recycling</b>	<b>Wenatchee Curbside</b>	<b>Options or Notes</b>
Aluminum Cans	Y	Y	Y	N	N	Y	Rinse and crush
Appliances	N	Y	N	N	N	N	Freon removal fees charged
Cardboard	Y	Y	Y	Y	Y	Y	Non-waxy only, corrugated
Chipboard (food boxes)	Y	Y	Y	N	N	Y	Interior must be gray/brown
Clear Glass	N	N	N	N	N	N	Clean and rinse
Colored Glass	N	N	N	N	N	N	Clean and rinse
Magazines	Y	Y	Y	N	Y	Y	Includes catalogs
Mixed Paper	Y	Y	Y	N	Y	Y	Sorting varies
Motor Oil <sup>1</sup>	N	Y	N	N	N	N	O'Reilly's Auto Parts, Chelan County MRW Facility
Newspaper	Y	Y	Y	N	Y	Y	
Office Paper	Y	Y	Y	N	Y	Y	Sorting varies
Packaging Peanuts	N	N	N	N	N	N	Call UPS Store
Plastic Milk Jugs	Y	Y	Y	N	N	Y	No. 2 HDPE plastic bottles, opaque color
Plastic Grocery Bags	N	N	N	N	N	N	Most large grocery stores will take these
Plastic Pop Bottles	Y	Y	Y	N	N	Y	No. 1 PET clear/ colored plastic bottles
Styrofoam trays	N	N	N	N	N	N	Clean and rinse, Dolco Pkg.
Tin Cans	Y	Y	Y	N	N	Y	Remove labels, rinse
Yard Waste	Y	Y	N	N	N	Y	Open hours vary

Notes: 1. Chelan Transfer Station and Dryden Transfer Station accepts used motor oil, scrap metal, and brush.

2. Glass recycling in the unincorporated areas remains costly to recycle, and has a large environmental footprint when including hauling costs due to distant markets.

**Waste Management of Greater Wenatchee:** Waste Management collects cardboard, newspaper, mixed paper, plastic, and aluminum cans via curbside pickup. White goods or appliances and scrap metal are still assessed a charge but are kept separate from the garbage and are recycled. Refrigeration and air conditioning units are not accepted for disposal or recycling unless the customer has the proper certification to show that the appliance has had the refrigerant and compressor oil removed by a qualified technician.

**Dryden Transfer Station:** This facility, operated by Chelan County since September 1998, accepts numerous materials for recycling throughout the year. The materials collected at this site for no charge (or payment) include aluminum cans, cardboard, magazines, mixed/office paper, newspaper, pop bottles, plastic milk jugs, tin cans, and motor oil. White goods and other scrap metal are collected separately for recycling for \$15 per cubic yard. Refrigeration or air conditioning units are also charged a purging fee of \$30 to remove any remaining refrigerant and compressor oil by a certified technician.

**Other recycling programs:** An important recycling program that has operated for many years is the recycling (reuse) of clothing and household goods through charitable organizations such as St. Vincent DePaul, the Salvation Army, the YMCA Store, Habitat for Humanity and Goodwill. It is difficult to quantify all the reuse of items through these valuable services. Assistance with illegal dumping, permit requirements, tax deductions and other opportunities to assist these non-profit businesses should be done.

Kwik Lube, the Dryden and Chelan school bus garages, and Chelan and Dryden transfer stations collect used motor oil for recycling. Used oil has become costly to recycle. It is now charged \$1 per gallon. These programs will continually be evaluated and, if not feasible, may threaten to close programs as outlined in the Used Oil Plan. The Chelan County Moderate Risk Waste Facility now accepts oil and antifreeze for recycling.

The Washington State Parks Department offers the public an opportunity to recycle aluminum cans at most parks in Chelan County. Dolco Packaging Corporation accepts Styrofoam (food containers only) for recycling. Many grocery and retail stores collect and recycle HDPE and LDPE plastic sacks and grocery bags. Small propane tanks can usually be exchanged at retail locations that sell new tanks and other locations.

**Curbside collection programs:** The cities of Cashmere, Wenatchee, Entiat, Leavenworth, Chelan and a large portion of the unincorporated areas are the jurisdictions currently served by curbside recycling collections in Chelan County. All unincorporated areas of Chelan County are served with curbside recycling.

**Cashmere:** Cashmere's program began in 1990 and is now operated by Waste Management. All city residents pay for recycling as part of their garbage bills. There is bi-monthly pick-up (during the second and fourth weeks of the month) of aluminum cans, tin cans, cardboard, chipboard, , magazines, newspaper, office paper, pop bottles and plastic milk jugs.

**Chelan:** The city of Chelan implemented a curbside recycling program in April 1993 and discontinued it in 1999. After the closure of the North Chelan Recycling Center, the City of Chelan implemented curbside recycling once again.



**Waste Management of Greater Wenatchee:** Waste Management offers curbside collection of recyclables to its customers in the unincorporated areas of Chelan County and the residents of Leavenworth and Entiat. The curbside collection program currently uses a 64-gallon, mixed/single stream approach.

**Wenatchee:** The City of Wenatchee initiated curbside pickup of recyclable products in 1995 through its contract with Waste Management. That agreement was renewed through a 10-year contract that will provide curbside recycling services to single-family homes in Wenatchee through 2031. Under that contract, residents pay a flat fee for garbage collection that includes the collection of recyclable materials.

Waste Management picks up recyclables weekly in Wenatchee. Recyclable materials collected include cardboard, chipboard (cereal type boxes), mixed paper, computer paper, magazines, aluminum, tin cans, plastic pop bottles, milk jugs and newspaper. Optional service pick up includes brush and yard waste. Currently materials are taken to the Wenatchee Transfer Station and then delivered to the Spokane Materials and Recycling Technology Center in Spokane, Wash.; Waste Management has the option to select where recyclable material is taken.

**Commercial recycling programs:** In addition to the commercial programs described below, there are several services that collect specific materials from commercial sources. Examples of these services include grease collections by rendering companies and fluorescent tube and computer collections. A few other individuals or businesses (besides those described below) have also made private arrangements to collect cardboard from local businesses. Several private businesses bale their own cardboard and either deliver it themselves to the recycle center or Central Washington Recycling may pick it up if there is a sufficient quantity. There are also several shredding companies that operate in Chelan County, and most of the paper they collect is recycled. Newspaper, paper and cardboard are bearing a high demand in the local area for recyclable material.

The franchised hauler Zippy Disposal offers curbside commingled recycling to residents and business-only cardboard collection is provided in the core business areas.

**Leavenworth:** The city of Leavenworth conducts a cardboard collection route for businesses in the downtown area. The fee for this service is \$5 per month. It is included as part of the waste collection rate and is, therefore, mandatory. This route is conducted five days per week with an approximate participation rate of 90%. Waste Management provides curb-side pickup of recyclables for city residents.

**Waste Management:** Waste Management of Greater Wenatchee currently provides commercial collection of cardboard to businesses in in the County. In previous years, this service was only for cardboard, but it has been changed to collect all recyclables in a single container. Currently 344 businesses are contracting for this service. The cardboard is delivered to the Wenatchee Transfer Station.

**Agricultural plastics recycling:** Northwest Ag Plastics Inc. (509-457-3850) recycles pesticide containers collected by distributors in Chelan County and in other areas throughout Washington, Oregon and Idaho. The distributors take empty pesticide containers that have been properly rinsed and decontaminated back from customers at no charge. Then Northwest Ag Plastics collects the containers from the distributors about four times per year.

**Government office programs:** There is no formal in-house recycling program sponsored by participating jurisdictions; however, individual organizations and departments may collect materials such as aluminum, office paper and newspaper and transport them to a local recycler. For example, the U.S. Forest Service (USFS) District Offices and the Supervisor's Office generally have a staff member designated as recycling coordinator. Commitment at each location varies depending upon the personnel involved. All federal agencies had to develop an Environmental Management Service in response to an executive order that requires them to minimize pollutants and eliminate waste. The USFS eliminated the use of aerosol cans in response to the executive order and expects to place a greater emphasis on recycling in the future.

Chelan County Courthouse facilities have recycling opportunities for office paper and cardboard recycling collected by the janitorial staff. Each department may choose to collect other materials. Supervised inmate workers collect and stockpile the recyclable materials from numerous offices on a weekly schedule and then haul the materials to Central Washington Recycling.

**Processing of recyclable materials:** The processing of recyclables in the County is conducted by either Waste Management or Central Washington Recycling. A limited amount of processing is also conducted by businesses such as Keyes Fiber.

**Central Washington Recycling:** Central Washington Recycling, a division of Michelsen's Packaging, handles a variety of recyclable materials and has processing centers for recyclables in Wenatchee and Yakima. Aluminum cans are densified and made into 20-pound briquettes, stacked and shipped to buyers. Corrugated paper (cardboard) is baled and sold to various mills in Oregon and Washington. The newspaper collected is sent to another division of Michelsen's Packaging, where it is put into apple bins, ground and placed between two layers of paper before the edges are sealed to make fruit packing pads. Central Washington Recycling collects magazines and then bales and ships them for further processing. Contaminants are removed from high-grade paper. Then the paper is put into corrugated bins and sold to companies outside the county.

### 4.3.3 Service Gaps, Other Needs and Opportunities in Source Separation Recycling

**Recycling service gaps:** There are several service gaps that currently exist for recycling in Chelan County. Providing new or expanded services to address these gaps would aid in increasing the recycling rate for Chelan County.

**Recycling gaps by service area:** As discussed in Section 4.2.7 (see Table 4.4), there are a few gaps in recycling opportunities for the designated materials for each service area. The South Wenatchee Transfer Station accepts only a few of the designated materials. Continued support of all the transfer stations so they can provide recycling services needs to be continually reviewed and supported. Areas such as Stehekin will benefit from improved recycling services. Multi-family housing, particularly in Wenatchee, needs to have information readily available to inform residents of local recycling facilities if such facilities are not available at the complex.

**South Wenatchee Transfer Station:** The South Wenatchee Transfer Station accepts only scrap metal and aluminum materials for recycling. An expanded program at this facility would help provide recycling opportunities at this intermediate solid waste handling facility, which is an important factor. It would also provide an additional opportunity for Wenatchee, the primary population center in the county. Drop-off centers are typically an important backup for curbside recycling programs, providing an opportunity for residents and businesses to continue to recycle if they have missed a pick-up date or

have other problems. The drop-off center in this case should accept the same materials as are accepted through Wenatchee's curbside recycling program.

**Stehekin:** The Stehekin Valley solid waste system needs newer facilities and the re-examination of responsibility for disposal of solid wastes by the National Park Service, private residents and businesses. The National Park Service will provide solid waste services through a contracted hauler. The Stehekin Solid Waste Advisory Committee (SWAC) was formed in January 1999 to assist in developing solutions for solid waste disposal. The Stehekin SWAC examined options for handling and properly disposing of garbage, hazardous wastes and recyclable materials generated at Stehekin. Some of the options were prevented from implementation by various barriers, including current federal regulations and laws. The National Park Service will continue to manage the solid waste system in Stehekin and provide expanded recycling and hazardous waste disposal solutions.

**Multi-family recycling opportunities:** Recycling opportunities for multi-family units (apartments) are currently limited to drop-off and buy-back centers. Recycling collection programs for this type of customer are difficult to implement and maintain due to the transient nature of apartment dwellers, language barriers and designated storage sites. Storage sites can be accommodated if placed near areas of garbage disposal, near screened areas. Building codes could require sufficient room in screened areas for both garbage dumpsters and recycling containers.

**Special wastes:** Recycling opportunities are currently lacking for several specific materials, especially sheetrock, wood and other construction wastes.

**Revenue-sharing agreements:** A state law (RCW 81.77.185) allows waste collection companies to retain up to 30% of the market revenues they receive for recyclables collected in the certificate areas. This provision was adopted to encourage further investments in recycling and to provide motivation for increased recycling. Previously all market revenues were required to be used to offset expenses in the calculation of permissible rates and so certificate haulers had less incentive to maximize recycling. To implement this system, a proposal must be developed by the collecting company and County and submitted to the WUTC for approval. The County must certify that the proposal is consistent with the solid waste management plan. The proposal must demonstrate how the retained revenues will be used to increase recycling.

**Urban versus rural programs:** RCW 70A.205.045 requires rural residents be served by drop-off boxes, buy-back centers or a combination of both at each solid waste transfer, processing or disposal site, or some other convenient location. The statute also states that programs in urban areas shall include collection of source-separated recyclable materials from residential dwellings, unless the urban area designs a program that will collect an equivalent number of recyclables using some other method. If any urban area is considering an alternative to curbside collection of recyclables, the following criteria, as outlined in RCW 70A.205.045.715 (b) (i) should be used to evaluate the alternative:

- Anticipated recovery rates
- Level of participation
- Availability of environmentally-sound disposal capacity
- Access to markets for recyclable materials
- Unreasonable cost impacts on the ratepayer over a six-year planning period
- Utilization of environmentally sound waste reduction and recycling technologies

**Data collection and monitoring:** Several problems exist with the adequacy of data for the current recycling system. For some recycling (and disposal) options, information is not available on the amount of recyclables from out-of-county sources. This is especially a problem with quantities handled at Central Washington Recycling. In other cases, data is not readily available on the amount of materials collected from businesses in the County for special materials. The lack of this data prevents adequate monitoring of recycling and other waste management methods.

**Garbage collection rates:** Some residents currently pay a monthly fee for one level of garbage service. This type of system does not create an incentive for recycling like a volume-based system would. This issue will be addressed more thoroughly in the chapter on refuse collection (see Chapter 6).

#### 4.3.4 Source Separation Recycling Alternatives and Evaluation

This section evaluates a range of potential recycling methods. This evaluation will be used by the participating jurisdictions to decide on implementation of new or expanded recycling programs.

**Drop-off programs:** A drop-off system typically involves a collection site or sites conveniently located in the community where individuals deposit one or more of their recyclable materials. These sites can also be used by commercial, industrial and institutional waste generators, although their participation can be limited by need to move large volumes of materials and the cost for paid employees to transfer recyclable materials to a drop-off location. A comprehensive drop-off program may have multiple collection sites, depending on the size of the community, each with containers for a number of recyclable materials; however, this type of facility generally depends on participants to deliver their recyclables. More complex drop-off centers that include processing of the collected recyclables are also included in this category. If the drop-off center pays for the delivered materials, it is often described as a “buy-back center.” Contamination can be an ongoing problem at drop-off centers.

**Diversion potential of drop-off programs:** Diversion potential for drop-off/buy-back centers varies considerably according to the location of the site, the number of materials collected, the hours of operation and the level of promotion associated with the center. Typical drop-off programs divert 1% to 10% of the waste stream. A very successful drop-off program was conducted in Auburn, Wash., and was estimated to be diverting 31% of the residential waste stream at the height of its program. Eventually, however, it became difficult to maintain a sufficient number of sites and the city switched to curbside recycling as its primary strategy.

**Technical feasibility of drop-off programs:** Drop-off programs are less technically demanding than curbside collection programs. Fewer trucks are required and residents may choose when they want to use the center and what quantities they want to bring in. Drop-off sites require that someone watch for contamination and disposal of solid waste, and provide cleanup and maintenance at the site. It is recommended that drop-off bins be placed in a highly visible public area. The continued operation of a drop-off facility (or other recycling program) often depends on the availability of an individual or group dedicated to the success of the program. High contamination and illegal dumping of other non-recyclable items are a problem at drop-off sites. It is expensive to handle the large and continuous garbage disposal at these sites. Regardless of surveillance cameras and monitoring, notification of items dropped takes a tremendous amount of time when including law enforcement and court times. Resources to clean up and haul garbage away from these sites is difficult to plan and coordinate.

**Cost of drop-off programs:** Costs of drop-off programs vary depending on the number of materials collected, processing methods and the type of bins used. Chelan County programs use specially designed collection containers that can cost between \$5,000 and \$10,000 each and baling systems that

can cost approximately \$50,000 to \$100,000. The cost of trucks to move containers starts from \$150,000 to \$250,000. This does not include operations costs.

Entiat has a cardboard drop-off site available at a convenient location. Staffing creates an additional expense, and the cost of garbage disposal (from illegal dumping or contaminated materials) may need to be weighed against the cost of staffing the sites. Drop-off sites are often used by out-of-area residents or visitors who don't help to pay for the program. This is proven during the tourism season in Chelan, as well as the fruit harvest season in these areas, when contamination and illegal dumping increases during these times. State grants awarded through Ecology are not consistent in providing disposal of garbage as a result of recycling operations. County support of these facilities, including garbage disposal, is cost-prohibitive and jeopardizes the continuation of programs.

**Curbside recycling programs:** Curbside recycling consists of residents setting out bins of recyclable materials at their curb or alley for regularly scheduled pick up by municipal or private collectors. The recyclable materials must be segregated from the general waste stream by residents. The recyclable material is placed non-segregated into one large bin at the curbside. If the material is not segregated by the generator, then it must be further segregated at a processing center often known as a materials recovery facility (MRF). The more separation that is done by the participant, the lower the processing costs. This approach also has the disadvantage of not only higher collection costs due to the requirement for collection vehicles with separated compartments but also potentially lower participation due to the greater amount of effort involved by the participant. There is a second level of sorting with the source separated method that involves the driver of the recycling vehicle to sort materials as they are placed in the containers on the truck. This step also helps to screen for garbage and other problems.

Curbside recycling has continued in the incorporated cities of Wenatchee, Leavenworth, Entiat and Cashmere. Cashmere ran its own collection system for garbage and recycling in the past, but found it more economically feasible to contract the services. Waste Management now conducts the garbage and recycling collection in the Cashmere area.

Waste Management provides single-family, residential pick up of recyclables as part of its garbage collection contract with the city of Wenatchee. This does not include the residents in multi-housing units, such as apartments.

Until recently, Chelan area residents recycled material via drop off at the North Chelan Recycling Center. After operating this way for a few years, the North Chelan Recycling Center closed. Chelan has now switched to curbside commingled recycling collection once again.

**Diversion potential for curbside recycling:** Curbside collection programs typically have a participation rate of 50% or more of all households. A typical average of 28 pounds per household is collected each month. Wenatchee's records show that an average 124 tons per month (1,484 tons per year) are collected through the curbside recycling program in Wenatchee.

**Technical feasibility for curbside recycling:** Multi-stream curbside collection programs are technically more complex than most other collection programs, such as the single stream collection. Special compartmentalized trucks may be required and a promotional education program is necessary to teach residents proper methods to prepare the materials. Information will include collection times, acceptable materials and proper preparations. Efforts must be made to ensure that only designated materials are collected to keep truck drivers sorting time at a minimum.

**Cost for curbside recycling:** The cost of curbside collection is typically added onto residential refuse collection fees. The average fee for the county is around \$17.00 per household per month. In

Wenatchee (and most areas serviced by Waste Management) residents are charged a flat rate for curbside garbage collection and recycling. Wenatchee residents can now choose between three sizes of carts with varying rates. A comparison between curbside and drop off collection is shown in Table 4.9.

**Rural Areas:** Unincorporated areas in the north portion of the County have decreased options for curbside recycling. Zippy disposal has filled many gaps in this area with their curbside commingled recycling program.

	<b>Curbside</b>	<b>Drop-Off</b>
Advantages	High diversion potential (35% of service area's waste stream)	Low cost
	Convenient	High participation
	High public acceptability	
Disadvantages	Low participation due to higher cost \$20.	Contamination may bring lower price for materials (need to monitor drop-off areas)
	No current local infrastructure for single stream recycling. Higher costs to separate with equipment and labor.	Costly garbage collection and disposal due to contamination and illegal dumping.

**Multi-family collection programs:** A significant deficiency in most recycling programs is the difficulty in servicing large multi-family housing complexes. “Multi-family” is defined as housing that contains four or more units. Apartment buildings and condominium complexes typically use one or more large “dumpsters” into which all tenants place garbage. The design of these complexes makes the use of individual curbside recycling containers for each tenant difficult or impossible. These facilities present a major challenge to communities implementing residential recycling programs. Some programs report problems with contamination of garbage to recycle bins. Of the communities currently operating multi-family housing recycling programs, several are using large containers (typically 90-gallon “toters”) placed next to the garbage dumpsters, where the residents can place separated recyclables. These programs collect the materials with a special truck designed to handle the containers and keep the different materials separate. In Miami, multi-family recycling is required, but the complex owners are able to choose three materials to recycle from a list that includes high-grade paper, newspaper, cardboard, glass, aluminum and steel.

**Diversion potential for multi-family collection programs:** The level of diversion can vary substantially between complexes. Factors to be considered include convenience of location, materials accepted, level of promotion, and support of the manager and owner. Most multi-family housing is located within the incorporated areas. Cities have the authority with contracted garbage collection to impose a requirement to offer recycling.

**Technical feasibility for multi-family collection programs:** Multi-family programs have unique implementation problems. Locating a central, convenient space is sometimes difficult. In addition, controlling the materials collected is more difficult, which may result in contamination problems

similar to drop-boxes. All programs require the support of the complex owner. Provisions for collecting recyclables in apartment complexes can be made a design requirement for new apartment construction by amending the building and zoning codes.

**Cost for multi-family collection programs:** Costs may tend to be higher in Chelan County because tonnages will be lower, but fixed costs may remain high. It is difficult to find firms to haul recyclable materials in the County. If prices of materials increase, more firms may be willing to pick up the materials. If single stream is available, as it is in Wenatchee and areas served by Waste Management, contamination from multi-housing recyclables will be less. Encouraging the City of Wenatchee to provide multi-housing with recyclable collection would increase recycling rates.

**Commercial/industrial/institutional recycling alternatives:** Commercial, industrial and institutional (including government buildings and schools) on-site recyclable collection programs have a longer history than residential programs, primarily because of the economics associated with larger quantities, the consistent nature of the recycled material and the ability to capture the avoided disposal costs associated with these recycling programs. Formal and informal arrangements exist where specific materials, especially cardboard, various metals and other industrial scraps, are kept separate from the remainder of the waste stream to be picked up by scrap dealers and scavengers. The cyclical nature of the secondary material markets, however, sometimes causes the value of the materials to fall to a level where it is not profitable to collect and transport them. At such times, more of the secondary materials end up in the waste stream or are stockpiled indefinitely.

Waste Management of Greater Wenatchee, Inc., currently offers collection services for mixed recyclables to businesses in Wenatchee and other areas of Chelan County. As of 2020, 344 businesses had contracted for this service. A local business may request any size container, between one cubic yard and eight cubic yards, with pickup.

The City of Chelan collects from businesses within the City. Zippy disposal collects corrugated cardboard weekly from the core business areas and wineries in the Chelan valley outside of the city limits of Chelan.

When the price for cardboard is good, individuals often drive up and down the alleys in Wenatchee to collect cardboard from dumpsters. Because these individuals are not offering their services for a fee, they are not subject to the transporter licensing requirements of RCW 70A.205.

Because they can generate large quantities of waste, it is very important to provide businesses with opportunities to recycle. Four possible options are available and are described below:

**Encourage businesses to use recycling centers:** Drop boxes are over utilized and are costly to reload and haul to nearby recycling centers. We want to encourage businesses with large amounts of cardboard to haul to the center or sign up and pay the fee for curbside collection if it is available. As with any commercial program, this alternative should be accompanied by appropriate education stressing the cost savings of recycling and the ease of preparation.

**Encourage businesses to contract with private and public recyclers:** Businesses can contract with a private recycler or register with the franchised contract hauler whether it is to have recyclable materials collected and transported to processing facilities or markets. Depending on the material (and the amount and condition of the material), the business may then be able to receive payment for the recyclables. These and other services could be promoted to the businesses. To simplify the search for a recycler and save the generator's time, a referral system connecting businesses with recyclers of a

particular commodity could be provided by the County or the municipal governments, or an existing service such as Ecology's 1-800-RECYCLE system could be publicized.

Commercial recycling could also be increased by expanding existing collection services to include new materials.

**Establish a city-franchised commercial recycling program:** The cities could administer a contract with an area recycler for collection of municipal recyclables. Businesses would be sent a notice announcing the available service, although businesses would not be required to participate.

**Establish a recycling program for small businesses:** Large businesses (typically over 20 employees) have little trouble locating a recycler. Their volume of recyclable materials makes providing the service more cost effective for the recycler. Small businesses, or larger businesses generating small quantities of source separated recyclables, are sometimes unable to easily locate a recycler to collect their materials. Recycling levels would increase if recyclable materials from these businesses were collected. Chelan County or the municipal governments could identify potential businesses in need of recyclables collection and coordinate service opportunities with local recyclers.

The evaluation of the preceding alternatives for commercial recyclable collection is shown in Table 4.10. These alternatives and the public sector alternatives (see Table 4.12) are evaluated according to the following criteria:

- **Diversion potential:** This criterion provides a relative assessment of how much organic material could be diverted by the alternative.
- **Technical feasibility:** Alternatives can be evaluated according to degree of difficulty for implementing the alternative, where a "high" rating means the alternative is well-tested and proven to perform, and a lower rating is due to implementation problems or issues.
- **Political feasibility:** Alternatives that require significant policy decisions or changes to existing services need to be assessed as to the political likelihood of implementing the alternative.
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and SWAC support programs that can achieve the greatest amount of waste reduction for the amount spent.

**Single stream collections versus multi-bin systems:** Many recycling programs in other areas throughout the country have recently adopted a more fully commingled approach. Whereas some level of commingling (mixing) has typically been used by almost all recycling programs, this trend is based on all of the materials being placed into a single collection container. This approach has several advantages and disadvantages (see Table 4.11).

One of the primary advantages of single stream recycling is a reduction in collection costs. With all materials in one container, automated collections (where the driver does not need to leave the vehicle to pick up containers) can be conducted. This makes collections faster and less strenuous for the driver, providing substantial benefits from a reduction in worker injuries. The collection savings are not fully passed on to the program participants, however, because there is also an increase in costs for processing single stream materials and a reduction in market revenues caused by a downgrading of material quality.

Market revenues are reduced because materials can't be fully separated once mixed together. For instance, newspapers that are separately collected through more traditional recycling programs can achieve the specifications for the cleanest grade of this material, whereas newspapers separated by



machinery after being collected in a single stream program end up being a mixture of newspaper and other papers (along with bits of glass and some plastic bottles and aluminum cans). This mixture has a lower market value, plus leads to the loss of recyclables. The plastic bottles and aluminum cans that are shipped to paper markets, for instance, are typically not recovered and end up being landfilled by a paper mill. One solution to these problems is to remove glass from the mix.

**Table 4.8 Evaluation of Commercial Recycling Alternatives**

Program	Diversion Potential	Technical Feasibility	Cost-Effectiveness	Conclusions
Contract with private recycler	High. Cardboard and high-grade paper are a large percent of the waste stream.	High	High	Pursue
Establish a city franchise system	High	Medium. More difficult to administer. Businesses may resent govt. involvement.	Medium	Don't pursue
Recycling program for small businesses	Medium	Medium. More difficult to coordinate and administer.	Medium	Pursue

**Table 4.9 Single Stream Recycling Advantages and Disadvantages.**

	Possible Advantages	Possible Disadvantages
Operating Costs	Collection costs are reduced.	Processing costs are increased. (1)
Capital Costs	New trucks may be needed, but are more versatile due to lack of compartments.	Significant capital investment needed for processing system.
Markets for Recycled Materials	Regional markets have adjusted to new blends and grades.	Cross-contamination is a problem, and materials are being down-graded.
Participation Rates	Participation rates may be higher due to greater convenience.	Part of increase could be temporary, due to publicity for new program.
Total Amount Collected	More may be collected due to a variety of factors.	Increases offset by "lost recyclables." (2)
Other	Additional materials can be added to recycling programs.	More garbage collected due to automated approach, could get worse over time. (3)

Notes:

1. A study for the American Forest and Paper Association reported collection cost savings for single stream of \$10-20/ton, increased processing costs of \$5-15/ton, and increased costs at mills of \$5-13/ton, for a net system-wide increase of \$3/ton.
2. A survey by Government Advisory Associates found that the average amount of residuals from single stream is 16.6%, compared to 6.4% for two-stream collections.
3. Data collected for King County, WA, showed that the amount of garbage doubled, from 0.8% to 1.8% by weight, within 6 months after switching from 3-stream to single stream.

**Public sector involvement:** The public sector can promote recycling in several ways including the following: expanding in-house recycling programs, expanding education programs, developing a citizen action group, developing an awards and recognition program, establishing procurement policies, providing waste audits to businesses, establishing a recycling data collection program and lobbying for state and federal legislative action.

**Continue and expand governmental office recycling programs:** The participating jurisdictions could continue to collect recyclable materials generated by their offices, including white paper, cardboard, plastic bottles, aluminum cans and newspaper. In-house education could be supplemented with increased opportunities for diverting wastes from disposal, reusing items and avoiding waste generation in the first place.

**Implement recycling education programs:** The participating jurisdictions should continue to expand their public education and awareness programs, which are discussed in Chapter 12. The participating jurisdictions could sponsor a Recycling Day or Week, which could involve contests between businesses, publicity events (such as building a sculpture out of recyclables and placing it in a prominent place), sponsoring an exhibit of recycled products, purchasing newspaper and radio ad space, holding noontime public rallies, giving out bumper stickers and other similar events. Comprehensive education programs can also be coordinated with the introduction of any drop-off and/or curbside collection programs.

Participating jurisdictions could implement a business recycling education program in conjunction with its source reduction program. The County can help business and industry in a number of ways to identify and act upon these opportunities with education and information programs. Such programs could be targeted at businesses in general and/or could be tailored to businesses with similar waste generation or management characteristics. Part of the County's business and education program should include maintaining information about waste exchanges and products with recycled material content.

**Develop an awards and recognition program:** Participating jurisdictions could also implement a program of recognition and awards for companies with successful recycling programs. These awards could be publicized and businesses receiving this recognition could also let their customers know of their achievements through advertisements or by display of the award on their premises.

**Provide waste audits to interested businesses:** Another business and industry education and assistance program could offer waste audits that examine purchasing patterns, production practices, and the types of waste produced by an individual business or groups of businesses. The businesses could receive an environmental and technical evaluation that would address how to reduce both the volume and, in the case of hazardous waste, the toxicity of waste. Business audits can be used to distribute educational and technical assistance materials, as well as to publicize other services such as waste exchanges or composting. An alternative is to provide businesses with a self-audit checklist that does not require county or city staff-time for implementation.

**Establish a recycling data collection program:** Chelan County could establish a database for measuring recycling activities and monitoring the residential and commercial waste streams. A data collection program could gather data on a monthly or annual basis from franchised collection companies, buy-back centers and other private and nonprofit recycling activities. At its most basic, the data collection program should collect information on types of materials collected, tonnages, customers (residential vs. commercial, in-county or out-of-county) and end markets. For this approach to be useful it should tie into public education or other efforts to address any problems noted.

**Lobby for state and federal legislative action:** The participating jurisdictions and their residents could lobby for state and federal policy changes on recycled content of products, procurement standards, and recyclability of packaging. Writing to elected state and federal officials could stress the need for market development of recyclable materials, which is critical for establishing recycling program success. Passage of state and federal legislation mandating the purchase of materials with recyclable content will help to stimulate markets.

**Implement residential rate incentives:** Rate incentives can be provided through the fees paid by residents for refuse collection. A common rate incentive is a variable can rate, which depends on the volume of mixed-waste (number and/or size of cans) collected. For this incentive to work, there must be adequate recycling opportunities available. These rate types are discussed in greater detail in Chapter 6.

**Encourage haulers to annually distribute recycling information.** Commercial, industrial and institutional waste generators generally already have rate incentives to recycle because their charges are usually based on the volume of waste disposed. The benefits of participating in recycling programs is not well documented for businesses to review and choose recycling services. Franchised haulers can more readily distribute rate brochures to businesses that will show the cost savings of reducing garbage volumes and attaining recycling services.

**Advanced disposal fees:** Charging a consumer for disposal fees when they purchase a product is known as an advanced disposal fee (ADF). In other words, a small fee or tax is added to the product's price to cover disposal costs. The consumer does not recoup these costs as he or she would with a deposit, but the ADF would help fund a program to deal with that type of waste.

**Mandatory recycling:** Mandatory recycling can be implemented to increase participation in recycling programs if voluntary efforts fall short of recycling goals. Mandatory programs can take one of two forms:

**Mandatory pay/voluntary participation:** In cities that contract for recycling and waste services and cities that conduct their own collections, the rates for residents and businesses can include a fee for recycling. In this case, all of the residents and businesses that are already paying for the service can then voluntarily participate at no additional cost. A similar approach can be used in the certificate (franchise) areas through a service level ordinance and approval of rates by the WUTC (see Chapter 6). Increased recycling services such as curbside collection provided by the hauler would be beneficial. Residents and businesses could voluntarily utilize the curbside recycling services. This would be an efficient way to provide recycling in the Chelan Valley.

**Mandatory participation:** Another alternative for mandatory programs is to pass an ordinance that requires all residents and/or businesses to recycle, or one that establishes a disposal ban for specific materials. A disposal ban is viewed by some as being more flexible because it allows residents and businesses to engage in a variety of alternative programs (waste reduction, composting, etc.) rather than requiring them to recycle. A key to the success of mandatory recycling programs is that there are convenient and effective recycling programs and/or other alternatives available.

Seattle implemented a disposal ban that became effective Jan. 1, 2005. Through this ban, residential customers are prohibited from disposing of "significant amounts" of paper, cardboard, glass, plastic bottles, and aluminum and tin cans, while businesses are prohibited from disposing of significant amounts of paper, cardboard and yard debris. Yard debris was banned from disposal for residential customers in 1989.

**Develop a citizen action volunteer group:** Citizen action volunteers could promote waste reduction, recycling, composting and other programs. Activities undertaken by local citizens could be determined by the recycling programs to be implemented. Some examples of services that could be provided include:

- Implementing education programs (source reduction, recycling, backyard composting)
- Conducting commercial waste audits
- Providing technical assistance
- Operating a recycling assistance “hotline”

**Market development:** Market development also plays a key role in recycling. Market uncertainty is a primary barrier to recycling. It is difficult to effectively influence market development on a local level, but local markets can sometimes be created for specific materials with some creativity and hard work. Other approaches related to market development are described below:

**Support expansion of processing facilities for source-separated recyclables:** Participating jurisdictions could support expansion of existing processing capabilities by implementing incentives and removing barriers to secondary processing materials within the County. To make recyclables collected in the County more attractive to processing companies, the jurisdictions could identify ways for improving the quality of collected recyclables. Focusing efforts on the collection of source-separated recyclables is the best way to ensure a high degree of quality in collected recyclables.

**Promote siting of re-manufacturing businesses in Chelan County:** One significant effect that the participating jurisdictions can have on the recyclable market is to encourage the siting of an industry that would use secondary materials available within its market area. Participating jurisdictions could encourage industry siting in the County by aiding in the development of an infrastructure as well as by providing tax incentives. Elected officials could also promote the siting of re-manufacturing businesses in or adjacent to Chelan County. Coordination between the County and the re-manufacturing businesses could be arranged. While encouraging the siting of new facilities, the County and cities should maintain support for existing local industries that use recyclables.

**Establish governmental procurement standards and purchasing guidelines:** A governmental procurement policy could be established to encourage the purchase of recycled content products, emphasizing the importance of products made with “post-consumer” recycled material. The goal of such a “Buy Recycled” campaign is to increase the purchasing of products made from recycled materials by businesses and public agencies.

In October 2004, Gov. Gary Locke signed Executive Order 04-06, which set new standards for procurement of recycled paper (and energy conservation and green building). These standards could also be adopted or applied by local governments and public schools for their procurement practices. If the jurisdictions in Chelan County adopted similar procurement policies, or addressed the issue in a public meeting, it could increase awareness of the need to purchase materials with recycled content and may provide a model to encourage local businesses to adopt a comparable commitment.

**Lobby for federal policy changes that currently favor the use of virgin materials:** The participating jurisdictions and their residents could support lobbying efforts for federal policy changes that currently favor the use of virgin materials. Oil producers, for example, can deduct a depletion allowance from their taxes, while oil recyclers are subject to regular corporate income tax. Federal policy is an important component in ensuring that recycled materials can compete favorably with virgin materials.

**Implement product testing and promotion:** Markets for recyclable materials may also be expanded by conducting product testing programs and promoting the results of the analyses. For example, the different end-users for yard debris, such as nurseries and landscapes, have different product specifications for the composted product. Product testing programs would allay any perception among potential users that composted yard debris was contaminated with glass, plastics or other materials.

An evaluation of the public involvement alternatives is presented in Table 4.12.

<b>Alternative</b>	<b>Diversion Potential</b>	<b>Technical Feasibility</b>	<b>Cost-effectiveness</b>	<b>Conclusions</b>
Continue and expand in-house recycling	Medium	High	Medium. Sets good example for the public.	Continue
Education programs	High	High	Medium. Difficult to justify grant funds in a short time frame.	Continue as is
Awards and recognition program	Medium	Medium	Medium. Gives incentive to businesses that generate large amounts of recyclables.	Don't pursue
Waste audits to businesses	Medium	Low	Medium. Personal assistance is very effective.	Don't pursue
Data collection program	Not applicable	Medium	Not applicable	Don't Pursue
Lobby for state and federal action	Low	Medium	Medium	Don't pursue
Residential rate incentives	High	Medium. May negotiating contracts or WUTC approval.	High	Pursue
Commercial waste generator incentives	Medium	Low. Difficult to administer.	Medium	Don't pursue
Advanced disposal fees	High	Medium. Businesses will oppose.	Medium	Don't pursue
Mandatory pay, voluntary recycling	High	Medium.	Medium	Don't pursue
Mandatory recycling or disposal ban	High	Low. Public and businesses will object.	High	Don't pursue
Citizen action group	Medium	Low	High. Relies on volunteer time.	Pursue
Market development (several approaches)	High	Low. Developing new markets is difficult.	High	Pursue

#### **4.3.5 Recommendations for Source Separation Recycling**

Recommendations were developed based on the evaluation of the alternatives shown above. Increasing the level of recycling in Chelan County will require a number of aggressive and coordinated programs. Public sector organization and support will be necessary if these programs are to be successful. Therefore, it is recommended that Chelan County and others take the following actions. (Note that Recommendations R1 – R3 are shown on pages 4-13):

**R5) Coordinate funding for education efforts with waste reduction programs.**

In conjunction with the waste reduction education program, the following actions are recommended:

- Seek financial support for expanding education efforts, such as producing and distributing written materials, and presenting information to community groups;
- Use radio/newspaper advertising, press releases and articles; and
- Support a school-age education program.

**R6) Provide information annually to local businesses and residents with both garbage and recycling rates.**

- Encourage franchised haulers to distribute annually to businesses and residents garbage rate information, including recycling program costs.

**R7) Continue curbside programs in Cashmere, Leavenworth, Chelan, Entiat and Wenatchee and voluntarily in unincorporated areas.**

The cities of Cashmere, Leavenworth, Chelan, Entiat and Wenatchee will continue their curbside recycling programs. Variable can rates should be used to encourage participation in these recycling programs. Unincorporated areas of Chelan County will continue to receive curbside recycling programs. Minimum Service Level has established curbside collection in unincorporated areas.

**R8) Re-evaluate drop-box system in urban and rural designated areas.**

Drop-off sites in Leavenworth and Dryden should be re-evaluated for cleanliness and effectiveness. County should support any new process to continue to encourage recycling whether drop box or curbside.

**R9) Encourage multi-family dwelling owners to contract with private recycler.**

Managers or owners should be provided with names of local recyclers and assisted with setting up recycling programs. Efforts could be coordinated with local haulers for an efficient collection program if facilities provide space.

**R10) Encourage municipal permitting agencies to recommend that builders incorporate recycling collection areas into their building plans for multi-family and commercial buildings.**

Municipal permitting agencies should recommend that builders incorporate recycling collection areas into their building plans. Provisions for collecting recyclables in new multi-family complexes should be a design requirement for new construction by amending the building and zoning codes.

**R11) Continue and expand recycling programs in governmental offices.**

Collection of office paper, newspaper, aluminum cans and other recyclable materials should be encouraged in governmental offices.

**R12) Support a monitoring/reporting system.**

Support the Washington State Department of Ecology to continue the annual survey so that all information is consistent. Provide quantities needed from Chelan County. Explore methods to determine out-of-county quantities that are going to in-county facilities.

**R13) Continually investigate and encourage local, cost-effective markets.**

Local applications for recyclable materials should be sought as much as possible. A better market, recycled or re-used, is needed for marginally profitable items.

**R14) Support government procurement policies.**

Develop purchasing policies that give priority to recycled products with post-consumer content for all jurisdictions. Use state guidelines where appropriate. See also Recommendation WR3.

**R15) Evaluate any proposals for recycling through mixed waste processing in cooperation with local municipalities.**

Source separated recycling to single stream recycling should have the cooperation of the municipalities to ensure success.

**4.3.6 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Source Separation Recycling**

These programs are designed to help meet the recycling (and composting) goal of 43% by 2025. The progress toward meeting that goal should be assessed annually and increased efforts considered if progress appears to be falling short. Support for technology and equipment for source separation in areas needed.

**4.4 MIXED WASTE PROCESSING OPTIONS FOR RECYCLING**

**4.4.1 Introduction**

This section of the Plan addresses options for recycling materials that are recovered by processing mixed waste (garbage). Unlike the other recycling options discussed previously in this chapter, this type of approach is not defined as source separation.

**4.4.2 Existing Mixed Waste Processing Programs and Facilities for Recycling**

There are no mixed waste processing facilities operating within the County currently.

#### 4.4.3 Service Gaps, Other Needs and Opportunities in Mixed Waste Processing for Recycling

Any solid waste processing technology that is considered should be economically feasible and designed to fit the specific needs of the County's residents and businesses. An emphasis should be placed on developing "closed-loop recycling" methods, where recovered materials are returned to usage identical or similar to the previous use (see discussion of Beyond Waste plan in Section 4.2.3), or the mixed-waste processing system may not be sustainable in the long run.

Data from waste composition studies in other areas indicates that between a third and a half of the waste stream is recyclable materials, although not all of this material could be recovered by a waste processing system due to contamination. In other words, materials removed from mixed garbage are often too dirty to be marketed as recyclable. Reusable materials could also be recovered from mixed waste. Data from a waste composition study conducted for Snohomish County (GS 1998) shows that the waste stream for that county contains 3.7% (by weight) of reusable materials (materials that could be directly used for their original purpose). Data from a similar study for Thurston County (GS 2000) shows that the amount of recoverable materials in the waste stream (i.e., the recyclable materials that have not been rendered unmarketable after being mixed with garbage) is only about a third of the total amount of disposed recyclables, or about 9.1% of the waste stream in the case of Thurston County.

#### 4.4.4 Mixed Waste Processing Alternatives for Recycling

Mixed waste processing systems range in complexity from simple "dump-and-pick" operations to highly mechanized facilities.

**Dump-and-pick recycling options:** With dump-and-pick operations, recovery is typically limited to larger items that are easily removed (such as cardboard boxes and scrap metal). In this case, the disposal facility must have a tipping floor to allow loads of waste to be dumped out of collection vehicles onto a flat surface, ideally with space to spread out each load to allow access to all sides of it. Other requirements include additional labor to pull out materials plus containers for both temporary and long-term storage of the recovered materials. A forklift and other equipment are also necessary for moving and emptying the containers used for temporary storage. Dump-and-pick operations may create a situation where workers have extensive contact with raw garbage, with the subsequent risks to their health, and may lead to back injuries due to the poor ergonomic conditions typically present.

Pursuing the idea of a dump-and-pick operation would require a careful examination of the operational issues for the various options, as well as examining the overall feasibility, particularly on a cost-benefit basis. The results of this examination may be different for a private facility versus a public facility, but in general the operational issues for a dump-and-pick operation include:

**Tipping floor:** Significant remodeling would be needed at any of the transfer stations in Chelan County to provide space for a dump and pick operation. If a new private or public facility is used, the tipping floor could be designed to provide extra space on the tipping floor.

**Staffing:** The operation would require more staff at a disposal facility. Whether at a public or private facility, however, staff could be employees of a private company.

**Proceeds:** Materials removed from the waste stream could be given away or sold. Any revenues could be used to offset the costs of this activity. Another option would be to contract the recovery



operation to a private entity and allow that entity to keep any profits, in which case some benefit would still be derived from avoided disposal fees.

**Liability:** Issues of liability, insurance and associated costs would need to be addressed prior to establishing a dump-and-pick operation. Back injuries and other problems can be an issue for dump-and-pick operations.

**Effectiveness:** The ability to recover materials from mixed waste is limited, especially in areas where recyclable materials are already being diverted by source separation programs. Dump-and-pick operations often resort to recovery of only the larger materials (wood, sheetrock and metals) due to the high cost of recovering the smaller materials (bottles and cans) in this way, and also due to the fact that only about a third of the smaller materials are still marketable after being mixed with garbage.

**Mechanized waste processing:** Mechanized waste processing requires a facility or system that is designed to accept garbage and process it to remove the recyclable materials. Processing typically includes a combination of mechanical systems, which are effective at removing only certain materials, and manual sorting. Mechanized waste processing could be used in place of source separation, although often it is used in addition to traditional recycling programs to remove materials remaining in the waste stream. Mechanized waste processing could also be used with a co-collection program, where recyclables are placed in a special bag that is then recovered at a central facility.

A typical mixed waste processing facility of this type might include a tipping floor for removing bulky and other non-processible materials; trommel screens (a rotating drum with one or more sizes of holes in the side) and/or air classifiers for the initial separation of waste components; a picking line for manually removing materials; magnets for removal of tin cans and ferrous metals; and conveyors to link these elements together. The materials recovered from this type of facility would typically be lower in quality (dirtier) than source-separated recyclables, and the cost-effectiveness of this approach in other areas has often relied on the availability of a waste-to-energy plant to purchase the light fraction (paper and plastic) as a fuel.

Mixed waste processing can be an expensive and risky approach for recovering recyclable materials, and so it is usually not pursued unless there is a strong mandate for increased recycling or very high disposal fees (i.e., a high potential for avoided disposal costs). If part of the facility or equipment is already available, however, then mixed waste processing may be more feasible.

#### 4.4.5 Evaluation of Mixed Waste Processing Alternatives for Recycling

Alternatives for processing mixed waste should be evaluated using the following criteria:

- **Economic feasibility:** Alternatives will be evaluated according to the feasibility of funding new processing systems and for the potential for those projects to be financially self-sustaining. On the assumption that any mixed waste processing systems that would be implemented in Chelan County would be financed and operated by the private sector, this criterion is also a measure of the cost-effectiveness of an option.
- **Technical feasibility:** Some recycling programs involve highly complex technology and equipment that may be difficult to use efficiently and effectively. This criterion focuses on whether or not the program is considered feasible for Chelan County.

- **Public acceptability:** This criterion assesses how receptive the public (or the private sector, depending on the target audience for the alternative) will be to the program. Issues such as convenience and willingness to participate are considered. The potential for a negative public response should also be considered if appropriate to a proposed approach.

A summary evaluation of alternatives is presented in Table 4.13.

<b>Alternative</b>	<b>Economic Feasibility<sup>1</sup></b>	<b>Technical Feasibility</b>	<b>Public Acceptability</b>	<b>Conclusions</b>
Dump and Pick Operations	Medium	Medium	Medium	Don't pursue
Mechanized Waste Processing	Low	Medium	Medium	Don't pursue

Note: 1. Based on estimated costs and diversion rates. Little research or other data is available on the “measurable” effectiveness of waste processing systems.

#### **4.4.6 Recommendations for Mixed Waste Processing for Recycling**

The recommendations R1-R16 for mixed waste processing are on pages 4-13, 4-32 and 4-33.

**R16) Support Contamination Reduction Outreach Program with available resources for education through media.**

## **4.5 Recycling Contamination Reduction and Outreach Plan (CROP)**

### **4.5.1 Introduction**

The goal of the CROP is to reduce contamination of the materials collected in Chelan County's single-family, multi-family, drop box, and commercial recycling programs. This, in turn, helps Chelan County more fully realize the economic, environmental, social, and public health benefits of these programs. The CROP does not specifically include strategies to reduce contamination of other material streams such as organics or construction and demolition debris. However, many of the same strategies apply to these streams and may be included in future CROP updates. This CROP intends to meet the requirements of RCW 70A.205.045.

### **4.5.2 Definition of contamination**

Recycling contamination is any item that does not belong in the recycling stream or any misplaced items that threaten the solvency and safety of the entire recycling system. These can include trash and/or materials that are not accepted in a given curbside recycling program, such as food, plastic bags or toys. It can also refer to improperly sorted or managed materials – food-soiled paper or containers that still contain liquids.

More specifically, the top contaminants of concern for recycling are plastic bags and film, clamshells and other non-recyclable/single use plastics, needles, foam, food/liquid, and garbage.

Other common contaminants include tangles (cord, rope, hose, wire, or chain), batteries (or electronics), diapers, light bulbs, propane tanks, and shredded paper.

There is a cost for recycling, and contamination drastically adds to the cost. Making it appear that recycling is free encourages wishful recycling and ultimately increases contamination.

Current contamination rates:

Washington State: 5-20%, 9% average

Chelan County: Estimated at 10%

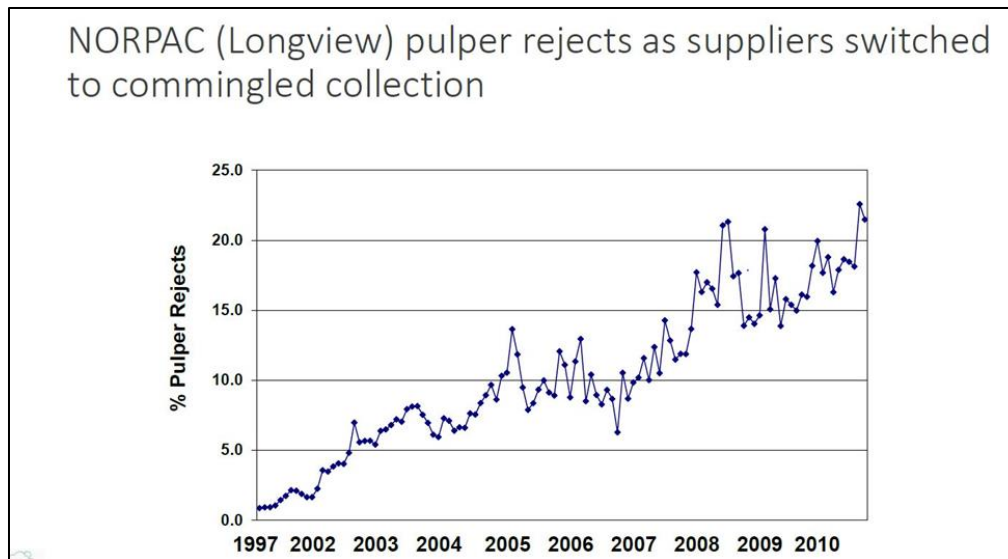


Figure 4.2: The shift to commingled collection dramatically increased the amount of inbound contamination received at MRFs causing pulper rejects at mills like NORPAC in Longview, WA. From David Allaway's [Rethinking Recycling presentation](#).

### 4.5.3 Reasons for reducing contamination

At the material recovery facility (MRF) the materials are dumped onto conveyor belts where workers try to remove items that are not recyclable and can either damage the equipment, ruin the value of other materials, or just don't belong. The remaining materials are sorted mechanically. However, this is not an exact science. If the loads that come into the MRF have a lot of non-recyclable materials, many of those will make it through the process causing the end materials to be unable to be sold to a manufacturer and made into something new.

Contamination leads to higher processing costs for recycling facilities and causes material to be landfilled that would normally be recycled. The higher the contamination level, the higher the chance that more material will be landfilled. Entire bales of recyclable materials are landfilled in the worst contamination cases. Recycling contamination can also pose hazards to sorting facility workers.

Contamination can lead to the shutdown of MRFs and can even cause fires. Dirty or wet materials are likely removed from the recycling stream and end up in the landfill. They can also contaminate other recyclables in the recycle bin.

Contaminants can:

- Cause serious injuries to collection and processing facility staff.
- Damage collection, processing, and remanufacturing equipment.
- Result in costly shutdowns.
- Slow down the sorting and processing of materials.
- Reduce the quality and value of secondary material feedstocks.

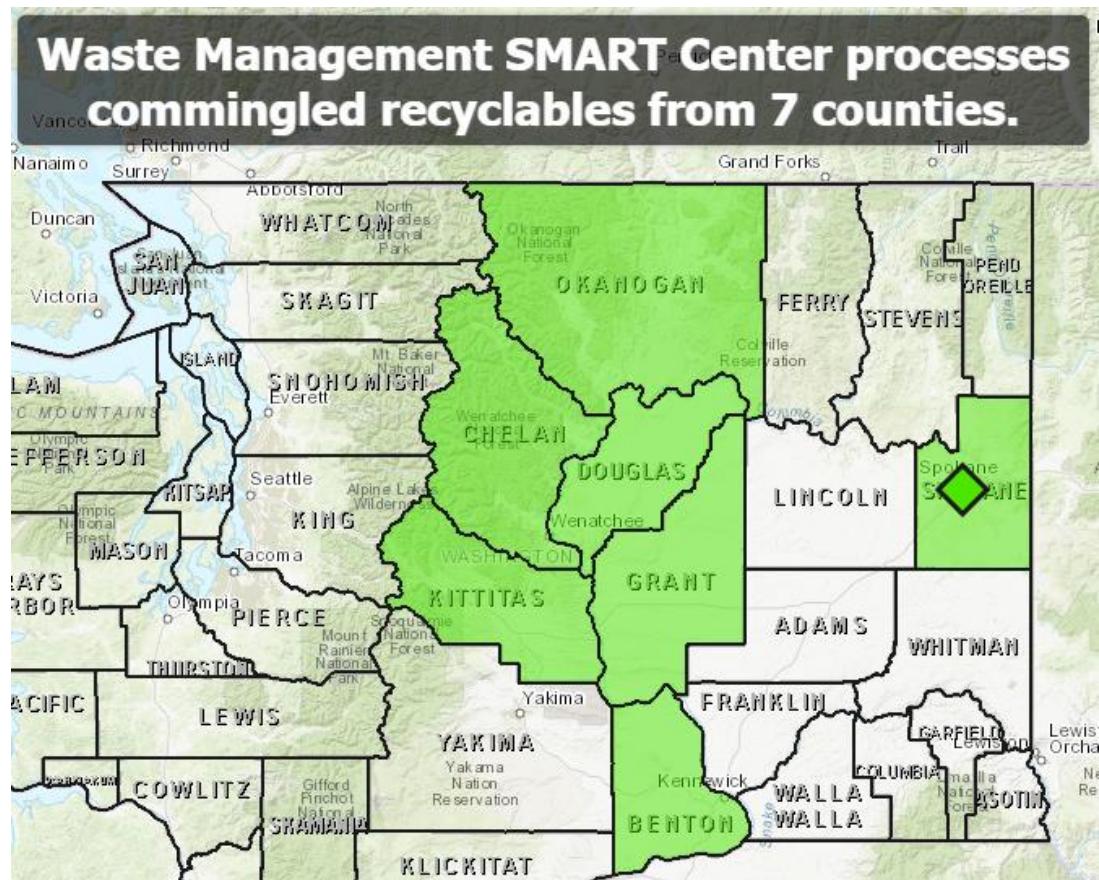


Figure 4.3: A map of counties included in Chelan County’s “MRF-Shed”; the Spokane Materials and Recycling Technology (SMART) Center is located in Spokane. For up to date information on this MRF-Shed, go to <https://waecy.maps.arcgis.com/apps/presentation/index.html?webmap=6f05bbbf2274a218de03fab9e299e73>

Recent resident surveys in Washington State by The Recycling Partnership show that residents have good intentions; they want to recycle, recycle everything they can, and recycle the correct way. But residents appear to be confused, especially with the wide variety of plastic packaging that is used today.

Common quotes from those who put plastic bags and other plastic items not accepted by their local program in recycling carts included:

- “All plastics are recyclable.”
- “I always assumed that if an item had the recycling symbol on it, that it was ok to put in the blue recycling cart.”
- “I want to make sure I’m recycling everything I can.”
- “I assumed the recycling process will sort it out if it is a problem.”

“Wish-cycling” and confusion among residents caused by:

- Resin identification code and “chasing arrows” symbol on products;
- Packaging that come in all shapes, sizes, and composite materials containing plastic and metal;
- Thinking that all plastics are recyclable curbside, including film, bags, and flexible plastics.

Although a large portion of residents said that they will either look for more information or trash the item if they are not sure whether the item is recyclable, some of these misunderstandings cause people to go ahead and recycle what they should not.

The CROP will attempt to build robust regional planning, program standardization, and harmonized messaging to achieve long-term meaningful reductions in contamination. It will also attempt to create lasting partnerships between manufacturers, brand owners, product and packaging designers, retailers, haulers and local governments.

#### **4.5.4 Steps needed to reach intended goals of the CROP**

**Develop scope of work with stakeholders:** Chelan County will implement, provided state funding, the initial CROP over about three years. During this process, Chelan County will work with Ecology and key stakeholders to develop a scope of work for the CROP addressing the specific challenges and opportunities associated with local recycling contamination.

These stakeholders may include, but are not limited to:

- Solid Waste Advisory Committee members
- Elected officials and key staff from other local governments, including potential regional partners in the same MRF-shed
- Garbage and recycling collection companies and their front-line staff
- Organizations representing homeowners, tenants, and multifamily and business interests
- Material recovery facilities (MRF) and transfer station operators
- End-markets for recovered materials
- Chelan County’s Ecology Regional Planner and grant manager
- Regional, statewide, and national organizations that can provide technical assistance and/or financial support.

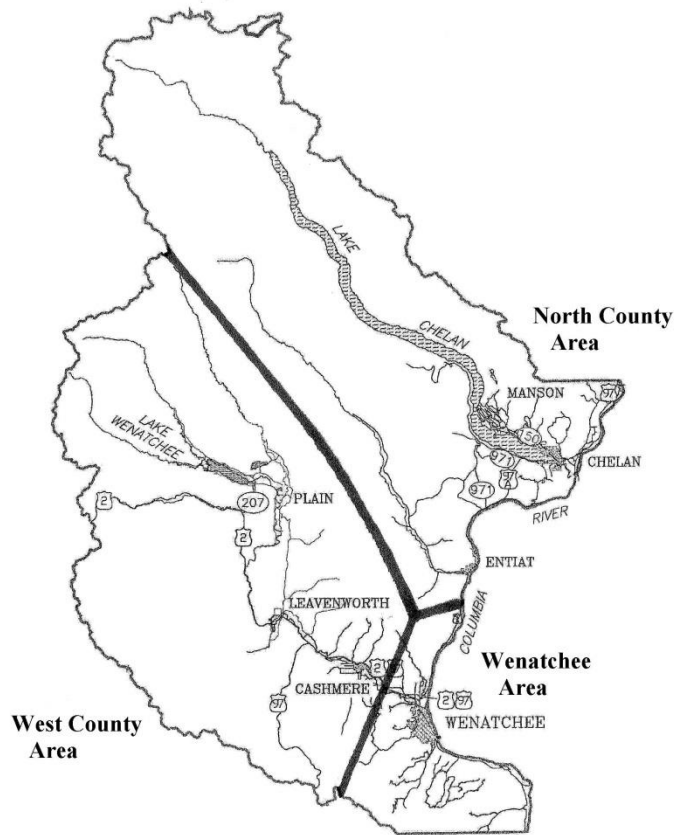
\*Adhering to the CROP implementation plan depends on plan progress and the availability of funds.

**Inventory current recycling collection services and programs:** Chelan County’s inventory of current single-family, multi-family, drop box, and commercial collection programs identifies what is accepted for recycling, where and how it is collected and by whom, and how it should be prepared for recycling.

This inventory includes, but is not limited to the following:

- Designated recyclables list in the SWMP (Figure 4.1, Table 4.3 and 4.5)

**Figure 4.1 Chelan County Recycling Service Areas**



<b>Table 4.12 List of Designated Recyclable Materials</b>	
<b>Material</b>	<b>Amount in the Waste Stream</b>
Cardboard	8,707 TPY
Newspaper	2,747
Office paper/other high-grade paper	2,642
Magazines/catalogs and phone books	
Mixed waste paper	
Aluminum cans	136
Ferrous/non-ferrous scrap	468
PET and HDPE plastics	347
Yard debris and brush	9,146
Used motor oil	726
Automobile batteries	339
Electronics –computers and CRT/TV	222
Fluorescent Lamps	N/A

- Notes:
1. “Washington State Department of Ecology Recycling Survey,” based on 2017 quantities from all sources (residential, commercial and agricultural).
  2. TPY = tons per year. All figures shown are in tons per year.
  3. NA = data not available.

Inventory of current recycling collection services and programs (cont’d):

- Cart or container colors
  - Gray containers are for MSW, blue for recycling, and green for yard waste.
- Minimum service-level or other ordinances, resolutions, or interlocal agreements

Table 4.4 shows minimum service levels by area.



<b>Table 4.13 Minimum Service Level by Area</b>				
<b>Type of Customer and Source</b>	<b>Area</b>			<b>Current Service Gaps</b>
	<b>Chelan / Entiat/Manson (North County)</b>	<b>Leavenworth / Cashmere (West County)</b>	<b>Wenatchee</b>	
Single-Family Homes within city limits	C, D	C, D	C, D	
Single-Family Homes, unincorporated	C, D	C, D	C, D	All unincorporated areas have access to curbside recycling.
Multi-Family	D	D	D	Lacks funding, has removed drop boxes and reduced available recycling options
Commercial, Industrial, Institutional	D, S	D, S	D, S	Only cardboard recycling is available to businesses
Yard Debris and Brush	D	D	C, D	Curbside yard waste is only in Wenatchee. Drop-off brush is available at transfer stations throughout the County.
Transfer Station Customers	D	D		

Key: C = Curbside recycling services should be available.  
D = Drop-off facilities should be available in the service area. For yard debris, the minimum service level could be satisfied by seasonal drop-off locations (open during the growing season and during spring and fall cleanup periods, with some provision for Christmas tree recycling).  
S = Special services (primarily pickup services from the business location) should be promoted to handle large quantities of materials and also special materials generated by industry and other non-residential sources.

- Collection or material processing contracts
  - Waste Management, NCRR
- Local government and recycling collector websites and social media sites
  - <https://www.co.chelan.wa.us/solid-waste-management>
  - <https://www.wm.com>
  - <http://michelsenpackaging.com/recycling>
  - Zippy Disposal Services

Not currently in place

- Stickers and signs on containers, in businesses, etc.
- Brochures, newsletters, information shared at community events, etc.
- Recent media coverage

Chelan County can identify differences or inconsistencies across contracts and agreements for recycling programs, and in the information provided to residents and businesses about what is accepted for recycling and how it should be prepared for collection. Chelan County can use this data to identify opportunities for more consistent and aligned programs. The data can also be used to help determine what specific contamination reduction strategies to implement.

**Prioritize the recycling program(s) to focus on first:** Together with key stakeholders, Chelan County can identify what recycling collection program(s) to focus on first. Driving this decision can be current knowledge of contamination levels and their estimated impact on costs and material quality, the number of customers, total quantity of material collected, etc.

**Establish acceptable materials lists:** Starting with the highest-priority program(s), Chelan County has an established list of acceptable materials. This is coordinated with the SWAC, MRF operators, collectors, end-markets, and other key stakeholders. Criteria for determining the acceptable materials lists includes, but is not limited to:

- Alignment with the SWMP mission, goals, and community values
- Degree of uniformity across local programs, regionally, and statewide
- Diversion potential
- Cost to collect and process relative to other management options
- Strength and long-term viability and stability of end-markets
- Environmental, social, and other benefits and costs
- Potential to cross-contaminate or lower the value of other materials
- Potential to cause customer confusion

The Department of Ecology, the Washington State Refuse and Recycling Association, and the Washington State Association of Counties Solid Waste Managers Affiliate advocate for establishing regional and, where possible, statewide uniformity in what materials are accepted for recycling and how they should be prepared. More harmonization across programs reduces customer confusion and contamination. To that end, they identified these four priority materials for statewide recovery:

1. Paper (including office and notebook paper, newspaper, mail, catalogues, magazines, and cereal or cracker boxes)
2. Cardboard
3. Plastic bottles and jugs (clear, colored, and natural)
4. Steel and aluminum cans

The resources and guidelines developed by these organizations to establish their list of priority materials has aided in the development of Chelan County’s acceptable materials list.

**Define what data to collect to determine baseline levels of recycling contamination:** Starting with the highest priority program(s), and based on the review completed during the program inventory, Chelan County identified what the acceptable materials are and what is considered contamination. This data will also inform decisions about what, if any, changes to make to the accepted materials list in the future.

**Gather baseline recycling contamination data:** Starting with the highest-priority program(s), Chelan County will establish baseline levels and types of recycling contamination. Recycling contamination rates can vary significantly across different programs and communities. Nationally, The Recycling Partnership (TRP) estimated an average contamination rate of about 17% across 197 programs that participated in their 2019 State of Curbside Survey. In Washington State, TRP’s 2019 survey of seven MRFs found inbound levels of contamination from commingled recycling collection programs ranging from 5%-20% by weight. Recent drop-off programs and cart lid-lift audits in Washington showed rates as high as 40%.

In discussions with stakeholders, and building on the information in the State CROP, and Ecology’s Resource Library, Chelan County may identify and develop ways to track specific contaminants. For example, tracking the number of carts containing plastic bags may be a more useful metric than an estimated overall percentage of contamination by volume.

Data collection methods may include, but are not limited to:

- Recycling stream composition studies
- Survey of transfer stations and MRF operators
- Tracking contamination using on-board truck or container-mounted cameras
- Container lid-lift audits for residential, multi-family and commercial accounts
- Dropbox composition studies or visual audits

**Identify key contaminants and their costs and impacts:** Based on the data collected for baseline recycling contamination and collaborating with key stakeholders, Chelan County may identify the most problematic and costly contaminants starting with the highest-priority program(s). Designing outreach campaigns and other strategies targeting the most problematic materials can also be helpful in calculating the economic and other benefits of removing problematic materials from the recycling stream.

List of Key Contaminants:

In recent surveys, such as the one conducted by the TRP in 2019, MRFs and cities in Washington identified the following recycling contaminants as the most problematic and costly to manage:

- Plastic bags and film
- Tanglers including rope, cords, chains, and hoses
- Food and liquids
- Shredded paper
- Non-program plastics
- Hypodermic needles

**Problem Contaminants and Impacts:**

A 2019 survey of 7 Washington State MRFs conducted by the TRP as part of their West Coast Contamination Initiative found inbound levels of contamination from commingled recycling collection programs ranging from 5% to 20% by weight.

According to TRP, the greatest costs associated with managing a contaminated recycling stream at MRFs nationally come from the following and represent 80% of total contamination-related costs:

- 40% for disposal of residuals
- 26% in value lost from contaminated recyclables
- 14% in labor to remove contamination from sorting equipment, etc.

**Develop and implement education and outreach strategies to reduce contamination:** Chelan County can develop and implement education and outreach strategies based on best practices. This starts with addressing any inconsistencies in recycling information and messaging identified. All new outreach materials and messages will be aligned and consistent across all platforms.

Depending on the type of recycling program, outreach and education strategies may include, but are not limited to:

- Moving toward uniformity in cart and container colors (or at least lids)  
  - blue for recycling, gray or black for garbage, and green for organics
- Visual, easy-to-understand signage using photos and universal pictures and symbols
- Cart-tagging and cart rejection
- On-route monitoring tools, including apps and cameras
- Pairing right-sized recycling and trash bins
- Up-to-date, and easy-to-find and access websites with clear, consistent messaging
- Social media posts, campaigns, mailings, brochures, and other communications

- Online apps for residents and businesses to get answers to their recycling questions
- Community presentations, tabling, and activities at community events
- School presentations and activities focused on recycling right
- Translation of educational materials and campaigns to ensure recycling information is clearly understood by all audiences
- Social marketing campaigns to effectively promote long-term behavior change
- Common outreach methods include periodic newsletters, service guides, bill inserts (harder to reach with people going paperless), mailers/post cards, social media, media press release and ads, and tabling at events.
- Cart tagging never done. There is tag fatigue.
- Fees for contamination, but fee is mainly used as an opportunity to talk to resident and waived.

Where possible, free and customizable resources can be utilized, including Ecology’s Recycle Right campaign materials and The Recycling Partnership’s Anti-Contamination Kit. Best management practices and examples of successful anti-contamination programs are included in Ecology’s Resource Library.

**Evaluate the effectiveness of anti-contamination strategies and set next steps:** Chelan County can conduct periodic assessments on the effectiveness of recycling contamination reduction programs and strategies, and share the results with key stakeholders and the public. These assessments will use, at least in part, the same methodology used to establish baseline contamination levels.

The assessment results inform what’s working and what adjustments may need to be made to get better results. This includes reducing contamination in other recycling programs that were not a focus during the initial CROP implementation.

**Explore contamination reduction strategies beyond education and outreach:** Chelan County can research and evaluate strategies and solutions beyond education and outreach. These could address regional planning, operations and collection, contracting, incentives, pricing, policies, mandates, enhanced data collection, etc. Based on this evaluation, Chelan County can identify and pursue the most promising initiatives.

These options may include, but are not limited to:

- Regional planning and aligned or joint contracting for services to harmonize messaging, lower program costs, and improve program performance.

- Evaluating the costs and benefits of operational changes, including collection frequency, level of source-separation at the curb, and innovative drop-off container designs on contamination levels and overall program performance.
- Product bans or restrictions.
- Influencing contracts for haulers and MRFs with Washington Utilities and Transportation Commission to include provisions focused on reducing contamination, collecting and reporting data on program performance and ensuring materials on the accepted materials list are responsibly recycled. Consult The Recycling Partnership’s BMPs for MRF contracting and their supporting materials for guidance.

Source reduction needs to be a priority

- Reduce packaging
- Cities are banning single-use plastics
- Promote closing the loop by requiring recycling content
- State ban restricts plastic bags at grocery stores

**Ensure alignment of the CROP and SWMP:** The work of ensuring alignment of the CROP and SWMP may happen during any phase of the Plan Update. Updates to the CROP can occur during SWMP revisions, including the required five-year revision process.

This work includes involving key stakeholders in reviewing, and if necessary, updating related elements in the SWMP to ensure they are aligned and consistent with the contents of the CROP. This information may include and will be integrated with the Recycling chapter in the Chelan County Plan:

- Designated recyclables list
- Recycling facilities including transfer stations, drop-off sites, and material recovery facilities
- Recycling collection services and providers, and collection systems and fees
- Waste reduction and recycling education and outreach strategies
- Funding sources and mechanisms for recycling programs and services

Resource gaps

- Lack of staff to operate program and educate. Chelan County has only one part time staff member to administer all aspects of solid waste and recycling.
- Lack of funding within County municipalities and for competing funds with other solid waste essentials limit education and data collection.

**CROP Implementation Schedule – Subject to change based on funding and progress**

**Year 1**

## Stakeholder engagement

Revisit established acceptable materials list.

Seek and Secure funding and assistance

Inventory current recycling collection services and programs

Based on State surveys and other stakeholders, target contaminants to reduce.

## Year 2

Develop and implement education and outreach strategies to reduce contamination

Develop media and education targeting contaminants

Coordinate with local haulers on message to reduce contaminants

Explore contamination reduction strategies beyond education and outreach

Evaluate the effectiveness of anti-contamination strategies and set next steps



Figure 4.4: China's export ban shifted the costs of handling low-value and contaminated material onto local communities and MRFs, and caused a dramatic decline in market value. [TRP's 2020 State of the Curbside Report](#). Due to Chelan County's distance from glass markets, CO<sub>2</sub> outputs for glass recycling are increased.

## What Reduces the Most GHGs When You Recycle?



Figure 4.5: Same weight, different impacts. Using data on tons recycled to calculate environmental impacts can help a community make better-informed choices about what to include on their accepted materials list. The graph shows equivalent metric tons of CO<sub>2</sub> reduced for each ton recycled. Taken from the [2018 Waste Management Sustainability Report](#). Data calculated using [EPA's WARM model](#).

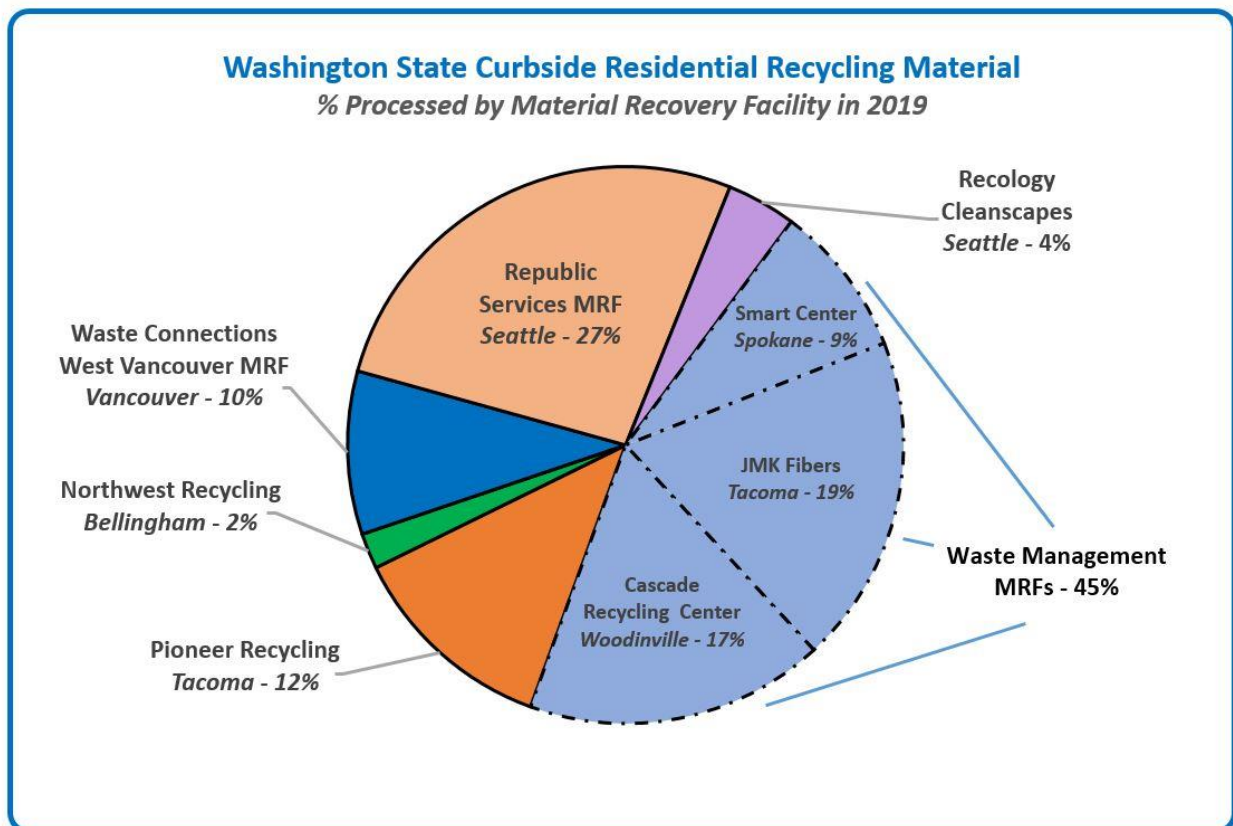


Figure 4.6 : The commingled residential material collected for recycling statewide. Data from Ecology's 2019 solid waste facility database



RESOLUTION NO. 2021- 88

AMENDING RESOLUTION 2017-114, DATED DECEMBER 5, 2017  
COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN TO INCLUDE  
CONTAMINATION REDUCTION AND OUTREACH PLAN

WHEREAS, pursuant to the provisions of RCW 70A.205.045(10), the Washington State Legislature adopted legislation for Counties to develop and adopt a Contamination Reduction and Outreach Plan (CROP) as an amendment to their Comprehensive Solid Waste Plan; and

WHEREAS, the County of Chelan pursuant to the provision of RCW Chapter 70.95, has advised the Cities of Wenatchee, Leavenworth, Chelan, Entiat and Cashmere, that Chelan County, Solid Waste Advisory Committee and the Solid Waste Council have prepared the Contamination Reduction and Outreach Plan; and

WHEREAS, this amendment to the Chelan County Solid Waste Management Plan recognizes the modifications to the Contamination Reduction and Outreach Plan initiated by Chelan County and Cities respectively.

NOW, THEREFORE, BE IT RESOLVED, that the County of Chelan, City Councils of Cashmere, Chelan, Entiat, Leavenworth and Wenatchee, hereby:

Recognize that the Chelan County Solid Waste Management Plan, dated December 5, 2017, is amended to include the Contamination Reduction and Outreach Plan in accordance with RCW 70A.205.045(10); and that the Plan Amendment Process of the Solid Waste Management Plan provides that the plan may from time to time be modified by the cities/towns or the County respectively; and that in conjunction therewith agree that the Contamination Reduction and Outreach Plan may be adopted by the County.

A true and correct copy of the Contamination Reduction and Outreach Plan (CROP) is attached hereto as Exhibit A and incorporated herein by reference.

Dated at Wenatchee, Washington this 13<sup>th</sup> day of July, 2021




BOARD OF COUNTY COMMISSIONERS

*[Handwritten signature]*  
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BOB RUGERT, Chairman

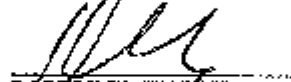
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KEVIN OVERBY, Commissioner

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TIFFANY GERING, Commissioner

ATTEST: CARLYE BAITY

  
Clerk of the Board

APPROVED AS TO FORM

  
ROBERT W. SHADY  
Prosecuting Attorney

Date: 7-7-21

## CHAPTER 5: MANAGEMENT OF ORGANIC MATERIALS

### 5.1 INTRODUCTION

This chapter of the *Chelan County Solid Waste Management Plan* (Plan) discusses the goals and regulatory framework for composting and other organics management methods, describes existing composting programs, green waste diversion, food waste, education outreach including the apple maggot quarantine, Chelan County's Special Permit WAC 16-470-124, reviews the needs and opportunities for improving upon existing practices, and describes and evaluates alternatives and provides recommendations.

### 5.2 ORGANICS STRATEGY

#### 5.2.1 Introduction

Composting has long been of interest to the businesses and municipalities in Chelan County. Tremendous steps have been taken to implement composting in Chelan County. The largest composting program in Chelan County, currently, is conducted by Stemilt in Wenatchee, and it is subject to many of the drawbacks associated with a composting business, such as fugitive air borne emissions and seasonal availability with supply-and-demand issues. (Stemilt prioritizes the utilization of produced compost on Stemilt-owned orchards before making the remainder available to the public.) A second compost facility in Chelan County is constructed in Winton, Washington. It is operational and will take food waste from King and Snoqualmie counties. Importation of materials is discussed in Chapter 6 & 7. Land application is practiced, such as the City of Wenatchee's biosolids (which are sent out of county). The major area of interest is the large diversion of brush and yard waste. Green waste collection sites have been implemented throughout the county for 25 years. With fire prevention concerns, waste prevention, and the apple maggot quarantined area, the number of collection sites has increased. Collection sites include the County's brush and mulching system at the Dryden Transfer Station, Chelan transfer station, Entiat brush yard, and Leavenworth day pit, as well as, a private collection site at Stemilt's Organic Recycling Center in Wenatchee. Some of these collection sites require a more sustainable process to utilize material cost effectively. Thus, tipping fees for brush collection is ongoing, while occasional free special drop off events incentivize the diversion. The City of Cashmere conducts a yard waste collection event twice a year for residents. All brush is chipped, and the County sites produce approximately 300,000 cubic yards of woodchips and mulch annually. Free chips are available for public use as mulch. Due to the quarantine restriction in the Leavenworth area of south-western Chelan County, the chips must remain in the quarantine area. The Washington State Department of Agriculture is partnering with education outreach.

Finally, increased local interest in organic farming (which increases demand for compost), increased interest in more cost-effective garbage, increased local and statewide interest in sustainability and reduced waste, utilizing construction and demolition wood products in compost, food waste compost, and other recent legislation directs planning to increase diversion of organic materials and green waste as a desirable goal. Funding for the increased diversion with less garbage and less fees to support programs requires continued state financial support and increased rates.

#### 5.2.2 Scope of this Chapter

This chapter addresses various types of handling methods for organic materials, such as composting, chipping of brush and other woody materials, and quarantine green waste diversion. Both small-scale (such as backyard composting) and large-scale methods are evaluated. The materials addressed in this chapter include yard waste (grass clippings and brush), agricultural wastes (manures and orchard waste such as pruned brush and surplus fruit), construction wood waste, biosolids and food wastes.

Composting is defined as “the biological degradation and transformation of organic solid waste under controlled conditions designed to promote aerobic decomposition” (Chapter 173-350-100 WAC). Ch. 173-350 WAC also defines crop residues as “vegetative material left over from harvesting of crops, including leftover pieces or whole fruits or vegetables, crop leaves and stems,” but not including food processing wastes and spoiled fruit from warehouses (which are defined as “industrial solid waste”). “Home composting” is defined as “composting of on-site generated wastes, and incidental materials beneficial to the composting process, by the owner or person in control of a single-family residence, or for a dwelling that houses two to five families, such as duplex or clustered dwellings.” Yard debris is defined as “plant material commonly created in the course of maintaining yards and gardens and through horticulture, gardening, landscaping or similar activities,” such as “grass clippings, leaves, branches, brush, weeds, flowers, roots, windfall fruit and vegetable garden debris.”

“Biosolids” are defined as “municipal sewage sludge that is a primarily organic, semisolid product resulting from the wastewater treatment process, that can be beneficially recycled and meets all applicable requirements under Chapter 173-308 WAC, Biosolids Management” and includes septic tank sludge, or septage. Residual solids (grit, screenings, ash and sewage sludge) from wastewater treatment plants are defined as solid wastes, but residuals that have been treated to meet the standards of Ch. 173-308 WAC are defined and regulated as a commodity, not as a solid waste (except when landfilled or incinerated, in which case the residuals are defined as solid waste). Ch. 173-308 WAC addresses biosolids used in land application, transferred from one facility to another or disposed in a landfill or through incineration. Composting of wastewater residuals is one of the acceptable treatment methods to prepare biosolids for land application.

Composting mixtures that contain both biosolids and solid wastes (such as yard debris and wood, in quantities above what is needed as a bulking agent) could potentially be regulated under both Ch. 173-308 WAC and Ch. 173-350 WAC. In these cases, however, Ecology allows such facilities to be covered under Ch. 173-350 WAC as long as: 1) the facility is not part of a wastewater treatment plant; 2) the facility will be producing a Class A/Exceptional Quality biosolids product; 3) there is written agreement between Ecology and the health department that a Ch. 173-350 WAC permit will be sufficient; and 4) the permit that is issued under Ch. 173-350 WAC is at least as stringent in its requirements as a Ch. 173-308 WAC permit. Absent any of those conditions, Ecology will require a permit under the Ch. 173-308 WAC rules, and the health department may also require a Ch. 173-350 WAC permit unless a deferral to the Ch. 173-308 WAC permit is granted. This arrangement is intended to avoid the need for a facility to have to acquire two separate permits.

Ch. 173-350 WAC classifies organic materials according to organic materials and volumes for composting. The volumes determine the type of operation and permit controls. Organic materials are classified largely on the basis of their potential for carrying human pathogens. WAC 173-350-220 include Permit Exemptions:

- (1) All organic feedstocks:** No more than 5,00 gallons or 25 cubic yards of material on-site at any time.
  
- (2) All organic feedstocks:** Greater than 25 but no more than 250 cubic yards of material on-site at any one time, not to exceed 1,000 cubic yards in a calendar year.

- (3) Yard debris, Crop residues, Manure and bedding bulking agents:** Greater than 25 but no more than 500 cubic yards of material on-site at any one time, not to exceed 2,500 cubic yards processed in a calendar year.
- (4) Agricultural wastes, Yard debris, bulking agents:** Greater than 25 but no more than 1,000 cubic yards of agricultural wastes and bulking agents on-farm at any one time, and up to 50% of organic materials on-farm can be yard debris.
- (5) Agricultural wastes, manure and bedding from zoos, Bulking agents:** Greater than 25 cubic yards with no upper limits when only agricultural wastes, manure and bedding from zoos, and bulking agents are processed on-farm, or on-site for zoos.

These types of feedstocks, as well as the sources (quarantined areas) and volumes handled, are taken into consideration when establishing exempt permitting, monitoring and other regulatory standards for a particular facility or process.

### 5.2.3 Goals and Objectives for Organics Management

Chelan County's primary interest in managing organics is to assist cities and businesses with local disposal issues. Diverting, chipping and reuse of organics is required by state law, HB1799 Organics Management Law to divert 75% diversion of previously disposed organic material by 2025, based on the 2015 rates. Diversion programs aid in complying with quarantine areas while reducing waste. The objectives used to meet the organics goals include the following:

- Monitor imported organics from outside the region for feedstock and risk.
- Maintain and encourage public education/information programs.
- Continue to provide and improve green waste programs in the quarantine areas to prevent transportation of green waste into the pest-free zones.
- Compliance with Chelan County Special Permit according to WAC 16-470-124.
- Encourage convenient and cost-effective opportunities for all households, institutions, and businesses to divert organics.
- Safeguard public health over all other needs when considering recycling of organic wastes
- Safeguard the fruit industry from pests potentially imported from quarantined areas.
- Promote private sector involvement with beneficial provisions for local organics.
- Seek methods and opportunities to divert Construction and Demolition wood waste into chips and explore opportunities with biochar.
- Encourage local food waste diversion opportunities.
- Countywide, mulch and organics are already being significantly recycled. New legislative initiative 1779 goals for recycling 50% more since 2016 will be challenging, since numerous organics collection and recycling were already in place in Chelan County since 2000.
- Recycling organics provides significant environmental and human health benefits, especially in comparison to the alternatives (landfilling, burning wet material, etc.).

The state's plan identifies state goal 13 to reduce food waste 50 percent by 2030. Diverting organic wastes can help the state reach greenhouse gas reduction goals. Work to reduce food waste focusses on prevention first, followed by food rescue, then recovery, following the Washington organics management hierarchy.

Goal 14 is understanding and use of recycled organic products to amend soil, filter storm and surface water, and sequester carbon, which helps diversify end-use markets.

Goal 15 is organics processing infrastructure is sufficient and diversified.

Goal 16 requests compost facilities operate well and produce clean, quality end products.

## 5.2.4 Existing Programs

### **Brush**

**Dryden Brush Collection:** The Dryden Transfer Station accepts tree trimmings, garden waste, brush, and wood waste from the pest-free zone at a reduced disposal rate. Those materials are stockpiled temporarily and then ground up by a contractor. The resulting chips are made available to the public to use as mulch or to businesses, such as Stemilt, for composting components. It is proving difficult to find secondary processing of organics, and at an affordable rate. Chip piles are substantial and do not yet have high demand. The new compost facility in Winton is charging for the chips, and the haul is approximately 40 miles (80 miles RT) from the Dryden transfer station.

Chelan County obtained a Special Permit according to WAC 16-470-124 (attached in appendix). Screening processes have been added to prevent organic waste from the quarantine area from entering the Dryden Transfer Station. Material in the quarantine area, potentially exposed to apple maggot, will be collected at the County pit on East Leavenworth Road. All material must remain within the quarantine area. The Dryden Transfer Station will continue to collect organic materials from the pest-free area for wood chip and mulch production, in addition to the other four green waste diversion sites established throughout the County.

In 2003, a composting operation was developed at the Dryden Transfer Station. Composting was conducted on an asphalt pad, engineered and constructed just for this purpose, and any liquids draining from the pad (including rainwater that falls in that area) were directed to a special holding pond and eliminated by evaporation and by being pumped out once a year. Yard waste and biosolids were mixed and then placed in long piles ("windrows") on the asphalt pad and turned regularly using a windrow turner. The piles aerobically composted in 6 weeks. The City of Leavenworth provided the biosolids for the compost production. Finished compost was sold at the site of \$55 a ton. For seven years, approximately 92 tons annually, of screened compost was sold to the general public and various businesses. Landscapers and nurseries valued the material and it sold out each year. While this compost was sold regularly, it had no circulation among organic farming operations due to the use of biosolids for its production. The main factor in the closure of the compost system at the Dryden Transfer Station was because of the program's seasonal nature (it was open eight months a year) and when it was closed for the winter, Leavenworth hauled its biosolids to Mansfield. The program also stretched staffing availability and operation costs due to seasonal increases and decreases for the transfer station garbage processing.

Dimensional lumber from construction and demolition waste was segregated from the garbage and placed nearby the organic waste pile on the closed and capped Dryden Landfill. The wood waste could not have any type of paint or treatment because it was sent for hog fuel. The paint caused irregular burning and was not consistent. Although this material was restricted, it often ended up in the pile. The difficulty in regulating only clean material to this pile caused the project to stop. Also, a tremendous amount of metal brackets, nails and screws ended up in the chip pile, creating it useless for reuse. With additional staff and cameras, the disposal pile could be better monitored. Hog fuel is not in demand but other uses, such

as Biochar may prove to be a productive use for the material. Clean construction and demolition wood waste may aid to achieve higher goals to compost or re-use organics.

With the Legislation passage of HB1799, Compost procurement ordinances are required. There is already sufficient demand for compost material, however Counties and Cities are required to create ordinances to purchase 50% of the amount of yard waste collected. A Resolution is included in the appendices.

**Cashmere’s program:** The City of Cashmere has closed its drop-off site for the processing of yard debris. In the spring and fall seasons, the city picks up residents’ brush one time each season. This material is chipped and most recently (2022) hauled to the Winton compost facility.

**Leavenworth’s program:** The City of Leavenworth provides a drop box for green waste twice a week, for residents only, May through October. The city also provides a collection at residents’ homes for brush twice a year, in the spring and fall, for a month each season. The brush is compiled at the Leavenworth recycle site and then chipped with the city’s wood chipper. Chips are distributed in the city parks and trails.

Chelan County has an enhanced collection site within the quarantine areas, located outside of the City of Leavenworth and within the urban growth boundary, UGA. Current processes are limited to chipping and reuse within the quarantine area, burning the stockpiles, or composting at the new Winton Compost site. Public from the nearby quarantine areas can bring their material to the County site, the Day Pit, for \$15 per cubic yard. Brush is chipped each year and stockpiled. Only until recently, 2022, the chips have been hauled to the Winton Compost site. The best management practices include composting to high temperatures or burning with fire to destroy larvae. Material from within the UGA and city cannot be burned, only outside of UGA. There is not enough demand for the public needs of chips to be land applied.

**Wenatchee’s programs:** Waste Management offers biweekly yard waste pickup in the City of Wenatchee and the urban growth area. Customers of Waste Management’s curbside pickup can order a 96-gallon container for yard waste for an additional monthly fee. This material is hauled to Stemilt’s composting facility on Stemilt Hill.

In addition to the curbside yard waste collection, a drop-off collection site that Stemilt operates within the City of Wenatchee is available five days a week at a reasonable cost. People can haul loads of brush and other organics to the Stemilt drop-off center at a cost of \$10 a yard. This material is taken to the composting facility on Stemilt Hill.

**Chelan’s program:** Chelan County operates a brush drop-off site next to the North Chelan Transfer Station. Brush can be dropped off for a charge at this site, and it is then chipped. Once the brush has been chipped, it is available for public pickup. Most of the material is hauled to the Stemilt Compost site in Wenatchee. In 2021, approximately 900 Tons of chipped material was produced. This site may need expanding in the future as it is experiencing capacity limitations due to increased drop off. This drop-off increase has been caused by citizens who are removing more brush from their land and neighboring properties, largely in an attempt to reduce the possibility of brush fires.

**Entiat’s program:** The City of Entiat operates a brush drop-off site for residents, as well as a compost facility for the further degradation of biosolids. The site is open twice a week (Mondays and Saturdays) for a few hours and accepts brush at a fee of \$5 for two bags/cans of brush, \$20 for an 8-foot truck load, or \$45 for 10-12 foot truck or trailer loads. In previous years, this site was open several days a week and free for brush disposal. If the need for brush disposed at this location were to increase, potentially due to fire prevention, it is possible the site will need to expand. Entiat has been composting the chips and yard waste onsite with the

City's biosolids from the sewer treatment plant successfully for 15 years. All compost is used in City parks and public lands. This successful program has been ongoing since 1999.

**Other yard waste programs:** Two resorts in the county, Holden Village and Sleeping Lady, operate composting systems for their organics. These systems are exempt from permitting because they are only handling materials generated on site; however, they must meet operating and performance standards. Holden Village on Lake Chelan uses a system designed specifically for it, which consists of six to eight bins that are used on a rotating basis. The bins are outfitted with forced aeration. Materials composted by Holden Village include the food waste from its dining hall mixed with sawdust (from its own carpentry work) and yard debris. Sleeping Lady in Leavenworth places compostable materials mixed with some horse manures in a dirt field in long rows ("windrows"), which are turned every four days until the compost is ready for use. Both Holden Village and Sleeping Lady use the finished compost in gardens and landscaping at their locations.

**Stemilt Compost:** Stemilt initially began composting organic wastes in 2005 on Stemilt Hill. As of 2015, the Stemilt Composting Facility has grown to 18 acres. The compost is created by using the green waste generated by Stemilt orchards, horse manure from local stables, recycled lime from Stemilt Refrigeration, and materials collected at the Stemilt Organic Recycling Center, which receives organic materials from the public for a small fee throughout the year (weather permitting). Waste Management hauls the curbside collected yard waste from the Wenatchee area to Stemilt's recycle center. Stemilt uses this compost on 1,400 acres of organic orchards and excess is made available for purchase to the public. It is estimated that the collection of organic material, chipping and compost production keeps nearly 4,000 tons of green wastes from being disposed of at landfills annually. Stemilt's composting facility has grown to such a large size that it would be reasonable to consider this facility as a "Central Processing Facility" (minus biosolids) for the County. The cost of expanding infrastructure will cost residences more to divert green waste. This site has had complaints from new neighbors, causing issues for odor control.

**Winton Manufacturing Co.:** The construction of the compost facility in the Coles Corner area of Leavenworth is newly in operation and has been permitted to compost food waste as well as yard debris. Food waste from residences, restaurants, and grocery stores are a potential source of business. Another goal is to close the composting gap with food processors and provide high-quality compost back to growers. Winton uses state-of-the-art technology such as Gore-Tex fabric covers and computer-controlled aeration with fans. Currently 60,000 tons of material is permitted for processing. A large amount of mixed food waste is imported into Chelan County to the Winton site from neighboring counties, including King County and Snoqualmie county. Hosting out of county material for processing should offer some benefit to Chelan County, such as lower tip rates for residents and local materials. County staff time may be spent monitoring this program, including responding to any fugitive odors, failed processing, vector control, permitting, and other issues. This site is within the apple maggot quarantine and brings more concerns for imported feedstocks. This facility is advantageous to the west side counties by composting large amounts of mixed food waste.

### **Biosolids**

**Biosolids programs:** The City of Wenatchee brings its biosolids to a site near Malaga that's owned by Chelan County. The "Malaga site" is about 10 miles south of Wenatchee and five miles south of the town of Malaga. The city leases about 5 acres of this site. Specially constructed holding ponds (drying beds) are used to dry the biosolids, and then those are shipped to Colfax, Wash., to be land-applied.

The City of Cashmere has a new sewage treatment that would generate biosolids on a daily basis. The most recent dredging of biosolids from the old lagoon occurred in 2012 and the biosolids were transported to Boulder Park for land application.



The City of Chelan generates biosolids on a regular basis and has been land-applying them with Boulder Park (in Mansfield).

The City of Entiat generates only a small amount of biosolids, about two tons or a truckload a year, which was previously dried and bagged. The city upgraded its wastewater treatment plant in 2005, constructed a self-contained asphalt pad and obtained specialized equipment for compost aeration. The city now uses its collected biosolids to produce compost. The compost is used on city parks.

The Peshastin treatment plant, operated by the Chelan County PUD, dries its biosolids in bags and then de-bags it and trucks it to Boulder Park. The Peshastin plant produces about 30 wet tons a year. The PUD is also responsible for the sewer system in Dryden, which is similar to a large-scale septic system. The only solids produced by this plant are due to pumping of the septic tank. The septage is disposed of by the private company doing the pumping.

The fish hatchery in Leavenworth employs a lagoon that only needs to be cleaned every 20 years or so. The Yakama fish hatchery on Blewett Pass produces salmon waste carcasses. Attempts have been made to incorporate the fish carcasses into composting at Dryden Transfer station and at the Stemilt compost yard. Difficulty with this feedstock include health permits and processing of material injected with formaldehyde.

**Private programs:** Crunch Pak currently sells their apple waste to Yancey Pallet Inc., who sends it to surrounding animal feedlots. However, approximately 11 Tons is hauled to the Dryden Transfer station. This feedstock includes bagged apple slices and bulk apple waste and cores. Efforts are underway to divert this material to Winton Compost.

Fruit orchards in the quarantine areas consist of only pear orchard. Fruit packing sheds in the Peshastin area, do not accept any apple waste from the quarantine areas. Peshastin's Blue Bird packing shed brings approximately 47 Tons of mixed leaves and apple waste to dispose at Dryden Transfer Station. This material can also be diverted to the Winton Compost facility.

## 5.2.5 Service Gaps, Other Needs and Opportunities in Organics Management

**Quantities disposed:** There is a significant amount of tonnage of organic materials that is currently being generated in Chelan County. Table 5.1 shows the estimated amounts of organic materials recycled, diverted, disposed and generated in Chelan County. The following data shown in the table was collected from the Department of Ecology.

The amount of brush requiring disposal is increasing due to fuel reduction programs designed to reduce the potential for forest fires. Agricultural wastes, such as spoiled fruit and pruned tree waste, are traditionally handled on the farms where they are generated. Fruit packing sheds may be a viable contributor to recycling food waste in Chelan County.

A portion of the food wastes and other materials could easily be separated, or might be kept separate and delivered by the generators (in the case of construction companies and other businesses generating wood, for instance) if the cost to bring materials to a mulching facility is competitive with other disposal options. In the case of food waste, sources that could be tapped easily could include spoiled fruit, leaves and tree stems from warehouses in Chelan, Manson, Wenatchee and Cashmere area. In addition to spoiled fruit, the fruit warehouses are emptied in the spring in preparation for the new incoming crop, and some of that fruit is not a high enough quality to be turned into juice or used for other products. Landfilling this fruit is expensive and not a desirable option. Although much of the material already diverted to livestock farms, even out of the area, is worthy of the long haul. The Winton Compost facility, located 20 miles west of Leavenworth desires

the fruit waste, restaurant waste, grass clipping and chips. Each business will need to determine the feasibility of the haul and Tip fee.

**Table 5.1 Recycling, Diversion, and Disposal Data of Organics in Chelan County (2018)**

Recycled Materials (Tons)		Disposed Materials (Tons)	
Meats, Fats, and Oils	459.71	Organics	3,728
Yard debris	15,443.95	Wood Debris(cdl)	17,788.5
Other Organics	1,996.00	Food Processing Waste	1,020
Food Processing Waste	3,549.09	<b>Total Disposed</b>	<b>22,536</b>
<b>Diverted Materials (Tons)</b>		<b>Total Organics Generated</b>	<b>43,990</b>
Agricultural Organics	-		
Food (recovered/donated)	79		
Food Processing Waste	155		
Food Waste (all other)	-		
Food Waste (pre-consumer, vegetative)			
Industrial Organics	-		
Land clearing Debris			
Land clearing debris (burned for energy)			
Other Organics	-		
Wood - reused	-		
Wood (burned for energy)			
Yard Debris (burned for energy)			
<b>Total Diverted</b>	<b>0</b>		

A few of the local restaurants currently manage their own food composting. Conference groups have been successful in coordinating food composting by hauling to a hog farm in a neighboring county. Winton Compost is permitted to take food waste. The Closed Loop Waste organization is encouraging the use of food waste in nearby composting applications. New proposed legislation mandates will expand food waste compost requirements. Distant population centers will have difficult and costly logistics for hauling food to Winton. Chelan is 200 miles round trip, and Wenatchee is 100 miles round trip. The Washington State Department of Ecology determined that the state-wide waste average generates 13% food waste. Rural areas may be lower, due to farm practices utilizing the waste on site, and fewer food establishments.

Backyard composting is actively embraced by local homeowners. Past promotions encouraged back yard composting with free bins and education. Many methods included in diversion of food waste may include rural projects such as backyard poultry farming where homeowners divert food scraps for poultry feed.

Construction and Demolition debris make up 18.5% of organics waste. This is an area that Chelan County can develop for detouring wood waste for reuse or recycled to compost. Transfer stations where Chelan County already owns land may be an area that could establish a recycle or reuse program. Although Chelan transfer station is very small, a possible search for neighboring properties where materials could be stockpiled could be considered. Dryden Transfer station has already attempted to collect lumber; however, it is difficult with the amount of metal brackets and/or paint and coatings. This material was chipped and sent to a generator, however the paint coatings made the burner inconsistent, and thus undesirable. If a large enough property could set the reusable wood lumber and other construction materials aside, some of the construction and demolition waste could avoid the landfill.

**Regulations:** The primary regulations dealing with composting are in Chapter 173-350 WAC. These regulations establish minimum operating conditions and other requirements based on the type of feedstock (discussed earlier in this chapter), quantities and sources of material. These regulations also establish limits on the amount of contamination by metals, “sharps” (syringes) and bacteria. Specific types of composting are exempted from regulation because those activities have been determined to present little or no risk to the environment or to human health.

State standards for biosolids, shown in Chapter 173-308 WAC, are the same as federal standards. Management of biosolids are handled through a statewide permit that applies to virtually all public and private facilities (except those on Tribal lands), and addresses pollutant concentrations, pathogen reduction, vector attraction reduction, agronomic rates of application, methods and timing of application, buffers to wells and other sensitive areas, crop harvest restrictions, and site management and access. Biosolids applied to areas where human exposure cannot be controlled, such as lawns and golf courses, must meet higher standards than biosolids applied to areas where access control and crop harvest restrictions can be used to prevent human exposure.

Biosolids regulations require that biosolids be put to a beneficial use. Disposal as a waste material, either in a landfill or a “mono-fill” (a landfill dedicated to a single material), is not allowed except on an emergency basis (for up to one year), a temporary basis (for a period of one to five years), or unless it can be demonstrated that no economically-feasible options exist. Currently, Chelan County has no land application sites within its borders, and biosolids must be shipped out of the county to be land applied. Some of the septage generated in Chelan County is land-applied within the county, but most of this material is also shipped out of county for proper management. Additional land application sites within Chelan County for biosolids and septage may be beneficial in emergency situations. For instance, if the nearby privately owned septage lagoon in Grant County were to close, we may land apply in Douglas County. If this were not available, Chelan County would need to find an outlet for the waste from septic.

Washington HB 1799 targets a 75% reduction in organic waste going into landfills by 2030 compared to 2015 and a 20% reduction in waste of edible food on the same matrix. To achieve these goals, the bill requires jurisdictions with more than 25,000 population to provide organics recycling services, businesses to divert organics, and cities and counties to coordinate solid waste planning. The bill updates the Good Samaritan Act to make usable food donation easier and creates the Washington Center for Sustainable Food Management within the Department of Ecology. Challenges for Counties will include the measuring and accomplishing 75% reduction of organics by 2030 relative to 2015 levels. The County, Cities, and the Haulers will be challenged to provide separated food waste collection for residents and businesses. As well as establish priority areas for the establishment of organic materials management facilities (compost facilities). These requirements must be included in Solid Waste Management Plans by the end of 2026. Jurisdictions may request a waiver for feasible and economical restrictions to transport organic materials to facilities, to be reviewed and determined by the Department of Ecology. Compost facilities are to be sited in

plans after 2026. Areas to meet the designation of facilities include the Chelan and Wenatchee areas. These areas must be in an industrial zone, agriculture zone, or rural zone (but not in conflict with an economic justice areas). Reviewing lands in Chelan County may include the Malaga area, beyond the community, may be a reasonable area for a compost facility. The Wenatchee drying beds for biosolids are already established there. Review will need to look at the economic justices of areas, where population growth and development are surging. Chelan area may look at the neighboring Douglas county, where biosolids are already applied to fields. Other areas of Chelan county will be difficult due to steep terrain and already established communities. These potential priority areas will provide a direction for private compost facility developers.

## 5.2.6 Organics Management Alternatives and Evaluation

There is a wide range of alternatives that could be used to divert additional amounts of organic materials from the waste stream. These options include:

- Processing facilities
- Non-facility options (backyard composting, direct land application)
- Collection programs
- “Administrative” or regulatory options (education, mandatory requirements,
- Biochar wood waste

**Processing facilities:** Options for processing facility sizes range from small to large facilities, including a range of processing technologies and other factors. Each has its advantages, and none are mutually exclusive of the other (in other words, a combination of large and small facilities, or a combination of facilities and non-facility options, could be used to handle different materials or materials from different sources).

Processing technologies for collection of brush and chipping for mulch distribution is successfully implemented in Chelan County. However, with the regulations of the Special Permit of WAC 16-470-124, where the quarantine areas must keep green waste and fruit waste within its borders, distribution of the chips is difficult. Compost processes can heat pathogens and vectors and are often characterized as either low-technology or high-technology methods. Low-technology processing utilizes available space and equipment, typically employing a front-end loader to mix and turn compost piles. High-technology processing systems use specially designed equipment and containers or containment structures (troughs or vessels). The site requirements, length of processing time, labor and equipment utilized, and costs are different for each technology level, but the end product is essentially the same. Site requirements for composting facilities depend on the amount of materials processed and the amount of composting time required. The amount of time required depends on the types of materials being composted and the degree of technology employed. In general, the longer it takes for organic materials to decompose, the more land area needed to accommodate equal amounts of material. High-technology methods (i.e., more intensive processing methods) lead to a shorter composting period and a higher capacity for a given amount of acreage. A facility could start out using lower-level technologies, with their longer composting periods, and then shift to a higher-level of technology as volumes of incoming materials increase (or expand the size of the facility).

A few processing options are described below.

**Large processing facilities:** Large processing facilities located at each end of the County could provide advantages in terms of economies of scale (thus lowering the per-ton cost) and in handling a variety of materials. Properly designed, 3 key facilities could accommodate large seasonal, or even one-time, quantities of various materials, such as spoiled fruit or woody material. The facilities would need to have temporary storage areas for materials in order to hold some materials prior to processing and/or prior to collecting other materials for mixing. Chelan County's configuration may require outpost for the collection and holding sites.

Potential drawbacks of a large processing facilities include finding a site located or convenient for all parts of the county. Trucking costs could be significant for organics generated in Chelan, if one is not located in the North. And existing private compost facilities include the South-East of the County, the Stemilt compost site on Wenatchee Heights, with a collection site at the South end of Wenatchee. Stemilt Composting is already taking a large amount of Wenatchee residential organic waste. Waste Management conducts curbside yard waste collection in the City of Wenatchee and hauls to the Stemilt site. The Winton Compost Facility is located at the south-west end of Chelan County. It began operations summer 2022. The compost yard, the old Winton Mill site, is ideal for the compost process. The Winton Compost processes material in ag bags with positive air blowers. They have a significant amount of food waste to come from the West side of the mountains. Where the apple maggot quarantine boundaries extend to include from the West side to East of Leavenworth, it is permitted to accept 60,000 Tons. This is a tremendous amount of material imported from the west side, Cedar Grove in Maple Valley and Snohomish County. There appears to be no site locations for potential centralized large site. This would cause issues with existing residential areas.

The processing methods employed by a facility could range from low technology (static piles mixed by a windrow turner) to a high level of technology (enclosed systems of various types). A grinder is needed to reduce woody materials. To some degree, the type of technology employed would influence the types of materials that could be processed and the end products, but with the appropriate receiving/processing areas and operating methods, a large facility should be able to handle all types of organic materials.

The large amount of organic material being brought to Stemilt makes it the likely recipient for the large urban area of Wenatchee. Currently, Stemilt Growers produces compost using green waste from its orchards, from organic materials collected at the Stemilt Organic Recycling Center in Wenatchee, city curbside collection by the hauler, Waste Management, and from other organic materials collected from various locations. This compost is used on Stemilt-owned orchards, with excess compost being sold to the public. Stemilt Organic Recycling Compost recently increase the size of the collection yard by moving to a location in South Wenatchee to accommodate larger amounts of incoming organic materials. Expanding Stemilt's composting site could be mutually beneficial to both Stemilt (increased profits) and Chelan County (little to no development fees, land acquisition, etc.). There are, however, some drawbacks to this possibility. Stemilt is experiencing new neighbors complaining of fugitive odors. While the Stemilt Organic Recycling Site is centrally located in Wenatchee for both Chelan and Douglas Counties, and the Stemilt Composting Facility is more remote (Wenatchee Heights) and shipments of organic materials might be more expensive to transport directly to this location. Waste Management is currently hauling the City of Wenatchee's curbside yard waste directly to the Wenatchee Heights compost site, bypassing the Organic Recycling Center. As well, is the City of East Wenatchee and Douglas county importing the organics to the Stemilt yard waste collection site.

**Small to medium-sized mulching facilities:** In addition to the large facilities located in the South west and east ends of the county, several smaller sites are used to collect green and organic waste to begin processing materials. Chipping is an expensive process and with Chelan County's contracting for grinder services, the feedstocks would be prepared into chips, making for a more efficient haul to the large locations. Some chips may be distributed in the local areas to the public for back yard use.

Another option with small- or medium-sized facilities is to expand or upgrade existing facilities to increase their capacity. For instance, if the brush collection sites in Chelan and Dryden were upgraded, then these

sites might be able to conduct composting or other processing techniques. Chelan will need to acquire more land to conduct any further processing.

### **Disaster Events**

Dryden may be able to process emergency disaster debris on the existing closed landfill. Other sites could be developed depending on disaster area location and logistics for hauling and processing. Flooding, slides, wind storms, ice storms, fires, and other detrimental events will be aided with the assistance of processing debris from catastrophes. Fire prevention efforts such as those conducted by the Cascadia Conservation District, promote the clearing of brush and fire fuels. Emergency events such as the chipping effort conducted after a large windstorm in Wenatchee allowed people to bring material to Lincoln Park. More than 80,000 Tons of trees and brush were collected and processed. Further emergency funding and plans for disaster events would be needed. With existing infrastructure and equipment, emergency plans can be quickly implemented to provide the clean up of garbage and diversion of organics or other recyclables. Funding resources would be needed for the operations and disposal.

### **Future Sites**

The Malaga site is a large parcel (40 acres) about 5 miles south of Malaga that is already owned by Chelan County. Part of this site (about 5 acres) is currently leased by the City of Wenatchee and contains drying beds being used by the city for its biosolids. More extensive use of this site would require additional land development and engineering plan (the site is fairly flat but would need to be leveled), a water supply would be significant, drainage and collection pond, and other improvements. At the North end of Chelan County, near the city of Chelan and town of Manson, siting is needed in the industrial areas. Howard Flats may have some areas where the composting process may be located, but this area is quickly being developed for housing. Land is very expensive and may require attaining an orchard for use. Douglas County, directly East over the Columbia river, may provide future opportunities for compost facilities in an agricultural zone.

**Non-facility options:** There are a few options that do not require a fixed facility to divert organic materials, including backyard composting, mulching (chipping), and direct land application. Farms also provide an opportunity to feed the food waste and grass clippings to animals.

**Backyard composting and mulching:** Backyard composting provides an opportunity for diversion that does not require collection or processing. Chelan County promotes backyard composting on its website and directs residents to the WSU expansion services for the Master Compost programs. Backyard composting may be a method for residents to divert some amount of yard debris and food waste without implementing a curbside collection program. It is also a way for residents to utilize compost on their own property, for gardens, flower beds or lawns. Chelan County has worked with the Master Gardeners previously but could operate a more extensive program to conduct activities such as increased public outreach. A successful outreach program could be expected to divert up to 200 tons a year of yard debris.

In addition to developing backyard composting, the participating jurisdictions can promote the use of self-mulching mowers because grass clippings make up a significant percentage of yard debris disposed in the waste stream. Chelan County could initiate a “Leave It Lay” campaign, which stresses the value in leaving grass clippings on the lawn to decompose into the soil. This campaign could include promoting the purchase of new strains of grass seed that grow more slowly. Mulching also promotes water retention.

**Direct land application:** There is some interest with existing programs for direct land application of spoiled fruit and some types of sludge, especially on dryland wheat farms. These programs generally require a significant investment in permitting and monitoring of the application sites, and are only available seasonally (land application generally cannot be done in the cold season). Application using equipment such as a manure spreader and then tilling in the applied material is preferred. It might be possible to increase the amount of direct land application if better guidelines could be developed for how and when this would be

allowed (especially for agricultural materials generated on-site). A study conducted by the Health District concluded there was no environmental damage caused by applying reasonable amounts of fruit waste on agricultural lands.

**Collection programs:** Collection programs help direct materials to the processing sites. The alternatives for collection of yard debris include established drop-off locations, developing permanent drop-off sites or improving curbside collection.

Yard debris can be dropped off at collection sites, such as locations near population centers or cities. A permanent drop-off system would require generators to take bagged or loose waste directly to composting facilities, or sites set up expressly to collect yard debris. A curbside collection system picks up yard debris directly from the waste generator. A limited range of other materials could also be collected through these methods, but in most cases separate collections would be necessary to divert other materials such as food waste and construction demolition waste. All these methods would benefit from the use of tiered rates, where a financial incentive was provided to reduce the amount of waste set out for garbage collection.

**Curbside collection:** Curbside collection of yard debris would be the most convenient method for urban generators to participate in the program. Yard debris could be set out in containers and collected with similar trucks as regular garbage collection trucks. Some communities encourage residents to purchase biodegradable bags that can be used instead of containers to avoid the capital cost of containers and distribution. Compactor trucks with side loaders have also been specially designed for the collection of yard debris. Different frequencies of collection are used, but weekly collection is the most effective. In many areas of the Northwest, the frequency is reduced to monthly collections in the winter months, although this creates costly difficulties in managing a consistent program.

Curbside collection alternative has the potential to collect the largest amount of yard debris. The convenience of not having to haul the debris to another location encourages residents to use the service. It is estimated 50% of eligible households in urban areas would participate in the program, with each household placing an average of 50 pounds of yard debris at the curb for 7 seasonal months. Contamination problems would be limited because collectors could reject any unacceptable material.

**Fixed drop-off sites:** Residents and commercial/industrial generators could take their yard debris directly to permanent drop-off sites at disposal facilities (transfer stations), composting facilities or other designated drop-off locations. These sites would generally be open four to five days a week, similar to our existing programs. Other options for hauling could include separate containers (usually 40 cubic yards in size) could be used to collect yard debris at these drop-off locations and could be hauled to the composting facility weekly or when full.

This alternative may divert less material than a curbside collection program where residents would not need a pickup or vehicle to haul yard waste. However, the ongoing presence of the permanent facility reminds residents of the opportunity to recycle their yard waste. In addition, drop-off centers are better able to handle yard debris from large generators, such as landscapers. Similar programs in the Northwest have shown that between 10% and 15% of yard debris generated can be collected by this type of program, but the diversion potential of drop-off programs depends on many factors, including convenience of location, hours of operation and materials accepted. Additional households and businesses will use drop-off sites for their yard debris with a good public education program. Rate incentives, such as variable can rates and reduced tipping fees for separated loads of yard debris can also encourage public participation.

The largest difficulty in establishing permanent drop-off sites is the potential contamination problems that might occur if solid waste or other materials are discarded with yard debris. This problem can be largely avoided if the drop-off sites are staffed.

This alternative can be more expensive than the mobile drop-off sites because the sites require more maintenance. Transportation costs also are increased because more material would be collected; however, the cost per ton collected would be lower with a permanent site than with a temporary site due to the larger volumes collected. Depending on the distance from the collection site to the processing center, the average cost of collection at a permanent drop-off site is about \$120 a ton. Administration and public education costs add another estimated \$45,000 a year.

**Mobile drop-off sites:** A mobile drop-off system involves temporary sites used for the collection of yard debris and possibly other materials. For example, once a week or once a month, a container could be set on a site to collect yard debris. At the end of the day or weekend, the container would be hauled to a processing center. Appropriate sites would be located next to general recyclables collection bins, or in other convenient, public locations.

Contamination is the major difficulty involved in operation of drop-off programs. Staffing the site helps to control the types of materials being deposited and limits the amount of contamination by other materials. In addition, mobile drop-off programs require specialized containers and trucks to haul those containers, as well as higher frequency pick-ups to prevent decomposition and odors.

**Administrative and regulatory options:** Options that do not directly involve collection or processing are discussed below. These options are generally not stand-alone solutions but are best used in support of collection and processing options.

**Public education:** Public education could help support composting programs in several ways:

- Public education could encourage residents to conduct backyard composting and inform them of how to do it properly.
- As compost volumes increase (if a processing facility or other option is implemented), public education could promote the benefits of using compost and help create market demand for it.
- If a collection system is put in place, public education will be essential for informing people of the availability of the program and how to participate.

Ideally, public education efforts for composting and other organics management methods would be part of a comprehensive program that also would address recycling, proper waste disposal and other solid waste issues.

**Disposal bans:** Disposal bans could be one way to force the general public or private companies to handle yard debris in some way other than landfill disposal. A disposal ban, however, typically shouldn't be used unless there is an alternative already in place and available. Disposal bans are particularly effective for yard debris because people, at least residential generators of yard debris, have a range of options available to them. Instead of disposal as garbage, they can practice mulching or backyard composting, or they can use a curbside or drop-off program (assuming one or both of these are available). Commercial generators may have fewer options, assuming they cannot easily engage in "backyard" composting, but many businesses use landscapers that will be among the first to use a central facility or drop-off program as long as the cost is lower.



Disposal bans are an effective method of drawing attention to the “right way” of handling yard debris or other materials. Once their attention is on a subject, it is easier to inform people of the need and requirements for such an approach.

**Mandatory programs:** Instead of a ban, there could instead be a mandatory requirement for people to participate in a program. This approach actually provides less flexibility, because people are required to participate in a particular program rather than have the options for various alternatives. On the other hand, mandatory programs can be adopted on a smaller scale, whereas disposal bans are typically adopted county-wide or state-wide.

**Differential rates:** Differential rates can encourage desirable behavior by providing a financial incentive. Volume-based (tiered) rates can be used to encourage people to produce less garbage. In the case of yard debris and other organics where less-expensive collection programs may be available, it can encourage people to use the less-expensive alternatives. In some cases, residential yard debris collection is even offered for “free” (the cost is actually built into the garbage rates), so that people can put out as much source-separated yard debris as they wish without a financial penalty. However, “free” recycling can undermine the program in the long term.

At disposal facilities, a lower rate for clean yard debris can be a good incentive for landscapers and other customers (residential and commercial) to keep contaminants out of their loads of yard debris.

**Market assessment:** A market assessment helps to define the potential markets in a region. The quality of the compost and the size of specific demands will influence the marketing strategy.

Yard and woody debris can be processed into three primary products: (1) compost, (2) mulch and (3) hog fuel. Compost can be used as a soil amendment, growing media or ground cover. Mulch is used as a top dressing to aid in moisture retention. Woody fractions of the yard debris may be converted into hog fuel, which is a feedstock that can be used to run industrial boilers. The value of mulch and hog fuel is relatively low, and both of these use the woody fractions of the organic materials that might be better used as bulking agents for other organic materials, however mulch fines prevent hog fuel from burning clean. Some types of wood (such as plywood) cannot be used in composting or hog fuel, because the glue creates hot spots when burning. Converting some wood (lumber) to hog fuel should be an option at any future processing facility.

The primary market for yard debris that is composted includes large landscaping firms, nurseries and orchards. Large users of organic material could also include local jurisdictions, such as parks, roads and public works departments, if procurement policies are written to allow or even promote the use of compost and related materials. Individual residents may also be an important market, although they would purchase compost in smaller amounts.

In Chelan County, a growing number of organic orchards represent a huge market for compost, manures and related products, but these orchards cannot use compost that includes biosolids. These orchards are currently purchasing composted chicken manure and other products. Compost produced from yard debris without biosolids will not have nitrogen levels nearly as high as chicken manure, but it might be possible to add an organic source of nitrogen to the finished compost for marketing purposes if necessary. There appears to be little doubt that orchards and farms in Chelan County and neighboring areas could absorb all of the compost potentially produced from the organic materials generated in Chelan County. Stemilt already uses its compost for their organic orchards. If Winton’s composting program were able, there is a real possibility that it could provide the types of compost needed by other organic farms.

Much of the market development strategy could be accomplished through educational programs. Potential users could be alerted to the availability of the finished compost and the locations where it can be obtained. Product standards could be established and mailings and media opportunities could be used to distribute this information.

In addition to implementing educational programs, a comprehensive marketing strategy could include developing a regional product name, conducting regular testing and chemical analysis of compost products, requiring local government to establish procurement policies, supporting yard debris diversion through the use of ordinances and policies, and consulting specialized marketing organizations. According to Washington HB 1799, Counties will be required to adopt a compost procurement ordinance by January 1, 2023. A full report required every other year, must include the amount, sources and usage of the compost. Chelan County will include in the public education by the County web site, ways to utilize compost as erosion control along county roadways, and soil amendment for yards at the County parks, Ohme Gardens, and fairgrounds. A Procurement Resolution is included in the Appendix.

### **Quarantine Restrictions**

The County should retain ownership of or at least a development voice to the program. This way, the County retains some control over the operation of the quarantine yard waste collection site and can dictate some terms while still allowing as much flexibility as possible for residents. Terms that the County may wish to address with the City of Leavenworth include establishing low rates for both city and county residents at one inclusive site.

The site at the Dryden Transfer Station shall exercise authority in rejecting green waste from the quarantine area, while keeping it from entering the pest-free zone. With an alternative disposal site in the quarantine areas, Leavenworth Day Pit and Winton Compost facility, it allows an accessible option. Additional screening shall be taken at the scale house at the Dryden Transfer Station. Self-haulers with municipal solid waste from the quarantine areas will prompt verbal screening. If green waste is within the load, the scale attendant will reject the load and direct the hauler to the green waste quarantine collection site on East Leavenworth Road. Directions to the disposal site in the quarantine areas will be offered as well as educational pamphlets provided and coordinated with the Department of Agriculture.

The permitted hauler in the quarantine area, Waste Management, distributes educational pamphlets to customers within billings. The pamphlets include information on the description of green waste, typical hosts for apple maggots and options for properly handling green waste in the quarantine area. Waste Management conducts its own audits on collection in the quarantine areas. If green waste is found within the city's load, it will be rejected. However, if it is already unloaded within the pit, it will be treated accordingly with the conditions in the Special Permit (See Appendix). Green waste will be loaded into the trailer and covered within the day of receipt, or covered with garbage, a tarp or dirt to prevent a hospitable environment for potential apple maggots.

### **5.2.7 Evaluation of Alternatives for Organics Management**

A summary evaluation of the alternatives for organics management is presented in Table 5.2. The alternatives for organic materials were evaluated using the following criteria:

- **Diversion potential:** This criterion provides a relative assessment of how much organic material could be diverted by the alternative.

- **Technical feasibility:** Alternatives can be evaluated according to relative degree of difficulty in implementing the alternative, where a “high” rating means the alternative is well tested and proven to perform, and a lower rating is due to implementation problems or issues.
- **Political feasibility:** Alternatives that require significant policy decisions or changes to existing services need to be assessed as to the political likelihood of implementing the alternative.
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and the SWAC support programs that can achieve the greatest amount of waste reduction for the amount spent.

<b>Alternative</b>	<b>Diversion Potential</b>	<b>Technical Feasibility</b>	<b>Political Feasibility</b>	<b>Cost Effectiveness<sup>1</sup></b>	<b>Conclusion</b>
Support Compost Facility development	Medium	Medium	Medium	Low	Continue
Small/Medium Mulching Facilities	High	Low	Medium	Low	Continue
Backyard Composting	Low	Low	Medium	Medium	Continue
Direct Land Application	Medium	Medium	Medium	Medium	Continue
Curbside Collection	High	Medium	Medium	Medium	Continue
Food Waste collection	Low	Low	Low	Low	Support
Construction & Demolition waste	High	Low	Medium	Low	Support
Public Education	Medium	Medium	Medium	Low	Continue
Disposal Bans	High	High	Low	High	Further research
Mandatory Programs	High	Medium	Low	High	Don't pursue

### 5.2.8 Recommendations for Organics Management

Recommendations were developed based on the evaluation of the alternatives shown above. Increasing the level of composting and other organics diversion in Chelan County will require a significant investment (both financial and in terms of a firm commitment by the public and private sector). The result in this case, however, appears to be worth a significant effort, and, therefore, it is recommended Chelan County and others take the following actions

**O1) Encourage private compost businesses to continue, expand and develop new operations and compost facilities.**

Businesses are very efficient at the collection of organic materials and the production of compost. Current Compost businesses shall be encouraged and supported.

Research potential sites for future composting facilities in the Industrial areas and other areas that do not conflict with residential uses. This will meet the requirements for WA HB 1799.

Supporting the current Compost site will be beneficial. North Chelan County area, will benefit from a composting site nearby.

**O2) Continue brush disposal and yard waste diversion in Chelan County and continue the collection sites in Wenatchee, Leavenworth, Chelan, Entiat and Dryden.**

As disposal stations such as Chelan and Dryden transfer stations are able to divert the resulting chips from the brush disposal, continuing the programs is beneficial. Continue existing practices of collecting and chipping brush in Wenatchee, Entiat, Dryden and Chelan, and the quarantine site in Leavenworth. Continue to seek further beneficial uses for brush and chips locally as well as to compost.

**O3) Continue to support Backyard Composting.**

Support efforts by residents to manage organics on private and residential properties, to include mulching lawns, feeding farm animals, and processing small backyard compost bins.

**O4) Explore options and partnerships for septage disposal, and biosolids or fruit land application.**

Monitor septage disposal systems; consider development of future programs if necessary. The private sector is currently doing a good job of handling septage disposal, although most of the sites for this are outside Chelan County. Should septage disposal become a problem in the future, new or expanded programs may be needed.

Land application sites in Chelan County are a valuable option for private and public generators of organic materials. And with the tremendous amount of fruit waste, the ability to land apply would be beneficial for the land and the agriculture industry.

**O5) Continue and promote curbside collection of yard waste and promote food waste collection. Expand screening efforts with education and provide options for green waste in quarantine areas of the County.**

Continue to provide support and education for the curbside collection of organics, provided for the quarantine area for the apple maggot. Keep strict requirements for waste transported into the pest-free area. The organic waste must be processed within the quarantine area. Washington Department of Agriculture's Special Permit is in the appendices of this plan.

**06) Explore diversion or compost options for wood waste derived from Construction and Demolition waste.**

Seek opportunities to recycle Construction and Demolition waste. Collection and chipping of non-painted, clean construction wood can significantly aid in reducing 18% of organic material from the waste stream. End markets are encouraged for the diversion of this waste stream.

**07) Continue education for the diversion of organic material.**

Provide information for the public to conveniently divert organic material by the County web site and other affordable methods. Include information of the use of procured compost.

### **5.2.9 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Organics Management**

Cost recovery is essential for the diversion of organics in Chelan County. Fees must be charged to residents to recover the cost of screening material, chipping brush and green waste, and developing new programs for food diversion. New sites require the cost to plan, permit, engineer, construct, and administer, as well as staff to collect and recover fees.

In developing and maintaining additional organic waste collection sites, additional staff are required to plan, develop, fund and administer. Reasonable fees can be charged at the site to recover the cost of staff and chipping. Other work will include attaining heavy equipment and maintenance, as well as funding administrative costs for planning. Future development of facilities and addressing siting a compost facility in the North area of Chelan County, and developing a program to collect and use construction and demolition wood waste, will require further research. Encouraging uses of compost includes supporting both the Winton and Stemilt Compost facilities, financing the hauling of organics and chips, developing a plan for food waste collection, and developing a procurement ordinance. Other technology that may aid in organics recovery include Biochar. Biochar is a beneficial product derived from burning wood waste in containment, reserving a beneficial product. This technology may treat the wood slash piles that are otherwise open burned in logging operations and areas. Open burning of brush is discouraged by the Washington State Department of Ecology, including potential pest-contaminated brush from the quarantine area. Reducing the excess brush also reduces the wildfire risks surrounding Chelan County.

## CHAPTER 6: SOLID WASTE COLLECTION

### 6.1 INTRODUCTION

This chapter of the *Chelan County Solid Waste Management Plan (Plan)* discusses solid waste collection activities in Chelan County, including the regulatory framework, existing systems, needs and opportunities, alternatives and recommendations for future improvements.

### 6.2 SOLID WASTE COLLECTION

#### 6.2.1 Introduction

Solid waste collection programs are an important element of the solid waste system. The manner in which garbage is collected from households and businesses in Chelan County has a significant impact on the overall system efficiency and effectiveness.

#### 6.2.2 Goals and Objectives for Solid Waste Collection

The goals and objectives that pertain to waste collection in Chelan County are:

- Author comprehensive solid waste management plans (RCW 70A.205.040-050) that include service level policies.
- Use waste collection rates or other incentives that encourage waste reduction and recycling.
- Establish garbage systems in areas to support the solid waste infrastructure and planning programs. Refuse within unincorporated areas of North and West Chelan County shall utilize county transfer stations for the disposal of the regional refuse.
- Continue fees upon solid waste collection services to fund compliance with comprehensive solid waste management plans (RCW 36.58.045).

**Population densities** (people per square mile) shown here are based on the most recent population estimate for 2020 (Based on United States Census Bureau 2020 Census estimates) and land area:

	<u>2020 Population</u>	<u>Land Area, Square Miles</u>	<u>Density</u>
Cashmere	3,248	1.07	2,953
Chelan	4,222	6.351	668
Entiat	1,326	2.741	470
Leavenworth	2,263	1.251	1,877
Wenatchee	35,575	7.768	4,405
Unincorporated	<u>32,507</u>	<u>2,974.819</u>	<u>11</u>
Totals	79,141	2,994	26

### 6.2.3 Existing Solid Waste Collection Activities and Regulations

Two cities in Chelan County conduct garbage collection within their city limits: Chelan and Leavenworth. The cities of Cashmere and Wenatchee have contracts for their garbage collection with Waste Management. The City of Entiat opts out of contract for its garbage services and has its refuse collected by Waste Management within the WUTC franchise of the County.

The National Park Service is responsible for garbage collection for the Stehekin area and delivers it to Tom's Barge, a franchised hauler. Garbage collection services for other areas of the county that are outside city limits are provided by a "certificated" hauler governed under franchise by the WUTC, such as Zippy Disposal for the unincorporated Chelan/Manson area and Waste Management for other unincorporated areas throughout Chelan County. Businesses and individuals can also "self-haul" their garbage to a transfer station.

**Municipal collection services:** The municipal collection programs in Chelan County are described below. Rates are always changing and updated by each jurisdiction.

**Cashmere:** The City of Cashmere contracted with Waste Management in 2016 to handle garbage collection within city limits. Current monthly rates for Cashmere, effective as of October 1, 2021, are \$24.88 for a 35-gallon cart, \$30.78 for a 64-gallon cart, and \$36.70 for a 96-gallon bin. One 96-gallon recycling bin is included. Extra garbage collection charge is \$4.08 per 32-gallon equivalent and extra recycling collection charge is \$3.92 per 32-gallon equivalent. There is a \$25.00 recycling contamination charge. Disabled, low income, and seniors get a discounted price at 85% of the regular rate. Up-to-date rates are available at the city.

**Chelan:** The City of Chelan provides curbside garbage and recycling collection services to the residential and commercial customers within its city limits. Due to the increasing financial cost of business collection and unstable economic return of recyclables, the city of Chelan is reviewing the business collection policy. Businesses may need to pay a fee for these services to offset costly expenses for transportation and labor. Zippy Disposal handles residential garbage and business collection for the unincorporated Chelan and Manson areas. Garbage collected by the City of Chelan and Zippy Disposal is taken to the North Chelan Transfer Station.

**Leavenworth:** Starting in February of 2019, the city of Leavenworth partnered with Waste Management to provide curbside collection of garbage and recycling for residents residing in single family homes and/or duplexes. Waste Management offers a single stream recycling program and collects Leavenworth residents recycling every other Monday. The city of Leavenworth's refuse division collects commercial (business and multifamily residences) solid waste materials. Current monthly rates for the city of Leavenworth, effective as of October 1, 2021, are \$21.18 for one 35-gallon garbage cart, \$27.66 for one 64-gallon garbage cart, and \$34.14 for one 96-gallon garbage cart with weekly pickup. Bear proof containers are also available for an additional cost of \$13.79 per cart. A recycling cart is available without garbage service for \$12.12 and is emptied every other week. There is a \$25.00 recycling contamination charge.

A monthly \$5 incentive rebate is given to residential customers who have signed up for recycling services with Waste Management. Extra charges are also assessed to customers who require service on weekends. Garbage collected by the city of Leavenworth is taken to the Dryden Transfer Station.

**Private collection services:** According to the state's records, four haulers currently hold certificates (franchises) in parts of Chelan County: Methow Valley Sanitation Service, Stehekin Maintenance and Machinery, Waste Management, and Zippy Disposal.

**Zippy Disposal:** Zippy Disposal Service Inc., is a WUTC-certificated hauler serving residential and commercial customers in the northern unincorporated areas of Chelan County. Garbage collected by Zippy Disposal in Chelan County (north of the Highway 97A tunnel) is taken to the Chelan Transfer Station. Zippy disposal offers voluntary recycling services to the unincorporated areas, including a single stream collection system.

Zippy Disposal operates under WUTC Certificate No. G-121. The service area under this certificate includes areas of Okanogan and Douglas counties. Waste collected in Okanogan County is taken to the Bridgeport Transfer Station and to the Okanogan landfill; waste from Douglas County is taken to the Chelan Transfer Station and then transferred to the Greater Wenatchee Regional Landfill. Rates are expected for an update at the Washington Utility and Transportation Commission. Zippy Disposal's contact information is PO Box 1717, Chelan, WA, 98816. The company can be reached at 509-682-5464.

**Methow Valley Sanitation Service:** Methow Valley Sanitation's certificate (franchise) area is primarily in Okanogan County but includes a small area of Chelan County. The Chelan County area includes only the northeastern-most corner of the County, which is a mountainous area where Highway 20 crosses into the County. This area includes Rainy Pass (elevation 4,860) and Washington Pass (elevation 5,250). There are no commercial or residential customers in this area, so Methow Valley Sanitation's rates are not shown in Table 6-1 and its services are not discussed in other parts of this plan.

Methow Valley Sanitation operates under WUTC Certificate No. G-146. Its contact information is PO Box 656, Twisp, WA, 98856. It can be reached at 509-997-0520.

**Stehekin Maintenance and Machinery:** Stehekin Maintenance and Machinery is a certificated hauler that only provides service to a single customer – the National Park Service or NPS – for the Stehekin area. This service is provided through a contract between Stehekin Maintenance and the Park Service. Stehekin Maintenance and Machinery operates under WUTC Certificate No. G-191. Its contact information is PO Box 2638, Chelan, WA, 98816, and its phone number is 509-682-2493.

Stehekin Maintenance and Machinery receives solid waste from the NPS at the Stehekin Transfer Station. The collected material is moved via barge (Tom's Barge, a franchised hauler), unloaded at the head of Lake Chelan, loaded onto a flatbed truck and delivered to the Chelan Transfer Station. The National Park Service is discussing the creation and implementation of a new and updated transfer station that would be built outside the flood zone. A new station would not only remove the risk of floods but also reduce waste costs, increase recycling and maximize the efficiency of waste processing.

**Waste Management:** Waste Management of Greater Wenatchee Inc., provides garbage collection and recycling services within all southern unincorporated areas of the County and in the cities of Wenatchee, Cashmere, Leavenworth, and Entiat. Services are provided in Wenatchee through a contract with that city; however, in Entiat services are provided as part of the certificated area (i.e., same rates and conditions as the unincorporated areas).

The current monthly rates for the City of Wenatchee, effective as of May 1, 2022, are \$16.18 for one 35-gallon cart, \$21.13 for one 64-gallon cart, and \$28.55 for one 96-gallon cart with weekly pickup. Extra units of garbage are \$4.07 per 32-gallon equivalent can/bag. Special rates are available for low income residential customers and residents can contact the city to see if they qualify. Discounted garbage cart rates are \$12.94 for one 35-gallon cart, \$16.90 for one 64-gallon cart, and \$22.84 for one 96-gallon cart. Weekly recycling is included with garbage service – 96-gallon cart. There is a \$25.00



recycling contamination charge. For curbside yard debris, the cost is \$12.93 for one 96-gallon yard debris cart, which is serviced every other week. Extra units of yard debris are \$2.91 per 32-gallon paper bag/can. There is a \$17.31 cart redelivery charge for yard debris, as well as, a \$26.00 for yard debris contamination. Additional carts can be requested at \$11.52 for a 96-gallon **garbage** cart, \$7.28 for a 64-gallon **recycling** cart, and \$4.68 for a 96-gallon **yard debris** cart. Waste management also offers Wenatchee residents bulky waste curbside collection. Residents can call to schedule one week in advance to have items such as appliances, furniture, televisions, mattresses picked up. The garbage collection contract for Wenatchee also allows residents to take up to three loads, one garbage load and two yard debris loads, (2.5 yards or less) a year to the South Wenatchee Transfer Station at no additional charge (applies to owner-occupied residences only).

Current unincorporated area monthly rates, effective as of July 1, 2021, are \$13.73 for a 35-gallon cart, \$19.18 for a 64-gallon cart, and \$24.79 for a 96-gallon cart, with an extra garbage collection charge of \$3.60 per 32-gallon equivalent . Curbside recycling is also available in unincorporated areas for \$12.70 per month. A recycling cart is available without garbage service for \$14.30 per month. Curbside yard debris carts are available for \$10.58 per month with extra yard debris collection costing \$2.67 per 32-gallon can/bag.

Garbage collected by Waste Management west of Monitor is taken to the Dryden Transfer Station for waste collected in the Leavenworth/Cashmere area. The flow of garbage collected in the southwest region of Chelan County's unincorporated areas is necessary to process through the Dryden Transfer Station to assure support of Solid Waste programs as required in the *Comprehensive Solid Waste Management Plan*, RCW75A.90.

Waste Management is attempting to secure a transfer modal system along a railway. Contracts out of County are being sought to bring additional waste to the landfill. Waste transferred to the intra-modal site would be transferred from the railcar to a truck and moved by truck to the Greater Wenatchee Landfill. Adding a loading/unloading station would allow larger amounts of garbage to be transported by rail efficiently, potentially making the garbage collection and transportation in and out of the County more efficient. When the greater Wenatchee Landfill is full, rail transfer to another landfill may be a reasonable option for the management of waste in Chelan County. Disposal options are discussed in Chapter 7.

Waste Management operates under WUTC Certificate No. G-237. The certificate covers all of its franchise areas in Washington; however, in Chelan County it includes areas in the western portion of the County (north of Leavenworth), along the Highway 2 corridor, in the southeast part of the County (around Wenatchee), and north along Highway 97 to a point about six miles north of Entiat, where their service area abuts the southern boundary of Zippy Disposal's Service area. Waste Management's service area includes Entiat and the developed areas west of Entiat. Waste Management's contact information is 711 N Wenatchee Avenue, Suite A, Wenatchee, WA 98801, and locally it can be reached at 509-662-4591.

**Collection services for other jurisdictions:** Federal and Tribal facilities can arrange for collection services independently of the state or local rules regarding garbage collection. In Chelan County, the only existing example of this arrangement is the National Park Service, which contracts with a certificated hauler (Stehekin Maintenance and Machinery) for garbage and recycling transportation services for the Stehekin area.

**Moderate risk waste in garbage collection:** A past concern for waste collection is household moderate risk waste mixed in the garbage, and the potential threat of fire or other hazardous spills. Due to the

nature of garbage curbside collection there is little opportunity for screening possible hazardous wastes when intermingled with other refuse. The amount of moderate risk waste included can be mitigated somewhat by increasing education of consumers on what materials should not be included with standard garbage. The best opportunity to capture moderate risk waste is by providing convenient disposal. The opening of the moderate risk waste facility in 2019 encourages the proper disposal. Moderate risk wastes are discussed in depth in Chapter 8.

#### **6.2.4 Litter Control**

Chelan County has a limited program involving the control of litter and illegal dumps. The program consists of a single pickup truck and dump trailer that collects illegal dumps twice a week with a typical winter snow hiatus. The inmate crew, supervised by a paid staff, typically travels throughout the County collecting garbage. Due to recent health pandemic, the inmates are not working in the program. Only one paid staff goes throughout the county and picks up large dump sites. Several hundred tons of garbage are picked up out of ravines, in the mountains, and at lakesides. The program is funded through a grant provided by the Department of Ecology (Ecology). Due to the small nature of this litter control program and the inconsistent funding from Ecology, it is unknown if the program will continue. However, the program provides a valuable service to Chelan County.

#### **6.2.5 Disposal System**

The intent is to establish a comprehensive county-wide program for solid waste handling and solid waste recovery and/or reclamation that will prevent land, air and water pollution and conserve the natural, economic and energy resources of the County. To do so requires effective control of the disposal of all non-exempted solid waste generated within the unincorporated areas of Chelan County to use the County facilities for solid waste processing. Currently, Waste Management, the city of Leavenworth, and the city of Cashmere tip refuse at the Dryden Transfer Station regularly, making the amounts of tonnage received sufficient to keep the transfer station and some of the solid waste planning programs financially viable. Zippy Disposal and the city of Chelan tip refuse at the Chelan Transfer Station regularly, making the amounts of tonnage received sufficient to keep the transfer station and some of the solid waste planning programs financially viable as well. Planning programs, including administration, are beneficial to both the environment and the economy by encouraging other alternatives for solid waste disposal such as recycling.

The County is responsible for county-wide planning and management services for waste generated and collected within the unincorporated areas and municipalities; the development of model recycling collection programs; county-wide public education and outreach programs; data monitoring and collection; disposal rates and operating rules; and to feasibly plan for design, siting and closing disposal facilities. At one time Chelan and Douglas counties joined the Solid Waste Management Plan for maximum benefits to the citizens. However, it was dissolved in 1993 due to political differences. Both counties utilize the similar disposal facilities, Greater Wenatchee Regional landfill and transfer stations in Wenatchee, Chelan and Dryden.

Douglas County waste by self-haulers comes to Chelan County, and most all of Chelan County waste goes to the private landfill located in Douglas County. A future joint use transfer station will mutually benefit both counties. Douglas County does not have any transfer stations. Cities are responsible for collection within their jurisdictions; implementation of similar or at least the same residential recycling collection programs; and coordination with the county on additional and all other programs is helpful for the fluid program across boundaries. Disposal and collection rates, the garbage fees paid, include both the cost of collection and the cost of disposal. Additional programs to reduce tipping fees are costly to plan, manage and implement. Increasing programs due to new environmental awareness, including recycling reports and facility permits due to ecology data, require a growing need of revenues.

With respect to garbage disposal, the County's authority is delineated in Chapter 36.58 RCW:

*The legislative authority of a county may by ordinance provide for the establishment of a system or systems of solid waste handling for all unincorporated areas of the County or for portions thereof. A county may designate a disposal site or sites for all solid waste collected in the unincorporated areas pursuant to the provisions of a comprehensive solid waste management plan adopted pursuant to Chapter 70A.205.040 RCW.*

The original Interlocal Agreement was updated in the 2017 Plan, further listing the County responsibilities for the system and cities' roles. It is a life long standing agreement and is not needed for updating each time the Plan is updated. The Plan concludes with the Interlocal Agreement, referring to the Solid Waste Advisory Committee for technical direction by all jurisdictions in equal shares and the Solid Waste Council for recommending budgets to the Chelan County Board of Commissioners. The work included in the Interlocal Agreement is necessary to comply with the requirements to prepare and implement solid waste plan and hazardous risk waste plan under RCW RCW 70A.205.040. The agreement directs the relationship between the County and cities.

The County is charged with setting out base rates for waste disposal, transfer, recycling, special waste disposal and administration programs. Pursuant to the 1989 Plan and Interlocal Agreement with the cities, Chelan County negotiated a new agreement with Waste Management (WM), to provide disposal services to the Dryden and Chelan transfer stations, and all cities using the County's management system.

Flow controls are lawful stipulations allowing local and state governments to delegate where municipal solid waste (MSW) is taken for processing, treatment or disposal. The County solid waste management system requires private MSW collectors in the Upper Valley area (the unincorporated areas surrounding Cashmere and west to the County boundary and all areas between) to utilize the Dryden Transfer Station, and the Lake Chelan Valley area (Highway 97A to the County boundary) to utilize the Chelan Transfer Station. This action ensures existing revenue to support solid waste planning programs.

Chelan County desires to exercise its right to provide facilities to control the disposal of all solid waste generated within the unincorporated areas of its borders and to permit the incorporated municipalities of the County to use its facilities. The consistent stream of waste through the County transfer stations maintains the facilities, as well as the planning programs, including the monitoring of post-closure landfills. Increased landfill closure regulations require the owner to perform additional duties and reports for the post closure.

**Existing rules and regulations:** Provided below is a brief overview of the relevant rules and regulations for waste collection in Chelan County. Additional information can also be found in the discussion of alternatives.

**State regulations:** The Washington and Utilities Transportation Commission (WUTC) supervises and regulates garbage collection companies for their operations in certificate (franchise) areas. Its authority (Ch. 81.77 RCW and Ch. 480-70 WAC) is limited to private collection companies and does not extend to municipal collection systems (Chelan and Leavenworth) or to private companies operating under contract to a city (such as Waste Management's garbage collections in Wenatchee and Cashmere). For private haulers under its jurisdiction, WUTC requires reports, fixes rates and regulates service areas and safety practices.

A state regulation, RCW 46.61.655, applies to people who self-haul their garbage and other materials. This regulation requires that loads be secured, and increased fines for unsecured loads.

**Local regulations:** Garbage collection service fees are mandatory in Cashmere, Chelan, Leavenworth and Wenatchee. Additional provisions for garbage collection are contained within the municipal codes for these four cities.

**Other regulations:** Additional regulations on a local, state and federal level apply to waste collections and collection equipment. One example of this is motor vehicle noise performance standards that apply to trucks transporting solid waste (Ch. 173-62 WAC). There are also weight limits, emissions standards and other regulations regarding motor vehicles that apply to garbage trucks. More stringent emissions standards for diesel engines went into effect in 2002 and 2004, and in 2007 the allowable emission levels will become even stricter for new engines. The 2007 emissions standard is met in part by lowering the sulfur content of diesel fuel.

Garbage trucks hauling to the landfill from the North, Chelan Transfer station, and the West, Dryden Transfer station and Waste Management's Wenatchee transfer station, are only permitted to access by way of Batterman road, preventing the trucks emissions and noise pollution in the city. The trucks are not allowed to use Grant road due to Douglas County's landfill conditional use permit. Although all other trucks for commerce may use the shorter access up Grant road, the garbage hauling trucks are required to take the additional 16-mile route.

## 6.2.6 Service Gaps, Other Needs, and Opportunities in Solid Waste Collection

**Future service demands:** State planning guidelines (Ecology 2010) require collection needs to be addressed by this Plan. Significant population growth is expected to occur throughout Chelan County in the next 10 years (see Table 2.5), but the gains over the next six years will be more modest. In general, the County's population is expected to increase by approximately 1% annually for the next five to 10 years. A 1% annual growth is the equivalent of a 6.2% increase over a six-year period. All existing collection systems should be able to accommodate this much of an increase in their customer base, depending on other services and factors. Such as a movement of population centers utilizing other facilities.

**Minimum service levels:** Minimum service levels for garbage collection are generally adequate. In the unincorporated areas, refuse and residential recycling collection are not mandatory. Residents and businesses may choose to self-haul their waste to the transfer station or have curbside collection by a franchised collection hauler. The city of Wenatchee has mandatory refuse and recycling collection services. Yard waste collection is optional at an additional fee. The city of Entiat has chosen to remain under the WUTC franchise with the same voluntary services as the unincorporated areas. Garbage services provide optional recycling in the unincorporated areas south of Stayman Flats and the Lake Chelan Valley area.

Increased minimum service levels for recycling are discussed in Chapter 4, where considerations for the hauler, residents and the environment include the option for a hauler to implement a single stream curbside collection to provide adequate service in unincorporated areas. Yard waste and food waste will be a further consideration of managing in the future.

**Geographical routes:** Chelan County exists of variable terrain and steep roadways, especially in the unincorporated areas. Some residents must haul their garbage container to a main arterial if their roadway is too narrow for a compactor truck, does not allow for necessary turn around area, is beyond a steep 20%

grade or seasonal conditions prevent access (snow/ice). These difficulties for access are the same for a potential curbside recycling program.

**Seasonal collection:** Another service gap is the demand on a rural area with a high influx of seasonal tourists. Such a large influx of tourists triples the populations driving programs to be overwhelmed. Due to impacted tourist areas such as Leavenworth, Chelan and Manson, seasonal start-up and closure costs of services is challenging. Adequate resources for staff and containers during peak seasons and providing continued services in low seasons, such as staff lay off and storage of resources throughout the off seasons, carries steep costs. Infrastructure for the seasonal influx remains the same size for capital and fixed equipment regardless of how small or large the service area. Changes throughout the season must be considered for infrastructure built to accommodate the peak, yet must generate funding to support during the low seasons.

**Garbage collection rates:** Residents of Leavenworth and Wenatchee previously paid a standard monthly fee for one level of garbage service. This type of system does not provide an incentive for recycling or waste reduction, nor is it an equitable system (in this type of system, low-volume waste generators subsidize high-volume generators). However, it is believed that illegal dumping of garbage is reduced due to the garbage service. Recycling is included in the garbage rate, and Wenatchee residents enjoy three free drop-offs (3 cubic yards of selected waste streams) at the Wenatchee transfer station, via Waste Management and Wenatchee contract scheduled to end in 2040.

**Public education:** Waste Management already has a tiered service level for County residents, but it could be better publicized. A law was passed in 2001 (WAC 480-70-361(7)) that requires solid waste collection companies to inform customers at least once a year about solid waste and recycling services that are available. Both Waste Management and Zippy Disposal provide up-to-date information on their website, with rates for both garbage and recycling regularly on customers' bills.

## 6.2.7 Solid Waste Collection Alternatives

Possible alternatives to the current collection system include changes in the municipal systems and a service ordinance for other (unincorporated) areas of the County. Both of these approaches could be used to institute new programs or requirements for collection services in the respective areas that are covered by each. Other possible alternatives could include changes in the collection rate structure, mandatory subscription to garbage collection and co-collection.

**Municipal options:** Cities and towns have several options for managing solid waste collection under state law. None of these options prevent a resident or business from hauling their own waste, although the resident or business may still be required by a city to pay for garbage collection even if they choose not to use it. Counties, on the other hand, have limited options for direct involvement in collection programs, unless they choose to create a collection district (see Chapter 11) or contract for residential recycling in the unincorporated area. The cities' options for waste collection programs include:

- A city may operate its own municipal collection system.
- A city may contract with a garbage hauler for collection services in all or part of the city.
- A city may require a certificated collector to secure a license from the city.
- If a city does not wish to be involved in managing garbage collection within its boundaries, collection services can be provided by the waste collector certified by the WUTC. In this case, specific services can still be required by a service ordinance (see below).

If a city is conducting its own collection system and part of an adjacent area served by the certificate hauler is annexed by that city, the hauler retains the right to service that area for another seven years after annexation. Even after the seven-year period, however, a hauler can claim “measurable damages” and a city may need to pay for the right to include an annexed area in their service area.

In Chelan County, the cities are largely already exercising their rights in respect to garbage collection services.

Other cities that currently operate their own collection systems (Chelan and Leavenworth) may occasionally be faced with the question of privatizing their systems. The concept of privatization is sometimes presented as a method to reduce costs by eliminating the overhead associated with public employment. On the other hand, the private sector may have lower overhead expenses but also has a profit margin to maintain. If a city chooses to look at privatizing its collections, this should be done in a controlled fashion (through a “request for bids”), and the city’s existing collection system should be compared to a bid as well, to allow a fair comparison of the alternatives.

**Service ordinances and minimum service levels:** Minimum levels of garbage and recycling services can be established:

- By contract, for cities contracting for garbage collection services (such as Wenatchee);
- By ordinance (by either cities or counties, for those areas within their jurisdiction); or

Service ordinances can be adopted by a county to set minimum service levels, require new services or address other requirements. These ordinances can be used to establish minimum service levels in certificate (unincorporated) areas for curbside recycling, yard debris collection, or other services. Once adopted, these requirements can be taken into account by the WUTC when they review a hauler’s rates and services.

Service ordinances cannot be used to set rates in the certificate areas, because that authority belongs exclusively to the WUTC. Service ordinances can, however, influence the rate structure through requirements such as “attaching” (embedding) the cost of recycling to the garbage collection fees. In the certificate areas of Chelan County, fees for recycling are in addition to the garbage collection fee. Although it can be argued that residential (and commercial) customers can reduce garbage collection fees by diverting part of their materials to the less-expensive recycling service, this is still not the best approach for encouraging recycling. Attaching the cost of recycling collections to the base fee for garbage has been found to be effective for encouraging participation in those waste diversion activities (SRM 1999), however the concept that recycling costs money is hidden within garbage fees. Another option is the use of an “incentive rate” or reduced rate to encourage recycling, such as Waste Connections offers in Pierce County, where the combined rate for garbage and recycling services is lower than the rate for the same level (i.e., same number of cans) of garbage service alone. Implementing incentive rates in the certificate areas requires that the county adopt a service ordinance that provides the foundation for this approach.

Most of the above discussion of rates pertains primarily to residential rates, but in Chelan County there is also more that could be done with commercial rates. Perhaps the most significant example of this is in Chelan, where commercial customers could be charged for the recycling services they are receiving. Several cities in Washington (Wenatchee, for instance) include a fee for recycling in their commercial rates to help support that activity. If handled properly, it is also a good incentive to the businesses to participate, since “they are paying for it anyway.”

**Volume-based rates:** There are several options possible for structuring collection rates, but rates that are based on volumes collected are often viewed as the most equitable and are also effective for encouraging waste reduction and recycling (SERA 1996). Most of the county already uses tiered (volume-based) rates for residential customers. Rates for commercial customers are generally volume-based throughout the county, since commercial customers pay for garbage collection services based on the size of their dumpster and frequency of collection.

In the past, Leavenworth and Wenatchee used flat rate residential garbage collection fees.. The city of Leavenworth had a flat rate of \$22.00 per month for residential garbage collection that allowed up to two cans per week or for one large container (64-gallon tote) to be placed at the curb. The city of Wenatchee had a contract with Waste Management that provided one large container (96 gallons) to be used by all single-family homes, plus additional amounts to be put next to the tote for no extra charge along with a free recycling can and a yard waste receptacle for an additional fee. If a Leavenworth or Wenatchee resident only disposed of a partial can of garbage each month, the cost to them was still the same, as opposed to a tiered rate system where the residents pay according to the amount they dispose of. The city of Wenatchee is successful with this approach because it helped to avoid “junk properties” (together with code enforcement activities).

As indicated in Table 6.2, the largest problems with the flat rate approach are that it is inequitable to low-volume generators and does not encourage recycling and waste reduction. Greater equity is achieved if residents are charged according to the amount of garbage disposed. Small households and low-volume generators are subsidizing the large-volume generators and the households that make no attempt to reduce or recycle their wastes. The low-volume generators often include senior citizens and others that have low or fixed incomes. Wenatchee provides price breaks for smaller containers and for low-income senior citizens, however they must qualify. The Cities of Leavenworth and Chelan have inquired about scales on collection vehicles and the ability to charge residents by the weight as opposed to volume. Equipment is difficult to maintain, certify and costly, and therefor has not been utilized as of this time.

Tiered service level systems can be especially effective at providing an incentive for composting or separate yard waste collections, since yard debris is a large percentage of waste generated (at least at some periods of the year).

<b>Table 6.1 Comparison of Flat Rate to Tiered Rates for Garbage Collection</b>		
	<b>Flat Rate</b>	<b>Tiered Rates</b>
Advantages	Helps keep properties clean	More equitable to residents
	Provides a high level of service to all. Simple Billing.	Provides incentive for waste reduction and recycling
Disadvantages	Inequitable	Requires extra effort to set up and maintain a variety of billing rates
	Does not encourage recycling and waste reduction and must be cost-effective for hauler.	

*Note: Flat rates include unlimited service and rate structures where a base rate covers a large amount of garbage.*

Garbage collection rates provide a better level of incentive for recycling and waste reduction when those rates are “linear” (so that the cost of two-can service is twice the cost of one-can service, etc.), or when the additional cost for higher levels of service is even greater. There are some concerns that such large differences in volume-based rates may tempt residents to illegally dump their waste, but Wenatchee has maintained a clean community with this structure. Even so, any new or additional volume-based rates must be properly designed and publicized to avoid negative public reaction. Another concern is that such rates will lead to people packing too much waste into one can.

Rates in the certificate area served by Waste Management are required by the WUTC to be based on a cost-of-service calculation that doesn’t allow a linear rate system.

In either the certificate or municipal collection areas, rates can also be reduced by decreasing the actual cost of collection. One method to decrease costs is to reduce collection frequency. Several communities, including Olympia and Vancouver, have reduced the frequency of garbage collection to once every two weeks without suffering problems with odors or mess. However, the schedule is confusing for the resident.

**Mandatory garbage collection:** Another alternative to meet collection needs for Chelan County is mandatory garbage collection services in the rural areas. Currently about 38% of the County’s residents are in areas where collection fees are already mandatory (i.e., some of the cities that provides or contracts for garbage collection) and the remainder of the residents are either in cities that do not want to mandate or are residents living in largely rural areas where subscription to collection service is voluntary.

Mandatory collection programs throughout the rest of Chelan County would provide some benefits, but not without possible drawbacks. Potential benefits include a reduction in illegal dumping; a reduced need for enforcement of illegal dumping, littering and other laws; and greater ability to provide curbside recycling programs (assuming a combination of recycling and garbage services). Mandatory collection can, however, act as a disincentive for those who are actively trying to reduce wastes.

Mandatory collection in unincorporated areas could be provided through a solid waste collection district. State law (Ch. 36.58A RCW) enables a county to establish such a district. The concept of a solid waste district is discussed in greater detail in Chapter 11.

Another type of mandatory requirement for collection would be a disposal ban on specific items. Banning items from the waste collection system is often a method to achieve greater recycling or composting (in the case of materials such as cardboard or yard waste) or help to ensure proper disposal (in the case of potentially toxic materials such as electronics or fluorescent light bulbs).

**Co-collection of waste and recyclable materials:** Recycling programs in Chelan County could potentially benefit from a co-collection approach. Co-collection is the collection of waste and recyclable materials (or yard debris) at the same time. Co-collection can be accomplished using methods that can be categorized as either bag-based or bin-based systems.

**Bin-based methods:** Bin-based co-collection systems use a truck with two or more compartments to hold different materials. The compartments are then emptied separately at two different facilities, or at the same location if a facility can process recyclables as well as transfer garbage. If two separate facilities are used to separately process the garbage and recyclables, then these facilities should be adjacent or located closely to each other to avoid transportation inefficiencies.



**Bag-based methods:** This approach uses special bags to hold recyclables (or yard debris), which are then placed in the same compartment as bags of garbage and recovered later after the load is deposited on the floor of a transfer or processing facility.

The advantages of co-collection are that the cost of collection and the amount of truck traffic may be reduced. Disadvantages include the inefficiencies that result from incorrectly-sized compartments (for the first approach listed above) or the loss of recyclable materials due to bag breakage (for the second approach). Several co-collection programs have been tried and failed due to such problems.

**Changes in collection frequency:** One method to effectively reduce collection costs is to reduce the frequency of collection pickups to once every two weeks instead of once weekly for residential customers. Most of the collection cost paid by residential customers is due to the expense for a truck to drive from stop to stop, and only a small part of the cost is based on the actual volume of garbage picked up. If the collection frequency was reduced to once every two weeks, the bulk of the expense associated with collection services would be cut in half.

Several cities, such as Vancouver, Wash., have offered reduced collection frequency (once every two weeks or once monthly) as an option to their residents. The city of Olympia, Wash., took this approach a step farther some time ago and now provides every-other-week collection to all single-family residential customers (multi-family units and commercial customers are still served largely by dumpsters that are collected on a frequency that depends on the amount of garbage generated). Single-family homes in Olympia are provided with garbage collection one week and then curbside recycling collection the next week. It might be possible to adopt a similar strategy in Wenatchee or other cities in Chelan County

### **6.2.8 Evaluation of Solid Waste Collection Alternatives**

Alternatives for waste collection alternatives should be evaluated using the following criteria:

- **Economic feasibility:** Collection alternatives should be evaluated according to the feasibility of assessing charges to support the collection system.
- **Technical feasibility:** Some collection programs are more susceptible than other approaches to technical and related problems; this criterion focuses on whether or not the program is considered feasible for Chelan County.
- **Public acceptability:** This criterion assesses how receptive the public (or the private sector, depending on the target audience for the alternative) will be to the program. Issues such as convenience and willingness to participate are considered. The potential for a negative public response should also be considered if appropriate to a proposed approach.
- **Political feasibility:** Collection alternatives may require changes to contracts and other policy-related changes, which may or may not be easy for elected officials to implement.

An evaluation of the collection alternatives is presented in Table 6.3.

<b>Table 6.2 Evaluation of Solid Waste Collection Alternatives</b>					
<b>Alternative</b>	<b>Economic Feasibility</b>	<b>Technical Feasibility</b>	<b>Public Acceptability</b>	<b>Political Feasibility</b>	<b>Conclusion</b>
Attaching the cost of recycling to garbage fees in the uninc. areas	Medium	High	Medium	Medium	Continue
Service fee for commercial recycling in municipalities	High	Medium	Medium	Medium	Continue
Mandatory garbage collection	High	Medium	Low	Low	Don't pursue
Disposal ban(s)	High	Low	Very Low	Very Low	Don't pursue
Continue current voluntary curbside garbage collection	Medium	Low	High	High	Continue
Co-collection of garbage and recyclables	Low	Low	High	Low	Don't pursue
Reduced collection frequency	High	High	Low	low	Don't pursue

Haulers of unincorporated areas utilize the County transfer station facilities for consistent support of facilities and programs, Chapter 36.58 RCW.	High	High	High	High	Continue
Continue fee to haulers collecting garbage in unincorporated areas, supporting programs such as Moderate Risk waste collection, RCW 36.58	Medium	Medium	Medium	Medium	Continue

## 6.2.9 Recommendations for Solid Waste Collection

The recommendations for waste collection are:

**WC1) All areas of Chelan County should use collection systems and rates that encourage resource conservation.**

Waste collection systems and rates should provide support and incentives for resource conservation activities, including waste reduction, recycling and composting. Waste collection vehicles and other aspects of the collection system should also minimize fuel consumption and promote efficient use of other resources.

**WC2) Provide recycling programs throughout the unincorporated areas of Chelan County by a minimum voluntary curbside collection.**

Haulers shall provide, at a minimum, curbside recycling voluntarily, as a single stream or sorted, to help increase diversion potential.

**WC3) Regional Waste haulers shall use local facilities. Haulers shall use nearby County facilities to ensure financial viability for solid waste planning programs as RCW 70A.205.040.**

Waste haulers in geographic regions shall use the County transfer stations. Refuse collected in the Chelan Valley shall be taken to the Chelan transfer station. Refuse collected in the areas west of Monitor in Chelan County shall be hauled to the Dryden Transfer Station.

**WC4) Continue a fee upon solid waste collection services of solid waste companies within the unincorporated areas to be paid to Chelan County to fund the administration and planning expenses of moderate risk waste collection, as provided in RCW 36.58.**

Haulers will continue to collect a fee, as determined by the County Board of Commissioners, to be authorized by the WUTC and remitted to Chelan County to pay for the operations of the Moderate Risk Waste facility and other Solid Waste programs.

## **CHAPTER 7: TRANSFER AND DISPOSAL SYSTEM**

### **7.1 INTRODUCTION**

This chapter discusses the various components and options for the transfer and disposal system in Chelan County. The solid waste management activities discussed in this chapter are organized into four sections:

- 7.2 Waste Transfer System
- 7.3 Waste Import and Export
- 7.4 Landfill Disposal
- 7.5 Alternative Disposal Technologies

### **7.2 WASTE TRANSFER SYSTEM**

This section discusses the system of transfer stations that collect waste throughout the county and transfer that waste to a disposal facility.

#### **7.2.1 Background for the Waste Transfer System**

A transfer station is a facility that accepts many smaller loads of solid waste from a variety of customers and consolidates those into a few large loads. The large loads are usually placed in a transfer trailer that hauls a net payload ranging from 15 to 30 tons. In this chapter, the term “self-haul” means garbage brought in by residents driving cars and pickups and small businesses and contractors using various types of trucks and trailers.

Transfer stations are an important element of the solid waste system, especially in an area such as Chelan County that lacks an in-county landfill. The disposal and other services provided by transfer stations are critical components affecting Chelan County’s system efficiency and cost-effectiveness.

#### **7.2.2 Goals and Objectives for the Waste Transfer System**

Chelan County’s goals and objectives for the waste transfer system include:

- Transfer stations should be operated as cost effectively as possible, but not at the expense of the following two goals.
- Transfer stations should provide a minimum level of services to support the solid waste system.
- Transfer stations should meet current regulatory and safety requirements.

### 7.2.3 Existing Waste Transfer Activities

There are four transfer stations operating in Chelan County:

**Chelan Transfer Station:** This station is owned by the County and operated by North Central Recycling and Recovery.

**Dryden Transfer Station:** The Dryden Transfer Station is owned and operated by the County.

**South Wenatchee Transfer Station:** This station is owned and operated by Waste Management.

**Stehekin Transfer Station:** This station provides service to the Stehekin area in Chelan County. It is owned and operated by the National Park. The waste collected at this facility is transported to the Chelan Transfer Station via barge then truck.

The rates (charges) and waste quantities handled by these stations are shown in Tables 7.1 and 7.2, and a more detailed description of each transfer station is provided below.

**Chelan Transfer Station:** The transfer building at this facility is built with two tipping floors, one with a pre-engineered metal building that is about 50 feet by 50 feet, with three walls constructed of corrugated metal paneling. The other is an uncovered area to be used for construction demolition debris and other municipal solid waste during dry times and not the rainy or wet season. The covered area is a safe way to keep the large compacted trucks away from the self-haulers. Municipal compacted trucks unload on the floor in the covered areas, and the backhoe is used by the transfer station operator to push into the trailers. The self-haulers, with construction debris, furniture and other dry materials can unload in the open tipping floor, similar to drop-box system, where they back up and throw directly into the trailer. A backhoe is used to compact and move material. Rates are subject to change with the current price index and only when authorized by the County commissioners. The rates in the following charts are at the 2022 date; however, for up-to-date rates, current transfer stations rates are posted on the Chelan County Public Works Solid Waste website.

<b>Transfer Station and Type of Material</b>	<b>Cost</b>
Chelan Transfer Station:	
Garbage, per cubic yard, loose	\$ 23.60
Garbage, per cubic yard, compacted	\$ 39.93
Minimum charge	\$ 14.47
Dryden Transfer Station:	
Garbage, per ton	\$ 125.00
Garbage, per cubic yard, compacted	\$ N/A
Minimum charge	\$ 30.00
South Wenatchee Transfer Station:	
Garbage, per ton	\$115.00
Minimum charge	\$62.00

<b>Table 7.2 Disposal Quantities at Chelan County Transfer Stations</b>				
<b>Transfer Station</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021 (Estimated)</b>
Chelan Transfer Station: Tons	14,317	14,124	13,783	15,114
Dryden Transfer Station: Tons	21,342	23,140	22,044	23,506
South Wenatchee Transfer Station: Tons	7,848	5,900	13,552.77	-

Payloads of 20 to 23 tons are typically achieved in each trailer hauled from the transfer stations. With a vehicle weight of about 38,000 pounds and a road weight limit of 96,000 pounds, the payloads could be higher (29 tons), but the load weights also vary depending on the density of the waste that is placed in the trailer. Chelan has purchased several 50-foot aluminum trailers with possum bellies for more hauling capacity.

The Chelan facility is owned by Chelan County and operated by a private company, North Central Recycling and Recovery. Only one to two trips per day is made to the landfill in winter. In summer the facility averages three plus loads per day due to higher volumes of waste. It is a minimum of three hours to haul the load from Chelan to the Greater Wenatchee landfill in East Wenatchee.

The recycling at the Chelan Transfer Station is brush chipping and metal recycling. The Brush Yard accepts approximately 30 Tons of organic material each year. It is chipped and hauled to the Stemilt compost yard at the Wenatchee Heights.

Scrap metal is separated out by the customers, stored at the Chelan transfer station, and sold to Schnitzer Steel in Tacoma. Appliances, and refrigeration units are stored on one side of the scrap yard, (with freon gas and oil removed to ensure its environmental safety for the atmosphere). Then it is being baled into metal cubes for recycling. Used motor oil tanks are on site and accept the public used oil. Although the risk for highly contaminated oil may be costly, it is under evaluation whether to cease the oil collection because it can be taken to the Moderate risk waste facility in Wenatchee. Currently the Chelan transfer station site has plans for expanding the property, and these services will be more easily managed. Construction to include provisions for sorting and loading recyclable materials in necessary. Another improvement planned is the addition of truck scale(s) to weigh in the garbage loads and charge customers by weight.

The service area for this transfer station includes Chelan and the surrounding unincorporated areas, North Shore of Lake Chelan, Howard Flats the Manson area and Stehekin. Some of the waste from the Entiat area is brought to this transfer station, but most of the waste from the Entiat area goes south to the Dryden Transfer Station. Waste is also brought to the transfer station from out-of-county sources, including deliveries of Douglas County waste by Zippy Disposal and self-hauled waste from Douglas and Okanogan counties. Waste Management also hauls a weekly load from the Mansfield area in Douglas County. The population served by this transfer station is estimated to be about 21,121 people (see Table 2.9). This includes temporary tourist residents.

**Dryden Transfer Station:** The main building at the Dryden Transfer Station is a metal building about 60 feet by 60 feet, with three walls constructed of corrugated metal paneling. Vehicles back through the open east side of the building into one of three unloading stalls. Customers unload their garbage into a waste pit that is about 20 feet wide and varies in depth from about six feet at the south end to three feet at the north. A bulldozer pushes the garbage up the sloping pit floor to a loading chute at the north end of the pit, and then the garbage falls into the top of a 90-yard transfer trailer through an open section of the roof at the rear of the trailer. A fixed-base knuckleboom crane is used to redistribute and tamp waste in the trailer as it is being loaded; it can also be used to remove undesirable items that may be inadvertently loaded into the trailer.

A subcontractor to the County drives the full trailers to the East Wenatchee Landfill, with the contract for hauling goods through 2027. The current disposal charges at the landfill are based on the payload weight in the trailer and a rate of \$60.50 per ton plus \$1 for the Health District. An amended contract is thru 2027. Typically, the loads range from 18 to 22 tons.

There is a metal collection site at the Dryden Transfer Station that is open year round. Customers pay a fee to discard “loads” of scrap metal in the collection area and an additional fee for any appliances that contain/contained Freon. Three 30-yard roll-off containers are used for receiving recyclables and are parked on the east side of the scale house. Two roll-off containers are used to collect aluminum cans, mixed paper, PET bottles and plastic milk cartons. The third is used strictly for recycled cardboard. Waste Management transports the containers to the Wenatchee transfer station for hauling to the Spokane Mixed Recycling Facility or Michelsen’s Packaging in Wenatchee to recycle the collected materials every two to four weeks. An expanded tip floor to provide for the storing, storage, and loading of recyclable materials will aid in reducing garbage and provide for future plans.

Just south of the transfer building, there are tanks for used oil. Other miscellaneous hazardous waste erroneously dropped off is delivered to the moderate risk waste facility.. See Chapter 8.)

Separate loads of clean yard debris and woody materials are accepted at a reduced rate at the Dryden Transfer Station (\$85 per ton instead of \$125 per ton). After being ground, wood and yard debris are offered to the public as woodchips and mulch. In the past, the chipped debris were combined with biosolids to make up a compost mixture. Composting ceased in operations due to the lack of staff time. The small operation sold all the compost produced each year.

The service area for this transfer station includes Cashmere, Leavenworth, Wenatchee and the surrounding unincorporated areas, and the Dryden and Peshastin areas. Some waste is brought to this transfer station from out-of-county sources. The population served by this transfer station is estimated at 45,566 people (see Table 2.9).

**South Wenatchee Transfer Station:** The transfer building is a three-sided metal building located on the south side of Wenatchee. Vehicles back into the unloading stalls through the west side of the building. There are four usable unloading stalls, one of which is reserved for commercial (packer) trucks. Vehicles back up and unload their garbage into a narrow pit. A hydraulically operated push plate moves the waste to the left end of the pit, where it falls through an open section in the roof of a transfer trailer. The trailer’s walking floor mechanism is used to move the waste forward in the trailer. A knuckleboom crane is used to redistribute waste in the trailer as it is being loaded.

Two materials –newspaper and scrap metal – are accepted for recycling at this facility. A scrap metals trailer is located below a tipping wall near the site entrance, south of the transfer building. There are



no provisions to accept yard debris, brush, tree limbs or other materials for composting at this site. There are also no provisions to accept MRW at this facility. Due to the large volume of recyclables, Waste Management is utilizing the tip pit and temporarily closes the gates to the public for Waste Management to utilize the tipping pit to load the single stream recyclables for hauling to Spokane. An expansion of this site or another centralized location would benefit the citizens by providing a safe staging area and servicing the larger population around the Wenatchee and East Wenatchee areas.

The service area for this transfer station includes Wenatchee and Entiat and the surrounding unincorporated areas and the Malaga area. A significant amount of waste is also brought to this transfer station from out-of-county sources, including self-haul deliveries from East Wenatchee (Douglas County). The population served by this transfer station is estimated to be about 27,850 people (see Table 2.9).

**Stehekin Transfer Station:** The Stehekin Transfer Station consists of a small building measuring 24 feet by 24 feet, located next to the NPS Maintenance Facility. Waste is brought to the transfer station by the NPS to be compacted and bailed. The building contains a receiving area, two vertical compactors and storage for baled solid waste. The waste collected represents commercial, public and park sources from throughout the Stehekin area. The collected waste is then hand loaded onto trucks, delivered to a certified hauling barge and sent by barge to the Chelan Transfer Station. The NPS offers garbage services to the Stehekin area at no charge; however, this may need to be evaluated in the future to support the development of an improved transfer station, recycling station and operations.

**Regulatory framework:** Solid waste transfer stations are regulated under Chapter 173.350.310 WAC. The regulations specify standards for design, construction, operations and records. Permitting and oversight of solid waste transfer stations rests with the Chelan-Douglas Health District (CDHD). Solid waste transfer stations, whether privately or publicly owned, can be sited, permitted and operated if they are found to conform to federal, state and local regulations, within this *Solid Waste Management Plan* (Plan), and are in compliance with all local zoning requirements.

Counties have the authority to site, own and operate solid waste transfer facilities, or to contract for such facilities and services. Waste hauling from county solid waste transfer facilities is not regulated under the Washington Utilities and Transportation Commission (WUTC) solid waste hauler regulations if it meets the definition of a solid waste transfer station (fenced, staffed during open hours and fees charged to cover the cost of service) and is part of the county solid waste system. Counties may specify within their solid waste hauling contracts where the collected materials are to be disposed.

#### **7.2.4 Service Gaps, Other Needs and Opportunities for the Waste Transfer System**

Transfer stations provide an important option for people hauling their own garbage, even though in some cases it may be less expensive for them to subscribe to garbage collection services. Curbside collection of large items is difficult. Those customers (and others in the area) also benefit from the recycling and related services offered by the transfer stations.

Scales are needed at the Chelan Transfer station for more accurate readings and less dispute from customers. It is also a more even method of measuring since the landfill takes material by weight only.

According to state law (36.58.030 RCW), transfer stations need to be financially self-supporting. Limited resources and costly construction costs prevent expansion with convenient recycle sorting. Limited size of tipping floors at Dryden is causing storage issues. This transfer station needs additional storage, an improved tipping floor, improved sorting and recycling and good flow routes. Another tip floor at Dryden will require additional tractors and trailers at the site. Future laws such as HB1799 require extraordinary recycling levels for organics. Segregating Construction and Demolition waste would contribute to increasing sorting and reuse, as well as utilizing the clean lumber for composting (See Chapter 5, Organics, for more details).

The facilities are not generating enough revenue to maintain and upgrade the equipment and facilities. Increased tipping fees at the Dryden Transfer Station and reduced landfill tip fees are under review. The facility is undersized for the volume. Frequent equipment breakdowns stop a heavy flow of garbage and affects most of the system, from the inflow of garbage to the overflow of the pit, to trucking the garbage to the landfill within its open hours. An expanded facility and storage are needed to hold the garbage over until it can be hauled. Once the pit is over full, operations must close the facility to the public causing interruption of service. Three bays for unloading is not sufficient for the increasing amount of garbage unloaded, particularly with the large commercial trucks sharing the tip floor. A secondary area for unloading would be a great relief.

Security at both transfer stations are needing upgrades. Several thousand feet of 6' fencing is needed at the facilities to limit trespassing. Additional cameras with improved wifi will allow more prosecution of thieves.

Small populated areas such as Entiat, Plain and Manson are distant (12 - 45 miles) from a nearby disposal facility. To begin, a secure area with simple Z walls and containers would aid with capturing garbage from the small and growing populations in these areas. And as growth continues, the need to evaluate the necessity in establishing a disposal facility will be reviewed.

The need to evaluate a new Transfer station to service both Douglas County and Chelan County would be in the best interests of the citizens. The facility in Wenatchee is privately owned and may be limited on use. Both Counties rely on this central transfer station. Without a centralized transfer station, Chelan County is vulnerable for providing citizens a safe local disposal site. With a Publicly owned transfer station in Wenatchee or shared in east Wenatchee, more control is provided for costs and landfills, in the case waste needs to be exported. A transfer station should be reviewed regularly or considered in the case of not owning a facility for the best use by the citizens, keeping rates affordable, and providing options in cases of disasters, employee strikes, or other disruptions.

### **7.2.5 Alternative Methods for the Waste Transfer System**

Alternatives to address the operational problems at Chelan and Dryden Transfer Stations include a designated and covered area for recycling material at the disposal floor. Loading recyclables is becoming a necessity for the future with various waste streams entering the reuse and recyclable categories.

A report conducted in 2016 for the Chelan County Solid Waste System includes expansion or modification of the Dryden Transfer Station by providing another tip floor and making available a second truck and trailer to be loaded directly by the public, while the pit can be a separate area for commercial loads tipping.

The closed Dryden Landfill may be able to store construction and demolition waste for reuse. Further investigating is needed to ensure the use of the landfill cap, as well as a covered shed for reusable items.

The Chelan Transfer Station would be improved with the installation of a scale and tonnage system. Property was purchased adjacent to the existing transfer station for expansion improvements to include the scale and scale house. This will improve the processing and assessment of weights and costs to customers as well as a comparable measure (Tons) to the garbage dumped at the landfill. Current facilities are temporarily closed for loading recyclables.

Following estimates are included for the beneficial new infrastructure within Chelan County.

<b>Table 7.3 Transfer Station Recommendations From Solid Waste Facilities Study</b>		
<b>Alternative</b>	<b>Cost</b>	<b>Conclusion</b>
<b>Dryden Transfer Station:</b>		
Add second tipping floor	\$3.2 mill.	Construct new second tip floor with provisions for sorting and storage of re-use and recyclable materials.
Replace fencing	112,000	Add a double swing gate for cat pit.
Develop Construction and Demolition waste reuse area	145,000	A structure to cover reusable materials and create a pad for storage on the closed landfill.
<b>Chelan Transfer Station:</b>		
Install scale and new road.	\$1,200,000	Property purchased for expansion already.
Add a shop	90,000	Building needed for equipment storage and work.
Fencing	127,000	Repair dilapidated fence and secure property.
Recycle loading area	420,000	Drop box and loading area for recyclables.
<b>South Wenatchee Transfer Station:</b>		
Add additional recycling opportunities	600,000. (Private)	Adjacent land or centralized land near transfer station for drop off and loading recyclables.
Add queuing space for traffic	“ “	Expand adjacent land to transfer station
<b>Proposed Entiat Transfer Station:</b>		
Site with Z wall for 2 boxes	\$745,200	Relatively expensive on the basis of cost per cubic yard or Tons disposed in small population.

Improvements are recommended for the privately-owned South Wenatchee Transfer Station. These improvements are important for providing adequate service levels at this centralized transfer station, especially since the population center of two counties and cities reside here. Additional property is needed for any expansion, whether it is at the same location or at the landfill where the public can access.

The idea of a new transfer station in the Entiat area was also examined by the 2006 Facilities Study but appeared to be prohibitively expensive. This idea should be evaluated periodically in the future or if triggered by other factors. As the population in the Entiat area grows, the cost-effectiveness of a transfer station could improve. This idea could also be revisited if a specific site is found, if that site is publicly

owned or at a reduced price. In the past, the city has offered the area near the brush yard for a future solid waste disposal site. Currently residents have to travel 35 miles to the nearest transfer station in Chelan, or to Dryden or Wenatchee. Other sites to consider placing a limited transfer station include Plain or Manson.

It is also important to note that Waste Management is pursuing the construction of an intermodal facility, a mechanism that will be necessary if additional large amounts of refuse is contracted to go to the landfill. An intermodal facility will operate by loading/unloading container rail cars with waste in order to transfer refuse to the landfill. While this facility has been controversial, this may be a helpful addition for the future of waste control in the county and may be especially significant at such a time when the Greater Wenatchee Regional Landfill will no longer be able to receive waste. The impacts, both positive and negative, and potential importance of such a station should be researched further. Other considerations are the future for the railroads. Shortages of railcars and staffing are being experienced now in Snohomish, Island and Skagit County. Waste is being stockpiled in trailers until rail cars are able to haul more material to the Roosevelt Landfill.

### **7.2.6 Recommendations for the Waste Transfer System**

The following recommendation is being made for the transfer system in Chelan County .

**T1) Construction improvements to the existing transfer stations should be prioritized and implemented. Dryden Transfer Station needs an expansion for operation purposes by constructing a second tipping floor, and enhancing sorting for recycling. A separate area for sorting and storage of construction and demolition waste will improve recycling organic waste and provide affordable items for citizens construction. Secure fencing is needed to surround property.**

**T2) Chelan transfer station needs facility improvements with a scale house and scale(s), as well as other associated infrastructure such as sorting and recycle loading, fencing, road and shop.**

**T3) Evaluate and consider future centralized Wenatchee Waste Transfer System, including the privately-owned Wenatchee Transfer Station for expansion or relocation for recycling provisions or a new facility.**

The recommendations for the transfer stations include a number of improvements that would be beneficial for efficiency and safety to implement. All options are underway of budgeting for prioritization, construction, and implementation.

## **7.3 WASTE IMPORT AND EXPORT**

### **7.3.1 Background for Waste Import/Export**

The recognition of problems caused by landfilling (especially groundwater pollution) led to more stringent requirements for landfills in the 1970s, and again in the mid-1980s and 1991. As the standards for constructing and operating landfills increased, so did the expense, and for many counties a local landfill no longer made sense economically. More and more counties in Washington and other states are now transporting their wastes to disposal sites that are hundreds of miles away in some cases.

This section addresses both waste import – where waste is brought into Chelan County – and waste export – where waste from Chelan County is sent outside of the County for disposal purposes. Both of these

situations occur in Chelan County, where waste from Douglas County is brought to the Chelan Transfer Station and the South Wenatchee Transfer Station (i.e., waste import) and then waste goes back out of the County to Waste Management’s landfill in Douglas County.

### **7.3.2 Goals and Objectives for Waste Import/Export**

Chelan County’s goals and objectives for waste import/export include:

- Ensure that facilities receiving waste from Chelan County meet all federal, state and local regulations.
- Ensure that all known impacts of importing solid waste into the county are considered and mitigated.

### **7.3.3 Existing Waste Import/Export Programs**

**Existing waste import activities:** Solid waste is transported by self-haulers and garbage trucks from East Wenatchee and other areas of Douglas County to the South Wenatchee Transfer Station, located in Chelan County. This transfer station is owned and operated by Waste Management. Waste Management limits public going to the Greater Wenatchee Regional Landfill. The general public is recommended to use one of the other transfer stations in Chelan County and only contracted haulers with Waste Management may utilize the landfill. At the Wenatchee transfer station, waste is loaded into transfer trailers for transport to and disposal at the GWRLF.

All solid waste collected by Zippy Disposal (the WUTC-certificated hauler for the Bridgeport Bar area in Douglas County and Lake Chelan Basin) is exported to the Chelan Transfer Station. This transfer station is owned by Chelan County and operated under contract by a private company (as described in the previous section). Waste from the Chelan Transfer Station is loaded into transfer trailers for transport back into Douglas County for disposal at the GWRLF.

**Existing waste export activities:** All solid waste from Chelan County is exported out of Chelan County to the GWRLF. Most of this waste is first consolidated at one of the three transfer stations and transported in large trailers that are 90 cubic yards or 18-22 Tons in size.

### **7.3.4 Service Gaps, Other Needs and Opportunities for Waste Import/Export**

**Waste import needs and opportunities:** One potential opportunity for increasing infrastructure is by waste import , where Chelan County can institute a voluntary importation fee (or a “host fee”) at the transfer stations, as Douglas County is currently doing at GWRLF. The host fee would be based on the idea that Chelan County taxpayers are paying to support solid waste facilities and activities, and waste from outside of the county should also help pay for these services if those wastes are using Chelan County facilities. However, a fee could cause a trickle affect where garbage costs to all citizens would increase, and may be a complicated and not a well-received political imposition. Importation fees upon all the transfer stations could provide for necessary expansion and construction costs for facilities. Many other Counties restrict import waste, such as Okanogan County and Yakima County. Other imported wastes, including food waste, may be assessed for an importation fee that may aid in providing citizens extra help in paying for expanded facilities. A thorough evaluation of assessing importation fees will need examination.

**Waste export needs and opportunities:** There may be alternative disposal sites that could receive Chelan County's waste, and be economically beneficial. The current rate at this time in developing this report, for disposal at the GWRLF is \$76.50 per ton, plus extra charges such as fuel and environmental fees. Some counties in the past have implemented waste export systems that use landfills farther away for less than that.

### 7.3.5 Waste Import/Export Alternatives

**Waste import alternatives:** Waste import alternatives for Chelan County are limited due to the lack of a disposal facility in the County, but there are a few potential options that make use of the existing system:

**Establish a host fee for imported waste:** An importation fee could be imposed on all solid waste imported from outside the County, or another mechanism used to charge a higher rate for out-of-county waste. This importation fee could be based upon tonnage or volume, depending on the capabilities at the transfer station receiving the waste. Identifying waste from outside of Chelan County could be a problem in some cases, however, and the fee would have to be kept low enough not to encourage illegal dumping.

**Establish a host fee for miscellaneous waste:** Another possibility for waste import fees would be wastes that are handled separately from the general waste stream. If a facility were handling a specific waste, such that it may increase risk or need mitigating or other extra costs incurred by the County for a particular waste, then additional support should be paid to Chelan County. A future composting facility or other service might qualify. A food waste compost facility bringing large amounts of food into the County may cause concern of potential wildfires due to combustion in compost piles, or pest problems due to potential apple maggot infested food waste brought closer to our quarantine boundaries, affecting the fruit industry. Potential concerns of the odor may cause additional grief and time from the local officials. Managing or mitigating any miscellaneous waste imported may need a host fee.

**Waste export alternatives:** There are three components required for a waste export system:

1. A **regional landfill** willing and able to receive the county's waste at a cost-competitive rate.
2. A **transfer system** that has the capability to place waste into containers that can be transported to the regional landfill.
3. A reliable waste **transportation system** capable of moving waste from Chelan County to the regional landfill.

Options for each of these three components are discussed below.

**Regional landfills:** There are at least three private sites that may be available as disposal alternatives. These three landfills are located within 35 miles of one another, and all are about 200 miles from Wenatchee. The landfills are located in an area that reduces operating expenses due to favorable soils and hydrogeological conditions, low precipitation and other factors. The use of these landfills by large communities (Seattle, Olympia, Snohomish County and Portland, Ore.) has further reduced the disposal costs at these regional landfills by creating significant economies of scale. All these landfills are permitted to accept municipal solid wastes, industrial wastes and construction wastes of the types that are generated in Chelan County, although in some cases limitations may be placed on materials

such as tires. In addition, special handling (at an additional expense) may be required for wastes such as asbestos. A municipal landfill may be available for a competitive alternative in nearby Adams County. Hauling contract would need renegotiated. Should the GWRLF become unable to accept waste, the Adams County Landfill may become a reasonable option for waste exportation. All these currently available landfills are accessible by rail, barge, or truck. More information for each of these landfills is provided below.

**Columbia Ridge Landfill and Recycling Center:** Located in Gilliam County, Oregon, this landfill is owned and operated by Waste Management. This landfill is located on 2,000 acres of former rangeland and receives an average of 9 inches of precipitation a year. At the current disposal rate of 2.28 million tons per year, this landfill has an expected life of 146 years. The landfill currently receives solid waste from several cities including Portland and Seattle.

**Finley Buttes Landfill:** Located 13 miles southeast of Boardman in Morrow County, Oregon, this landfill was purchased by Waste Connections in February 1999. This landfill is located on 1,200 acres of rangeland and receives about 9 inches of precipitation a year. The landfill has an estimated capacity of 40 million tons, or about 200 years of capacity at the current waste flow. The landfill currently receives waste from Clark County, Washington and Morrow County, Oregon.

**Roosevelt Regional Landfill:** Located in Klickitat County, about 5 miles northeast of Roosevelt, Wash., this landfill is owned and operated by Regional Disposal Company (originally owned by Rabanco but later purchased by Allied Waste Industries). This landfill is located on a parcel of 2,005 acres, of which only a portion will be developed for landfill purposes, in an arid region receiving about 10 inches of precipitation a year. This landfill has a permitted remaining capacity of 212.5 million cubic yards, for another 80 years of life at the current filling rate. Snohomish County and several other communities have contracts to haul and dispose of their solid waste by railway and trucks.

There are also a few publicly owned and operated sites that may be available, such as landfills in Grant, Okanogan and Yakima counties, although Okanogan and Yakima County currently have an ordinance against accepting out-of-county waste.

As discussed above, Chelan County's waste currently goes to a regional landfill (the Greater Wenatchee Regional Landfill), but the above options could be explored as a "reality check" on the current costs or in case the GWRLF becomes unavailable for some reason.

**Transfer system:** The economics of waste export and long-hauling to a distant landfill generally require that the waste be compacted before shipment. Therefore, any facility that will export significant quantities of waste would need to be equipped with a pre-load compactor. Currently, a dozer compacts the loads at Dryden, but may need a further compaction system suitable for this use. Furthermore, road weight limits might prevent maximum compaction and thus impair efficiencies for compaction at the existing transfer stations. Any new waste export system for Chelan County may need to make use of smaller containers or a central site for transferring and compacting waste into shipment containers.

**Private versus public ownership:** Various components of a waste export system can be either privately or publicly owned and/or operated. A common arrangement is to have a county or other public agency own the main transfer station or inter-modal facility and contract with a private company to operate it. This arrangement allows for a good level of performance monitoring and also provides for competition through periodic re-bidding of services. Another arrangement that

is often possible is for a private company to build a transfer station or other facility and then turn the ownership of that facility over to a public agency after a specific period of time (such as 15 to 20 years). The private company can then recover its investment and a reasonable profit margin while operating the facility and the public agency avoid the need to operate the project. Or the other way, where public agency builds the facility and the private company operates it, similar to the Chelan transfer station.

**Transportation system:** There are three methods used to transport waste long distances: truck, rail and barge. Potential issues related to all three transportation methods include odor, noise, accidents, spills and strikes. Odors are possible if the waste is stored for a length of time, either at a loading facility or if the shipment is delayed in transit. Noise is a possible problem also, although all of the modes of transportation would likely be using established routes where the noise problems would have already been addressed. Accidents and other problems that may cause spills could also occur with any of the three transportation methods, with the severity of these problems depending upon the location and amount of waste spilled. Strikes by staff and unions, or a severe shortage of staff and equipment may disrupt any system. Specific details for each of the three transportation methods are reviewed in greater detail below.

**Truck transport:** The transport of solid waste by truck typically involves the use of tractor trailers hauling compacted solid waste in sealed containers. The current trailers probably could not be used for this, at least not for long-distances, which suggest that a different system of loading the trailers may be necessary at the Dryden Transfer Station. Truck transport is generally most cost-effective for distances less than 100 miles, although in the case of Chelan County other considerations, such as weight limits, may affect the usefulness of transportation by trucks. Other potential problems associated with truck transport include increased wear on roadways and increased truck traffic along the route. Air brakes have been a problem when hauling refuse to the GWRL, due to noise issues from the air brakes traveling through East Wenatchee. A designated route has been established for the garbage hauling trailers to the GWRL, adding 18 miles to the route.

**Rail transport:** Rail transport becomes increasingly cost-effective as the distance to the disposal site increases. Typically, for one-way distances of more than 300 to 400 miles, rail transport provides significant economies of scale, although in Chelan County's case the presence of rail lines in Wenatchee may make this a more cost-effective option. Transport by rail requires a loading facility (an "inter-modal facility") that can transfer containers of waste from one form of transport (typically from trucks) to trains. Potential impacts associated with rail transport of solid waste include derailment and large spills, congestion created at road crossings, and delays due to shortages of rail cars or locomotives. As well as potential strikes from Unions, where labor shortages impact safety of workers.

**Barge transport:** A single barge may hold as many as 42 containers, resulting in a total shipment of approximately 1,200 tons of solid waste. It would take about 5-7 days to accumulate this much waste in Chelan County. Barge transport requires the use of a loading and unloading dock, as well as the need for truck transport at either end of the trip. Transportation backup systems may be necessary during periodic maintenance of river locks. Accidents and spills could cause the release of a large amount of waste that would be difficult to recover and clean up, but few other potential problems exist with this mode of transportation.

Barge transportation is generally inexpensive, but this method is not a good alternative for Chelan County because there are dams that prevent barge traffic from reaching the Wenatchee area.

Hence, in Chelan County's case there would be the additional expense of trucking the waste to a



point downriver where it could then be loaded on barges. This is a viable use from Stehekin to Chelan.

### **Summary of waste export alternatives**

The potential benefits associated with waste export include:

- Solid waste disposal becomes largely a variable cost, thus making it easier to realize savings associated with waste prevention and recycling.
- Significant reductions in local long-term liability and environmental risks are possible, although jurisdictions using a large regional landfill, in combination with other jurisdictions and private companies, may still be liable for future environmental damage under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Possible negative impacts associated with exporting to a regional landfill include:

- Supporting a monopolization of solid waste services.
- Vulnerabilities associated with high import fees instituted by host communities, transportation disruptions, or local natural disasters.
- Lack of control over regional landfill operations.
- Service disruptions can occur if any element of the export system becomes inoperable, and this disruption could become a public health emergency in a short period of time.

Combining the above factors into different alternative systems leads to many different options and variations:

- All waste could be brought to a single facility for compaction purposes, or two or more facilities could be equipped with compactors.
- Existing stations could be modified or a new transfer station (or inter-modal facility) could be built.
- Transfer stations could be privately or publicly owned and/or operated.
- A regional system could be developed by combining efforts with neighboring counties.

The options for waste export can be simplified into a few basic alternatives for further discussion.

**Construct a new inter-modal facility in Wenatchee:** Whether publicly or privately owned or operated, a new facility in Wenatchee could take advantage of the rail lines and industrial areas there. Siting a new facility could still be a problem, however, as siting any waste handling facility could be a controversial process. This type of facility would typically be either built by a public agency and operated by a private company, or owned and operated by a private company. In the latter case, the construction and operation of the inter-modal facility could be made part of the bidding process for disposal services, but a private company may still want or need assistance with siting.

**Construct an inter-modal facility:** The construction of this inter-modal facility is being explored by Waste Management. The expected use of this facility will be to import waste from other out-of-county areas to be transferred to the GWRLF. However, once that landfill is no longer a viable final destination this facility could be an important and financially feasible option for exporting waste to other landfills. It may be beneficial for both Chelan and Douglas County to partner on a transfer station that will allow more flexibility in an emergency, or to enable exporting waste to other landfills.

With any of the inter-modal facility options, it could be possible to continue to use the existing transfer trailers to move waste from the transfer stations to the inter-modal facility, but the waste may need to be emptied from those trailers and compacted into other trailers for shipment to a regional landfill. Railway may need to be at any facility for future transportation.

### 7.3.6 Evaluation of Waste Import/Export Alternatives

Alternatives for waste import and export alternatives should be evaluated using the following criteria, and a summary evaluation of the import/export alternatives is presented in Table 7.5.

- **Economic feasibility:** Import/export alternatives should be evaluated according to the feasibility of financing the new system.
- **Technical feasibility:** Some approaches are more susceptible than others to technical and related problems. This criterion focuses on whether or not the program is considered feasible for Chelan County.
- **Public acceptability:** This criterion assesses how receptive the public (or the private sector, depending on the target audience for the alternative) will be to the program. Issues such as convenience and willingness to participate are considered. The potential for a negative public response should also be considered if appropriate to a proposed approach.
- **Political feasibility:** Import/export alternatives may require changes to contracts and other policy-related changes, which may or may not be easy to implement.

<b>Alternative</b>	<b>Economic Feasibility</b>	<b>Technical Feasibility</b>	<b>Public Acceptability</b>	<b>Political Feasibility</b>	<b>Conclusion</b>
Host fee for imported wastes	High	Medium <sup>1</sup>	Medium	High	Pursue
Host fee for miscellaneous wastes	High	Medium	Medium	High	Pursue
Waste export to alternate disposal site	High	Medium	Medium	Medium	Pursue

Note: 1. Technical feasibility for implementing host fee is difficult due to ability to identify out-of-county customers and already imported waste.

### **7.3.7 Recommendations for Waste Import/Export**

There is one recommendation being made for waste import (WI) and one for waste export (WE):

**WI1) Consider higher rates for out-of-county wastes.**

The impact of imported waste should be periodically evaluated and if desired, options should be reviewed and implemented for charging higher rates for improved and expanded facilities needed to support the system.

**WI2) Host fees should be considered for Miscellaneous Waste.**

Miscellaneous waste imported into Chelan County should be assessed for a Host fee to aid in mitigating imposing consequences.

**WE1) Explore options for waste export.**

It is recommended that the County periodically review and explore the options and costs for exporting waste to other disposal sites.

### **7.3.8 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Waste Import/Export**

**Waste import recommendation:** The recommendation for waste import should be implemented through reviews conducted with County officials and SWAC. Waste import practices have become an issue for the capacity and economics of the transfer system. A study may make clear of the need and method for a host fee of municipal solid waste.

**Miscellaneous Waste Import recommendation:** A methodology for a Host Fee on miscellaneous waste imported should be evaluated and established for future managing, mitigating and monitoring.

**Waste export recommendation:** The implementation details for the waste export recommendation are significant for cost savings, and should be continuously reviewed to maintain the exceptional solid waste system.

If the existing disposal facility (GWRLF) is no longer available or about to become unavailable then the schedule for implementation of a different waste export system would be dictated by the landfill closure schedule. If the landfill were to be filled to capacity or to close for some reason, the allowable schedule would be too short to implement a permanent waste export system, and immediate actions would be needed to implement temporary measures to handle wastes for one to two years. Waste Management states that there are 86 years of life remaining in current and future cells at the landfill at the current imported volumes. However, it is important to evaluate and prepare for any disasters or unexpected closures.

The basic steps for the implementation of a long-term or permanent waste export system include:

- Determine the institutional arrangements (who will be served by the new system, whether a regional approach will be taken with a neighboring county or facilities, and how the parties will interact).
- Determine the financial arrangements (how will funds be collected to pay for the system and capital, if needed?).
- Develop and releasing Requests for Proposals (RFPs) to construct or contract for components of the new system.
- Choose the successful bidders to the RFPs, develop contracts as needed, and finalize the schedule for implementation of the new system.
- Prepare and submit permit applications and request other approvals (zoning, SEPA, etc.).
- Construct new facilities and/or modify existing facilities.
- Refine efforts in other areas not addressed by new system (handling of miscellaneous wastes, etc.).
- Begin exporting waste to new site.

As with other components of the solid waste system, various combinations of public and private ownership and operation are possible for waste export facilities, but an arrangement that is working well for other counties is public ownership and private operation. This arrangement increases the competition for the operation and disposal contracts, which in theory should lead to lower costs.

## **7.4 LANDFILL DISPOSAL**

### **7.4.1 Background for Landfill Disposal**

Landfilling activities have undergone major changes in Chelan County and other parts of the United States over the past few decades. Until environmental regulations were enacted in the 1970's, in response to growing recognition of the impacts of landfills on groundwater, "landfills" in Chelan County and other areas were simply open dumps that were periodically burned. Then garbage began to be buried in these landfills, according to the requirements of Chapter 173-301 WAC, to reduce rodents and in an effort to reduce the impacts of these dumps on the environment. The open dumps and early landfills were typically free, due in part to the fact that the cost of operating these sites was very low. Washington State adopted the Minimum Functional Standards (Ch. 173-304 WAC) in 1985, which further refined landfill

requirements. Increasing recognition of the impacts of landfills on groundwater, surface water and air quality led to even more stringent federal regulations in 1991, which were then enacted in State regulations through Ch. 173-351 WAC. These regulations shifted the economics and desirability of landfilling activities away from having many local landfills to a few large regional landfills. Like Chelan County, many of the counties in the state no longer have a landfill within their county but instead ship wastes to a regional landfill.

#### 7.4.2 Goals and Objectives for Landfill Disposal

Chelan County's goals and objectives for landfilling include:

- Ensure that sufficient disposal capacity is available.
- Ensure that all landfills accepting County waste meet all federal, state and local regulations.

#### 7.4.3 Existing Activities for Landfill Disposal

There are no solid waste landfills currently operating in Chelan County, but there is one inert waste landfill in Chelan County.

**Inert waste landfills:** The new regulations adopted a few years ago (Ch. 173-350 WAC) changed the rules for limited purpose and inert waste landfills. Inert waste landfills are now permitted to accept only those materials that are truly inert, whereas limited purpose landfills are intended for specific types of materials that are evaluated on a case-by-case basis.

**Filion Inert Waste Landfill:** This site is owned and operated by George Filion and is open to the general public, contractors and others. Only inert materials are accepted (for a fee) at this site, primarily concrete, asphalt, bricks, glass and some metals (stainless steel and aluminum). Some salvage activities (recycling) also take place at this facility.

**Closed landfills:** Even though the landfills in Chelan County are no longer receiving waste, their effects on the environment must still be monitored. Two sites are currently being maintained and monitored by Chelan County: Dryden Landfill and Manson Landfill. These landfills are required to have environmental monitoring programs for 20 or more years after these landfills were closed (the "post-closure" period). The post-closure period for the Dryden Landfill is through 2014, and at the Manson Landfill is through 2016. Environmental monitoring continues for groundwater and gas monitoring results and settlement for possible contamination or methane generation problems. Recent additional regulations and a study have been placed by the state that are additional requirements to end post closure. Additional reports are needed for the second closure plan, and yet may still require the continued monitoring. Facilities have made use of closed lands, such as the brush yard collection on the Dryden Landfill and the Community Center built at the City of Cashmere Park on the closed landfill.

**Cashmere Landfill:** The city of Cashmere owns a 7-acre closed landfill that used to receive about 1,400 tons of waste per year and was operated by the Cashmere Sanitation Department. The landfill site was closed by the city because it was located adjacent to the Wenatchee River. Wells to monitor groundwater were installed and sampling indicates that there is no violation of groundwater quality standards. In addition, there have been no reported problems with landfill settlement, surface water contamination, or gas releases. The site does not have a bottom liner, leachate collection system or

gas collection/control system. Final cover installation has been completed and the site has an approved closure/post closure plan. The site receives approximately 12 inches of precipitation a year.

**Dryden Landfill:** The Dryden Landfill stopped accepting waste in 1988 when the Dryden Transfer Station was built. The landfill is officially closed and final cover completed. Dryden Landfill is owned by Chelan County and covers approximately 9 acres. Chelan County Public Works operates the site, where a transfer station is utilized. Monitoring wells have been installed at the facility, and the landfill is currently in compliance with all regulatory requirements. An approved closure/post-closure plan has been developed for the landfill. The site has no bottom liner or leachate collection system, but does have a passive gas collection system. At one time, there was an irrigation ditch leaking thru the landfill causing leachate to appear above the Wenatchee River. This caused some concern from Ecology and the Health District where further study was conducted. However, the irrigation ditch was repaired and the leachate stopped immediately. The landfill required additional cover material on the cap, and was done with Model Toxic Control Account (MTCA) funds. This resulted in the landfill placed on the Hazardous Site list. There have never been any problems reported at the site with surface water contamination, landfill settlement or landfill gas. There is some groundwater contamination at the site, consisting of elevated levels of magnesium and iron. This site receives approximately 10 inches of rainfall annually. Brush collection and chipping is now occurring on the cap. This has been a beneficial use of the property and a great diversion for reuse of organics.

**Manson Landfill:** The Manson Landfill is located on Ivan Morse Road, one-mile northeast of the town of Manson in Section 36, Township 28 North, Range 21 East. The landfill was closed and stopped accepting waste in December 1992 because Chelan County determined that it was impractical to upgrade it to meet state and federal requirements.

The Manson Landfill served the residents of the Lake Chelan Basin. It is owned by Chelan County and was operated by Lake Chelan Solid Waste. In 1992, the waste disposal rate was approximately 15,000 cubic yards per year, or approximately 14% of the waste generated in Chelan County. A transfer station has been built outside the city of Chelan in 1994 to service the area following the closure of this landfill. The landfill area is approximately 5 acres and has a total volume of between 230,000 and 280,000 cubic yards. There is no bottom liner at the site. Groundwater monitoring wells have been installed and samples are taken regularly. There have been no problems reported with landfill settlement, surface water contamination or landfill gas. There have been trace amounts of groundwater contamination, Volatile Organic Compounds, found in the monitoring wells. There are no nearby drinking water wells nearby. The area is served by the City of Chelan water system. Landfill monitoring and closure has continued for 26 years according to the closure plan. New requirements have been instilled to require another closure study to finish the post closure and in accordance with Washington State Department of Ecology's amended landfill closure procedures. Costs for well testing is approximately \$11,000. Per landfill each year. It would be in good management to conduct the post closure of this landfill, however with the new regulations of a study, the testing for water quality, air emission's and stability of the cap is likely to continue regardless of post-post closure.

**Abandoned landfills:** There are many old landfills ("abandoned landfills") that have been identified in Chelan County, and many more that haven't been fully examined yet. While the abandoned landfills are not required to have routine groundwater monitoring, they still require periodic monitoring and maintenance. Liability and potential public and environmental health issues associated with the abandoned landfills has become a greater concern as development further encroaches on these sites. The Chelan-Douglas Health District keeps a list of these landfills.

**Regulatory framework:** State laws regulating landfill design and operation are specified within Chapter 173-351 WAC. Regulations concerning inert and limited purpose landfills are contained in Ch. 173-350

WAC (sections 410 and 400, respectively). The CDHD enforces these regulations, which include the siting, design, operation, closure and post-closure activities at the landfills. In addition, the CDHD issues a municipal solid waste landfilling permit to the GWRLF, which ensures compliance with all relevant federal, state and local regulations and environmental monitoring requirements. Ecology assists in enforcement through permit review and technical assistance to the CDHD.

**Current landfill disposal site:** Waste from Chelan County is transported to the Greater Wenatchee Regional Landfill (GWRLF) for final disposal. The GWRLF is located on South Webb Road in Douglas County, approximately five miles southeast of the city of East Wenatchee, 1¼ miles northwest of the city of Rock Island and 1½ miles north of State Route 28. Pangborn Field, a regional public-use airport, is located approximately 7,000 feet west of the landfill. Access to the landfill is from South Webb Road off of either Grant Road or Batterman Road. Both Grant Road and Batterman Road are structured all-season paved roads. To the north of the landfill are steep cliffs that rise 1,200 feet to the Waterville Plateau. The surrounding land use is primarily agriculture with some rural residential properties nearby. The Columbia River is two miles to the south of the landfill. The landfill receives between 8 and 12 inches of average rainfall annually.

The GWRLF is an active, privately owned and operated landfill. The landfill is currently owned and operated by Waste Management of Washington, Inc. The site has been operated as a landfill since the late 1960s and was purchased by Waste Management in June 1987. The GWRLF is permitted and operated under the criteria for municipal solid waste landfills, Chapter 173-351 WAC. Permitting and oversight of the GWRLF and its operation is primarily the responsibility of the CDHD. Air quality issues and permit oversight is provided by Ecology. At current inflow rates of garbage, it is estimated that there is 86 years of life remaining. However, numerous other areas are being solicited to bring garbage that if accepted, will reduce the life in the landfill by half. Other landfills are being reviewed for alternative disposal options for Chelan County, including Finley Buttes in Oregon, Roosevelt Regional Landfill in Washington, and Grant County landfill. All the landfills are in compliance with state and federal regulations and have more than 100 years of life left.

#### **7.4.4 Service Gaps, Other Needs and Opportunities for Landfill Disposal**

The old dumps throughout the County need further assessment and may require remedial actions in some cases. Additional small dumps may be discovered in the future and will need to be investigated. The Health District has developed a list for an inventory of old dumps.

Additional limited purpose or inert waste landfills may be desirable in the future. These types of landfills typically provide a cost-effective disposal option, without excessive environmental impacts, for local industries or miscellaneous wastes. An Inert landfill exists up Nahahum Canyon and operated by George Fillion. However there is a need for an Inert landfill located in the North Chelan County area, near the City of Chelan area.

The regulations (Ch. 173-350 WAC) no longer allow lower standards for other types of special landfills, such as demolition waste landfills, and these are essentially now treated the same as municipal solid waste landfills. The standards for a solid waste landfill do not permit cost-effective operations for small quantities of waste. A small landfill probably could not be operated cost-effectively compared to other disposal options for these materials.

Landfill technologies continue to evolve, and changes in technology or regulation could increase the desirability in the future of a local landfill. One such potential change is the growing interest in designing landfills as “bioreactors” that can purposely generate methane gas. This gas can then be collected and

used to produce electricity. A landfill designed to maximize gas generation employs different approaches, such as leachate recirculation and other steps to optimize moisture content, that are significantly different from the “dry tomb” and other approaches used for a typical landfill.

#### **7.4.5 Landfill Disposal Alternatives**

Options that include the use of an in-county landfill for municipal solid waste have not been examined in great detail in this Plan because an in-county landfill for solid waste is not considered to be a viable option at this time. The Geographic area of Chelan County is mountainous and very little flat land that is not already in private lands. Siting and operating a new local landfill would be a lengthy, expensive, and politically-charged process. The disposal needs of the county are being satisfied by the current waste export system. On the other hand, there may be a need or reason to have such a landfill or a bioreactor in the future. Identifying potential sites for that purpose may help expedite a future siting permit process.

#### **7.4.6 Recommendations for Landfill Disposal**

The recommendations being proposed for landfill disposal are (see also recommendation S9):

**L1) Identify potential sites for landfills/Incinerator, and limited purpose landfills.**

Potential sites for landfills and incinerators in Chelan County should be identified and possibly held in reserve for future purposes. Lands that are already municipally-owned would be ideal for this purpose, but private lands could also be identified. Sites should be identified that could be potentially used for inert wastes, miscellaneous wastes (compost facilities or limited purpose landfills), municipal solid waste and incinerator recovery (bioreactor) facilities.

**L2) Continually review and evaluate other landfill disposal options, including long-haul or railway transportation.**

When siting transfer stations and reviewing disposal options, keep in mind siting facilities near transportation fairways, such as along railways and/or freeways.

**L3) Consider final post-closure of Manson Landfill in Chelan County.**

Final post-closure of the Manson landfill should be pursued, if it is financially and environmentally beneficial and cost effective.

#### **7.4.7 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Landfill Disposal**

Contingent on available funds to finance the above recommendations, the implementation of these could begin as early as 2023. Additional staffing/staff time is needed to fully complete these recommendations.

### **7.5 ALTERNATIVE DISPOSAL TECHNOLOGIES**

#### **7.5.1 Background for Alternative Disposal Technologies**



This section of the Plan describes alternative disposal technologies and evaluates the potential for their use in Chelan County. The concept of “alternative disposal technologies” has historically been used to refer to various forms of incineration, but lately there has been increasing interest in a range of other alternatives that could create fuel or other forms of energy. Some technologies even claim to be able to create building blocks or other materials. This section focuses primarily on the more well-known alternatives, such as mass-burn, refuse-derived fuels (RDF), and pyrolysis, while attempting to leave the door open for other alternatives should any of those prove to be viable.

### **7.5.2 Goals and Objectives for Alternative Disposal Technologies**

Any large-scale resource or energy recovery technology should meet existing and projected needs within the framework of specific objectives. The solid waste technologies should:

- Be feasible, cost-effective and environmentally sound.
- Incorporate waste reduction and recycling to the greatest degree feasible.
- Contribute to an environmentally safe and reliable disposal system(s) that protects human health, reduces dependency on landfills and complies with the state’s rules for solid waste handling.

### **7.5.3 Existing Activities for Alternative Disposal Technologies**

**General overview:** Incineration involves burning solid waste to reduce both its weight and volume. The resulting ash requires significantly less landfill volume than the original waste. When used with an energy recovery system, incineration can also produce steam and/or electricity for sale. Increasingly stringent environmental regulations and adverse public sentiment, however, has made siting and operation of incinerators more difficult and expensive.

Pyrolysis involves heating waste or other materials to elevated temperatures under low-oxygen or no-oxygen conditions. While the lack of oxygen technically distinguishes pyrolysis from traditional incineration, the two technologies are sufficiently similar (both processes produce heat, air emissions, and ash or other discard materials) that pyrolysis is included in this section of the Plan.

**Incineration activities in Washington State:** A number of incinerators have operated in the state, but only the Spokane incinerator is currently in operation. Spokane County operates the incinerator using “mass burn” technology. This facility is functioning well although it has experienced occasional problems with air quality, and the cost of operation has not dropped to the lower levels of earlier projections.

Until early 1998, the city of Tacoma incinerated part of its solid waste using a Refuse-Derived Fuel (RDF) process and also produced electricity. The RDF process was problematic and was discontinued for a time, but was revived through a new management structure. The plant currently sits idle because the City has not been able to procure permits needed to use different materials as fuel, and is now shut down permanently.

Two incinerators in Bellingham experienced several problems and have now been closed. There are no longer any municipal solid waste incinerators operating in Whatcom County.

Skagit County previously operated an incinerator/resource recovery facility (RRF) on Ovenell Road at the current site of their Recycling and Transfer Station. The RRF included two rotary kiln waste combustors, two heat recovery boilers, an ash handling system, air pollution control equipment, and a 2,500-kW steam turbine/electric generator. The RRF was operated from 1988 to 1994. In 1993, ash from the RRF could no longer be disposed at Inman Landfill and instead had to be transported to a distant landfill due to changes in disposal regulations. This and other changes in economics and regulations led to the closure of the incinerator in 1994.

**Regulatory framework:** Energy recovery and incineration facilities are federally regulated under the Clean Air Act (CAA) and the Resource Conservation and Recovery Act (RCRA). All energy recovery and incinerator regulations are administered by Ecology under Ch. 173-350-240 WAC. Special incinerator ash is also regulated under Ch. 173-306 WAC.

#### **7.5.4 Service Gaps, Other Needs and Opportunities for Alternative Disposal Technologies**

There will continue to be a need for disposal of solid waste in the future, although the existing waste export system currently meets this need in a satisfactory manner. Incineration is a technically viable method of reducing waste volumes, and reducing the production of methane (a greenhouse gas) from landfills. It can also use an underutilized renewable resource (solid waste) to produce electricity, for which there is an ever-increasing demand. There is, however, considerable controversy about the extent and severity of health risks associated with incineration. Siting an incineration facility is a politically sensitive issue, even if there are offsetting benefits such as generating electricity. Furthermore, incineration facilities generally require large volumes of waste to be economically feasible, and so many of the technologies may not be financially viable for Chelan County.

#### **7.5.5 Alternative Methods for Alternative Disposal Technologies**

There are several options and variations possible with incineration. These options include a choice of different burning technologies, waste streams, and energy recovery systems. Incineration of solid waste is an effective method of volume reduction, although the greater expense of incineration compared to landfilling is a limiting factor. Incineration is generally considered where there are environmental concerns with other disposal options, where a market exists for energy recovered from waste combustion, and/or other factors. At the present time, there appear to be no factors that would favor incineration in Chelan County over other disposal methods.

#### **7.5.7 Recommendations for Alternative Disposal Technologies**

No recommendations are being made at this time regarding incineration or other alternative disposal technologies, but any such projects that may be proposed in the future should be evaluated based on an objective review in accordance with the goals and activities discussed in this Plan, and other policies and regulations. Factors that should be considered include the economics and potential impacts on human health and environmental quality, as well as a technical comparison with other existing or potential disposal methods.

#### **7.5.8 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Alternative Disposal Technologies**

The potential value of alternative disposal technologies should be reassessed in all future revisions of this Plan.

## CHAPTER 8: MODERATE RISK WASTES

### 8.1 INTRODUCTION

This chapter of the *Chelan County Solid Waste Management Plan* (Plan) discusses the goals and regulatory framework for hazardous waste management methods, to the extent that these wastes are managed by the local solid waste program (i.e., does not include medium or large quantity generators of hazardous wastes). This chapter describes existing household hazardous waste programs and Small Quantity Generators in Chelan County, reviews the needs and opportunities for expanding on existing practices, describes and evaluates alternatives, and provides recommendations.

Where appropriate, the discussion in this chapter is further divided into sections that address:

- Household Hazardous Wastes (HHW): Defined as wastes generated by residential sources (single-family homes and apartments) and are specifically exempted from hazardous waste regulations.
- Conditionally Exempt Small Quantities Generators (CESQGs): Commercial, industrial and institutional generators of small quantities of hazardous wastes are exempt from some of the requirements for handling and record-keeping but are still required to properly dispose of hazardous wastes.
- Automotive Wastes: Including oil, oil filters, antifreeze and vehicle batteries. By definition, these wastes are usually included in one of the categories above, but are being separately addressed in this chapter because these wastes are 1) commonplace and widespread, and 2) typically managed separately from other types of moderate risk wastes. Although large quantities of these wastes, usually from commercial and similar sources, are sometimes regulated differently than household quantities, in practice these wastes are often managed in identical ways (but collection programs may vary).
- Agricultural Wastes: In this chapter, “agricultural wastes” refers to pesticides and similar hazardous wastes generated as a result of maintenance at orchards, ranches and farms.

### 8.2 MODERATE RISK WASTES

#### 8.2.1 Introduction

The term “moderate risk wastes” was created by Washington State’s 1986 Hazardous Waste Management Act (RCW 70A.300.005). Most of the wastes that are classified as a moderate risk waste (MRW) are hazardous to human health and the environment but are not regulated because the source or quantities involved makes regulation impractical. Although not regulated, it is still preferable to collect and manage these wastes separately from solid wastes because of the hazards they pose.

The Washington State Hazardous Waste Management Act directed each county to prepare a plan that would establish programs to properly manage MRW (RCW 70A.300.310). In Chelan County, this requirement was satisfied by the *1991 Moderate Risk Waste Management Plan*. In order to provide an updated examination of MRW, the previous version of this Plan (2017) addressed the waste stream and acted as a replacement for the 1991 MRW plan. The newest version of this plan (2023) will act as a replacement for the 2017 plan. Table 8-1 shows the recommendations from the *SWMP* (2017) and their status.

**Table 8.1 Status of Past Plan Recommendations**

<b>Household Hazardous Waste Education</b>	<b>Current Status</b>
Provide educational materials	Ongoing
Establish school programs	Not being conducted due to lack of resources and staff
Provide educational and informational support to community groups	Ongoing
<b>Household Hazardous Waste Collection</b>	
Collection at Permanent MRW Facility	Ongoing
Expand services for adjacent (Douglas) County	Negotiations Ongoing
Establish an incentive program for private waste oil collection	No longer needed
<b>Agricultural Generator Education</b>	
Expanding and coordinating activities with WSU Cooperative Extension	Not being conducted, no longer a priority
Developing and distributing a guide for farmers	Currently conducted by WSDA
<b>Agricultural Generator Waste Collection</b>	
Support the Dept. of Agriculture's collection events	Ongoing
Coordinate with WSDA for agricultural waste collection service	Ongoing
<b>Commercial Generator Education</b>	
Establish a voluntary consulting program for targeted groups	Currently conducted by Ecology
Develop local educational materials, supplemented with materials from Ecology	Ongoing
Provide specific educational materials to Conditionally Exempt Small Quantity Generator business types	Ongoing
<b>Commercial Generator Waste Collection</b>	
Coordinate collection of Small Quantity Generators at the MRW Facility	Planned once yearly
<b>Health and Safety</b>	
Incorporate an MRW component into the H&S training for public employees who may be exposed to those wastes	Coordinated and active with County Emergency Management
Coordinate training sessions for staff	Ongoing
<b>Compliance and Enforcement</b>	
Coordinate with State and local laws	Ongoing
Review solid waste facility permits for opportunities to include MRW management requirements	Ongoing
<b>Plan Evaluation</b>	
Assist plan oversight and revision by Chelan SWAC	Ongoing
Establish a database for tracking survey results, costs, etc.	MRW reports include data collection and budget costs.
<b>Recommendations for State Activities</b>	
Ecology or Labor & Industries to develop an MRW training component for public and private training programs	Ongoing
Provide and maintain adequate funding to assist local governments to implement effective MRW management activities	Ongoing
Establish mechanisms for local governments to derive funding for MRW and solid waste programs	Established funding through Interlocal agreement and Haulers fees
Continue to expand educational and technical assistance programs	Ongoing
Encourage state cooperation with the federal government to eliminate or reduce hazardous products	Limited ability
Encourage state and federal government cooperation with trade associations to ensure clear product labels	Limited ability

## 8.2.2 Goals for Moderate Risk Wastes

The goals established by the *2023 Moderate Risk Waste Management Plan* are to:

- Protect the natural resources and public health in Chelan County by eliminating the discharge of moderate risk wastes into solid waste and wastewater treatment systems, and the environment through indiscriminate discharge.
- Manage moderate risk wastes in a manner that promotes, in order of priority:
  - Waste reduction
  - Waste reuse
  - Recycling
  - Physical, chemical and biological treatment
  - Hazardous waste incineration
  - Solidification and stabilization
  - Landfill disposal
- Increase public awareness of the importance of proper disposal and available alternatives for disposal of moderate risk wastes.
- Improve opportunities for citizens and businesses within Chelan County to safely dispose of moderate risk wastes.
- Coordinate improved systems for moderate risk waste management with existing and planned systems for waste reduction, recycling, and other programs for solid waste management within Chelan County.
- Encourage cooperation and coordination among all levels of government, citizens, and businesses in managing moderate risk wastes.
- Emphasize local responsibility for solving problems associated with moderate risk waste.
- Comply with the requirements of the Washington State Hazardous Waste Management Act.
- Seek opportunities to coordinate programs with neighboring counties.

These goals are still valid today and can provide direction for the programs discussed in this chapter.

## 8.2.3 Existing Moderate Risk Waste Activities

**Automotive wastes:** Used motor oil is currently being collected at a number of auto parts stores, service stations, and transfer stations in Chelan County, including the following:

Kwik Lube (Wenatchee)

O'Reilly Auto Parts (Wenatchee)

Dryden Transfer Station

Chelan County MRW Facility

Antifreeze is no longer collected at the Dryden Transfer Station and Chelan Transfer Station. Antifreeze and oil are collected at the Moderate Risk Waste Facility.

Oil filters are separately collected from the general public at the County MRW facility. Residents are typically advised to drain the filter well (bringing the oil to an oil recycling site), while containing and disposing of the oil filter with scrap metal or at the County MRW facility where it is recycled as scrap metal. Service stations and other businesses that generate large quantities of oil filters, either from servicing their own fleet or from other vehicles, are supposed to dispose of these filters through special services. Due to filters being primarily metal, once thoroughly drained, they can be recycled with other scrap metal.

Vehicle batteries are generally returned to the stores where new batteries are purchased and a “core charge” (refundable deposit system) helps ensure that this system collects most of the batteries. Car batteries are no longer collected at the Dryden Transfer Station, but are now accepted at the MRW Facility. They are collected by local battery businesses. Depending on the market of steel, prices paid fluctuate. Other household batteries are collected at the MRW facility, including Lithium. Numerous batteries have come into everyday use, and now pose a threat to the garbage system with improper disposal causing frequent fires. Further education of proper disposal will aid in better management of batteries.

**Household hazardous wastes (HHW):** A variety of educational efforts are currently conducted regarding household hazardous waste and related topics. Chelan County maintains a web page (<https://www.co.chelan.wa.us/solid-waste-management>) with information on recycling, reducing waste and hazardous waste disposal. Additional information is posted on this web page as projects and events arise, such as the Conditionally Exempt Small Quantity Generator registrar and the Solid Waste Management Plan. Reports and surveys are continuously being conducted. Informational articles in the local media and mass mailings are provided to inform the public of procedures and programs for reducing hazardous waste, proper handling and storage methods for hazardous waste, and disposal opportunities. A brochure is produced in both English and Spanish languages explaining the products accepted and the days and times of hours open at the MRW facility.

Chelan County has conducted annual collection events for household hazardous wastes (HHW) and Small Quantity Generator for 28 years, and now provides disposal at a permanent Moderate Risk Waste (MRW) facility. The MRW collects hazardous wastes from households at no charge (although a \$10 donation is requested). The results of collection for 2021 are shown in Table 8.2.

The permanent MRW facility collects all wastes that were normally collected at past events, but provides a consistent destination with more availability for the public to drop off HHW. Currently the facility is open four days per week to Chelan County residents. Additional drop off programs and materials will be assessed and added or removed as needed. For example, latex paint was recently added for resident disposal through the PaintCare Stewardship program.

There are also collection programs for specific types of MRW:

**Propane tanks** can be exchanged for new tanks at many locations. Amerigas and Wenatchee Petroleum have taken old tanks.

**Computers**, through the state E-Cycle program, funded by the electronic manufacturers pay receiving sites to collect and ship for dismantling and recycling of the components. This is a very successful program. The program also accepts televisions, laptops, monitors, tablets, e-readers, and portable DVD players. Chelan County has three receiving sites, Pacific Power Batteries, Goodwill, and the Veteran’s Warehouse Thrift Store.

**Rechargeable batteries and cell phones** can be recycled through many of the retail outlets that sell these products. This program is organized by the Rechargeable Battery Recycling Corporation (RBRC), a non-profit organization supported by more than 300 manufacturers. The RBRC has collected over 100 million pounds of rechargeable batteries since its inception in 1996. Alkaline, lithium and rechargeable batteries are accepted at the MRW Facility. Pacific Power Batteries also offers many helpful opportunities for recycling batteries.

<b>Table 8.2 Quantities Collected through MRW Events</b>			
<b>Waste Type</b>	<b>HHW IN 2014 (IN POUNDS)</b>	<b>CESQG IN 2014 (IN POUNDS)</b>	<b>MRW FACILITY 2021 HHW (IN POUNDS)</b>
Aerosols	957	50	3076
Antifreeze	1,750	1,000	7607
Acids	548	1,500	2134
Bases	778	1,250	2205
Batteries;			
Alkaline	400	100	1066
Automotive	0	0	5070
Ni-Cd	70	0	237
Lithium	0	0	94
Flammable Liquids	2,450	2,000	7100
Flammable Toxic Liquids	10,600	2,000	14473
Flammable Butane, Propane, etc.	132	0	0
Flammable Solids	0	0	0
Fluorescent Light Tubes	2,800	150	363
Paint Related Materials	63,400	3,300	19849
Latex Paint	3,971	1,700	0
Mercury	50	20	25
Oil Based Paint	see paint related materials	0	see paint related materials
Oil, Non-Contaminated	0	0	19692
Oil, Contaminated	see paint related materials	0	
Organic Peroxides	6	0	601
Oxidizers	82	50	337
PCBs	500	300	0
Pesticides, Liquid	0	0	0
Pesticides, Solid	4,000	0	3105

Notes: Locations in Chelan County include three businesses in Wenatchee, Pacific Power Batteries, Home Depot, and Lowes Hardware).

**Conditionally exempt small quantity generator wastes (CESQG):** Small Quantity Generators (SQGs) are defined as companies generating only small amounts of hazardous wastes (Ch. 173-303-070 WAC). SQG wastes are hazardous wastes generated by businesses in quantities of less than 220 pounds per year or per batch for dangerous wastes, or less than 2.2 pounds per year or batch for extremely hazardous wastes. SQGs that manage their wastes properly are exempt from the reporting requirements under the Dangerous Waste Regulations and are termed “conditionally exempt.” To remain exempt, CESQGs must treat or recycle wastes on site under an appropriate permit, or dispose of wastes at a permitted facility or a



legitimate recycling or reuse facility. Commercially produced hazardous wastes generated in quantities greater than the SQG limits are fully regulated under the Dangerous Waste Regulations (WAC 173-303). Chelan County maintains an open channel of communication in regard to business technical assistance. Numerous calls are made in reply to inquiries about SQG wastes, to discuss correct procedures for handling, storage, and disposal. A mass mailing is conducted each year for all interested businesses. The names of interested businesses are recorded in a registrar that is updated and maintained each year over the most recent period of three years. The mailing educates the business industry about Chelan County's annual Small Quantity Generator collection event.

Conditionally Exempt Small Quantity Generator waste collection is conducted, periodically each year at the Moderate Risk Waste Facility. Chelan County uses a mass mailing to inform businesses of the opportunity to register for the disposal event. Businesses are provided some guidance as to whether they are a small-, medium-, or large-quantity generator. If the business is an SQG, it may pre-register with Chelan County for participation. Generators pay for waste disposal, but are able to pay the County's contracted price due to Chelan County's coordination of this collection with the household hazardous waste collection program. In 2021, 4 businesses participated in the collection events, bringing in 13,420 pounds of waste. Businesses have reduced the use of hazardous waste and have other methods to properly dispose of necessary material through the vender.

**Agricultural wastes:** Waste pesticides are collected by a special program administered by the Washington State Department of Agriculture (WSDA). WSDA conducts eight to 20 regional collection events across the state each year. Participation is free, but the program does require participants to pre-register and to provide an inventory of the chemicals they wish to dispose of. In Chelan County, waste pesticides were collected at the Household Hazardous Waste Collection Events through a cooperative effort between the County and WSDA. Now that the Moderate Risk Waste Facility is in operation, the partnership will continue collecting pesticide from Chelan County residents at the facility. It is an effective and beneficially shared program for all. If someone does not feel safe or is uncomfortable handling the pesticides, they can contact WSDA and request on-site assistance. Upon request, WSDA provides on-site assistance at no charge to safely inventory and overpack dangerous items and containers in poor condition (cracked, corroded or leaking). WSDA also provides clear, plastic overpack bags at no charge. In certain circumstances, WSDA will arrange collection of unusable pesticides directly from a property. Residents can also clean out any unwanted orchard pesticides at the facility, and WSDA will pick it up, with no charge for Chelan County handling the waste. It keeps the material out of the environment and in safe hands.

The intent of WSDA's pesticide disposal program is to collect and properly dispose of pesticides that are no longer usable. Banned or unusable pesticides include pesticides that are no longer allowed to be used (such as DDT, EDB, endrin, dinoseb, and chlordane) or that cannot be used due to the age of the product, the loss of identification or application information, or because the owner is no longer farming. Acceptable chemicals include insecticides, rodenticides, fungicides and herbicides. The WSDA program does not accept empty containers, fertilizers, motor oil or other types of hazardous wastes (paint, oil, solvents, etc.).

**Current compliance and enforcement activities:** Chelan County Public Works does not conduct compliance and/or enforcement activities on a regular basis, although in rare cases County staff may be the first to respond to a complaint or incident and then would help define the problem and possible solutions. Typically, the objective for the Chelan County Solid Waste program is to provide convenient opportunities for the proper disposal of hazardous waste and thus prevent incidents. In cases where County staff receives the initial notification of any compliance issue, this is generally referred to the Chelan-Douglas Health District and/or Ecology. Depending on the nature and magnitude of the problem, either or both of these might be the appropriate agency to respond. In general, the Health District

responds to small spills (at least to conduct an initial investigation) and illegal dumping cases, and Ecology responds to larger spills and other incidents.

**Summary of statewide programs:** Ecology reports on the status of solid waste management in Washington State, including MRW programs. The information on MRW programs is derived from reports provided by each of the counties, as required by state law (RCW 70A.300.005). The most recent data available is from the Twenty-Fourth Annual Status Report (Ecology 2017) for the year 2017. As shown in that report, there were 11.9 million pounds of HHW, 6.6 million pounds of used oil and over 4.2 million pounds of CESQG collected through the various programs. Table 8.3 shows the historical trend for these materials and Table 8.4 shows the top six wastes collected in 2014, the most recent data available..

The Twenty-Fourth Annual Status Report (Ecology 2017) states that all but six counties (Douglas, Ferry, Garfield, Grant, Skamania and Wahkiakum) had permanent MRW facilities in 2014. The report shows the collection results for each of the counties, and Table 8.5 shows this data for Chelan and several other representative counties. The statewide average participation rate was 6.7% in 2014; however, in the counties without permanent facilities, the average participation rate was only 1.7%.

<b>Year</b>	<b>HHW</b>	<b>Used Oil</b>	<b>CESQG</b>	<b>Total MRW</b>
2007	14.9	9.7	7.6	32.2
2008	14.2	8.6	8.3	31.1
2009	12.3	8.9	4.9	26.0
2010	11.6	9.2	5.4	26.2
2011	11.0	7.9	5.0	23.8
2012	11.3	7.4	4.4	23.1
2013	12.7	7.2	3.8	23.7
2014	11.9	6.6	4.2	22.7

Note: All figures are in millions of pounds per year.

<b>Waste Type</b>	<b>Total Pounds</b>
Oil, Non-Contaminated *	6,605,106
Antifreeze	2,890,528
Paint-Related Materials	1,592,049
Latex Paint	1,348,132
Oil-Based Paint	1,306,012
Flammable Liquids	1,190,405
Total for 2014	14,932,232

\* Does not include amounts collected privately.

<b>County</b>	<b>Number of Households</b>	<b>HHW Participants</b>	<b>Participation Rate</b>	<b>Cost / Participant</b>	<b>Pounds / Participant</b>	<b>HHW Collected, lbs</b>
Chelan	36,651	950	2.6%	\$75.66	111.8	106,215
Clallam	36,275	663	1.8%	\$139.52	72.6	48,125
Grant *	36,341	365	1.0%	\$137.87	169.4	61,816
Okanogan	22,808	0	0%	\$0	0	0
Skagit	52,493	4,419	8.4%	\$40.88	23.58	104,180
Snohomish	297,613	11,243	3.8%	\$55.90	77.6	872,669
Statewide Totals	2,976,797	199,585	6.7%	\$45.20	66.0	13,153,723

\* Counties without permanent facilities

### 8.2.4 Existing Moderate Risk Waste Regulations

**Federal regulations:** A growing awareness of the human health and environmental problems being created by improper management of solid and hazardous waste led to the passage of the Resource Conservation and Recovery Act (RCRA) in 1976. Among other issues, RCRA helped identify problem wastes and provided the U.S. Environmental Protection Agency (EPA) with the authority to promulgate regulations for hazardous wastes. The EPA adopted final hazardous waste regulations in 1980, and in that same year Washington State law (RCW 70A.300.005) was amended to give Ecology authority to regulate hazardous waste. Thus, the regulation of hazardous waste passed from federal to state authority.

**State regulations:** In 1982, Ecology adopted rules that combined the state and federal regulation of hazardous wastes. These rules, as amended several times in the ensuing years, are contained in Chapter 173-303 WAC and are the main body of regulations for hazardous wastes in this state. The state legislature adopted a hierarchy of hazardous waste management methods in descending order of priority for management, the hierarchy is as follows:

- a) Waste reduction
- b) Waste recycling
- c) Physical, chemical, and biological treatment
- d) Incineration
- e) Solidification/stabilization treatment
- f) Landfill

Amendments to RCW 70A.300.005 in 1985 and 1986 defined MRW and required that local governments (counties) develop plans for the proper management of MRW. As stated in RCW 70A.300.007(3), the legislature's intent was "to promote cooperation between state and local governments by assigning responsibilities for planning for hazardous waste to the state and planning for moderate-risk waste to local government." In 1987, the legislature appropriated funds for grants to counties to assist in their planning efforts and clarified the schedule. The legislature enacted the Used Oil Recycling Act, Chapter 70A.205 RCW in 1991. This statute requires local governments to manage used oil in conjunction with their

MRW programs and to submit annual reports to Ecology. Local governments were required to adopt used oil recycling amendments to their MRW management plans by July 1, 1993.

New *Solid Waste Handling Standards* (Ch. 173-350 WAC) were developed by Ecology and became effective Feb. 10, 2003. These standards primarily address MRW facilities (construction, record keeping, reports, etc.). (Ch 173-350-360 WAC)

The *Dangerous Waste Regulations* (Ch. 173-303 WAC) have been amended several times to address new issues and to incorporate new provisions of state and federal regulations.

On Jan. 1, 2006, the Mercury Education and Reduction Act (RCW 70A.230.050) made it illegal to sell most items that contain mercury, including thermometers, manometers, toys, games and jewelry. The sale of thermostats containing mercury will also be illegal unless the manufacturer provides a thermostat recycling program

On March 24, 2006, former Gov. Christine Gregoire signed a law that established a system to recycle electronic wastes, including computers, monitors and televisions. This system charges consumers when they purchase electronics, and then disposal is financed by manufacturers of the electronic equipment.

On Jan. 1, 2015, the LightRecycle Washington Program began. This program delegates certain collection sites to receive up to 10 privately purchased, used mercury-containing lamps per day for recycling. The lamps can no longer be disposed of as garbage at transfer stations, dumps and landfills in Washington.

In the State Solid and Hazardous Waste Plan of 2021, one of the five key initiatives of the state's *Moving the State Beyond Waste and Toxics* plan is "Managing Hazardous Waste and Materials." The background and website can be found at [apps.ecology.wa.gov](http://apps.ecology.wa.gov). The Product Replacement Program (PRP) helps Small Quantity Generators target specific waste streams to use safer alternative products or processes. Education and the availability to dispose of hazardous items has undoubtedly increased the development of the County Moderate Risk Waste facility. The discussion shown in the *Moving the State Beyond Waste and Toxics* plan concludes that, while local programs provide several important benefits, it is unlikely the current system can manage all of the MRW. However, since this determination, a steep education curve is needed, as well as access to convenient disposal methods in nearby counties where people are trying to dispose of hazardous materials without efficient disposal. Chelan County's Moderate Risk Waste facility provides a much needed and convenient disposal option, providing education on ways to reduce and use safer alternative options and keep the nearby estuaries clean of contamination.

The State's plan and priorities supports 42 goals with supporting actions. We can transition to a society where waste is viewed as inefficient and where most wastes and toxic substances have been eliminated. This will contribute to economic, social, and environmental vitality.

- Greenhouse gas emissions (GHGs) will decrease due in part to wiser management of materials.
- Sustainable materials management will be commonplace.
- Safer products, buildings, and services will be designed for human, economic, and environmental health, and will be readily available.
- A stable and long-term solid waste financing system will support and enable the transition to sustainable materials management.
- State regulations and infrastructure will support the reduction and eventual elimination of waste and toxics.
- Washington businesses will thrive and provide sustainable jobs. (as they eliminate waste and replace hazardous materials from products and services with safer ones.

- Accessible and timely measurement systems will track the life cycle impacts of materials, products, waste, and toxic chemicals.
- Environmental equity and justice for waste and toxics-related issues will be realized for all Washington residents.

In addition to these recommendations, the plan adopted Pollution prevention goals and actions that echo the above recommendations.

### 8.2.5 Service Gaps, Other Needs and Opportunities in Moderate Risk Wastes

The primary service gap being addressed by this chapter of the *Solid Waste Management Plan* and the MRW plans and programs for Chelan County is the efficient operation of the Moderate Risk Waste facility. Operations include all aspects of proper disposal and education. The State plan will aid by developing funding resources for capital improvements.

**Automotive wastes:** Convenient opportunities for recycling waste oil are not present in all parts of Chelan County. Opportunities for recycling antifreeze are available only at the MRW facility. Opportunities to recycle car batteries are present throughout the County, including the MRW facility.

Opportunities to recycle or properly dispose of oil filters can better educate the general public. Better education can encourage the importance of draining the oil and recycling the filters in scrap metal. Most commercial generators should be familiar with necessary steps, but occasional education may increase these habits. Based on results from other areas, the amount of oil filters being improperly disposed by commercial generators could be as high as 80%. The oil filter manufacturers have sought and received an exemption for oil filters from EPA's hazardous waste regulations, although this exemption requires that the filters be punctured and properly drained. The State of Washington, however, exempts oil filters from the dangerous waste regulations only if the filters are recycled. Thus, it is possible that any businesses improperly disposing of oil filters are acting with the misunderstanding that the filters are not classified as a hazardous waste, and are disposing in regular trash. Outreach to local businesses on recycling of oil filters could ensure proper disposal.

**Household hazardous wastes:** The Washington State Local Solid Waste Financial Assistance (LSWFA) is one of the primary funding sources for MRW activities in Chelan County. Local solid waste fees, by the public to the County and Cities, support a significant amount as well. A collection fee from the curbside waste haulers of Chelan County residents support the solid waste system and enable the match paid for the state LSWFA used for the operations of the Moderate Risk Waste facility. Also, a suggested donation of \$10 is collected from citizens depositing material at the Moderate Risk Waste facility. This donation is essential for education, teaching residents of the burden of not utilizing hazardous waste in the first place or acquiring lower toxicity in necessary materials. State funds are still short of providing for the operations and proper disposal of Chelan County's moderate risk wastes.

**Conditionally exempt small quantity generator wastes:** Few CESQGs are currently participating in the annual MRW collection events. In 2014, 21 companies participated in the CESQG collection events and in 2021 only 4 businesses registered and utilized the disposal program. Other businesses and institutions could also be using the private collection services offered by hazardous waste disposal companies or returning to vendors. Commercial businesses are more often able to return the used product back to the company when purchasing items routinely. An example are automotive repair shops, which once had a problem with spent cleaning solvents. Today they are able to return solvents to sales

companies or are provided recycling system tanks to clean the solvent, allowing it to be used for longer periods.

**Future trends:** At some future point, waste reduction and product substitution (i.e., replacing toxic products with non-toxic alternatives) may reduce the amount of MRW that is generated and collected. On the other hand, it is unlikely that people will cease using paint and motor oil, which make up a substantial amount of MRW collected, and the designation of additional materials as hazardous, such as fluorescent tubes and p computer monitors, will also prevent MRW disposal from shrinking in the near future.

One area where product substitution will make wastes less hazardous, is the replacement of oil-based paints and related materials with water-based products. The use of oil-based paint is being discouraged in several states in the United States (New York, New Jersey, Pennsylvania, Maryland, California and Delaware) through a regulation that became effective Jan. 1, 2005. The regulation does not ban oil-based paint but restricts the allowable content of volatile organic compounds (VOCs) in paint, which effectively eliminates many oil-based paints.

With the introduction of the Washington State paint stewardship plan, both oil-based and latex paint products are collected at the MRW facility for recycling and energy recovery. This is a project that is paid for by paint manufacturers. In order for manufacturers to sell paint in Washington State, they agree to pay a fee to the paint stewardship program for recycling and disposal. The program has been running smoothly at the Chelan County Moderate Risk Waste facility, where the paint is picked up in bins provided at no cost. Paint is recycled into new paint products or incinerated for energy recovery. Reuse of new or good condition paint products is encouraged at the MRW facility. Logistics of the program is managed by PaintCare, a non-profit expressly created for the purpose of instituting paint stewardship programs in several states.

## 8.2.6 Moderate Risk Waste Alternatives

The following alternatives address service gaps identified in the previous section:

**Automotive wastes:** The following alternatives are shown in no particular order:

1. Increase management of used oil and antifreeze at various locations throughout the County.

**Household hazardous wastes:**

1. The new MRW facility is successfully operating and continues to be popular since operation began. The positive reception of the MRW facility demonstrates a need that has been filled, however, neighboring County residents continually request use of the services. A mutual arrangement could share the resource, and allow imported hazardous waste.

Other supplemental alternatives include:

- A. Establish satellite facilities to provide more convenient disposal sites accessible by distant areas of the County. With a central site already established, remote satellite facilities could be used for a limited range of materials and the wastes from these sites could be transferred to the permanent facility. Either one of the two transfer stations (Chelan and Dryden) may be logical remote sites.

The cost of a satellite facility would be an additional expense and with demands relying on grants for the Moderate Risk Waste operations, expansions may be too costly.

- B. Provide more information to the public about the hazards of products that may end up as HHW. More educated consumers could choose to avoid buying the most toxic products, and do a better job of using up the entire product.
  - C. Target specific materials only, starting with the most important waste categories for reduction through more education and other steps. Education could focus on substituting less toxic alternatives and reducing wastes.
  - D. Institute bans and voluntary substitutions by retailers or use other methods to encourage or require replacing more toxic products and materials with safer alternatives.
  - E. Encourage the reuse of hazardous waste, such as the re-use shelves at the Chelan County Moderate Risk Waste facility. New or almost new items are placed on shelves, where residents are allowed to browse and select items they intent to use, by signing a liability form and claiming the type and amount taken. This benefits all. Saving the County disposal costs, decreasing the material disposed in incinerators or landfills, and using the products as intended is better for the environment.
2. **Conditionally exempt small quantity generator wastes:** The amount of CESQG waste collected through the annual SQG collection events was relatively small in 2022. Businesses will be able to participate in annual events at the MRW facility. Arrangements will be coordinated with the hauler used for disposal of MRW. Appointments are made with the hauler and collection can occur at the MRW facility. The businesses can pay for their disposal while not impeding on the public HHW collection program.

The following alternatives for CESQG wastes are shown in no particular order:

1. Increase public education/advertising for CESQGs in the areas of waste reduction, recycling and waste disposal. Ecology may be able to provide technical assistance for this effort.
2. Expand CESQG collection events, both in number and in areas served.
3. Eliminate CESQG collection events due to the low participation rate and increase the amount of information made available to businesses about alternative means of hazardous waste recycling and disposal (also to reduce the amount and toxicity of wastes generated).
4. Encourage the materials exchange program or assist businesses to connect with existing programs such as the Industrial Materials Exchange (IMEX).
5. Institute bans and voluntary substitutions by wholesalers, and use other methods to encourage or require product substitutions to replace more toxic products and materials with safer alternatives.
6. Develop a recognition program for CESQGs (or all businesses) that are doing a good job reducing, recycling, or managing their hazardous wastes and help promote those businesses with consumers.

**Agricultural wastes:** There are no known problems with existing efforts to collect waste pesticides from agricultural sources; however, many of the same alternatives that could improve CESQG results could also increase results or improve efficiencies for agricultural wastes:

1. Increase public education/advertising for farms in the areas of waste reduction, recycling, and waste disposal. Washington State Department of Agriculture manages and collects this material. However, tractor oil and other non-crop products can be treated as SQG waste.

2. Expand agricultural waste collection events, both in number and in areas served. This alternative has a high cost for the collection events, which another agency (WSDA) would need to agree to fund.
3. Partner with WSDA to allow materials from Chelan County agriculture residents material to be packed at the County's MRW facility. This will enable easier collection while the WSDA pays for disposal.
4. Suggest bans, voluntary substitutions by wholesalers, and use other methods to encourage or require product substitutions to replace toxic products and materials with safer alternatives.

### **8.2.7 Evaluation of Moderate Risk Waste Collection Alternatives**

A summary evaluation of the alternatives for moderate risk wastes is presented in Table 8.6. The alternatives were evaluated using the following criteria:

- **Diversion potential:** This criterion provides a relative assessment of how much waste could be diverted by the alternative.
- **Technical feasibility:** Alternatives can be evaluated according to relative degree of difficulty in implementing the alternative, where a "high" rating means the alternative is well-tested and proven to perform, and a lower rating is due to implementation problems or issues.
- **Political feasibility:** Alternatives that require significant policy decisions or changes to existing services need to be assessed as to the political likelihood of implementing the alternative.
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and the SWAC support programs that can achieve the greatest amount of waste reduction for the amount spent.



**Table 8.6 Evaluation of Moderate Risk Waste Alternatives**

<b>Alternative</b>	<b>Diversion Potential</b>	<b>Technical Feasibility</b>	<b>Political Feasibility</b>	<b>Cost-Effectiveness</b>	<b>Conclusion</b>
<b>Automotive Wastes:</b> 1. Public education 2. Antifreeze collection at Transfer stations	Medium Medium	Medium Low	Low Medium	Medium High	Continue Don't pursue
<b>HHW:</b> 1. Operation of Permanent facility 2. Satellite facilities 3. Mobile collections 4. Public education 5. Ban and target specific materials for reduction 6. Remove products from store shelves	High Medium Medium Low Low Medium	Medium High Medium High Medium Medium	Medium High Medium Low Low Low	High Medium Low Medium Low Medium	Ongoing Don't pursue Don't pursue Continue Don't pursue Don't pursue
<b>CESQG Waste:</b> 1. Increased education 2. Increase collection events 3. Promote alternative collection services 4. Enforcement system 5. Recognition program	High Low Medium High Low	Medium Medium Medium Medium High	Low Medium Low Low High	Medium Low Medium Medium Low	Continue Continue as is Continue Don't pursue Don't pursue
<b>Agricultural Waste:</b> 1. Increased education 2. Permanent facility use 3. Enforcement system 4. Remove products from store shelves	Low Medium High High	Medium Medium Low Low	Medium Medium Low Low	Low Medium High Medium	Continue as is Ongoing Don't pursue Don't pursue

Note: The conclusion stating “don't pursue” means not at this time, but this could change in the future.

### **8.2.8 Recommendations for Moderate Risk Wastes**

The following recommendations were developed based on the evaluation of the alternatives:

**MRW1) Continue operation at the permanent MRW facility**

Operation of the newly constructed permanent MRW facility should continue. Chelan County is the lead agency on coordinating hiring operating staff and seeking contracts with haulers, with the capital costs of the facility financed through a state-coordinated grant and shared municipality fees. The operating costs will be financed in part by the County, all municipalities, and a state-coordinated grant. The permanent facility is open several days each week (Tuesday – Friday, and first Saturday of the month). Satellite facilities could be considered at the Dryden and/or Chelan transfer stations.

**MRW2) Continue to provide education and an annual disposal program for Small Quantity Generators.**

The Conditionally Exempt Small Quantity Generator collection events for small businesses provides education for qualifying and registering for the County annual event. Disposal costs are paid for by the business. Provide access with Ecology technicians for information for reducing toxicity in materials.

**MRW3) Continue to work with WSDA to collect agricultural pesticides.**

The Washington State Department of Agriculture (WSDA) is the appropriate agency to take the lead on agricultural waste collections, but the cooperative arrangement with the County is an excellent example of efficiency. Working together, a method should be found to increase the publicity for the agricultural waste collection events.

**MRW4) Explore methods to reduce MRW waste and associated costs of proper disposal.**

The intent of this recommendation is to encourage the County to explore less expensive options for proper disposal or recycling of MRW, but also to encourage the state to conduct more education on safer alternatives. Reuse of hazardous materials at the MRW continue to save costs for disposal while using the product as intended.

## CHAPTER 9: MISCELLANEOUS WASTES

### 9.1 INTRODUCTION

#### 9.1.1 Purpose

The purpose of this chapter is to review the generation, handling and disposal methods for several specific wastes in Chelan County. These wastes may require special handling and disposal due to regulatory requirements or for one or more other reasons, such as toxicity, quantity or other special handling problems.

The following miscellaneous wastes are discussed in this chapter:

- 9.2 Asbestos
- 9.3 Biomedical Wastes
- 9.4 Construction and Demolition (C&D) Wastes
- 9.5 Contaminated Soils
- 9.6 Industrial Wastes
- 9.7 Tires
- 9.8 Natural Disaster Waste

The nature and sources for each miscellaneous waste are described in this chapter, as well as the existing programs and facilities in Chelan County for handling these wastes. All of the wastes are also examined for needs and opportunities, but only those that pose disposal problems were further examined for alternatives and recommendations.

#### 9.1.2 Goals for Miscellaneous Wastes

The goals for miscellaneous waste utilization and/or disposal programs in Chelan County are:

- Ensure that miscellaneous wastes are utilized and/or disposed in a manner that complies with all local, state and federal regulations as applicable to the specific waste type.
- Ensure that state waste management priorities are followed, by exploring and encouraging re-use and recycling where feasible.
- Ensure that utilization and/or disposal programs for miscellaneous wastes are cost-efficient.
- Ensure waste as a result of a natural disaster is managed expediently in order to protect human health and the environment.

Two of the five key initiatives of the state's Beyond Waste plan address waste streams that are discussed in this chapter:

- **Construction/demolition waste:** Construction and demolition wastes are addressed by the Beyond Waste plan's initiative to promote green building practices.
- **Industrial wastes:** Another initiative of the state's plan is to "move toward beyond waste with industries," although the Beyond Waste plan defines "industries" to include all non-residential waste generating activities (not just the manufacturing companies that are typically defined as industrial).

### 9.1.3 Evaluation of Alternatives

Alternatives and recommendations are not provided for all of the miscellaneous wastes, just those where current programs leave service gaps that need to be addressed. For those miscellaneous wastes where specific needs or service gaps were identified and were further examined for alternatives, the following criteria were used for evaluating the potential alternatives:

- **Regulatory compliance:** To what extent will the alternative ensure that miscellaneous waste is utilized or disposed in a manner which meets or exceeds federal, state, and local regulations?
- **Adequate capacity:** To what degree will this alternative provide adequate capacity for the utilization and/or disposal of waste as needed during the planning period?
- **Sustainability:** To what extent will this alternative provide an environmentally sound handling, utilization and/or disposal option?
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and the SWAC support programs that can achieve the greatest amount of waste reduction for the amount spent.

### 9.1.4 Summary and Conclusions

A total of nine recommendations are provided for five of the miscellaneous wastes: asbestos, biomedical wastes, construction and demolition wastes, contaminated soils, tires, and natural disaster waste.

## 9.2 ASBESTOS

### 9.2.1 Introduction

Asbestos is a fibrous mineral that was considered to be useful for many different applications until it was discovered that it causes lung cancer. The problem is caused by the fact that the fibers are “friable,” or crumble easily into very small particles that then become airborne and lodge in the lungs after being inhaled. Because pure asbestos was rarely used, the waste material of actual concern here is any material that contains asbestos in quantities greater than one percent and that is friable.

There are some materials where the asbestos is not friable and so pose less of a health risk. These types of products, such as floor tile (asbestos was used in only the backing of a small percentage of sheet vinyl flooring) and house shingles (again only a small percentage, most commonly found as an exterior wall covering), are relatively inert as long as these materials are not sanded, drilled or otherwise disturbed. Because asbestos is only dangerous when it becomes airborne, one strategy is to “encapsulate” asbestos in place, by spraying it with a binder or otherwise sealing it off, rather than disturbing it through removal methods.

Most asbestos-containing materials still in use can be found in building materials, although very old brake linings containing asbestos may still be found. Building materials containing asbestos include some types of floor tile, exterior wall shingles (cement asbestos-board siding), pipe wrap and other insulation, boards found around heating systems and fireplaces, sprayed-on “popcorn” ceilings (applied from the mid-1960s through early 1980s), and more rarely, ceiling tiles, stucco, plaster and other materials.

## 9.2.2 Existing Asbestos Disposal Activities and Regulations

Regulation of asbestos is handled through clean air regulations, and is delegated to the Chelan-Douglas Health District (CDHD). Asbestos may only be removed by licensed asbestos contractors or by homeowners if done properly. Asbestos contractors are licensed by the Washington State Department of Labor and Industries.

Locally, most of the asbestos-containing waste is brought to the Greater Wenatchee Regional Landfill (GWRLF). Currently, the GWRLF is the only facility that is licensed to accept asbestos in the region. Disposal costs at the GWRLF are \$79.95 per ton, plus fees and taxes. The asbestos must be double bagged, clearly labeled, manifested and wetted in the bag.

Demolition wastes brought to the GWRLF are required by Waste Management to be surveyed for asbestos prior to disposal. The Environmental Protection Agency (EPA) has established guidelines for handling asbestos, which it was directed to do by the Asbestos Hazard Emergency Response Act (AHERA). Testing of demolition sites by an AHERA-certified inspector is being required in many areas of the state.

## 9.2.3 Service Gaps, Other Needs, and Opportunities for Asbestos

The use of asbestos was discontinued years ago, since 1986, but asbestos-containing materials can still be found in some demolition building materials and other applications. Hence, even though the use of asbestos was discontinued many years ago, disposal capacity for asbestos-containing wastes will be needed for many more years. The Greater Wenatchee Regional Landfill accepts this material by permit. The strategy of encapsulating asbestos is generally effective for preventing human exposure but this practice also has the unfortunate effect of delaying the removal and proper disposal of asbestos-containing materials.

Required asbestos testing in demolition waste is required at county transfer stations. There are a limited number of asbestos inspectors who can provide the test in our region. Generally, a walk through, and depending on the confirmation of asbestos, further testing can be done or it can be hauled directly to the landfill.

## 9.2.4 Alternatives for Asbestos

The current disposal system for asbestos is effective but alternatives may be needed in the future if the GWRLF should become unable to accept asbestos for some reason. Alternatives related to demolition projects are discussed in the section on construction and demolition wastes (provided later in this chapter). Other alternatives for asbestos include:

**Continue current practices:** This option involves continuing to dispose of asbestos at GWRLF according to the proper requirements until this facility reaches capacity or a new local facility is developed.

**Increased enforcement:** Asbestos regulations require a written notice of intent to remove or encapsulate asbestos. Asbestos removal contractors must send a notice of intent to Washington State Department of Labor and Industries (L&I). As noted previously in this chapter, the Health District is responsible for ensuring that requirements for asbestos disposal are followed. The Puget Sound Air Quality has safe practices information for people removing asbestos from their own home for disposal.

**Increase public education:** Increased public education efforts to warn people about the hazards and potential sources of asbestos might reduce human exposure and illegal dumping.

### 9.2.5 Evaluation of Asbestos Alternatives

A summary evaluation of the alternatives for asbestos-containing wastes is shown in Table 9.1. The alternatives were evaluated using the criteria shown at the beginning of this chapter.

<b>Table 9.1 Evaluation of Alternatives for Asbestos</b>					
<b>Alternative</b>	<b>Regulatory Compliance</b>	<b>Capacity</b>	<b>Sustainability</b>	<b>Cost-Effectiveness</b>	<b>Conclusions</b>
Continue current practices	High	High	Low	High	Pursue
Increased enforcement	High	High	Medium	Low	Don't pursue
Increased public education	High	High	Medium	Medium	Continue

### 9.2.6 Recommendation for Asbestos

**S1) Continue asbestos disposal using approved and permitted methods.**

The current disposal system for asbestos appears to be effective and should be continued.

### 9.2.7 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Asbestos

As an ongoing activity, the first recommendation should simply be continued and also periodically evaluated for effectiveness and compliance issues.

## 9.3 BIOMEDICAL WASTES

### 9.3.1 Introduction

State law (RCW 70A.228.010) defines biomedical wastes to include:

**Animal waste:** Animal carcasses, body parts and bedding of animals that are known to be infected with, or have been inoculated with, pathogenic microorganisms infectious to humans.

**Biosafety level 4 disease wastes:** Contaminated with blood, excretions, exudates, or secretions from humans or animals that are isolated to protect others from highly communicable infectious disease that are identified as pathogenic organisms assigned to biosafety level 4 by the Center for Disease Control (CDC).

**Cultures and stocks:** Waste infectious to humans, including specimen cultures, cultures and stocks of etiologic agents, wastes from production of biologicals and serums, discarded live and attenuated vaccines, and laboratory waste that has come into contact with cultures and stocks of etiologic agents or blood specimens. Such waste includes, but is not limited to, culture dishes, blood specimen tubes, and devices used to transfer, inoculate and mix cultures.

**Human blood and blood products:** Discarded waste human blood and blood components, and materials containing free flowing blood and blood products.

**Pathological waste:** Human source biopsy materials, tissues, and anatomical parts that emanate from surgery, obstetrical procedures and autopsy. This does not include teeth, human corpses, remains and anatomical parts that are intended for internment or cremation.

**Sharps:** All hypodermic needles, syringes with needles attached, IV tubing with needles attached, scalpel blades and lancets that have been removed from the original sterile package.

### 9.3.2 Existing Biomedical Waste Activities and Regulations

The Washington State Utilities and Transportation Commission (WUTC) regulate transporters of infectious wastes. The WUTC has issued a statewide franchise to Stericycle to transport biomedical wastes. Their regulations also allow regular solid waste haulers to refuse to haul wastes that they observe to contain infectious wastes as defined by the WUTC.

There are several hospitals, medical clinics and similar generators of biomedical waste in Chelan County. These facilities use the services of licensed biomedical waste haulers to transport and dispose of this waste. Other biomedical waste generators in the county include doctor's offices, dental clinics, and veterinary offices.

Another source of biomedical wastes is home health care. In the more serious health cases, biomedical wastes from this source are often generated under a nurse's supervision and are taken back to the primary hospital or other facility that employs the nurse. In other cases, however, patients may have difficulty finding the proper disposal method. To help address this problem, the Health District accepts "residential sharps" for free. Most of these are collected through local pharmacies and then brought to the Health District for disposal.

### 9.3.3 Service Gaps, Other Needs and Opportunities in Biomedical Waste

Some sources of biomedical wastes, including dentists, veterinarians, farmers and ranchers, and residents, may not always dispose of biomedical wastes properly.

There is not a clear estimate of the number of syringes that may be improperly disposed locally, but local haulers report incidents of having seen syringes sticking out of garbage bags. On a national level there is an estimated 3 billion to 4 billion injections administered outside of traditional health care settings (Waste Age 2004). Approximately two-thirds, or about 2 billion per year, are estimated to be administered by individuals attending to personal needs. This number is expected to increase due to an aging population, illegal drug use, and additional medications that have recently become available for home use (for HIV, arthritis, osteoporosis and psoriasis).

### 9.3.4 Biomedical Waste Alternatives

Improved disposal practices for biomedical wastes could be accomplished through various methods:

**Increased education:** Additional education for households, dentists, veterinarians, farmers and ranchers to promote safe handling and disposal of sharps. Placing sharps in an enclosed rigid container is not the safest handling but a method that is safe and more readily available than a curbside collection program.

**Encourage Pharmacy Collection:** Pharmacies are a logical location to accept disposal of sharps, since they are also selling the sharps. A rigid container available for disposal will aid with education and safe disposal.

**Expand collection program:** The collection program could be expanded to include farmers and ranchers for their use on livestock. For farmers and ranchers, the collection program might best be accomplished through farm supply stores, since they don't get their syringes at pharmacies.

**Conduct a waste generator survey:** The CDHD could conduct a biomedical waste generator survey to determine the extent of improper disposal practices.

**Increase enforcement:** Increased enforcement activities and larger penalties could be implemented.

### 9.3.5 Evaluation of Biomedical Waste Alternatives

A summary evaluation of the alternatives for biomedical wastes is shown in Table 9.2. The alternatives were evaluated using the criteria shown at the beginning of this chapter.

<b>Alternative</b>	<b>Regulatory Compliance</b>	<b>Capacity</b>	<b>Sustainability</b>	<b>Cost-Effectiveness</b>	<b>Conclusions</b>
Increased education	Medium	High	Medium	Medium	Pursue
Continue Pharmacy Collection	Medium	Medium	Medium	Medium	Pursue
Expand collection program	Medium	High	High	High	Don't pursue
Conduct a waste generator survey	High	Medium	High	Low	Don't pursue
Increase enforcement	High	High	Medium	Low	Don't pursue

### 9.3.6 Recommendation for Biomedical Waste

The recommendation for biomedical wastes is:



**S2) Continue to support Pharmacy Collection of sharps and other biomedical waste disposal. .**

The current disposal system for biomedical wastes appears to be effective and lends itself to increase with proper disposal programs at pharmacies.

**9.3.7 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Biomedical Waste**

This recommendation requires additional staff time and can be supported with limited phone inquiry and web site information.

**9.4 CONSTRUCTION AND DEMOLITION (C&D) WASTES**

**9.4.1 Introduction**

Construction and demolition (C&D) wastes are defined simply as the wastes that are generated from construction and demolition activities. These wastes consist primarily of new and used building materials (wood, sheetrock, plastic sheeting and pipe, metals, shingles, etc.), concrete and asphalt. Land clearing wastes, including soil, stumps and brush, are inert or organic waste. Clean lumber (not painted or stained) is addressed in Chapter 5 Organics. Clean lumber can be utilized once chipped in compost or other mulch uses.

A category closely related to C&D is “inert wastes.” Inert wastes are defined to include some types of C&D wastes, such as concrete and asphalt, as well as certain other materials. The regulatory status of inert wastes differs from C&D wastes, and disposal requirements are less stringent for inert wastes.

The total amount of C&D waste generated in Chelan County is 18%. C&D wastes are also generated at a rate that is proportional to construction activity in the county, and so annual amounts will vary depending on population and economic growth and on other factors. Large commercial and other one-time projects also have a significant impact on annual amounts, as do natural disasters and large-scale demolition projects.

Increasing amounts of construction in Chelan County are leading to increasing amounts of C&D wastes as well as regular solid waste from the increased population. Table 9.3 shows the number of building permits issued by the County and most of the cities, as an indication of the amount of C&D waste generating activity over the past 10 years.

**9.4.2 Existing C&D Waste Activities and Regulations**

Construction and demolition wastes are handled in a variety of ways. Some of it is handled on site at the construction site, but most of it is brought to the transfer stations or the Greater Wenatchee Regional Landfill (GWRLF) for disposal. A limited amount is recycled or reused in Chelan County, through the Dryden Transfer Station and sporadic efforts of construction companies or individuals. Material handled on site is sometimes burned and used to keep workers with a warming fire, or buried, although these are not approved practices. Clean (untreated) wood scraps are sometimes legitimately diverted to firewood

There are few regulations dealing only with construction waste (although demolition waste is a different matter, see below), except to the extent that these wastes are addressed as part of the body of regulations

dealing with waste collection and disposal in general. A change in regulations affecting C&D wastes is the replacement of Ch. 173-304 WAC by the new solid waste handling standards (Ch. 173-350 WAC). The new regulations eliminate a category of landfill that was previously allowed (“inert demolition landfills”), and replaced that with inert landfills and limited purpose landfills. Inert landfills can accept only specific types of C&D wastes, such as concrete but not wood.

<b>Table 9.3 Number of Building Permits in Chelan County</b>	
Year	Chelan County
	Single-Family residences only
2021	671
2018	301
2017	269
2016	270
2015	234
2014	237
2013	179
2012	159
2011	145
2010	133
2009	211
2008	339
2007	323
2006	232
2005	246

Notes: *Figures in Table 9.3 are from the planning departments of Chelan County and the cities. The Figures for 2021 are from the U.S Census Bureau.*

**Table 9.4 Housing Units**

Region	2000	2010	2015	2021
<b>TOTAL COUNTY</b>	<b>30,407</b>	<b>35,465</b>	<b>35,934</b>	<b>38,802</b>
Cashmere CCD	4,114	4,504	4,719	*
Chelan CCD	4,134	4,570	4,506	*
Entiat CCD	1,032	1,121	1,125	*
Leavenworth – LK Wenatchee CCD	4,076	5,461	5,708	*
Malaga CCD	1,323	1,507	1,743	*
Manson CCD	1,568	2,194	2,374	*
Stehekin CCD	166	278	300	*
Wenatchee CCD	13,994	15,830	15,459	*

*Notes: Census Data QT-H1 Table; 2015 estimated data from American Fact Finder (DP04). 2021 estimated data from the United Census Bureau.  
\*Data unavailable.*

*The County has seen an increase of over 5,500 housing units from 2000 to 2015. The largest increase of housing has been located in the Leavenworth-Lake Wenatchee CCD (1,632 units) followed by the Wenatchee CCD (1,465 units) and Manson CCD (806 units).*

Demolition wastes are an area of concern for many agencies and businesses because older buildings may contain products that are now recognized as potentially hazardous. From Ecology’s website ([www.ecy.wa.gov/programs/hwtr/demodebris/index/htm](http://www.ecy.wa.gov/programs/hwtr/demodebris/index/htm)), the following wastes are potentially regulated under the Dangerous Waste rules (Ch. 173-303 WAC):

- **Treated Wood:** New types of treated wood are now being used, and those products are treated with copper and other less-toxic chemicals instead of the previous formulation that included arsenic and chromium. So treated wood from current construction sites are not a significant concern, but any treated wood from a demolition project is most certainly the previous type of treated wood (assuming the building being demolished was constructed prior to 2004-2005).
- **Paints and other Coatings:** Previously, some paint products were being produced and used that contained asbestos, mercury, PCBs, and lead.
- **Plumbing and Pipes:** Some older types of pipe, and associated products such as pipe wrapping materials, may contain asbestos or lead.
- **Light Bulbs:** Fluorescent and high intensity discharge (HID) lamps may contain mercury.
- **Batteries:** May contain lead, mercury or PCBs.
- **Thermostats, Switches, and other Electrical Devices:** May contain mercury.
- **Other Materials:** Various other products might contain asbestos, PCBs or other hazardous constituents.

Whoever first declares a material to be a waste, such as a contractor or property owner, is responsible for determining if the Dangerous Waste rules apply. Sampling and testing may be necessary in many cases to determine if demolition wastes are regulated under the Dangerous Waste rules. Locally, Waste Management is requiring loads of demolition waste to be certified free of asbestos.

The State Solid and Hazardous Waste plan includes the goal for Washington's recycling system to provide usable feedstocks for remanufacturing from major sectors and waste streams. The action is to explore policy solutions for problematic recyclable material streams included in the construction debris. The state plan moves from a waste management hierarchy to a clean materials framework, where reducing toxics from the beginning is the priority. The incentives are intended to encourage builders to design and construct buildings in ways that are more environmentally friendly. Past plans had the short term goal of the Green Building Initiative "to dramatically increase adoption of environmentally preferable building construction, operation and deconstruction practices throughout the state and the region." The long-term goal of this initiative is "for green building to be a mainstream and usual practice throughout the state."

Other governmental actions taken on the local level include a goal to recycle organic products to amend soil, filter storm and surface water, and sequester carbon, which helps diversify end-use markets. As noted in Chapter 5, organics, a large portion of construction and demolition waste, is untreated wood waste or lumber that can be composted or used alternatively.

### **9.4.3 Service Gaps, Other Needs and Opportunities for C&D Waste**

A significant need for C&D wastes in Chelan County is that more could be reused and recycled. Recycled clean lumber is chipped at the Dryden Transfer Station. The lumber can have screws or minor amounts of metal attached; however, wood must be free of paints, stains or any treatment. The chips may be used as mulch, composted, and/or used in a co-generator.

Other chipping sites for clean untreated lumber in the Wenatchee, Entiat and Chelan areas could be a beneficial deterrent. A limited purpose landfill is another option to be sited in Chelan County. This would free up space in the Greater Wenatchee Regional Landfill and would be an environmentally sound way to dispose of this material. Siting and constructing a limited-purpose landfill would be a costly endeavor. The amount of construction and demolition waste generated each year is expected to continue to be substantial. Locally, there is a significant increasing number of construction projects as new homes and hotels are built in the Chelan, Wenatchee, and Leavenworth areas. On a national level, it is estimated that half as many buildings will be needed in 2030 as existed in the year 2010, or about 60 million more housing units in the U.S. (US Today 2004). A typical 2,000-square-foot home is estimated to require about 13,000 board feet of framing lumber and 6,210 square feet of wood sheathing (WN 2003), and to create 3,500 pounds of wood waste in the process (FH 2003).

### **9.4.4 C&D Waste Alternatives**

Potential alternatives for C&D waste include increased recycling and reuse, utilizing materials without hazardous content, and green building practices.

**Recycling alternatives:** Reuse and recycling options for C&D wastes include:

**Salvage for on-site and off-site reuse:** This option generally applies to demolition projects although a small amount of reusable materials and products are also generated at new construction sites. To be effective, salvaging requires pre-demolition removal of reusable materials and hence requires some allowances in the project's schedule. Off-site reuse can be accomplished through a variety of means, including reuse stores and private efforts.

**On-site crushing and grinding for reuse and recycling:** This generally applies to concrete and asphalt, which can be crushed to serve as road base or replace other basic materials, although in some cases wood and other materials can also be handled on-site.

**Source-separation for off-site processing:** Source separation at construction and demolition sites can allow recycling of wood and sheetrock, and other materials to be diverted to a limited purpose landfill. Although, Chelan County does not have a limited landfill other than an inert waste landfill.

**Mixed C&D processing off-site:** Processing of mixed C&D wastes is a convenient means to handle large amounts of wastes, but requires a facility or facilities that are properly equipped and operated to handle this waste.

**Central site for recycling and reuse:** An ideal option could be a facility, or a series of local facilities that combine reuse and recycling as appropriate for the material. These facilities could sell salvaged products as well as crush or grind other materials (concrete, wood, etc.) for recycling.

**Collection depots at transfer and disposal facilities:** Collection containers for reusable and/or recyclable C&D materials at solid waste facilities could allow these materials to be transferred to a central processing or salvage facility. Transportation costs can be a significant barrier, however, since the recovered materials typically have only a low monetary value.

**Other Alternatives:** Other options for management of C&D wastes include:

**Increased education and promotion of recycling and reuse:** An important strategy would be to get contractors and building owners to plan ahead for recycling and reuse.

**Increased education about potentially dangerous materials in demolition wastes:** Contractors and homeowners could probably benefit from more information about the potentially hazardous materials that can be uncovered during demolition activities. Information should include proper handling and disposal, as well as the potential health impacts. This could lead to less illegal dumping.

**A regional landfill for C&D wastes:** This is hardly an option any longer, since the new solid waste handling regulations (Ch. 173-350 WAC) make limited purpose landfills about as expensive to construct and operate as a solid waste landfill.

**Require deposit and proof of proper disposal when building permits are issued:** If proof of proper disposal were required for the return of a deposit, there would be less financial incentive to illegally dump C&D wastes.

## **Green Building**

Over the past several years, there has been increasing attention paid nationally to the idea of “green building.” This idea was born in the late 1980s when individual efforts in solar power, indoor air quality concerns, C&D recycling and other aspects were combined in recognition that all aspects of construction, and the resulting buildings, were important to the health of the residents and environment. Ecology has adopted green building as one of the five primary initiatives in the state’s past Beyond Waste plan.

While the scope of green building is very broad and covers many important topics, there are only a few of these topics that fit within the context of this Plan. Issues dealing with energy efficiency, water conservation, and indoor air quality, for instance, have little to do with topics such as C&D recycling or even the use of recycled products. The green building activities that are relevant to this Plan are limited to:

- Recycling of C&D wastes.
- Promoting the use of building products with recycled content.
- Promoting de-construction activities that allow reuse and recycling.

Another way to look at green building is that it involves both products and practices. Green building practices include a building design that allows healthier or less wasteful occupancy of the finished building, as well as more environmentally friendly construction practices (including reuse and recycling). Products contribute to green building by being made from recycled or sustainable materials, by being manufactured in less-polluting fashion, by assisting with green building practices. In many cases, the products and practices that qualify as green building are easily identified, and are more frequently used as standard practices.

#### 9.4.5 Evaluation of C&D Waste Alternatives

An evaluation of the alternatives for C&D wastes is shown in Table 9.4. The alternatives were evaluated using the criteria shown at the beginning of this chapter.

<b>Table 9.5 Evaluation of Alternatives for C&amp;D Wastes</b>					
<b>Alternative</b>	<b>Regulatory Compliance</b>	<b>Capacity</b>	<b>Sustainability</b>	<b>Cost-Effectiveness</b>	<b>Conclusions</b>
Salvage reusable materials	High	High	High	Medium	Continue
On-site crushing and grinding	Medium	High	High	Medium	Don't pursue
Source separation	High	Medium	Medium	Medium	Don't pursue
Mixed C&D processing	High	Medium	Medium	Medium	Don't pursue
Central processing site	Medium	Medium	High	Medium	Don't pursue
Collection containers at transfer stations	High	High	Medium	Low	Pursue
Increased education	Medium	Medium	High	Medium	Don't pursue
Education about hazards	High	High	High	Medium	Pursue
Regional landfill	High	High	Low	Low	Don't pursue
Deposit system	High	High	High	High	Don't pursue
Green building	High	High	High	Medium	Don't pursue
Expand chipping sites	High	Medium	High	Medium	Pursue

#### 9.4.6 Recommendations for C&D Waste

The recommendations for C&D wastes are:

- S3) Support the salvage of reusable materials**  
Support businesses, such as the Wenatchee Habitat for Humanity, to reuse building materials.
- S4) Seek other collection and chipping sites established at the transfer stations for clean, not treated or painted, lumber.**
- S5) Education for hazards in building demolition materials**  
Education and information for the public and builders of demolition materials that contain hazardous content.

#### 9.4.7 Implementation Schedule/Costs and Monitoring/Evaluation Methods for C&D Waste

The first recommendation is a continuation of existing practices to support the salvage and reuse of building materials. More can be done to store materials for reuse, although additional land or facilities are needed. The second recommendation should be considered as ongoing development of the Transfer Stations, where expansion for stockpiling untreated lumber, as well as brush for chipping are better established. Educating on hazardous building materials can reduce the hazardous waste and create more reusable products.

### 9.5 CONTAMINATED SOILS

#### 9.5.1 Introduction

This section addresses soils that are contaminated with petroleum products and other substances that create environmental or human health exposure problems:

**PCS:** Petroleum-contaminated soils (PCS) are generated as the result of spills or leaks of petroleum products. Leaks typically occur from residential oil tanks or commercial tanks, especially at gas stations. Soil contaminated by substances other than petroleum products could be handled in a similar manner, but this would need to be determined on a case-by-case basis depending upon the nature of the substance.

**ACS:** The other type of contaminated soil that is a problem in Chelan County is soil that is contaminated with lead and arsenic due to previous agricultural practices. Applications of these metals to orchards in the past have resulted in soils with levels that are sufficiently high to pose a concern for alternative uses. These soils, termed agriculturally-contaminated soils (ACS)<sup>4</sup>, have created huge costs for schools and others, that have converted much needed old orchard property to other uses.

#### 9.5.2 Existing Activities and Regulations for Contaminated Soils

**PCS:** The amount of PCS has dropped significantly over the past decade. Aging gasoline and fuel tanks were discovered to be leaking several years ago, forcing a major effort to remove or upgrade these tanks and to clean up the contaminated soil below them. Most of that work has now been accomplished, and

the amount of PCS has dropped off considerably. The occasional problem is still discovered, however, and depending on the amount of contaminated soil and the degree of contamination the PCS is currently being treated on site or taken to the GWRLF. On-site treatment can be accomplished by aeration (transferring petroleum products to the air), “land farming” (bioremediation) techniques to degrade or volatilize the hydrocarbons, or PCS can also be treated with heat in various ways to burn off the petroleum products.

**ACS:** Treatment is not an option for soils that are contaminated with lead and arsenic because these chemicals cannot be removed by biological processes or heat treatment. Current practices generally involve removing the soil; however, if contamination levels aren’t too high then on-site encapsulation is also a possibility. Mixing the soil with healthy soil and diluting the contamination, as well as encapsulating, where grass turf is grown or pavement or other methods to control. Removing the soil requires that it be moved to a contaminated site or a disposal facility (either GWRLF or to a hazardous waste landfill if contamination levels are really high).

**Regulatory status:** The current regulations for contaminated soils are in a state of flux. The recently adopted solid waste handling standards (Ch. 173-350 WAC) were intended to address contaminated soils but were found to be creating an excessive hardship in some cases. The current regulatory approach is based on a combination of rules governing hazardous waste sites and solid waste handling. These rules take into consideration several factors:

- Whether the contamination is by a naturally-occurring material: By definition, petroleum is not a naturally occurring material but arsenic and other metals exist naturally in Washington soils.
- Whether the site is defined as a hazardous waste site: Any contaminated soils from a designated (listed) hazardous waste site are regulated under the Model Toxic Control Act (MTCA), but agricultural properties are generally not designated as a hazardous waste site.

Even though agricultural soils are not defined as hazardous, in practice the soils must be tested and handled accordingly and this may include disposal as a hazardous waste.

### **9.5.3 Service Gaps, Other Needs and Opportunities for Contaminated Soils**

There are no significant problems with PCS disposal in Chelan County at this time, and so no further discussion of alternatives and recommendations for PCS is necessary in this Plan. State regulations have increased testing parameters for almost all soils. Chelan County defers to the state regulations and methods for handling. ACS, however, represents a significant problem and a huge cost to many in Chelan County, and alternatives for these are discussed below.

### **9.5.4 Alternatives for Agriculturally Contaminated Soils**

Since PCS disposal is not a problem at this time, only alternatives for ACS are shown here:

**Cover soils on site:** Only those soils removed from the original site are required to be tested and handled according to the amount of contaminants present, and these soils are only a problem where the potential for human and environmental exposure exists. If the soils can be left on the same property and covered or otherwise prevented from coming into contact with people or groundwater, then keeping the soils on site may be the most cost-effective and least problematic approach. In this case, the title for the property should be marked to note the presence and condition of the soils.



**Use ACS for daily cover at GWRLF:** For soils that need to be removed from the property of origin, using those soils as daily cover at the landfill would at least provide a better use than simply disposing of them. This method will preserve the natural healthy soils from being used as daily cover while utilizing a contaminated soil.

**Develop a regional site for ACS:** One approach that is allowed under the current regulations is to move contaminated soils to a more contaminated site. If a highly-contaminated local site could be designated as a disposal site for lower-contaminated soils, then there would be no increase in human health or environmental exposure.

### 9.5.5 Evaluation of Contaminated Soils Alternatives

An evaluation of the alternatives for ACS is shown in Table 9.5. The alternatives were evaluated using the criteria shown at the beginning of this chapter.

<b>Table 9.6 Evaluation of Alternatives for Agriculturally-Contaminated Soils (ACS).</b>					
<b>Alternative</b>	<b>Regulatory Compliance</b>	<b>Capacity</b>	<b>Sustainability</b>	<b>Cost-Effectiveness</b>	<b>Conclusions</b>
On-site disposal	Medium	High	High	High	Don't pursue
Daily cover at GWRLF	High	Medium	Medium	Medium	Pursue
Regional disposal site	Medium	Medium	Medium	Medium	Don't pursue

### 9.5.6 Recommendation for Contaminated Soils

The recommendations for contaminated soils are:

**S6) Continue current practices for agriculturally contaminated soils by supporting local disposal options.**

While there is a need for more cost-effective solutions for agriculturally contaminated soils, there is no one program that would address every instance and so options will need to be examined on a case-by-case basis.

### 9.5.7 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Contaminated Soils

As an ongoing activity, this recommendation should simply be continued and also periodically evaluated for effectiveness and compliance issues.

## 9.6 INDUSTRIAL WASTES

### 9.6.1 Introduction

The state's plan addresses reducing toxic waste. The recommendations for this initiative deal primarily with hazardous wastes and other topics that are beyond the scope of solid waste management programs.

A definition of industrial waste that more closely resembles the common usage of this term can be found in the recently-adopted solid waste rules (Ch. 173-350 WAC):

*“Industrial solid waste means solid waste generated from manufacturing operations, food processing or other industrial processes.”*

The reference to manufacturing operations helps to clarify that this section is intended to address miscellaneous solid wastes from various industrial operations. In other words, this section of the Plan is intended to address those companies classified as manufacturing under the North American Industry Classification System (NAICS, which was formerly known as the Standard Industry Classification system, or SIC). The NAICS codes for manufacturing companies range from 311 to 339. “Industrial wastes” also sometimes includes resource extraction enterprises (agriculture, mining, fishing and forestry), and these are included here to the extent that they are not covered elsewhere in this Plan.

### **9.6.2 Existing Industrial Waste Activities and Regulations**

The primary type of industry in Chelan County is food production, including agricultural activities, warehousing and food processing. Besides hazardous waste and regular solid waste (neither of which is addressed in this chapter), the wastes generated by these activities are primarily crop residues and other organic wastes that are addressed in Chapter 5 (Organics Management).

Other industries in the County include:

**Asamera Mining:** This mine is now closed but generated industrial wastes in the past.

**Alcoa:** This company is now closed.

**U.S. Castings:** This foundry in Entiat generates a very small amount of contaminated sand.

### **9.6.3 Service Gaps, Other Needs, and Opportunities in Industrial Waste**

From the information available, it appears that industrial solid waste is being managed properly; therefore, normal procedures for monitoring and managing existing industrial solid waste handling and disposal practices should continue. The Health District and others should continue to monitor and regulate industrial solid waste handling and disposal in the county as appropriate.

## **9.7 TIRES**

### **9.7.1 Introduction**

The term “tires” refers to tires from automobiles, trucks, tractors or any other use. Tires are formed of synthetic rubber and usually reinforced with cords of nylon, fiberglass or steel. Waste tires are sometimes disposed with the metal rim, but in general the rim should be (and is) removed and reused or recycled.

Automobile service centers that sell and install new tires are the primary generators of waste tires. Many of these businesses have made special arrangements to ship tires out of the area to specific disposal sites.

Companies that service their own fleets and individuals that take care of their own vehicles may also accumulate old tires. When vehicles are junked, the tires on the vehicle, spares and snow tires may be stored by the owner or wrecking yard. All of these tires should eventually enter the local solid waste handling system as described below, but some do not.

Tires disposal has long been a nationwide problem. They can cause problems at solid waste landfills because the tires are hard to compact. People sometimes accumulate large numbers of tires because of a perception that they have some value, and the resulting piles can pose problems for mosquito habitat and fire potential. Fires that have occurred in tire piles have proved very difficult to extinguish and have created serious air and water pollution problems.

### **9.7.2 Existing Activities and Regulations for Tires**

Tires are currently accepted at the GWRLF. Tire retailer Les Schwab also accepts tires for a fee of \$2 per tire. Tire retailers in Chelan County use a variety of techniques to recycle and dispose of tires. A few tires are re-treaded and sold, especially the larger commercial tires that have greater value. Tires that still have tread remaining are sometimes sold for reuse. Individuals and businesses also find creative methods to reuse tires, such as Waste Management's use of tires in their leachate ponds (where the tires double or triple the rate of evaporation of the leachate). Most of the used tires are shipped by tire retailers to an energy recovery facility in Portland, Ore., or to a landfill farther south in Prineville, Oregon.

Solid waste management regulations (70A.205.400 RCW) contain several provisions which address tires. One of these provisions addresses disposal of tires at designated sites:

“(1) No person may drop, deposit, discard, or otherwise dispose of vehicle tires on any public property or private property in this state or in the waters of this state whether from a vehicle or otherwise, including, but not limited to, any public highway, public park, beach, campground, forest land, recreational area, trailer park, highway, road, street, or alley unless:

(a) the property is designated by the state, or by any of its agencies or political subdivisions, for the disposal of discarded vehicle tires; and

(b) the person is authorized to use the property for such a purpose.”

This provision appears to give local and other authorities the power to designate specific sites for disposal of tires, but other rules addressing disposal facilities are still applicable as well.

RCW 70A.205.405 also requires that “any person engaged in the business of transporting or storing waste tires shall be licensed” by Ecology.

State regulations for the storage and handling of tires (Chapter 173-350-350 WAC) require haulers and storage pile owners to obtain a license or a solid waste handling permit. Haulers who transport more than five tires (with exceptions) must be licensed, provide a bond and deliver the tires only to approved facilities. Storage piles are subject to permitting generally only if they exceed 800 tires (or 16,000 pounds) and if storage is outdoors.

RCW 70A.205 was amended to reinstate the tire fee, effective July 1, 2005. The original tire fee, which had expired in 1994, had been used to clean up tire dumps, fund a special study of tires and conduct other activities. The new fee is also intended to clean up unauthorized tire dumps and to help prevent future accumulations of tires. Starting in 2011 a portion of the fee revenue was transferred to the Department of Transportation for road wear related maintenance on state and local public highways (RCW

70A.205.415). During the 2021-2023 fiscal biennium, appropriations from the waste tire removal account may be made for the Department of Transportation to address the risks to safety and public health associated with homeless encampments on department owned rights-of-way.

The Department of Ecology posts charts of the number of tires collected each year and the costs. The number of tires cleared, have reduced substantially since the inception of the rule in 2005. However, there are numerous other tire piles in our region and continually we request the assistance of the tire funds to aid in clean up. The assistance of tire clean up funds have been a tremendous help for our local communities in Chelan County. This tax should continually be available for local agencies to clean up accumulated tire piles.

### **9.7.3 Service Gaps, Other Needs, and Opportunities for Tires**

Tires are often accumulated on residential property or illegally dumped due to the additional cost for disposing of these. In either case, the tires are an aesthetic problem and can provide habitat for mosquitoes. Convenient and inexpensive disposal opportunities are needed to encourage the proper disposal of tires. Handling tires as part of the solid waste system creates problems in collection, transfer and disposal, further reinforcing the need for a separate tire handling system.

### **9.7.4 Tire Alternatives**

The following alternatives for tire recycling or disposal were considered in this Plan:

**Develop one or more local, designated sites for tire disposal:** One interpretation of RCW 70A.205.400 would appear to allow local sites to be designated for tire disposal. Such a disposal site would, however, still need to meet other criteria and be constructed and designed a manner similar to a solid waste landfill. The cost to meet landfill design and operating standards would be prohibitively expensive.

**Request assistance in cleaning up tire piles:** Chelan County does request assistance from Ecology in cleaning up known tire piles on occasion. The latest amendment to the waste tire removal account (RCW 70A.205.400 – RCW 70A.205.460) allows for “funding to state and local governments for the removal of discarded vehicle tires from unauthorized tire dump sites.”

**Promote tire reuse:** This alternative would require Chelan County to encourage several different methods of reusing whole tires. For example, the County could develop an environmental park that exhibits products made of used tires (and other recycled materials) and has signs that emphasize the benefits of re-use and recycling.

Chelan County Public Works incorporated chipped tires into a section of designed highway. It has been quite successful in that it utilizes chipped tire and a good educational tool for other jurisdictions and highway departments. This is a proud achievement by the local department, because it utilizes the tires.

**Develop a collection system for tires:** In areas hit hardest by illegal dumping and accumulation of tires in residential areas, provisions could be made for ongoing collections of old tires, either for free (subsidized by Chelan County or others) or for a fee. Tires could be transferred to Les Schwab, GWRLF or others.

**Public education:** A public education campaign for tires could promote proper tire maintenance (keeping tires balanced and inflated) to extend the life of tires and reduce the number of tires disposed. The campaign could also promote reuse of tires and publicize proper recycling and disposal options.

**Promote local recycling options:** The State Department of Ecology should research and find better solutions for used tires. With the expense of virgin materials for tires, other methods will rely on the government for research and solutions. The state department has new offices, Clean Washington, that could further encourage the use of tires, and possibly finance the shredding of tires, removing unwanted components such as cord and wires. Numerous tires are piled in a central location in Oregon, and are not reused.

### 9.7.5 Evaluation of Tire Alternatives

An evaluation of the alternatives for tires is shown in Table 9.6 on the following page. The alternatives were evaluated using the criteria shown at the beginning of this chapter.

<b>Alternative</b>	<b>Regulatory Compliance</b>	<b>Capacity</b>	<b>Sustainability</b>	<b>Cost-Effectiveness</b>	<b>Conclusions</b>
Designate local site	Low	Medium	Low	Low	Don't pursue
Request help in cleaning up tire piles	High	High	Medium	Low	Pursue
Promote tire reuse	High	Low	Medium	High	Pursue
Collection system for tires	High	High	Medium	Medium	Don't pursue
Public education	High	Medium	Medium	Medium	Pursue
Promote State Research	High	High	Medium	Medium	Pursue

### 9.7.6 Recommendations for Tires

The recommendations for tires are:

**S7) Encourage proper disposal of tires.**

Proper disposal of tires should be encouraged through public education efforts that inform people of available opportunities. Proper disposal should also be encouraged by continuing to take tires for a reasonable cost at the transfer stations. State tire funds are continually helpful in cleaning up piles and aiding citizens for disposal.

**S8) Consider the uses and investigate engineering and other alternative applications for tires.**

The use of chipped tires in roadways should be continued. The efforts of Chelan County and other counties to develop this and other applications should be monitored and the potential use of those methods to educate the state.

**S9) Support the State to further research used tire use.**

Encourage the State to support and develop uses for used tires.

### **9.7.7 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Tires**

All the recommendations can be instituted.

## **9.8 NATURAL DISASTER WASTE**

### **9.8.1 Introduction**

The section addresses wastes that result from natural disasters and have expedient needs to manage for human health and environmental needs.

Solid waste generated unexpectedly due to natural disasters can be dangerous, and management assistance is needed, particularly in cases where homeowners are faced with a surge of material caused by the disaster, such as flood, fire, landslide, storms or earthquake. Handling the material in an efficient manner is critical to the health of human lives and the environment.

### **9.8.2 Existing Activities and Regulations for Natural Disaster Waste**

The potential for waste generated from natural disasters occurs infrequently but effective management is necessary for the recovery and recovery efforts. Cooperative assistance is needed with federal, state and local agencies.

**Wildfire:** A tremendous amount of burned scrap metal, concrete with rebar, and miscellaneous burned debris can inhibit the recovery process. With assistance, trucks can haul the material to a local scrap metal dealer, provided the metal is recoverable. Concrete with rebar makes up a large amount of material that results from various natural disasters. Concrete is difficult to manage due to its heavy weight and bulk. Heavy equipment is needed to sort and load trucks, which can haul the material to an inert landfill. In Chelan County, we have one site near Cashmere – Fillion Inert landfill. Other mixed plastics and various other materials that are burned and melted will need to be disposed of to prevent any leaching into the groundwater. These materials can be hauled to an approved lined landfill, such as the greater Wenatchee Regional landfill.

**Flooding:** The arid area of Chelan County receives an average of 7 inches to 23 inches of precipitation a year. In the past, flooding has been caused by rainfall that occurs in a short time period. Floods cause waste with homes, businesses and surrounding public areas. Trees also can fall, as was seen in the storm of 2002. About 4,000 tons of trees and brush was processed by the County chipper and a private chipper. Brush and trees were chipped at a central site over the course of two weeks. The chips were hauled to a blueberry farm in eastern Washington.

Other materials that may need to be handled due to flood damages can include personal household items, including furniture, construction debris, vehicles and trailers, mobile homes and hazardous waste. Primary sorting is helpful when facilities are available to hold items until they can be processed. Scrap metal can be processed at scrap yards, provided they are accepting the material. Material needs include loading and hauling equipment, as well as staff to coordinate.

**Earthquake:** Chelan County has an earthquakes epicenter near Entiat, which was established along the Columbia River. The river is paralleled by rock cliffs. Waste resulting from an earthquake can include

rock, dirt, demolition material, vehicles and trailers, and even all types of homes. In an earthquake, almost everything can be destroyed, creating a waste product that needs to be handled and removed. Concrete and rebar can be loaded and hauled with heavy equipment. If natural vegetation such as trees and brush can be segregated, it can be hauled to a central location for chipping and composting or if necessary, burning. And miscellaneous debris can be hauled to the local solid waste facility. Hazardous waste will need coordination with the state spill team, the local Moderate Risk Waste facility, or other disposal needs should be coordinated.

**Mudslides:** These devastating natural disasters can cause a tremendous amount of debris that may need to be removed immediately. Material can be removed with heavy equipment, sorting out debris to be hauled to a municipal landfill and moving natural vegetation to a burn area. Trees or brush enrolled in a mudslide are not likely to be chipped because of the sand and dirt impounded into the material. Trees or brush covered in dirt cannot be placed in a wood grinder without causing damage to the equipment. Therefore, burning this material may be necessary. Initially the bulk of the soil will need to be removed to access debris. Soils can be loaded and hauled to be stockpiled nearby. Staff coordination of nearby sites is needed, along with the arrangement of equipment. Much of the coordination can be done with Emergency Management Services.

**Other:** Natural disasters may occur anywhere and may not be typical for the Northwest and Chelan County; however, excessive waste from a disaster needs to be efficiently removed for the safety of human health and the environment. Equipment, staff and facilities are necessary to coordinate an efficient and expedient process to remove material out of harm's way of the public and environment.

### **9.8.3 Service Gaps, Other Needs and Opportunities for Natural Disaster Waste**

Natural Disasters can create a tremendous amount of garbage and debris that may need to be handled urgently. Funding resources for equipment and staff to coordinate and implement the sorting, collection, loading, hauling, and disposal of materials will be needed.

### **9.8.4 Natural Disaster Alternatives**

The following alternatives for the disposal of waste generated from natural disasters were considered:

**Coordinate with local Department of Emergency Management:** The Chelan County Department of Emergency Management serves to minimize loss of life and personal injury and damage to property and the environment. However, coordination and assistance will be needed to provide methods to move the waste and determine where it will be disposed. A separate plan or section of the Emergency plan could include methods for the local Solid Waste facilities to assist with disposal in the case of an emergency.

**Request assistance in cleaning up waste:** Chelan County could request assistance from Ecology in cleaning up materials for the best management practice, as well as financial assistance with the equipment rental and operators' time needed to sort, collect, load, haul, and dispose, reuse, or recycle material.

### **9.8.5 Recommendations of Natural Disaster Waste Alternatives**

The recommendation for Natural Disaster waste is:

**S10) Seek and provide assistance for the collection and treatment of waste as a result of a Natural Disaster.**

Support emergency services with waste collection and disposal, including for hazardous waste. Seek assistance from Washington State Department of Ecology for financial resource recovery.

**9.8.6 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Natural Disaster Waste**

The recommendation can be instituted.



## CHAPTER 10: ADMINISTRATION AND PUBLIC EDUCATION

### 10.1 INTRODUCTION

The solid waste management activities discussed in this chapter are organized into two sections:

- 10.2 Administration and Regulation
- 10.3 Public Education

### 10.2 ADMINISTRATION AND REGULATION

This section discusses the administrative and regulatory activities related to solid waste management in Chelan County, including financing options for solid waste programs.

#### 10.2.1 Background for Administration and Regulation

At the federal and state levels, the primary regulatory authorities for solid waste management are the Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology), respectively. At the local level, the responsibility for solid waste administration and enforcement is shared by Chelan County, the cities and the Chelan-Douglas Health District. The private sector also contributes significantly to the proper management of solid waste, and, to the extent possible, public-private partnerships are used to provide the most cost-effective system.

Solid waste regulations for waste collection and disposal have a relatively short history compared to many other municipal activities. Increased recognition of the problems caused by poorly managed solid waste disposal, such as groundwater pollution and the potential for the spread of pests and diseases, led to the initial federal and state regulations 30 years ago. Other problems have led to additional regulations over the years. The body of solid waste rules and regulations that govern waste management continue to evolve in response to new needs, regulations, changes in economics and other factors. Hence, the solid waste system in Chelan County will need to continue to incorporate and adapt to new regulations and requirements over the life of this *Solid Waste Management Plan* (Plan).

#### 10.2.2 Goals and Objectives for Administration and Regulation

Chelan County's goals for administration and regulation of the solid waste system include:

- Ensure the institutional framework defines and delineates the roles and responsibilities of the municipalities, counties, state and private sector.
- Ensure the responsibilities and authorities vested in implementing agencies allow them to function efficiently.
- Ensure funding mechanisms and authorities are sufficient to support adequate management and implementation of the solid waste system.
- Ensure sufficient monitoring and regulatory procedures are in place to adequately manage solid waste.

- Ensure agencies responsible for planning, management, implementation and enforcement are adequately staffed and funded.
- Ensure permitting requirements are modified or established, where necessary, to provide a suitable framework for monitoring various waste streams.
- Ensure citizen groups can participate in planning and implementation activities.

The recommendations shown in the previous solid waste management plans for Chelan County also provide direction for the goals and objectives for the current process:

- Provide adequate staffing for solid waste programs.
- Improve interagency coordination and oversight.
- As new regulations for solid waste monitoring and enforcement are developed, additional Health District staff resources may be required. Clearly communicate to the State the district's need of funding.
- Ensure the Health District is responding to enforcement needs and coordinating with the Chelan County Solid Waste program.
- Determine whether new programs will be managed publicly or privately on a case-by-case basis.
- Develop new ordinances, as needed and funded, to enhance the solid waste management system.
- Support endeavors to adequately provide revenue for solid waste programs and essential infrastructure.
- Continue to apply for grant money for the funding of solid waste programs.

### 10.2.3 Existing Administration and Regulation Activities

All levels of government are involved in solid waste management in various ways.

**Federal level:** At the federal level, the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Solid Waste Disposal Act Amendments of 1980 (42 U.S.C. 6901-6987), is the primary body of legislation dealing with solid waste. Subtitle D of RCRA deals with non-hazardous solid waste disposal and requires the development of a state comprehensive solid waste management program that outlines the authorities of local, state and regional agencies. Subtitle D requires that state programs provide for all solid waste to be disposed in an environmentally-sound manner.

A provision of RCRA requires that federal facilities comply with substantive and procedural regulations of state and local governments, and so federal agencies must operate in a manner consistent with local solid waste management plans and policies. The major federal agencies active in Chelan County are the National Park Service and the National Forest Service. The National Park Service is involved in the collection and transfer of solid waste from the Stehekin area, but other federal facilities in Chelan County are served by local programs.

**State level:** The Solid Waste Management Act, Chapter 70A.205.040 of the Revised Code of Washington (RCW), provides for a comprehensive, statewide solid waste management program. Ch. 70A.205.040 RCW assigns primary responsibility for solid waste handling to local governments, giving each county, in cooperation with its cities, the task of developing and maintaining a solid waste

management plan that places an emphasis on waste reduction and recycling programs. Enforcement and regulatory responsibilities are assigned to cities, counties, or jurisdictional health departments, depending on the specific activity and local preferences.

The Minimum Functional Standards for Solid Waste Handling (Chapter 173-304 of the Washington Administrative Code) were promulgated by Ecology under the authority granted by Ch. 70A.205.040 RCW. This chapter has now been superseded by Ch. 173-351 WAC, Criteria for Municipal Solid Waste Landfills, which contains the current standards for landfills, and Ch. 173-350 WAC, Solid Waste Handling Standards, which addresses the operational and other requirements for recycling and composting facilities as well as inert and special purpose landfills.

Ch. 36.58 RCW, Solid Waste Disposal, delineates the counties' rights and responsibilities regarding solid waste management, including the authority to establish solid waste *disposal* districts (Sections 36.58.100 through 36.58.150) as well as providing special authorization for contracting procedures for solid waste handling facilities (Section 36.58.090). The authority to establish solid waste *collection* districts is provided in Ch. 36.58A.

As described in Chapter 6, the Washington Utilities and Transportation Commission (WUTC) is a state agency that provides regulatory oversight for the waste hauling certificate (franchise) areas. Certificates are issued by the WUTC that allow private collection companies to operate in specified areas at approved rates, and in some cases these certificates are only for specific types of waste. The WUTC sets rates for the regulated haulers, and is the enforcement agency for rules and regulations specific to the certificate areas.

Other relevant State legislation includes Washington's Model Litter Control and Recycling Act. The Model Litter Control and Recycling Act (Ch. 70A.200 RCW) and associated state regulations (Ch. 173-310 WAC) generally prohibit the deposit of garbage on any property not properly designated as a disposal site. There is also a "litter fund" that has been created through a tax levied on wholesale and retail businesses, and the monies from this fund are being used for education, increased litter clean-up efforts by the State, and grants to counties for litter and illegal dump clean-up activities. The State conducts litter cleanups on interstate and state highways, while County efforts are focused on local roads.

Additional state rules that impact solid waste management in Chelan County includes the ban on outdoor burning (see Section 5.2.5 for further details), and revisions to Ch. 70A.200.060 RCW that provide stiffer penalties for littering and illegal dumping in rural areas. Recent amendments to state law (Ch. 46.61.655 RCW) also provide for stiffer penalties for not properly securing loads of waste and other materials.

**Regional level:** The Chelan-Douglas Health District (Health District) provides much of the regulatory oversight and enforcement in Chelan and Douglas counties. The Health District is the responsible local authority (per RCW 70A.205.100) for issuing permits for solid waste facilities. The Health District also conducts inspections, addresses illegal dumping and conducts related activities.

The permit process for solid waste facilities requires an application and approval for new sites, and an annual review and renewal for existing permits. The application form requires information about the types of waste to be processed or disposed, environmental conditions of the area and an operations plan that must be approved by the Health District.

**Local level:** In Washington State, the primary responsibility for managing solid waste is assigned to local governments (Ch. 70A.205.040 RCW). Under State law, counties must prepare comprehensive solid waste management plans and have a broad range of authority to design, construct and operate facilities and provide services, contract for such facilities or services, and generate revenue. County authority to

operate solid waste collection services is very limited, however, and instead cities have significant powers in providing collection services.

In Chelan County, the local agencies involved in solid waste management include the Chelan County Public Works Department and various departments of each of the cities. Each entity has a particular area of operations, providing specific services to the residents within that area and enforcing specific rules and regulations. In addition, the Chelan County Solid Waste Council (SWC) and Solid Waste Advisory Committee (SWAC) play an important advisory role for the solid waste management system (see Section 1.6 for more details). Local rules that affect solid waste management include ordinances, land use plans and zoning codes.

**Chelan County Public Works Department:** The Public Works Department is the agency primarily responsible for solid waste management activities for Chelan County. The Chelan County Public Works Department operates a solid waste transfer station and contracts with a private company for the operation of a second transfer station. The Public Works Department also conducts Household Hazardous Waste collection at the new moderate-risk waste facility. Staffing consists of a Solid Waste Coordinator, Solid Waste Assistant, four transfer station attendants, two full-time MRW facility operators, and assistance as needed from the Public Works Director, Assistant Director, Accountant, payroll clerk, receptionist, Treasurer, Prosecuting Attorney and Auditor. Figure 10.1 shows an organizational chart of the Public Works Department.

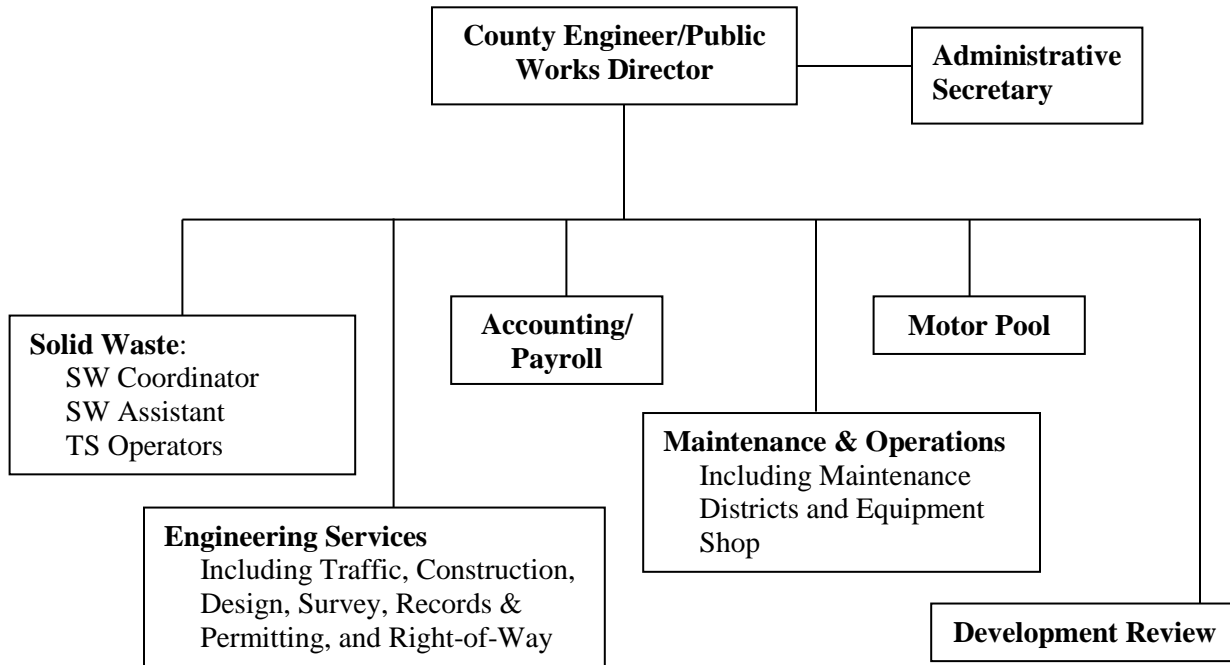
Chelan County utilizes two enterprise funds for the solid waste management system. The Solid Waste Fund is overseen by the Board of County Commissioners and the Solid Waste Planning Fund is overseen by the Solid Waste Council. The premise of an enterprise fund is that expenditures must be matched by revenues from service fees and other appropriate funding mechanisms. Revenues must be generated to pay for services. The Solid Waste Fund is used primarily for solid waste operations, including landfill closure costs, and funds are derived primarily from service fees at the two transfer stations. The Solid Waste Planning Fund is used primarily for recycling, waste reduction, and hazardous waste programs, and revenues are derived from payments received from the cities (and from the County) through the Interlocal Agreement, plus grant funds from Ecology. However, grants do not pay for essential solid waste infrastructure unless it is a primary recycling and reuse component. Additional details on the budget can be found in Table 10.1.

**County and City Planning Departments:** The planning departments for Chelan County and each of the cities prepares comprehensive land use plans. They are also involved with conditional use permits that sometimes affect the location and/or operation of solid waste handling and disposal facilities.

**Cities:** There are five incorporated areas in the County: Cashmere, Chelan, Entiat, Leavenworth and Wenatchee. According to state law, cities may provide or contract for the collection, processing, recycling and disposal of all solid waste generated within the city limits (Ch. 35.21 RCW). Cities also have the authority to require that their residents have collection service. In addition, cities may set collection rates. The Public Works or Sanitation Departments for the five cities in Chelan County are involved in solid waste management in different ways. The cities of Wenatchee and Cashmere contract with Waste Management for garbage collection services and collect the fee for this service through their utility billings. The next two largest cities (Chelan and Leavenworth) conduct their own garbage collection systems. Leavenworth exercised a flexible contract, using Waste Management to collect residential waste and curbside recycling while the City picks up the commercial waste. The city of Entiat allows Waste Management to directly serve the entire community.

Through the interlocal agreement, Chelan County and the five cities are responsible for the development, administration and implementation of the solid and moderate risk waste management programs within the county.

**Figure 10.1 Organizational Chart for Chelan County Public Works Department**



#### 10.2.4 Service Gaps, Other Needs and Opportunities for Administration and Regulation

This planning process identified a few issues related to administration and enforcement:

- Inter-county compliance and enforcement problems.
- Coordination between County, cities, private companies and local groups needs continued ongoing communications.
- Financing is limited and further support is needed to be instituted for solid waste planning.

As more programs are developed (both public and private), the Chelan County Solid Waste Program needs to continue to coordinate the solid waste system. Faced with numerous and complex solid waste management issues, the County Solid Waste Program must maintain an organizational structure to implement programs efficiently and effectively throughout the County. Maintaining communication among the participating jurisdictions and private service providers is essential to ensure that programs are reasonably consistent with one another, do not leave gaps in programs or services, and duplicate services.

Cleaning up illegal dumps is an ongoing need for the County Solid Waste Office and the Health District staffing and expenses. This effort has been relatively stable for the past several years, due to State grant funds provided in the Community Clean-up program. However, arising homeless camps are proving to be challenging to keep up with. A tremendous amount of refuse is left at such camps and they create a health

hazard. New regulations increase the workload and responsibility for both the Public Works Department and the Health District. Monitoring and enforcement responsibilities have increased, as environmental issues at solid waste sites are becoming more complex and demanding on the Health District's resources. These increased efforts place additional demands on staff and funds. Increased funding to allow the Health District to meet these needs may be necessary in the future.

Additional funding will be needed for recycling and disposal programs. Sustainable solid waste programs require funds for capital investments and maintenance, as well as staff, planning, supplies, equipment and associated operations costs. There are opportunities for regional efforts involving neighboring counties (primarily Douglas, Grant, Kittitas and Okanogan counties). Many of these opportunities are in transfer and disposal systems but opportunities exist for other activities as well. There are also several opportunities to work with various local citizens groups to help implement and/or promote programs.

### **10.2.5 Alternative Methods for Administration and Regulation**

The following options address the needs and service gaps identified in the areas of enforcement, administration and funding. Solid waste districts are discussed separately below, as districts could potentially address two or more types of options.

**Enforcement options:** Illegal dumping could be addressed through increased enforcement activities, universal (mandatory) garbage collection and education. Increased enforcement would require additional funding for personnel and expenses. If needed, additional funding for enforcement activities could be derived from general funds, surcharges on tipping fees, special assessments, increased permit fees and/or increased fines for solid waste violators. Other methods to address illegal dumping could include approaches such as requiring repeat violators to participate on litter crews and video surveillance of "promiscuous" dump sites. However, this takes a significant time to monitor. A critical factor for controlling illegal dumping is to clean up sites as soon as possible, or the sites tend to grow and become a longer-term problem.

Implementation of universal garbage collection services could be achieved in several ways, but usually this is accomplished through some form of mandatory collection requirement. One of the more effective means of implementing mandatory garbage collection would be the formation of a collection district (see discussion of solid waste districts later in this section).

Education is an important aspect of addressing illegal dumping and related problems. Additional education efforts could emphasize to residents their responsibilities for proper solid waste management and the options that exist for properly handling garbage. One aspect of this might be to clarify the costs of garbage collection, to dispel the idea that it is significantly more expensive than self-hauling waste to disposal sites. To the extent that people are encouraged to sign up for garbage collection services, this approach could help prevent the accumulation of large amounts of waste in the unincorporated areas of the County.

Homeless encampments are a challenge to manage for solid waste generated in areas of the county and within the cities. Unwanted items accumulate quickly at homeless camps because items are free, stolen, and broken to the point that they are being reused for the last time. As well, garbage disposal receptacles or services are not acquired. Possibly by providing public paid garbage services and receptacles at typical homeless camp locations would help capture and properly dispose of items. This may be a political issue to use public funds. An alternative method of solution for this waste is very difficult.

**Administrative options:** Additional staff could be provided through a part-time or full-time position, or through interns or volunteers. The recommendations made by this plan that are contingent on additional

staff could conceivably be fulfilled by additional employees that could take on other duties and serve to further improve homeless encampment garbage and other programs in Chelan County.

**Table 10.1 Chelan County Solid Waste Budget**

<b>Solid Waste Fund</b>	<u>2021</u> <sup>1</sup>	<u>2022</u> <sup>1</sup>
<u>Revenues</u>		
Tipping Fees Dryden Transfer Station	2,527,074	2,411,275
Surcharge, Chelan Transfer Station	1,048,158	1,052,133
Brush Collection sites	133,292	96,323
Litter Grant	28,176	34,778
Metal Salvage	44,643	24,323
Health District Recovery Fee	47,545	35,598
<u>Expenses</u>		
Salaries and Benefits	353,357	448,466
Supplies	32,669	17,343
Services and Disposal	2,897,598	2,857,089
Capital Outlay	52,932.	322,151
Beginning Fund Balance	1,445,886	1,938,188
Total Revenues	3,828,858	3,654,430
Total Expenses	3,336,556	3,645,049
Ending Fund Balance	1,938,188	1,947,569
<b>Solid Waste Planning Fund</b>		
<u>Revenues</u>		
Grants (Ecology)	141,258	95,128
Interlocal Funds & Utilities	324,735	150,000
Facilities Rentals	2,750	2,750
<u>Expenses</u>		
Salaries and Benefits	172,031	224,012
Supplies	60,117	30,934
Services and Charges	81,964	106,054
Payments to Other Funds	19,224	23,768
Capital	0	0
Beginning Fund Balance	74,549	209,956
Total Revenues	468,743	247,878
Total Expenses	333,336	384,768
Ending Fund Balance	209,956	172,034

Notes:



*All figures are in dollars.*

1. *Figures for 2021 and 2022 are the actual revenues and expenditures.*
2. *Capital Outlay for Solid Waste Fund has two Transfer station improvement projects that exceed the end fund balance and therefore have been postponed till sufficient funding.*

**Funding options:** Solid waste programs in Chelan County are funded through a mixture of tipping fees, surcharges, funds provided by the cities pursuant to the interlocal agreement, State funds/grants, and other sources. This system is working well but additional funds are necessary to provide needed capital improvements. Expenses for capital improvements are being reviewed for government loans funded through general obligation bonds, revenue bonds, industrial development bonds. Solid Waste taxes provide for the Public Works Trust account and may be available for low interest loans.

The more feasible funding options are discussed below.

**Grants:** The County and cities receive state allocations called grants only because counties must show substantial improvements to be eligible. The current grant allocations are an especially important part of the funding for existing programs, and are critical for future projects that do not generate significant revenue (such as the Moderate Risk Waste facility).

**Service fees and tipping fee surcharges:** Service fees and tipping fee surcharges are currently used in Chelan County for solid waste facilities. Service fees are a necessary funding mechanism for operations but can be too expensive for the public to include costs for capital improvements at existing facilities. Construction costs have increased dramatically, pricing the improvements out of budget. Fees and services charges are evaluated annually to determine if the amounts should be raised or lowered. Unfortunately, increased tipping fees cause further illegal dumping.

**Collection service fees:** The county imposed a fee on waste collection services operating in the unincorporated areas to fund the administration and planning expenses associated with the implementation of this Plan (RCW 36.58.045), primarily the Moderate Risk Waste facility and updating the Solid Waste Management Plan. In this case, Chelan uses this fee for their contribution to the Interlocal agreement.

Another fee to consider is a Host fee to support the costs of the solid waste transfer stations. Thousands of nearby county businesses and residents utilize the Chelan County transfer stations, and therefore would be justified in assessing an additional fee to imported waste.

**Interlocal agreements:** An interlocal agreement is already being used as a source of funding for Chelan County solid waste programs, or a new agreement with a neighboring county could be used to implement new or expanded programs. This approach often has significant flexibility, plus the power of involving several entities in addressing a specific problem. Conditions addressed by interlocal agreements could include many of the same elements as addressed by collection and disposal districts, but could specifically include:

- Designating a city or county agency to act on behalf of the parties that sign the agreement.
- Designating a specific facility (or facilities) as the only acceptable repositories for waste (i.e., effectively creating flow control).
- Creating a system for sharing risks and liabilities.
- Addressing the financial arrangements for the solid waste management system.

**Internal financing:** This option involves collecting funds from whatever activity is being financed, thus paying for programs directly or from a capital improvements fund established expressly for this

purpose. In this sense, it is similar to the above option, except that funds are generally collected in advance of the expenditure. Funds generated in surplus of the current needs of the system are placed in a capital improvement fund and then used later for capital improvements. This method is not well suited for financing large capital expenditures because of the long period of time required for the fund to reach the required size, but can be useful for small-scale projects, planning studies, and pilot programs.

**General obligation bonds:** General obligation bonds are often used for large municipal capital projects but are currently only rarely used for solid waste facilities. Revenue bonds (see below) are more commonly used, although general obligation bonds may pay a lower interest rate because the debt is backed up by the municipality in general rather than by a specific activity (i.e., less risk to investors).

**Revenue bonds:** Revenue bonds are similar to general obligation bonds except that repayment is guaranteed through funds collected from a revenue-producing activity, such as through a tipping fee or excise tax. Revenue bonds may require additional obligations such as a guarantee of a flow of material. Revenue bonds may also cost more than general obligation bonds (and thus require higher tipping fees or other charges) because repayment of a revenue bond is not tied to the county as a whole but rather to the revenue generated by a specific activity. This type of bond typically also requires that additional funds be collected to provide a safety factor against fluctuations in cash flow, which may lead to higher rate increases but may provide surplus funds for later use.

**Loans:** Various types of loans can be used to finance a new facility or other capital improvements that may be required to implement a new program. The principal and interest for the loans could then be repaid by service fees or other revenues. One type of loan that may be useful for solid waste projects is a low-interest loan from the Public Works Trust Fund. Of course, repayment process must be in place prior to the installation of a loan.

**Industrial development bonds:** For joint ventures between private enterprises and the County, industrial development bonds (IDB's) may be used for funding capital improvements. IDB's are particularly common in financing waste-to-energy projects, but other joint ventures may be amenable to this form of joint cooperation. There is a statewide cap for such bonds, so any project would have to compete with other projects throughout the state. This type of funding is often implemented through an Industrial Development Authority.

**Private funding:** Private solid waste projects or private/public ventures can be financed through private sources. This method of funding capital improvements and programs may be more expensive than the previously mentioned programs due to higher interest rates and profit margins. The cost of privately financed projects could be recovered through charges to customers using the facility.

**Enterprise funds:** An enterprise fund is established under provisions of the Governmental Accounting Standards Board's 1987 Codification of Governmental Accounting and Financial Reporting Standards, Section 1300.104. Under these standards, a special fund is established and revenues collected are deposited in the fund. An enterprise fund is generally used for regular or periodic expenses, but occasionally surplus funds are accumulated in the fund. As funds accumulate, they may be used to provide for internal financing of less capital-intensive projects. The enterprise fund monies can also be obligated to repaying revenue bonds for large capital projects.

**General fund:** In this alternative, a solid waste budget is developed and approved through normal methods of raising funds for government activities, which generally means a portion of the tax revenues

are directed to solid waste activities. The solid waste activities then need to compete on an annual basis with other projects for available funds.

Providing the required funds to establish solid waste programs under this alternative may require a general tax increase. In general, a tax increase is difficult to implement even for the most-needy programs, and no guarantee can be made as to its ability to be implemented. Without a tax increase, other local government programs would suffer to pay for enhanced solid waste activities.

An advantage of this alternative is that it allocates the cost of the solid waste system to all citizens of the participating jurisdictions. Disadvantages include the difficulty of establishing a budget and funding it, general fund financing of solid waste programs might hamper the establishment of a rate incentive for recycling, and this approach could make it more difficult to add future programs.

**Solid waste districts:** Chapters 36.58 and 36.58A RCW allow the establishment of waste *disposal* districts and waste *collection* districts, respectively, within a county. Either district can include the incorporated areas of a city or town only with the city's consent. A solid waste district (for collection or disposal) could centralize functions that are now handled by a variety of county and city agencies, but it may be difficult to develop a consensus on the formation and jurisdiction of either type of district. Either type of district may be able to alleviate illegal dumping and other problems, however, through the institution of mandatory garbage collection (for a collection district only) or different funding structures.

Ch. 36.58.040 RCW prohibits counties from operating a solid waste collection system, but the establishment of a solid waste *collection* district that can act in a similar capacity is allowed by Ch. 36.58A RCW. A collection district can be created following the adoption of a solid waste management plan that provides for this approach. A collection district does not appear to possess taxing authority but can assist with the collection of fees due to a private hauler and can use the normal procedures (liens) to collect unpaid fees (Ch. 36.58A.040 RCW).

A solid waste *disposal* district is a quasi-municipal corporation (i.e., an agency that exhibits some of the functions of a public agency and also some of the functions of a corporation, but that is not incorporated) with taxing authority set up to provide and fund solid waste disposal services. A disposal district has the usual powers of a corporation for public purposes, but it does not have the power of eminent domain (i.e., the ability to condemn and assume ownership over private property). The County legislative authority (i.e., the Board of County Commissioners) is the governing body of the solid waste disposal district.

Ch. 36.58.130 RCW allows a *disposal* district to provide for all aspects of solid waste disposal. This includes the processing and conversion of waste into useful products, but specifically excludes authority for the collection of residential or commercial garbage. A disposal district may enter into contracts with private or public agencies for the operation of disposal facilities, and then levy taxes or issue bonds to cover the disposal costs. Thus, a disposal district established in Chelan County could assess each resident or business (in incorporated areas only with the city's approval) a pro rata share of the cost of disposal. This could help to discourage illegal dumping by covering at least part of the disposal cost through mandatory payments, so that the additional expense for proper disposal would not be as high as it is currently. In other words, the assessment by the disposal district would be paid regardless of where the resident or business dumped the waste or whether it was self-hauled or transported by a commercial hauler, and the latter two options would be less expensive than current fees by the amount of disposal costs paid by the disposal district's assessment.

Ch. 36.58.140 RCW states that a *disposal* district "may levy and collect an excise tax on the privilege of living in or operating a business in the solid waste disposal taxing district, provided that any property

which is producing commercial garbage shall be exempt if the owner is providing regular collection and disposal.” The district has a powerful taxing authority, since it may attach a lien to each parcel of property in the district for delinquent taxes and penalties, and these liens are superior to all other liens and encumbrances except property taxes.

The funds obtained by a *disposal* district may be used “for all aspects of disposing of solid wastes...exclusively for district purposes” (Ch. 36.58.130 RCW). Potential uses include:

- Defraying a portion of the present cost of disposal.
- Subsidizing waste reduction/recycling activities.
- Subsidizing the Household Hazardous Waste Collection Center and related programs.
- Closure and post-closure costs for the old landfills and for other solid waste facilities.
- Solid waste planning.
- Cleanup of roadside litter and solid wastes illegally disposed of on unoccupied properties within the district.
- Public information and education about waste reduction and recycling.

This Plan does not provide a recommendation for or against districts, in recognition of the fact that it may or may not be desirable to consider districts in the future as conditions warrant.

### 10.2.6 Evaluation of Alternatives for Administration and Regulation

Alternatives should be evaluated using the following criteria.

- **Public acceptability:** This criterion measures how receptive the public (or the private sector, depending on the alternative being considered) will be to the program. Issues such as convenience and willingness to participate are considered.
- **Ability to be funded by a variety of sources:** Alternatives will be evaluated according to the variety of funding and implementation mechanisms available (i.e. grants, private sector involvement or community volunteer efforts).

The solid waste management system in the County is mostly operated by the private sector, which limits the revenue sources available to fund new programs. Because Chelan County does not have control over the entire solid waste collection and disposal system (and the corresponding revenues), it is important to pursue programs that can be funded from a variety of sources. For instance, Ecology offers grant monies that could continue to support recycling facilities. Grants are only available on an outcome basis and measured amounts of recycled materials is available.

- **Local staff time and availability:** The degree to which the alternative can be incorporated into the workload of existing staff is an important factor. Several of the alternatives would require a significant amount of staff time to implement, and so would be difficult or unlikely to be conducted given current conditions.
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and the SWAC support programs that can effectively improve the results of waste diversion programs.

A summary of the evaluation of administrative and regulatory alternatives is presented in Table 10.2.

<b>Table 10.2 Evaluation of Administrative and Regulatory Alternatives</b>					
<b>Alternative</b>	<b>Public Acceptability</b>	<b>Funding Flexibility</b>	<b>Staff Availability</b>	<b>Cost-Effectiveness<sup>1</sup></b>	<b>Conclusion</b>
Illegal dumping enforcement	High	Low	Low	Low	Pursue
Mandatory collection	Very Low	Low	Low	Medium	Don't pursue
Collection service fees	Medium	High	High	High	Implement
Increased staffing	Medium	Low	Low	High	pursue
Increased funding	Low	High	Low	Medium	pursue
Designate Dryden Transfer Station as only repository for Southwest County waste.	Medium	High	High	High	Implement
Solid waste collection district	Low	Medium	Low	Medium	Don't pursue
Solid waste disposal district	Low	Medium	Low	Medium	Don't pursue

*Note: 1. Based on estimated costs and increased diversion rates. Hard data on the effectiveness of administration and regulation is not available.*

### 10.2.7 Recommendations for Administration and Regulation

The recommendations for administration and regulation are:

**A1) Provide adequate staffing for solid waste programs.**

Adequate staffing is critical to the development and implementation of new and existing programs.

**A2) Continue to improve interagency coordination and oversight.**

Several different jurisdictions and agencies, including the Department of Ecology, Health District, Chelan County and the five cities, are involved in various aspects of solid waste management. Sharing information and resources between these different groups will increase the efficiency and effectiveness of all programs.

**A3) Designate County transfer stations, Dryden and Chelan, as the only repositories for waste in the areas designated.**

Designated areas required to utilize the area transfer station. Secure and stable funding is necessary to continue to provide diversion to the transfer station for commodities, including brush and scrap metal, composting and hazardous waste, and to implement programs within the Solid Waste Management Plan. Waste from franchised haulers shall be taken to Dryden Transfer station from areas of Monitor to the West boundary of Chelan County, and waste from the franchised area of Lake Chelan valley shall be taken to the Chelan Transfer station.

**A4) Continue the Collection Service Fee.**

Fees have been established upon waste collection services operating in the unincorporated areas to fund the administration and planning expenses associated with the implementation of this Plan (RCW 36.58.045).

**A5) Continue to apply for grant money for the funding of solid waste programs.**

Grants, especially those administered by Ecology, are an important funding source. Additional grant funds and special funding are necessary for existing facilities and proposed activities.

**10.2.8 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Administration and Regulation**

The first recommendation above requires additional staff to fulfill the duties associated with several of the recommendations in the chapters of this Plan, as well as required updates of the Plan. These expenses require additional funds. The remaining recommendations shown above make use of existing staff and funds, and generally are existing activities that are conducted throughout the planning period.

The recommended sources of funding for the various capital improvements and new activities (from the other chapters of this Plan) are shown in Table 10.3. Only those recommendations with significant additional expense (above current funding levels) are shown in the table. Other recommendations, for continuing ongoing programs and similar activities, are not shown in Table 10.3.

<b>Table 10.3 Recommended Financing Methods</b>		
<b>Capital Expense or Program</b>	<b>Estimated Cost</b>	<b>Funding Source</b>
Additional staff to assist with Plan updates, including requirements of Compost legislation 1779, and general administration of Solid Waste Plan.	\$75,000	Grant funds
Additional staff to aid with sourcing additional funds for Capital improvements.	\$ 75,000	General Solid Waste funds

Administer design, plan, and construction bidding and inspection for 2 <sup>nd</sup> tip floor at Dryden Transfer Station.	\$3,200,000.	User fees (tip fee) Consider import fee from outside County waste
Administer planning, design, bidding, and construction inspection for scale, scale house and expansion at Chelan Transfer Station (#F7),	\$1,100,500.	User fees (tipping fee) Consider import fee from outside County waste

## 10.3 PUBLIC EDUCATION

### 10.3.1 Introduction

Public education is defined to include activities that disburse information and/or motivate people to act in a certain manner. The information can be targeted at a particular group (such as the residents of a specific city or area) or sector (residential or commercial), or can be prepared for a broader audience (all of the residents and businesses within the County). Examples of public education activities include informing people and businesses of the open hours for local disposal facilities, or encouraging them to mulch their yard waste instead of disposing of it.

General public education and information programs are described in this section. Public education programs for specific elements of the solid waste system (recycling, composting, garbage collection and disposal) are also described in the chapters dealing with those activities.

### 10.3.2 Goals and Objectives for Public Education

The primary public education goal is to develop a program that encourages waste reduction, recycling, and proper disposal methods. Specifically, Chelan County's public education objectives include the following:

- Ensure residents and businesses are aware of options for reuse, recycling, composting, and proper disposal.
- Promote miscellaneous waste collections and state programs.
- Coordinate with the cities and private collection companies for reliable public information.

### 10.3.3 Existing Public Education Programs

Public education is critical to realizing recycling and waste reduction goals. It is an important method of achieving the behavioral and attitude changes required for participation in recycling and composting programs. Chelan County, private haulers and other groups have established a number of public education and outreach programs supporting waste reduction and recycling activities. These programs encourage waste reduction and recycling activities by promoting behavioral changes in residents.

Educating children about waste reduction and recycling at school has proven to be a successful approach to reaching the public. Many teachers incorporate lesson plans on these topics, and materials are available that

meet current educational standards. Citizens groups and others have worked with schools to institute recycling education.

Local environmental groups provide educational waste reduction presentations at booths in local fairs. The Salmon Festival in Leavenworth has a tremendous amount of education programs and invites the County Solid Waste office as well as volunteer groups to sponsor a booth on methods of reducing waste. The Chelan Work Group has also been active in coordinating a fair on Earth Day that focuses on reducing toxic materials. The Chelan County Public Works website contains an abundance of waste reduction, recycling, and proper disposal is open to work cooperatively with other jurisdictions and local groups to effectively provide solid waste information to the public.

#### **10.3.4 Service Gaps, Other Needs and Opportunities in Public Education**

More needs to be done in the area of public education and information distribution, but funding for these activities is limited. Education is critical to the success of any waste diversion program. More comprehensive education about all waste processing and diversion options for residents and businesses, including the requirements for curbside recycling, is needed.

Several opportunities exist for public education activities (some of these are already in use), including:

- Cooperative communications with the haulers, cities and others to distribute accurate disposal and recycling information.
- Educational materials on which waste diversion activities are locally available.
- Educational materials on costs/benefits of various waste reduction activities or methods.
- Maintaining public information so that it is updated and accurate.
- Use of free publicity, such as county website and listserv.
- Targeting special groups, such as businesses or legislators.
- Efforts to address illegal dumping problems, including homeless garbage.

To be effective, public education methods need to be tailored to specific groups and programs. In Chelan County, messages for the general public should be bilingual (Spanish and English).

Garbage haulers are required by state law to distribute public education materials annually (Ch. 480-70-361(7) WAC) (website does not suffice for a document). At a minimum, these notices must be distributed to current and new customers for solid waste services in the certificate (franchise) areas. If a brochure is distributed by a local government directly to the public instead, then the hauler does not need to distribute a brochure as long as the minimum information described above is included. If a local government provides a brochure to the hauler, then the hauler must distribute those, and in this case the brochure may also address commercial recycling and waste reduction options offered by other companies and agencies. Brochures developed and distributed by the hauler are not required to present information on recycling and waste reduction programs offered by others.

#### **10.3.5 Public Education Alternatives**



**Additional staffing:** Additional staffing for Chelan County would allow more public education activities to be conducted, the solid waste management plan updated, as well as assistance with planning and financing essential capital. Staff to aid in developing necessary funding for infrastructure, better diversion and disposal processes, and maintaining web sites will aid in local residents' knowledge of the need to reuse, reduce, and recycle, as well as proper disposal methods.

**School programs:** If funding allowed, County staff could provide the schools and the general community with additional information about waste reduction education programs. Ecology could also resume assisting with updating the state's curricula and incorporating it into today's school requirements. Service to schools could be enhanced to include distribution of learning aids such as books, videos, and worksheets. A successful school education program must consider the following guidelines:

- 1) Involve children in the learning process.
- 2) Make the material personal and relevant to students.
- 3) Use a multi-media approach that engages a variety of senses.
- 4) Recycling containers and space to conduct a recycling program in the classrooms.
- 5) A nearby recycling program that is accessible by the school or on school grounds.

**Public education alternatives for businesses and industries:** County staff, private consultants, or citizen action group participants can aid business/organization waste generators, using fact sheets, a telephone hotline, directories, workshops, demonstration programs, newsletters and on-site consultations. These services can offer the private sector valuable assistance in gaining the experience and knowledge that can take months or years to develop.

If funding allowed, County staff could organize and target the businesses that generate large amounts of recyclable materials with a waste reduction and recycling information sheet about diversion programs available. These businesses could be identified by surveying local haulers for their recommendations for likely hotels, restaurants or supermarkets.

Books, studies or videos that focus on commercial waste reduction/recycling could be made available. To encourage businesses to attend, businesses could be given a certificate of participation, a window decal with the recycling logo and use of the decal on printed advertising, and could also be offered a free waste audit and on-site assistance in establishing a waste reduction/recycling program. All recipients of the certificate could be promoted whenever possible as "good business citizens" in the local media. Businesses could be encouraged to share their knowledge with their customers through displays or other types of educational efforts.

The County could sponsor a trade show that would allow local businesses involved with waste reduction and recycling an opportunity to display their products and network with other businesses. Workshops focusing on specific industries and their solid waste needs could be held.

**Awards and public recognition:** Awards and public recognition can be used to develop public motivation to reduce waste at the source. Public recognition provides an opportunity for local jurisdictions to publicize innovative waste reduction programs, as well as encourage the business sector to participate in waste reduction activities. Leadership, innovation, volunteer activity, or setting a positive example for others to follow can be recognized by the counties and the municipalities. Local media could be encouraged to report on businesses that practice waste reduction, and possibly have a weekly column that focused on waste reduction and recycling issues.

**General public education and information:** Chelan County recognizes that education is an important method of keeping up with new diversion programs. If citizens and businesses do not know of the solid waste segregation process, and how they can help, then more confusion will occur at the transfer station disposal sites, and waste reduction or recycling programs.

Difficulties involved with public education programs include the diversity of individuals targeted to receive the information, multiple programs competing for public attention, and cost. The cost-effectiveness of public education programs can be difficult to measure. To combat these obstacles of measuring effectiveness, public education programs require ongoing coordination between public agencies, schools, businesses and the general public, and monitoring of participants to measure changes in current practices and impacts of the educational events attended. The following list describes various methods for general public education:

- **Roadside signs/billboards** may be a possibility, though are not necessarily an inexpensive form of advertising. They could inform people about where disposal facilities, and recycling programs are available.
- **Web pages** maintained by the County, cities, private haulers and others are an important source of information, especially because they can be accessed 24 hours a day.
- **Flyers** can be distributed at the transfer stations, County and other municipal buildings, libraries and the East Wenatchee Landfill.
- **Newspaper or bill inserts** tend to be an effective method for reaching large numbers of citizens.
- **Social Media** or web sites that provide a waste disposal and diversion interactive site.
- **Displays** can be placed in areas with heavy foot traffic, such as public buildings and libraries.
- **Information centers at community gathering places** can be an easy way for residents to gather information about available waste reduction options.
- **Booths at local trade shows and fairs** provide an opportunity for residents to learn first-hand about waste disposal and reduction from local government representatives.
- **Videos/slide shows** can be made available to community groups, web sites, and trade associations for use in presentations.
- **Television and radio advertising and programs** are effective in reaching large audiences, but these can be expensive and the messages may reach beyond city or County boundaries to areas with different programs. The expense can be minimized by using public access television and public announcements, but quality programs still take a significant amount of staff time to create.
- **Magazine/newspaper articles** are effective in reaching large populations, and may be less costly than radio and television advertising.
- **Presentations to community groups and trade associations** provide personal contact with the community.

“Word-of-mouth” has proven to be an effective method of creating behavioral change for recycling and waste management activities.

### **10.3.6 Evaluation of Public Education Alternatives**

Alternatives for public education should be evaluated using the following criteria.

- **Public acceptability:** This criterion measures how receptive the public (or the private sector, depending on the alternative being considered) will be to the program. Issues such as convenience and willingness to participate are considered. Based on similar programs throughout the country, it is expected that websites are effective.
- **Ability to be funded by a variety of sources:** Alternatives will be evaluated according to the variety of funding and implementation mechanisms available (i.e. grants, waste tip fees, private sector involvement, or community volunteer efforts). The solid waste management system in the county is efficient, but new legislation and diversion methods require updated solid waste management plans, expanded facilities, and increased costs. Which limits the revenue sources available to fund new programs. Because Chelan County does not have control over the entire solid waste collection and disposal system (and the corresponding revenues), it is important to pursue programs that can be funded from a variety of sources. For instance, Ecology offers grant monies that could be used for the educational programs. Grants are only available for waste reduction and diversion, not solid waste disposal.
- **Local staff time and availability:** The degree to which the alternative can be incorporated into the workload of existing staff is an important factor. Several of the alternatives would require a significant amount of staff time to implement, and so would be difficult or unlikely to be conducted given current conditions.
- **Cost-effectiveness:** The degree to which the alternative is effective in reducing waste at a reasonable cost is also an important factor. The SWC and the SWAC support programs that can effectively improve the results of waste diversion programs.

A summary of the evaluation of public education alternatives is presented in Table 10.4.

<b>Alternative</b>	<b>Public Acceptability</b>	<b>Funding Flexibility</b>	<b>Staff Availability</b>	<b>Cost-Effectiveness<sup>1</sup></b>	<b>Conclusion</b>
Additional County Solid Waste staff	High	Low	Low	Low	Pursue
School programs	High	Low	Low	Low	Pursue
Alternatives for businesses and industries	High	Low	Low	Medium	Pursue
Awards and public recognition	High	Low	Low	Medium	Don't Pursue
General public education	High	Low	Low	Medium	Pursue

*Note: 1. Based on estimated costs and diversion rates, it is still too difficult to measure the effectiveness of public education.*

### **10.3.7 Recommendations for Public Education**

The recommendations for public education are:

**PE1) Continue and expand educational efforts to promote waste diversion methods.**

Expanded educational efforts should use one or more of the following methods:

- Develop and distribute flyers, brochures and bill inserts.
- Continue to maintain and update the county web site and listserv for new and existing solid waste programs.
- Use press releases and articles.
- Utilize a professional interactive website for diversion and proper disposal.
- Encourage schools to promote waste reduction in school curricula.
- Continue to update the Solid Waste Plan

**PE2) Encourage waste haulers and municipalities involved in collection to conduct annual (at a minimum) publicity for waste collection and recycling.**

Publicity on waste collection and recycling opportunities from service-providers is an important source of information and should be encouraged to be mutually informative and distributed each year to all residents.

### **10.3.8 Implementation Schedule/Costs and Monitoring/Evaluation Methods for Public Education**

The current level of public education activities can be continued at existing staffing and funding levels, but any expansion of the current efforts is contingent on additional staffing and funds.

Information from service-providers should be provided at least annually, in a distinct informative document, and should include all the services and rates, as well as contact information. Materials produced for general distribution should be bi-lingual (English and Spanish).

## CHAPTER 11: IMPLEMENTATION PLAN

### 11.1 INTRODUCTION

This chapter of the Chelan County Solid Waste Management Plan (Plan) provides a list of the recommendations of this Plan, and a summary of the associated details such as cost, anticipated schedule and lead agency. These recommendations are generally intended to be conducted over the next six years, while also providing some guidance for as much as the next 20 years.

### 11.2 IMPLEMENTATION DETAILS FOR RECOMMENDED ACTIVITIES

Table 11.1 shows the recommendations from each of the previous chapters of the Plan, along with information on:

- **Lead Agency (or company):** Each recommendation requires an agency or company to take charge of seeing that it is implemented in a timely fashion, and Table 11.1 shows the agency or company that is primarily responsible for implementing a recommendation. Rarely is a single agency or company completely responsible for implementing a specific recommendation, however, and often this responsibility is shared between two or more parties. Furthermore, as mentioned in other parts of this Plan, opportunities should always be sought to create public-private partnerships to accomplish the recommended activities.
- **Priority:** The level of priority is shown for each in case limited resources should prevent the implementation of all of the recommendations in the future.
- **Cost:** Cost information is shown where available. For many of the recommendations, the primary expense is staff time (either existing or new staff).
- **Funding source(s):** the source for the funds to pay for recommended activities is shown in the last column. The funding sources shown are critical in many cases, in that funding from other sources is not possible or likely.

Table 11.2 provides additional information as to the schedule for implementation of the recommendations. Typically the schedule is only approximate or tentative, and the actual schedule will vary depending on the availability of staff time, financial resources and other factors. The schedule shown here is only intended as a guide.

Additional details for most of the recommendations can also be found in the appropriate chapter of this Plan. The recommendations are initialed according to the chapter where they are discussed for easier cross-reference to other parts of the Plan. Recommendation #WR1, for instance, is the first recommendation shown in the Waste Reduction chapter (Chapter 3).

<b>Table 11.1 Implementation Summary for Recommendations</b>				
<b>Recommended Activity</b>	<b>Lead Agency</b>	<b>Priority</b>	<b>Cost</b>	<b>Funding Source</b>
<b>Chapter 3, Waste Reduction (see page 3-11):</b>	County, Cities	Medium	New staff time	Existing
WR1) Expand waste reduction programs in governmental offices.				
WR2) Encourage waste reduction programs for commercial and industrial businesses.	County, Cities	Medium	New staff time	News funds
WR3) Support private reuse programs and businesses.	Cities, County	Medium	New staff time	New funds
<b>Chapter 4, Recycling (see pages 4-13, 4-32, 4-33 and 4-36):</b>				
R1) Adopt UGAs from Comprehensive Plan as urban areas for recycling and solid waste services.	County	High	Existing	Existing
R2) The list of designated materials, and process for amending this list, is adopted.	County	High	Existing	Existing
R3) Support glass recycling that encourages the recycling of glass.	State	Low	Medium	State, New funds
R4) Minimum service levels are adopted.	County	High	NA	NA
R5) Coordinate funding for education efforts with waste reduction programs.	County	Medium	New staff	New funds
R6) Provide information annually to local businesses and residents with both garbage and recycling rates.	Franchised Hauler	Medium	Existing Haulers	Haulers
R7) Continue curbside programs in UGA areas, Cashmere, Leavenworth, Chelan, Entiat and Wenatchee, and voluntarily in unincorporated areas.	Cities, County	High	Existing	User fees
R8) Re-evaluate drop-box system in urban and rural areas.	County	High	Existing	Existing
R9) Encourage multi-family dwelling owners to contract with a private recycler.	Cities	High	Existing	Existing
R10) Encourage municipal permitting agencies to recommend that builders incorporate recycling collection areas into their building plans for multi-family and commercial buildings.	Cities	High	New staff time	New funds
R11) Continue and expand recycling programs in governmental offices.	County, Cities	Medium	New staff	New funds
R12) Support State monitoring/reporting system.	State	Medium	Existing	Existing

R13) Investigate and encourage local, cost-effective markets.	Ecology, Private	Medium	New staff	Grants and private
R14) Support government procurement policies.	County, Cities	Medium	Existing	Existing
R15) Evaluate any proposals for recycling through mixed waste processing.	Haulers, Cities	High	Existing	Existing funds
R16) Support Contamination Reduction Outreach Program with available resources for education through media.	County, Cities	Medium	New	Grants

Notes: 1. NA = Not Applicable. There is no cost for adopting Recommendations #R1 through R3 because approval of this Plan automatically accomplishes that. New Funds can be derived from new funds enacted such as the excise fee on haulers for garbage collected in the franchised areas.

<b>Table 11.1 Implementation Summary for Recommendations, continued</b>				
<b>Recommended Activity</b>	<b>Lead Agency</b>	<b>Priority</b>	<b>Cost</b>	<b>Funding Source</b>
<b>Chapter 5, Organics (see pages 5-15 and 5-16):</b>				
O1) Encourage private compost businesses to continue and aid in siting compost operations and production.	Private, County	High	New funds	County/private
O2) Continue brush disposal and yard waste diversion in Chelan County and continue collection sites in Wenatchee, Cashmere, Leavenworth, Entiat, Dryden and Chelan.	County and Cities, Private	High	Existing fees	User Fees
O3) Continue to support Backyard Composting	State	Medium	New	Grants
O4) Explore options and partnerships for septage disposal, biosolids, or fruit land application.	County	Low	New	Private
O5) Continue and promote curbside collection of yard waste, organics, and food waste collection in the quarantine area.	County, Private, City of Leavenworth	High	New staff	County/Private
O6) Explore diversion of organics throughout the county, including clean construction lumber and forest slag.	County	High	\$100,000/year	User fees/grants
O7) Support procuring compost material developed in local areas RCW43.19.120, ( <i>Chelan County Resolution in Appendix</i> )	County and City of Wenatchee	High	New Funds	Grants and Municipal funds

<b>Chapter 6, Solid Waste Collection (see page 6-14):</b>				
WC1) All areas of Chelan County should use collection systems and rates that encourage resource conservation.	County	High	Existing staff	Municipal, private and user fees
<b>Table 11.1 Implementation Summary for Recommendations, continued</b>				
<b>Recommended Activity</b>	<b>Lead Agency</b>	<b>Priority</b>	<b>Cost</b>	<b>Funding Source</b>
WC2) Provide voluntary curbside recycling programs throughout the unincorporated areas of Chelan County.	Haulers, County	High	High	User Fees
WC3) Regional Waste haulers shall use local facilities. Haulers shall use nearby County facilities to ensure financial viability for solid waste planning programs as RCW 70A.205.040	County	High	Existing staff and Hauler	User fees
WC4) Continue County solid waste planning fee upon solid waste collection haulers to collect from residents within the unincorporated area, RCW 36.58	County	High	Existing staff	New funds
<b>Chapter 7, Transfer and Disposal System (see pages 7-8, 7-15 and 7-20):</b>				
T1) Construction improvements to existing Transfer Stations should be prioritized and implemented. Dryden transfer station needs a second tip floor and enhanced sorting and storage for recycling.	County	High	\$2.3 million	User fees Grants
T2) Chelan transfer station needs facility improvements with a scale house and scale(s), as well as other associated infrastructure such as sorting and recycle loading, fencing, road, and shop.	County	High	1.4 million	User fees Grants
T3) Evaluate methods for future centralized Wenatchee Waste Transfer System, including the privately-owned Wenatchee Transfer station in include expansion or relocation with recycling loading and collection.	Private, City of Wenatchee and County	Medium	3 million	User Fees Grants
WI1) Consider higher rates for out-of-county wastes.	County	Medium	\$45,000 (to study)	Out-of-County fees
W12) Consider Host fees for miscellaneous waste.	County	High	Consultant & existing staff	Existing user fees
WE1) Explore options for waste export	County	Medium	Existing staff	Existing funds



L1) Identify potential sites for landfills/incinerator, and limited purpose landfills.	County	Low	Existing staff	User fees
L2) Continually review and evaluate other landfill disposal options, including long haul or railway transportation.	County	Medium	Existing staff	User fees
L3) Consider conducting final post closure of the Manson Landfill.	County, Health District	Low	New staff	New funds

**Table 11.1 Implementation Summary for Recommendations, continued**

<b>Recommended Activity</b>	<b>Lead Agency</b>	<b>Priority</b>	<b>Cost</b>	<b>Funding Source</b>
<b>Chapter 8, Moderate Risk Wastes (see page 8-14):</b>				
MRW1) Continue operation of the permanent MRW facility.	County	High	\$1.2 million	Grants, Unincorporated SW fee
MRW2) Continue to provide education and an annual disposal program for Small Quantity Generators.	County	Medium	Existing	Existing
MRW3) Continue to work with WSDA to collect agricultural pesticides.	WSDA, County	High	Existing	Existing
MRW3) Explore methods to reduce MRW waste and associated costs of proper disposal and promote reuse.	County, Ecology, Cities, Private	High	Existing	User Fees
<b>Chapter 9, Special Wastes (see pages 9-4, 9-6, 9-12, 9-15, 9-19 and 9-21):</b>				
S1) Continue asbestos disposal using approved and permitted methods.	County, Disposal Facilities, L & I, Health District	High	Existing	Existing
S2) Continue to support Pharmacy Collection of sharps and other biomedical wastes	Private	Medium	Existing	Grants
S3) Support the salvaging of reusable materials from construction and demolition wastes.	County, private companies	Medium	New staff time	Grants, unincorporated SW fees
S4) Seek other collection and chipping sites established at transfer stations for clean, not treated or painted, lumber.	County, private	Medium	New and existing	Gants and user fees

S5) Promote education for hazards in demolition materials	County, Haulers, Health District	Low	Existing	Existing
S6) Continue current practices for agriculturally-contaminated soils by supporting local disposal options.	Ecology, Health District	Medium	Existing	Existing
S7) Encourage proper disposal of tires.	County, Cities, Health District	Medium	New staff	Grants
<b>Table 11.1 Implementation Summary for Recommendations, continued</b>				
<b>Recommended Activity</b>	<b>Lead Agency</b>	<b>Priority</b>	<b>Cost</b>	<b>Funding Source</b>
S8) Consider the uses and investigate engineering and other alternative applications for tires.	State	Low	Existing staff	Highway Grants
S9) Support the state to further research used tires use.	Ecology	High	Existing	Tire Trust
S10) Seek and provide assistance for the collection and treatment of waste resulting from a Natural Disaster.	County	High	New staff	State, Federal Grants
<b>Chapter 10, Administration and Public Education (see pages 10-12, 10-13 and 10-19):</b>				
A1) Provide adequate staffing for solid waste programs.	County, Cities, Haulers, Health District	High	New staff	ILA, User fees and grants
A2) Continue to improve interagency coordination and oversight.	County, Cities, others	Medium	Existing	Existing
A3) Designate County transfer stations, Dryden and Chelan, as the only repositories for waste in the areas designated.	County	High	Existing	User fees Grants
A4) Continue the Collection Service Fee.	County	High	Existing and new staff	ILA Grants
A5) Continue to apply for grant money for the funding of solid waste programs.	County	Medium	Existing and new staff	ILA
PE1) Continue and expand educational efforts to promote waste diversion methods.	County	High	New staff new staff	Grants and ILA fees.
PE2) Encourage waste haulers and municipalities to produce annual publicity for waste collection and recycling.	Haulers, Cities	High	Existing	User fees

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<b>Table 11.2 Implementation Timeline for Recommendations</b>									
<b>Recommended Activity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>	<b>2037</b>	<b>Comments</b>
<b>Chapter 3, Waste Reduction (see page 3-11):</b> WR1) Expand waste reduction programs in governmental offices.	<b>Ongoing</b>								Reuse office furniture at field offices, relabel file folders are continued practices.
WR2) Encourage waste reduction programs for commercial and industrial businesses.	Ongoing								Reuse options are always encouraged.
WR3) Support reuse programs and businesses.		X	X	X	X	X	X	X	Assist and support reuse business with grant aid and opportunities.
<b>Chapter 4, Recycling (see pages 4-13, 4-32, 4-33 and 4-36):</b>									Implementation occurs with Plan adoption.
R1) Adopt UGA's from Comprehensive Plan as urban areas for recycling and solid waste services.	X				X	X	X	X	
R2) The list of designated materials, and process for amending this list, is adopted.	X				X		X		Implementation occurs with Plan adoption.
R3) Support glass recycling that encourages the recycling of glass.		X		X		X		X	
R4) Minimum service levels adopted.	X				X		X		Implementation occurs with Plan adoption.
R5) Coordinate funding for education efforts with waste reduction programs			X	X	X	X	X	X	

R6) Provide information annually to local businesses and residents with both garbage and recycling rates	X	X	X	X	X	X	X	X	
<b>Recommended Activity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>	<b>2037</b>	<b>Comments</b>
R7) Continue curbside programs in UGA areas, Cashmere, Leavenworth, Chelan, Entiat, and Wenatchee, and voluntarily in unincorporated areas.	X	X	X	X	X	X	X	X	
R8) Re-evaluate drop-box system in urban and rural areas.	X	X	X	X	X	X	X	X	
R9) Encourage multi-family dwelling owners to contract with a private recycler.		X		X		X		X	
R10) Encourage municipal agencies to recommend that builders incorporate recycling collection areas into their building plans for multi-family and commercial buildings.	X	X	X	X	X	X	X	X	City of Wenatchee and Chelan County are considering adopting in building permits.
R11) Continue to expand recycling programs in governmental offices.		X		X		X		X	Additional Staff needed to expand.
R12) Support state monitoring/reporting system.	X	X	X	X	X	X	X	X	Annual reports to DOE.
R13) Continually investigate and encourage local, cost-effective markets.	X	X	X	X	X	X	X	X	
R14) Support government procurement policies.	X	X	X	X	X	X	X	X	
R15) Evaluate any proposals for recycling through mixed waste processing.	X	X	X	X	X	X	X	X	
R16) Support contamination Reduction Outreach Program with available resources for education through media.					X	X	X	X	

<b>Chapter 5, Organics (see pages 5-15 and 5-16):</b>									
O1) Encourage private compost businesses to continue and aid in siting compost operations and production.	X	X	X	X	X	X	X	X	Contingent on additional staff.
<b>Recommended Activity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>	<b>2037</b>	<b>Comments</b>
O2) Continue brush disposal and yard waste diversion in Chelan County and continue the collection sites in Wenatchee, Cashmere, Leavenworth, Chelan, Entiat and Dryden.	X	X	X	X	X	X	X	X	
O3) Continue to support Backyard Composting.	X	X	X	X	X	X	X	X	
O4) Explore options and partnerships for septage disposal, biosolids, or fruit land application.	Ongoing								Contingent on additional staff.
O5) Continue and promote curbside collection of yard waste, organics, and food waste collection in the quarantine area.	Ongoing								
O6) Explore diversion of organics throughout the county, including clean construction lumber and forest slag.	Ongoing								Contingent on additional staff.
O7) Support procuring compost material developed in local areas RCW 43.19.120 (Chelan County Resolution in Appendix)	Ongoing								
<b>Chapter 6, Solid Waste Collection (see p. 6-14):</b>									
WC1) All areas of Chelan County should use collection systems and rates that encourage resource conservation.	Ongoing								

WC2) Provide voluntary curbside recycling programs throughout the unincorporated areas of Chelan County	X	X	X	X	X	X	X	X	Start-up program
WC3) Regional Waste shall use local facilities.		X	X	X	X	X	X	X	
WC4) Continue County solid waste planning fee upon solid waste collection haulers to collect from residents within the unincorporated area, RCW 36.58	X	X	X	X	X	X	X	X	
<b>Recommended Activity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2022</b>	<b>2026</b>	<b>2031</b>	<b>2037</b>	<b>Comments</b>
<b>Chapter 7, Transfer and Disposal System (see pages 7-8, 7-15 and 7-20):</b>		X	X	X	X	X	X	X	Past bids were too much, not enough funds.
T1) Construction improvements to the existing Transfer Stations should be prioritized and implemented. Dryden Transfer station needs and expansion by constructing a 2 <sup>nd</sup> Tip floor and enhanced sorting.									
T2) Chelan transfer station needs facility improvements with a scale house and scale(s).	X	X	X	X	X	X	X	X	Insufficient funds
T3) Evaluate methods for future centralized Wenatchee Waste Transfer System, including the privately-owned Wenatchee Transfer Station to include expansion or relocation with recycling loading and collection.	X	X	X	X	X	X	X	X	New staff needed to implement
WI1) Consider higher rates for out-of-county wastes.						X	X	X	New staff needed to implement
W12) Host fees should be considered for Miscellaneous Waste						X	X	X	Revenue sources are needed for Capital improvements.

WE1) Explore options for waste export.	X	X	X	X	X	X	X	X	
L1) Identify potential sites for landfills/incinerator, and limited purpose landfills.		X	X	X	X	X	X	X	
L2) Continually review and evaluate other landfill disposal options, including long haul or railway transportation	X	X	X	X	X	X	X	X	
L3) Consider final post-closure of Manson Landfill in Chelan County.	X	X	X	X	X	X	X	X	
<b>Chapter 8, Moderate Risk Wastes (see pages 8-14):</b>									Contingent on Grant funds.
MRW1) Continue operation at the permanent MRW facility.	Ongoing								
MRW2) Continue to provide education and an annual disposal program for Small Quantity Generators.	Ongoing								Contingent on Grant for MRW operations.
MRW3) Continue to work with WSDA to collect agriculture pesticides.	Ongoing								
MRW3) Explore methods to reduce MRW waste and associated costs of proper disposal.	Ongoing								
<b>Recommended Activity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>	<b>2037</b>	<b>Comments</b>
<b>Chapter 9, Special Wastes (see pages 9-4, 9-6, 9-12, 9-15, 9-19 and 9-21):</b>									
S1) Continue asbestos disposal using approved and permitted methods.	Ongoing								
S2) Continue to support Pharmacy collection of sharps and other biomedical waste disposal.				X		X	X	X	
S3) Support the salvage of reusable materials.	X		X			X	X	X	Additional staff needed.
S4) Other collection and chipping should be established at the transfer stations for clean, not treated or painted, lumber.		X		X	X	X	X	X	

S5) Promote education for hazards in building materials.	X	X	X	X	X	X	X	X	Additional staff needed.
S6) Continue current practices for agriculturally-contaminated soils and evaluate options on a case-by-case basis.	Ongoing								
S7) Encourage proper disposal of tires.	X	X	X	X	X	X	X	X	Continued by highway engineering jurisdictions.
S8) Investigate engineering and other alternative applications for tires.	Ongoing								
S9) Encourage and support the state to further research used tire use.	Ongoing								
S10) Seek and aid with the collection and treatment of waste as a result of a Natural Disaster.	At time of disaster.								
<b>Chapter 10, Administration and Public Education (see pages 10-12, 10-13 and 10-20):</b>	Ongoing								Dependent on funding.
A1) Provide adequate staffing for solid waste programs.									
<b>Recommended Activity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>	<b>2036</b>	<b>Comments</b>
A2) Continue to improve interagency coordination and oversight.	Ongoing								
A3) Designate County transfer stations, Dryden and Chelan, as the only repositories for waste in the areas designated.	X	X	X	X	X	X	X	X	
A4) Continue the Collection Service Fee.	Ongoing								In accord with RCW36.58.045
A5) Continue to apply for grant money for the funding of solid waste programs	Ongoing								
PE1) Continue and expand educational efforts to promote waste diversion methods.	Ongoing								Expansion contingent on additional staffing



PE2) Encourage waste haulers and municipalities to produce and mail publicity for annual collection and recycling information..	Ongoing	
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**GLOSSARY**  
**AND REFERENCES**

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## GLOSSARY

The following definitions are provided for various terms used in the *Chelan County Solid Waste Management Plan*:

Bi-monthly: twice per month.

Biomedical waste: infectious and injurious waste originating from a medical, veterinary, or intermediate care facility, or from home use.

Biosolids: includes sludge from the treatment of sewage at a wastewater treatment plant and semisolid waste pumped from a septic system that has been treated to meet standards for beneficial use.

Buy-back recycling center: a facility that pays people for recyclable materials.

Closed loop recycling: defined by state rules as “a cycle or system where secondary materials (wastes) are reclaimed and recycled back into the process from which they were originally generated.”

Commercial solid waste: solid waste generated by non-industrial businesses, including waste from business activities such as construction; transportation, communications and utilities; wholesale trades; retail trades; finance, insurance and real estate; other services; and government. This term is also used to refer to all waste except residential, or all waste that is collected using dumpsters.

Commingled: recyclable materials that have been collected separately from garbage by the generator, but the recyclable materials have been mixed together in the same container (see also single stream).

Composting: the controlled biological decomposition of organic wastes to produce a humus-like final product that can be used as a soil amendment. In this plan, backyard composting means a small-scale activity performed by homeowners on their own property, using yard debris that they generate. Centralized composting refers to either drop-off or processing locations operated by a municipality or a business.

Corrugated cardboard (OCC): recyclable kraft liner cartons with corrugated inner liners, as typically used to ship materials. This generally does not include waxed cardboard or paperboard (cereal boxes, microwave and similar food boxes, etc.), but kraft grocery bags are included.

CPG: Coordinated Prevention Grants, a grant program administered by the Washington State Department of Ecology.

CPI: Consumer Price Index.

Curbside recycling: the act of collecting recyclable materials directly from residential generators, usually after the recyclable materials have been placed at the curb (or at the side of the street if no curb exists in the area) by the residents.

EPA: the United States Environmental Protection Agency; the federal agency responsible for promulgation and enforcement of federal environmental regulations.

Ferrous metals: materials that are predominantly (over 75% by weight) made of iron. Includes cans and various iron and steel alloys that contain enough iron such that magnets adhere to them, but for recycling this generally does not include paint cans or other containers that may contain hazardous residues.

Groundwater: water present in subsurface geological deposits (aquifers).

HDPE: high-density polyethylene, a type of plastic commonly used in milk, detergent, and bleach bottles and other containers. Also used for products that line and cap landfills.

Household hazardous waste: wastes that would be classified as hazardous due to their nature or characteristics, except that the amount is too small to be regulated. Includes aerosol cans, solvents, some paints, cleaners, pesticides, herbicides, compressed gases, oil, other petroleum products, car batteries and other materials.

Incentive rates: a rate structure for certificate (franchise) areas that incorporates the cost of recycling into the cost of garbage collection, such that customers who recycle can then be charged a lower monthly fee as an incentive.

Industrial waste: solid waste generated by various manufacturing companies. Includes waste generated by businesses that manufacture the following products; food, textile mill products, apparel, lumber, paper, printing, chemicals, stone, clay, glass, fabricated metals, equipment, and miscellaneous other products. Does not include hazardous wastes generated by these industries.

Inert wastes: includes wastes that are inert in nature, such as glass, concrete, rocks, gravel, and bricks.

Mixed paper: all other types of recyclable paper not included in newspaper, cardboard or high-grade papers. Includes materials such as “junk mail,” magazines, books, paperboard (non-corrugated cardboard), and colored printing and writing papers.

Moderate risk wastes (MRW): household hazardous waste (see definition, above) and wastes produced by businesses that potentially meet the definition of a hazardous wastes except the amount of waste produced falls below regulatory limits.

MSW: municipal solid waste (see also “solid waste”).

Mulching: 1) leaving grass clippings on the lawn when mowing; 2) placing yard debris, compost, wood chips or other materials on the ground in gardens or around trees and shrubs to discourage weeds and retain moisture.

Multi-family: a residential building containing four or more housing units.

Non-ferrous metals: materials predominantly made of copper, lead, brass, tin, aluminum, and other metals except iron.

PET: polyethylene terephthalate, a type of plastic. Commonly used to refer to 2-liter beverage bottles, although other containers are also increasingly being made from this material, including containers for liquid and solid materials such as cooking oil, liquor, peanut butter, and many other food and household products.

Public education: a broad effort to present and distribute public information materials.

Public information: the development of educational materials for the public, including brochures, videos, and public service announcements.

RCW: Revised Code of Washington.

Recycling: the act of collecting and/or processing source-separated materials in order to return them to a usage similar in nature to their previous use. The official definition of recycling per state rules is “recycling means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration. Recycling does not include collection, compacting, repackaging, and sorting for the purpose of transport” (Ch. 173-350 WAC).

Recycling bins: the small household containers used to set out materials for curbside collection.

Reusable items: items that may be reused (or easily repaired), including things such as small electronic goods, household items such as dishes, and furniture.

Self-haul waste: waste that is brought to a landfill or transfer station by the person (residential self-haul) or company (non-residential or commercial self-haul) that created the waste.

SEPA: State Environmental Policy Act.

Septage: a semisolid waste consisting of settled sewage solids combined with varying amounts of water and dissolved materials. This waste is pumped from septic tanks.

Sewage sludge: the concentrated solids derived from the treatment of sewage at a municipal wastewater treatment plant (see also “biosolids”).

Single stream: refers to the practice of placing all recyclable materials together in one container for curbside collection. This is similar to “commingled” except that glass bottles may or may not be included in a commingled mixture whereas glass bottles are definitely mixed with the other materials in single stream collection programs.

Solid waste: solid and semisolid wastes, including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles and parts thereof, discarded commodities, wood waste, and various special wastes.

Solid Waste Advisory Committee (SWAC): a group assisting Chelan County with this solid waste management plan and other activities, composed of representatives from the general public, private industry, and the cities.

Solid Waste Council (SWC): a group of elected officials that assists Chelan County with policy development and other activities related to solid waste, composed of representatives from each of the five cities and a county commissioner.

Source-separated: recyclable materials that have been removed from garbage or other forms of solid waste by the waste generator. This may or may not include keeping different types of recyclable materials separate from each other (see also “commingled” and “single stream”).

Special wastes: wastes that have particular characteristics such that they present special handling and/or disposal problems.

SWAC: see Solid Waste Advisory Committee.

SWC: see Solid Waste Council.

Transfer station: an intermediate solid waste disposal facility at which solid waste is temporarily deposited to await transportation to a final disposal site.

UGA: Urban Growth Area.

WAC: Washington Administrative Code.

Waste reduction or waste prevention: reducing the amount or type of solid waste that is generated. Also defined by state rules to include reducing the toxicity of wastes.

WDOE: Washington State Department of Ecology.

WUTC: Washington Utilities and Transportation Commission.

Yard debris: includes leaves, grass clippings, brush and branches.

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**APPENDIX A**

**INTERLOCAL AGREEMENT**

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20181217AS-9

Skip Moore, Auditor, Chelan County, WA. AFN # 2492189  
Recorded 02/22/2019 at 11:38 AM  
INAGMT Pages: 5

CHELAN COUNTY PUBLIC WORKS

**Return Address:**

Penny Goehner  
Chelan County Public Works  
350 Orondo Avenue  
Wenatchee, WA 98801

The information contained in this boxed section is for recording purposes only pursuant to RCW 36.18 and RCW 65.04, and is not to be relied upon for any other purpose, and shall not affect the intent of the warranty contained in the document itself.

<b>Document Title:</b>	Addendum to Interlocal Agreement between Chelan County, the City of Cashmere, the City of Chelan, the City of Entiat, the City of Leavenworth and the City of Wenatchee for the county-wide solid and hazardous waste program
<b>Grantor(s):</b>	N/A
<b>Grantee(s):</b>	N/A
<b>Legal Description:</b>	N/A
<b>Assessor's Tax Parcel ID:</b>	N/A
Filed with the Auditor pursuant to RCW 39.34.040	

**ADDENDUM TO INTERLOCAL AGREEMENT  
FOR THE COUNTY-WIDE SOLID AND HAZARDOUS WASTE PROGRAM**

**THIS ADDENDUM TO AGREEMENT** is made and entered into this 19<sup>th</sup> day of December, 2018 by and between Chelan County, the City of Cashmere, the City of Chelan, the City of Entiat, the City of Leavenworth and the City of Wenatchee all municipal corporations of the State of Washington (the parties).

**WHEREAS**, the parties previously entered into an Interlocal Agreement for the County-Wide Solid and Hazardous Waste Program which was recorded with the Chelan County Auditor on March 29, 2018 under AFN #2475219, (hereinafter referred to as Agreement), and

**WHEREAS**, said Agreement provided that the county-wide solid waste program for Chelan County shall be administered by the Chelan County Department of Public Works under the guidance of the Solid Waste Council, and

Addendum to the Interlocal Agreement for the  
County-Wide Solid and Hazardous Waste Program

**WHEREAS**, the parties each previously agreed to commit funding for the county-wide solid and hazardous waste program;

**NOW, THEREFORE**, under the provisions and intent of the Interlocal Cooperation Act, Chapter 39.34 RCW, and in the interest of increasing governmental efficiency and expediency, and in consideration of the mutual benefits and promises contained herein, the parties hereby agree to this Addendum to the aforesated Agreement as follows:

A. Addendum to the aforesated Agreement, which shall provide:

The parties hereby initially commit the following funds to the County-Wide Solid and Hazardous Waste Program as a onetime fee to be used for the final construction of the Moderate Risk Waste facility:

Chelan County	\$115,500.00
City of Cashmere	\$11,275.00
City of Chelan	\$14,850.00
City of Entiat	\$4,400.00
City of Leavenworth	\$8,250.00
City of Wenatchee	\$118,000.00

B. The remainder of the aforesated Agreement shall remain unaltered by the provisions of this Addendum, including any funding or other financial obligations for the parties as provided for in the aforesated agreement.

C. This Addendum shall be filed for recording in the Office of the Chelan County Auditor.

IN WITNESS WHEREOF, the parties hereto have executed this Addendum on the dates below:

APPROVED AND AGREED BY:

CITY OF CASHMERE

  
MAYOR

11/15/10  
DATE

Addendum to the Interlocal Agreement for the  
County-Wide Solid and Hazardous Waste Program

CITY OF CHELAN

Mike Cooney      12/18/18  
MAYOR                      DATE

CITY OF ENTIAT

\_\_\_\_\_  
MAYOR                      DATE

CITY OF LEAVENWORTH

R. [Signature]      11.13.2018  
MAYOR                      DATE

CITY OF WENATCHEE

\_\_\_\_\_  
MAYOR                      DATE

Addendum to the Interlocal Agreement for the  
County-Wide Solid and Hazardous Waste Program

CITY OF CHELAN

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
DATE

CITY OF ENTIAT

  
MAYOR

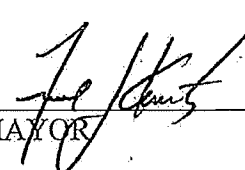
11/2/18  
DATE

CITY OF LEAVENWORTH

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
DATE

CITY OF WENATCHEE

  
MAYOR

12/7/18  
DATE

Addendum to the Interlocal Agreement for the  
County-Wide Solid and Hazardous Waste Program

Dated at Wenatchee, Washington this 18<sup>th</sup> day of December 2018.

BOARD OF COUNTY COMMISSIONERS



*Kevin Overbay*  
KEVIN OVERBAY, Chairman

*Doug England*  
DOUG ENGLAND, Commissioner

*Keith W. Goehner*  
KEITH W. GOEHNER, Commissioner

*Susan Ward*  
ATTEST: JACINDA RUBLAITUS

*Jacinda Rublaitus*  
*Deputy* Clerk of the Board

Addendum to the Interlocal Agreement for the  
County-Wide Solid and Hazardous Waste Program



**Return Address:**

Penny Goehner  
Chelan County Public Works  
316 Washington Street, Suite 402  
Wenatchee, WA 98801

The information contained in this boxed section is for recording purposes only pursuant to RCW 36.18 and RCW 65.04, and is not to be relied upon for any other purpose, and shall not affect the intent of the warranty contained in the document itself.

**Document Title:** Interlocal Agreement between Chelan County, the City of Cashmere, the City of Chelan, the City of Entiat, the City of Leavenworth, and the City of Wenatchee for the county-wide solid and hazardous waste program  
**Grantor(s):** N/A  
**Grantee(s):** N/A  
**Legal Description:** N/A  
**Assessor's Tax Parcel ID:** N/A

Filed with the Auditor pursuant to RCW 39.34.040

**INTERLOCAL AGREEMENT  
FOR THE COUNTY-WIDE SOLID  
AND HAZARDOUS WASTE PROGRAM**

THIS INTERLOCAL AGREEMENT is entered into under authority of Chapter 39.34 RCW between by and between Chelan County, the City of Cashmere, the City of Chelan, the City of Entiat, the City of Leavenworth, and the City of Wenatchee, all municipal corporations of the State of Washington (the "parties").

WHEREAS, Washington local government entities are required to prepare and implement solid and hazardous risk waste plans under RCW 70.95.080, RCW 70.95.110 and RCW 70.105.220; and

WHEREAS, in 1993 the parties entered into an Interlocal cooperation agreement, filed with the county auditor under file number 2457827, for the purpose of planning for a regional solid and hazardous risk waste management and waste reduction, recycling, and disposal programs for the residents and businesses of Chelan County, Washington; and

WHEREAS, pursuant to the 1993 Interlocal agreement, the parties created and allocated funding resources to support the administration of solid waste and recycling programs and to undertake county-wide waste handling, reduction and recycling information programs;



NOW THEREFORE, under the provisions and intent of the Interlocal Cooperative Act, RCW 39.34 and in consideration of the mutual benefits contained herein, the parties agree as follows:

Section 1: Authority.

1.1 The parties have and possess, both jointly and severally, the primary responsibility for effective solid and hazardous risk waste management and planning under R.C.W. 70.95 and R.C.W. 70.105.

1.2 This interlocal agreement is authorized by resolution of the governing boards of each party and executed on behalf of each party by an authorized representative(s).

1.3 Each signatory to this agreement, or a duly appointed designee or successor, and any representative appointed by a municipality to the Solid Waste Council of the Solid Waste Advisory Committee, is authorized to act for and on behalf of the represented municipality in the performance of this agreement.

Section 2: Purpose and Scope.

2.1 The purpose of this agreement is to amend and update the parties' prior agreement and to provide for county-wide planning and administration of solid waste and hazardous risk waste management plans and programs to meet the mandates imposed by R.C.W. 70.95 and R.C.W. 70.105 and the needs of Chelan County and the incorporated municipalities therein.

2.2 This agreement defines the terms, conditions, and responsibilities for the on-going planning and administration of solid waste and hazardous risk waste management programs and plans within the County and the municipalities.

Section 3: Effective Date; Duration; Termination.

3.1 This interlocal agreement, after first being executed by the parties, shall become effective upon the date of filing with the Chelan County Auditor.

3.2 This agreement shall remain in effect until terminated by written agreement executed by the parties and filed with the county auditor.

3.3 A party may terminate its participation in the regional solid waste program by giving written notice to all parties and filing the notice with county auditor, both requirements to be met not later than the first day of October preceding the budget year for which the termination is to be effective.

3.4 A party which terminated its participation in the regional solid waste program may re-join the program by written agreement of all parties then participating in the agreement and by payment of its full share of the cost of the fiscal year budget on the same basis as though the municipality were a participant for the full budget year. The prorated shares of all other parties shall then be adjusted as if the budget were timely prepared in accordance with this agreement.

Section 4: Amendment.

4.1 This Interlocal agreement may only be amended by a writing executed by the parties and adhering to the same formalities as the original, including the requirement for filing with the county auditor.

Section 5: Administration.

5.1 The county-wide solid waste program for Chelan County shall be administered by the Chelan County Department of Public Works under the guidance of the Solid Waste Council.

Section 6: Responsibilities.

6.1 Chelan County shall be responsible for:

6.1.1 Administering the county-wide solid waste, recycling, waste reduction, hazardous risk waste, and public information/education programs developed and approved in the annual budgets;

6.1.2 Completion of a comprehensive solid waste management plan for Chelan County complying with RCW 70.95, and for carrying out the Comprehensive Solid Waste Management Plan; and

6.1.3 Preparation of an annual solid waste management budget as provided at paragraph 9.1.

6.2 Each city shall be responsible for the planning, development, implementation, and funding of its solid waste, recycling, waste reduction, hazardous risk waste and related programs that are for the sole use and benefit of such City within its corporate boundary and approved solid waste service area.

6.3 The Solid Waste Council shall establish policy and determine the level of funding and financial support to be budgeted by the participation municipalities.

6.4 The Solid Waste Advisory Committee shall provide technical advice for the development of solid waste and hazardous waste management programs and for recycling and waste reduction programs.

Section 7: Solid Waste Management Planning.

7.1 The parties authorize preparation and revision(s) of a Comprehensive Solid Waste Management Plan for Chelan County to provide guidance for the long-range management of the parties' solid waste, including collection, disposal, recycling, and for education programs, and regulations.

7.2 The Chelan County Comprehensive Solid Waste Management Plan uses and will utilize pertinent portions of the regional comprehensive solid waste management plan.

Section 8: Planning of Hazardous Risk Waste Management.

8.1 The parties authorize the completion and revision of a Comprehensive Hazardous Risk Waste Management Plan for Chelan County pursuant to R.C.W. 70.105.220.

8.2 The purpose of the plan is to provide guidance for the long-range management of the hazardous risk wastes within the county. Chelan County may undertake hazardous risk waste reduction and information/education programs under the authority of this agreement.

Section 9: Solid Waste Council.

9.1 The Solid Waste Council was formed by prior agreement of the parties. The Solid Waste Council, shall continue to provide policy direction, to develop and propose annual solid waste programs and projects, to prepare annual budgets, and to resolve conflicts that may arise in program or budget development.

9.2 Each party shall appoint one (1) elected official and one alternate as its representative to the Solid Waste Council. The Council will meet quarterly, or as needed, to:

9.2.1 Review the status of current programs;

9.2.2 Establish program goals, objectives and policies;

9.2.3 Develop recommendations for new programs and proposals;

9.2.4 Determine the level of financial support to be budget for regional solid waste programs by participating municipalities; and

9.2.5 Assist in coordination of solid waste and recycling programs.

9.3 Each party to this agreement shall have one vote on any issue before the Solid Waste Council; except, voting for budgets and financial matters shall be weighted in proportion to the level of funding support provided by each respective municipality.

9.4 Additionally, adoption of a budget proposal for submittal to the Chelan County Board of Commissioners shall require a majority vote, with a minimum of four (4) positive votes of the Council.

Section 10: Solid Waste Advisory Committee.

10.1 The Chelan County Solid Waste Advisory Committee (SWAC) is a technical advisory board previously created by the parties under authority of R.C.W. 70.95.165.

10.2 The Solid Waste Advisory Committee shall continue to assist in the development of programs, and make recommendations to the Solid Waste Council regarding solid waste and hazardous risk waste handling and disposal, and regarding recycling programs.

10.3 The parties' intention is that the committee represent a balance of interests with respect to solid waste and recycling. To this end, the Solid Waste Advisory Committee shall include, one representative from each of the parties, one county resident or interested citizen, and one representative from each of the following groups: public interest, business and industry, public health and safety, waste management industry, and the recycling industry.

10.4 The Solid Waste Advisory Committee shall meet quarterly or as often as necessary to accomplish their development of recommendations for solid waste and hazardous risk waste disposal programs, recycling programs, waste disposal and recycling policies and proposals for solid waste handling and disposal regulations. Quarterly meetings will be scheduled to cover the following general topics and other related solid waste/recycling materials:

- 1<sup>st</sup> Quarter Review of programs and projects for the budget year. Report on previous year's activities and reconciliation of prior year expenditures and agency payments.
- 2<sup>nd</sup> Quarter Presentation of proposed solid waste and recycling program and project for consideration of funding for the next budget year and for grant fund applications. Status report and review of current programs.
- 3<sup>rd</sup> Quarter Finalize proposals for grant fund application. Status report and review of current programs.
- 4<sup>th</sup> Quarter Preparation of budget recommendations and programs for the upcoming budget year.

Section 11: Financing and Budget.

11.1 The County will prepare an annual solid waste management budget detailing the proposed expenditures and the anticipated revenues for the budget year.

11.2 The proposed budget will be reviewed with the Solid Waste Advisory Committee whose recommendation will be presented to the Solid Waste Council by October 1<sup>st</sup> of each year.

11.3 The Solid Waste Council will determine the programs and funding levels for the subsequent budget year (note: the budget year is coincident with the calendar year) and submit the proposed budget to the Chelan County Board of Commissioners by November 15<sup>th</sup> of each year.

11.4 The Chelan County Board of Commissioners shall adopt an annual solid waste budget not later than December 31<sup>st</sup> immediately prior to the budget year, and in the amount agreed upon by the Solid Waste Council.

11.5 The annual budget shall fund the adopted regional programs and the administrative costs to be incurred by the County in regional solid waste and hazardous waste programs and projects.

11.6 Each city shall annually budget for its share of the adopted solid waste program costs.

11.7 Each party's pro rata funding responsibility for annual program costs shall be calculated and determined based the ratio of the population residing within that party's municipal boundaries to the total population residing within the municipal boundaries of all parties, i.e., the total population of the county; except, for the purposes of this agreement Chelan County shall be assessed only for the number of residents in the unincorporated area of the county. The parties' shares for each budget year shall be based on the latest population numbers published annually by the Office of Financial Management available on or before November 15<sup>th</sup> preceding the budget year.

11.8 The cities agree to pay their pro rata share of the annual program costs, as established in the adopted budget, by making quarterly installments with payments due each year by January 15<sup>th</sup>, April 15<sup>th</sup>, July 15<sup>th</sup> and October 15<sup>th</sup>.

Section 12: Property.

12.1 Unless otherwise agreed in a separate writing by the parties, real or personal property acquired by the Solid Waste Program shall be property of Chelan County.

12.2 Real or personal property leased or lent by a party in furtherance of this program shall remain the property of the title owner.

Section 13: City-Sponsored Programs and Projects.

13.1 This agreement provides for the funding and administration of solid waste and recycling programs and projects of a "regional" nature. Regional programs and projects shall be defined as programs or projects including two or more municipalities and can include a program or project sponsored jointly by a city and the county.

13.2 Nothing in this agreement shall preclude any city from administering or implementing any solid waste or recycling program, including collection, disposal, education, cleanup, and billings within its jurisdiction and at its expense.

Section 14: Legal Relations.

14.1 The parties agree that the County's relation to the other parties shall be at all times under this interlocal agreement as an independent contractor. Employees of the County are and will remain employees of the County.

Section 15: Dispute Resolution.

15.1 The parties' intention and commitment is that all parties will participate in good faith to resolve any conflict at the lowest administrative level possible. In the event that a dispute arises regarding any matter addressed in or related to this interlocal agreement and before any other action, the Parties agree to first attempt to resolve the dispute by a face-to-face meeting, or by a telephone call, between the Parties' authorized representatives. The Parties agree to participate in a good faith negotiation to resolve any such dispute.

15.2 If a program conflict or dispute arises at the technical or program administration level and remains unresolved, it shall be referred to the Chelan County Director of Public Works for resolution and whose decision shall be the final remedy.

15.3 Any unresolved program conflict or dispute at the Solid Waste Advisory Committee level shall be referred to the Solid Waste Council for resolution, whose decision shall be the final remedy.

15.4 This agreement shall be governed by the laws of the State of Washington.

15.5 The Chelan County Superior Court shall be the sole proper venue for any and all suits brought to enforce or interpret the provisions of this interlocal agreement.

15.6 If any legal action or other proceeding is brought for the enforcement of this interlocal agreement, or because of an alleged dispute, breach, default, or misrepresentation in connection with any of the provisions of this interlocal agreement, each party shall pay its own attorney's fees incurred in that action, arbitration or proceeding.

Section 16: Applicable Laws.

16.1 The parties, in performance of this interlocal agreement, shall abide by all applicable federal, Washington State, and local laws, statutes, codes, ordinances, regulations, and rules.

Section 17: Contact Information.

17.1 The parties' authorized representatives and contact persons for administration of this agreement, communication, and service of all notices, except service of process are:

For Chelan County:

Chelan County Engineer  
Chelan County Public Works Department  
316 Washington Street, Suite 402  
Wenatchee, WA 98801  
Phone: 509.630.6415  
Fax: 509.662.6250  
Email: publicworks@co.chelan.wa.us

For the City of Cashmere:

Planning/Building Director  
101 Woodring St  
Cashmere, WA 98815-1034  
Phone: 509-782-3513  
Fax: 509-782-2840  
Email: mail@cityofcashmere.org

*With a copy to:*

Board of County Commissioners  
Chelan County  
400 Douglas St, Suite 200  
Wenatchee, WA 98801

*With a copy to:*

Mayor  
City of Cashmere  
101 Woodring St  
Cashmere, WA 98815-1034

For the City of Chelan:

Planning Director  
Public Works Director  
135 E Johnson Ave  
P.O. Box 1669  
Chelan, WA 98816  
Phone: 509-682-4037  
Fax: 509-682-8009  
Email: www.cityofchelan.us

For the City of Entiat:

Public Works Director  
14070 Kinzel  
P.O. Box 228  
Entiat, WA 98822  
Phone: 509-784-1500  
Fax: 509784-1112  
Email: city@entiatwa.us

*With a copy to:*

Mayor  
City of Chelan  
P.O. Box 1669  
Chelan, WA 98816

*With a copy to:*

Mayor  
City of Entiat  
P.O. Box 228  
Entiat, WA 98822

*(The remainder of this page is intentionally left blank.)*

For the City of Leavenworth:  
Public Works Director  
700 Hwy 2  
P.O. Box 287  
Leavenworth, WA 98826  
Phone: 509-548-5275  
Fax: 509-548-6429  
Email: www.cityofleavenworth.com

For the City of Wenatchee:  
Public Works Director  
1350 McKittrick Street, Suite A  
P.O. Box 519  
Wenatchee, WA 98807  
Phone: 509-888-6200  
Fax: 509-888-6201  
Email: www.wenatcheewa.gov

*With a copy to:*  
Mayor  
City of Leavenworth  
700 Hwy 2  
P.O. 287  
Leavenworth, WA 98826

*With a copy to:*  
Mayor  
City of Wenatchee  
129 South Chelan Avenue  
P.O. Box 519  
Wenatchee, WA 98807

Section 18: Records.

18.1 Each party shall maintain books, records, documents and other materials relevant to its performance under this agreement. Each party shall retain all such books, records, documents and other materials for the longest applicable retention period under federal and Washington law. The records shall be kept available for and subject to inspection, review and audit by either party or its designee, any agency funding a portion of the project or authorized auditing or oversight entity, and the Washington State Auditor's Office.

Section 19: Waiver of Breach.

19.1 The waiver by other parties of the breach of any provision of this agreement by a party must be in writing and shall not operate or be construed as a waiver of any subsequent breach by such breaching party.

Section 20: No Assignment.

20.1 No party may assign its rights under this agreement.

Section 21: Incorporated Documents and Terms.

21.1 The following are incorporated into this interlocal agreement by reference:

21.1.1 Applicable federal, Washington State, and local laws, statutes, codes, ordinances, regulations, and rules;

21.1.2 The recitals contained in the preamble to this agreement; and

21.1.3 The 1993 Interlocal Agreement at Chelan County Auditor's file number 2457827.



Section 22: Severability.

23.1 In the event any term or condition of this interlocal agreement or application thereof to any person or circumstances is held invalid, such invalidity shall not affect other terms, conditions or applications of this agreement which can be given effect without the invalid term, condition, or application. To this end the terms and conditions of this interlocal agreement are declared severable.

Section 23: Entire Agreement.

23.1 This interlocal agreement contains all the terms and conditions agreed upon by and between the Parties.

23.2 This agreement may be executed simultaneously or in counterparts, each of which shall be deemed an original, but all of which together shall be identical and constitute one and the same interlocal agreement.

23.3 No other understandings, oral or otherwise, regarding the subject matter of this interlocal agreement shall be deemed to exist or to bind any of the parties hereto.

23.4 This agreement may be executed simultaneously or in counterparts, each of which shall be deemed an original, but all of which together shall be identical and constitute one and the same agreement.

*(The remainder of this page is intentionally left blank.)*

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the dates below.

SIGNATURE PAGE 1 OF 2

APPROVED AND AGREED BY:

CITY OF CASHMERE

\_\_\_\_\_  
Mayor Date

CITY OF CHELAN

Mike Cooney 2/23/18  
Mayor Date

CITY OF ENTIAT

Keith W. Bradenburg 2/28/18  
Mayor Date

CITY OF LEAVENWORTH

\_\_\_\_\_  
Mayor Date

CITY OF WENATCHEE

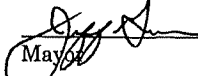
Paul J. Kim 1/11/18  
Mayor Date

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the dates below.

SIGNATURE PAGE 1 OF 2

APPROVED AND AGREED BY:

CITY OF CASHMERE

 \_\_\_\_\_ NOV 27, 2017  
Mayor Date

CITY OF CHELAN

\_\_\_\_\_  
Mayor Date

CITY OF ENTIAT

\_\_\_\_\_  
Mayor Date

CITY OF LEAVENWORTH

\_\_\_\_\_  
Mayor Date

CITY OF WENATCHEE

\_\_\_\_\_  
Mayor Date

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the dates below.

SIGNATURE PAGE 1 OF 2

APPROVED AND AGREED BY:

CITY OF CASHMERE

\_\_\_\_\_  
Mayor Date

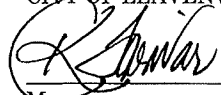
CITY OF CHELAN

\_\_\_\_\_  
Mayor Date

CITY OF ENTIAT

\_\_\_\_\_  
Mayor Date

CITY OF LEAVENWORTH



\_\_\_\_\_  
Mayor Date

CITY OF WENATCHEE

\_\_\_\_\_  
Mayor Date

SIGNATURE PAGE 2 OF 2

CHELAN COUNTY  
BOARD OF COUNTY COMMISSIONERS

Keith W. Goehner  
KEITH W. GOEHNER, Chairman

Kevin Overbay  
KEVIN OVERBAY, Commissioner

**EXCUSED**  
DOUG ENGLAND, Commissioner

ATTEST: ~~CARLYE DUFFY~~ Jacinda Rublaitus

Jacinda Rublaitus  
Clerk of the Board

Date: 3/27/18

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**APPENDIX B**

**SUMMARY OF RECOMMENDATIONS FROM 2017 PLAN**

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## APPENDIX B

### SUMMARY OF RECOMMENDATIONS FROM THE 2017 PLAN

The following table summarizes the results of the recommendations from the previous solid waste management plan.

<b>Table B-1. Status of Recommendations from the 2017 Plan.</b>	
<b>Waste Reduction, Chapter 3</b>	<b>Current Status</b>
WR1 Expand waste reduction programs in governmental offices.	Done
WR2 Encourage waste reduction programs for commercial and industrial businesses.	Not completed
WR3 Support private reuse programs and businesses.	Done
<b>Recycling, Chapter 4</b>	
R1 Adopt UGAs from Chelan County Comprehensive Plan as urban areas for purposes of recycling services.	Done
R2 The list of designated materials, and process for amending this list, is adopted.	Done
R3 Minimum service levels and service areas are adopted.	Done
R4 Coordinate funding for education efforts with waste reduction programs.	Continues
R5 Provide information annually to local businesses and residents with both garbage and recycling rates.	Done
R6 Continue curbside programs in Cashmere, Leavenworth and Wenatchee and voluntarily in unincorporated areas.	Done
R7 Re-evaluate drop-box system in urban and rural designated areas.	Done
R8 Encourage multi-family dwelling owners to contract with private recycler.	Not completed
R9 Encourage municipal permitting agencies to recommend that builders incorporate recycling collection areas into their building plans for multi-family and commercial buildings.	Continues
R10 Continue and expand recycling programs in governmental offices.	Done
R11 Develop a monitoring/reporting system.	Done
R12 Continually investigate and encourage local, cost-effective markets.	Done

	<b>Current Status</b>
R13 Support government procurement policies.	Done
R14 Encourage private companies to adopt procurement policies that promote the use of recycled materials.	Not Completed
R15 Any proposals for recycling through mixed waste processing should be evaluated.	Done
<b>Organics, Chapter 5</b>	
O1 Encourage Compost businesses continue and expand collection and operations.	Done
O2 Continue brush disposal in the Chelan/Manson area, Dryden and Entiat.	Done
O3 Monitor septage disposal systems and consider development of future programs if necessary.	Done
O4 Explore options and partnerships for land application of all types of organic materials.	Done
O5 Continue to support agriculture efforts and disease monitoring conducted by the Chelan Douglas Pest Board.	Done
<b>Solid Waste Collection, Chapter 6</b>	
WC1 All areas of Chelan County should use collection systems and rates that encourage resource conservation.	Continues
WC2 Provide recycling programs throughout the unincorporated areas of Chelan County by curbside collection.	Done
WC3 Those cities without tiered rates should consider to change to a system of rates that promotes resource conservation and cost effective recycling.	Continues
WC4 Regional Waste Haulers shall use local facilities.	Done
WC5 Implement a fee upon solid waste collection services of solid waste companies within the unincorporated areas to be paid to Chelan County to fund the administration and planning expenses of moderate risk waste collection that may be incurred in complying with the requirements in RCW 36.58.	Done



<b>Transfer and Disposal System, Chapter 7</b>	<b>Current Status</b>
T1 Construction improvements to the existing Transfer stations should be prioritized and implemented. Dryden transfer station needs facility improvements with a second tipping floor to separate commercial and residential. Chelan transfer station needs facility improvements with a scale house and scales, as well as other associated infrastructure such as fencing, road and shop.	Continues
T2 Also continue to evaluate the need and implementation plan for a transfer station in Entiat, Manson, and Plain.	Done
WI1 Consider higher rates for out-of-county wastes.	Continues
WI2 Explore options for waste export.	Done
L1 Identify potential sites for landfills/Incinerator.	Continues
L2 Continually review and evaluate other landfill disposal options, including long haul or railway transportation.	Continues
L3 Inventory old dumpsites in Chelan County and pursue final closure.	Done
<b>Moderate Risk Wastes, Chapter 8</b>	
MRW1 Develop a permanent MRW facility (In Progress).	Done
MRW2 Continue to work with WSDA to collect agricultural wastes.	Done
MRW3 Explore methods to reduce MRW waste and associated costs of proper disposal.	Done
<b>Special Wastes, Chapter 9</b>	
S1 Continue asbestos disposal using approved and permitted methods.	Done
S2 Increase education for proper disposal methods.	Continues
S3 A construction demolition central processing facility and/or salvage operation should be developed.	Continues
S4 Other collection and chipping sites established at the transfer stations and nearby brush chipping operations for clean, not treated or painted lumber.	Done
S5 Information should be distributed about the potentially dangerous materials that can be found during demolition activities.	Continues
S6 Contaminated soils shall continue current practices and evaluate options on a case by-case basis.	Done
S7 Encourage proper disposal of tires.	Done

	<b>Current Status</b>
S8 Investigate engineering and other alternative applications for tires.	Done
S9 Support the further research for disposal of used tires.	Continues
<b>Administration and Regulation, Chapter 10</b>	
A1 Provide adequate staffing for solid waste programs.	Continues
A2 Continue to improve interagency coordination and oversight.	Continues
A3 Designate County transfer stations, Dryden and Chelan, for only repositories for waste in the areas designated.	Done
A4 Evaluate whether facilities and programs will be managed publicly or privately, when necessary.	Done
A5 Develop ordinances, as needed, to enhance the solid waste management system.	Done
A6 Impose Collection Service Fee (RCW 36.58.045).	Done
A7 Continue to apply for grant money for the funding of solid waste programs.	Done
PE1 Continue and expand educational efforts to promote waste diversion methods.	Continues
PE2 Encourage waste haulers and municipalities involved in collection to conduct annual (at a minimum) publicity for waste collection and recycling.	Done

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**APPENDIX C**

**WUTC COST ASSESSMENT QUESTIONNAIRE**

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# COST ASSESSMENT QUESTIONNAIRE

## General Information

Plan prepared for the County of Chelan County

Plan prepared for the City of Wenatchee, Cashmere, Entiat, Leavenworth and Chelan

Prepared by Chelan County Public Works, Solid Waste

Contact telephone 509 667-6415

Contact email Brenda.blanchfield@co.chelan.wa.us

Date 10/31/2022

## Years

Throughout this document:

Year 1 (Base Year) shall refer to 2021

Year 2 shall refer to 2022

Year 3 shall refer to 2023

Year 4 shall refer to 2024

Year 5 shall refer to 2025

Year 6 shall refer to 2026

Each year shall refer to (check one):

- Calendar year                      January 1 – December 31
- Fiscal year                              Such as July 1 – June 30

# 1. Demographics

## 1.1. Population

1.1.1. Provide the total population of your County (excluding cities choosing to develop their own SWMP) for the base year and each of the following five years.

*Table 1.1.1.a.*

Year 1	<u>80,650</u>
Year 2	<u>81,457</u>
Year 3	<u>82,271</u>
Year 4	<u>83,094</u>
Year 5	<u>83,925</u>
Year 6	<u>84,764</u>

## 1.2. References and Assumptions

Based on Census population growth of 9% per past 10 years (1% per year).

# 2. Waste Stream Generation

Provide the information below related to solid waste and recycling. Disposal refers to those tons disposed of at a landfill, incinerator, transfer station, or any other form of disposal you may be using. If other, please identify.

## 2.1. Tonnage of Solid Waste Disposed

2.1.1. Provide the total tonnage of solid waste disposed of in the base year and each of the following five years.

*Table 2.1.1.a.*

Year 1	<u>72,375 T</u>
Year 2	<u>73,099 T</u>

Year 3	73,830 T
Year 4	74,568 T
Year 5	75,314 T
Year 6	76,067 T

## 2.2. Tonnage of Recyclable Materials with a Market<sup>7</sup>

2.2.1. Provide the tonnage of recyclable materials recycled in the base year and each of the following five years.

*Table 2.2.1.a.*

Year 1	59,711 T
Year 2	60,308 T
Year 3	60,911 T
Year 4	61,520 T
Year 5	62,135 T
Year 6	62,757 T

## 2.3. Tonnage of Recyclable Materials without a Market

2.3.1. Provide the tonnage of recyclable materials disposed of in the base year and each of the following five years.

*Table 2.2.1.a.*

Year 1	4,247
Year 2	4,289
Year 3	4,332
Year 4	4,376

<sup>7</sup> RCW 90.95.090(7)(c)

---

Year 5      4,419

---

Year 6      4,464

---

## 2.4. References and Assumptions

Based on Washington State Survey for Recycling, Recovery & Waste Generation in Washington (2018).

## 3. Collection Programs

### 3.1. Regulated Solid Waste Collection Programs

Provide information for each UTC-regulated solid waste collection company operating in your jurisdiction for the base year and each of the following five years.

*Table 3.1.a.*

<b>UTC-Regulated Hauler Name</b>	<u>Zippy Disosal</u>					
<b>G-Certificate #</b>	<u>121</u>					
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<b>Residential</b>						
# of customers	<u>2,105</u>	<u>2,126</u>	<u>2,147</u>	<u>2,169</u>	<u>2,190</u>	<u>2,212</u>
Tonnage collected	<u>2,153</u>	<u>2,175</u>	<u>2,196</u>	<u>2,218</u>	<u>2,240</u>	<u>2,263</u>
<b>Commercial</b>						
# of customers	<u>312</u>	<u>315</u>	<u>318</u>	<u>321</u>	<u>325</u>	<u>327</u>
Tonnage collected	<u>2,581</u>	<u>2,607</u>	<u>2,633</u>	<u>2,659</u>	<u>2,686</u>	<u>2,713</u>

*Table 3.1.b.*

<b>UTC-Regulated Hauler Name</b>	<u>Waste Management of Greater Wenatchee</u>					
----------------------------------	--	--	--	--	--	--





	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	<u>7946</u>	<u>8025</u>	<u>8106</u>	<u>8187</u>	<u>8269</u>	<u>8351</u>
Tonnage collected	<u>72927</u>	<u>7366</u>	<u>7439</u>	<u>7514</u>	<u>7589</u>	<u>7665</u>
<b>Commercial</b>						
# of customers	<u>804</u>	<u>812</u>	<u>820</u>	<u>828</u>	<u>836</u>	<u>845</u>
Tonnage collected	<u>11770</u>	<u>11888</u>	<u>12007</u>	<u>12127</u>	<u>12248</u>	<u>12370</u>

*Table 3.1.c.*

**UTC-Regulated Hauler Name** Mountain Barge, LLC

**G-Certificate #** 191

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	<u>0</u>					
Tonnage collected	<u>0</u>					
<b>Commercial</b>						
# of customers	<u>1</u>					
Tonnage collected	<u>574</u>	<u>579</u>	<u>586</u>	<u>591</u>	<u>597</u>	<u>603</u>

### 3.2. Cost & Funding for Solid Waste Programs

Provide information for solid waste programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

*Table 3.2.a.*

Program	Cost	Funding	Page #
	Implemented		

Moderate Risk Waste operations	\$287,000	State Grant, ILA	Ch. 8

<i>Table 3.2.b.</i>			
Proposed			
Program	Cost	Funding	Page #
Education	\$3,900.	State Grant & ILA	Ch. 4
Dryden Transfer station	3.1 Million	User Fees	Ch. 7
Chelan Transfer station	1.2 million	User Fees	Ch. 7

### 3.3. References and Assumptions

Assume that grant has sufficient funds available to provide education. If not grants, continue no cost education programs such as County Web site, List serve and PSA (Public Service Announcement).

## 4. Waste Reduction (Recycling and Organics)

### 4.1. Recycling

#### 4.1.1. Regulated Recycling Collection Programs<sup>8</sup>

Provide information for each UTC-regulated recycling company operating in your jurisdiction for the base year and each of the following five years.

<sup>8</sup> RCW 70.95.090(7)(c)

Table 4.1.1.a.

<b>UTC-Regulated Hauler Name</b>	<b>Waste Management Inc.</b>					
<b>G-Certificate #</b>	<b><u>237</u></b>					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	<u>3,706</u>	<u>3,743</u>	<u>3,780</u>	<u>3,818</u>	<u>3,856</u>	<u>3,895</u>
Tonnage collected	<u>653.7</u>	<u>660</u>	<u>667</u>	<u>674</u>	<u>680</u>	<u>687</u>
<b>Commercial</b>						
# of customers	<u>75</u>	<u>76</u>	<u>77</u>	<u>77</u>	<u>78</u>	<u>79</u>
Tonnage collected	<u>254.6</u>	<u>257</u>	<u>260</u>	<u>262</u>	<u>265</u>	<u>267</u>

Table 4.1.1.b.

<b>UTC-Regulated Hauler Name</b>	<b>Zippy Disposal</b>					
<b>G-Certificate #</b>	<b><u>121</u></b>					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	<u>283</u>	<u>286</u>	<u>289</u>	<u>292</u>	<u>294</u>	<u>297</u>
Tonnage collected	<u>57</u>	<u>58</u>	<u>58</u>	<u>59</u>	<u>59</u>	<u>60</u>
<b>Commercial</b>						
# of customers	<u>32</u>	<u>32</u>	<u>33</u>	<u>33</u>	<u>33</u>	<u>34</u>
Tonnage collected	<u>91</u>	<u>92</u>	<u>93</u>	<u>94</u>	<u>95</u>	<u>96</u>

Table 4.1.1.c.

<b>UTC-Regulated Hauler Name</b>	_____
<b>G-Certificate #</b>	_____

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	_____	_____	_____	_____	_____	_____
Tonnage collected	_____	_____	_____	_____	_____	_____
<b>Commercial</b>						
# of customers	_____	_____	_____	_____	_____	_____
Tonnage collected	_____	_____	_____	_____	_____	_____

#### 4.1.2. Recyclable Materials

Provide a list of recyclable materials to be collected in accordance with the SWMP. For each item, indicate if there is an active market and if the revenues exceed the cost of processing.

*Table 4.1.2.a.*

Recyclable Material	Active Market		Revenues > Processing Costs	
	Yes	No	Yes	No
Cardboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plastic (PET & HDPE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Newspaper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Office Paper/High Grade	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magazines/catlogue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mixed Waste paper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aluminum cans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferrous/Non-ferrous scrap	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yard Debris/Brush	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Used Motor Oil	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Auto Batteries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronics – computers, tvs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.1.3. Costs & Funding for Recycling

Provide information for recycling programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

<i>Table 4.1.3.a.</i>			
Implemented			
Program	Cost	Funding	Page #
Paintcare Stewardship	8,500	ILA	Ch. 8, pg 8
Motor Oil	7,300	WA State Grant & ILA	Ch. 8, pg 8
Antifreeze	3,300	WA State Grant & ILA	Ch 8, pg 8

<i>Table 4.1.3.b.</i>			
Proposed			
Program	Cost	Funding	Page #
No proposed programs at this time.			

### 4.2. Other Waste Reduction Programs (Organics, such as Yard Waste and Food Waste)

#### 4.2.1. Regulated Organics Collection Programs

Provide information for each UTC-regulated company collecting organics operating in your jurisdiction for the base year and each of the following five years.

Table 4.2.1.a.

<b>UTC-Regulated Hauler Name</b>	<u>Waste Management</u>					
<b>G-Certificate #</b>	<u>237</u>					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	<u>96</u>	<u>97</u>	<u>98</u>	<u>99</u>	<u>100</u>	<u>101</u>
Tonnage collected	<u>664</u>	<u>671</u>	<u>677</u>	<u>684</u>	<u>691</u>	<u>698</u>
<b>Commercial</b>						
# of customers	<u>No</u>	_____	_____	_____	_____	_____
<u>Commercial Organics Collection program</u>						
Tonnage collected	_____	_____	_____	_____	_____	_____

Table 4.2.1.b.

<b>UTC-Regulated Hauler Name</b>	_____					
<b>G-Certificate #</b>	_____					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Residential</b>						
# of customers	_____	_____	_____	_____	_____	_____
Tonnage collected	_____	_____	_____	_____	_____	_____
<b>Commercial</b>						
# of customers	_____	_____	_____	_____	_____	_____
Tonnage collected	_____	_____	_____	_____	_____	_____

4.2.2. Costs & Funding for Organics Collection Programs

Provide information for programs for collecting organics that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

Table 4.2.2.a.

Implemented			
Program	Cost	Funding	Page #
Chelan Yard Waste Drop off	17,000	User Fees	Ch 5 pg 15
Dryden Yard waste Drop off	19,500	User Fee	Ch 5 pg 15
Leavenworth Y.W. Drop off	14,200	User Fee	Ch 5 pg 16
Entiat Yard waste drop off	7,700	User Fee	Ch 5 pg 15
WM Wenatchee curbside Collection	Proprietary	User Fee	Ch 5 pg 11
Stemilt Compost Yard waste Drop off	Proprietary	User Fee	Ch 5 , pg 9

Table 4.2.2.b.

Proposed			
Program	Cost	Funding	Page #
Compost Procurement	34,000	None Available	Ch 5, pg 9
Business Food waste collection	Proprietary	User Fees	Ch 5, pg 8
Compost curbside Collection	Proprietary	User Fees	Ch 5, pg 11
Compost Siting	37,000	None Available	Ch 5, pg 9-10
Residential Food waste collection	Proprietary	User Fees	Ch. 5, pg 9

### 4.3. References and Assumptions

An exemption request for the HSB 1799 requirements may occur.

## 5. Disposal

### 5.1. Energy Recovery & Incineration (ER&I) Disposal Programs

#### 5.1.1. ER&I Facilities:

*Table 5.1.1.a.*

	Facility	Facility
Name	<u>None</u>	_____
Location	_____	_____
Owner	_____	_____
Operator	_____	_____

5.1.2. Amount Landfilled

For each facility, provide the estimated amount of ash or materials that cannot be processed for the base year and each of the following five years.

*Table 5.1.2.a.*

Facility	<u>None</u>	_____
Year 1	_____	_____
Year 2	_____	_____
Year 3	_____	_____
Year 4	_____	_____
Year 5	_____	_____
Year 6	_____	_____

5.1.3. Costs & Funding for ER&I Programs

Provide information for ER&I programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

*Table 5.1.3.a.*

	Implemented		
Program	Cost	Funding	Page #
None	_____	_____	_____
_____	_____	_____	_____




*Table 5.1.3.b.*

Proposed			
Program	Cost	Funding	Page #
None			

5.1.4. Ash Disposal Expense

Provide the expected costs ash disposal.

*Table 5.1.4.a.*

	Amount of Ash	Cost
Year 1	_____	-
Year 2	_____	-
Year 3	_____	-
Year 4	_____	-
Year 5	_____	-
Year 6	_____	-

5.2. Land Disposal Program

5.2.1. Land Disposal Facilities

Provide the following information for each land disposal facility in your jurisdiction that receives garbage or refuse generated in the county.

<i>Table 5.2.1.a.</i>	
Facility	Facility
Name	<u>None</u> _____
Location	_____
Owner	_____
Operator	_____

5.2.2. Regulated Disposal

Provide the tonnage disposed of at each facility by UTC-regulated haulers.

<i>Table 5.2.2.a.</i>	
Facility	_____
Year 1	_____
Year 2	_____
Year 3	_____
Year 4	_____
Year 5	_____
Year 6	_____

5.2.3. Non-Regulated Disposal

Provide the tonnage disposed of at each facility by other (non-regulated) haulers and other contributors.

<i>Table 5.2.3.a.</i>	
Facility	_____

Year 1		
Year 2		
Year 3		
Year 4		
Year 5		
Year 6		

5.2.4. Costs & Funding for ER&I Programs

Provide information for land disposal programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

<i>Table 5.2.4.a.</i>			
Implemented			
Program	Cost	Funding	Page #
None			

<i>Table 5.2.4.b.</i>			
Proposed			
Program	Cost	Funding	Page #

5.3. References and Assumptions

6. Administration Program

6.1. Costs & Funding for Administration Programs

Provide information for administration programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

<i>Table 6.1.a.</i>			
Implemented			
<b>Program</b>	<b>Cost</b>	<b>Funding</b>	<b>Page #</b>
Solid Waste Operations & management	450,000	User Fees	Chapter 10, pg 6
Moderate Risk Waste Operations	195,000	State Grant & ILA	Chapter 8
Solid Waste Planning	47,000	ILA	Chapter 10, pg 6

<i>Table 6.1.b.</i>			
Proposed			
<b>Program</b>	<b>Cost</b>	<b>Funding</b>	<b>Page #</b>
None proposed. Only maintaining existing programs.			

## 6.2. References and Assumptions

## 7. Other Programs

### 7.1. Programs

For each program in effect or planned that does not readily fall into one of the previously described categories please fill in the following table.

*Table 7.1.a.*

Program	_____	_____	_____
Page #	_____	_____	_____
Owner/Operator	_____	_____	_____
UTC Regulations	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Anticipated Yearly Costs	_____	_____	_____

#### 7.1.1. UTC Regulation Involvement

If UTC regulation is involved, please explain the extent of involvement.

### 7.2. Costs & Assumptions of Other Programs

Provide information for other programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

*Table 7.2.a.*

Program	Cost	Funding	Page #
_____	_____	_____	_____

All programs have been included.


<i>Table 7.2.b.</i>			
Proposed			
<b>Program</b>	<b>Cost</b>	<b>Funding</b>	<b>Page #</b>

7.3. References and Assumptions

8. Funding Mechanisms

This section relates specifically to the funding mechanisms currently in use and the ones that will be implemented to incorporate the recommended programs in the draft plan. Because the way a program is funded directly relates to the costs a resident or commercial customer will have to pay, this section is crucial to the cost assessment process. Please fill in each of the following tables.



Tip Fee Component

Table 8.2.a.

Y	Surcharge	Tip Fee Components					Operational Cost	Administration Cost	Closure Costs
		City State Tax	County B & O Tax	Transportation Cost	Operational Cost	Administration Cost			
Dryden TS	\$125../T	\$32,000.	\$80,720.	\$451,858.	\$1,695,342.	147,000.	\$360,000.		
Chelan TS	\$2.00/C.Y.	Proprietary	Proprietary	Proprietary	Proprietary	\$53,000.	\$290,000		
Chelan Brush Yard	\$11.00/C.Y.	\$0	\$0	\$ 3,120.	27,240.	7,700.	\$13,940.		
Leavenworth Day Pit	\$120./T or \$15./c.y.	\$0	\$0	\$56./T	\$ 47,040.	13,700.	\$ 0		



Tip Fee Forecast

Table 8.3.a.

er Ton by Facility	Tip Fee Forecast					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Dryden TS	\$125./Ton	\$125./T	\$125/T	\$130/T	\$130./T	\$130./T
Chelan TS	\$2./c.y. or \$16./T	\$2. c.y. or \$16/T	\$3..c.y. or \$17/T	\$3.. c.y. or 17/T	3./c.y. or \$17/T	\$3. c.y. or \$18/T
Chelan Brush	\$11./c.y. or \$48/T	\$16/c.y. or \$70/T	\$16/c.y. or \$70/T	\$17 c.y. or \$75/T	\$21 c.y. or \$92/T	\$20 c.y. or \$92/T
Leavenworth Day Pit	\$15/c.y. or \$66/T	\$15/c.y. or \$66/T	\$20/c.y. or \$88/T	\$20/c.y. or \$88/T	\$25/c.y. or \$110/T	\$25/c.y. or \$110/T

#### 8.4. References and Assumptions

Please provide any support for the information you have provided. An annual budget or similar document would be helpful.

#### 8.5. Surplus Funds

Provide information about any surplus or saved funds that may support your operations.

Approximately 1.8 million is reserved for Transfer Station construction improvement upgrades. Two transfer stations are in need of \$4.3 million of Capital expense.



# SOLID WASTE PLANNING FUND

## Preliminary Budget

### 2023



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CHELAN COUNTY PUBLIC WORKS DEPARTMENT  
2023 BUDGET  
SOLID WASTE PLANNING - 103.001  
EXPENDITURES

	2019 Actual	2020 Actual	2021 Actual	2022 thru June	2022 est. thru Dec	2022 est. Actual	2022 Budget	2023 Budget
53790.10.000 Salaries and Wages	28,412.50	85,071.16	122,811.87	58,121.68	42,422.32	100,544.00	100,544.00	140,125.00
53790.11.996 Cell Phone Stipend	600.00	600.00	600.00	300.00	300.00	600.00	600.00	600.00
53790.12.600 Overtime	1,697.64	1,359.42	448.84	-	-	-	-	-
53790.19.000 Compensated Absence Expense	-	-	-	-	-	-	-	-
53790.21.000 Social Security	2,240.61	6,502.98	9,421.73	4,453.20	3,238.80	7,692.00	7,692.00	10,720.00
53790.22.000 Retirement	3,868.88	11,150.15	14,340.22	5,957.45	6,972.55	12,930.00	12,930.00	14,363.00
53790.23.000 Medical-Dental-Life	5,787.32	18,921.63	22,211.79	11,979.14	8,747.86	20,727.00	20,727.00	28,200.00
53790.24.000 Labor and Industries	457.13	1,684.56	1,843.42	2,276.56	(1,798.56)	478.00	478.00	566.00
53790.25.000 Unemployment Compensation	45.16	129.61	184.90	87.18	113.82	201.00	201.00	210.00
53790.29.000 WA Family Paid Leave Premium	31.73	127.64	168.15	63.78	137.22	201.00	201.00	210.00
<b>TOTAL SALARIES &amp; BENEFITS</b>	<b>43,140.97</b>	<b>125,547.15</b>	<b>172,030.92</b>	<b>83,238.99</b>	<b>60,134.01</b>	<b>143,373.00</b>	<b>143,373.00</b>	<b>194,994.00</b>
53790.31.300 Operating Supplies	24,060.42	15,370.27	60,117.07	6,644.47	9,290.00	15,934.47	42,782.00	18,430.00
<b>TOTAL SUPPLIES</b>	<b>24,060.42</b>	<b>15,370.27</b>	<b>60,117.07</b>	<b>6,644.47</b>	<b>9,290.00</b>	<b>15,934.47</b>	<b>42,782.00</b>	<b>18,430.00</b>
53790.41.000 Professional Services	13,766.52	3,183.23	3,210.94	2,414.70	2,670.00	5,084.70	1,340.00	3,400.00
53790.41.200 Advertising	764.15	-	-	253.80	320.00	573.80	550.00	575.00
53790.42.016 Communications - Internet	-	1,141.16	2,154.62	1,125.66	1,126.00	2,251.66	2,020.00	2,252.00
53790.43.000 Travel	1,674.66	1,248.90	941.87	-	1,100.00	1,100.00	2,300.00	3,740.00
53790.44.000 Taxes & Operating Assessments	-	-	-	-	-	-	-	-
53790.45.000 Operating Rentals & Leases	475.61	-	-	-	550.00	550.00	1,450.00	770.00
53790.46.000 Insurance	-	-	-	3,680.07	-	3,680.07	-	-
53790.47.010 Electricity (MRWF)	1,676.18	9,509.75	6,235.22	2,591.59	2,597.00	5,188.59	4,940.00	5,230.00
53790.47.040 Waste Disposal	793.03	87,602.63	64,299.37	15,283.37	69,770.00	85,053.37	115,200.00	70,200.00
53790.48.000 Repair & Maintenance Services	9,496.86	2,593.64	3,197.20	1,278.01	879.00	2,157.01	742.00	2,200.00
53790.49.000 Miscellaneous	411.24	6.58	-	-	40.00	40.00	240.00	120.00
53790.49.010 Dues Subscriptions & Memberships	3,474.38	2,867.08	1,925.00	-	375.00	375.00	1,180.00	460.00
<b>TOTAL SERVICES</b>	<b>32,532.63</b>	<b>108,152.97</b>	<b>81,964.22</b>	<b>26,627.20</b>	<b>79,427.00</b>	<b>106,054.20</b>	<b>129,962.00</b>	<b>88,947.00</b>
53791.10.000 Salaries and Wages	-	647.37	-	4,202.26	14,379.00	18,581.26	-	16,734.00
53791.21.000 Social Security	-	48.78	-	316.73	1,100.00	1,416.73	-	1,683.00
53791.22.000 Retirement	-	83.96	-	430.74	1,849.00	2,279.74	-	2,256.00
53791.23.000 Medical-Dental-Life	-	74.75	-	462.71	1,200.00	1,662.71	-	3,600.00
53791.24.000 Labor and Industries	-	4.84	-	21.34	624.00	645.34	-	89.00
53791.25.000 Unemployment Compensation	-	0.97	-	6.31	29.00	35.31	-	33.00
53791.29.000 WA Family Paid Leave Premium	-	0.96	-	6.76	29.00	35.76	-	33.00
53791.31.000 Operating Supplies	-	-	-	-	-	-	-	3,370.00
53791.41.000 Professional Services	-	-	-	-	-	-	-	1,220.00
<b>TOTAL SW MANAGEMENT PLAN</b>	<b>-</b>	<b>861.63</b>	<b>-</b>	<b>5,446.85</b>	<b>19,210.00</b>	<b>24,656.85</b>	<b>-</b>	<b>29,018.00</b>
53792.10.000 Salaries and Wages	-	6,537.31	3,497.13	461.75	-	461.75	-	-
53792.21.000 Social Security	-	498.95	264.62	34.81	-	34.81	-	-
53792.22.000 Retirement	-	847.30	429.32	47.33	-	47.33	-	-
53792.23.000 Medical-Dental-Life	-	1,609.89	626.98	50.53	-	50.53	-	-
53792.24.000 Labor and Industries	-	285.43	79.16	2.65	-	2.65	-	-
53792.25.000 Unemployment Compensation	-	9.82	5.26	0.69	-	0.69	-	-
53792.29.000 WA Family Paid Leave Premium	-	9.60	5.15	0.74	-	0.74	-	-
53792.31.000 Operating Supplies	-	-	-	-	-	-	-	-
53792.41.000 Professional Services	-	-	218.04	-	-	-	-	-
<b>TOTAL SW CROP</b>	<b>-</b>	<b>9,798.30</b>	<b>5,125.66</b>	<b>598.50</b>	<b>-</b>	<b>598.50</b>	<b>-</b>	<b>-</b>
53790.51.000 Intergovernmental Services & Taxes	-	2,071.68	-	-	-	-	-	-
<b>TOTAL INTERGOVERNMENTAL</b>	<b>-</b>	<b>2,071.68</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
53790.90.000 Central Service Charges	6,593.00	7,413.00	12,888.00	4,018.00	4,018.00	8,036.00	8,036.00	9,234.00
53790.90.540 Tort Claims & Insurance	2,654.28	3,397.00	4,566.00	3,978.50	3,978.50	7,957.00	14,560.00	9,969.00
53790.93.510 ER&R Store Issues	-	-	289.93	-	-	-	220.00	230.00
53790.95.510 Equipment Rental & Revolving Fund	311.69	-	1,480.00	-	-	-	620.00	2,760.00
53790.98.511 Purchase of Signs	-	106.50	-	148.46	-	148.46	1,320.00	340.00
<b>TOTAL INTERFUND</b>	<b>9,558.97</b>	<b>10,916.50</b>	<b>19,223.93</b>	<b>8,144.96</b>	<b>7,996.50</b>	<b>16,141.46</b>	<b>24,756.00</b>	<b>22,533.00</b>
59237.82.000 Interfund Loan Interest	-	-	-	-	-	-	-	-
<b>TOTAL INTERFUND INTEREST</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
59437.49.051 Contractual Services	-	-	-	-	-	-	-	-
<b>TOTAL CONTRACTUAL SERVICES</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
59437.61.000 Land Improvements	-	-	-	-	-	-	-	-

CHELAN COUNTY PUBLIC WORKS DEPARTMENT  
 2023 BUDGET  
 SOLID WASTE PLANNING - 103.001  
 EXPENDITURES

	2019 Actual	2020 Actual	2021 Actual	2022 thru June	2022 est. thru Dec	2022 est. Actual	2022 Budget	2023 Budget
59437.62.000 Building Improvements	1,288,464.27	-	-	-	-	-	-	-
59437.64.000 Capital Outlay	-	-	-	-	-	-	-	-
<b>TOTAL CAPITAL OUTLAY</b>	<b>1,288,464.27</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL EXPENDITURES</b>	<b>1,397,757.26</b>	<b>272,718.50</b>	<b>338,461.80</b>	<b>130,700.97</b>	<b>176,057.51</b>	<b>306,758.48</b>	<b>340,873.00</b>	<b>353,922.00</b>

CHELAN COUNTY PUBLIC WORKS DEPARTMENT  
2023 BUDGET  
SOLID WASTE PLANNING - 103.001  
REVENUES

		2019 Actual	2020 Actual	2021 Actual	2022 thru June	2022 est. thru Dec	2022 est. Actual	2022 Budget	2023 Budget
30880.00.000	Budgeted Beg. Fund Balance	190,000.00	(56,568.00)	223,694.00				118,698.00	142,010.00
30880.00.000	Budgeted End. Fund Balance	57,891.00	74,549.58	230,618.00				81,533.00	173,793.00
30880.00.000	Actual Beg. Fund Balance	93,557.32	1,228.30	74,549.58	193,211.58		193,211.58		
30880.00.000	Actual End. Fund Balance	1,228.30	74,549.58	193,211.58					
33403.15.000	Department of Ecology Grants	105,312.09	101,998.11	141,258.36	24,585.05	70,543.00	95,128.05	143,613.00	225,285.00
33404.20.000	Department of Commerce	539,320.00	-	-	-	-	-	-	-
34370.01.000	Cities	230,887.00	188,346.00	188,346.00	43,500.00	43,500.00	87,000.00	87,000.00	87,000.00
33470.02.000	Counties	217,276.00	136,389.00	136,389.00	31,500.00	31,500.00	63,000.00	63,000.00	63,000.00
34370.03.000	Wood Grinding (Chelan Brush Pile)	505.00	-	-	-	-	-	-	-
34370.04.000	Moderate Risk User's Fees	-	7,439.25	8,710.29	3,451.00	3,720.00	7,171.00	7,220.00	7,440.00
34370.05.000	Hauler's Fee	-	60,754.00	-	-	-	-	-	-
34900.00.105	Stormwater Reimbursement	99,017.98	-	-	-	-	-	-	-
36111.00.000	Investment Interest	-	-	-	-	-	-	-	-
36200.40.000	Space & Facilities Rentals	2,750.04	2,750.04	2,750.04	1,811.11	1,375.00	3,186.11	2,750.00	2,750.00
36991.00.000	Other Miscellaneous Revenue	4,000.00	272.44	502.46	52.20	20.00	72.20	125.00	230.00
39510.00.000	Proceeds from Sale of Capital Assets	70,300.00	-	-	-	-	-	-	-
	<b>TOTAL REVENUES</b>	<b>1,269,368.11</b>	<b>497,948.84</b>	<b>477,956.15</b>	<b>104,899.36</b>	<b>150,658.00</b>	<b>255,557.36</b>	<b>303,708.00</b>	<b>385,705.00</b>
	Total Revenue	1,269,368.11	497,948.84	477,956.15	-	150,658.00	255,557.36	303,708.00	385,705.00
	Beginning Fund Balance	93,557.32	1,228.30	74,549.58	-	-	193,211.58	118,698.00	142,010.00
	<b>Total Revenue &amp; Beginning Balance</b>	<b>1,362,925.43</b>	<b>499,177.14</b>	<b>552,505.73</b>	<b>-</b>	<b>150,658.00</b>	<b>448,768.94</b>	<b>422,406.00</b>	<b>527,715.00</b>
	Total Expenditures	1,397,757.26	272,718.50	338,461.80	-	-	306,758.48	340,873.00	353,922.00
	Ending Fund Balance	1,228.30	74,549.58	193,211.58	-	-	142,010.46	81,533.00	173,793.00
	<b>Total Expenditures &amp; Ending Balance</b>	<b>1,398,985.56</b>	<b>347,268.08</b>	<b>531,673.38</b>	<b>-</b>	<b>-</b>	<b>448,768.94</b>	<b>422,406.00</b>	<b>527,715.00</b>





## **Program Description**

Chelan County Solid Waste Planning program provides opportunities for reducing waste, recycling and hazardous waste disposal for residents and local businesses. Policy and direction is set for these programs by the Solid Waste Council, and supported by the Solid Waste Advisory Committee. All the cities and the County, as well as Washington State Department of Ecology grants provides the funds for these operations.

## **Major Objectives**

- Operate the Moderate Risk Waste Facility for use by residents to dispose of their unwanted hazardous waste. Operations include contracted disposal costs at an estimated \$145,000, as well as two full time staff members. The facility is open to the public four days a week, including one Saturday of the month. We expect to collect 88 tons of hazardous waste materials from the Chelan County residents. A new contract with PaintCare will absorb much of the costs for disposal of paint, an estimated savings of \$29,000 per year, although Pollution Prevention Insurance was added at a cost of \$7,000 per year. Another savings is the newer material being available to the public for re-use. New paint re-used brings \$1.80 per gallon back to the County. This will only amount to an estimated \$275. However, reuse of any materials is an environmental benefit for everyone.
- Continue to provide and encourage recycle programs and thoughtful planning for Solid Waste handling and disposal throughout Chelan County. The Chelan County Comprehensive Solid Waste plan is under review and being updated. Complete review with state review began in 2022, and is expected for completion and the required adoption process in 2023.
- Coordinate information and organize quarterly meetings for both the Solid Waste Council (SWC) and Solid Waste Advisory Committee (SWAC). These bodies develop goals and methods that are required for the Solid Waste Comprehensive Plan, as well as for policy, projects and budget direction.

## **Revenue/Expenditure Comment**

The Cities, County, and State grants support these programs through an Interlocal Agreement. Through the Solid Waste Council, contributions by each entity pay proportionate to their population for a total of \$150,000. Approximately \$63,000 is the County's portion of costs, and the prorated cities contribution is around \$87,000. The Haulers fee collection passed in 2019 by resolution in accordance with RCW 36.58.040 will provide for the County's portion from the Solid Waste Fund.

The Washington State Department of Ecology is charged with providing County Solid Waste with funding to provide for the mandated programs. Legislation increased these funds by 100% and passed it for permanent funding provided each biennium as of 2021.

# SOLID WASTE FUND Preliminary Budget 2023



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## **Program Description**

Chelan County Solid Waste Fund provides opportunities for refuse disposal at west and north ends of the county. In addition to the operations of two transfer stations, waste reduction programs are incorporated into the operations, including brush/green waste, scrap metal, and oil and antifreeze recycling, as well as a grant funded litter and illegal dump cleanup program. Two closed landfills are monitored for stabilization and water well testing. Capital construction improvements for both Chelan and Dryden Transfer stations are needed and are 4-5 million dollars. Further work to refine scope of cost for construction will determine the ability to conduct the planned construction projects and may require a budget adjustment in 2023.

## **Major Objectives**

- Plan, manage and operate two transfer stations. County staff consists of 3 1/2 fulltime operators, along with contracted help for hauling, operations of one transfer station, refrigeration purging, scrap metal sales, chipping brush, and various other specialties. Our contractor, NCR, Inc., operates the Chelan Transfer Station and pays Chelan County \$60.50 per ton for landfill disposal. The contract with Waste Management pays \$56.00 per ton for waste disposed at the Greater Wenatchee Regional Landfill from both the Chelan Transfer Station and the Dryden Transfer Station. The disposal contract ends in 2027. An average 10% increase in garbage at both transfer stations causes further reviews of safety policies.

Dryden operates on the tonnage weight exchange, while Chelan's facility is still collecting fees by the volume in cubic yards. Infrastructure improvements at Chelan are needed to include a scale(s) and scale house. Dryden's construction improvement is for a second tipping floor, and has been delayed due to available funds. With recent increased costs of construction, the estimated cost have increased significantly. Both construction projects are delayed until further cost analysis is done to determine eligible financial resources. A budget adjustment for one of the projects may be requested in 2023 if eligibility is determined sufficient. Other requests include a wheeled excavator to be necessary only if the construction for the new Dryden Transfer Station tipping floor is conducted.

- In accordance with our permit with the Department of Agriculture, a green waste collection site is set up in the apple maggot quarantine area, near Leavenworth. Solid waste staff oversees the acceptance of the brush material once day a week and collects a fee of \$15.00 per yard. The Chelan brush yard and Dryden brush yard are managed by the transfer station attendants. Chelan contractor, NCR, Inc., keeps \$3.00 per yard, providing for \$11.00 per cubic yard for the County use for chipping and hauling material to acceptable sites. Currently Chelan's brush chips are hauled to the Stemilt Compost facility at Wenatchee Heights. The Leavenworth chips must be kept in the quarantine area, and may be hauled to Winton Compost Facility for a discounted fee for mitigating

imported food waste from outside the county. The chips from the Dryden Transfer Station brush yard may also be hauled to Winton or the Stemilt compost yards.

- The Litter program is funded primarily thru a grant (approximately \$32,000/year) provided by the Department of Ecology. All expenses are 100% reimbursed except for inmate labor of \$5.00 per hour. Chelan County's Litter and Illegal dump Clean Up program now suffers due to the COVID pandemic preventing the inmate worker release program. Currently, only one part time staff member (two days per week) is available to conduct the work. Approximately 50 tons of garbage is expected to be picked up off of County roads, public sites and remote ravines.
- The Solid Waste Haulers fee has substantially aided the Solid Waste budget. The extra fee applied to curbside garbage in the unincorporated areas provides for much needed capital upgrades and the County's share of the Solid Waste Planning Fund, funding the operation of the Moderate Risk Waste facility, updates to the County Comprehensive Solid Waste Management Plan, and other waste reduction programs determined by the Solid Waste Council.

CHELAN COUNTY PUBLIC WORKS DEPARTMENT  
2023 BUDGET  
SOLID WASTE - 101.001  
REVENUES

	2019 Actual	2020 Actual	2021 Actual	2022 thru June	2022 est. thru Dec	2022 est. Actual	2022 Budget	2023 Budget
30880.00.000 Budgeted Beg. Fund Balance	500,000.00	611,757.00	1,845,886.00				1,803,510.00	2,169,972.00
30880.00.000 Budgeted End. Fund Balance	94,953.00	148,934.00	803,825.00				549,537.00	1,811,960.00
30880.00.000 Actual Beg. Fund Balance	621,626.08	1,035,999.72	1,420,057.66	2,305,766.05		2,650,904.30		
30880.00.000 Actual End. Fund Balance	1,035,993.72	1,420,057.66	2,305,766.05	2,454,456.41				
Investments Beg. Balance	335,221.98	342,654.06	344,794.06	345,138.25				
Investments End. Balance	342,654.06	344,794.06	345,138.25	345,568.59				
33110.66.400 Forest Service Grant	-	-	-	-	-	-	-	-
33403.15.000 Department of Ecology Grants	54,875.42	15,816.73	28,175.86	23,541.33	7,850.00	31,391.33	34,778.00	40,609.00
34370.01.001 Base	2,189,349.40	2,182,349.44	2,527,073.84	1,088,697.71	1,322,577.29	2,411,275.00	2,486,701.00	2,456,871.00
34370.01.005 Metal	45,124.00	55,598.12	44,642.78	16,103.00	8,220.00	24,323.00	29,420.00	32,309.00
34370.02.000 Chelan Transfer Station	939,390.97	960,162.57	1,048,158.80	410,568.95	641,564.00	1,052,132.95	877,412.00	1,067,930.00
34370.03.000 Tax Recovery (S/W Tax)	25,210.83	25,517.24	31,491.89	12,420.62	20,951.00	33,371.62	32,005.00	25,650.00
34370.05.000 Chelan Brush Pile	63,244.50	58,378.50	107,447.88	21,076.00	32,926.00	54,002.00	74,232.00	62,040.00
34370.05.001 Leavenworth Brush Pile	25,775.00	22,531.00	25,845.33	9,675.00	10,805.00	20,480.00	22,091.00	23,405.00
34370.06.000 Tax Recovery (Health District)	41,525.77	52,093.06	47,545.49	18,809.67	16,788.00	35,597.67	22,264.00	37,920.00
34370.07.000 Waste Hauler's Fee	-	158,013.15	258,692.85	126,189.20	123,063.00	249,252.20	197,220.00	233,004.00
36111.00.000 Investment Interest	7,432.08	2,140.00	344.19	430.34	-	430.34	720.00	562.00
36910.00.000 Sale of Salvage of Junk	2,684.85	10,080.00	22,531.50	31,068.15	12,302.00	43,370.15	19,780.00	39,477.00
36981.00.000 Cashiers Overages & Shortages	71.00	459.00	162.00	629.00	-	629.00	140.00	735.00
36991.00.000 Other Miscellaneous Revenue	95.00	14,427.00	7,025.00	-	-	-	340.00	770.00
38810.00.000 Prior Period Adjustments	-	120,784.26	6,695.12	-	-	-	-	-
<b>TOTAL REVENUES</b>	<b>3,394,778.82</b>	<b>3,678,350.07</b>	<b>4,155,832.53</b>	<b>1,759,208.97</b>	<b>2,197,046.29</b>	<b>3,956,255.26</b>	<b>3,797,103.00</b>	<b>4,021,282.00</b>
Total Revenue	3,394,778.82	3,678,350.07	4,155,832.53	-	-	3,956,255.26	3,797,103.00	4,021,282.00
Beginning Fund Balance	621,626.08	1,035,999.72	1,420,057.66	-	-	2,650,904.30	1,803,510.00	2,169,972.00
<b>Total Revenue &amp; Beginning</b>	<b>4,016,404.90</b>	<b>4,714,349.79</b>	<b>5,575,890.19</b>	<b>-</b>	<b>-</b>	<b>6,607,159.56</b>	<b>5,600,613.00</b>	<b>6,191,254.00</b>
Total Expenditures	2,966,023.06	3,160,977.31	464,732.95	-	-	4,437,188.00	5,051,076.00	4,379,294.00
Ending Fund Balance	1,035,993.72	1,420,057.66	2,650,904.30	-	-	2,169,971.56	549,537.00	1,811,960.00
<b>Total Expenditures &amp; Ending</b>	<b>4,002,016.78</b>	<b>4,581,034.97</b>	<b>3,115,637.25</b>	<b>-</b>	<b>-</b>	<b>6,607,159.56</b>	<b>5,600,613.00</b>	<b>6,191,254.00</b>

\*2022 estimate from Brenda



CHELAN COUNTY PUBLIC WORKS DEPARTMENT  
2023 BUDGET  
SOLID WASTE - 101.001  
EXPENDITURES

	2019 Actual	2020 Actual	2021 Actual	2022 thru June	2022 est. thru Dec	2022 est. Actual	2022 Budget	2023 Budget
<b>53780.00.000 Solid Waste</b>								
53780.10.000 Salaries and Wages	244,009.09	256,702.43	238,027.92	145,181.10	145,181.10	290,362.20	308,931.00	350,556.00
53780.11.996 Cell Phone Stipen	-	-	-	-	-	-	-	-
53780.12.600 Overtime	6,502.06	6,083.11	10,569.49	4,679.52	4,679.52	9,359.04	6,890.00	10,000.00
53780.12.620 Holiday Pay	-	-	-	-	-	-	-	-
53780.19.000 Compensated Absence Expense	-	-	-	-	-	-	-	-
53780.21.000 Social Security	18,868.43	19,757.69	18,668.09	11,314.89	11,314.89	22,629.78	24,160.00	26,818.00
53780.22.000 Retirement	29,432.22	32,400.98	28,168.57	15,396.45	15,396.45	30,792.90	40,615.00	35,932.00
53780.23.00 Medical-Dental-Life	43,412.12	45,879.36	47,270.06	30,439.83	30,439.83	60,879.66	52,893.00	64,200.00
53780.24.000 Labor & Industries	41,659.14	11,255.24	9,922.84	11,170.73	11,170.73	22,341.46	13,713.00	17,702.00
53780.25.000 Unemployment Compensation	373.77	394.26	372.90	225.35	225.35	450.70	632.00	526.00
53780.29.000 WA Family Paid Leave Premium	153.15	385.33	357.72	235.03	235.03	470.06	632.00	526.00
<b>Total Salaries &amp; Benefits</b>	<b>384,409.98</b>	<b>372,858.40</b>	<b>353,357.59</b>	<b>218,642.90</b>	<b>218,642.90</b>	<b>437,285.80</b>	<b>448,466.00</b>	<b>506,260.00</b>
53780.31.000 Operating Supplies	17,992.09	14,878.61	27,353.32	3,623.13	3,623.13	7,246.26	8,300.00	8,745.00
53780.32.000 Fuel Consumed	10,624.22	3,423.51	5,315.85	4,717.96	5,450.00	10,167.96	6,923.00	11,220.00
53780.35.000 Small Tools & Minor Equipment	-	-	-	-	2,100.00	2,100.00	2,120.00	2,230.00
<b>Total Supplies</b>	<b>28,616.31</b>	<b>18,302.12</b>	<b>32,669.17</b>	<b>8,341.09</b>	<b>11,173.13</b>	<b>19,514.22</b>	<b>17,343.00</b>	<b>22,195.00</b>
53780.41.000 Professional Services	59,032.81	5,870.19	41,147.64	32.58	12,732.00	12,764.58	36,380.00	6,740.00
53780.41.006 Hauling	398,406.54	404,643.67	451,858.88	191,383.33	302,960.00	494,343.33	446,016.00	555,746.00
53780.41.008 Monitor Wells	5,931.83	6,369.60	6,349.09	1,601.61	4,804.83	6,406.44	8,780.00	7,402.00
53780.41.200 Advertising	1,279.28	1,224.21	2,427.57	-	-	-	1,530.00	1,530.00
53780.42.010 Telephone	982.45	974.34	1,269.06	667.06	668.00	1,335.06	1,180.00	1,389.00
53780.42.015 Cellphones	-	-	-	-	-	-	-	250.00
53780.42.016 Internet	-	-	1,685.64	1,685.64	1,686.00	3,371.64	3,372.00	3,507.00
53780.43.000 Travel	905.74	146.69	279.28	-	-	-	650.00	1,402.00
53780.44.000 B & O Taxes	60,491.18	67,070.61	80,524.31	32,149.70	37,990.00	70,139.70	80,720.00	71,290.52
53780.45.000 Operating Rentals	161.01	3,266.13	12,409.87	15,542.81	1,400.00	16,942.81	3,220.00	5,740.00
53780.46.000 Insurance	-	-	-	3,680.07	-	3,680.07	-	-
53780.47.010 Electricity	2,293.31	2,245.28	2,403.53	1,287.39	1,294.00	2,581.39	2,613.00	2,684.00
53780.47.030 Water	778.68	850.68	929.40	423.10	505.00	928.10	940.00	1,930.00
53780.47.040 Waste Disposal	8,106.17	19,880.77	41,053.31	8,916.89	9,005.00	17,921.89	18,320.00	23,001.00
53780.47.042 Dryden TS Waste Management	1,115,979.74	1,090,327.28	1,225,554.44	667,658.00	736,150.00	1,403,808.00	1,245,392.00	1,599,876.00
53780.47.045 Chelan TS NCCR	719,396.61	792,366.65	796,574.70	482,099.00	413,901.00	896,000.00	817,428.00	953,420.00
53780.48.000 Repair & Maintenance	32,962.07	37,808.66	8,432.49	2,071.10	5,433.00	7,504.10	6,542.00	8,985.00
53780.49.000 Miscellaneous	6,223.56	8,279.45	5,275.51	11,301.16	4,700.00	16,001.16	6,320.00	6,305.00
<b>Total Services</b>	<b>2,412,930.98</b>	<b>2,441,324.21</b>	<b>2,678,174.72</b>	<b>1,420,499.44</b>	<b>1,533,228.83</b>	<b>2,953,728.27</b>	<b>2,679,403.00</b>	<b>3,251,197.52</b>
53780.90.000 Central Services Charges	14,195.00	17,472.00	20,124.00	9,744.00	9,744.00	19,488.00	19,488.00	22,935.00
53780.90.103 Solid Waste Planning	50,888.00	136,389.00	136,389.00	31,500.00	31,500.00	63,000.00	63,000.00	63,000.00
53780.90.450 Trustee Services	6,070.00	-	-	-	-	-	8,950.00	3,220.00
53780.90.510 Motor Pool	-	-	-	-	-	-	1,200.00	440.00
53780.90.540 Tort Claims & Insurance	5,609.84	8,601.00	9,250.00	7,008.00	7,008.00	14,016.00	24,016.00	23,581.00
53780.92.530 Repair Orders Motor Pool	26,277.52	947.87	410.44	900.03	1,340.00	2,240.03	14,790.00	2,700.00
53780.93.510 ER&R Stores	366.84	1,854.45	1,546.20	1,484.15	370.00	1,854.15	420.00	1,470.00
53780.95.510 ER&R Rental	36,658.59	24,134.59	50,923.21	13,310.35	26,670.00	39,980.35	46,250.00	43,205.00
53780.98.511 Purchase of Signs	-	-	780.00	-	620.00	620.00	-	1,450.00
<b>Total Interfund</b>	<b>140,065.79</b>	<b>189,398.91</b>	<b>219,422.85</b>	<b>63,946.53</b>	<b>77,252.00</b>	<b>141,198.53</b>	<b>178,114.00</b>	<b>162,001.00</b>
<b>59400.60.000 Capital Outlay</b>								
59437.60.000 Dryden Transfer Station	-	-	-	-	87,000.00	87,000.00	1,405,600.00	-
59437.61.000 Chelan Transfer Station Fencing	-	-	-	-	77,880.00	77,880.00	-	97,420.00
59437.63.001 Dryden Dozer, Wheel Excavator	-	139,093.67	8,704.61	195,750.00	-	195,750.00	322,150.00	340,220.00
.63.1 Chelan Brush Yard Loader	-	-	-	-	20,000.00	20,000.00	-	-
59437.64.000 Chelan Transfer Station Scales	-	-	44,228.28	-	20,000.00	20,000.00	-	-
<b>Total Capital Outlay</b>	<b>-</b>	<b>139,093.67</b>	<b>52,932.89</b>	<b>195,750.00</b>	<b>204,880.00</b>	<b>400,630.00</b>	<b>1,727,750.00</b>	<b>437,640.00</b>
<b>TOTAL EXPENDITURES</b>	<b>2,966,023.06</b>	<b>3,160,977.31</b>	<b>3,336,557.22</b>	<b>1,907,179.96</b>	<b>2,045,176.86</b>	<b>3,952,356.82</b>	<b>5,051,076.00</b>	<b>4,379,293.52</b>

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**APPENDIX D**

**SEPA CHECKLIST AND DNS**

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**WAC 197-11-970 - Determination of Non-significance (DNS)**

**Date of Notice:** November 8, 2022

**Lead Agency/Proponent:** Chelan County Public Works

**Project:** Chelan County Comprehensive Solid Waste Management Plan

**Supporting Information:** Information used to reach this determination is available for public review at Chelan County Public Works office located at 316 Washington Street, Suite, 402, Wenatchee, WA; on the Chelan County Public Works homepage, under Solid Waste; or by following: <http://www.co.chelan.wa.us/solidwaste>

**Decision:** The lead agency for this proposal has determined that it does not have probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

- There is no comment period for this DNS.
- This DNS is issued using the optional DNS process in WAC 197-11-355.
- This DNS is issued under WAC 197-11-340(2), the lead agency will not act on this proposal for a minimum of 14 days from the signature date below.

Comments must be submitted by January 9, 2023 by 5:00 P.M.

An appeal of the SEPA determination must be filed by 5:00 P.M. on the last day of the comment period. The contents of the appeal must meet the requirements outlined in the Chelan County Code.

Please refer questions/comments relating to this determination or the proposal to:

Chelan County Public Works  
Attn: Brenda Blanchfield, Solid Waste Coordinator  
316 Washington Street, Suite 402,  
Wenatchee, WA 98801  
(509) 667-6415  
[Brenda.Blanchfield@co.chelan.wa.us](mailto:Brenda.Blanchfield@co.chelan.wa.us)

**Responsible Official:** Eric Pierson, P.E.  
**Position/Title:** Chelan County Public Works Director/Engineer  
**Address:** 316 Washington Street, Suite 402, Wenatchee, Washington 98801  
**Phone:** (509)667-6415

**Date:** 11/7/22 **Signature:**  \_\_\_\_\_

# SEPA ENVIRONMENTAL CHECKLIST

## ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

## ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

## ***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

## **A. Background**

1. Name of proposed project, if applicable:  
Chelan County Comprehensive Solid Waste Management Plan
2. Name of applicant:  
Chelan County Public Works

3. Address and phone number of applicant and contact person:

Chelan County Solid Waste  
C/O Chelan County Public Works  
Attn: Brenda Blanchfield, Solid Waste Coordinator  
316 Washington Street, Suite 402  
Wenatchee, WA 98801  
(509) 667-6415

4. Date checklist prepared:

October 6, 2022

5. Agency requesting checklist:

Chelan County

6. Proposed timing or schedule (including phasing, if applicable):

Chelan County is updating the comprehensive solid waste management plan. Policy direction and recommendations in the plan may occur over several years. Staff will seek those specific approvals (i.e. environmental permitting, SEPA determination, NEPA analysis, etc.) for future projects/tasks related to this Comprehensive Plan.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

The Comprehensive Solid Waste Management Plan provides a foundation for future work and is required to be reviewed for updates every 5 years.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Besides this SEPA checklist and threshold determination, no other environmental information is required to be prepared. If a future task or project out of the Comprehensive Plan requires environmental documentation, it will be prepared at that time.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Not applicable.

10. List any government approvals or permits that will be needed for your proposal, if known.

A SEPA checklist and threshold determination is required. Additionally, formal adoption of this Plan is needed by the Board of County Commissioners.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The Chelan County Comprehensive Solid Waste Management Plan recommends regional policies, programs, and projects to reduce the risk from pollution and other safety and health hazards to people and environment in Chelan County. This plan presents a long-term vision for managing solid waste safely and properly, and addresses projects toward that vision. The plan recommends actions Chelan County and cities in the county may take to reduce solid waste and hazardous waste to protect, restore or enhance communities and the environment.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

This Plan applies to the entire county of Chelan, including the cities of Wenatchee, Cashmere, Leavenworth, Entiat, and Chelan.

## **B. ENVIRONMENTAL ELEMENTS**

1. **Earth** This section is not applicable. The Comprehensive Plan includes site specific capital construction or activities which will positively aid effect environmental elements.
  - a. General description of the site: Flat, rolling, hilly, steep slopes, mountainous, other  
Not applicable.
  - b. What is the steepest slope on the site (approximate percent slope)?  
Not applicable.
  - c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.  
Not applicable.
  - d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.  
Not applicable.
  - e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.  
Not applicable.
  - f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.  
Not applicable.
  - g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?  
Not applicable.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:  
Not applicable.

**2. Air** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Not applicable.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Not applicable.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:  
Not applicable.

**3. Water** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Not applicable.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Not applicable.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Not applicable.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Not applicable.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Not applicable.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Not applicable.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Not applicable.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not applicable.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Not applicable.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Not applicable.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Not applicable.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Not applicable.

4. **Plants** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

a. Check the types of vegetation found on the site: Not applicable.

\_\_\_deciduous tree: alder, maple, aspen, other

\_\_\_evergreen tree: fir, cedar, pine, other

\_\_\_shrubs

\_\_\_grass

\_\_\_pasture

\_\_\_crop or grain

\_\_\_ Orchards, vineyards or other permanent crops.

\_\_\_ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

\_\_\_ water plants: water lily, eelgrass, milfoil, other

\_\_\_ other types of vegetation



b. What kind and amount of vegetation will be removed or altered?

Not applicable.

c. List threatened and endangered species known to be on or near the site.

Not applicable.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Not applicable.

e. List all noxious weeds and invasive species known to be on or near the site.

Not applicable.

5. **Animals** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Not applicable.

Examples include:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other \_\_\_\_\_

b. List any threatened and endangered species known to be on or near the site.

Not applicable.

c. Is the site part of a migration route? If so, explain.

Not applicable.

d. Proposed measures to preserve or enhance wildlife, if any:

Not applicable.

e. List any invasive animal species known to be on or near the site.

Not applicable.

6. **Energy and Natural Resources** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Not applicable.

b. Would your project affect the potential use of solar energy by adjacent properties?

If so, generally describe.

Not applicable.

- c. What kinds of energy conservation features are included in the plans of this proposal?  
List other proposed measures to reduce or control energy impacts, if any:

Not applicable.

7. **Environmental Health** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Not applicable.

- 1) Describe any known or possible contamination at the site from present or past uses.

Not applicable.

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

Not applicable.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Not applicable.

- 4) Describe special emergency services that might be required.

Not applicable.

- 5) Proposed measures to reduce or control environmental health hazards, if any:

Not applicable.

- b. **Noise** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Not applicable.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours will noise would come from the site.

Not applicable.

- 3) Proposed measures to reduce or control noise impacts, if any:

Not applicable.

8. **Land and Shoreline Use** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.
- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.  
Not applicable.
- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or non-forest use?  
Not applicable.
- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:  
Not applicable.
- c. Describe any structures on the site.  
Not applicable.
- d. Will any structures be demolished? If so, what?  
Not applicable.
- e. What is the current zoning classification of the site?  
Not applicable.
- f. What is the current comprehensive plan designation of the site?  
Not applicable.
- g. If applicable, what is the current shoreline master program designation of the site?  
Not applicable.
- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.  
Not applicable.
- i. Approximately how many people would reside or work in the completed project?  
Not applicable.
- j. Approximately how many people would the completed project displace?  
Not applicable.
- k. Proposed measures to avoid or reduce displacement impacts, if any:  
Not applicable.
- L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Not applicable.

- m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Not applicable.

9. **Housing** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Not applicable.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Not applicable.

- c. Proposed measures to reduce or control housing impacts, if any:

Not applicable.

10. **Aesthetics** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Not applicable.

- b. What views in the immediate vicinity would be altered or obstructed?

Not applicable.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

Not applicable.

11. **Light and Glare** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Not applicable.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

Not applicable.

- c. What existing off-site sources of light or glare may affect your proposal?

Not applicable.

- d. Proposed measures to reduce or control light and glare impacts, if any:

Not applicable.

12. **Recreation** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

a. What designated and informal recreational opportunities are in the immediate vicinity?

Not applicable.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Not applicable.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Not applicable.

13. **Historic and cultural preservation** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such environmental elements.

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

Not applicable.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

Not applicable.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Not applicable.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

Not applicable.

14. **Transportation** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Not applicable.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Not applicable.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Not applicable.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Not applicable.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Not applicable.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

No other traffic increase is expected as a result of the programs in this plan.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

Not applicable.

- h. Proposed measures to reduce or control transportation impacts, if any:

No adverse impacts are expected.

15. **Public Services** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

Not applicable.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

Not applicable.

16. **Utilities** This section is not applicable. The Comprehensive Plan does not include any site specific capital construction or activities which will effect such elements.

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other \_\_\_\_\_

Not applicable.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Not applicable.

## C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: \_\_\_\_\_

Name of signee Brenda Blanchfield

Position and Agency/Organization Solid Waste Manager

Date Submitted: November 1, 2022

## D. supplemental sheet for nonproject actions

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The Comprehensive Solid Waste Management Plan will not increase discharges to water; emissions to air; production, storage, or release of toxic or hazardous substance; or production of noise. Individual tasks outlined in the Plan, such as capital projects, will be analyzed on an individual basis and include the consideration of above environmental elements.

Proposed measures to avoid or reduce such increases are:

Not applicable for this comprehensive plan.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

The Comprehensive Plan will not affect plants, animals, fish, or marine life. These environmental elements will be addressed on a project specific basis.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

Not applicable for this comprehensive plan.

3. How would the proposal be likely to deplete energy or natural resources?

The Comprehensive Solid Waste Management Plan will not deplete energy or natural resources. Individual tasks outlined in the Plan, such as capital projects, will be analyzed on an individual basis and include the above environmental elements.

Proposed measures to protect or conserve energy and natural resources are:

Not applicable for this comprehensive plan.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

The Comprehensive Plan will not negatively impact or affect environmentally sensitive areas or area designated for governmental protection. Projects will be analyzed on an individual basis

Proposed measures to protect such resources or to avoid or reduce impacts are:

Not applicable for this comprehensive plan.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

The Comprehensive Solid Waste Management Plan references existing Chelan County Plans, Solid Waste Plan does not impact or is incompatible with any existing plans. The Plan encourages litter prevention and proper solid waste disposal for the better protection of land and shorelines.

Proposed measures to avoid or reduce shoreline and land use impacts are:

Not applicable for this comprehensive plan.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

This Comprehensive Plan proposes to provide for essential garbage services, and population growth will add an estimated one recycle truck to urban routes. Legislation requirements encourage further compost collection and will cause an incrementally increase of trucks providing the service. Population increase of an average 1% per year shall cause the increased needs for garbage services, including recycle and garbage collection, and collection of hazardous waste.

Proposed measures to reduce or respond to such demand(s) are:

All the compactor trucks are equipped with safety measures to prevent accidents, and plans are established for best and most efficient route. No further impacts are expected to occur on the transportation or public services and utilities.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The Comprehensive Solid Waste Management Plan has been carefully developed to ensure local, state, and federal requirements are met for solid waste planning in order to eliminate any potential conflicts. Examples include, Department of Ecology's Washington State Solid Waste Plan Guidelines 2010; and Chelan County's 2015 Comprehensive Plan.



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**APPENDIX E**

**SWAC APPROVAL**

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**APPENDIX F**  
**RESPONSE TO PLAN COMMENTS**

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**APPENDIX G**  
**PLAN COMMENTS**

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2022-2027

**CHELAN COUNTY COMPREHENSIVE SOLID WASTE and  
HAZARDOUS WASTE MANAGEMENT PLAN (Plan)**

**Laura Busby - Southwest Regional Planner – (360) 280-5088**

[Laura.Busby@ecy.wa.gov](mailto:Laura.Busby@ecy.wa.gov)

**Transitioning to Michelle Mulrony – Central Regional Planner – (509) 406-3959**

[Michelle.Mulrony@ecy.wa.gov](mailto:Michelle.Mulrony@ecy.wa.gov)

**This review is grouped into four sections**

[Section A – Required revisions to meet the minimum requirements for Plan approval.](#)

[Section B – Recommended revisions to expand on or update information in the Plan and improve consistency with local Plans statewide.](#)

[Section C – Minor edits to correct typos and improve clarity and readability.](#)

[Section D – What to include in your final submittal packet.](#)

<b>Section A: Revisions required for Plan approval</b>			
<b>Comment Number</b>	<b>Plan section – page #</b>	<b>Comment</b>	<b>Chelan County Response</b> <i>Include section &amp; page #s if applicable</i>
<b>1</b>		We have not identified any revisions at this early pre-preliminary stage of our review that would be required for Plan approval.	

Section B: Recommended revisions			Chelan County Response Include section & page #s if applicable
Comment Number	Plan section – page #	Comment	
<b>Plan clarity, content, and navigation</b>			
2	Ch.1, pg 1-1, 1.1, 1.2	<p><b>Update RCW references to current recodified designations.</b> Chapter 70A.205.040 County comprehensive solid waste management plan, Chapter 70A.95.110 Maintenance of plans, and all other locations throughout the document.</p> <p>Here are links to the new RCW sections commonly referenced in SWMPs: <a href="https://app.box.com/s/s6i4qng48cf2ceqc648chqujzf2pnsxw">https://app.box.com/s/s6i4qng48cf2ceqc648chqujzf2pnsxw</a></p> <p>If there are some you don't find on the list referenced above, you can find them all here: <a href="#">Chapter 70.95 RCW Dispositions: SOLID WASTE MANAGEMENT — REDUCTION AND RECYCLING</a></p>	
3	Ch.1, pg 1-3, 1.4.1, last sentence	<p><b>Confirm or revise Plan goal and objectives considering current county operations and legislation. Utilize 2017 plan recommendations in status summary.</b> Consider including a waste reduction objective and/or other primary plan activities. Update "A summary of the recommendations from the 2007 plan and the status of those recommendations are shown in Appendix B."</p>	
4	Ch 1. Pg. 1-4, 1.5.1	<p><b>Include a discussion of how the plan supports the state's 2021 solid waste management Plan and solid waste priorities.</b> Consider adding to 1.5.1 Relationships to Other Plans or in another appropriate location. The State Plan can be <a href="#">found here</a> and a summary of Plan priorities can be <a href="#">found here</a>.</p>	
5	Ch. 1, pg. 1-4, 1.6.1	<p><b>Update Interlocal Agreements.</b> The combination of an interlocal agreement (ILA) and a resolution of adoption is generally required to be signed by all participating jurisdictions in order for a solid waste management plan to be approved by Ecology. The ILAs in the current draft you shared with us were signed in 1993. Please send us copies of your updated ILAs which we understand were signed in 2017. Given the timing of this Plan update, we also recommend you include a recommendation in your Plan that before the next Plan update, you review the current ILAs with all Plan signatories and revise them as needed to reflect current conditions and statutes. If the ILAs were not updated in 2017, please update them for this plan and share them with us.</p>	Updated interlocal agreement attached.

Section B: Recommended revisions			
Comment Number	Plan section – page #	Comment	Chelan County Response Include section & page #s if applicable
6	Ch. 2, pg. 2-7. 2.2.6 and 2.2.7	<p><b>Utilize and reference the most current data.</b></p> <p>Please check for more current agricultural land use data – the citations are from 2005 and 2017. Please provide a source for this information in 2.2.7.</p>	Data updated.
7	Ch. 2, pg. 2-12, 2.2.10 Global Warming	<p><b>Utilize current data on climate change and reference sources. Consider potential impacts and how to mitigate them.</b></p> <p>Please update this section with current information. We suggest you consider including some of the impacts of landfill methane as an important greenhouse gas and other solid waste related links to climate change. Cite reference/source of information. For example:</p> <p>One of the priorities in the <a href="#">State SW &amp; HW Plan</a> (page 13) is to mitigate climate change by:</p> <ul style="list-style-type: none"> <li>• Preventing and reducing waste, including food waste.</li> <li>• Increasing the use of processed organics to sequester carbon.</li> <li>• Leveraging opportunities to align waste and toxic material reduction efforts or processes that also reduce carbon.</li> </ul> <p>The State Plan also includes a discussion of specific strategies and opportunities to mitigate climate change through organics management and other sustainable material management strategies.</p> <p>Additional information can be found here: <a href="#">Climate change - Washington State Department of Ecology</a>. From this page you can find links to lots of climate-related information and data including:</p> <ul style="list-style-type: none"> <li>• Impacts of climate change - <a href="#">Climate change &amp; the environment - Washington State Department of Ecology</a></li> </ul> <p>Strategies of reducing greenhouse gases including improved waste management: <a href="#">Reducing greenhouse gases - Washington State Department of Ecology</a> – On this page there is a discussion of waste management as a strategy for mitigating climate impacts.</p>	Section was updated with current information, including impacts of landfill methane as a greenhouse gas.

Section B: Recommended revisions			
Comment Number	Plan section – page #	Comment	Chelan County Response Include section & page #s if applicable
8	Ch. 2, pg. 2-13, 2.3.1	<p><b>Utilize current waste designations.</b></p> <p>Last sentence of the first paragraph refers to “special wastes.” Please change the term special wastes to miscellaneous wastes. And, when you update the Special Wastes chapter, please rename it Miscellaneous Wastes.</p> <p>We are requesting all Plans make this change when they are updated because the term “special waste” is a term found in Washington Administrative Code 173-303-040 that means “any state-only dangerous waste that is solid only (nonliquid, nonaqueous, nongaseous), that is: Corrosive waste (WAC 173-303-090(6)(b)(ii)), toxic waste that has Category D toxicity (WAC 173-303-100(5)), PCB waste (WAC 173-303-9904 under State Sources), or persistent waste that is not EHW (WAC 173-303-100(6)). Any solid waste that is regulated by the United States EPA as hazardous waste cannot be a special waste.”</p>	Corrected.
9	All applicable locations throughout the document	<p><b>Update sections and data utilizing the most recent state plans and studies. Cite document titles/names and year published.</b></p> <p><b>2018 Waste Generation and Recovery Data:</b> In Section 2.3.2 and other locations where waste generation and recovery data provided by Ecology is referenced, please update data to reflect the most recent data we have posted:</p> <ul style="list-style-type: none"> <li>• <b>2018 - Solid waste disposed by county:</b> <a href="https://ecology.wa.gov/Asset-Collections/Doc-Assets/Solid-waste/Solid-waste-recycling-data/Disposal-by-County-1994-2018">https://ecology.wa.gov/Asset-Collections/Doc-Assets/Solid-waste/Solid-waste-recycling-data/Disposal-by-County-1994-2018</a></li> <li>• <b>2018 - Waste generation and recovery data:</b> <a href="https://ecology.wa.gov/Asset-Collections/Doc-Assets/Solid-waste/Solid-waste-recycling-data/WasteGenerationAndRecovery-2018">https://ecology.wa.gov/Asset-Collections/Doc-Assets/Solid-waste/Solid-waste-recycling-data/WasteGenerationAndRecovery-2018</a></li> </ul> <p><b>2020-21 Waste Characterization Study:</b> Section 2.3.6 references Ecology’s 2015 waste characterization study. We recommend that data from the 2020-21 study be used since this Plan covers 2022-2027.</p> <ul style="list-style-type: none"> <li>• <a href="#">Washington 2020-2021 Waste Characterization Study &amp; Presentation   Powered by Box.</a></li> </ul>	

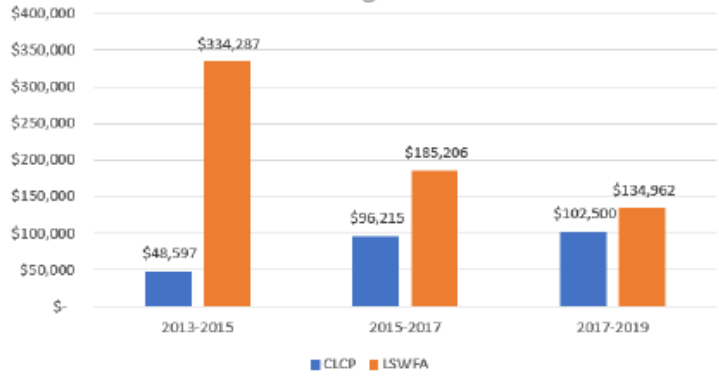
Section B: Recommended revisions			
Comment Number	Plan section – page #	Comment	Chelan County Response Include section & page #s if applicable
		<p><b>2021 State Solid and Hazardous Waste Plan:</b> In Section 1.6, please update the reference to the <a href="#">The State Solid and Hazardous Waste Plan</a> to cite the most recent update.</p> <p><b>Additional data can be found here:</b>  <a href="#">Solid waste &amp; recycling data - Washington State Department of Ecology</a></p>	
10	Ch. 2, Pg. 2-16+, Figure 2.2	<p><b>Change Figure Placement for Seasonal Variations in Chelan County’s Waste Stream.</b>  Please move this Figure to display right after it is referenced in the text and prior to the next section - 2.3.3. Also provide a reference for the data.</p>	Corrected.
11	Ch. 2, Pg. 2-20, Table 2.9; Pg. 2-23, Table 2.10	<p><b>Update population to current Office of Financial Management official population estimates.</b> This information can be found here: <a href="#">April 1 official population estimates   Office of Financial Management (wa.gov)</a> Table 2.4 should also provide updated population estimates.</p>	Updated to OFM estimates in table 2.9 and table 2.10.
12	Multiple sections	<p><b>Equity and environmental justice considerations.</b>  We recommend providing some information about socioeconomic indicators that can be used to support Chelan County’s solid waste goals, specifically related to education and outreach gaps. We encourage you to use the EJSscreen tool to support recommendations that more intentionally focus on under-resourced areas with underserved populations.</p> <p>You can read more about the EJSscreen tool here: <a href="#">EJSscreen: Environmental Justice Screening and Mapping Tool   US EPA</a>. The County could also include a section where existing plans and programs that incorporate environmental justice are discussed. In addition to the EJSscreen tool, Ecology has some Equity and Environmental Justice Resources that can assist with decision-making around access to services and targeted education and outreach. Please feel free to consult the resources provided in our Box folder: <a href="#">Equity and Environmental Justice Resources   Powered by Box</a></p>	
13	Ch. 3, pg. 3-3, Section 3.3.3	<p><b>Consider adding Product Stewardship program information. In particular, include information on Paint Stewardship in the County.</b>  <b>Paint Stewardship:</b>  Chelan County is now a PaintCare participant. A summary of how the management of paint has changed in the last year could also be included. This new program is paid for</p>	Added to Chapter 3, section 3.3.3



Section B: Recommended revisions			
Comment Number	Plan section – page #	Comment	Chelan County Response Include section & page #s if applicable
		<p>by the paint industry, which allows more LSWFA grant money to be used to fund other parts of the solid waste system. We recommend referencing the following resources for more information on this program:</p> <p>Ecology’s Paint stewardship webpage: <a href="#">Paint stewardship: Paint Care Washington - Washington State Department of Ecology</a>  <a href="#">Chapter 70A.515 RCW: ARCHITECTURAL PAINT STEWARDSHIP PROGRAM</a>  PaintCare webpage: <a href="#">Washington - PaintCare</a></p>	
14	Ch. 3, pg. 3-5 thru 3-11, Sections 3.3.5, 3.3.6, 3.3.7	<p><b>Clarify the evaluation of Waste Reduction alternatives</b></p> <p>At the bottom of page 3-5, in the section describing residential programs, it states that “Public education is a critical and required element of any successful waste reduction program.” It also lists some other residential program options like legislative action and rate restructuring. However, in Table 3.1, it shows that the SWAC decided – using the criterion outlined in the Plan – that the residential education option should not be pursued.</p> <p>Given that this was described as a required and critical element to a successful program, we suggest you clarify what the SWAC was evaluating when they decided not to pursue residential education. Were they voting to not expand existing or add new programs, or not to pursue residential education on waste reduction at all? It’s also not clear if the SWAC was also evaluating some of the other items that were cited as residential options like rate restructuring when they did their review.</p>	Fixed.
15	Multiple sections	<p><b>Provide information on new, relevant state Solid Waste-related legislation. Governing legislation (laws passed since 2009) information can be found here:</b>  <a href="https://app.box.com/s/kvlzx4etgyywjfxfqzdeflwcpsc2dg">https://app.box.com/s/kvlzx4etgyywjfxfqzdeflwcpsc2dg</a></p> <p>Items with an asterisk have been affected by changes in legislation since 2009 and should be incorporated into appropriate sections of the plan.</p>	

**Section B: Recommended revisions**

Comment Number	Plan section – page #	Comment	Chelan County Response Include section & page #s if applicable
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16	Ch. 4, pg. 4-3, Section 4.2.4, paragraph 9	<p><b>Update information on legislative allocations for grant amounts.</b> <i>(continued on next page)</i></p> <p>Although grant funding for recycling may still be inadequate, the statement that grant funds are dwindling is no longer true, given the recent increases in funding for programs like LSWFA. One way to illustrate the trends over time would be to include a graph or table showing LSWFA grant awards to Chelan County. This will help capture both the significant decline in funding and the more recent increases. Below is an example from the <a href="#">Grays Harbor SW &amp; HW Plan</a> which was updated before the recent grant increases, but shows the trend over time and discussed the impacts of the severe cuts to their programs. You can find additional discussion of the CLCP and LSWFA programs in their Plan starting on page 65</p> <p><b>Figure 6: CLCP and LSWFA Funding to Grays Harbor County Over Last Three Biennium</b></p>  <table border="1" data-bbox="688 776 1402 1149"> <caption>Figure 6: CLCP and LSWFA Funding to Grays Harbor County Over Last Three Biennium</caption> <thead> <tr> <th>Biennium</th> <th>CLCP</th> <th>LSWFA</th> </tr> </thead> <tbody> <tr> <td>2013-2015</td> <td>\$48,597</td> <td>\$334,287</td> </tr> <tr> <td>2015-2017</td> <td>\$96,215</td> <td>\$185,206</td> </tr> <tr> <td>2017-2019</td> <td>\$102,500</td> <td>\$134,962</td> </tr> </tbody> </table> <p>Beginning with the 2015-2017, the state legislature slashed LSWFA funding amounts for counties and directed these funds to other programs. Awards decreased even further the following biennium. To date, there has been no substantive increase in LSWFA funding.</p> <p>(page 71 of the PDF).</p>	Biennium	CLCP	LSWFA	2013-2015	\$48,597	\$334,287	2015-2017	\$96,215	\$185,206	2017-2019	\$102,500	\$134,962	
Biennium	CLCP	LSWFA													
2013-2015	\$48,597	\$334,287													
2015-2017	\$96,215	\$185,206													
2017-2019	\$102,500	\$134,962													

17	4.5 Recycling Contamination Reduction and Outreach Plan (CROP),	<p><b>Integrate the CROP into the plan and eliminate duplicative content.</b></p> <p>Ensure that the data and content in the Plan is consistent with the CROP.</p> <p>Alternatively, you could include the CROP as an Appendix and reference it in the recycling chapter, while also ensuring the data is consistent with the contents in the body of the Plan.</p>	
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Section B: Recommended revisions			
Comment Number	Plan section – page #	Comment	Chelan County Response <i>Include section &amp; page #s if applicable</i>
	pg. 4-36		
18	Chapter 5	<p><b>Include a reference to the new organics management bill ESSHB 1799.</b></p> <p>A summary of the bill that could be referenced in the plan can be found here: <a href="#">2022 Organics Management Law - Washington State Department of Ecology</a></p> <p>Understanding that the impacts of this bill are still not fully understood and that the bill will be implemented during the period covered by this Plan update, we suggest you include a statement or recommendation in your Plan that says that you will be assessing what impacts the implementation of this law will have on County’s current programs, services, and costs.</p>	Added to chapter 5.

Section C: Minor edits			
Comment Number	Plan section – page #	Comment	Chelan County Response

**2023-2029 CHELAN COUNTY COMPREHENSIVE SOLID and  
HAZARDOUS WASTE MANAGEMENT PLAN (Plan)**

*Michelle Mulrony*– Central Regional Planner –  
(509) 406-3959 [michelle.mulrony@ecy.wa.gov](mailto:michelle.mulrony@ecy.wa.gov)

**This review is grouped into four sections**

[Section A – Required revisions to meet the minimum requirements for Plan approval.](#)

[Section B – Recommended revisions to expand on or update information in the Plan and improve consistency with local Plans statewide.](#)

[Section C – Minor edits to correct typos and improve clarity and readability.](#)

[Section D – What to include in your final submittal packet.](#)

Section A: Revisions required for Plan approval			
Comment Number	Plan section – page #	Comment	Chelan County Response <i>Include section &amp; page #s if applicable</i>
1			

Section B: Recommended revisions			
Comment Number	Plan section – page #	Comment	Chelan County Response Include section & page #s if applicable
<b>Plan clarity, content, and navigation</b>			
2	Ch. 1.4.2, 1-3	<p><b>Reference other plans</b></p> <p>Although you reference the <a href="#">2021 State Solid &amp; Hazardous Waste Plan</a>, we suggest you add more information on the state plan and the priorities it has set for the State of Washington. The top 4 priorities can be found on page 13</p>	
3	Ch. 1, pg 1-5, 1.6.1	<p><b>Update SWAC Members</b></p> <p>Update Laura Busby to Michelle Mulrony for the Dept. of Ecology.</p>	
4	Ch. 1, pg 1-6, 1.6.2	<p><b>Update SWAC membership requirements</b></p> <p>RCW 70A.205.110 (3) now includes “agriculture” in the membership makeup. Update the quotation to reflect that new addition.</p>	

Section B: Recommended revisions			Chelan County Response Include section & page #s if applicable
Comment Number	Plan section – page #	Comment	
5	Ch. 1, pg 1-7, 1.8.1	<b>Update planning period</b> Listed as 2017-2035 it should be for 2022-2042	
6	Ch. 3, pg 3-1, 3.3.2, and throughout Ch.3	<b>Update the state goals &amp; priorities</b> The State Plan was updated in 2021 and should be referenced for the state priorities and goals. <a href="#">Moving Washinton Beyond Waste and Toxics</a> , page 13 has the top 4 priorities. Emphasis is on waste reduction not obtaining a 50% recycling rate.	
7	Ch.3, pg 3-2, 3.2.3	<b>Update the Waste Diversion Goals</b> Recycling rate of 50% is no longer the priority listed in the state plan. Update the RCW listed in this paragraph	
8	Ch. 3, pg 3-5 3.3.4	<b>Update RCW reference</b>	
9	Ch.4, pg 4- 2	<b>State's Beyond Waste Plan</b> Update the recycling rate to the 2018 data that is provided in the <a href="#">state's plan on page 19</a> Update the priorities that the states plan now in the new plan on page 13	

Section B: Recommended revisions			Chelan County Response Include section & page #s if applicable
Comment Number	Plan section – page #	Comment	
10	Ch.4, pg. 4-3 4.2.4	<b>Update RCW reference</b>	
11	Ch. 4, pg. 4-8,	<b>Food Waste Markets</b> The Winton compost facility is noted as “may open in 2021”. Did it open and if so is the City of Leavenworth utilizing it.	
12	Ch. 5, pg. 5-1, 5.2.1	<b>Winton Composting Facility</b> You state it will “soon be operational”. I suggest putting a date or time frame, i.e. Spring of 2023, if you have a timeframe.	
13	Ch. 5, pg. 5-3, 5.2.2	<b>(3) Yard Debris, Crop Residue, Manure, and Bedding</b> Update the not to exceed from 2400 cubic yards to 2500 cubic yards. Also on (5) correct spelling of “with” no upper limits.	
14	Ch.5, pg. 5-3, 5.2.3	<b>Organics Diversion Goals</b> Currently you state Chelan will achieve a 43% recycling/mulching rate by 2027. You also mention on pg.5-4 that the new HB1799 “1779 on your page” has a goal to divert 50%. <a href="#">HB1799 “Organics Management Law” (pg.4)</a> actually states a goal to divert 75% of previously disposed organic material by 2025, based on the 2015 rates. We recommend your county goal match or come close to the state law of 75% diversion of previously disposed organic material. Update paragraph 2 to reflect the newest state plan initiatives. Organics falls within the initiatives but does not have a stand-alone initiative.	
15	Ch.5, pg. 5-4, 5.2.4	<b>HB1799</b> May be worth mentioning that HB1799 has compost procurement ordinances that may help to create more demand for the materials.	

16	Ch.5, pg. 5-9 5.2.5	<p><b>HB1799</b></p> <p>Currently the way the law is being interpreted, business organics food waste collection will only be required in counties that already provide commercial/business food waste collection as a service. More information can be found in the BOX folder under the specific focus sheet for <a href="#">Business Collection</a>.</p>	
<b>Statewide programs and regulations</b>			
17	Multiple sections	<p><b>Provide information on state Solid Waste-related legislation</b></p> <p>I suggest adding a sustainability and stewardship section that goes into detail on the legislation enacted since the 2017 plan.</p> <p><b>Senate Bill 5397, RCW 70A.245 Recycling, Waste, and Litter Reduction:</b></p> <p>In section 9.4, Reduction, you can add the new information about plastic packaging rules, and timelines for the bans. Senate Bill 5022 which was codified in 2021 as <a href="#">Chapter 70A.245 RCW Recycling, Waste, and Litter Reduction</a></p> <p>In addition to other regulations, this new law sets the following notable requirements:</p> <ul style="list-style-type: none"> <li>• <b>Minimum Post-Consumer Recycled Content (PCR) Requirements.</b> Minimum PCR content requirements are established for plastic beverage containers, trash bags, and household cleaning and personal care product containers.</li> <li>• <b>Expanded Polystyrene Prohibitions.</b> It is prohibited to sell or distribute in or into Washington three types of expanded polystyrene products: Portable containers designed for cold storage; Food service products; and Void filling packaging products. These restrictions apply beginning June 1, 2023, for void filling packaging products, and June 1, 2024, for cold storage containers and food service products.</li> <li>• <b>Food Service Products on Request.</b> Beginning January 1, 2022, food service businesses may only provide single-use utensils, straws, condiment packaging, and beverage cup lids only after affirming that the customer wants the product.</li> </ul> <p>See additional information on <a href="#">SB 5022</a></p>	



Section B: Recommended revisions			Chelan County Response Include section & page #s if applicable
Comment Number	Plan section – page #	Comment	
		<p><b>Single-use plastic bag ban:</b> Update section 9.5 to also include information about the statewide bag ban that went into effect on October 1st, 2021.</p> <ul style="list-style-type: none"> <li>Information on Washington’s single-use plastic bag ban can be found here: <a href="#">Plastic bag ban - Washington State Department of Ecology</a></li> </ul> <p>Both the plastic packaging laws, and the single use plastic bag ban include Ecology education and outreach.</p> <p><b>Paint Stewardship:</b> The Plan doesn’t go into detail on PaintCare, other than to say that is “has been submitted to Ecology”. PaintCare and Ecology are two separate entities and this reference should be updated since Stevens County is a PaintCare participant. A summary of how the management of Paint has changed in the last year should also be included. This new program is paid for by the state, which in effect allows more of LSWFA grant money to be used towards other parts of the solid waste system. We recommend referencing the following resources for more information on this program:</p> <ul style="list-style-type: none"> <li>Ecology’s Paint stewardship webpage: <a href="#">Paint stewardship: Paint Care Washington - Washington State Department of Ecology</a></li> <li><a href="#">Chapter 70A.515 RCW: ARCHITECTURAL PAINT STEWARDSHIP PROGRAM</a></li> <li>PaintCare webpage: <a href="#">Washington - PaintCare</a></li> </ul>	

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Section C: Minor edits			
Comment Number	Plan section – <i>page #</i>	Comment	Chelan County Response <i>Include section &amp; page #s if applicable</i>

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**APPENDIX H**

**DEPARTMENT OF AGRICULTURE SPECIAL PERMIT**

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**APPENDIX I**

**RESOLUTIONS OF ADOPTION**

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**RESOLUTION NO. 2022 - 49**  
**RE: Rescinding Resolution 2019-42**  
**Disposal Charges for Dryden Transfer Station**

**WHEREAS**, the rates for the Dryden Transfer Station are increasing for all wastes to coincide with the increased cost of hauling and disposal at the Greater Wenatchee Regional Landfill; and

**WHEREAS**, the cost of hauling is increasing by \$1.00 to \$19.60 per ton at the request of North Central Recovery and Recycling, Inc. in accordance with the agreement for Waste Transportation from the Dryden Transfer Station, and the agreement for Disposal at the Greater Wenatchee Regional Landfill has increased by \$6.00 to \$56.00 per ton; and

**WHEREAS**, the brush handling and hauling fee is increasing by \$3.00 to \$85.00 per ton, and by \$5.00 to \$20.00 per transaction for minimum loads to recover an increase in hauling costs and new tip fees at compost facilities, and

**WHEREAS**, the oil/antifreeze fee for handling and disposal to refinement is increasing by \$1.00 to \$2.00 per gallon; and

**WHEREAS**, all totals are rounded up or down for convenience of processing transactions at the scale house for customers and technicians; and

**NOW, THEREFORE, BE IT RESOLVED**, that the following rates are increased as a result of increased disposal costs for the transfer station and exclusive of the Washington State Solid Waste Collection Tax. The disposal fees at the Dryden Transfer Station shall be amended as follows and will become effective the 1<sup>st</sup> day of June, 2022; and

	Base	Tax 3.6%	Health District	Total
Minimum Fee, less than 420 lbs.	28.73	1.07	.20	30.00
Municipal Solid Waste (ton)	118.76	4.44	1.80	125.00
Appliances w/ Freon (each)	28.00			30.00
Scrap Metal/Appliances (each)	15.00			15.00
Wood Debris/brush (ton)	85.00			85.00
Wood/brush Minimum	20.00			20.00
Used Motor Oil/Antifreeze (gallon)	2.00			2.00

**BE IT FURTHER RESOLVED** that Resolution 2019-42 be rescinded due to the new rate schedule.

**DATED** at Wenatchee, Washington this 24<sup>th</sup> day of May 2022.



ATTEST: CARLYE BAITY

*Carlye Baity*  
 Clerk of the Board

BOARD OF COUNTY COMMISSIONERS

*Kevin Overbay*  
 KEVIN OVERBAY, Commissioner

*Tiffany Gering*  
 TIFFANY GERING, Commissioner

*Bob Bugert*  
 BOB BUGERT, Commissioner

RESOLUTION NO. 2022 — 74

Resolution relating to North Chelan Transfer Station disposal charges; amending Chelan County Resolution 92-169; repealing intervening resolutions for disposal charges for North Chelan Transfer Station; and amending Chelan County Code Chapter 4.20.

**WHEREAS**, the County is vested with the primary responsibility of providing a system for handling solid waste and for the adoption and enforcement of basic and minimum performance standards for solid waste handling within its boundaries as provided in RCW 36.58 and RCW 70.95; and

**WHEREAS**, the Board of County Commissioners did establish “*Rules and Regulations Governing Activities at Chelan County Disposal Sites*” by Resolution 158-6, approved on July 29, 1974, following a public hearing on the advisability of such rules, which included the institution of disposal fees at all county disposal sites; and

**WHEREAS**, the Board of County Commissioners did first establish “*Disposal Charges for North Chelan Transfer Station*” by Resolution No. 92-169; and

**WHEREAS**, the Board of County Commissioners has seen fit to amend the disposal charges periodically based on increased operation or administration costs or both; and

**WHEREAS**, the “Base” charge identified in the fee schedule is calculated in order to cover County operational costs of the transfer station; and

**WHEREAS**, the “Base” charge includes the cost of landfill disposal of the solid waste at the Greater Wenatchee Regional Landfill; and

**WHEREAS**, the Greater Wenatchee Regional Landfill has increased the rates for disposal which are charged to the County; and

**WHEREAS**, Chelan County would need to increase the Total Charge collected at the North Chelan Transfer Station by two-dollars (\$2.00) for the Minimum Fee, one-dollar (\$1.00) per Loose Cubic Yard, and by one dollar eighty-five cents (\$1.85) per Compacted Cubic Yard, in order to accommodate the increased base charge and the associated increases to taxes and Health District fees; and

**WHEREAS**, previously approved resolutions for disposal charges for North Chelan Transfer Station have improperly cited precedential legislative authority and have obfuscated the chain of legislative action on this matter; and

**WHEREAS**, repealing said intervening resolutions would clarify the legislative action on this matter;

**NOW, THEREFORE, BE IT RESOLVED**, that:

The Board of Commissioners hereby APPROVE the updated fee schedule for disposal at the North Chelan Transfer Station as shown in **EXHIBIT A**, which is attached to this resolution and incorporated herein by this reference, and enact those Rates for North Chelan Transfer Station to be effective as of SEPTEMBER 19, 2022; and

Chelan County Resolution 92-169 is hereby AMENDED; and

the Board of Commissioners REPEAL interceding resolutions relating to the disposal charges for the North Chelan Transfer Station identified as Resolutions No.s:

93-11	93-26	93-42	93-167	94-26
95-11	96-19	96-26	97-25	98-20
98-124	99-12	99-158	99-185	2000-168
2002-3	2003-24	2004-119	2005-105	2006-143
2007-94	2008-164	2009-66	2010-41	2010-64
2011-37	2011-45	2011-97	2011-98	2012-44
2013-52	2014-49	2017-40	2019-47	2019-119
2021-118	2021-131	2022-25		

; and furthermore,

the Board of Commissioners hereby AMENDS Chelan County Code at Chapter 4.20.040- Rates for North Chelan Transfer Station, as indicated in the attached **EXHIBIT A**.

**DATED** at Wenatchee, Washington this 2nd day of August, 2022.



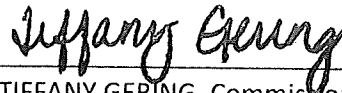
ATTEST: CARLYE BAITY

  
Clerk of the Board

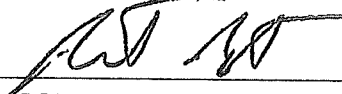
**BOARD OF COUNTY COMMISSIONERS**

**EXCUSED**

KEVIN OVERBAY, Chairman



TIFFANY GERING, Commissioner



BOB BUGERT, Commissioner

## EXHIBIT A

TO CHELAN COUNTY RESOLUTION NO. 2022 — 74

### 4.20.040 Rates for North Chelan Transfer Station.

The following rate schedule shall apply to all solid waste disposals at the North Chelan Transfer Station, said schedule to be effective September 19, 2022. ~~rates are inclusive of county surcharge and exclusive of the Washington State refuse collection tax. The disposal fees at the North Chelan Transfer Station shall be amended by three percent as follows effective January 1, 2022:~~

	Base	Surcharge	Health District	Tax	Total
	\$20.73		\$0.44	\$0.83	\$24.00
Loose Cubic Yard	\$ 21.66	\$ 2.00	\$ 0.49	\$ 0.85	\$ 25.00
Compacted Cubic Yard	\$ 35.44		\$ 0.35	\$ 1.36	\$ 39.15
	\$ 37.03	\$ 2.00	\$ 0.56	\$ 1.41	\$ 41.00
Minimum Fee	\$ 12.83		\$ 0.08	\$ 0.54	\$ 15.00
	\$ 13.41	\$ 2.00	\$ 1.03	\$ 0.55	\$ 17.00
Appliance	\$ 10.00				\$ 10.00
Refrigeration Units	\$ 27.68	\$ 2.00			\$ 30.00
Brush—Minimum	\$ 10.00				\$ 10.00
Brush—Cubic Yard	\$ 15.00				\$ 15.00



**RESOLUTION NO. 2022 - \_\_\_\_\_**

**A RESOLUTION OF THE BOARD OF COMMISSIONERS FOR CHELAN COUNTY  
ESTABLISHING A COMPOST PROCUREMENT POLICY IN CHELAN COUNTY.**

**WHEREAS**, in March 2022, ESSHB 1799 was signed into Washington law. The primary goal of the law is to increase the diversion of organic materials going to landfills in order to reduce methane emissions—landfills are a significant source of methane emissions; and

**WHEREAS**, as more organic materials are diverted and recycled, it is critical the compost manufactured be procured by local jurisdictions and others to support the economic viability of these processes and programs. It is well established compost production and use provide significant environmental benefits to our soil and food. ESSHB 1799 encourages most cities and counties in Washington adopt a compost procurement ordinance by January 1, 2023.

**NOW THEREFORE, BE IT RESOLVED**, that:

**Section 1. Definition.** A “Finished Compost Product” means a product created with “composted material” as defined in RCW 70A.205.015(3). Finished Compost Products include, but are not limited to, 100% finished compost or blends that include compost as a primary ingredient. Mulch is considered a Finished Compost Product if it contains a minimum of sixty percent composted material. Bark is not a Finished Compost Product.

**Section 2. General Policy.** Chelan County shall purchase finished compost products for use in public projects in which compost is an appropriate material in county projects or on county land, provided it is not cost prohibitive to acquire. Cost prohibitive is defined as a product purchasing cost that exceeds 10% of the cost of another product that would serve the same purpose. Chelan County is not required to use compost products if:

- (i) Compost products are not available within a reasonable period of time;
- (ii) Compost products that are available do not comply with existing purchasing standards; and
- (iii) Available compost products do not comply with federal or state health, quality, or safety standards.

Pursuant to RCW 43.19A.130, Chelan County will strive to purchase an amount of finished compost products equal or greater than fifty percent of the amount of organic materials delivered to the compost processor.

**Section 3. Local Purchasing.** Chelan County will purchase finished compost products from companies producing compost locally, are certified by a nationally recognized organization, such as the US Composting Council, and produce finished compost products derived from municipal solid waste compost programs while meeting quality standards adopted by the Department of Transportation or adopted by rule by the Department of Ecology. If locally produced compost is not available, compost shall be sourced from outside the region, with preference given to products sourced as close as possible to Chelan County.

**Section 4. Planning.** In order to meet the general policy, Chelan County shall use compost in the following categories:

- (a) Landscaping projects;
- (b) Construction and postconstruction soil amendments;
- (c) Applications to prevent erosion, filter stormwater runoff, promote vegetative growth, or improve the stability and longevity of roadways; and
- (d) Low-impact development of green infrastructure to filter pollutants or to keep water onsite, or both.

This plan will be re-assessed each December 31<sup>st</sup> of even-numbered years, beginning in 2024 and thereafter as part of the reporting obligations in Section 6.

**Section 5. Education.** Chelan County shall inform residents about the value of compost and how the jurisdiction uses compost in its operations in the Solid Waste Management Plan pursuant to RCW 70A.205.045.

**Section 6. Reporting.** By December 31, 2024, and each December 31<sup>st</sup> of even-numbered years thereafter, Chelan County shall report the following information to the Department of Ecology:

- (a) Total tons of organic material diverted throughout the year;
- (b) The volume and cost of composted material purchased throughout the year; and
- (c) The source(s) of the finished compost product purchased.

**Section 7. Effective Date.** This Resolution shall take effect *January 1, 2023*.

Dated at Wenatchee, Washington this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BOARD OF COUNTY COMMISSIONERS

\_\_\_\_\_  
KEVIN OVERBAY, Chairman

\_\_\_\_\_  
TIFFANY GERING, Commissioner

\_\_\_\_\_  
BOB BUGERT, Commissioner

ATTEST: CARLYE BAITY

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Clerk of the Board

APPROVED AS TO FORM

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KAMMERON N. TODD,  
Deputy Prosecuting Attorney