



Clark County

SOLID WASTE

MANAGEMENT PLAN

2014



Managing and coordinating our community's solid waste program

Acknowledgments

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The Clark County Environment Services Department recognizes all of these organizations who participated in the development of this Plan.

Clark County residents also contributed to this document, through comments provided during public meetings and through various other channels. The Board of County Commissioners and the Environmental Services Department gratefully acknowledge this input by the citizens. Thank you for your assistance.

This document is also available on-line at www.clark.wa.gov/environment/

Note that text that is highlighted in GREEN is hyperlinked to the corresponding resource for your reference

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Foreword

The Clark County *Solid Waste Management Plan* (Plan) was developed to provide decision-makers with goals and policies for implementing, evaluating and modifying existing and future solid waste management programs. The Plan is divided into chapters which discuss the different components of the solid waste system. The chapters have an assessment of existing conditions and recommended actions, as well as timeframes for implementation. The Plan also includes an update to discuss solid waste programs in relation to our community's economic development. This Plan coordinates the County's solid waste system and programs with the State of Washington's *Beyond Waste Plan*.

Schedule (projected)

Date	Task	Involvement
Jan. 2012 – Feb. 2013	Update chapters per laws, business, etc.	Staff, stakeholders
	Review suggested language with SWAC	Staff, SWAC
	Review potential policy / code changes	Staff
May, August, Dec. 2012	Review completed Draft chapters with Cities	Staff, City reps
April 2013	Submit compiled Draft to SWAC	Staff
April 2013	Prepare and submit financial analysis	Staff, WUTC
April 2013	Prepare public information materials	Staff
May 2013	Preliminary Draft Plan to Cities	Staff, City reps
June 2013	BOCC work session	Staff, BOCC, stakeholders
July-October 2013 (140 days)	Preliminary Draft Plan to Dept. of Ecology	Staff, WA DOE
November 2013	Update Draft Plan per DOE comments	Staff
December 2013	Public Outreach sessions	Staff, public, stakeholders
March 2014	SEPA review	Staff, DOE
April 2014	SWAC recommendation to BOCC	SWAC, staff
May 2014	Formal adoption of Plan Update by cities	City reps
June 2014	Formal adoption of Plan Update by BOCC	BOCC public hearing
July 2014 (45 days)	Final Plan Update to WA DOE	Staff
September 2014	Final comments from WA DOE	Staff, DOE
March 2015	Finalize updates to Interlocal Agreements	City reps, staff
March 2015	Finalize outreach materials for public use	Staff

Executive Summary

The purpose of the solid waste management activities in Clark County is to protect and preserve human health, environmental quality and natural resources through efficient, cost-effective programs and services.

The Solid Waste Management Plan (Plan) was prepared to provide a guide for solid waste activities in Clark County. The Plan addresses recent changes while also looking forward to the future needs of the County.

The contents of this Plan have been prepared in accordance with requirement and intent of RCW 70.95.090. This Plan also incorporates the County's Moderate Risk Management Plan as required by RCW 70.105.220. The Plan was developed through a team effort by Clary County, the cities and town, and the Solid Waste Advisory Commission (SWAC). The SWAC members represented the interests of their agencies, businesses and public interest groups. As members of the community they also represented the public's interest.

The Plan is divided into chapters which discuss the different components of the solid waste system. The chapters contain an assessment of existing conditions and recommended actions. The Plan contains a five-year implementation schedule (Chapter 18) that lists all of the recommended actions and timeframes for implementation. The Plan also contains a new chapter, Economics of Waste. This chapter details the economic benefits associated with the County's solid waste system. Recommendations from this chapter emphasize business opportunities and future economic development. This Plan also coordinates the County's solid waste system and programs with the State of Washington's Beyond Waste Plan.

Clark County is incorporating into this Plan the hierarchy for solid waste handling as identified by the United States Environmental Protection Agency (EPA). This hierarchy adopted in the Plan is as follows:

1. Source Reduction and Reuse
2. Recycling and Composting
3. Energy Recovery
4. Treatment and Disposal

Goals and Objectives

The goals of the Plan are:

- Promote sustainable actions and behaviors that ensures resources and options for future generations
- Maintain a solid waste system that supports economic vitality and conserves, natural and fiscal resources
- Achieve a reasonable balance among public convenience, public expenses, public health, and the environment
- Maintain flexibility to anticipate future changes and needs
- Promote source reduction, reuse and recycling
- Increase local control of solid waste management
- Maintain accurate waste stream measurement and monitoring
- Encourage cooperative and coordinated efforts among government agencies, citizens, and the private sector for managing solid wastes

Established with this Plan are the overall objectives of the regional solid waste management system. These are separated into longer-term (5-year) system objectives and shorter-term (2 year) objectives. These provide an important context and emphasis for education and outreach approaches.

The longer-term system objectives are:

- Increase the recycling rate to 55% and the total diversion rate to 70%
- Reduce per person per day landfilled volumes (pounds) by 5%
- Reduce the amount of total waste generated per person per day by 5% (this includes what is landfilled, recycled and recovered)

The shorter-term program objectives are grouped into these board categories:

- Increase and strengthen our public/private partnerships
- Broaden volunteer programs
- Develop programs to engage targeted audiences
- Raise community awareness of solid waste programs
- Increase participation in core programs: Green Business, Green Neighbors, and Green Schools
- Enhance the solid waste management system

Chapter 5 Education and Outreach outlines the specific targets for these program objectives.

Overview of Changes

Many of the changes to chapters and recommendations are a result of condensing and streamlining the information in this Plan. For example, internet links have been included as references to reduce language and appendices; duplicate recommendation in various chapters have been eliminated; more general recommendations have been taken out in with need to have recommendation that are action oriented and quantifiable.

Chapter 18 Implementation Schedule is a summary of all of the recommendations for the Plan. The implementation dates for each recommendation are shown on this schedule. Many of the recommendations are on-going and are currently in place.

Some of the changes include:

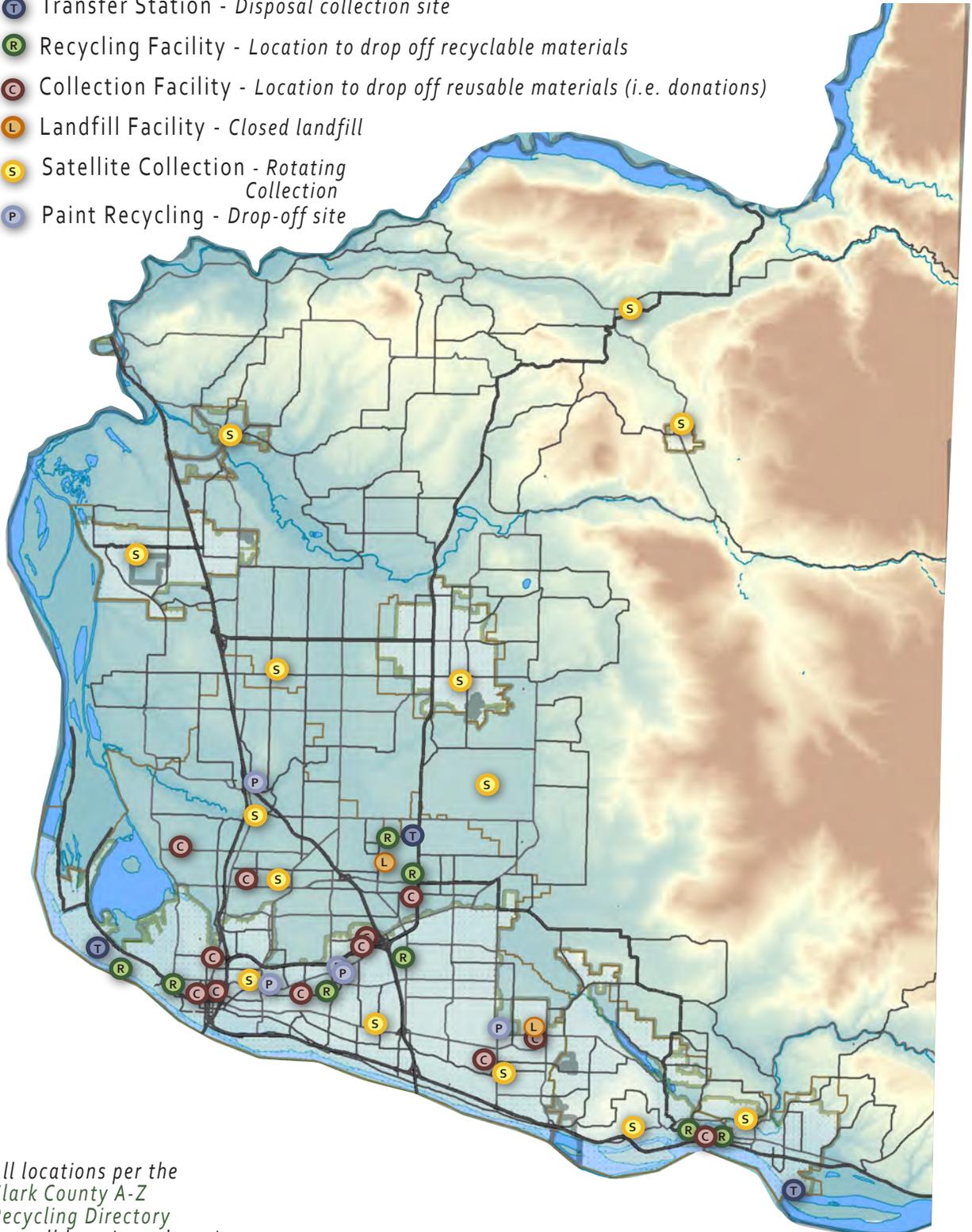
- ☑ **Chapter 3 Sustainable Choices** has been revised to provide more focus on environmental impacts and sustainability within the solid waste system.
- ☑ **Chapter 5 Education and Outreach** has been revised to focus on the process of how programs and outreach materials are developed and evaluated. This chapter discusses the goals and objective as well as measuring program effectiveness. Implementation of our three new programs (Green Businesses, Green Neighbors and Green Schools) is emphasized; current and ongoing programs are itemized. More emphasis has been placed on social media and community based social marketing.
- ☑ **Chapter 7 Landfill Disposal** has new recommendations for master planning the Leichner Landfill site and decommissioning the Rufener Landfill site.
- ☑ **Chapter 13 Organic Wastes** has several new recommendation including conducting a feasibility study for recovery of residential mixed organics.
- ☑ Finally, **a new chapter on the Economics of Waste** has been added to the Plan. This chapter and recommendations are designed to facilitate business growth and economic developing within waste related industries.

Clark County Solid Waste Facilities

Clark County continues to expand the locations of facilities that collect various waste products for recycling, reuse and disposal. Other regional (southwest Washington / metropolitan Portland) facilities are available, as described in Chapter 12.

Legend:

-  Transfer Station - *Disposal collection site*
-  Recycling Facility - *Location to drop off recyclable materials*
-  Collection Facility - *Location to drop off reusable materials (i.e. donations)*
-  Landfill Facility - *Closed landfill*
-  Satellite Collection - *Rotating Collection*
-  Paint Recycling - *Drop-off site*



*All locations per the
Clark County A-Z
Recycling Directory
(not all locations shown)*

Chapter 1

INTRODUCTION

The Clark County Solid Waste Management Plan was developed to provide the community with goals and policies for implementing, evaluating and modifying existing and future solid waste management programs. This Plan includes updated descriptions of existing conditions and programs to reflect progress and accomplishments over the previous years. It lists policies and practices reviewed by the Solid Waste Advisory Commission (SWAC), solid waste staff, representatives of the seven cities, interested citizens, solid waste industry representatives and others. The policies and practices recommended by SWAC were adopted by the Clark County Board of County Commissioners and City Councils. They will guide solid waste policy into the future and outline programs and approaches for the coming five years.

This Plan provides the community with several important tools:

- **Promotes sustainable practices** for governments, non-governmental organizations, businesses and residents.
- **Review of pertinent regulations** and other management plans;
- **Guidelines for the development** of programs, policies and operating plans;
- **Planning for solid waste infrastructure** and operations (including facility siting criteria and process);
- **Background information to support facility permitting** decisions by Clark County Public Health and other state and local government agencies;
- **The technical support and justification for grant applications**, capital project fund requests, budget planning and future programs.
- **Serves as education** and information to the public.
- **Identifies and presents opportunities for collaborations** with others in the region and statewide.
- **Identifies economic development** opportunities.

The Plan also provides the general public with information about solid waste management in Clark County. More program and historical information is available on the internet or through the Clark County Solid Waste Program.

The Clark County [Solid Waste Program](#) is administered through the Department of Environmental Services, Sustainability & Outreach Division. The purpose of solid waste management activities in Clark County is to protect and preserve human health, environmental quality and natural resources through efficient, cost-effective programs and services.

Plan Goals and Objectives

The intent of the Plan is to establish the foundation for the a viable and functional system for the proper management of solid and moderate risk wastes in Clark County, both now and in the future. The Plan incorporates the following guiding or philosophical principles:

- **Promote sustainable actions** and behaviors that ensures resources and options for future generations
- **Maintain a solid waste system** that supports economic vitality and conserves natural, fiscal resources
- **Achieve a reasonable balance** among public convenience, public expenses, public health and the environment
- **Maintain flexibility** to anticipate future changes and needs
- **Promote source** reduction, reuse and recycling
- **Increase local control** of solid waste management
- **Maintain accurate waste stream** measurement and monitoring
- **Encourage cooperative and coordinated** efforts among government agencies, citizens and the private sector for managing solid wastes.



Federal and State Guidelines and State Planning Requirements

The United States Environmental Protection Agency (EPA) has identified the following hierarchy as the most environmentally sound strategies for managing municipal solid waste (Figure 1-1). Source reduction and reuse is the most preferred method, followed by recycling and composting. Last is disposal in combustion facilities with energy recovery and properly designed landfills.

As are all counties in the state, Clark County is required by the Washington Solid Waste Management, Reduction and Recycling Act (Revised Code of Washington [RCW] 70.95) to prepare a 20-year Comprehensive Solid Waste Management Plan (the Plan). The Plan must be developed in association with cities and towns located in the county and reviewed at least every 5 years.

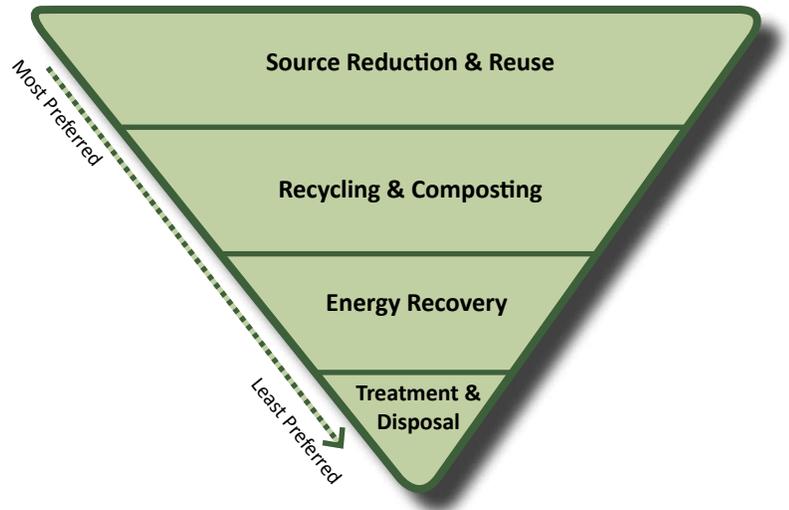


Figure 1-1

The Plan has been prepared in accordance with requirements and intent of RCW 70.95 and the Washington Department of Ecology's *Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions* (February 2010, Publication No. 10-07-005). Clark County is incorporating into this Plan priorities for solid waste handling which place energy recovery at a higher hierarchy level than the state. The County will continue to emphasize "Reduce, Reuse & Recycle" in its programs and messages. The County has established the following hierarchy is to assist in developing policy and programs for solid waste management. This is the hierarchy established by the U.S. Environmental Protection Agency and is as follows:

In accordance with RCW 70.95, the Plan emphasizes the source separation of recyclable materials from solid wastes as a fundamental component of a local jurisdiction's solid waste management strategy, and implements waste reduction and recycling programs to assist the state in effectively reaching the state's goal of a statewide recycling rate of 50% of the waste stream.

The Plan includes an inventory and evaluation of existing programs and facilities, a twenty-year forecast of facility and program needs, an implementation plan and schedule, and methods for monitoring and evaluating solid waste management activities within the County and cities.



Relationship to Other Plans and Reports

The following plans and reports that are already in effect or are being developed separately may interact with the contents of this Plan. The following summarizes the more significant of these and their connection with the Plan.

Washington State Solid Waste Management Plan

"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."

- "Beyond Waste Plan" vision

Washington State, through the Department of Ecology, is required under RCW 70.95 (*The Waste Not Washington Act*) to develop and maintain a long-range plan for the management of solid wastes. The goals and policies expressed in the state plan establish the framework upon which solid waste systems are to be administered and implemented throughout the state. Local plans should be consistent with these goals and policies, unless these management approaches are superseded by new state laws, regulations or plans. The current state plan, *Washington State's Beyond Waste Plan*, was issued in November 2004 and updated in 2009. The vision of the plan views waste as inefficient and challenges programs across the state to target toxics for elimination within one generation.

To achieve this vision, the plans lays out five key initiatives:

1. Moving toward *Beyond Waste* as a target for the state's industries.
2. Reduce the generation of small-volume hazardous materials and wastes.
3. Increase recycling, composting and energy recovery for organic and other wastes.
4. Making green building practices mainstream.
5. Measuring progress toward *Beyond Waste*.

The vision, goals and recommendations of the *Beyond Waste Plan* are being incorporated into this Plan and will be included in program opportunities exposed during the upcoming 5 years.

Oregon State Solid Waste Management Law

In addition to the requirement of the State of Washington, this Plan must also meet the State of Oregon's requirements. All out-of-state local government jurisdictions that use Oregon solid waste disposal facilities must comply with Oregon statutes. Clark County and its cities therefore must also meet the applicable Oregon Recycling requirements. In 1983, Oregon Revised Statute (ORS 459) required source-separated curbside collection for residents. The law was updated in 1991 (ORS 459A) with additional requirements for curbside collection and education, including weekly curbside recycling, the expansion of the promotion / education of recycling programs and requirements for multi-family facilities to provide recycling options.

Previous Clark County Solid Waste Management Plans

Solid waste planning in Clark County was initiated in 1967 with the adoption of the County's first Solid Waste Management Plan. The County adopted updates to the Plan in 1973, 1981, 1985, 1994, 2002, 2008, and this current update. The Plan was also amended in 1986, 1988 and 2006 to address particular focused needs. The Milestones in [Appendix G](#) provides an overview of the planning history. This Plan is the most current plan for Clark County's rapidly changing solid waste system and replaces all previous plans.

Comprehensive Growth Management Plan

The Clark County Comprehensive Growth Management Plan was updated in 2007 with amendments in 2008, 2009 and 2010. This land use plan established a framework for how Clark County land should be used in the future, including areas designated for urban development and areas identified and designated for rural and natural resource preservation.

Emergency Debris Plan

The Clark Regional Emergency Services Agency (CRESA) is a regional public safety agency that provides 9-1-1 dispatch, emergency management, and other public safety

related activities to the community. CRESA's service area includes each of the seven cities within Clark County as well as the unincorporated areas of the county. These services are provided through an Interlocal Agreement.

A *Comprehensive Emergency Management Plan* has been prepared and is currently in the formal review and approval process. This plan can be seen online at www.cresag11.org/docs/cemp.pdf. CRESA is also in the process of conducting a *Hazard Impact & Vulnerability Analysis*, www.cresag11.org/emergency/plans-hiva.php. As a part of their responsibilities, CRESA activates the Emergency Operations Center to help emergency responders effectively coordinate during emergencies. Environmental Services, Public Works and Public Health Departments all participate in the Emergency Operations Center.

During an emergency event, the County will work with the cities, CRESA and the Emergency Operations Center to facilitate and coordinate the removal, collection, and disposal of debris following a disaster. Natural and man-made disasters precipitate a variety of debris. The quantity and type of debris generated from any particular disaster is a function of the location and kind of event experienced, as well as its magnitude, duration, and intensity.

A planning group with all of the above partners is currently developing an *Emergency Debris Management Plan*. This document will be included as *Appendix XX*. The purpose of the *Emergency Debris Management Plan* is to ensure that the region is prepared to deal with the removal and disposition of debris generated in the event of an emergency. This plan specifies goals and objectives for disaster debris removal and disposal, and describes potential implementation strategies to ensure that disaster debris efforts are coordinated, efficient, effective, environmentally sound, and protects public health and safety.

Moderate Risk Waste Management Plan

The original *Moderate Risk Waste Management Plan* was prepared for both Clark County and Skamania County and was adopted on December 14, 1988. The *Moderate Risk Waste Management Plan* was amended in May 1991, July 1991, July 1992, September 1992 and March of 1994. The two counties prepared separate plans when the *Clark County Moderate Risk Waste Plan* was incorporated as a chapter into the *Clark County Comprehensive Solid Waste Management Plan* (the 2002 and 2008 updates). The *Moderate Risk Waste Plan* has been updated as a chapter in this Plan. In 1997, program responsibility for Moderate Risk Waste for Clark County was shifted from the Southwest Washington Health District (now known as Clark County Public Health) to the Clark County Solid Waste Program.

Programmatic Environmental Impact Statement for the Plan

A Determination of Non-significance has been issued with this Plan. The *Determination of Non-significance and the State Environmental Policy Act (SEPA) Environmental Checklist* for this Plan are in *Appendix XX*. This *Checklist* evaluates the environmental impacts associated with implementing the programs or the non-site-specific aspects of the programs and facilities recommended in the Plan.

Washington Utilities and Transportation Commission Cost Assessment

A cost assessment has been prepared for submittal to the Washington Utilities and Transportation Commission (WUTC) as part of the Plan. This cost assessment is required by RCW 70.95 and provides the WUTC with an opportunity to review and comment on the impacts of implementing the Plan's programs on solid waste collection rates. The report was prepared to conform with the *Cost Assessment Guidelines for Local Solid Waste Management Planning* (Second Edition) revised and issued by the WUTC in August 2001. The cost assessment is presented in *Appendix XX*.

Biosolids Management Plan

Clark County adopted the *Salmon Creek Basin Sewer Master Plan* in 1981 and since the 1986 expansion of the Salmon Creek Wastewater Treatment Plant, municipal wastewater biosolids in Clark County have been applied to agricultural land. Currently, the county and biosolids handlers use EPA's 40 CFR Part 503, WAC Chapter 173-308, and the Washington Department of Ecology's Best Management Practices (BMP's) as guidance to maintain regulatory compliance.



NPDES Stormwater Management Program

The NPDES Stormwater Management Program began with approval by the Clark County Commissioners in September 1998 as an application to meet the requirements for obtaining a National Pollution Discharge Elimination System Permit (NPDES) for operation of county storm sewers under the federal Clean Water Act. In July 1999, the Washington Department of Ecology issued an NPDES permit requiring the county to implement the *Stormwater Management Program*. A more prescriptive permit was issued in 2007 and another stricter permit issued in August of 2012 with implementation of many new requirements by June 2015. The county stormwater management program is intended to reduce the amount of pollutants discharged to streams, lakes and wetlands from county-owned storm sewers to the maximum extent practicable. Solid Waste Program education on proper storage, use, and disposal of hazardous or toxic materials supports the stormwater program. The Solid Waste Program for Household Hazardous Waste collection and disposal is an important effort to reduce pollutants that may enter stormwater. Other Solid Waste Program actions that support stormwater management are projects or activities that reduce the use of pesticides and fertilizers.

Groundwater Management Plan

In 1994, the Washington Department of Ecology and Clark County Board of Commissioners approved the *Ground Water Management Plan* for Clark County, Washington (Volumes 1 and 2). The Plan is a reference handbook that individuals and governmental agencies should use to remedy and prevent future groundwater problems. The Plan is a product of a 30-member Ground Water Advisory Committee for Clark County (e.g., local governmental agencies, the business community, as well as environmental and citizen interests), in cooperation with the Washington Department of Ecology and U.S. Geological Survey. The goal is to protect, preserve, and properly manage groundwater and related water resources by applying water and land use regulations; and through education, develop an attitude of individual and community stewardship of groundwater resources in Clark County. The *Ground Water Management Plan* created a collection of groundwater protection strategies ranging from enhancing public awareness and education, to commercial chemical management, to stormwater management. It established the first countywide groundwater quality testing effort which was completed by U.S.G.S. in 1989. It also created the basis for other programs, including two wellhead protection programs (completed in 2000) and a groundwater modeling program for Clark County, which was completed in 1994. Information and programs developed for the *Ground Water Management Plan* supports the County's effort to comply with the state Growth Management Act and Federal Clean Water Act. It also provides valuable information to comply with the Endangered Species Act.

The City of Vancouver has the *Water Resources Protection Ordinance* to protect the rivers, lakes, streams and groundwater in the community. The Ordinance requires everyone to follow minimum standards that help protect the “critical” aquifers underlying the entire city. It also establishes greater standards of compliance for businesses and industries that manage hazardous materials; creates “Special Protection Areas” around the City’s water stations as an additional safeguard; and provides cooperative, cost-effective solutions through technical assistance, education and public outreach.

Shoreline Management Plan

The *Washington State Shoreline Management Act* requires counties and cities to update their Shoreline Master Programs (SMPs). SMPs govern activities on and near lakes, streams, and rivers. Most local SMPs date from the 1970s, and must be modernized to reflect today’s conditions and address new state requirements. Battle Ground, Camas, Clark County, La Center, Ridgefield, Vancouver, Washougal, and Yacolt are partnering in a two- to three-year effort to update their respective SMPs. The plan’s process included:



1. Determine “shoreline jurisdiction” or where the SMPs apply;
2. Inventory, analyze, and characterize shoreline functions, ecosystem processes, public access opportunities, shoreline uses, and potential protection and restoration areas;
3. Develop goals, policies and regulations for shorelines regulated by the SMPs. Analyze cumulative impacts;
4. Develop a restoration plan and demonstrate no-net-loss of ecological functions;
5. Adopt individual Shoreline Master Programs; and,
6. Submit updates to the Department of Ecology for approval. The County’s updated plan has been reviewed and approved by the Ecology with the final BOCC approval occurring in July 2012.

System Related Contracts

The County and cities have entered into major long-term contracts with private service providers for solid-waste-related services. The Columbia Resource Company (CRC) contract, between Clark County, the City of Vancouver and CRC, gives CRC responsibility for developing and operating transfer stations and a recycling processing facility. The contract is for processing and marketing of residentially collected recyclables and for transfer, transport and landfill disposal of wastes at the Finley Buttes and Wasco Landfills in Eastern Oregon. CRC is a wholly owned subsidiary of Waste Connections, Inc.

The County and cities have entered into other contracts with private companies for collection of residential recyclable materials and yard debris. Some cities contract for garbage collection if this is not done through municipal crews or through state franchises. Additional contracts have been entered into for the recycling and disposal of household hazardous waste.

Post Closure Agreements:

The Disposal Agreement between Clark County, the City of Vancouver and the Leichner Brothers Land Reclamation Corporation establishes responsibilities for closure, post-closure maintenance and groundwater remediation of the closed Leichner Landfill.



The *Settlement Agreement* is between Clark County, the City of Vancouver, Clark County Disposal Group companies and the WUTC. The agreement establishes funding channels for closure, post-closure maintenance and remediation activities at the Leichner Landfill.

Other Closed and Inactive landfills - The County has an agreement with SCS Engineers for landfill gas monitoring and groundwater monitoring at the closed English Pit Landfill. The Rufener Landfill has been inactive for more than a decade, but has not been officially closed; ongoing efforts are being made for this site to achieve compliance and to either be closed or decommissioned. More information on these landfills is located in [Chapter XX](#) Landfill Disposal.

Solid Waste & Recycling Contractor Services

	Single-family Recycling	Multi-family Recycling	Yard Debris	Garbage
Ridgefield	Contractor: WCI Expires: December 31, 2019 Option to extend for 2 – 5 year periods			
Camas*	Contractor for recycling & yard waste: WCI Expires: December 31, 2019 Option to extend for 4 – 5 year periods			
	Contractor for roll off service: WCI Extended through December 31, 2013 Option to extend for 2 more 5 year periods			
Washougal	Contractor: WCI Expires: April 1, 2024 Option to extend for 4 – 5 year periods			
Vancouver	Contractor: WCI Expires: January 31, 2020 Option to extend w/annexations. The City may extend the contract for two additional one-year periods			
County-Urban (includes City of Battle Ground)	Contractor: WCI Expires: December 31, 2016		Contractor: WCI Expires: July 31, 2023 with two 1-year options to extend.	WUTC
County-Rural (includes City of La Center, Town of Yacolt)			La Center through WUTC	WUTC
<i>* Camas hauls residential</i>				

Regional solid waste disposal system (includes recycling processing) - facilities used by County & all municipalities	Clark County contracts with Columbia Resource Company for the regional long-term disposal system. Contract Expires: December 31, 2016. Option to extend for 2-5 year periods. The contract's first option will be executed upon completion of contractual facility improvements (December 31, 2021). Note: Under State law, the County is required to plan for solid waste facility needs twenty years into the future. After conducting a competitive process, in 1990 Clark County entered into a 20-year contract with Columbia Resource Company (CRC) to provide processing, transfer and disposal of municipal solid waste and processing of recyclable materials.
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Waste Connections, Inc.(WCI- www.wasteconnections.com) ; www.wcnorthwest.com

WCI: Holds contract for School Recycling (Battle Ground, Camas, Evergreen, Hockinson, La Center, Ridgefield, Vancouver, and Washougal school districts). Expired September 30, 2011 and an extension option was used to extend to September 30, 2013. No additional options to extend on this contract.

Philip Services Corp: Mobile Collection & Door-to-Door. Expires: December 31, 2011. Option to extend for (2) - 2 year periods; the first was executed and expires on December 31, 2014.

EmpowerUp: Contract expires 12/31/13 for Styrofoam collection services.

Plan Development and Adoption Process

The Solid Waste Advisory Commission (SWAC) used the following evaluation criteria to determine if a recommendation should be implemented for this Plan:

- **A practical commitment to sustainability** that ensures resources and options for future generations
- **Reasonable balance among public convenience, public expenses, public health, and the environment.** *Recommendations* should look at solid waste management practices in the context of attempting to balance environmental values/benefits with both economic and social equity considerations and natural resource conservation and environmental health values.
- **Flexibility to anticipate** future changes and needs. *Recommendations* should support long term goals and allow for changing circumstances.
- **Commitment to waste prevention, reduction and recycling.** *Recommendations* should support the prevention and reduction of toxicity and solid waste as well as encourage recycling and other waste diversion opportunities.
- **Increased local control** of solid waste management.
- **Solid waste services should be regulated** by the appropriate level of government as close to the citizens as possible instead of policies set for other regions. The County and Cities should have the management tools to achieve the goals of the Plan while fostering competition among service providers.
- **Integrity of waste stream measurement and monitoring.** *Recommendations* should allow the County to measure, compare and report our past and present efforts in a way that allows us to plan for the future and evaluate the effectiveness of our programs and the resources that we devote to them.
- **Encouragement of cooperative and coordinated** efforts among government agencies, citizens, and the private sector for managing solid wastes.
- **The County should maintain its commitment** to collaborative management of solid waste by informing and involving citizens, other agencies, and the private sector.

The current process for this update involved an internal and external review of the chapters with recommended language changes. Updates include changes in the solid waste system and recommended changes or additions/deletions to alternatives. This language was reviewed by the cities and town. SWAC reviewed each chapter along with staff. This included a status review of Plan recommendations and any suggested changes. Analysis and discussion will occur during the regular monthly SWAC meetings. SWAC reviewed and recommended the Preliminary Draft Plan.

This Preliminary Draft Plan was submitted to the Washington Department of Ecology for review and comment and to the WUTC for evaluation for collection ratemaking purposes. On the basis of the comments received from the Washington Department of Ecology and the WUTC, revisions were made to the Plan. The Plan was reviewed and adopted in public meetings by the participating cities in accordance with the Interlocal Agreements with those jurisdictions. The Plan was adopted by the Clark County Board of Commissioners in a public hearing. *Appendix XX* details the process and meeting dates for updating the Plan.

Plan Modification and Revision

RCW 70.95 requires that the Plan be reviewed at least after five years; updating can occur at the five-year review or at other points in time, as needed. With each update, the Plan must be extended to show a revised 6-year construction and capital acquisition plan and any long-range needs for the next 20 years. The next plan review and update will be scheduled for 2018.

The County and/or participating cities may elect to modify the Plan prior to the full plan update. In addition, the Washington Department of Ecology maintains the authority to require minor changes to the Plan.

For minor revisions, such as not undertaking activities from the 5 or 20-Year Plans, the County will:

- **Explain in writing** how the deviation will better contribute to accomplishing one or more goals of the Plan;
- **Notify all cities** and town;
- **Notify and give the public** an opportunity to comment, either prior to, or at a regular SWAC meeting;
- **Notify the Washington Department of Ecology** of the proposed modification;
- **Discuss the issue with SWAC** and schedule their vote on the changes.

Major revisions (such as those which undertake actions outside of the 5 or 20 Year Plans, or alter the goals of the Plan) are termed “amendments” and would go through a full approval process (all cities and towns, the Washington Department of Ecology, plus Council).

End Chapter 1

Chapter 2

ADMINISTRATION

The Solid Waste Management Plan has many different elements, and each is implemented through its own combination of public and private agencies, contracts and laws. The private sector operates practically all solid waste collection, transport, processing and disposal operations in Clark County, while public agencies have responsibility for ensuring their effectiveness and implementing public policies, as well as protecting the public health and welfare. Thus, the public-private relationships set forth in a variety of contracts and laws are vital to the economic health of solid waste management in the county. This chapter looks at the administrative roles of jurisdictions for solid waste management in the county. Chapter 16, Enforcement, reviews solid waste regulations which govern local government, the solid waste industry and solid waste generators. County background, demographic and economic information and data are included in an annual County report (Appendix H).

Regulations Governing Local Government - State law requires the county to prepare and update a 20-year solid waste management plan, including plans for solid waste handling facilities, programs to reduce the amount of waste generated, incentives for source separation, residential recycling collection, education and promotion on waste reduction and recycling and plans to manage moderate risk wastes. The Washington Department of Ecology enforces the planning requirement, in part, through distribution of grant funds for projects which help implement the plan. State law, RCW 36.58, RCW 35.21, RCW 81.77, regulates how cities and counties contract for solid waste services and how they generate revenues to fund solid waste management activities.

Administrative Roles

Local governments, collection, disposal and processing companies, regulatory agencies and a variety of other businesses, agencies and organizations work together to manage solid waste in Clark County. Administration is a cooperative effort between city and county elected officials, county and municipal staff, and state agencies.

Clark County



Environmental Services

Department of Environmental Services - Sustainability & Outreach Division administers the Solid Waste Program. This includes managing the long term solid waste planning and facility development within the County. Through this authority, the County provides regional coordination, regional services, services to cities and other agencies and local services in the unincorporated areas of the county. The County:

- Prepares and updates the County's 20-year Comprehensive Solid Waste Management Plan;
- Works with over 30 public and private agencies to coordinate solid waste management activities, including the County Solid Waste Advisory Commission (SWAC);
- Contracts for long-term disposal of waste generated throughout the county and for household hazardous waste collection and disposal;
- Supervises maintenance and monitoring of two closed landfills in the county;
- Provides contract administration services to cities and school districts;
- Promotes waste reduction through a variety of educational efforts throughout the county;
- Provides technical assistance on proper waste management and related environmental topics to businesses throughout the county;
- Contracts for recycling collection programs in the unincorporated areas, including residential curbside and multi-family recycling collection, yard debris collection and recycling collection at schools;
- Plans for potential recovery or disposal of disaster related debris.



Clark County Public Health - the designated enforcement agency for solid waste regulations in Clark County. Public Health administers the state's permit system for solid waste facilities, such as landfills and transfer stations, and enforces the State's Solid Waste Handling Standards, including handling of municipal and industrial sludges and petroleum-contaminated soils. Public Health enforces County code for regulations on solid waste, hazardous waste, and biomedical waste and responds to complaints regarding illegal dumping, burying and accumulations of waste on private property.

Clark County Solid Waste Advisory Commission

Clark County's Solid Waste Advisory Commission (SWAC) was originally formed in 1977 by Clark County Ordinance 1977-10-2, in accordance with the provisions of RCW 70.95. This ordinance, as modified over time, has been codified as Clark County Code (CCC) Chapter 24.16. Clark County's SWAC currently consists of nine members, appointed by the Clark County Board of Commissioners, and represents the following interests:

- Vancouver City Council
- Councils of remaining cities, towns
- Public interest groups
- Clark County business community
- Solid waste management industry
- Citizens of North Clark County
- Citizens of Southeast Clark County
- Citizens of Southwest Clark County
- Citizens of Clark County at large

The role of the SWAC is to advise the County Board of Commissioners on solid waste matters; to comment on rules, policies and ordinances; to assist in the development of plan updates; to serve as a means for citizens, industry or other bodies and individuals to participate in solid waste planning; and to advise on any other solid waste matters, as directed by the Board. The SWAC has reviewed and actively participated in the preparation of the Plan.

Cities within Clark County

State law assigns solid waste planning authority to individual local governments (RCW 70.95.08) and requires each county in the state to prepare a plan in cooperation with cities and towns within that county. Cities may choose from the following three options in order to meet their planning requirements:

- Prepare and deliver, to the county auditor, a plan for the city's own solid waste management to be integrated into the county's plan;
- Enter into an agreement with the county in which the city participates in preparing a joint city-county plan for solid waste management;
- Authorize the county to prepare a plan for the city's solid waste management to be included in the county's plan.

The local governments who participate in the preparation of this joint county-city *Solid Waste Management Plan*, by interlocal agreement with the County, are the Cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and the Town of Yacolt. The City of Woodland, a small portion of which lies in northwest Clark County and the remainder in Cowlitz County, is participating in *Cowlitz County's Comprehensive Solid Waste Management Plan*. After preparation of the Plan, participating jurisdictions will formally consider adoption of the Plan through local resolutions of adoption. Inter-local agreements with the participating cities are included in *Appendix XX*.



A list of cities and their services are as follows:

City of Vancouver - Accounts for about 40% of the county's residents. City of Vancouver staff performs the following roles:



- Administers a recycling (both single and multi-family), yard debris and garbage collection contract for the city. This function includes serving as a liaison between the collection contractor and customers on billing and service issues, as well as developing rate structures and rate modeling;
- Operates an on-going neighborhood clean-up program and a leaf disposal program;
- Licenses haulers of commercially-generated recyclable materials;
- Coordinates with contractor to offer a base level of recycling for all commercial customers
- Participates in and coordinates with the educational programs offered by the County, the collection contractor, and other partners;
- Maintains data on city programs and produces informational materials and reports;
- Reviews and provides input into county solid waste program annual priorities, project work plans, publications and proposed annual budgets;
- Administers and enforces Vancouver solid waste ordinances and responds to complaints.

City of Camas - Provides garbage collection with city staff and vehicles and contracts for recycling collection, yard debris, and other services.

City of Washougal - Contracts for both garbage, yard debris and recycling collection.

City of Ridgefield - Contracts for garbage, recycling and yard debris collection.

City of Battle Ground - Participates in Clark County's recycling collection contracts for single-family, multi-family and yard debris.

Yacolt and La Center - Receive recycling collection services through county-administered contracts (initiated in the beginning in 1999).

Garbage collection in Battle Ground, Yacolt and La Center are administered through the Washington Utilities and Transportation Commission (WUTC). The cities conduct periodic clean-up events within their borders. La Center administers yard debris collection through the WUTC.

Cities review and provide input into county solid waste program annual priorities, project work plans, publications and proposed annual budgets.



Southwest Washington Clean Air Agency

The Southwest Washington Clean Air Agency (SWCAA) is responsible for enforcing federal, state and local outdoor air quality standards and regulations in Clark, Skamania, Lewis, Wahkiakum and Cowlitz counties. The primary role of SWCAA, with respect to solid waste management, is regulation of emissions from incinerators and landfill gas control systems and implementation of the ban on outside burning in the non-attainment areas of the county. This burn ban is described in the chapter on *Enforcement*.

Washington Department of Ecology



The Washington Department of Ecology is the state agency responsible for oversight of solid waste management. Since passage of the first Solid Waste Management Act in 1969, the focus of solid waste laws and regulations in the state has evolved from the closing of open burning dumps to the current implementation of a comprehensive statewide management plan, Beyond Waste, that relies on sophisticated management strategies. The state retains authority for setting standards for solid waste handling systems, while operations and management responsibilities are generally delegated to local governments. The Washington Department of Ecology controls compliance with RCW 70.95, WAC 173-304, and WAC 173-350 through its review and approval of solid waste management plans and facility permits. Regulatory authority over solid waste facilities is delegated by the state to local jurisdictional health departments. Approval of permits by local health departments may be appealed by the Washington Department of Ecology to the Washington Pollution Control Hearings Board.

Washington Utilities and Transportation Commission



The Washington Utilities and Transportation Commission (WUTC) regulates solid waste collection activities under RCW 81.77, through the issuance of certificates entitling private companies to provide solid waste collection services of a certain type — garbage, refuse and demolition waste — within specified geographic areas of the state. The authority of the WUTC, under RCW 81.77, is limited to collection of solid waste from generators and does not extend directly to the regulation of hauling solid waste from transfer stations.

Under RCW 81.77, the WUTC also regulates the collection of source-separated recyclable materials from residences, if the local government does not contract for that service. The state’s solid waste statutes do not give the WUTC the authority to regulate the collection or transportation of recyclable materials from drop-boxes or buy-back centers; nor, do the statutes provide authority for regulating the collection of recyclables from commercial or industrial generators. Transportation of these materials is regulated under Chapter 81.80 or is taken on by the cities. Although the WUTC does have authority to regulate this transportation, this authority is not exclusive.

Administrative roles in solid waste collection are summarized in Table 2-1. Administrative roles for solid waste management in Clark County are summarized in Table 2-2.

Table 2-1 Waste Collection Administration in Clark County (2012)

Geographic Area	Administering Agency & Operator		
	<i>Garbage</i>	<i>Recyclables</i>	<i>Yard Debris</i>
Unincorporated Clark County	WUTC, WCI	County Contracts, WCI	County Contract WCI
Vancouver	City Contract WCI	City Contract WCI	City Contract WCI
Camas	City, WCI	City Contract WCI	City Contract WCI
Washougal	City Contract WCI	City contract WCI	City Contract WCI
Ridgefield	City Contract, WCI	City Contract WCI	City Contract WCI
Battle Ground	WUTC, WCI	County Contracts WCI	City Contract WCI
La Center	WUTC, WCI	County Contracts WCI	WUTC
Yacolt	WUTC, WCI	County Contracts WCI	N.A.

WUTC - Washington Utilities & Transportation Commission;
WCI - Waste Connections, Inc.
N.A. - Not Available

Table 2-2: Solid Waste Management Administrative Roles in Clark County

Solid Waste Roles	Responsible Agencies	
	Primary	Secondary
Regional CSWM Plan	Clark County	Cities, Ecology, WUTC, SWAC,
Regional coordination	Clark County	SWAC, Cities, neighboring jurisdiction
Long-term safe disposal (includes transfer & transport)	Clark County	Ecology, SWAC, Cities
MRW collection & disposal	Clark County	
Monitor closed landfills	Clark County	Ecology
Coordinate regional waste reduction education & promotion	Clark County	Cities, neighboring jurisdictions
Regional MRW Education	Clark County	Cities
Local education & promotion	County , Cities	
Environmental assistance to businesses	Clark County, Cities	
Garbage collection administration	WUTC, Cities	County
Recycling collection administration	County, Cities, WUTC	
Recyclables processing	County	
Local clean-ups, seasonal collections	Cities, County	
Solid Waste management data & reports	County, Cities	Ecology
Development of new solid waste programs	County, Cities	Ecology
Siting of solid waste handling facilities	County, Cities	Ecology
Plans for potential recovery or disposal of disaster related debris	Clark County, Cities, neighboring jurisdictions (i.e. Metro, DEQ)	

Recommendations

State agency administrative issues

1. Work with the Washington State Recycling Association and other counties and state agencies to develop a legislative update to RCW 70.95's goal of a statewide recycling rate of 50%.
2. Work with state government on local issues related to solid waste, waste prevention and recycling needs in particular related to providing additional funding options.

Regional/Local Administrative Issues

3. Maintain a Regional Solid Waste System Steering Committee through Interlocal Agreements which will be comprised of the Public Works Directors and Environmental Services Director. This Committee will formalize roles, make recommendations of such matters as: contracts; budgets; public education; outreach and marketing; resource sharing; system analysis and improvements.
4. When convenient, the County and cities may coordinate to take advantage of contracts, co-locating, etc.
5. Explore funding options, as necessary, to ensure that funding of required solid waste, waste prevention and recycling roles continues, such as collection and disposal districts, new revenue-generating authorities and contract revisions for disposal and collection services.
6. Integrate the County Solid Waste Program to include other environmental issues, such as water quality, that has impact on and is significantly affected by solid waste.
7. Begin discussions regarding long-term management options for waste transfer and disposal, beyond the existing agreement that run through 2016 (plus any contract extensions). These discussions should include evaluation for public ownership of facilities with continued contracting for operations.
8. Continue and expand coordination with other agencies for educational and technical assistance programs.
9. The County should work with Portland Metro to advance proposals that would mutually benefit both regions; provide for a reciprocal exchange of technical assistance and input for areas of mutual concern; enhance communication; and when appropriate use joint contracts
10. Continue to facilitate public/private partnerships and collaborations with other regional governments on any items of common interest and relating to solid waste issues.
11. The County should continue with implementation of the EMS program for Solid Waste with plans to expand into other County departments and the region. EMS programs should be required, when appropriate, in contracts such as the collection and disposal contracts.

End of Chapter 2

Chapter 3

SUSTAINABLE CHOICES

Vision for the Future

The vision for this update of the *Clark County Solid Waste Management Plan* is to continue moving toward a more sustainable future. In that future, citizens will be generating less waste and handling the wastes they do generate differently. This will happen through tried and true methods such as waste reduction, increased recycling, and composting, as well as through new alternative and even innovative approaches such as product stewardship, life cycle analysis, design for recycling, packaging regulation, and recycling market development programs; in short, as a society and community we need to rethink how we think about “waste”. This movement or shift will not happen overnight or replace the current solid waste system. New approaches to waste management and new technologies must respect and build upon the previous work and programs that have been put in place and that have served the county and its citizens well for decades. Ultimately, it is up to the individual to decide what and how to consume, and through our programs we will strive to provide a variety of environmentally and socially-responsible waste prevention, diversion and disposal options that further this plan’s goals.

Background

All materials come from the Earth. The foundation that underlies the world economy, prosperity and a healthy environment rests largely on how people extract and use the full range of materials that come from and return to the Earth such as wood, minerals, fuels, chemicals, agricultural plants and animals, soil, and rock. How our society uses materials is fundamental to many aspects of our economic and environmental future. From the solid waste perspective, which is the focus of this plan, much of this activity happens “upstream” from where all of these materials end up as components of the “waste stream”. If we want the U.S. to be competitive in the world economy, the sustainable use of materials throughout their life cycle must be addressed within our goal to plan for managing waste.

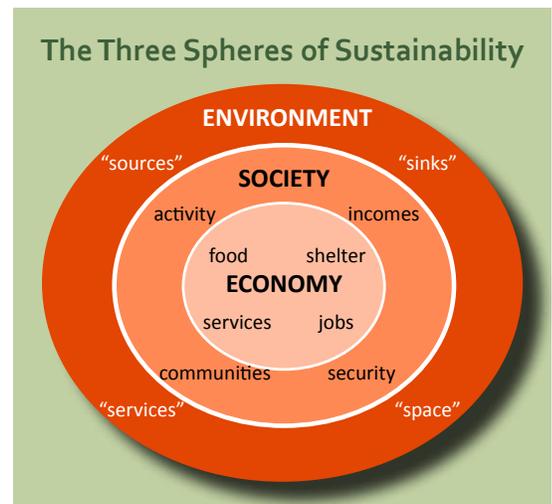


Figure 3-1

Considerations

Our increasing population places a higher demand on resources and ecosystem services. Our use of materials challenges the capacity of the Earth – air, water and land – and is the cause of many resulting environmental problems. This situation fundamentally affects many other aspects of our future, such as the economy, energy and climate. How do we fulfill our human needs and prosperity while using less material, reducing toxics and increasing recycling? This suggests that “business as usual” cannot continue, as depicted in Figure 3.2.

“The world at large and the United States in particular use vast amounts of materials and those amounts are rapidly increasing.”¹

- In the past 50 years, humans have consumed more resources than in all previous history.
- With less than 5% of the world’s population, the U.S. was responsible for about one-third of the world’s total material consumption.
- In 1900, 41% of the materials used in the U.S. were renewable (e.g., agricultural, fishery, and forestry products); by 1995, only 6% of materials consumed were renewable. The majority of materials now consumed in the U.S. are nonrenewable, including metals, minerals, and fossil-fuel derived products.
- Our reliance on minerals as fundamental ingredients in the manufactured products used in the U.S.—including cell phones, flat-screen monitors, paint, and toothpaste—requires the extraction of more than 25,000

- pounds of new non-fuel minerals per capita each year.
- This rapid rise in material use has led to serious environmental effects such as habitat destruction, biodiversity loss, stressed fisheries, and desertification.
 - The rate of deforestation in the tropics is approximately one acre per second.
 - Half the world's tropical and temperate forests are now gone.
 - 75% of marine fisheries are now overfished or fished to capacity.
 - Freshwater withdrawals have doubled between 1960 and 2000; rivers including the Colorado, Yellow, Ganges, and Nile do not reach the ocean in dry seasons.

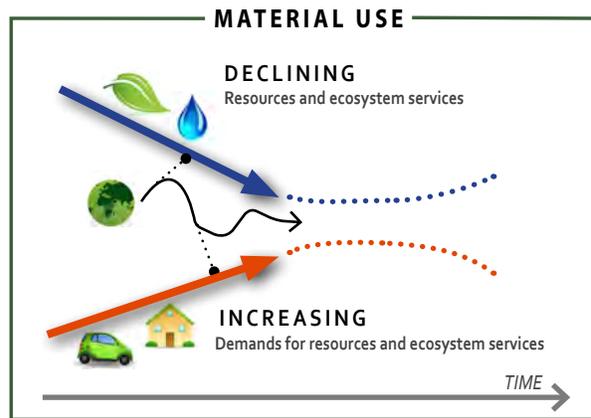


Figure 3-2

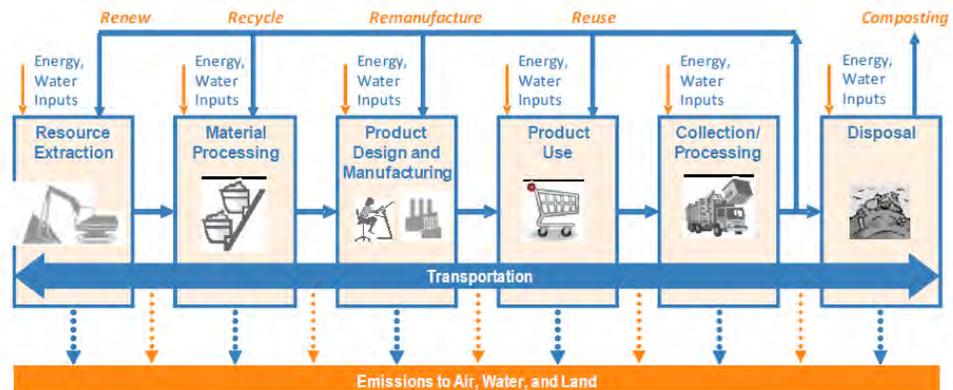
- Over half the agricultural land in drier regions suffers from some degree of deterioration and desertification.
- As available ore grades for some minerals decrease, the amounts of materials that have to be mined and processed to produce equivalent product increases, along with the environmental impacts.
- Persistent, bioaccumulative and toxic chemicals can now be found throughout the food chain.”

Sustainable Materials Management

The magnitude of these environmental impacts is causing people to begin to look at all aspects of the material lifecycle that comprise our industrial practices and consumer habits. The material lifecycle begins with the extraction or harvesting of raw materials. Materials are then transported and processed to create the products and services that drive our society. They are distributed, consumed, reused or recycled, and ultimately disposed.

Each stage of this cycle requires energy and water as inputs and creates impacts on the environment. Because the stages are interrelated, it is important to rethink how we manage materials. If an item or product is disposed or even recycled without making the fullest and best use of it, all of the upstream inputs are also lost and the impacts multiplied. It is critical that both our consumption and waste generation choices are made with the best possible understanding and appreciation for what is upstream of the product being considered.

“If we want the U.S. to be competitive in the world economy, the sustainable use of materials must be our goal.”
- United States Environmental Protection Agency



The Flow of Materials
Source: State/EPA 2020 Vision Workgroup

Figure 3-3

Life Cycle

In order to minimize the amount of materials involved and all the associated environmental impacts, a new way of thinking is needed. Life cycle materials management is an approach to serving human needs by using/reusing resources most productively and sustainably throughout their life cycles and is dependent on the price system, regulatory framework, technical information and human mindsets all working together. The EPA's *Road Ahead* document provides additional information.

By considering system-wide impacts, life-cycle materials management casts a far broader net than traditional waste and chemicals management approaches and represents a change in how we think about sustainable choices.

Life Cycle Assessment (LCA) is a method used to track a product and its interactions with the environment from cradle to grave. *Life Cycle Assessment* provides a clearer understanding of a product's full cost, including costs to the environment, and benefit to the economy, and can identify ways to improve the sustainability of a product. There are many means by which life cycle materials management can be accomplished. For instance, careful industrial and product design that reduces virgin material use and reuses materials can reduce what is taken from the Earth and put back into the environment.

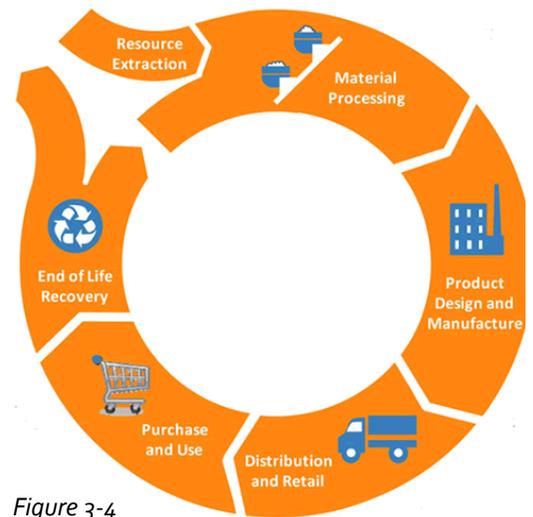


Figure 3-4

From: US EPA Source Material Management. Adapted from "Design Guidelines for Sustainable Packaging," Sustainable Packaging Coalition, Green Blue, 2006.

Product Stewardship

Product Stewardship (PS) is an important tool to address environmental impacts from the perspectives of production, consumption and end-of-life management of products through design, development and product launch. In the late 1990s, a coalition of local and state government agencies in Washington and Oregon, in conjunction with EPA Region 10, formed the Northwest Product Stewardship Council (NWPSC) to research and promote product stewardship in the Northwest. By working together

through the Council, the member agencies have been able to combine resources, expertise and efforts to maximize the effectiveness of each agency's efforts and to work cooperatively toward state, regional or national solutions. While the impacts of product and packaging waste are at the local level, the decisions and negotiations often happen at a national level. By working together through NWPSC, local governments have been able to work with national and multi-national corporations on pilot programs and policies, and participate in national dialogues on product stewardship approaches. This process helped establish producer responsibility legislation for electronic wastes (televisions, computers and monitors). The E-Cycle Washington program kept 28,781 tons of electronic waste out of the landfill in its first 18 months.

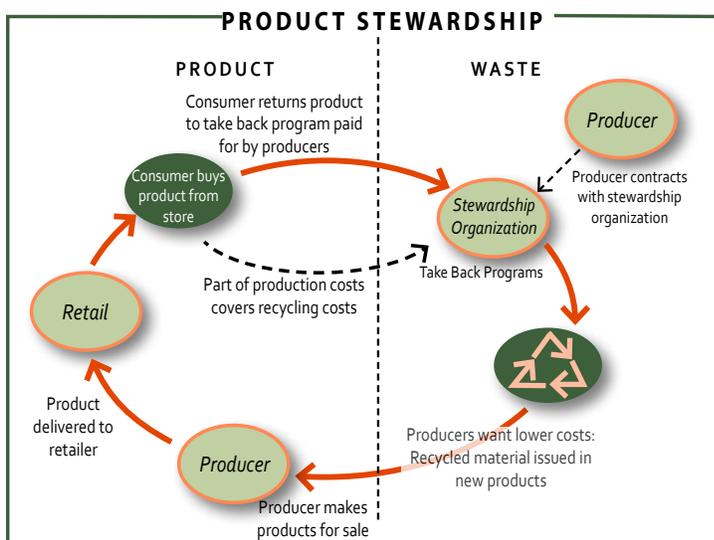


Figure 3-5

Conclusions

The path to a future of promise and prosperity provides many opportunities for shifting from the traditional waste management approach to a materials management approach to move beyond “end of pipe” controls by targeting interventions upstream. Opportunities include: sustainable use of materials/resources, management of chemical risks, and conservation of energy and water. The path requires a systems perspective that designs products with life cycle and environment in mind and uses more renewable and less toxic materials.

Recommendations

- 1. Partner with other County departments and with other regional agencies to incorporate sustainable choices** into planning and development for managing our waste stream and communicate the context of sustainable materials management, life cycle analysis, and related concepts through approaches and recommendations identified in the chapters that follow.
- 2. Continue to pursue and develop product stewardship programs**, in coordination with other public and private entities.

¹ *United States Environmental Protection Agency's Sustainable Materials Management: The Road Ahead, June 2009*

End Chapter 3

Chapter 4

WASTE PREVENTION AND REDUCTION

This chapter describes state and local waste prevention policies. Examples are given to illustrate the evolution of policies and practices aimed at reducing both the volume and toxicity of wastes. The rest of the chapter describes current waste prevention practices in Clark County and more opportunities to use waste prevention as a solid waste management strategy.

Background

Waste prevention is a strategy that involves altering manufacturing of products or consumer behavior in purchasing, using or reusing products. Waste prevention reduces waste at its source, thus eliminating the need for recycling, composting and disposal. The best approach to solid waste management is to eliminate waste in the first place. Waste prevention and waste reduction reduces the need to develop, finance and maintain collection, transfer, processing and/or disposal systems. These benefits make waste prevention the highest priority for management of solid waste in Clark County and Washington State.

Waste prevention is sometimes referred to as “source reduction,” because it reduces or eliminates waste or pollution at the source. All waste generators have at least some opportunities to use waste prevention measures that reduce the generation of waste materials. Donating an unwanted computer to a charity is an example of waste prevention. So is photocopying on both sides of a sheet of paper. Altering material specifications so that fewer hazardous elements are used to make a product is another form of waste prevention.

Product stewardship, also known as producer responsibility, is a strategy designed to address the environmental impacts of products through their entire life cycle incorporating the concepts of waste prevention, extended life of a product, reuse, recycling and disposal. Under product stewardship, the entity that designs, produces, sells, or uses a product takes responsibility for minimizing the products’ environmental impact throughout all stages of the product’s life cycle.

Businesses and individuals can examine their purchasing of marginally needed or slightly used products as a way to save money and reduce waste. Consumers can exercise control and be thoughtful to help reduce waste, conserve resources, and save energy. Taking reusable bags to the store and carrying tap water in a reusable container are examples of simple strategies that would both reduce resources used.

Preventing the generation and disposal of waste involves increasing product life; decreasing the amount of material and natural resources used to make the product and/or its packaging; reducing the toxic ingredients in the product; reducing product use and consumption; and increasing the on-site management of some materials, such as organic wastes. Market forces often have the greatest influence on product life and packaging. When consumers change their buying habits, this can drive markets and influence how the commercial and industrial sector produces, ships and sells its goods. For example, consumers can tell manufacturers in writing, by phone or via the Internet when they are happy or displeased with a product or a particular type of packaging. If enough consumers stop buying a product because of its package, manufacturers are likely to notice and institute changes. When an electronics manufacturer makes it a practice to disassemble televisions that have been returned, then reuses or recycles the parts, that manufacturer may see an increase in sales by being environmentally responsible. Product design for disassembly and reuse has already become the standard in many European countries and is one of the goals of a product stewardship program.

The best approach to solid waste management is to eliminate waste in the first place.

The county and cities will continue to support and fund programs which provide a number of opportunities to educate students, educators and the community about waste prevention. The County and cities will also support non-governmental agencies willing to take the lead in business waste prevention assistance. Businesses may be more responsive to solid and hazardous waste management information and assistance delivered by a non-governmental agency, dedicated to business assistance and economic development. The Clark County **Green Business** and **Business Technical Assistance** programs provide waste prevention assistance to business through waste audits and resource information.

Programs are coordinated with other local, regional and state campaigns in order to ensure uniform messages and maximized resources. The Portland Metro area, Seattle-King County area and State of Washington all provide opportunities for the County and cities to partner on waste prevention campaigns.

Assessment of Conditions

A number of waste prevention activities are occurring in Clark County. These activities can be discussed in two categories: residential and commercial/institutional. Although many waste prevention activities apply to both the residential and commercial/institutional sector, in general, in-home waste prevention behaviors are more difficult to instill, because individual preferences, personal convenience and income levels affect behavior more at home than at work.

Residential Waste Prevention

The Washington Department of Ecology provides local governments, including Clark County, with grants to promote waste prevention and recycling. These grants require local matching funds. The current grant program is referred to as the "*Co-ordinated Prevention Grant Program*." Although the primary focus of many county and city solid waste management education programs is recycling education, waste prevention is still a component; especially when it comes to residential yard debris management. The County puts a great deal of emphasis on using the results of the *Waste Stream Analysis* to determine target generators and waste streams for waste prevention education. Waste prevention programs and campaigns that address residential waste are listed below. Many of the County programs (including statewide *Product Stewardship Programs*) are discussed in Education Promotion, Chapter 5.

- **The three new program initiatives** (**Green Neighbors**, **Green Business** and **Green Schools**) all have significant waste reduction and waste prevention components in their activities, information and assessments. The Green Neighbors website has an interactive house with information on how to reduce consumption, toxicity and waste generation;
- **Leaf collection programs** are available in the cities of Vancouver, Battle Ground and the unincorporated areas of the County as a method to promote the use of leaves as mulch and compost;
- **Christmas tree collection programs** provide for the proper disposal and composting of discarded trees;
- **The Master Composter/Recycler program** trains outreach volunteers, offers workshops and provides backyard composting demonstration sites as a way to reduce yard debris and food waste from entering the waste stream. County and City solid waste programs are available and provide waste prevention, recycling, reduction and reuse presentations to community groups and schools;
- **Waste reduction education and information** is presented at **Clark County Fair** and the **Home and Garden Idea Fair** along with other regional fairs, festivals and community events;
- **Interactive displays** are available on the topics of Waste Reduction, Natural Gardening, Stormwater, Transportation and Wastewater Treatment;





- **A Recycled Arts Festival** provides education and information about reuse and waste reduction, as well as provides the opportunity to purchase art made from recovered or reused items;
- **The Naturally Beautiful Backyards program** provides information on working in the yard and garden without using chemicals that could be harmful to people, animals and the world around them. This is done through brochures, lectures, community workshops and informational displays;
- **Residents learn about donating reusable items** through outreach such as *Do It Yourself Fairs*, *Green Neighbors* website and web information for the location of non-profit agencies;
- **2good2toss.com is a website** for businesses and households. This website allows the opportunity to give away (or sell for up to \$99) unwanted items that could be of use to someone else. Coordinated through the Washington Department of Ecology with other counties throughout the state, the site tracks the number of successful exchanges as well as provides an estimate of the weight of those items kept out of the landfill. The County continues to provide technical assistance consultations for businesses to improve their waste reduction, recycling and sustainable practices through its Clark County Green Business Program and specific requests for technical assistance;
- **The County created and maintains Recycling A-Z.com** as an on-line directory with a detail listing of where to take unwanted items.
- **The County implemented a WasteBusters pilot** in 2012 which was a waste reduction competition between six families. The winning family was able to reduce their waste output over six weeks by 72%!

Despite all these valuable and popular programs, significant opportunities still exist for residential waste prevention. In comparing the 2012 Waste Stream Analysis to the 2008 Study, there were some increases and decreases in the percentage amounts for some materials with an overall 5% decrease in the amount of recoverable materials in the waste as compared to 2003. The Paper category shows a decrease; Plastics, Metal, and Glass remain basically the same; Organics, Wood and C&D have increased. The amount of aluminum beverage cans remain unchanged. Food waste shows a significant increase. A more detailed discussion of the waste stream composition is in the Waste Stream Analysis in Appendix I.

Commercial/ Institutional Waste Prevention

According to the waste stream analysis conducted in 2012, approximately 51% of all disposed waste in the County came from non-residential generators. This includes commercial generators and self-haul loads to the transfer facilities. The waste stream analysis shows that recyclable paper, construction/demolition and wood wastes, food wastes, metals and yard and garden wastes are components of this waste stream that present additional opportunities for waste prevention and reduction.

Examples of commercial/institutional waste prevention activities that have been implemented in the county are as follows:

- **A Green Business Program** designed to assist business in six key environmental areas: waste reduction and recycling; toxics; stormwater; water and wastewater; energy and community engagement.
- **Commercial waste reduction and recycling technical assistance program**

In addition to the above activities, Clark County government and other local agencies have conducted in-house waste prevention programs including:

- **A Green Purchasing policy** has been adopted at Clark County;
- **Environmental Management System:** EMS is a continual cycle of planning, implementing, reviewing and improving the processes and actions that an organization undertakes to meet its business and environmental goals. As a part of the EMS program, the County has been certified as a ISO 14001 organization.

The County has also worked with institutions to encourage waste prevention. Activities include the following:

- **SOS Program:** a school cafeteria composting program;
- **A Jr. Master Composter/Recycler Program** has been implemented to educate high school students about resource conservation and waste reduction. This program's goal is to educate and inspire lifelong composters and recyclers by engaging students in lessons and activities that push them to think critically about reduce, reuse and recycle.
- **Classroom presentations, service learning projects and school environmental fairs** have been introduced to further promote waste prevention activities. Staff has also worked with instructors at Clark College and Washington State University Vancouver to help integrate waste prevention concepts into different business, industrial, biology, natural resource management and economics classes.



Recommendations

1. **Expand and augment County's and cities' waste prevention** and reduction education and promotion programs for residential, institutional and commercial generators of waste.
2. **Continue and expand yard debris and chemical reduction** programs such as natural gardening and home composting.
3. **SWAC, the County and cities should take an active role** in identifying and preventing new types of wastes from entering the waste stream by continuing to focus on products which create more waste and less recycling.
4. **Lobby state and federal governments to pass legislation** that requires waste prevention and product stewardship: including packaging reduction and improvements.
5. **Continue county in-house** waste prevention programs and practices.
6. **Expand public recognition programs** through a community awards event and develop new ones through the Green Neighbors, Green Business, and Washington Green Schools programs.
7. **Continue to pursue and develop product stewardship programs** in coordination with other public and private entities.
8. **Place emphasis on commercial waste reduction** while maintaining existing programs for residential waste reduction through the Green Business program.
9. **Investigate the potential for providing financial incentives** to encourage waste reduction among rate-payers.

Chapter 5

EDUCATION AND OUTREACH

This chapter describes the general solid waste management educational and outreach approaches being taken in support of solid waste management plan elements. Some specific educational programs are described in more detail within those chapters relating to the various subject matter topics. For example, education and outreach activities specific to waste reduction are detailed in the Chapter 4, Waste Prevention and Reduction discussion. Table 5-4 of this chapter lists the current education programs and activities being conducted for the overall solid waste system.

This chapter does not include a comprehensive public involvement and outreach plan, such a plan needs to be a living document capable of responding to changing needs and resources over the term of plan implementation. Instead, this chapter, sets the context for the development of a public involvement and outreach plan, as well as, appropriate marketing strategies to guide the County in achieving specific outcomes identified in the *Clark County Solid Waste and Moderate Waste Management Plan*.

Residents, businesses and organizations within Clark County each have a critical role in managing their solid wastes and it is essential that communications with them be well considered and coordinated so that the whole system functions properly. The County and its partners are regularly reaching out to engage, educate and inform the community in order to encourage and facilitate stewardship of our natural environment. This outreach provides core support to the regional solid waste system and provides important mechanisms for reaching the goals & objectives of this Plan.

Regulations Governing Local Governments

The County, through Interlocal agreements with the municipalities, and with the participation of private contractors and partners, is responsible for the planning and management of the regional solid waste system. This responsibility also includes developing and delivering education programs and outreach activities. Listed below are the RCWs which specifically relate to education and outreach activities.

Table 5-1 Mandates and Authorities

RCW 70.95.010(6)(c)	It is the responsibility of county and city governments to assume primary responsibility for solid waste management and develop and implement aggressive and effective waste reduction and source separation strategies.
RCW 70.95.010(15)	Comprehensive education should be conducted throughout the state so that people are informed of the need to reduce, source separate and recycle solid waste.
RCW 70.105.220(1)(b)	A plan or program to provide for on-going public involvement and public education in regard to the management of moderate-risk waste.
ORS 459A.010(2)(c) 1	An expanded education and promotion program conducted to carry out the policy set forth in ORS 459.015 to inform solid waste generators of the manner and benefits of reducing, reusing, recycling and composting material and to promote use of recycling services....
ORS 459.305(1)(a) 1	Includes a program for recycling that achieves the applicable recovery rate in ORS 459A.010....

Solid Waste System Objectives The objectives for this program are separated into long-term system goals (5-year) and short-term (2 year) objectives. These provide an important context and emphasis for education and outreach approaches.

The 5-year objectives for the regional solid waste system are (by 2018):

- Increase the recycling rate to 55% and the total diversion rate to 70%
- Reduce per person per day landfilled volumes (pounds) by 5%
- Reduce the amount of total waste generated per person per day by 5% (this includes what is landfilled, recycled and recovered)

The 2-year program objectives for the regional solid waste system are (by 2015):

- Increase and strengthen our public/private partnerships: sign 4 additional sponsors and increase new of in-kind revenue
- Broaden volunteer programs: 5% increase in volunteer hours; annually recognize volunteers; develop an adopt-a-site program with 3 sites
- Develop programs to engage targeted audiences: participate in 3 culturally diverse community events; volunteer base reflects County's population demographics
- Raise community awareness of programs: media campaign using cable and web-based media; update "look" for branding
- Increase participation in core programs: **Green Business, Green Neighbors, and Green Schools**: additional 40 local businesses verified; membership dues for businesses; 300 Green Neighbors enrolled; increase list serve subscribers to 7,000; 20 schools certifying at new levels; 4 new schools certifying as Washington Green Schools
- Enhance the solid waste management system: make capital improvements to Central Transfer Station; determine feasibility of a residential mixed organics recovery program; complete Lechner Landfill Master Plan

Assessment of Conditions

The solid waste system has developed numerous programs to address waste prevention, recycling, reuse, reduced toxicity, and sustainability. As a regional system, it is important to maintain consistent outreach messages across all jurisdictions for these programs. This is of particular importance for the curbside collection program.

In addition to overall goals for the system, key education programs have established specific outcomes: public involvement and outreach plans; work plans (to allocate resources); and, marketing plans and performance measures to be used in conjunction with the budget process. Performance measures are established and tracked monthly as measuring tools in evaluating program performance towards reaching identified goals and outcomes.. Table 5-4 summarizes the programs and outreach activities that support the regional solid waste system.

One of the strengths of the solid waste system is its partnerships with all of the municipalities. Through the Interlocal agreements, municipalities may choose to participate in the Regional Solid Waste System Steering Committee (RSWSSC). This group, generally comprised of Public Works Directors or their designees, provides input on a variety of matters that may include public education, and outreach and marketing efforts. This ability to provide input, allows the Regional Cooperative the opportunity to "brand" and enhance the shared nature of our regional communications efforts.

To help clarify that regional partners are participating in outreach efforts and publications, and that regional funding supports these program, a statement has been generally utilized in our promotional messages:

"Solid Waste Planning and Programs are a cooperative effort of Battle Ground, Camas, Clark County, La Center, Ridgefield, Vancouver, Washougal and Yacolt."

As new outreach efforts are planned, this statement and other branding or theme elements that help create this

shared identity in promotional messages will continue to be considered and updated. "Say Hello to Your New Best Friend", "Stay True to Blue" and "Recycling Done Right" are examples of promotional messaging used to encourage and/or recognize communities for being diligent about proper sorting of the items they place in their carts.

Waste stream analysis data can help in determining which specific generator groups and materials should be targeted for future education and outreach campaigns. A waste stream analysis was complete in 2012. Data and information from this study has been incorporated in this plan and the report is included in [Appendix XX](#).

Public Involvement and Outreach Plan

A public involvement and outreach plan such be developed inconjunction with an education program and in coordination with the County's biennial budget cycle. A public involvement and outreach plan should identify the goals, outcomes and measures for a particular program. The plan should also have a marketing strategy that includes these components: a situation analysis, an identification of target audiences, and a Strengths, Weakness, Opportunities and Threats (SWOT) analysis. The marketing strategy is used to create a positioning statement that can communicate the core value of the program while differentiating it from other programs. Goals, which are associated with clear measures and outcomes, are tied to appropriate tactics and identified promotional strategies. Details are fleshed out for implementation activities and linked to needed resources, task assignments and schedules. Finally it is important to plan for the regular evaluation of results and the adjustment of strategies as implementation proceeds. Many education programs use combinations of these approaches as part of planning the overall outreach process. A sample plan format/outline is provided in [Appendix XX](#).

Who, What, When, Where, Why, How?

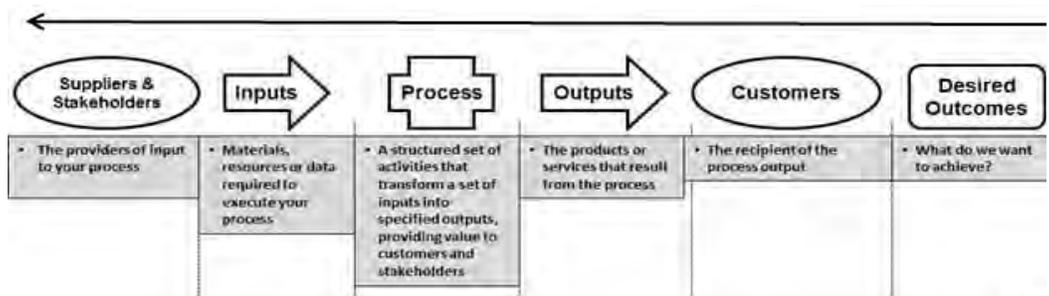
A public involvement and outreach plan should be filtered through the "five W's, and one H" review. This review, which provides short answers to these important questions, should be performed early enough in a project's development to effectively achieve desired outcomes.

Logic Models

For education programs, it is important to identify the ultimate desired outcomes. The County is currently implementing the Lean process in evaluating its programs and processes and this process offers some useful tools to identify efficiency in meeting desired outcomes. One such tool is the logic model; it can be useful in developing education programs and identifying outreach outcomes.

The primary approach of a logic model is to consider cause and effect – if this; then that. For example, if the resources are available for a program, then the activities can be implemented, if the activities are implemented successfully then certain outputs and outcomes can be expected. The logic model maps the connection between activities and high level outcomes and allows for performance measurement at each step. This tool is utilized to help "bridge the gap" between individual programs and connected activities to an ultimate goal, e.g. reducing waste generation. An example of the logic model, below:

Program Develop-



Program Evaluation

The benefits of using a logic model are as follows:

- Clear theory of cause and effect;
- communicates the relationship between “what we do” and results;
- increases understanding about the program or activity;
- connects what staff do to facilitate outcomes that citizens want;
- improves planning and management; and,
- improves communication to internal and external audiences.

Public involvement and outreach plans will be developed for key education and outreach programs under the implementation process for this *Solid Waste Management Plan*. This will include an analysis of the program strengths and opportunities. The analysis will also include a review of potential challenges and barriers. The public involvement plan will:

- Identify stakeholders and targeted market segments;
- engage citizens in processes;
- develop consistent messages;
- strengthen relationships with regional partners, other governmental agencies, non-governmental organizations (including contracted service providers), and other organizations; and,
- foster communication with the public for the system.

In evaluating program alternatives, the following will be reviewed:

- Consistency with the objectives of this *Solid Waste Management Plan*;
- consistency with other regional plans;
- cost effectiveness;
- operational effectiveness; and,
- potential for awareness/behavior changes that address the intended outcomes.

Segmented and Targeted Marketing

Marketing is a key component of any education program and outreach activity. Public involvement plans for the solid waste system’s education program and outreach activities are frequently grouped around user segments. For example, our general customer groups are: residents, businesses, and institutions (e.g. schools). Programs and activities can also be grouped by types of waste (e.g., recyclables, organics, construction & demolition debris, household hazardous waste); by desired behavior outcomes (e.g., waste prevention, recycling, reuse, reduced toxicity and sustainability); and, by different outreach venues (e.g., technical assistance, community events, workshops, etc.).

Education programs and outreach activities use many different marketing tools to reach the various segments of the community. In planning for our programs and outreach, the County utilizes the concepts of community-based social marketing and experiential education (discussed below). An increasing emphasis is placed on web based and social marketing tools, such as Facebook, yet other more traditional and varied methods of marketing are also available to reach certain segments. Our outreach activities utilize both electronic and print media, such as (Table 5-2):

Table 5-2 Media outlets

Electronic Media	Print Media
Internet websites	Advertisements
Facebook sites	Press Releases
Twitter	Fact Sheets
YouTube	Brochures
CVTV	Directories
Television Ads	Mailers/Flyers/Door Hangers
Radio Ads	Coupons
Online Surveys	Billing Inserts
Newsletters	Truck “Wraps”
E-Mail	Paper Surveys
Phone Surveys	Project Signage
Behavior Pledges	Newsletters

The marketing tools that are listed below in Table 5-3 are utilized by our education programs and outreach activities.

Table 5-3 Marketing tools

Workshops/Summits	Tours
Work & Learn Sessions	Training Volunteers
Technical Assistance	Pledges & Challenges
Collection Events	Competitions
Festivals/Fairs/Expos/Events (Department & community sponsored)	Demonstration Sites/Trailer
Presentations/Webinars	Open House
Project/program/neighborhood meetings	SWAC meetings and hearings
Online Surveys	Billing Inserts
Newsletters	Truck "Wraps"
E-Mail	Paper Surveys
Phone Surveys	Project Signage
Behavior Pledges	Newsletters

The following approaches to education and outreach are additional marketing "tools" that are available and may be appropriate for certain program activities identified through the logic model process. Each has unique advantages and disadvantages and none are intended to be used exclusively. Familiarity with them will help the reader understand and distinguish among them at a basic level as plans to utilize them are considered. We anticipate that many, but not necessarily all of them, will be incorporated into public involvement and outreach plans from time to time.

Community Based Social Marketing

Community based social marketing applies marketing principles and techniques in communicating with the public to influence behaviors that benefit the environment. The ultimate outcome of community based social marketing is to influence or change behavior. The five steps of community based social marketing are: 1) selecting behaviors; 2) identifying barriers and benefits; 3) developing strategies; 4) conducting a pilot; and 5) a broad-scale implementation.

Experiential Education

Experiential education is another method which directly engages the public through direct, hands-on experience in order to build knowledge, skills and values. That is to say, experiential education refers to learning-by-doing and then reflecting on one's own experiences from doing. Experiential education is most valuable because participants make their own discoveries by experiencing learning-by-doing, rather than relying on learning indirectly through what they have read or heard about from others' experiences. This reinforces their learning through reflecting on their direct experiences.

*Source: Corwin Beverage
- Green Business training
waste stream analysis*



Electronic Media

The use of electronic media, including social media, for education programs and outreach activities provides the capacity to communicate with the public through fast-changing internet and related technologies. These tools allow the public to communicate with and obtain information directly from the County and other implementation partners. Social media includes web-based venues such as blogs (which are generally interactive applications) and sites, including [Facebook](#), [Twitter](#), [YouTube](#), and [CVTV](#). Effective and appropriate use of social media can further the goals of the solid waste system as well as individual programs. Table 5-4 lists the current County and partner web sites and Facebook sites that support our solid waste system and inform our target segments.

A social media presence provides a means to:

- **Disseminate time-sensitive or emergency information** as quickly as possible to a broad audience. For example, inclement weather affecting garbage pick up
- **Promote, announce and inform** about solid waste programs and services available to the public
- **Reach new audiences** and provide the public with an additional means to receive information
- **Grow a network** and connect with friends of friends that recognizes and encourages actions and develops support for those activities that address our desired outcomes



The county has both policies and procedures in place for using electronic and social media which must be followed. These policies and procedures ensure that the county's use of electronic and social media comply with applicable federal, state, and county laws and regulations. This includes adherence to established laws regarding copyright infringement, records retention, Freedom of Information Act (FOIA), First Amendment rights, privacy laws and information security policies established by the county.

Print Communications

Production of informational materials through print media is an important component of any public information and outreach plan. Specific needs for informational materials will be identified at the education program and outreach activity level. Print media (as identified in Table 5-2) will be produced following County guidelines and procedures. The county's Public Information Office (PIO) is available for assistance in developing print media and publications. Some types of written communications, such as press releases, must be reviewed and distributed through the County's PIO.

In general, copy should be written as simply and concisely as possible, and follow the County's style guidelines. Copy will be reviewed through internal procedures before it is finalized.

Graphic design has much to do with how professional the print media looks and how effective it is at communicating content with target audiences. This is also the case for web design and other types of media. "Branding" of a program's name, terms, signs, symbols and designs and/or a combination of these features helps targeted audiences identify the source of the communications and ideally creates clarity, connections, credibility, motivation and loyalty among "customers" for your service or product and also helps to support long-term outcomes. These factors are considered in the development of print as well as other types of media. County staff can provide graphic design (at the



department or PIO level) or contract for professional services using the County's procurement procedures. When colors are a part of the design, the County pantone identification numbers will be used. Printing can also occur either internally or externally.

The County logo should be used on all outreach venues. Only the authorized logo graphic file, with the specified colors and sizes should be used. As the solid waste system is regional, outreach and public involvement is strategically planned with regional partners. Outreach information will contain information (which may include logos) about the solid waste system's regional partners. All printed communications produced for the public must contain the County's accessibility statement and related contact information required by the American with Disabilities Act (ADA).

Collaborative projects

The County maintains partnerships and sponsorships with many agency, non-governmental organizations and businesses to deliver solid waste environmental messages and outreach activities. Use of such partnerships and sponsorships maximizes and extends outreach efforts and increases community support of education programs and outreach activities. Collaborative publications with partners and sponsors require planning for the use of graphics, logos, and various standards. County and partners place an emphasis on utilizing volunteers as a means of providing outreach information and education to the public.

Communicating with Diverse Audiences

The County is committed to increasing involvement and participation of ethnic, culturally and socially diverse populations in its education programs and outreach activities. This will facilitate outreach programs and activities that:

- Create, establish, and maintain an inclusive culture
- Embrace the diversity of our community
- Provide services to the public in a culturally competent manner

As a part of the public involvement and outreach plans, the County will develop communication strategies to address the range of diverse populations. This will include providing outreach with the use of native languages and using different communication methodologies to accommodate different learning styles (visual, auditory, and kinesthetic).



Source:
Green Business home-page
- www.clarkgreenbiz.com

Outreach and Education Programs and Activities

Three core programs (Clark County Green Neighbors, Clark County Green Business and Green Schools) have been developed to connect with our primary customer groups (residents, businesses and schools). These programs help shape and focus our outreach efforts through distinct “branding”. Green Schools is a statewide and regional brand that we have tapped into with good results). Table 5-4 below summarizes the programs and outreach activities in these core programs that support the regional solid waste system.

Table 5-4 Programs and Outreach

Programs and Outreach – by customer sectors	
Green Neighbors	
	Green Neighbors website
	www.clarkgreenneighbors.org
	Green Neighbors E-newsletter
	Workshops
Green Businesses	
	Green Business website
	www.clarkgreenbiz.com
	Green Business Recognition Event
	Sponsorship Recruitment
	Work & Learn Sessions
	Technical Assistance
Washington Green Schools	
	Washington Green Schools website
	www.wagreenschools.org
	Technical Assistance
	Green Summit
	Teacher Workshops
	Watershed Festival
	Save Organic Scraps
	Save Organic Scraps website
	www.saveorganicscraps.com
	School Recycling
	Student Environmental Monitoring Program



Source:
 Save our Scraps - Let's Compost
 Education Booklet

Programs and outreach – by waste category & desired behavior outcomes

Waste Reduction

Recycled Arts Festival
Recycled Arts Festival website - www.recycledartsfestival.com
Recycled Arts Festival - Facebook
Sponsorship/partner recruitment
Volunteer recruitment
On site education by DES & NGO's
Do-It-Yourself Fair
2 Good 2 Toss website - www.2good2toss.com (web exchange site)
Waste Busters competition
Holiday Waste Reduction outreach
Stop junk mail & phone books registry website - vancouver.catalogchoice.org

Recycling

Recycling Curbside Information
Waste Connections - www.wcnorthwest.com
Transfer Station website – when available
www.clark.wa.gov/recycle/recyclingA-Z.html
Recycle Clark – Facebook
Recyclingest Neighborhood
Recollect app (find your recycling day)
Technical Assistance

Organics

Master Composter/ Recyclers (partnered program – administered by Columbia Springs who is also responsible for outreach - www.columbiasprings.org)
Christmas Tree Recycling outreach
Leaf Disposal Coupons outreach
Technical Assistance

Household Hazardous Waste (HHW) /Moderate Risk Waste

HHW Awareness Week
HHW Fixed Facilities
Satellite collection events
Computer Reuse & Block Foam Collection
Paint take back
Home Collection
Motor Oil Recycling
Unwanted Medication Take Back
Curbside collection – household batteries & oil
Master Gardeners Natural Gardening (partnered program – administered by WSU Extension who is also responsible for outreach)
Pacific Park Demo Garden & community gardens
Brochures
Technical Assistance

Sustainability	
	Environmentally Responsible Purchasing
	ISO 14001 Environmental Management System
	Planet Clark Emerald House
	Commuter Trip Reduction

Programs and outreach – supporting all programs	
General Ongoing Outreach	
	www.clark.wa.gov/recycle/index.html
	www.cityofvancouver.us/publicworks/page/garbage-recycling
	www.clark.wa.gov/public-health/waste/index.html
	Environmental Achievement Recognition Award
	www.volunteerclark.com
	Printed Information – Brochures & Fact Sheets
	Press Releases
	Targeting Neighborhood Associations (NA) & NGO's
	Presentations to NA and groups
	Information presented at NACC meetings
	Office of Neighborhoods newsletters and weekly e-mails
	Community Events – Booths and/or Planet Clark Trailer
	Clark County Fair
	Home & Garden Idea Fair
	Farmers Markets
	Earth Day Eco Fair
	Many other community & neighborhood events

Recommendations

1. **Meet regulatory requirements** by providing waste management education and outreach programs with an emphasis on waste prevention, reduction and sustainability.
2. **Continue to build partnerships** with agency partners, service providers, businesses and non-government organizations on educational and outreach activities.
3. **Focus educational activities** through the use of effective marketing strategies and public involvement and outreach plans. Provide performance measures and regular evaluations for each program to measure desired outcomes in achieving program goals and objectives in conjunction with County's budget cycle.
4. **Continue to promote and support the three core programs:** Washington Green Schools, Clark County Green Business, and Clark County Green Neighbors.
5. **Enhance the County's presence** on the internet with web, Facebook and Twitter sites.
6. **Continue to implement residential educational programs** and activities to support proper curbside recycling and to increase participation and recovery.
7. **Increase education and outreach information** to be more accessible to diverse populations.

End of Chapter 5

Chapter 6

WASTE DIVERSION

This chapter reviews waste diversion in Clark County. Waste diversion comprises all materials diverted from landfills through recycling or recovery operations. Waste diversion conserves and preserves both resources and energy. Waste diversion can reduce the production of greenhouse gases and the use of toxic chemicals in product manufacturing. Waste diversion conserves water, wildlife habitat and air quality, all of which contribute to public health, preservation of species, and may help to address climate change. All waste diversion programs are required to comply with Washington and Oregon state laws, as described in *Chapter 1*.

This chapter also reviews urban and rural residential recycling and organics collection programs as well as non-residential (institutional, commercial and industrial) programs, as well as, existing material recovery programs. The Washington Department of Ecology planning requirements for designating urban/rural service areas and residential recycling materials are also addressed in this chapter.

To be updated based on the waste stream analysis

What are Clark County's Recycling & Diversion Rates? Clark County and its cities and towns are committed to achieving a minimum recycling rate of 50% of the waste stream through a combination of public and private recycling activities. The recycling rate is the percentage of all waste generated by residents and businesses that is recycled and manufactured into new products. **In 2011, the most recent year for which County data is available, at least 315,918 tons of materials were recycled and 84,166 tons were diverted from a total waste stream of 628,802 tons.** It represents only reported collection activities; it does not count internal recycling programs, in which retailers return recyclables to distribution centers outside of the County, material collected by non-reporting collectors, or individual efforts such as backyard composting.

The recycling rate was 41.4% and the diversion rate was 55.8%. This recycling rate excludes waste diversion methods that the EPA does not define as recycling. Examples of diversion, but not recycling, include using wood waste, used motor oil and tires for energy recovery or using glass as fill or drainage rock. A further discussion of the County's recycling rate/diversion rate and how the rates are calculated is provided in the chapter on Waste Monitoring and Performance Measurement. Historical information on the County's recycling and diversion rates can be found in *Appendix J*.

To be updated based on the waste stream analysis

Assessment of Conditions

The composition of the County's waste has undergone substantial change during the past decade. The change is the result of steadily increasing recovery levels for cardboard, papers, metals and wood; changes in packaging; and changing consumer buying patterns. The shift in waste composition both confirms the success of existing source-separation programs and identifies opportunities for additional recovery. Figure 6-1 illustrates the composition of the garbage disposed by County households and businesses, according to a 2012 waste stream analysis. Additional information on waste stream quantities is available in the chapter on Waste Monitoring and Performance Measurement. The 2012 Waste Stream Analysis can be found in *Appendix I*.

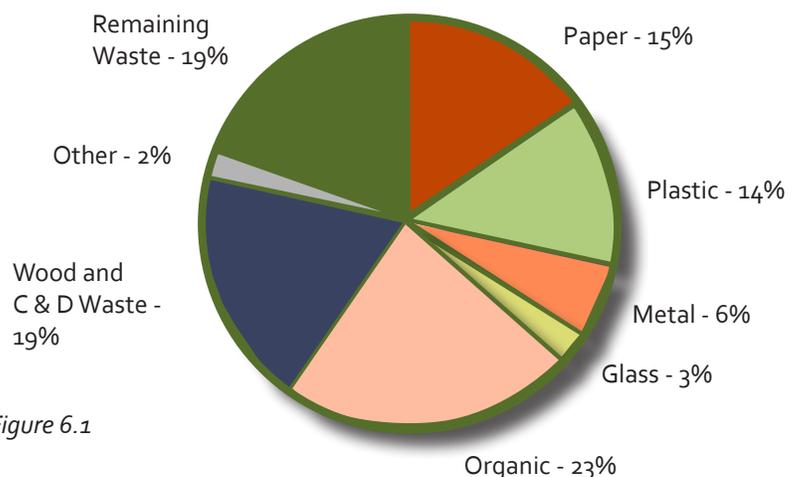


Figure 6.1

Diversion – Recycling

Recycling is the collecting of recyclable materials that would otherwise be considered waste, sorting and processing those materials, and then manufacturing them into new “recycled content” products.

Contracted Residential Recycling

Contracted curbside collection is the predominant recycling method for both single-family and multi-family residential recycling within the Clark County urban service area. Subscription-based curbside recycling service is available in the rural areas.

What Can Be Recycled?

Clark County’s curbside recycling program includes a thorough list of materials that can be recycled. Evaluation of this list is on-going. Criteria include: the potential for waste diversion; collection efficiencies; processing requirements; market conditions; market volatility; local market availability; continuity with existing programs; and Oregon recycling certification requirements. All curbside recyclables in the county are delivered to the [West Van Materials Recovery Center](#) for sorting and processing.

Three major changes have occurred in the curbside recycling program since its inception in 1991. In 1995, the County and cities added all plastic bottles to the list; in 2002 antifreeze, household batteries, and aerosol cans were added. In 2009 plastic tubs and buckets were added, and the collection method was changed: from three stacking bins to a roll cart for commingled materials plus a bin for glass. Concurrently with the 2009 change, the contracted processor significantly upgraded the sort line at the West Van Materials Recovery Center, to expand capacity and accommodate the changed collection method.

Clark County recycling collection programs can now be considered mature, and the following materials will be considered “designated residential recyclables” for the purpose of meeting the Washington Department of Ecology planning guidelines:

- Aluminum cans and foil pans;
- Corrugated cardboard;
- Glass jars and bottles;
- Household batteries;
- Mixed paper;
- Motor oil and antifreeze (not included in the multi-family program);
- Newspapers;
- Plastic bottles, tubs, and buckets (excluding those contaminated by hazardous materials);
- Polycoated paper containers (e.g. milk cartons and drink boxes);
- Scrap metal;
- Steel cans (including spray cans);
- Yard Debris (Yard debris is separately collected from single-family residences, on a subscription basis.)



In addition to the materials listed above as “designated residential recyclables”, the following items are also recycled through on-going or seasonal programs and specially scheduled collection events within Clark County: auto hulks, carpet pads, chlorofluorocarbons, e-waste (predominately through the E-Cycle Washington program), fluorescent tubes, latex paint, lead acid batteries, mercury (including mercury containing products), oil filters, tires (limited recycling, based upon available markets), vector waste, block Styrofoam, other plastics, and white goods (e.g. dryers, refrigerators, washers).

Additional materials will be considered on a case-by-case basis, as emerging markets become available. Potential additions include household food waste, pre-consumer business food waste, textiles, ceramics and (non-container) glass. Concrete, asphalt and brick are currently recycled from construction and demolition projects. These materials might be currently recyclable, but are not necessarily appropriate to include as designated recyclables at this time. The County's recycling collection and processing contracts have provisions for adding materials to the residential curbside collection program. The County will also notify the Washington Utilities and Transportation Commission (WUTC) of such changes.

Recycling Collection Services

Currently, WCI has contracted with the County and the cities of Battle Ground, La Center, Ridgefield, and Yacolt to provide residential recycling collection services (both single family and multifamily) within those cities and also in all of the unincorporated areas of Clark County. This service is provided on a subscription basis with weekly collection in the Urban Service Area and every other week collection in the rural areas. Recycling collection service is required for households in the unincorporated Urban Service Area who subscribe to garbage collection service of at least one pick-up per month.

The City of Vancouver contracts for residential recycling collection services (both single family and multifamily) with WCI. The cities of Camas and Washougal have separate contracts with Evergreen Waste Systems (now a WCI company) to collect recyclable materials from both single-family and multifamily residences within their jurisdictions.

Urban Residential Organic Wastes

Organic waste (or "organics") is a broad term which includes yard debris, pre- and post-consumer food waste, contaminated non-recyclable papers, such as tissue and used coffee filters and other potentially compostable source-separated materials. Organics are different from other recyclable materials in that they often can be managed and used at home by residents. The County actively promotes backyard composting (including vermicomposting) as a waste reduction method, as described in the chapter on *Waste Prevention and Reduction*. Backyard composting avoids the economic and environmental costs and risks of operating collection and transport systems and centralized processing facilities.

However, not all residents have the ability or desire to compost their yard debris and/or other organics at home. For those residents, collection services are important. All single-family residences within the County's defined Urban Growth Area and the Southwest Clean Air Agency's Burn Ban area have yard debris collection available on a subscription basis. There is more discussion of yard debris and other organic wastes in the chapter on *Organic Wastes*.

Residential Recycling Collection Service

In 2009, the County transitioned to a roll cart-based collection system for both single family and multi-family residences. The carts are for commingled paper, plastic, and metal recyclables; glass bottles are collected separately, in a bin next to the cart. For single family residences only, used motor oil, antifreeze and household batteries are also collected next to the cart. These items are not collected at multifamily complexes; otherwise, materials collected and sorting requirements are the same for all residents. The multi-family collection service program provides each complex with 60- or 90-gallon collection carts, signage for the central collection areas, and in-home containers for storing and transporting materials to the central collection areas. Multi-family collection schedules are set to meet the requirements of each complex.



Weekly collection services are provided for single family residents in Battle Ground, Camas, Ridgefield, Vancouver, Washougal and the unincorporated Urban Service Area. Every-other-week collection services are provided for single family residents in La Center, Yacolt and the unincorporated Rural Service Area.

Residents may also deliver their recyclable materials to public drop-off centers at transfer stations, private buy-back recyclers, or newspaper and aluminum drop-off containers. Public drop off sites include:

- CRC's three public transfer stations
- Air, Water, Earth Recycling (buy-back)

Recycling collection events may be scheduled periodically throughout the year to collect special items. The County provides the online resources RecyclingA-Z.com to provide residents with current information on recycling a wide range of items, and 2good2toss.com as a mechanism to exchange and reuse items with other residents.

Non-residential (Commercial) Recycling

Under current law, all non-residential recycling and collection of yard waste for composting may occur in a competitive market place. Solid waste haulers, disposal companies, private recyclers, private composters and individual collectors are allowed to make collection arrangements with non-residential generators, adhering to the following jurisdictional licensing requirements.

Clark County has a competitive commercial recycling environment, with commercial recycling services provided by a variety of service providers. Some operators specialize in paper fibers such as office papers or corrugated cardboard, or in wood wastes, while others offer a full array of services for most commodities. The County actively supports commercial recycling through technical assistance programs and promotional educational materials. The degree of source separation required varies by vendor. Source-separated recyclables may be commingled (combined with other source-separated recyclables) to increase collection efficiencies. The "Cardboard Plus" recycling program allows commercial businesses to recycle bottles, cans and other containers, as well as mixed paper, office paper, and newspaper, in the cardboard containers. Materials are sorted out at processing destinations.

The City of Vancouver regulates commercial recycling haulers. All recycling collectors obtain from the City a license which is renewed annually. Licensed recyclers must comply with the code requirements, and are only to collect source-separated recyclables. An annual report on tons or cubic yards collected is required at the end of each year. Clark County will be developing a similar program for registering commercial recycling haulers.

Non-residential (Commercial) Organic Wastes

Under current law, all non-residential recycling and collection of yard waste for composting may occur in a competitive market place. Solid waste haulers, disposal companies, private recyclers, private composters and individual collectors are allowed to make collection arrangements with non-residential generators, adhering to jurisdictional licensing requirements.

The County is currently working with a pilot program with the school districts, restaurants, and institutional entities in development of such non-residential food waste collection programs. In conjunction with this pilot, food waste is considered to be a part of the MSW waste stream. There is more discussion of these programs in the chapter on Organic Waste.

Processing and Recovery

The County contracts with Columbia Resource Company (CRC) for the processing of residentially collected recyclables, and all such recyclables in the county are delivered to the West Van Materials Recovery Center for processing. CRC also processes recyclables collected from other areas at this same facility. Recyclable materials received through the curbside and multi-family collection programs are marketed by CRC and a portion of the revenue generated from the sale of these materials is returned to the County, City of Vancouver, and contract hauler.

Recycling collection services are supported by County, city, and private collector promotion and education efforts, as described in the chapter on Education and Promotion.

CRC's transfer and disposal contract with the County requires the company to recover and recycle a minimum of 10% of the incoming disposal stream.

CRC meets its minimum annual recycling requirement by recovering materials from selected loads on the tipping floor. Most recovery is wood and metal, pulled from loose drop-box or self-haul loads. Very little is recovered from compacted loads of mixed waste, due to contamination and operational difficulties. Source-separated materials delivered to CRC drop-off recycling facilities by self-haulers is counted toward the minimum annual recycling requirement; however, materials recovered through CRC's source-separated recycling collection services and materials collected by County and city recycling collection contractors are not included.

Recommendations

1. **Continue and expand existing public education** and promotion for residential and non-residential recycling.
2. **Periodically evaluate the range of recyclables** handled by the recycling collection program to determine whether materials should be added or dropped.
3. **Continue to encourage non-residential recycling** through incentives, technical assistance, pilot programs, and recognition programs. Utilize as needed, WCI Waste Reduction educators in helping businesses develop diversion programs for recycling and food waste recovery.
4. **Require new contracts** with waste service providers to attain and maintain ISO 14001 certification for their operations in Clark County.
5. **SWAC to review and identify strategies** for working with the Washington Utilities and Transportation Commission (WUTC) and WUTC-certificated haulers to develop rate structures that support and encourage waste reduction and recycling.
6. **Collaborate with other agencies** (both regional and state) for tracking tonnage data in the unincorporated areas.

End of Chapter 6

Chapter 7

WASTE COLLECTION

Background

This chapter describes Clark County's collection systems for municipal solid waste (MSW) including recyclable materials and yard waste. The collection of municipal refuse and garbage must be coordinated with the collection of recyclable materials and yard waste. Changes in the quantity and composition of one waste stream can affect the quantity and composition of the other streams. Also, the type and level of collection service provided for one stream may affect the type and service level required for the other.

Coordination of customer billing and collection practices, payment provisions, customer data sharing, and vehicle routing information can help the solid waste management system operate more effectively and efficiently. Rate setting for refuse and garbage collection and recyclable materials collection also needs to be structured to provide incentives to reduce and recycle wastes while fully recovering program costs to the extent allowed by regulatory agencies.

Refer to the other chapters within this Plan for more specific information regarding the type of materials to be collected. Many of the terms used herein are described in *Appendix A*, definitions.

Assessment of Conditions

Solid Waste Collection

The following agencies are responsible for the management of solid wastes within Clark County: Washington Utilities and Transportation Commission (WUTC), Clark County, and the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal and the town of Yacolt (see the Administration and Enforcement Chapters). Clark County Public Health issues permits for solid waste storage, collection, transfer and disposal pursuant to RCW 70.95, WAC 173-350 and Clark County Code Chapter 24.12. Clark County Public Health also has jurisdiction over public health and safety with regard to solid waste collection in all of Clark County, including the cities and towns.

State law provides the following three categories under which solid waste collection services (excluding recyclable materials collection) are administratively authorized and controlled:

State-Certificated Collection

The Washington legislature decided in 1961 that garbage collection service should be available to all residents of the state at rates that were fair, just and reasonable. The legislature passed RCW 81.77, directing the WUTC to supervise and regulate private solid waste collection companies in the State of Washington. RCW 81.77 requires a company to obtain a certificate from the Commission declaring that public convenience and necessity require establishment and operation of a collection service in a specific area. These *Certificates of Public Convenience and Necessity* require proof that a company is fit, willing and able to provide service, and then specify categories of solid waste that can be collected and the geographic area in which a company can operate.

These certificated collection companies provide services under WUTC regulation. As part of its legislative mandate, the Commission audits these companies for fair rates, proof of adequate insurance, operational safety, and requires annual reports. Any solid waste collection company, including certificated companies, may also provide service under contract with an incorporated city or town. In that case, the Commission does not regulate. The WUTC's authority covers private collection companies that operate in unincorporated areas of a county and in incorporated municipalities where the city chooses not to regulate through other means. City-contracted collection services are not subject to WUTC control. Collection systems directly operated by city crews and

equipment are also exempted from regulation by the WUTC.

The WUTC establishes collection fees (rates) for certificate holders on the basis of operating costs and revenues. Every certificated collection company is required to file a tariff with the WUTC, showing rates and charges applicable to the collection, transportation, and disposal of solid waste in its service area. The WUTC may approve or modify the requested rates. Certificated companies cannot alter their rates or charges without WUTC approval.

The WUTC requires certificated collection companies to “use rate structures and billing systems consistent with the solid waste management priorities set forth under RCW 70.95” and provide minimum levels of solid waste collection and recycling services pursuant to local solid waste management plans and municipal ordinances. The WUTC has no direct authority or rate-setting responsibility for solid waste transfer or disposal facilities.

Since the early 1900’s, the Commission has regulated the transportation of property (including nonresidential recyclable materials) for hire over public roadways under the authority of RCW 81.80. The regulation was essentially the same as that of solid waste collection companies. Commercial recycling is regulated under RCW 81.80 because it has been designated as property, not solid waste. However, the passage of the *Federal Aviation Administration Authorization Act* (FAAAA) of 1994 pre-empted state or local regulation of transportation of property (including nonresidential recycling), in terms of where a company can operate, how much they can charge, and what kinds of property they can transport. At that time, the legislature moved the Commission’s responsibility for safety inspection for common carriers to the Washington State Patrol. The Commission retains the responsibility to issue permits and verify insurance for common carriers. Common carrier permits provide companies with the authority to transport general commodities including nonresidential recyclable materials.

City-Controlled Collection

Cities have the authority to make collection mandatory in all or part of its incorporated boundaries. Mandatory collection means that all waste generators must subscribe to and pay a minimum fee for collection even if they do not use the service. The following options are available to cities for managing solid waste collection:

WUTC-Certificated Collection. A city can delegate management authority and responsibility to the WUTC. Under this option, collection services within the city are provided by a certificated private company supervised and regulated by the WUTC. WUTC certificates and operating requirements may be supplemented within cities by licenses (or “franchises”). Under a licensed collection system, collection rates charged by city-licensed but WUTC-certificated private companies are set by the WUTC, with any city-imposed licensing tax added on top of, or factored into, rates. It is the collection company’s responsibility to collect fees for services rendered and to remit a licensing fee, franchise tax or fee based on gross receipts to the city. The license therefore benefits the city by generating revenues. However, the WUTC remains the regulatory authority for licensed collection.

Contracted Collection with a Private Service Provider. A city can contract with any private collection company for residential and nonresidential collection services within all or part of its incorporated area. Thus, a city can control collection activities without operating its own municipal collection utility. This is the only avenue for non-certificated private collection companies to become involved in collection services in the State of Washington. The service areas for these private collection companies would be limited

to the contracted municipal boundaries and would not be subject to regulation by the WUTC. Under a contracted collection system, management and regulation of the system are the responsibility of the city. The contract would regulate operating conditions, rates, and billing practices. Collection of fees for services could be the responsibility of either the city or the collection company. Typically, a city ordinance would set forth the level of collection service provided, rate structures to be used, and operating requirements.

Municipal Collection Collection systems can also be operated by a city as a municipal service with its own equipment and personnel. A city with municipal collection generally determines its own rate structure, operating requirements and levels of service. In addition, the city is usually responsible for customer billing.

County-Controlled Collection

Statutory restrictions imposed upon counties by [RCW 36.58A](#) limit a county's authority with respect to solid waste collection. A county currently may provide collection services itself or through direct contract only if no qualified private company is willing or able to do so. In addition, a county may not provide service in an existing certificated area unless it acquires rights by purchase or condemnation. Except in the circumstances stated above, the county is prohibited from directly managing or operating solid waste collection systems. It is unlikely that such a combination of circumstances would ever occur within Clark County.

However, a county may exercise limited control of solid waste collection service in unincorporated areas through the adoption of service-level ordinances. Service-level ordinances can establish the types and levels of services to be provided to both residential and nonresidential customers. In addition, such ordinances can encourage rate structures that promote waste reduction and recycling activity.

A county may also exercise some control of collection activities within its unincorporated areas by establishing solid waste collection districts. Within such a district all solid waste generators could be required to subscribe to and pay for collection services; the private service provider and the collection rates would be regulated by the WUTC. Solid waste collection districts are generally limited to unincorporated areas of a county, although with consent from the legislative authority of a city or town, collection districts can include areas within the corporate limits of the city.



If a county were to form such a district, the WUTC would be required to investigate whether the existing certificated collection companies were willing and/or able to provide collection services. If the existing certificated collection company could not or would not provide the service, then the WUTC could issue a certificate to another collection company. A county can directly provide collection services within these districts only after notification by the WUTC that no qualified collection companies are able and/or willing to perform said service. If a collection district is established, a county may be asked to collect fees from delinquent customers should the private collection company be unable to do so.

Table 7-1 Summary of the differences in solid waste collection systems.

Solid Waste Collection System Characteristics
(Under State, City, and County Control)

System Type	State-Controlled	City-Controlled			County-Controlled
		State Authority	Contract	Municipal	
Collector	Private	Private	Private	Municipality	Private ^b
Operating conditions and Review authority	WUTC ^c	WUTC ^c	Municipality	Municipality	WUTC ^c
Rate approval authority	WUTC	WUTC ^d	Municipality	Municipality	WUTC
Subscription to collection service	Voluntary	Voluntary or mandatory	Voluntary or mandatory	Voluntary or mandatory	Voluntary
Billing responsibility	Collector	Collector	Municipality or collector	Municipality	Collector ^e

^a Only in unincorporated areas, or in incorporated areas with consent of the legislative authority of the city or town.

^b If no certificated hauler can provide service, the county may provide service.

^c Although municipal governments can adopt service level ordinances, the Washington Utilities and Transportation Commission (WUTC) is the authority charged with enforcing compliance.

^d City has authority to include licensing tax.

^e County must collect fees if users are delinquent.

Current Collection Practices

Solid waste in Clark County is currently being collected by both private companies and municipal government agencies which are regulated and operating under the authorities previously described. Table 7-2 describes the collection entities in Clark County currently providing MSW collection services.

Table 7-2 MSW Collection Entities in Clark County

Service Provider	Parent Company	WUTC Certificate Number	Address
Waste Connections of Washington Inc.	WCI	G-253	9411 N.E. 94th Avenue Vancouver, Washington 98662
Waste Control Inc.	None	G-101	P.O. Box 148 Kelso, Washington 98626
City of Camas	None	None	616 N.E. 4th Avenue Camas, Washington 98607
Basin Disposal Inc. (inactive)	None	G-118	PO Box 3850 Pasco, Washington 99302-3850

Historical Process

Prior to August 1, 1996, most solid waste collection in Clark County was performed by the Clark County Disposal Group (CCDG) under a variety of municipal contracts and WUTC-certificates. On that date Browning-Ferris Industries of Washington, Inc. (BFI) purchased CCDG and subsequently consolidated its WUTC operating authorities under one certificate. In 1997 Waste Connections, Inc. (WCI) purchased BFI's holdings in Clark County. WCI then purchased Evergreen Waste Systems in September 1998, and purchased Columbia Resource Company in March 1999. In August 2005 WCI acquired the municipal contracts, accounts, and operating equipment of Waste Management of Vancouver.

The various contracted or permitted collection service areas are described below.

- The City of Vancouver contracts with Waste Connections, Inc., (WCI) to provide collection services throughout the city.
- WCI provides collection services under WUTC authority in the unincorporated areas of Clark County and the Cities of Battle Ground, La Center, and Yacolt. WCI services the City of Ridgefield under municipal contract.
- WCI provides collection services in the northwest corner of Clark County and within the City of Woodland.
- The City of Washougal contracts with WCI to provide residential and nonresidential collection services within the city.
- The City of Camas collects residential and some nonresidential accounts with city equipment and crews. WCI currently provides collection service for other nonresidential accounts under contract with the City of Camas.
- Basin Disposal, Inc. has an inactive permitted service area in and near Camas.

Table 7-3 summarizes the current residential MSW collection service characteristics in Clark County. Table 7-4 summarizes current nonresidential MSW collection service characteristics in Clark County.

Table 7-3 MSW Collection Service Characteristics - Residential 2012

Area and Jurisdiction	Regulatory Authority	Service Provider	Mandatory Collection?	Billing Responsibility
City of Vancouver	City-contracted	WCI	Yes	Service provider
City of Camas	City	City of Camas & WCI	Yes	City and service provider
City of Washougal	City-contracted	WCI	Yes	City
City of Ridgefield	City-contracted	WCI	Yes	Service provider
City of Battle Ground	WUTC	WCI	No	Service provider
City of LaCenter	WUTC	WCI	No	Service provider
Town of Yacolt	WUTC	WCI	No	Service provider
Unincorporated Clark County	WUTC	WCI	No	Service provider

Table 7-4 MSW Collection Service Characteristics - Non-Residential 2012

Area and Jurisdiction	Regulatory Authority	Service Provider	Mandatory Collection?	Billing Responsibility
City of Vancouver	City-contracted	WCI	Yes	Service provider
City of Camas	City	City of Camas & WCI	Yes	City and service provider
City of Washougal	City-contracted	WCI	Yes	City
City of Ridgefield	City-contracted	WCI	Yes	Service provider
City of Battle Ground	WUTC	WCI	No	Service provider
City of LaCenter	WUTC	WCI	No	Service provider
Town of Yacolt	WUTC	WCI	No	Service provider
Unincorporated Clark County	WUTC	WCI and Waste Control Inc.	No	Service provider

The unincorporated areas of the County, as well as the cities of Battle Ground and LaCenter and the town of Yacolt, do not have mandatory collection. Waste generators have the choice of either subscribing to collection services provided by their WUTC-certificated company or self-hauling to a permitted disposal or transfer facility. In addition to the collection service providers described in Tables 7-3 and 7-4, generators can self-haul solid wastes to the CRC transfer stations, or to other processing and disposal facilities out of the region. Large self-haulers in Clark County include Vancouver School District and the Battle Ground School District.

Rate Structures Rates or fees charged for garbage collection in Clark County vary by area and service provider. Because of the way the rates are structured, municipal rates (e.g. the City of Vancouver) often provide more incentive to reduce waste than WUTC service area rates.

Recyclable Material Collection The collection of recyclable materials from residential and nonresidential generators is regulated somewhat differently than the collection of general solid wastes in the State of Washington. However the WUTC, Clark County, and cities in Clark County are still involved in the regulatory process. The self-hauling of recyclable materials by generators to recycling centers, transfer stations or other location is not regulated. (Additional information on waste recycling can be found in Chapter 6.) Residential curbside collection of recyclables is currently available throughout Clark County.

Residential Collection for Recycling The collection and transportation of recyclable materials and yard waste from single-family and multifamily residences is regulated under [RCW 81.77](#) and [RCW 36.58](#). Under these statutes, counties have the authority to directly regulate the collection of source separated recyclable materials. Local government jurisdictions, including both counties and cities, have the option to either contract directly with a private collection company to provide residential recyclable materials collection services, or to delegate the responsibility to the WUTC. If the local government contracts directly with a collection company, then it thereby regulates collection activities and the WUTC is not involved. However, if the authority is delegated to the WUTC, then a WUTC-certificated collection company would provide the collection service, with WUTC regulating the activity as previously described in this chapter. In addition to these two options, cities have the option of providing recyclable collection services within their jurisdictional boundaries by using city personnel and equipment.

Currently WCI has contracted with the County and the cities of Battle Ground, La Center, Ridgefield, and Yacolt to provide residential recycling collection services (both single family and multifamily) within those cities and also in all of the unincorporated areas of Clark County. The City of Vancouver contracts for residential recycling collection services (both single family and multifamily) with WCI. The cities of Camas and Washougal have separate contracts with WCI to collect recyclable materials from both single-family and multifamily residences within their jurisdictions.

Since 2009 residential customers in all cities and unincorporated areas of the county are provided with the same style of curbside recycling collection equipment (a roll cart for commingled recyclable paper, metal, and plastic items, with a separate bin for glass bottles), which simplifies public information as well as collection. In Vancouver and in the rural unincorporated areas recycling is collected biweekly; in all other cities and in the urban unincorporated area it is collected weekly. Multifamily residences are provided with weekly or twice-weekly collection as appropriate. 65-gallon roll carts are provided to customers with weekly collection; 95-gallon roll carts are provided to customers with biweekly collection. Smaller roll carts are available to customers upon request. More detail about the residential recycling program is provided in Chapter 6, Waste Diversion, and in Chapter 8, Waste Transfer and Material Recovery.

Non-residential Collection for Recycling

The collection and transport of recyclable materials from nonresidential generators is regulated by the WUTC under [RCW 81.80](#). Three types of authorities are established in RCW 81.80, including common carriage, contract carriage, and private carriage. Counties have no authority to regulate the collection and transportation of nonresidential recyclable materials. Cities may enter into non-exclusive contracts with providers of non-residential recycling services or may establish a regulatory framework to direct the nature of their activity and services within the jurisdiction. Local businesses, however, may choose to make other collection arrangements.

Common carriers are permitted by the WUTC and can collect a specific commodity (or commodities) within a designated geographic territory. Common carriers do not own the commodity being hauled; they are simply providing a transportation service for the owner. For example: a private company hauling cardboard from nonresidential generators to an independently operated recycling facility would be a common carrier. Common carriers are required to provide collection and transportation service to anyone requesting the service within the collection territory. Fees are negotiated between the carrier and the customer.

Contract carriers are permitted by the WUTC and can collect a specific commodity (or commodities) from a single nonresidential generator. For example: an independent company collecting cardboard from a single manufacturing company would be a contract carrier. Contract carriers negotiate the tariff or fee paid for the service with the waste generator without WUTC involvement.

Private carriers are not subject to regulation by the WUTC. Private carriage involves the collection and transportation of a commodity (or commodities) by either the commodity generator or the commodity user, if the collection and transport activity is incidental to the overall or primary business of the generator or user. For example: a large manufacturing facility that self-hauled small amounts of cardboard to a local recycler would be considered a private carrier. Recycling firms that collect their own materials for further processing and marketing are also considered private carriers.

As summarized in Chapter 6, the City of Vancouver has established a licensing program that pertains to common carriers collecting recyclable materials within the city limits. A key purpose of this requirement is to obtain data on recycling activities within the jurisdiction.

Yard Debris Collection

Separate collection of yard debris is offered by subscription on a bi-weekly, on-call or seasonal basis. It is available to residents of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, Yacolt, and the southern unincorporated areas of the county which are subject to outdoor burning restrictions. More detail about collection and recovery of yard debris is available in Chapter 13, Organic Wastes.

Litter Collection

Littering is solid waste that is thrown, discarded or placed in any manner or amount on any public or private property; other than being placed in appropriate solid waste containers. This includes waste that is thrown by pedestrians and motorists; materials that are blown from vehicles; and large loads of waste that are illegally dumped onto public or private property.

The Washington Department of Ecology provides limited funding to Clark County through the *Community Litter Cleanup Program*. This program helps to cover the costs to local governments to clean up litter and illegal dumps. In Clark County, District Court Corrections administers the CLCP grant funding, using offender crews to perform the work. More information is provided in Chapter 16 Enforcement on these programs in the local jurisdictions.

Recommendations

- 1. Adopt a county service level ordinance to provide:**
 - minimum collection service levels for residential and nonresidential customers;
 - access by the County and cities to collection system information;
 - enhanced coordination between WUTC-certificated collection companies and County and city contractors;
- 2. Support and investigate state legislative efforts** to provide counties with the same options for management of waste collection that cities have.
- 3. Develop a program for registering commercial recycling haulers** and tracking tonnage data in the unincorporated areas.

End of Chapter 7

Chapter 8

WASTE TRANSFER & MATERIAL RECOVERY SYSTEM

Transfer stations serve as centralized collection points for solid wastes. Where disposal sites are long distances from waste sources, combining significant amounts of waste at a transfer station can minimize haul times and costs for certificated / contracted haulers, self-haulers and municipal collectors.

Transfer stations can also provide an opportunity to recover certain waste substreams before wastes are transferred to disposal, and can provide for the separate collection of source-separated recyclable materials (including those not collected by curbside programs), yard debris and other organic material, household hazardous waste (HHW), and other special wastes.

WAC 173-350, *Minimum Functional Standards (MFS) for Solid Waste Handling*, is the primary state regulation governing the design and operations of transfer stations in the State of Washington. Clark County Code Chapter 24.12, *Solid Waste Management*, is the primary local statute governing transfer stations.

Assessment of Conditions

Background

Leichner Landfill, which had previously received most of the municipal solid waste (MSW) in Clark County, was closed in December 1991. Anticipating the closure, the County and cities had planned, and implemented, a waste transfer and disposal system to provide long term handling of municipal solid waste (MSW). In 1988, after a long and unsuccessful landfill site selection process, the County and cities used a competitive selection process to find a provider for MSW recycling, transfer, transport and out-of-county disposal services. In April 1990, the County and the City of Vancouver entered into a long-term contract with Columbia Resource Company (CRC), now a wholly owned subsidiary of Waste Connections, Inc., with services which began in January 1992.

The contract with CRC was last amended and extended in January of 2006 with a term that runs through 2016 and potentially through 2021 **once certain agreed-upon improvements have been completed.** The amended contract contains new terms and conditions including the installation of an upgraded recyclable processing line, providing improved and expanded processing capacity for construction and demolition material, and an opportunity for the County to purchase the transfer facilities in 2026 after a potential and final 5 year extension. The Contractual options to extend the contract and eventually purchase the facilities must be committed to at the end of 2020 and 2025, respectively. In addition to the above, the contract provides:

- Operating three or more privately owned transfer stations in Clark County;
- Annually diverting a minimum of 10% of the incoming waste stream from disposal;
- Transport and disposal of non-recycled and non-hazardous waste from the West Van Materials Recovery Center and the Central Transfer and Recycling Center, (primarily by containers transported on barges) to the Finley Buttes Landfill in Morrow County, Oregon;
- Transport and disposal of non-recycled and non-hazardous waste from the Washougal Transfer Station to Wasco County Landfill in Wasco County, Oregon;
- Processing and marketing of recyclable materials from the county/city curbside

A map of the facilities are listed on *Page vi*

- collection programs;
- Providing public drop-off facilities for source-separated recyclable materials;
- Operating Household Hazardous Waste (HHW) drop-off facilities at each transfer station;
- The contracted solid waste facilities are designated as essential public facilities and are an integral part of the County's regional solid waste management system.

Flow Control

The U.S. Supreme Court ruled in 1994 in *Carbone* that flow control - state or local laws that direct where waste should be processed or disposed - violates the "dormant" Commerce Clause. Since that decision, several exceptions to this general principle have developed. MSW in Clark County is directed to the County contracted, privately owned facilities through contractual agreements between the haulers and municipalities and Interlocal agreements between the County and municipalities.

On April 30, 2007, the U.S. Supreme Court ruled in *United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority* that local governments are permitted to engage in flow control to government-owned disposal facilities or government contracts in specific circumstances. The Court concluded that flow control laws that favor government-owned disposal facilities do not discriminate against interstate commerce, and are reviewed under a more lenient balancing test. The Court's decision narrows the impact of the Court's *Carbone* decision in 1994.

Within Clark County, the *Solid Waste Management Plan*, interlocal agreements with the cities and city collection contracts all direct that MSW collected by the contracted hauler be delivered to County designated transfer facilities operated by CRC under contract with Clark County. CRC is a wholly-owned subsidiary of Waste Connections. Waste Connections provides the majority of MSW collection services within the County either through contract or a franchise granted by the WUTC. The County contract with CRC requires Waste Connections to deliver MSW collection under the WUTC franchise or through contract to designated County transfer system.

Central Transfer and Recycling Center

Central Transfer and Recycling Center (CTR) is located at 11034 N.E. 117th Avenue (State Route 503). Operations began at this site in 1985 as the R&R Transfer Station.

CRC purchased this facility in 1990 to use as one of the two transfer stations it was required to provide by contract with the County. Under CRC ownership the site has been substantially upgraded and improved to handle increased traffic and waste flows and to accept HHW. During the second half of 1991, CRC reconstructed and expanded the old R&R site to include a new 40,000-square-foot transfer building with a hydraulic compactor unit. The old transfer building was expanded to 13,000 square feet and converted for use as a drop-off area for HHW and source-separated recyclable materials. New entry and scalehouse facilities were also added. The new transfer station building began operating in January 1992.

In addition to MSW, CTR accepts commercial waste including construction and demolition wastes, source-separated recyclable materials, HHW and other special wastes. Special wastes such as asbestos, petroleum-contaminated soils, ash, certain sludges and bulky wastes can be delivered to CTR with advance notice and completion of a special waste application issued by CRC.

CTR recovers both source-separated and non-source-separated recyclable materials. Source-separated materials are delivered to a public drop site separate from the main CTR tipping floor. Non-source-separated recyclable materials are recovered by CRC staff from selected loads on the tipping floor. Most tipping floor recovery occurs from drop-box and self-haul loads including construction and demolition (C&D) sourced materials, not from compacted loads of mixed residential and commercial wastes. These recovered materials include corrugated cardboard, wood, metals and other materials deemed economically recoverable. Recycled materials accumulated at CTR are either delivered directly to secondary markets or transferred to CRC's West Van facility for further processing.

MSW delivered to CTR is either top-loaded into transfer trailers or end-loaded by hydraulic compactor units into shipping containers. Solid wastes that are top-loaded are less compacted and could be transported to the West Van facility for processing to divert additional recyclable materials. Solid wastes that are compacted into shipping containers are transported by truck directly to the barge-loading facility at Tidewater Barge Lines in the Port of Vancouver. They are then shipped upriver via barge for final transport to the Port of Morrow and ultimately the Finley Buttes Landfill. Tidewater Barge Lines is the contracted transport company that manages all segments of transportation from the transfer station all the way to the landfill (at times of the year when river locks are being serviced, the containers are delivered the entire distance by truck).

As required by contract, HHW is accepted from residential self-haulers in the receiving area of the recycling/HHW building on designated days each week (Saturday and Sunday). HHW is received, sorted and packaged prior to its removal from CTR by a licensed contractor and transported directly to a state-permitted treatment, storage and disposal facility. (Other hazardous materials accidentally or illegally disposed of with regular waste are also removed from MSW by CRC personnel when seen on the tipping floor. Load check spotters, equipment operators and other station personnel have been trained to identify and isolate unacceptable and/or unauthorized wastes for proper handling and disposal, separate from MSW.)

CTR does have challenges regarding ingress, egress and on-site traffic management. The State Department of Transportation also plans in the next few years to place a traffic barrier on N.E. 117th Avenue. This will prevent a left turn into the facility (traveling north on 117th Avenue) and a left turn out of the facility.

West Van Materials Recovery Center

The West Van Materials Recovery Center (West Van) facility is located at 6601 NW Old Lower River Road, on the west side of Vancouver. Most of the waste delivered to this facility is generated in West and North Vancouver. This facility functions as both a transfer station and a materials recovery center for residential curbside and multi-family as well as commercial recycling materials and receives:

- Regular garbage (MSW) from private waste collection companies and self-haulers;
- Source-separated recyclable materials delivered by the public, including scrap metal, appliances, sheetrock and other materials;
- Household Hazardous Waste (HHW – same as description for CTR above except that collection from the public is offered on Friday and Saturday);
- "Dry" loads of commercial materials that have a high potential for recyclable materials recovery;

- Construction and demolition wastes (C&D);
- Yard debris, land clearing debris and other wastes, requiring special handling or processing;
- Source-separated recyclable materials collected through county/city curbside and multi-family collection programs as well as the commercial commingled recycling collection programs (Vancouver Recycles and Clark County Recycles) and delivered by the contracted operator;
- In accordance with the operations plan, organics/food waste from commercial generators may be reloaded within the transfer station building for delivery to permitted composting sites or transfer facilities located beyond Clark County.

The West Van Facility includes an 82,000-square-foot main building, entry and exit scales, control facilities, a container and drop-box storage area, administration and employee buildings, recycling drop-off area, a glass processing and aggregate storage area, and a stormwater detention and treatment area. The facility also includes several operational components: a tipping floor/material recovery area; C&D processing area; a large sorting & processing area for recyclables; an HHW receiving and storage area; an appliance/scrap metal drop-off area, and a wood waste/yard debris storage. The tipping floor/material recovery area has separate bays for self-haulers and waste collection vehicles to unload MSW. Self-haulers unload on the east side of the facility, while certificated/contracted haulers unload on the northeast end of the facility. Loads with a high recycling potential are manually sorted to recover recyclable materials.

Residual wastes are pushed into a compactor for loading into shipping containers. The containers are then transferred to the Tidewater Barge Lines barge loading facility for shipment upriver for final transport to the Finley Buttes Landfill. Recyclable materials are trucked to end markets.

Washougal Transfer Station

The Washougal Transfer Station (WTS) facility is located at 4020 South Grant Street, on the southeast side of Washougal in the Port of Washougal area. Most of the waste delivered to this facility is generated in Camas, Washougal and east Vancouver/east Clark County, though some material is from Skamania County. This facility functions as a transfer station, public recycling drop-off facility, and HHW collection site (one day per month). Unlike the other transfer stations, this site operates for the public on a limited schedule (open on Wednesdays from 8 a.m. to 5 p.m. and Saturdays from 8 a.m. to 4 p.m.) but available of use by collection vehicles on all days that collection routes operate. The site provides the following functions:

- Accepting regular garbage (MSW) from private waste collection companies, the City of Camas and self-haulers;
- Accepting source-separated recyclable materials delivered by the public, including scrap metal, appliances and other materials;
- Accepting Household Hazardous Waste (similar to description for CTR above, but collection from the public is offered only on the third Saturday of each month);

The 2000 Clark County Solid Waste Management Plan recommended that an east county transfer station be developed and included in the solid waste management system as an essential public facility. The County contract with CRC provided for the company to site, construct and operate a third transfer station east of I-205. A site in the Port of Camas and Washougal was selected

through a feasibility study conducted by CRC, construction began in mid 2008 and the Washougal Transfer Station became operational at the beginning of 2009.

Waste received at this facility is transported via truck from the transfer station to the landfill in Wasco County, Oregon.

English Pit Transfer Station (Closed)

The former English Pit Transfer Station was located at 912 N.E. 192nd Avenue in Eastern Clark County. The facility is owned by Clark County and was operated as a transfer station from 1978 to March 1989. The facility consisted of a 6,000 square-foot transfer building, a pay booth and administration building. The Roads and Maintenance Division of the Clark County Department of Public Works is currently using the facility for equipment and material storage.

Future Transfer Station Needs and CTR Traffic

As required by the 2006 contract amendment, CRC is in the process of conducting a feasibility study to determine whether a fourth transfer station should be constructed in the north County area, and also whether CTR should be expanded to include a public self-haul and recycling area. A traffic study for CTR has been completed, and the results of the traffic study will be incorporated into the feasibility study. Clark County Public Works Engineering in conjunction with CRC engineering staff have completed design of a south-bound right-turn lane and redesigned entrance for CTR.

The existing system of the three transfer stations can be modified or upgraded, as needed and as possible, to maintain or improve existing levels of service. The existing contract with CRC provides the option to complete a feasibility study to determine if a fourth transfer station is needed. If a fourth transfer station is to be developed, the contract provides for CRC to site, construct and operate this station for the County.

Funding options and timing of construction of the turn lane and any other potential improvements to CTR are dependent upon the recommendations of the feasibility study. The recommendations of the feasibility study will be presented to SWAC and city representatives for review of alternatives and the potential funding mechanisms.

Existing interlocal agreements with the cities require any rate increase that may result from implementation of the recommended alternative be approved by the County only after notice to, and consultation with, the affected cities.

Waste Quantities

Both CTR and West Van have been designed to receive and transfer up to 1,000 tons per day of solid waste under the current operations schedule. The Washougal Transfer Station was designed to handle 50,000 tons of waste per year (about 160 tons per day). In 2011, a combined total of 232,866 tons of waste was received at all three facilities and of this 231,030 tons was sent to landfills. This volume is down significantly from the 282,508 tons that was sent to the landfill in 2006. Of the tonnages handled in 2011, West Van received 48,347 tons of waste (21%) CTR received 163,833 tons of waste (70%), and WTS received 20,636 tons of waste (9%). The economic recession which began in 2008 has contributed to reduced waste being generated for both recycling and disposal. Waste reduction and slowed growth in the economy and the local population help to extend the capacity of the regional waste transfer and recyclables processing infrastructure.

- Influences on MSW quantities in the transfer and processing system may include:
- The rate of increase and the distribution of population and commercial growth in the County;

- The ability of the County and cities to direct the flow of waste generated within their jurisdictions;
- Unauthorized export of MSW out of the County disposal system;
- Mandatory collection in cities and in all or portions of the County;
- The effectiveness of waste reduction and recycling programs;
- Improvements in technology and capacity of recycling processing equipment;
- The strength of recovered material markets and prices;
- Changes in contractual and legal definitions of some components of the waste stream;
- Changes in waste composition resulting from upstream changes in goods production, product distribution markets or recovered material prices; and
- Import of waste to the Clark County system.

Recommendations

1. Review the completed transfer station feasibility study to evaluate the future need for a fourth transfer facility or other strategies to best serve the disposal and transfer needs of the north county area. This analysis should consider population and economic growth and the potential to increase the number of residents taking advantage of scheduled collection services as well as an evaluation for upgrading CTR to address near-term and future traffic concerns. Any future facility would be sited in accordance with the guidelines and criteria listed in [Appendix M](#).
2. The County and cities should explore the option to purchase the CRC waste transfer system facilities prior to or on schedule with the contract option date of 2021.

Chapter 9

Energy Recovery

DRAFT

This chapter describes how energy recovery from municipal solid waste (MSW) will be considered in the Plan. As noted in Chapter 1, Clark County makes energy recovery for wood waste and other types of source-separated waste a higher priority in solid waste management than does the state, placing it below recycling and composting but above treatment and disposal. Incineration of the municipal waste stream is placed below treatment and disposal.

Energy recovery from the collection and utilization of landfill gas at landfills is discussed in *Chapter 10 Landfill Disposal*. Use of motor oil as an alternative fuel source is addressed in *Chapter 11 Moderate Risk Waste*. Energy recovery from the conversion of organics/food waste is described in *Chapter 13 Organic Wastes*. Energy recovery from the incineration of special wastes is described in *Chapter 14 Special Wastes*.

Assessment of Conditions

Making use of renewable energy sources is expected to be a key element of the County's future. By using renewable energy sources culled from the waste stream, the County may be able to lower its costs, generate revenues for other programs, and reduce the volume of waste being landfilled. Wood waste burned as hog fuel and motor oil burned as bunker fuel are not included when calculating Clark County's recycling rate, but are included when calculating the recovery rate.

Currently, the County and cities do not have any operating Energy Recovery (ER/I) facilities. Previous Plan updates have included a detailed evaluation of the potential for development and operation of an Energy Recovery (ER/I) facility in Clark County, but have not recommended it as a viable disposal option.

Source-separated wood waste recovery has increased significantly since the Plan was developed. Much of this recovered material is currently sold as hog fuel while lesser quantities are periodically marketed to particleboard and liner board manufacturers. Though market demand and prices for this commodity vary over time, no source-separated wood waste is currently being landfilled. The wood-waste recovery market in Clark County is very competitive; in-county and regional operators from the Portland area actively compete for material. In Clark County, Columbia Resource Company (CRC) sorts wood waste from incoming MSW in addition to collecting source-separated materials from larger generators. Other private wood-waste recycling operators, such as H&H Wood Recyclers, Inc., McFarlane's Bark, and Triangle Resources, also accept and process source-separated wood waste, land clearing debris and similar materials.

Over the last few years the County has evaluated the feasibility of biomass plants for forest byproducts at a couple of different sites in both urban and rural sites. Both projects faced siting difficulties and were not able to move forward. These projects focused on the utilization of forestry waste so they did not directly tie in with management of the municipal solid waste stream that is the focus of this plan. However, having facilities such as these either in or near our region would potentially offer an end use and energy recovery opportunity for urban wood or similar hog fuel products produced from solid waste generated in Clark County.



Source: National Renewable Energy Laboratory

Throughout Washington State — Past And Present

In the 1990's, the City of Tacoma operated the only refuse-derived fuel (RDF) facility in Washington. RDF is burnable MSW that has been shredded or pelletized into a uniform size and shape before it is burned. Separation of burnable and non-burnable MSW is done at the facility where RDF is made. At the Tacoma facility, processed RDF from the facility was burned at the City's power station, along with coal and wood, and the residual ash was landfilled. In 2000, the Washington Department of Ecology reclassified the plant as an "incinerator", requiring higher burning temperatures. For a time, segregated asphalt roofing materials from Clark County were transported to the Tacoma Steam Plant for energy recovery.

In 2001, Tacoma Public Works shut down the plant until permitting issues could be resolved. In 2004, State rules changed with regard to an emission standard. With this change, the City of Tacoma evaluated whether the steam plant could be refurbished into a state-of-the-art waste-to-energy plant. In December 2005, the Tacoma City Council voted to not proceed with the project. The incineration facility was returned to Tacoma Public Utilities who dismantled the plant. The City of Tacoma owns its own landfill which it uses for its waste disposal.

Several small MSW incinerators within Washington State have closed in the past years: The 178-tpd Skagit facility was closed in 1996 due to equipment failures and high operating costs. A smaller incinerator in Friday Harbor (San Juan County) was closed in 1995 because its environmental compliance costs exceeded its budget. A 100 ton-per-day facility in Ferndale (Whatcom County) was closed in December 1998 due to its inability to compete economically against other county waste export operations.

There is currently one operating MMSW energy recovery incinerator in Washington State: an 800 ton-per-day facility in Spokane. The facility is owned by the City of Spokane, managed by the Spokane Regional Solid Waste System and operated by *Wheelabrator Spokane, Inc.* This facility opened in 1991 with partial funding through a State-matching grant. The Spokane facility uses energy recovery equipment to generate electricity, which is then used for in-plant operations or sold to utility companies.

All incinerators in Washington State are subject to the "Special Incinerator Ash Standards" adopted by the Washington Department of Ecology in 1991 and update in 200 (WAC 173-306). These standards require ash be tested to determine whether it must be handled as a solid waste or as a "special waste." Currently, Spokane transports their ash to a dedicated ash cell at Allied Waste Services Regional landfill in Roosevelt, Washington. This type of facility typically produces ash equivalent to 30% by weight and 10% by volume of the incoming waste.



Source: *Wheelabrator Spokane, Inc.*
spokanewastetoenergy.com

Energy Recovery Nationwide, Local Experience

During the 1980s and early 1990s, many communities turned to Energy Recovery/ Incineration (ER/I) facilities (both mass burning and RDF plants) as a way to extend the life of local landfills or minimize the size of replacement-ash landfills. Typically, communities used revenue bonds to finance capital costs; capital and operating costs were then funded through tipping fees and offset by energy sales. Because tipping fees at ER/I facilities were usually higher than neighboring landfills, communities adopted flow-control ordinances to ensure that the facilities received enough waste to remain economically viable. In addition to the Spokane incinerator, similar mass burn facilities continue to operate in Salem, Oregon and Burnaby, British Columbia.

The 1994 U.S. Supreme Court *Carbone* decision on flow control jeopardizes the ability of local governments to direct waste to ER/I facilities. The inability to control the flow of MSW, concerns over the disposal of hazardous ash and the emergence of lower-cost regional landfills have essentially stopped the construction of new ER/I facilities and severely hindered existing operations. In 2007, a Supreme Court reviewed *United Haulers* where the Court evaluated flow control ordinances enacted by the Counties of Oneida and Herkimer in New York State. On April 30, 2007, the U.S. Supreme Court ruled in *United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority* that local governments are permitted to engage in flow control to government-owned disposal facilities in specific circumstances. The Court concluded that flow control laws that favor government-owned disposal facilities do not discriminate against interstate commerce, and are reviewed under a more lenient balancing test. The Court conferred a benefit on a public facility rather than a private one. These distinctions noted that government is vested with responsibility to protect the health, safety and welfare of its citizens and that laws favoring local government should therefore be evaluated for Commerce Clause deficiencies differently than laws favoring private industry. However, in October 2012, a federal district court in Texas issued a permanent injunction enjoining the City of Dallas from enforcing its flow control law. The court concluded Dallas' flow control law violated the Contracts Clause of the U.S. Constitution. This decision underscores that despite the Supreme Court's 2007 decision in the *United Haulers* case, there are constitutional limits to local governments' authority over solid waste management.

Through a long-term disposal contract and inter-local agreements Clark County's mixed municipal solid waste stream is contracted to be directed toward the transfer system and landfill facilities operated by Columbia Resource Company. This commitment which runs to 2016 (with two possible extensions - 2021 and 2026) has helped to reduce costs by spreading out the cost of the infrastructure. Directing this volume to an energy recovery facility, if one were to be proposed or developed within or near our region, would necessitate review of the economic feasibility and contractual obligations. As the contract term begins to expire over the next 10 or 15 years, consideration and analysis on the potential for an energy from waste (ERW) project(s) would be appropriate.

Types of Energy Recovery

Municipal Waste Incineration

Energy Recovery / Incineration (ER/I) facilities may use either mass burning systems or prepared fuel systems. Mass burning systems involve feeding mixed municipal solid waste (MMSW) into a furnace or boiler without mechanically separating or preparing the waste in any way. These facilities can be either large field-erected furnace-boiler systems or smaller modular furnace-boiler systems.

In prepared fuel systems, MMSW is mechanically separated and processed to make refuse-derived fuel, either as a supplemental fuel for an existing furnace-boiler or to be used alone in a dedicated furnace-boiler.



Source: CP Manufacturing

Energy recovery is rarely associated with small incinerators; incinerators burning less than 250 tons per day do not produce cost-effective steam. Medium and large MMSW incinerators, however, can install larger boilers, which will generate steam more cost-effectively. This steam can then be used to generate electricity, power industrial processes, or provide heat.

Biomass Incineration

Biomass incineration involves the incineration of dry organic matter such as animal litter (for example, horse stall material and chicken litter), yard waste, discarded wood products (such as pallets or urban wood), and forest debris collected during forest thinning. The organic matter is reduced in size to burn more quickly, consistently and efficiently. The heat generated is used to create steam which is then used to generate electricity. The County has an abundant supply of organic materials that could potentially serve as fuel for a biomass incineration plant.

Biogas Production

Some of the less dry, less woody types of organic matter which are not as suitable for biomass incineration can be used to create biogas. There are a number of ways to generate biogas: anaerobic digestion, pyrolysis, and gasification. Once produced, the gas can be burned as a fuel for any purpose.

Recommendations

- 1. The County will continue the established energy recovery program** for wood waste as it now exists, monitoring the volume being diverted from landfill disposal.
- 2. The county should periodically evaluate biomass incineration** to manage special wastes. Biomass incineration utilizing forest feedstock does not meet the definition of Solid Waste and is outside the realm of this plan. The county should conduct further research on the technology and feasibility of energy recovery from the municipal waste stream.
- 3. The county should periodically evaluate biogas technology** in helping to manage its organic waste.

End of Chapter 9

Chapter 10

Landfill Disposal

This chapter describes the Clark County regional disposal system for municipal solid waste (MSW), including transportation to and landfill disposal at Finley Buttes and Wasco County Landfills in Eastern Oregon. The county's hierarchy of priorities for waste handling and disposal is discussed in Chapter 1. Construction and demolition waste disposal is discussed in Chapter 12, including a map of the facilities. Handling and disposal of special wastes is discussed in Chapter 14. Solid Waste Handling Facilities siting guidelines are described in the Appendix M; historical data on Clark County's landfills (Abandoned and Closed Landfills in Clark County) is in Appendix L; disposal tonnage is found in Appendix J: *The Solid Waste Data Report*, construction and demolition waste disposal is discussed in Chapter 12 Construction and Demolition Wastes.

The County and cities within the County (Cities) are committed to minimizing the amount of waste being disposed through the implementation and maintenance of aggressive waste reduction (Waste Prevention and Reduction Chapter) and waste recycling programs (Waste Recycling Chapter). After waste reduction, reuse, recycling, composting, and energy recovery, the remainder of Clark County's waste is landfilled.

Landfill disposal is an important element of the solid waste system. WAC 173-304 and WAC 173-350 define a landfill as "a disposal facility or part of a facility at which solid waste is permanently placed in or on land." A more descriptive definition of a landfill is "an engineered method of disposing of solid wastes on land in a manner that protects the environment, by spreading the waste in thin layers, compacting it to the smallest practical volume, and covering it with soil by the end of each working day."

The Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions (WDOE 90-11) defines "waste export" as the hauling of solid wastes generated within a planning area (Clark County) to processing and/or disposal sites outside of the planning area. As noted above, the landfill sites that receive Clark County wastes are both outside of Clark County at distances of between 90 and 180 miles from our community. Additionally, both of the sites are in the state of Oregon so there are unique factors related to differing landfill regulations between the two states.

State Legislation and Regulations

Revised Code of Washington 70.95 Solid Waste Management Reduction and Recycling Act

RCW 70.95 requires that solid waste management plans include a "review of potential areas that meet the siting criteria as outlined in RCW 70.95.165, WAC 173-304-130 and WAC 173-350-400(2)."

Washington Administrative Codes 173-304 and 173-350, Minimum Functional Standards for Solid Waste Handling

RCW 70.95 directs the Washington Department of Ecology to develop standards for solid waste handling facilities. These standards, found in WAC 173-304 and WAC 173-350, cover siting criteria, design and performance standards and closure and post-closure maintenance requirements for solid waste landfills and other handling facilities. For the most part, the standards meet Subtitle D of the *Resource Conservation and Recovery Act* (RCRA) and provide additional protection.

Oregon Revised Statute 459.055, Solid Waste Control

Chapter 459.055, *Landfills in Farm Use Area*; Waste Reduction Programs requires out-of-state local governments to implement waste reduction and recycling programs that are at least as effective as programs in similar Oregon jurisdictions, before exporting wastes into Oregon for landfill disposal.

Oregon Administrative Rule 340-93-97, Solid Waste Management in General

Oregon Administration Rule (OAR) 340-93-97 establishes permitting, closure, financial assurance and engineering requirements for landfills, incinerators, composting facilities, sludge land application sites and solid waste transfer stations. The standards are enforced by the Oregon DEQ.

Assessment of Conditions

This section describes Clark County’s current MSW landfill disposal system. This system includes the transporting of MSW from the County’s largest transfer stations [Central Transfer and Recycling Center (CTR) and West Vancouver Materials Recovery Center (West Van)] primarily through barging to the landfill at Finley Buttes, for disposal. The Washougal Transfer Station (WTS) is located in the Port of Camas/Washougal; MSW from WTS is transported by truck to the Wasco County Landfill. Since the MSW from all transfer stations is disposed in Oregon, ORS 459.055 (waste reduction and recycling) and OAR 340-93-97 (landfill standards) apply to the County. The State of Oregon, under ORS 459.055, requires local governments outside of Oregon who transport waste to Oregon landfills to implement waste reduction and recycling programs which must be at least as effective as Oregon programs in similar jurisdictions. The local governments must apply to the Oregon DEQ and be accepted before wastes can be exported to Oregon.

Waste Transport for Disposal

Clark County and the City of Vancouver have an ongoing contract with Columbia Resource Company (CRC) to receive and process MSW and to transport and dispose of non-recycled MSW generated in Clark County. The initial term of the contract was for 20 years ending on December 31, 2011. Clark County and the City of Vancouver had the option of extending the contract for up to two 5-year extensions. Waste Connections, Inc. purchased CRC and the Finley Buttes Landfill, as well as an additional landfill in Wasco County, Oregon, in 1999. Since then, CRC, Finley Buttes and Wasco County Landfill have been wholly owned subsidiaries of Waste Connections, Inc. In May of 2006, Clark County and the City of Vancouver opted to exercise a five-year extension to the original contract, extending the term to December 31, 2016. The second 5-year extension is expected to be approved, based on required milestones that take the contract through December 31, 2012. The waste transfer and materials recovery elements of the CRC contracts are described in Chapter 8.

Some other MSW practices are known to exist in Clark County, including the following:

- Woodland area wastes are collected by Waste Control (the WUTC-certificated collection company for that area) and transported to the Cowlitz County Landfill.
- Some self-haul wastes generated in the eastern, northern and southern portions of the County are transported into Skamania County, Cowlitz Counties, and the Portland, Oregon area, respectively.
- Some amount of commercially generated waste and waste from franchised and/or WUTC certificated haulers in portions of Skamania County, Cowlitz County and the Portland metro area is transported to Clark County transfer facilities. This waste is a minor portion of the waste stream received at these facilities.

Transport System

CRC is responsible, by long-term contract, for the transportation of all “non-recycled” waste from Clark County to Finley Buttes Landfill in Morrow County, Oregon and Wasco County Landfill in Wasco County, Oregon.

Waste collected at the West Van Materials Recovery Center and Central Transfer and Recycling Center are transported consistent with the County’s current long-term contract, which requires transport to the Finley Buttes Landfill by barge or by rail, allowing truck transport only if specifically authorized by the County under unusual circumstances or certain economic conditions.

The current process for transporting non-recycled MSW to final disposal at Finley Buttes Landfill is as follows:

- after the MSW is processed at the CTR and the West Van facilities to recover recyclable materials, the remaining non-recyclable MSW is compacted and then sealed into shipping containers;
- the sealed containers are then hauled directly to the Tidewater M-5 barge loading facility where they are placed on barges;
- Tidewater Barge Lines transports the barges 180 miles upriver to the Port of Morrow in Morrow County, Oregon;
- at the port, the sealed containers are unloaded from the barges for later transport by trucks approximately 12 miles to the Finley Buttes Landfill;
- at the landfill, the containers are tipped and the MSW is emptied into the active cell of the landfill;
- empty containers are then returned to the Port of Morrow for barge transport back to Clark County.

Each shipping container has an internal volume of approximately 90 cubic yards, and holds about 30 tons of MSW. The staging yard behind the dock has a storage capacity of approximately 500 containers. Two sizes of barge systems are used for transport: the smaller barges carry up to 36 containers; the larger carry up to 80 containers. Based on the tonnage of non-recycled waste exported to Finley Buttes Landfill, the average number of loaded shipping containers transported upriver and through the Port of Morrow was about 718 containers per month in 2011.



Boardman Port (Tidewater Barge)

The loading and unloading capacity of the existing crane at the Port of Morrow is approximately 15 containers per hour, or 330 containers per day during a three-shift work day. An excess number of shipping containers are required by the CRC contract to temporarily hold up to six days of waste in the event that waste transport services are interrupted. In addition, during the two weeks each year when the navigation locks on the Columbia River are closed for routine maintenance, or in the event of unanticipated locks closures, containers can be shipped by truck or train.

The CRC contract was amended to include the Wasco County Landfill as the primary disposal facility for waste received at the Washougal Transfer Station. In order to eliminate double-handling, the waste at this site is top-loaded into trucks, tarped, and transported directly to the Wasco County Landfill for disposal, as follows:

- The routing of trucks from the WTS to the Wasco County Landfill goes by State Highway 14 east to the Dalles Bridge, over the bridge to Oregon, and then south on Highway 197 to the Wasco County Landfill.
- The alternate truck route from the WTS to the Wasco County Landfill is by State Highway 14 west to Interstate 205 south to Interstate 84 east to the Dalles and then south on State Highway 197 to the Wasco County Landfill
- At the Wasco County Landfill, the wastes are unloaded directly at the landfill face.

The barging system serves as the alternative transport system for waste from the Washougal Transfer Station to Finley Buttes Landfill. An updated *Contingency and Emergency Plan* included in this Plan's appendices describes designated alternative disposal sites if either Finley Buttes Landfill or Wasco County Landfill ceases operations, either temporarily or permanently.

Landfill Disposal Sites

Finley Buttes Landfill

Finley Buttes Landfill is located approximately 180 miles east of Clark County in Morrow County, Oregon, at 73221 Bombing Range Road, Boardman, Oregon. The facility is privately owned and operated by Waste Connections, Inc. It is the primary designated disposal site for MSW generated within Clark County. The landfill is designed, constructed and operated to be in compliance with all requirements of the Oregon DEQ and EPA Subtitle D MSW landfill requirements.

Finley Buttes Landfill occupies a permitted 510-acre site. The projected life of the current permitted landfill is 300 years, which exceeds the 20-year period covered by this Plan. The estimated available fill capacity at the site, as currently permitted by the Oregon DEQ, is 131,859,000 tons of MSW. Currently the site receives around 500,000 tons of MSW each year, more than half of which is from Clark County.

The design of the landfill incorporates features to protect groundwater and surface water, prevent soil erosion, provide fire protection, allow ease of access and manage and control landfill gas and leachate. The site is designed to be compatible with the surrounding land use, both during the active life of the landfill and after the landfill closes. Special operating procedures are used to prevent nuisances and threats to human health and the environment by controlling litter, odors, birds and vectors.

Since the end of 2007, the Finley Buttes site has benefited from the development and operation, under contract to Finley BioEnergy, of a combined heat and power (CHP) system that collects and utilizes landfill gas (methane) to power 3 generators that combined produce 4.8 MW of "renewable" electrical power for the grid (enough to power 3,500 homes). In addition, much of the waste heat from the electrical generating plant is utilized by Cascade Specialties (a nearby onion and garlic dehydration plant) reducing their need to purchase natural gas.

Together, this utilization of the landfill gas resulting from Clark County and other communities' wastes disposed at the site results in approximately a 75 percent efficient utilization of the methane's energy value. This compares favorably to systems at other landfills, which typically exhibit only 35% to 45% recovery efficiency when power alone is produced. The gas collection system (a network that includes roughly 3 or 4 total miles of piping) also aids in controlling and greatly reducing methane emissions from the landfill (as required by regulations and the site's permit).

Wastes defined and regulated as “hazardous” under Oregon and federal laws are prohibited from being disposed at Finley Buttes. Personnel are trained to recognize and manage hazardous and other prohibited materials. Surveillance by landfill personnel and regulatory agencies, record-keeping and reporting activities and shipping documentation requirements lower the potential for the disposal of hazardous wastes into the landfill. The contract with CRC indemnifies the County against any pollution-related liabilities associated with waste disposal at Finley Buttes Landfill. There is no evidence of significant legal exposure to Clark County from using this site.

Wasco County Landfill

Wasco County Landfill is a Subtitle D Regional Landfill located about five miles southeast of The Dalles, Oregon near the intersection of Interstate 84 and U.S. Route 197. The landfill site comprises 337 acres, with 213 acres of the site permitted by the Oregon DEQ for active landfilling. The landfill operator estimates that there is approximately 73 years before reaching capacity. The landfill is privately owned and operated by Waste Connections, Inc., is the designated disposal site for MSW from the Washougal Transfer Station, and is a backup facility to the Finley Buttes Landfill.

The entire active landfill area is lined with a five-foot-thick composite liner system. The liner lies on compacted native soils and consists of an HDPE liner, a geotextile wrapped perforated pipe, drainage sand, a geotextile fabric, two feet of highly impermeable re-compacted soil/bentonite, a 60-mil high-density polyethylene membrane, and another layer of geotextile fabric. A one-foot thick soil buffer serves to protect the entire liner system. This multi-layered liner system is designed to collect leachate so that it cannot enter the soil or contaminate groundwater. Leachate is pumped from the leachate collection and removal system and recirculated over the lined portions of the landfill. A network of groundwater monitoring wells surrounds the landfill. These wells are sampled semi-annually and the results are reported to Oregon DEQ.

The landfill has implemented waste screening procedures to exclude prohibited waste and manage acceptable wastes. Scale attendants visually inspect incoming loads to look for any hazardous or unacceptable materials. The field supervisor and equipment operators inspect each load as it is discharged and compacted into the landfill. Randomly selected waste loads are to be emptied in a separate area and thoroughly screened. Special wastes are subject to additional evaluation and approval, with periodic laboratory testing. The County long-term contract indemnifies the county against any pollution-related liabilities associated with the waste disposed at the Wasco County Landfill. There is no evidence of significant legal exposure to Clark County from using this site.

Disposal Sites in Clark County

Appendix L summarizes the known historic landfill/dumping sites in Clark County. The listing order of the sites in the table is not based on their relative liability or contamination. Appendix LL describes post-closure activity at the Leichner Landfill.

Rufener Landfill (a.k.a. Boise Cascade Landfill, Portside Landfill, Fruit Valley Landfill)

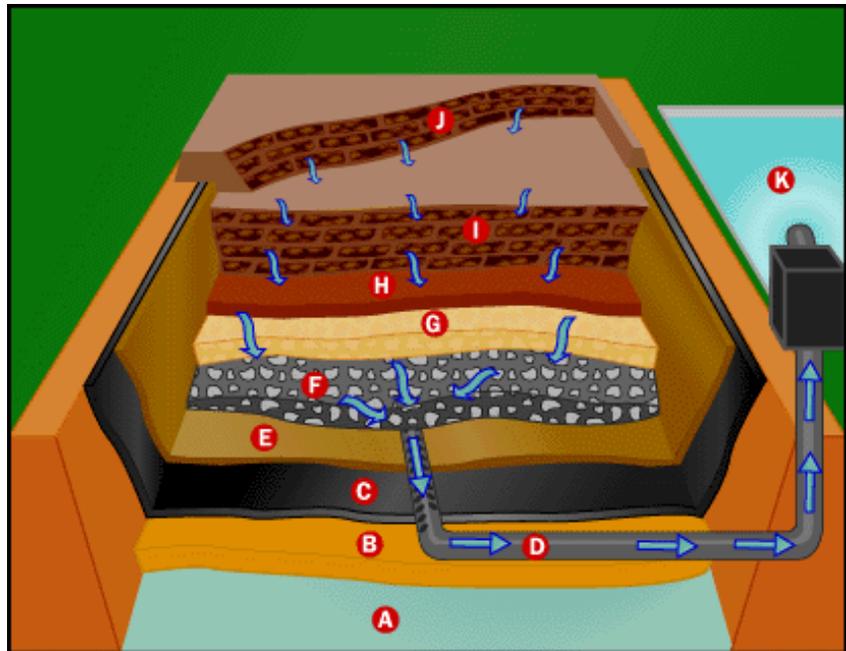
The limited-purpose Rufener Landfill on NW Lower River Road in Vancouver was owned by Boise Cascade, and received clarifier solids from the Boise Cascade paper-making plant until April of 1996. The site is undergoing closure and/or decommissioning.

Leichner Landfill

The Leichner Landfill was the last MSW landfill that operated in Clark County; it accepted wastes from 1937 through 1991 at a site located in the south-central part of the County. Owned by Leichner Brothers Land Reclamation Company (LBLRC), it was permitted to operate as a sanitary landfill and to receive MSW and some CDL wastes. Under an order from the Washington Department of Ecology, the Leichner Landfill ceased operations on December 31, 1991.

Typical landfill construction system

- A** Ground Water
- B** Compacted Clay
- C** Plastic Liner
- D** Leachate Collection Pipe
- E** Geotextile Mat
- F** Gravel
- G** Drainage Layer
- H** Soil Layer
- I** Old Cells
- J** New Cells
- K** Leachate Pond



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Recommendations

1. **Utilize the existing contract for garbage export** to Finley Buttes Landfill located near Boardman, Oregon and Wasco County Landfill located near The Dalles, Oregon as the primary disposal sites for Clark County waste for the duration of the current disposal contract, but consider alternative disposal options when planning begins for the next contract.
2. **No new MSW landfills are to be sited in Clark County.** This limitation is due to the Sole Source Aquifer designation of the underlying Troutdale Aquifer.
3. **Evaluate a regional approach to managing the transfer, transportation and disposal** of MSW including the formation of a Disposal District. Interlocal agreements entered into between the Cities and the County call for the evaluation of a regional solid waste system.
4. **Master planning for the Leichner Landfill site.** Master planning should include public outreach and involvement to determine the best and highest use of the site while creating the least impact to surrounding neighborhoods.
5. **Long term planning for the Rufener Landfill site,** to include decommissioning.

End of Chapter 10

Chapter 11

MODERATE RISK WASTE PLAN

Background

The first *Moderate Risk Waste Management Plan* for Clark County was developed in 1988 in response to RCW 70.105.220, requiring all local governments to implement moderate risk waste (MRW) plans. Moderate risk waste has been specifically defined by RCW 70.105.010 (17) to mean:

- Any waste that exhibits any of the properties of hazardous waste but is exempt from regulation under RCW 70.105, solely because the waste is generated in quantities below the threshold for regulation.
- Any household wastes that are generated from the disposal of substances identified by the department as hazardous household substances.

Moderate risk waste can be hazardous to human health, wildlife, or the environment, but it is conditionally (or categorically) exempt from the State's *Dangerous Waste Regulations*, WAC Chapter 173-303. Moderate risk waste includes hazardous (toxic, corrosive, flammable, and reactive) wastes generated by households [referred to as household hazardous waste (HHW)] and by businesses which generate only limited quantities of hazardous waste (referred to as small quantity generators (SQGs)). Common examples of MRW include paint, pesticides, solvents, antifreeze, cleaners, drain opener and hobby chemicals.

Since HHW and SQG hazardous wastes are conditionally exempt from the State's hazardous waste regulation, they are primarily regulated by local governments as a solid waste. However, in order to qualify as a SQG, a business must first determine if it meets the State's Quantity Exclusion Limit (QEL). The QEL identifies a business' regulatory status by measuring the amount of hazardous waste it generates. If the QEL is met, then a business is a Small Quantity Generator (SQG). SQGs are conditionally exempt from the State's hazardous waste regulations and are regulated by a set of reduced dangerous waste regulations. The QEL this is 220 pounds total for all regulated wastes generated on site for one month or 2,200 pounds total for all regulated wastes.

The first MRW Plan designated the Southwest Washington Health District (now Clark County Public Health) as lead implementation agency for the MRW Plan. It was adopted by all jurisdictions within Clark and Skamania Counties and by the Health District's Board of Health; it was subsequently approved by the Washington Department of Ecology in 1989. As lead agency, the Health District had responsibility, until 1997, for the coordination and implementation of all elements of the first MRW Plan, except for the operation of the household hazardous waste collection facilities. In 1997, the MRW Plan was amended to have Clark and Skamania Counties assume the roles of lead agency for their respective counties.

Moderate risk waste programs in Clark County have taken a variety of forms since the 1989 MRW Plan was implemented. Some activities have been combined with solid waste information programs, such as general waste management publications and handouts. Other activities have specifically targeted moderate risk waste from households and small quantity generators. Collection programs include collection events in 1990-1993, HHW fixed facility operation since 1993, satellite HHW collection since 1998, used oil collection drop-off centers since 1992, curbside collection of used oil throughout the urban service area since 1992, Home HHW collections for eligible seniors and residents with disabilities since 2000, computer and other e-waste collection opportunities since 2003, and controlled substance collections since 2003.

The overall goal of the 1989 MRW Plan was to reduce the amount of hazardous waste in the County's solid waste stream and in wastewater treatment systems. This goal was to be accomplished by reducing the amount of HHW and SQG hazardous waste being improperly disposed. During the first years of the MRW program implementation, MRW programs focused on disposal of hazardous waste in the solid waste stream. Because of the County's

reliance on ground water for drinking water, this focus evolved to address surface and ground water quality protection and non-point source pollution prevention.

Originally written as a 5-year regional plan, the MRW Plan was incorporated into the *Comprehensive Solid Waste and Moderate Risk Waste Management Plan* adopted in 2002 as chapter 11, *Moderate Risk Waste Plan*. The Moderate Risk Waste chapter was prepared according to the *Guidelines for Development of Local Hazardous Waste Plans* (Washington Department of Ecology #93-99) and will serve as the guiding MRW Plan until replaced or changed through the Comprehensive Solid Waste Management Plan updates or amendments.

State law (RCW 70-105) requires that the County implement certain activities to meet the criteria of *Local Hazardous Waste Plans*. In order for the County to be in compliance with State law, these activities will continue to be implemented before and after the adoption of the MRW Plan. These activities are: managing generated MRW (including an assessment of quantities, types, generators and fate of MRW); ongoing public involvement and public education (including potential hazards to public health and the environment; proper methods of handling, reducing, recycling, and disposing of hazardous wastes; an inventory of existing generators of hazardous wastes and the identification of hazardous waste management facilities). In Clark County, household hazardous wastes, such as oil-based paint and other wood finishing products, pesticides, corrosive cleaners, automobile batteries and motor oil are prohibited from disposal at the transfer stations operated by CRC as garbage and are only accepted through the hazardous waste collection program. In addition, Oregon’s 2007 Electronics Recycling Law prohibits any person from disposing of a computer monitor or television of any type having a viewable area greater than four inches measured diagonally. Desktop or portable computers are prohibited in Oregon landfills.

Assessment of Conditions

Clark County’s Department of Environmental Services, through its Sustainability and Outreach Division, has responsibility for long term moderate risk waste planning and facility development within the County. Through this authority the County provides regional coordination and services to cities, other agencies, and the unincorporated areas of the county. In addition to preparing and updating the *Moderate Risk Waste Plan*, the county contracts for household hazardous waste collection and disposal services, promotes waste reduction, provides a variety of educational efforts throughout the county, and contracts for residential recycling collection which includes management of used motor oil, antifreeze and household batteries.

Waste Characterization Studies

Waste characterization studies were conducted in 1993, 1995-1996, 1999-2000, 2003-2004 and 2007-2008 at the two in-county transfer stations; the waste characterization study for 2012 included the third transfer station located in Washougal). Information on the hazardous waste stream provided by the waste characterization study does not have the same level of statistical certainty due to the smaller quantities and greater variability of hazardous materials in the waste stream compared to non-hazardous materials. Although the relative percentage HHW in the entire waste stream has always



Table 11.1 Hazardous Waste Disposed in the Landfill (Tons)*

Generator Group	1993	1996	1999	2003	2007/08	2012/13
Residential Single Family	531	313	393	178	320	50
Residential Multi-Family	370	83	193	232	10	40
Residential Self Haul	234	275	483	63	170	90
Commercial Self Haul	49	96	132	0	70	20
Commercial	452	480	322	802	260	230
TOTALS	1,636	1,247	1,523	1,275	830	430

*Does not include electronic waste

been relatively small, there has been a noticeable decline over the last fifteen years by all categories of residential generators.

Waste Monitoring and Performance Measurement

In order to improve programs, data must be accurately measured and used consistently. Targets are intended to measure progress towards end results. The County's has an objective to increase the recycling rate to 50 percent and the diversion rate to 65% by 2012. The diversion rate is the percentage of all waste generated by residents and businesses that is recycled or recovered (not made into new products). Waste recovery includes motor oil and other hazardous wastes that are burned for fuel. A target has been set to recover an additional 500 tons of hazardous waste materials by 2012.

The amounts of hazardous wastes collected at fixed collection facilities and satellite collection events are in *The Solid Waste Data Report* in *Appendix XX*, listed by year, collection site, hazard class, material type and disposal option. All hazardous wastes amounts that are recycled or recovered are included in the diversion rate are also in *Appendix XX*.

Household Hazardous Waste Collection Programs

Electronics Collection Program

Computer reuse and recycling began as a community partnership which included the City of Vancouver and Columbia Resource Company (CRC). The first two-day collection event was held in June 2001. The results of the initial collection event prompted a second collection event in January 2002. These events were designed to collect only reusable computers and monitors that could then be donated to community members who would benefit from their use. The second event was sponsored by the County, City of Vancouver and Columbia Resource Company with help from Hewlett-Packard, the Ridgefield Lions, La Center School District, Tuscarora, and Oregon StRUT. As a result of this event, almost 60 computers were refurbished and then distributed to the local community by the Salvation Army; Vancouver Rotary Club; Consumer Voices are Born; and, other organizations.

In 2002, CREAM was developed as a regional program sponsored by Clark County Department of Public Works, City of Vancouver Solid Waste Services, Clark Community College, Clark County Sheriff's Office Work Center, Clark County Salvation Army and Columbia Resource Company. Beginning in January 2003, CREAM established permanent collection sites within the county for e-waste and began several annual satellite collection events. Although CREAM's primary goal was to collect and refurbish computers for resale, it was anticipated that most of the material donated would not be suitable for reuse. CREAM took great care to ensure that those materials not suitable for reuse were recycled in a responsible manner.



From January 1, 2002 through December 31, 2008, CREAM provided 231 computer units to residents of Clark County; collected more than 17,000 computer components from approximately 24,000 residents; and diverted more than 4 million pounds of material from the landfill. Of the material diverted, 84% was recycled (almost 3.5 million pounds).

In 2006, The Washington Department of Ecology adopted WAC 173-900 requiring computer and television manufacturers to provide consumer-convenient recycling of their covered electronic products (CEPs) throughout the state. Covered electronic products, or CEPs, are computers, televisions, computer monitors, and portable or laptop computers used by households, small governments, small businesses, and charities.



On October 5, 2007 the Washington Department of Ecology adopted amendments to WAC 173-900 and to WAC 173-303 *Dangerous Waste Regulations*. These rules impact the sale and recycling of CEPs in Washington State. On January 1, 2009, Washington's *Electronic Product Recycling rule (WAC 173-900)* required manufacturers of CEPs sold in Washington State to establish a system that provided for the recycling of these products at no cost to households, small businesses, charities, school districts, and small governments. CEPs were originally computers, televisions, computer monitors, and portable or laptops; in 2011 electronic readers (E-readers) were added to the list of CEPs.

As a result of the implementation of the State E-Cycle Program, CREAM was incorporated as a non-profit in Washington State in June 2008. Although CREAM changed its name to Empower Up in 2010, the mission remains the same as the CREAM program and the organization continues perform the community services started by CREAM; collecting and processing e-waste, and refurbishing usable computer systems at Clark College and distributing them through the Salvation Army. The organization expanded its operations to include a reuse store and a fixed drop off facility for unwanted computers, computer related material and other electronic items. All collected items are processed and then recycled and/or reused. Volunteers are a key component of this organization.

Materials that have been collected from disassembled computers are evaluated as to their reuse value; items that have no reuse value are recycled or disposed of as appropriate. All recycled materials are recycled through local vendors.

Clark College established a satellite refurbishing site at the non-profit organization. Completed units are matched with a monitor, mouse, keyboard and other related material and delivered to the Salvation Army for distribution to prescreened individuals. Screening guidelines were established by the Clark County Salvation Army.

As part of the transition from a government funded program to a non-profit, Clark County Solid Waste agreed to contract with the non-profit to continue to provide collection, refurbishing and distribution services for 3 years. The contract expired on December 31, 2011 and Clark County no longer provides financial support for computer reuse and recycling. The County continues to promote the program and services through web and print recycling directories (e.g. www.RecyclingA-Z.com) and other informational and educational venues.

Curbside Collection of HHW

Clark County has collected waste oil curbside since 1992; in 2003, used antifreeze and household batteries were added to the curbside collection program. Detail information on the amount of waste collected in this program is in *Appendix XX Data Report*.

Home Collection Program

In 2001 Clark County signed an agreement with Curbside Incorporated to establish a pilot program for the collection and transportation of household hazardous waste from eligible seniors and residents with disabilities. In 2002, the pilot program was added to the County's HHW Satellite Collection Program with Philip Services Corporation. In 2009 a Contract to operate a Program to Collect Household hazardous Waste (including home collections, satellite collections and paint transportation from participating paint stores) was signed with Philip Services Corporation

Education



Brochures and other publications about managing household hazardous waste have been distributed to Clark County residents since 1990. Household hazardous waste educational presentations have been offered to Clark County residents since 1992. In addition, school presentations have been made to students from third grade through college level. Information is also distributed through the Columbia Springs Environmental Education Center, which has incorporated household hazardous waste information into its volunteer and public education programs. Local residents have also been informed about household hazardous waste through portable displays, available since 1992, and through presentations at community events such as the City of Vancouver's "Recyclingist Neighborhood" trainings. Storm drain stenciling equipment has been made available to students, neighborhood associations, scout groups and other community groups since the MRW program was implemented. A new brochure targeting lead in the environment (lead shot, sinkers, wheel weights, batteries, etc.) was developed in 2008. Refer to *Chapter 5 Education and Promotion* for more information about hazardous waste education. Information and brochures may also be reviewed online at www.clark.wa.gov/recycle.

Paint Take Back Program

In 2004, Clark County Solid Waste established a Paint Take Back Program for residents to recycle unused and unwanted paint and paint-related products free of charge at two local paint stores: Miller Paint Company, 2607 N.E. Andresen Road, Vancouver and Rodda Paint & Décor Center, 7723 N.E. Fourth Plain Boulevard, Vancouver. In 2006 a third collection site, Salmon Creek Miller Paint 13712 NE 20th Avenue was added. In 2009 Parkrose Hardware and Clark County Habitat for Humanity Store joined the Paint Take Back Program. Latex paint collected at the participating paint stores are 100% recycled or reused and through the fixed facilities are sent to the GDB International processing plant in Nashville, Illinois where the paint is either recycled as new paint or reused as a concrete additive; oil base paints and paint related products are reused as an alternative fuel.

On July 23, 2009, the State of Oregon launched the nation's first manufacturer-financed system for the end-of-life management of leftover architectural paint. Architectural paint includes both oil-based and latex paints used for the interior and exterior of buildings that is sold in containers of 5 gallons or less.

In 2012, paint product stewardship bills ([Senate Bill 6145](#) and [House Bill 2540](#)), were introduced in the Washington, 2012 legislative session. The Bills, if passed, would have authorized paint manufacturers selling paint in Washington to finance and provide a take back and recycling program for unwanted architectural paint that would be overseen by the Department of Ecology. The Bills did not receive a hearing in 2012; similar bills are likely to be introduced in the 2013 legislative session.

Medication Take Back Program

The disposal of unwanted medications by placing them in the garbage or flushing them down the toilet can pose a threat to human health and the environment. In 2003, Clark County Solid Waste with the support of the Washington State Pharmacy Board developed a Medications Take Back Program for controlled and non-controlled substances.

In Clark County, non-controlled substances are collected at participating pharmacies, HHW fixed facilities and HHW satellite collections; controlled substances are collected by local law enforcements agencies at Clark County Sheriff's Office West Precinct, Central Precinct, and Administrative Headquarters; Battle Ground Police Department (2007); Camas Police Department (2006), La Center Police Department (2006), Ridgefield Police Department (2007), and Vancouver Police Department (2009) and



Washougal Police department (2007); in February 2010 the Vancouver Police Department withdrew from the program.

In September 2010 the first DEA sponsored drug take back event was held in Clark County; the collection event was conducted through a partnership between Clark County Sheriff, Clark County Environmental Services and PREVENTS Coalition of Clark County. Similar DEA sponsored collection events were held in April and October of 2011 and April 2012; the DEA has indicated that there will be sponsoring two events annually.

In 2005 Clark County Solid Waste and the Clark County Sheriff's Department were honored with the Innovation Program Award by the North America Hazardous Materials Management Association in recognition of the County's pioneering Controlled Substance Collection Program. Efforts are underway at both the State and National levels to require and implement Medication Take Back programs; Clark County anticipates that local approaches will mesh with these as they come on-line.

Satellite Collection Events

Four collection events were held prior to the opening of the fixed HHW collection facilities in 1993. In 1998 there were 6 satellite collection events scheduled; in 2012 there were 15 events scheduled. These events educate on the need to properly dispose of HHW and provide collection opportunities for some more rural areas of the County.

Permanent Collection Sites

Two fixed household hazardous waste collection facilities opened in 1993 in Clark County; Central Transfer and Recycling opened in January, West Van Materials Recovery Center opened in March. Both facilities are owned by Columbia Resource Company and operated under contract to Clark County and both were recently upgraded. Both accept up to 220 pounds or 25 gallons of household hazardous waste per visit at no charge. HHW drop-off at the Central Transfer and Recycling is on Saturdays and Sunday from 8 a.m. – 4 p.m.; West Van Materials Recovery Center accepts HHW on Fridays and Saturdays from 8 a.m. – 4 p.m. In 2001 Clark County entered into a contract with Philip Services Corporation (PSC) to collect household hazardous waste at the PSC facility located at 625 S. 32nd Street in Washougal. The collection site, which was open to the public the first Tuesday of each month, accepted up to 220 pounds or 25 gallons of household hazardous waste per visit at no charge. In 2009 a household hazardous waste collection facility was opened at the new Washougal Transfer Station located at 4020 South Grant Street in Washougal; the facility is open from 8 a.m. – 4 p.m. the 3rd Saturday of each month to all County residents at no charge. In conjunction with the new HHW facility opening at the Washougal Transfer Station, the collection site at Philip Services Corporation in Washougal stopped collecting HHW from county residents, except for special conditions (e.g., size of containers), as of December 1, 2009. Detail information on the amount of waste collected in this program is in *Appendix ??* Data Report.

Re-Refined Oil

Clark County continually promotes the purchase of re-refined motor oil and developed a purchasing preference for all types of recycled products, including motor oil. Both Vancouver and county use re-refined oil in their vehicles. Two automotive shops in the community currently market re-refined oil for retail sales and for use in on-site oil changes.

Used Oil Drop-Off Collections

Clark County residents can drop off residential of "Do-It-Yourselfers" used motor oil at various sites, including private businesses (such O'Reilly Auto Parts); the three transfer stations in Vancouver; HHW satellite collections, and county-sponsored drop-off stations in Yacolt and Hazel Dell.

Used Oil Ordinance

An ordinance requiring point-of-purchase signs and reusable oil containers at oil retailers was completed in 1994 when the Board of Health adopted Ordinance 94-01, the *Used Oil Recycling and Disposal Ordinance*. The ordinance establishes fines for the improper disposal of used oil and requires retailers to post oil-recycling information and provide reusable containers.

Light Recycle Washington



On January 1, 2013 the Washington State fluorescent light stewardship program will begin collecting mercury-containing lights from residents across the state. And as of January 1, 2013 it will be illegal, as mandated by [RCW 70.275.010](#), to toss mercury-containing lights into the trash. The collection system established will create a network of collection sites throughout the state that could include retailers, utilities, solid waste haulers, charities, household hazardous waste (HHW) facilities, processing facilities and recyclers. Collected products will be transported to appropriate facilities for recycling. As of yet, no collection sites have been identified in Clark County.

Ecology has contracted with *Product Care USA* to work with stakeholders and implement this program. The program will accept end-of-life mercury-containing lights from "Covered Entities," defined as single-family and multi-family household generators and persons that deliver no more than fifteen mercury-containing lights to registered collectors during a ninety-day period. The system will reduce the improper disposal of spent mercury lighting which releases mercury that threatens human health and the environment.

Residential Waste Prevention

Clark County implemented its first residential waste prevention promotion and education campaign in 1991-1992, with the financial and technical support of the Washington Department of Ecology. Ecology has continued to provide local governments, including Clark County, with grants to help promote waste prevention and recycling. These grants require local matching funds. The current grant program is referred to as the "Coordinated Prevention Grant Program." Waste prevention programs and campaigns that address household hazardous waste and moderate risk waste include:

- **Waste reduction displays** are presented at the Clark County Fair and the Home and Garden Idea Fair along with other regional fairs and festivals;
- **Interactive displays** were developed on the topics of Waste Reduction, Natural Gardening, Stormwater, Transportation and Wastewater Treatment;
- **The Naturally Beautiful Backyards program with the Master Gardeners** provides information on working in the yard and garden without using chemicals that could be harmful to people, animals and the world around them. This is done through brochures, lectures, community workshops and informational displays;
- **The County continues to provide technical assistance** consultations for businesses to improve their waste reduction, recycling and sustainable practices.

Other Public Information

A wide variety of educational media and outreach approaches have been used in Clark County to ensure ongoing education to support moderate risk waste programs and toxics reduction. The following are some examples of these education and promotion efforts.

Recycling Directory

The County, in conjunction with the cities, produces and updates a "Recycling Directory" which contains extensive information on opportunities for waste reduction, reuse and recycling in Clark County. Information addresses all types of household hazardous waste and moderate risk waste. The directory lists resources for curbside collection services, drop-off sites, business recycling collection services and educational and local government contracts. Copies of the "Recycling Direc-



tory” are distributed at community events, including the Clark County Fair, as well as through community centers and local retailers.

Brown Pages

A section of the telephone directory has been dedicated to waste reduction and recycling information so that citizens can access this information available at all times. Information regarding proper disposal of HHW is included.

RecyclingA-Z.com

The County has established an on-line recycling and information web page that provides information on where to take materials to be reused, recycled or safely disposed. The site provides an opportunity for either residents to ask about adding a materials or for vendors to be added as locations for reusing, recycling or disposing of materials. The site is updated biannually.

Web Site

The Clark County Solid Waste Program website has been updated and can answer questions about household hazardous waste and moderate risk waste. Many program brochures regarding the use and disposal of HHW are also available on-line. The County web site is www.clark.wa.gov/recycle.



Events and Promotion

County and city staff and its partners participate in community events and promotion efforts such as Earth Day, Clark Public Utilities Home and Garden Idea Fair, Sturgeon Festival, Watershed Festival, Clark County Fair, America Recycles Day, and Recycled Arts Festival. Information on the County’s moderate risk waste programs and toxics reduction are provided at these events.

Small Quantity Generators

Generators

Of the approximately 10,000 commercial properties and 16,000 businesses in Clark County (2005 estimates), it is possible that over one-third produce some quantities of hazardous wastes. Approximately 30 of these businesses are listed by the state as large quantity generators, 30 as medium quantity generators and 90 as small quantity generators.

- ***Large quantity generators*** (LQG) produce over 2,200 pounds of hazardous waste per month and/or more than 2.2 pounds of extremely hazardous waste per month; they are regulated under the Hazardous Waste Management Act (HWMA) and Resource Conservation and Recovery Act (RCRA).
- ***Medium quantity generators*** (MQG) product 220 to 2,200 pounds of hazardous waste per month and less than 2.2 pounds of extremely hazardous waste per month, they are also regulated under HWMA and RCRA.
- ***Small quantity generators*** produce less than 220 pounds per month and accumulate less than 2,200 pounds of hazardous waste at any time and generate less than 2.2 pounds of extremely hazardous waste per month; they are not regulated by HWMA when they meet the regulatory conditions of exemption.



According to the Washington Department of Ecology records there are about 183 businesses in Clark County that have obtained EPA/state hazardous waste generator identification numbers as of 2012. Compilations of the annual reports show that the businesses include fully-regulated hazardous waste generators, conditionally-exempt SQGs, as well as some entities who were a one-time hazardous waste generator or who report having produced no hazardous waste during the previous year. Some non-regulated businesses obtained their identification number in order to contract with a hazardous waste transportation/disposal company.

Information is only available regarding hazardous waste collected through SQG collection events or disposed of at solid waste facilities (disposal information regarding solid waste facilities is based on waste characterization data). Survey data is available from several sources outside of Clark County. Information about the other management methods is not available or is very limited.

SQG hazardous waste is currently collected one day each month of a fee basis at Philip Services Corporation Facility in Washougal, WA and through a variety of Hazardous Collection and Disposal Contractors. Information about the treatment, recycling and disposal of SQG hazardous wastes that were collected by private hazardous waste service providers is not available.

Education

Small Quantity Generator business technical assistance activities are directed at minimizing the use of products that produce hazardous waste and encouraging proper management of hazardous wastes when they are generated. Business technical assistance programs have been offered in Clark County since 1990. Services are provided through various means to SQGs throughout the County, and some programs have been developed to target specific types or categories of businesses. For more information about hazardous waste education see *Chapter 5 - Waste Education and Promotion*.

Industry Fact Sheets

Industry-specific fact sheets, describing waste minimization measures and proper disposal methods, were developed by the Washington Department of Ecology and are distributed by Clark County staff to businesses involved in commercial pesticide application, metal fabrication, wood furniture making and many other industries.

Local Interagency Networking Cooperative (LINC)

LINC is an informal information network and task force comprised of agencies and jurisdictions within Clark County. LINC is committed to providing a more effective and efficient means to protect the environment and human health through the coordination of both regulatory and non-regulatory agencies.

In 2009 a workshop on environmentally responsible pesticide purchasing was offered by LINC, in February 2012 a Landscape and Lawn care workshop was offered.

Re-Refined Motor Oil

Several Clark County agencies received information on the benefits of using re-refined motor oil. As of 2005, the County, Clark County Public Health, Northwest Natural, C-Tran, and the Vancouver School District fleet vehicles had all converted to using re-refined motor oil.

SQG Handbook

A comprehensive SQG handbook, including a hazardous waste management services directory, was initially developed for the region in 1991; in 2012, updated links to Ecology's business hazardous waste pages were added to the County Environmental Services' web page.

Technical Assistance Visits



County staff conducts Technical Assistance Visits (TAVs) to provide information to businesses that will help them apply new technologies, comply with the dangerous waste regulations, and conduct their activities in a manner that protects human health and the environment. TAVs are provided by various methods, including site visits, workshops, industry-specific assistance and publications; TAVs are non-regulatory in nature and are available free to all businesses in Clark County. In the Clark County's Green Business Program, participating businesses are required to complete an assessment on toxics used in their business operations. Technical assistance from the county is available to these businesses in completing this program category. More information on this program is available at www.clarkgreenbiz.com.

Effective TAVs depend on understanding what motivates businesses to manage waste responsibly and proactively reduce them whenever possible. This is accomplished through the interaction between hazardous waste generators and County staff. Technical assistance activities help hazardous waste generators:

- Interpret dangerous waste regulations;
- Prepare and implement pollution prevention plans;
- Comply with reporting requirements;
- Reduce, recycle and properly manage their hazardous wastes and materials; and,
- Understand basic requirements of Water Quality and Air Pollution regulations.



Compliance and Enforcement

Compliance Education

During implementation of the 1989 MRW Plan, emphasis was given to expanding collection opportunities as well as providing education and technical assistance to businesses in the County to improve moderate risk waste management. Education is the primary means of obtaining compliance; enforcement action is used only in the event of serious or imminent threats to public health or the environment or in cases of repeated offenses. Education and/or enforcement are conducted during complaint investigations or on-site visits to businesses. Since Clark County has no regulatory authority over dangerous wastes, cases requiring enforcement action are referred to the Washington Department of Ecology or other appropriate regulatory agencies; used oil disposal violations are enforced by Clark County Public Health (Refer to *Chapter 16 -Enforcement*).

Compliance Workshops

Dangerous Waste compliance workshops have been held annually by the Washington Department of Ecology since 1992. The purpose of the workshops is to provide assistance and information about hazardous waste regulations and disposal and management requirements. They can be beneficial to businesses wishing to retain or obtain SQG status.

Enforcement Regulation

Enforcement Regulation No. 96-01, adopted by Clark County Public Health in 1996, (currently Title 32 ENFORCEMENT of the Clark County Code) is a revised ordinance that applies to moderate risk waste enforcement activities. It provides enhanced enforcement capabilities for staff by establishing fines for the violations of public health regulations. Public Health's adoption of the regulation allowed the development of a "Notice and Order" to assist with enforcement and to help discourage illegal disposal of moderate risk waste.

Regulations Governing Solid Waste Handling Operations and Moderate Risk Waste Fixed Facilities

The County's moderate risk waste fixed facilities and operators are subject to the State's Solid Waste Handling Standards, WAC 173-350, which are enforced by local Public Health agencies, through a solid waste handling facility permit system. Facility siting is regulated by both State siting standards and county or city land use ordinances, which may require conditional use permits for solid waste facilities. Disposal facilities are subject to additional regulations, including long term monitoring (WAC 173-350 & 351). The state solid waste regulations that the Washington Department of Ecology enforces result from state legislation, RCW 70.95, and federal laws, such as the Resource Conservation and Recovery Act (RCRA), the Clean Water Act, the Clean Air Act and others.

Household hazardous waste fixed facilities and mobile collection events are required contractually to comply with all applicable federal, state, county, regional and local laws, statutes, rules, regulations and ordinances as regulated by Clark County Public Health with oversight by the Washington State Department of Ecology.

Regulations Governing Waste Generators

Public Health enforces regulations on infectious waste and moderate risk hazardous wastes (including waste oil) and other special wastes; and responds to complaints regarding illegal dumping, burying and accumulations of waste on private property. Current County (24.12.060) and cities' code allows for burial of wastes, which were generated on site. This includes solid waste resulting from residential or agricultural activities as well as non-putrescible commercial or industrial waste. On site burial of regulated waste such as hazardous waste, toxic waste, bio-medical waste, and certain types of special waste are prohibited. The ability to bury certain solid waste on site results in problems such as health and sanitation problems, contamination of soils and/or water, attraction of vectors, settling of land into depressions, discovery of unwanted buried and subsequent removal of wastes by new property owners. This plan recommends that the on site burial of solid waste be regulated and discouraged.

Program Funding

The County Solid Waste Fund is an enterprise fund. All solid waste revenues remain in the fund and no property tax fund dollars are used for solid waste programs. The revenue sources for the County solid waste fund include: County Administrative Fees paid under the disposal and collection contracts; state grants; sale of recyclable materials; and interest earned on the fund. A significant portion of the MRW program is funded through state grants. The County solid waste fund receives revenue from the Washington Department of Ecology's *Coordinated Prevention Grants* (CPG) program. This grant program is funded through the Local Toxics Control Account. To receive grant funding, MRW programs must be in compliance with the Moderate Risk Waste Plan. The CPG program funds are allocated every two years, based on a county allotment and a per capita allotment. Counties must submit satisfactory applications that meet eligibility requirements and priorities identified in their approved solid and moderate risk waste plans. In addition, local governments must provide matching funds.

Other Conditions

Federally Listed Sites

In accordance with the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), the Environmental Protection Agency (EPA) maintains a database of potential or known hazardous waste sites. These sites are listed as priorities for response, based on their potential threat to public health or the environment. Superfund site response may be under the authority of EPA, the Washington Department of Ecology or shared.

As of the most recent update, February, 2012, there were 116 brownfields, oil, and RCRA corrective action superfund sites in Washington State. In Clark County there were 9 sites listed with 3 deletions and 1 removal, the remaining active sites on the National Priorities Lists sites are: Boomsnub/Airco, Vancouver; Dorothy Avenue Mercury Site, Vancouver; Vancouver Water Station #1, Vancouver; Vancouver Water Station #4, Vancouver; and, Camp Bonneville, Clark County. Current lists and information on the CERCLA sites, listed by EPA are available from the Region 10 office of EPA, 1200 Sixth Avenue, Seattle Washington, 98101. The National Priorities List of Superfund sites may be found at [EPA website](#).

State Listed Sites

The Washington Department of Ecology's *Toxics Cleanup Program* has prepared and regularly updates its "Confirmed and Suspected Contaminated Sites List." For each site, the report notes the status of site assessment or cleanup, whether or not groundwater, surface water, soil or sediment is contaminated or suspected of contamination and the types of contaminants suspected or confirmed.

As of February 2012 there were 60 active and 75 inactive listed Confirmed and Suspected Contaminated Sites in Clark County. For general questions or to receive the report in another form, contact the Washington Department of Ecology at 1-800-826-7716. The "Confirmed and Suspected Contaminated Sites List" may also be reviewed or downloaded from the [Ecology website](#).

Transfer, Storage, or Disposal Facilities

As of February 2012 there was one hazardous waste transfer, storage, or disposal facility (Bonneville Power Administration Ross Complex Federal Storage Facility, 5411 NE Hwy. 99, Vancouver, WA 98663) and one used oil facility (Emerald Recycling – Vancouver Commercial Used Oil Processing Facility 1300 West 12th Street Vancouver WA 98660) with EPA/state ID numbers in Clark County. A complete list of Active Hazardous Waste and Used Oil Facilities in Washington State can be found at the [Ecology website](#).

Zone Designations

The State's *Hazardous Waste Management Act* distinguishes between two categories of hazardous waste management facilities and the process for siting these facilities. The Washington Department of Ecology is required to site "preempted facilities," that is, those sites with particular state-regulated hazardous waste management activities. These activities include landfilling, incineration, land treatment, surface impoundment and the use of waste piles. Local governments are required to establish land use zones or geographic areas for siting "designated zone facilities," such as hazardous waste recycling, storage and treatment facilities. These local zoning requirements must be consistent with the state's hazardous waste facility siting criteria and must allow hazardous waste processing or handling where hazardous substances (such as raw materials)

are processed or handled. Local governments are not required under the HWMA to develop land-use zones for siting designated zone facilities if they can show that, within their jurisdictions (1) no regulated amounts of hazardous waste were generated over the previous two years, and (2) no geographic area meets the states siting criteria. Designated land-use zones or geographic areas, as well as requests for exemption from the zoning requirements, must be approved by the Washington Department of Ecology. They have the authority to establish zones for hazardous waste facilities or preempt local authority in communities that do not have approved land-use zones or geographic areas. All jurisdictions in Clark County have submitted a certificate of compliance verifying the amended zoning language.



Recommendations

A. The County should continue:

1. Developing Information/Educational Materials
2. Providing Workshops and Presentations
3. Conducting Technical Assistance Visits including with the Green Business Program
4. Participate in the Local Interagency Network Cooperative (LINC)
5. MRW Collections (curbside collections, home collections, satellite collection events, and at permanent collection facilities)
6. Review technical information regarding current or newly identified hazardous materials
7. Promote and track local participation in E-Cycle Washington
8. Collaborate and partner to provide recycling and disposal options for newly identified hazardous materials entering the waste stream, e.g. batteries from electric vehicles

B. The County should also:

9. Continue to promote and support the development of local sites and events as well as state and national programs for diversion of prescription controlled and noncontrolled substances [e.g. prescription drugs whose possession and use are regulated by the Drug Enforcement Administration (DEA)]
10. Prohibit the disposal of all moderate risk waste through the municipal solid waste collection and disposal system as an incentive to reduce waste at the source or to separate it from garbage for collection at a hazardous waste collection facility. In Clark County, household hazardous wastes, such as oil-based paint and other wood finishing products, pesticides, corrosive cleaners, automobile batteries and motor oil are prohibited from disposal at the transfer stations operated by CRC as garbage and are only accepted through the hazardous waste collection program. In addition, Oregon's 2007 Electronics Recycling Law prohibits any person from disposing of a computer monitor or television of any type having a viewable area greater than four inches measured diagonally. Desktop or portable computers are prohibited in Oregon landfills.
11. Provide more education to businesses so that all businesses are better informed to reduce their use of hazardous or toxic materials with a priority on education for Small Quantity Generators (SQGs). Develop and continue to provide programs that emphasize the waste hierarchy (waste prevention/reuse/recycling/recovery) for e-waste, paint and industrial waste.
12. Collaborate and partner with service providers, non-governmental agencies and organizations to develop and/or implement technical assistance, information, education and promotion activities; Continue to support and fund trainings and workshops, and Master Composter/Recycler programs as resources to promote waste and toxics reduction, recycling activities and proper management of solid wastes.
13. Support options for hazardous/toxic materials reuse with a focus on small quantity generators for these and other materials programs.
14. Encourage reuse of paint and computers.
15. Research the potential for industrial waste exchange.

End of Chapter 11

Chapter 12

CONSTRUCTION & DEMOLITION WASTES TO RESOURCES

This chapter describes the management and disposal systems for construction and demolition (C&D) waste in Clark County. C&D wastes are solid wastes that require special handling and are collected, processed, recovered, recycled and/or disposed of. C&D includes materials regulated as MSW, as well as other wastes regulated in other ways. Some C & D materials are considered special wastes; see *Chapter 14 Special Wastes* for greater details.

Definitions

Construction and Demolition wastes are generally defined in the Clark County Code (CCC) Chapter 24.12 as “waste building materials and rubble, resulting from construction, remodeling, repair and demolition operations on houses, commercial buildings, pavements and other structures,” and are generated primarily during residential and non-residential development, redevelopment and remodeling. The construction and demolition waste substream is made up of similar materials that come from two distinct but related activities. Remodeling and repair work generate both types of wastes, often mixed together. Both terms are more specifically defined in the Washington Administrative Code (see below). These definitions should be applied to the content and recommendations in this Plan.

Construction Waste

WAC 480-70-041 defines construction waste as “solid waste resulting from the building or renovation of buildings, roads and other man-made structures. Construction debris includes, but is not limited to, materials such as plasterboard, cement, dirt, wood and brush”. For the purposes of this Plan, construction waste is defined as: Material that is generated as a direct result of building construction activity; such waste includes, but is not limited to, concrete, rubble, fiberglass, asphalt, bricks, plaster, wood, metal, caulking, paper and cardboard, roofing wastes, tar paper, plastic, plaster, paint, block foam wallboard and other similar materials.

Construction job site waste often includes components that make the combined mixed wastes equivalent to MSW. Paint cans, food packaging, floor sweepings, polystyrene foam and other MSW components are often put into construction site waste containers. The combined waste stream can require disposal of the load as MSW.

Demolition Waste

For purposes of this Plan, “Demolition waste” is defined in WAC 480-70-041 as “solid waste resulting from the demolition or razing of buildings, roads and other man-made structures. Demolition waste consists of, but is not limited to, concrete, brick, bituminous concrete, wood and masonry, composition roofing and roofing paper, steel, and minor amounts of other metals, such as copper. Plaster (i.e., drywall or plasterboard) or any other material, other than wood, that is likely to produce gases or a leachate during the decomposition process and asbestos wastes are not considered to be demolition waste for the purposes of this regulation.” Contaminated or regulated waste is considered to be Special Waste.

Demolition job-site waste often includes components that make the combined mixed wastes equivalent to MSW. Paint cans, food packaging, floor sweepings, polystyrene foam and other MSW components are often put into construction site waste contain-



ers. The combined waste stream can require disposal of the load as MSW. It may also contain toxic materials and require that the waste be handled and disposed as regulated hazardous or dangerous waste.

Inert Waste

Inert waste is defined in [WAC 173-350](#) as solid wastes that meet the criteria for inert waste in [WAC 173-350-990](#) including cured concrete, brick and masonry, ceramic materials, glass, stainless steel and aluminum.



Inert wastes do not include contaminated soils removed from cleanup sites (see [Chapter 14 - Special Wastes](#)) or asphalt. Non-hazardous dusts, ashes and other residues produced by incinerators, industrial processes and air pollution control equipment may or may not be classified as inert wastes, depending on their specific characteristics. For the purposes of this Plan, these materials are not considered inert wastes, unless specifically designated by Clark County Public Health with agreement from the Washington Department of Ecology.

Inert waste may be treated or contaminated with toxic chemicals; or painted with lead based paint. In such situations, the waste may be required to be handled and disposed as regulated hazardous or dangerous waste.

Deconstruction

Deconstruction is a process of building disassembly in order to recover the maximum amount of materials for their highest and best reuse. The intent is to salvage and reuse any or all materials in new construction or remodel projects. Reuse is the preferred outcome because it requires less energy, raw materials, and generates less pollution than recycling does in order to continue the life of the material. As a consequence of deconstruction, there are also many opportunities for recycling other materials along the way. The US EPA estimates that 92% of building-related C&D waste is from renovation and demolition.

Green Building Standards and Practices

Green building standards are required by [RCW 39.35D](#) (High-performance public buildings) to be followed for new buildings and renovation projects that receive state funding. Increasingly, private projects and public projects (even those without state funding) in the region are also either formally, or informally incorporating green building practices that seek to reduce the environmental impacts of the built environment.



Alternative certification processes related to green building generally have mandatory and optional credits or points that a design team must meet or can choose from when planning the green features they want in their project. The [Leadership in Energy and Environmental Design \(LEED\)](#) rating system, developed by the U.S. Green Building Council (USGBC) is one example of such a rating system intended to provide building owners and operators with a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

These standards, practices and rating systems, whether pursued voluntarily or as a mandated process, generally address waste reduction, reuse, recycling and disposal efforts undertaken in construction, demolition, and/or remodeling phases of a project and can offer an incentive to contractors and building owners to provide a focus on waste diversion and utilization of recycled content materials.

Relationships Between C&D Wastes



Although construction wastes are similar to demolition wastes, they are often cleaner because the waste materials usually have not been painted or mixed with other materials. Construction wastes are also generated in distinct stages as construction progresses. For example, framing and sheathing produces large quantities of wood waste; drywalling produces waste sheet rock; and plumbing and mechanical installations generate pallets, metal, plastics and cardboard. The sequential nature of construction allows targeted recovery of specific recyclable materials as a construction project proceeds. In remodeling projects, manual demolition provides the potential for a high degree of source separation, similar to that of construction.

Demolition waste is more difficult to source-separate than construction waste. Reusable items and certain recyclables are sometimes recovered before mechanical demolition begins. Manual demolition, also known as “deconstruction,” can maximize the separation and recovery of recyclable materials, but is not always feasible. Mechanical demolition, done by bulldozer or excavator, tends to crush and combine materials, limiting source-separation, unless recovery facilities that sort mixed materials are available. Mechanically crushed materials are commonly landfilled, with limited attempts at recovery.

The construction and demolition waste substream can also include materials that are contaminated with asbestos, lead from paint or solder, mercury from fluorescent light bulbs, preservatives, such as pentachlorophenol and creosote, PCBs from light fixtures and other electrical equipment, and other organic and inorganic contaminants. These materials are more common in demolition waste, because current regulations restrict many of them from being utilized in new construction.

WAC 173-350 defines the landfill requirements for:

- Inert Waste Landfills
- Limited –Purpose Landfills

Assessment of Conditions

Construction Waste

Most construction waste in Clark County is delivered to the CRC transfer stations in Clark County, some also is exported out of the county to C&D landfills/dry waste recovery facilities or is recycled, reused or burned for energy recovery. Depending on the project, recovered materials may be source-separated at the job site (this includes some commingled collection), or may be pulled from mixed loads delivered to a transfer station or recovery facility. Some wastes are illegally dumped, buried, and burned on-site or at other un-permitted locations within the county.

The management of waste from construction sites is regulated. Solid waste collection service is regulated in the unincorporated County by the Washington Utilities and Transportation Commission (WUTC). Solid waste collection service in the cities is regulated through city ordinances, exclusive contracts or state franchises issued under the WUTC.

Waste Connections Inc. (WCI) has the exclusive right to collect and haul mixed solid waste throughout Clark County and its cities and should be used to haul solid waste from construction job sites. However, state statutes (WAC 480-70-011) do allow for some exemptions to using WCI as the hauler on your job site. These exemptions include:

Recycling Exemption – Other private hauling companies are allowed to place recycling containers at a job site to collect source-separated recyclable materials.



These materials must be delivered to a facility for recycling. The materials cannot be hauled directly to a disposal facility. The recyclable materials may be mixed/commingled (e.g. mixing wood, cardboard, and metal in one container) or separated on the site by the material type (e.g. wood in a separate container; cardboard in a separate container; and metal in a separate container). If the materials are mixed in a single container, they must be free of contamination (garbage) to qualify for this exemption. Under the recycling exemption, there must be a WCI container on the site for the collection of solid waste generated by the job or the waste must be self hauled as described below.

A sub-contractor hired by a general contractor to demolish a building on a job site may haul the material as this is incidental to the primary service of the demolition. Similarly, a contractor who is providing a service of roofing removal and replacement may haul the material as a self-haul providing their own driver and equipment are used (see Self-Haul Exemption below).

If the company hires a private hauling company at a job site to collect recyclable materials, generators of the waste need to make sure of the following:

- the hauler is registered as a Recyclable Materials Transporter with the Washington Department of Ecology
- the hauler is licensed by the City of Vancouver (if the job site is within the city jurisdiction); the County is planning to adopt a similar program of registering commercial recycling service providers.
- the materials are taken to a facility in which recycling occurs (i.e. the material is not placed in a landfill)

Self-Haul Exemption – A company generating waste on a construction job site is allowed to “self haul” materials for disposal or recycling if the company’s employee hauls these materials to a disposal site utilizing the firm’s company-owned vehicle. The “self haul” option does not allow hiring a sub-contractor to haul the material for disposal.

Occasional Transport Exemption – A company generating waste on a construction job site is allowed to haul occasional loads of waste to a disposal site using a dump truck that is performing other dump truck operations on the job site. The use of a dump truck is for occasional use only and cannot be the primary way of collecting and hauling waste generated on the job site.

Special Waste Exemption – A company that is contracted for the removal and abatement of asbestos or other dangerous waste may also be the hauler for that material as the hauling and disposal is incidental to their primary service. (See *Chapter 14 Special Wastes.*)

Demolition and Inert Waste

Demolition and inert wastes are currently delivered to the CRC transfer stations, exported to out-of-county disposal or processing locations, buried on site, dumped or burned illegally or recycled. Some inert and demolition wastes, such as concrete are being recycled into reusable base rock, feedstock, rip-rap and other building materials. In addition, some wood demolition wastes are being chipped into composite wood product feedstock and hog fuel. In some cases, demolished buildings are chipped and the screened wood materials are spread on-site. Yet, some demolition waste must be handled as MSW. The final demolition of structures that have been damaged by fire results in a mix of damaged household goods, clothes, food and charred wood and ash. Unless separated, this mix is considered MSW for regulatory purposes.

The hauling of demolition waste meets the same restrictions as construction wastes and in addition requires proper management of Special Wastes, Hazardous Wastes, Contaminated Soils, Fuel Storage Tanks, Septic Systems and Wells – Many structures being demolished may contain special wastes (e.g., asbestos) or hazardous waste (e.g., wood contaminated with lead paint). Mobile homes or trailers to be demolished are special cases that have unique requirements. The removal, abatement and disposal of special or hazardous wastes can require permits prior to demolition, specific procedures for removal/abatement, special handling and preparations for transportation, and designated sites for disposal. Soils contaminated with petroleum or petroleum products will also require special handling. In addition, fuel storage tanks, septic systems and water wells on a demolition site must be abandoned or permanently removed according to state and local codes.

Deconstruction

Deconstruction is a very viable and under-utilized alternative to demolition that helps support the salvage of building materials and fixtures for reuse in some situations. In addition to reducing the amount of waste going into the landfill, deconstruction preserves architectural history, reduces the use of our natural resources, often provides scarce materials and architectural features, and provides affordable materials to many home owners and professional project managers.

Clark County continues to grow and there will be a certain amount of “infill” within the urban growth boundaries during the next few years. As new buildings and developments are designed, the opportunity to deconstruct existing buildings will increase as well. Salvaging much of this material will be an important part of our movement toward a community sustainability program.

Salvage

If full deconstruction is not an option, particularly due to expense, and demolition is not preferred, salvage is encouraged. There are now businesses in Clark County willing to come in quickly and remove reusable items such as plumbing fixtures, cupboards, cabinets, stairways and architectural features such as solid wood doors, leaded or stained glass, hardwood floors and windows. These items can be sold for reuse in new construction projects or in remodels. This process provides materials for reuse at reasonable prices, reduces the amount of material going to landfills, and allows salvage businesses to employ workers and to generate funds for non-profits. One of these businesses is the Habitat Store on Fourth Plain Boulevard. Using the permit lists issued by the City and County, they contact owners of structures to be demolished and request permission to salvage any reusable materials. These materials are then sold in the Habitat stores to raise money for construction of new Habitat homes in the area. Check the [Clark County Toolkit](#) for a listing of these businesses under “Salvaged and Used Building materials.”

Construction and Demolition Recycling In Clark County



Clean wood wastes are accepted for recycling at various facilities in the County, including: Central Transfer and Recycling, H & H Wood Recyclers, McFarlane’s, Triangle Resources, City Bark and West Van Materials Recovery Center. Combined construction site waste – all of a site’s waste, combined in one drop-box and hauled by certificated or contracted garbage haulers – is accepted at CRC transfer stations as MSW and a special rate of \$64.00 per ton has been established for delivery of C&D waste to West Van (compared to the drop box rate of \$75.81 per ton and the MSW rate of \$85.61 per ton applicable in that same year). The intent of this discounted tipping fee was to ensure that the local rate was competitive with rates charged at Metro area dry waste processing facilities while also considering market conditions for recoverable materials found in these loads. Construction waste in drop-boxes is charged a reduced per ton fee as the waste may be sorted more easily than compac-

tor loads and, depending on the contents, some of the material may be recovered. Waste in drop-boxes is charged a reduced per ton fee as the waste is sorted and some of the material may be recovered.

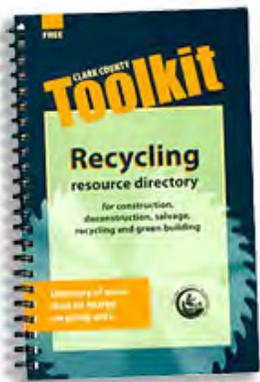
CRC currently uses manual tipping floor methods to recover some non-source-separated materials, as well as accepting source-separated materials for a further reduced tipping fee. Several existing recyclers/reusers accept presorted loads of materials for a fee. These are primarily metal recyclers and scrap dealers, wood processors, and paper and cardboard recyclers. Some small-scale salvage and restoration operators focus primarily on recovering reusable goods, building materials and fixtures. At some construction and demolition sites, “free wood” and other material bins have been placed out for salvage by the public. In addition, inert materials such as clean soils, rock and crushed concrete and bricks may be used as general grading fill material.

Currently, no specialized recycling facilities in the County are designed to process mixed loads of construction and demolition wastes. However the contract regarding Solid Waste Recycling, Transfer, Transport and out-of-County Disposal Between Clark County, and Columbia Resource Company states that the “Contractor shall install a new or reconditioned sort line at the West Van Materials Recovery Center for Construction and Demolition Waste” and establish a reduced fee for C&D waste.

Construction and Demolition Recycling In The Metro Area

In August 2007, the **Metro Council** passed legislation intended to increase the amount of materials recycled or recovered from construction and demolition projects in the region. Known as the Enhanced Dry Waste Recovery Program (EDWRP), the ordinance requires dry waste from construction and demolition to be processed through a dry waste recovery facility to pull out recyclables before the waste is dumped into a landfill. The program became effective on January 1, 2009. Previously, all of Metro’s recycling programs (with the exception of business recycling in the city of Portland) were voluntary. More than half of the construction and demolition debris generated in 2005-06 was disposed of in landfills. For the first full calendar year after the program’s implementation, recovery of dry waste tonnage delivered to solid waste facilities increased by nearly 20,000 tons. During that same period, total incoming dry waste tonnage decreased 22 percent, primarily due to the reduction of building projects in the Metro area.

Education Programs



Many construction contractors and subcontractors, as well as demolition companies that operate within Clark County and the cities also work in other cities and counties throughout the greater Vancouver/Portland area and the Northwest. Regulations about hauling and disposal vary from jurisdiction to jurisdiction. Recycling and reuse opportunities also vary from area to area. There is limited distribution of information about waste prevention practices, recycling and reuse options, and county hauling and disposal regulations. Waste Connections, City of Vancouver and the Clark County Solid Waste Program provides education, in many cases through coordination with the building or permit departments, about how to do job site recycling, as well as information about licensed or authorized haulers to ensure that generators who want to recycle have fewer barriers. Education programs should promote green building opportunities and encourage construction meeting Leadership in Energy and Environmental Design (LEED) standards or High Performance school standards per RCW 39.35D.

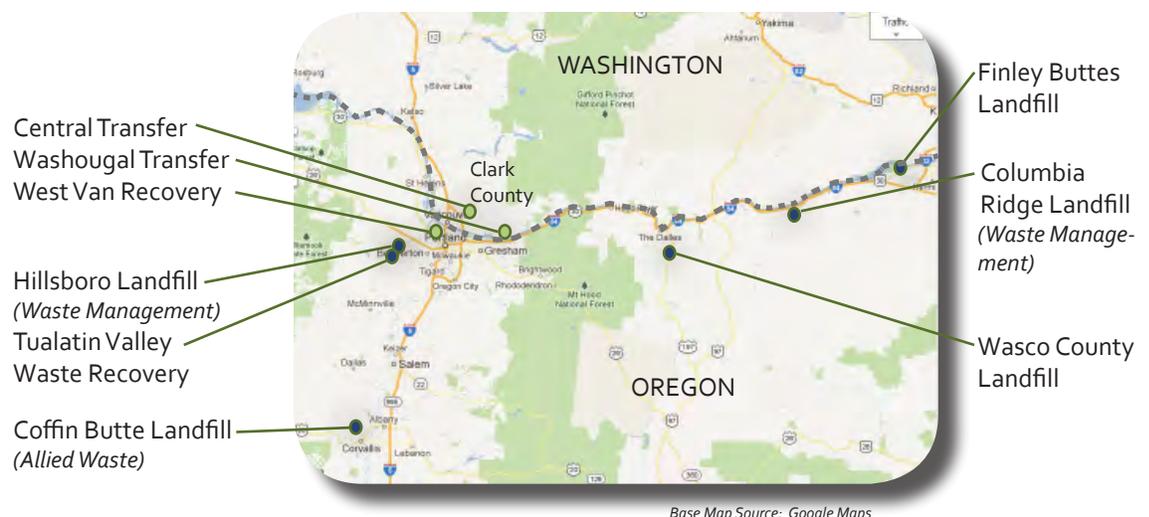
Recycling Facilities

Since 1992, Clark County's non-recycled MSW, including some C&D wastes, has been exported out of the county to the Finley Buttes Landfill in Eastern Oregon, through the CRC transfer station system. When the CRC MSW recycling and exporting system was developed, it was not necessarily intended to become the principal method of handling the C&D waste stream.

In addition to the Finley Buttes Landfill, a portion of the county's C&D waste is being disposed in Oregon landfills, including the Coffin Butte Sanitary Landfill, Columbia Ridge Landfill & Recycling Center, Hillsboro Landfill, Tualatin Valley Waste Recovery, and Wasco County Landfill.

No new landfill should be sited in Clark County for C&D wastes; however, options may exist for the development of C&D material recovery facilities that sort out recyclable materials and then send the residue to one of the County designated landfills.. Such options for another C&D material recovery facility could include but are not limited to:

- **County Contracted Facility** - Development of C&D processing and recycling capabilities at the County's contracted transfer station(s) through coordination with the Contracted Owner-Operator of these facilities. This direction was committed to in the 2006 contract amendment between Clark County and Columbia Resource Company and plans are underway by CRC to design and install a processing system by January 2015. Due to the deep recession over the last 4 years construction activity and C&D waste volumes have been greatly reduced and this resulted in a decision to delay making these investments. In the meantime, CRC has implemented some on floor sorting activities at both West Van and CTR that is diverting a significant portion of the delivered C&D material.
- **Other Independent Private Sector Involvement** - The county and cities could allow the private sector to proceed with the siting and development of one or more in-county material recovery facilities to process C&D wastes and have sufficient capacity to handle the volume of waste generated within the county, as well as the anticipated volume of imported out-of-county waste over the next 20 years. This approach reflects the county's present situation. It encourages the private sector to provide for C&D management without county participation, other than through permitting and its general oversight role in solid waste matters. The economic climate and C&D volumes also need to improve before this would be an attractive option for a third party.



- **Private Sector Involvement through County-Controlled Procurement** - Calls for the county to initiate procurement process to select and contract with a vendor, or vendors, for C&D management services. The county would develop a competitive process for periodically evaluating proposals for C&D material recovery facilities and awarding contracts for the operation pursuant to RCW 36.58. Prior to the final approval of a solid waste conditional permit, private C&D facilities within the county would be required to enter into an operating (franchise) agreement with the county.
- **Private Sector Involvement with County in Selecting a Reserve Site** - Calls for the county to begin a reserve site selection and development process for a C&D material recovery facility if the private sector is unwilling or unable to provide for management of the C&D waste stream. Under this alternative, the county would take over the responsibility for providing for C&D management or allow the private sector to continue its siting activity, while selecting a reserve site. Initially the reserve site selection process could encourage the private sector to provide a facility, while providing insurance against failure by the private sector in being able to develop a functioning site.

Clark County Code Chapter 9.32.020 County transfer stations designation states the following: "The county transfer stations are hereby designated as the initial disposal site for, and the referenced collection companies or recycling facilities are hereby directed to utilize said transfer stations, residual waste remaining from a recycling facility." This provision is intended to ensure that material requiring disposal in a landfill actually ends up there, whether an intermediate step for diversion and recovery is provided at a designated transfer station or at a separate site.

Recommendations

1. **Sponsor public and private sector education programs** designed to advocate and increase C&D waste reduction and recycling.
2. **Expand C&D waste recycling and reuse in the private sector** and enhance and expand C&D waste recycling and reuse opportunities at the West Van location and other sites, as demand allows.
3. **Partner with County Community Development** to use the (building and demolition) permitting process to educate applicants about available recycling opportunities and proper disposal options.
4. **Partner with the public and private sectors to facilitate new recycling opportunities** for the C&D waste stream within the County to ensure convenient and cost-effective disposal alternatives.
5. **Rely on recycling and the export of residual wastes** to a county designated facility to handle C&D generated in the County; in recognition that Clark County's Troutdale Aquifer is within designated as a sole source aquifer, no new C&D landfills should be sited in the County .
6. **Continue to provide both source-separated and post-collection recycling opportunities for C&D wastes** at the CRC transfer stations including installation of a new or reconditioned sort line at the West Van Materials Recovery Center for Construction and Demolition Waste.
7. **Incorporate information on C&D wastes from the 2012 Waste Stream Analysis** as baseline data; monitor and document generation and disposal data for C&D wastes on an annual basis.



8. **Educate, advocate and increase the number of green buildings** in Clark County through public and private partnerships.
9. **Provide clear information to the public on the WUTC regulations** and for hauling C&D waste.
10. **Work with Community Development and Community Planning** to allow time for deconstruction and salvage projects within permit timelines.
11. **Update County and cities ordinances to regulate on-site burial** of Construction and Demolition Debris on residential, commercial, industrial or agricultural property.
12. **Partner with the public and private sectors to advocate and facilitate economic development** through recovered C&D materials.

End of Chapter 12

Chapter 13

ORGANIC MATERIALS

Capitalizing on these organics waste reduction and recycling opportunities will help reduce overall waste land-filled per capita and will increase the total quantity of material recycled and the potential for generating local jobs.

Reducing the amount of organics in the waste stream is one of the five key initiatives identified in the State of Washington's *Beyond Waste Plan*. The *Beyond Waste Plan* adopts a goal of "expanding and strengthening the closed-loop reuse and recycling system" for converting organic wastes into compost and other products. Separation of organic wastes from the waste stream destined to landfill is advantageous and helps to reduce the generation of methane which is a potent greenhouse gas. Chapter 10 of this plan, Landfill Disposal, notes that Finley Buttes Landfill has a fairly effective system for the collection and utilization of landfill gas; however, it is still appropriate to reduce organics locally as efficiency of recovery of the gas' energy value at the landfill is in the range of about 75 percent.

OBJECTIVE: Increase opportunities for organics waste reduction and recycling.

- "Beyond Waste Plan"

Reducing the amount of organics in the waste stream is one of the five key initiatives identified in the *Beyond Waste Plan*. The *Beyond Waste Plan* adopts a goal of "expanding and strengthening the closed-loop reuse and recycling system" for converting organic wastes into compost and other products. Separation of organic wastes from the waste stream destined to landfill is advantageous and helps to reduce the generation of methane which is a potent greenhouse gas. Chapter 10 of this plan, *Landfill Disposal*, notes that Finley Buttes Landfill has a fairly effective system for the collection and utilization of landfill gas; however, it is still appropriate to reduce organics locally as efficiency of recovery of the gas' energy value at the landfill is in the range of about 75 percent.

Assessment of Conditions

In Clark County, organic materials comprise one of the single largest recyclable components of the disposed waste stream. "Organic materials" means any solid waste that is a biological substance of plant or animal origin capable of microbial degradation.

Organic materials include, but are not limited to:

- Manure
- Yard debris
- Food waste
- Food processing wastes
- Wood waste (See Chapter 12 *Construction & Demolition*)
- Garden wastes



Compost, mulches and other organic products improve the environmental functioning of soils and landscapes, and for erosion control. Soils and landscapes with a higher organic content show reduced need for pesticides and herbicides, capture toxics before they enter water systems, and assist with storm water management.

Not all compost is the of the same quality and the [US Composting Council's Seal of Testing Assurance Program](#) ('STA') is one tool that provides labeling and information disclosure designed to give customers the information needed to get the maximum benefit from the use of compost.

In Washington State, jurisdictional health departments are responsible for permitting compost facilities under [Chapter 173-350 WAC, Solid Waste Handling](#). Additional regulations are listed in Table 13-1, next page.

State Regulations Applicable To Organics Compost Facilities

State Regulation	Who Enforces The Regulation
Chapter 173-350 WAC, Minimum Functional Standards for Solid Waste Handling (MFS)	Clark County Public Health; Department of Ecology
Chapter 173-216 WAC, State Waste Discharge Permit Program	Department of Ecology – Water Quality Program
Chapter 173-220 WAC, National Pollutant Discharge Elimination System Permit Program	Department of Ecology – Water Quality Program
Chapter 173-240 WAC, Submission of Plans and Reports for Construction of Water Facilities	Department of Ecology – Water Quality Program
Chapter 173-400 WAC, General Regulations for Air Pollution Sources	Southwest Clean Air Agency
Chapter 173-308 WAC, Biosolids Management	Department of Ecology
Chapter 197-11 WAC, State Environmental Policy Act	Lead agency responsible for SEPA compliance

Currently two organic waste composting facilities are permitted in Clark County:

1. The West Van Materials Recovery Center is permitted to compost up to 50,000 cubic yards of organic material annually. This facility has historically composted source separated leaves; due to a change in economic factors, the facility is not actively composting material at the facility, but reserves the right to do so. The majority of yard debris collected at this facility is transported to another location for composting. West Van can be used as a food-waste transfer site. The transfer site allows residential and commercial collection vehicles to off-load their collected material in a central location, where it is then reloaded into larger-capacity transfer trucks for delivery to the composting facility. Organics could be compacted and then hauled similar to how garbage is aggregated for transporting. For this to occur economics and volumes are required.
2. H&H Wood Recyclers is permitted to compost up to 30,000 cubic yards of organic material annually; composting on site is limited to less than 10,000 cubic yards of material at any one time. This facility composts source separated leaves annually. The majority of yard debris collected at this facility is incorporated with dry woody waste and utilized as hog fuel and/or transported to another location for composting.

Organic Materials Disposed

Based on a 2012 *Waste Stream Analysis*, organic materials account for almost thirty percent of what is thrown away by Clark County businesses and residents (20.4% food scraps, 3.6% fuel wood, 2.9% clean wood, 2.3% yard waste – percentages by weight). Table 13-2 shows an estimated breakdown by material type of how much is discarded each year.

Table 13-2

Clark County Organic Materials Disposal Estimates*	
Organic Material	Amount Disposed
Food scraps	49,680 tons
Fuel wood	8,700 tons
Clean wood	6,940 tons
Yard debris	5,670 tons
* Allocation of tons based on 2012 Clark County, WA – waste stream analysis.	
<i>Note:</i> Some wood waste is pulled out of the trash at the transfer stations for processing into hog fuel. This is due to lower costs compared to landfilling.	

Yard Debris

Yard debris is different from other recyclable materials in that it can be managed and used at home by residents. The County actively promotes home composting and grass-cycling as a waste reduction method as described in the chapter on *Waste Prevention and Reduction*. Home composting avoids the economic and environmental costs of operating collection systems and centralized processing facilities. However, not all residents have the ability or desire to compost their yard debris and/or other organic wastes at home. For those residents, collection services may play a role. Yard debris is a well-defined component of the waste stream and is easily handled by existing collection equipment. Yard debris collected in Clark County is currently either composted in relatively low cost open windrows at one of several yard debris composters in the Clark County/Portland Metro area or used as a source of fuel in industrial burners.

Curbside yard debris is an optional or subscription program that is available to single family residences, multi-family complexes and commercial businesses in Clark County. Yard debris service is provided every other week, except in Ridgefield where service is weekly. All single-family residences within the County's defined Urban Growth Area and the Southwest Clean Air Agency's Burn Ban area (The current burn ban area is shown on a map in *Appendix X*) have yard debris collection available on a voluntary subscription basis. Yard debris is collected in wheeled carts, with extra quantities handled in bags or marked containers.

Self-haul options for yard debris include the following sites:

- Central Transfer & Recycling Center (C&D)
- City Bark
- Curbside Yard Debris
- H&H Wood Recyclers
- McFarlane's Bark
- Triangle Resources
- West Van Materials Recovery Center (C&D)

Free, to the public, leaf drop-off is offered October through December to encourage residents to collect leaves and take them to a permitted facility to be turned into compost. The intent of the program is to keep leaves from clogging storm drains and catch basins, in order to avoid flooding and associated labor costs to unplug drains and basins. This program is jointly funded by Clark County and City of Vancouver. Coordination keeps down costs and demonstrates government efficiency by working together. A coupon must be presented to qualify for free drop-off.

The Boy Scouts of America coordinate a one-day, large community project involving 50 scout troops, 1500 scout and adult volunteers, and 20 businesses and public agencies. The Boy Scouts collect approximately 20,000 trees each holiday season. Generally the event is held the first or second Saturday following Christmas. Christmas trees can also be set out for collection by those subscribing to yard debris collection or self-hauled to an organics facility.

The City of Vancouver offers residents free yard debris disposal coupons each spring (April through June) to encourage them to self-haul yard debris to an approved facility. Organized neighborhoods are also provided opportunities throughout the year to participate in Saturday yard debris collection opportunities or chipping events. As well, drop boxes are placed in especially "leafy" neighborhoods in the fall. There has been recent discussion about utilizing *Coordinated Prevention Grants* (CPG) resources to offer similar green-waste clean-up assistance County-wide.

During 2012, Approximately 48,000 residences or 45% of the eligible single-family residences subscribed to yard debris collection generating 28,000 tons of yard debris, equal to more than 100 pounds per subscriber per month.

Food Waste

Some homes compost food scraps in their backyard using worm bins, compost bins or incorporating the food waste directly into trenches in their gardens. Through the **Master Composter/Recycler Program** at the Columbia Springs Environmental Education Center (CSEEC), the County actively promotes worm bin composting of food scraps as a waste reduction method. Backyard composting reduces the economic and environmental costs of operating collection systems and centralized processing facilities. The Master Composter/Recycler Program also sells backyard composters to the public.

The SOS program kept 900 tons of organic materials out of the landfill in 2012.



The We Compost program kept 600 tons of organic materials out of the landfill in 2012.

Save Organic Scraps (SOS), Clark County's school cafeteria and kitchen composting program has grown to one hundred schools. Organic material is kept separate by students when sorting their meal waste in the cafeteria. Student monitors are highly encouraged at each school to help peers keep the organics clean. The food waste is picked up by Waste Connections, and is currently hauled to Metro Central in Portland, Oregon where it is reloaded and taken to a commercial composting facility.

"We Compost" is a pilot program collecting food scraps from businesses. Waste Connections, Inc. offers the service on a limited basis in Vancouver and some other areas of the community. Commercial food wastes and food contaminated paper is currently hauled to Metro Central where it is reloaded and taken to a commercial composting facility. Up until the spring of 2013, most of this food containing commercial organic waste passing through Metro Central was reloaded and sent to the Nature's Needs facility operated by Recology in North Plains, Oregon (about 24 miles west). Recently odor issues at that site have resulted in the interim delivery of this material to a handful of alternative Recology or third party sites located beyond the immediate region (with an average distance of more than 160 miles away, ranging from Junction City, Oregon to Royal City, Washington). Eighty Clark County businesses are actively separating and working with Waste Connection to collect their food waste and food contaminated paper for composting through delivery to Metro Central – and beyond.

Clark County, Vancouver and Waste Connections are not focused on adding other businesses to the "We Compost" program, though those with a strong interest can be considered. End-use site(s) for organic food wastes needs to be determined when costs are stable and a location for the material is secured. It is anticipated that the growing demand and volumes of commercially collected food waste will result in some new regional (including Portland area) facilities to handle this material. One such project, Columbia Biogas, has been in the planning process for a couple of years and this or other facilities being looked at this waste stream could have a focus on energy recovery rather than the production of compost as a primary target. There have been some discussions in the past about locating a food waste/organics processing/composting facility in Clark County and that could provide an economic development opportunity. However, experience in other communities has shown that appropriate siting and communications with neighbors and local land use authorities throughout any process is essential.

Additional options include:

- Larger retailers and grocers in our community self-haul their own food scraps.
- Onsite composting of food wastes has been successfully implemented at Larch Corrections Facility since late 2004.



Recommendations

1. **Expand and maintain food-waste collection program at schools and businesses;** assist with setup and on-going training and education needs. The program goal is for 100% of schools composting (100 schools). Increase business composting by 100% (160 businesses) as a on-going task.
2. **Conduct a study to determine the feasibility of a residential mixed organics recovery program.** The composting facility currently receiving Clark County's yard waste (McFarlane's) is not permitted to manage food waste in addition to yard debris. Several jurisdictions in Washington have successfully implemented food-waste composting by allowing residents to deposit food waste in the yard-waste collection containers; however, the tipping fee for mixed yard waste and food waste is often higher than for just food waste. We are monitoring the experience in neighboring jurisdictions, such as Portland, to assess whether this sort of approach is appropriate for our community. The yard debris contract with Waste Connections allows for a commingled food and yard waste pilot project collection program.
3. **Encourage large-scale vermicomposting to handle organic materials** at a local level. State WAC 173-350-225-A allows conditionally exempt vermicomposting operations to handle food scraps locally which could create local jobs. Up to 250 cubic yards of material generated on- or off-site, or up to 1,000 cubic yards of material generated on-site at any one time are allowed with submission of *Solid Waste Exemption* notification to Clark County Public Health and the Washington State Department of Ecology. It would be subject to Public Health inspection and oversight and annual reporting would be required if material is distributed off-site.
4. **Work with partner agencies to increase food donations.** Nonperishable and unspoiled perishable food can be donated to food banks, soup kitchens, shelters, and other charitable organizations. A great deal of food is wasted that is still edible and could be provided to those who need it. The County could explore methods to assist these programs to prevent the waste of edible food and divert food to those in need.
5. **Focused outreach to residents and businesses on practices to reduce the volumes of food waste generated.** This recommendation has a clear link to the Education and Promotion Chapter (5) of the plan and also provides an important strategy for addressing the "upstream" generation of waste that is discussed in the Sustainable Choices Chapter (3). We all spend significant portions of our income on purchasing food and too much of this food spoils before it can be eaten by people or animals, so changing food purchasing, preparation, serving, storage and related practices so less waste is produce can result in multiplied benefits and may also reduce the amount of food waste that needs to be processed through composting, landfilling or other practices. EPA has worked with a number of communities including many in the northwest to develop an off the shelf outreach program that can be implemented with a modest local investment. It is called the "Food: Too Good To Waste" program and offers resources that can be adapted on the web or through outreach materials to encourage approaches that fit into some residents lifestyles.
6. **Consider landfill bans.** A significant quantity of yard debris and wood waste continues to be disposed as solid waste. The County could develop a plan for increasing diversion of yard debris and wood waste from disposal by increasing efforts to divert wood at its transfer facilities, by requiring separation of wood waste from other materials brought to the stations, by yard debris and wood waste disposal bans, or other means. Increased diversion of yard debris and wood waste may be particularly important in the future as demand and prices paid for biomass increase.

End of Chapter 13

Chapter 14

Special Wastes

This chapter describes the management and disposal systems for special wastes in Clark County. Special wastes are solid wastes that require special handling and generally are collected, processed recycled and/or disposed of separately from other wastes. Special wastes addressed in this chapter include but are not limited to:

- Biomedical wastes;
- Paper and mill wastes;
- Agriculture wastes;
- White goods;
- Bulky wastes;
- Vehicle wastes: hulks and auto fluff;
- Tires;
- Industrial process waste or sludge.
- Contaminated soils;
- Ash;
- Asbestos;
- Dredge spoils;
- Street sweeping / vector waste (municipal only);
- Animal carcasses; and,
- Disaster debris.

Clark County has worked with local jurisdictions and the franchised hauler to develop a *Special Waste Management Plan*. The Plan provides guidance on the management of the aforementioned special wastes and other special waste not typically included in the *Comprehensive Solid Waste Management Plan* (Plan) or addressed in other chapters of the Plan. The *Special Waste Management Plan* is included as an addendum to the Plan and can be found in [Appendix K](#). Also included in [Appendix K](#) is a Decision Tree for Assessing SWMP Applicability of Special Waste handling and collection. *Chapter 12 Construction and Demolition Wastes* contains information on construction and demolition wastes. *Chapter 13 Organic Wastes* contains information on landclearing and agricultural wastes.

Biomedical Wastes

Definitions

Biomedical waste (also referred to as “red bag”, infectious, or biohazardous wastes) is generally defined as “infectious and injurious waste originating from a hospital, medical office, veterinary or hospice care facility.”

Regulations

There are federal and Washington State regulations directed specifically at the storage, transport and disposal of biomedical wastes. The State of Washington’s RCW 70.95K.010 establishes a uniform statewide definition for medical waste. The Washington Utilities and Transportation Commission (WUTC) regulates the hauling of medical wastes under its “G-certificates,” issued under RCW 81.77 authority. Rules relating to the safe transportation of biohazardous or biomedical waste are found in WAC 480-70. The United States Department of Transportation also regulates the transportation of regulated medical waste over the highways in jurisdictions that fall beyond the WUTC in Title 49, Code of Federal Regulation, Parts 170-189. Incinerator burn requirements are found in RCW 70.95D and RCW 70.95.710.

The Oregon medical waste requirements must be observed by Washington State communities exporting waste to Oregon landfills. Oregon requirements apply to medical waste generated from medical facilities and residences. State of Oregon regulations ORS 459.386 through 459.405 and OAR 340-93 establish general rules pertaining to the management of infectious wastes in Oregon. Clark County Solid Waste Code (Chapter 24.12) contains infectious waste segregation requirements for generators, requirements and standards for transporters, requirements and standards for storage/treatment facilities and biomedical waste disposal requirements.

Requirements for Generators

The most significant medical waste management issue is the safety of solid waste facility operators, haulers and medical waste facility personnel. There is a growing amount of medical waste in the residential waste stream. Currently, there are pharmacies within Clark County which are accepting used containerized syringes back from their customers. Residents may also take used containerized syringes to the transfer stations. Medical (infectious) waste-certificated haulers provide collection services to larger generators of medical waste, such as hospitals, clinics, labs, veterinarians etc.

Collection

Most medical waste generated by large generators in Clark County is collected by Stericycle. Stericycle collects untreated biomedical wastes that have been properly packaged from large and small biomedical waste generators in the county. Some generators self-haul their biomedical waste to permitted disposal facilities in accordance with federal and state regulations. Stericycle has been authorized under UTC to collect statewide. Waste Connections has authority to collect in Clark and Skamania counties. The CRC transfer facilities provide drop off collection locations for syringes only at each facility. Syringes are also sometimes inadvertently delivered to the West Van Transfer Station through the residential recycling collection system and these pose a serious issue for worker safety as sorters might be accidentally stuck. When these are discovered, procedures are in place for the syringes to be carefully removed from the recyclables picking line when the materials are sorted. The collector has implemented special communications to caution the public about proper handling of household syringes/sharps.

Disposal

Biomedical wastes are transported to solid waste facilities permitted to accept biomedical waste. These facilities include MSW or specialized medical waste incinerators and macrowave or autoclave units that sterilize biomedical wastes. Clark County's pathological and chemotherapy waste is incinerated (at the Covanta Marion Incinerator in Brooks, OR) as required by law. All other medical waste is processed at the Stericycle facility located in Morton (Lewis County), Washington and is rendered sterile through a heat (macrowaves) process also called "electrothermal deactivation". Treated waste is then ground up and shipped to a MSW landfill (Roosevelt Regional).

The CRC transfer facilities and Finley Buttes Landfill process and dispose of syringes delivered to the facilities through a special waste permit issued by Oregon Department of Environmental Quality (DEQ). The syringes are containerized in drums at the facilities then transported to the landfill for disposal. The syringes are not required to be sterilized prior to disposal. The DEQ permit requires the landfill to have a special waste management plan in place prior to accepting the waste.

Quantities

The amount of biomedical waste generated annually in Clark County is estimated to be several hundred tons. This volume is expected to increase in the future due to continued population growth, as well as increased biomedical waste segregation by smaller generators. Some smaller generators may still be disposing biomedical waste with their general solid waste. However, an increased level of awareness, liability and the availability of collection services for smaller generators has likely reduced illegal and improper disposal.



Community Education Programs

Currently, many large- and small-quantity medical waste generators in Clark County appear to be properly informed and knowledgeable about proper biomedical wastes practices. Clark County provides education about correct management practices for residential generators. The community education program targets residential generators who produce small quantities of sharps. Residential sharps generators are provided education about correct containers and the collection opportunities afforded them by pharmacies, transfer facilities and their solid waste collector.

Paper and Mill Wastes

Definitions

This section specifically addresses only the manufacturing by-products of the County's paper mills, as well as other mills. (Wood waste recycling, including the management of wood waste at industrial facilities, is addressed in the chapters on Construction and Demolition Wastes and Organic Wastes.) These wastes include, but are not limited to waste water treatment sludges, calcium carbonate and mud waste.

Assessment of Conditions

Georgia-Pacific operates Lady Island Landfill, a private landfill, adjacent to its Camas mill. This facility is permitted as a limited-purpose landfill, which may accept both wood waste and dried wastewater sludge. The mill generates only incidental amounts of wood waste due to modification in the milling process (i.e. greater combustion of primary solids and the facility no longer receives whole logs). The mill does generate ash from their boiler that is powered by a combination of hog fuel and fossil fuel for energy recovery. Ash generated from boiler operations is either placed in their limited-purpose landfill or hauled to a regional landfill.

Rufener Landfill, a private landfill, on N.W. Lower River Road in Vancouver was permitted as a limited-purpose landfill to accept primary clarifier fiber solids from the former Boise Cascade paper mill. Boise ceased generating clarifier solids in April of 1996. The site is undergoing closure and/or decommissioning as discussed in the Landfill Disposal Chapter.

Quantities

Based on Georgia-Pacific waste generation rates of the last several years, the capacity of the Lady Island Landfill exceeds the 20-year period covered by this Plan.

Agriculture Wastes

Definitions

Agricultural wastes are "wastes resulting from the production of agricultural products, including, but not limited to, manures and carcasses of dead animals weighing each or collectively in excess of fifteen pounds." Agriculture wastes consist of three general types of wastes: crop wastes; livestock wastes; and agricultural chemicals. Crop wastes include residues from grain, hay, vegetables, seed crop production and trimmings from fruit trees. Livestock wastes include manure and animal carcasses. Agricultural chemical wastes are composed primarily of empty agricultural chemical containers and banned or unused agricultural chemicals. The management of animal carcasses is addressed separately later in this chapter.



Photo: USDA

Assessment of Conditions

Agricultural wastes are regulated in Washington under WAC 173-350. In Oregon, agricultural wastes are regulated under OAR 394-94-040.

Most agriculture waste generated in Clark County never enters the MSW stream. Instead, this waste is most often disposed on-site. The three principal methods for disposing of agricultural wastes on-site are:

- Land application or composting (manure and crop residue);
- Burning (trimmings and crop residue); or,
- Use as animal feed (crop residue).

The agricultural wastes that typically enter the MSW stream are non-regulated agricultural chemical containers, small animal carcasses, and some minor amounts of crop residue and tree trimmings. These wastes are typically landfilled or composted. Most agricultural chemical containers can be returned to the manufacturer or supplier for reuse or disposal. These containers, if not properly rinsed, are generally regulated in Washington under WAC 173-303.

Quantities

The amount of agricultural waste generated in Clark County is difficult to determine because most agricultural wastes are currently disposed on-site. Information on the specific types and quantities of livestock that produce wastes or on the farm acreage and crops being cultivated in the county and cities is available through the WSU Cooperative Extension.

Current County (24.12.060) and cities' code allows for burial of wastes, which were generated on site. This includes solid waste resulting from agricultural activities. On-site burial of regulated waste such as hazardous waste, toxic waste, bio-medical waste, and certain types of special waste is prohibited. The ability to bury certain solid waste on-site results in problems such as health and sanitation problems, contamination of soils and/or water, attraction of vectors, settling of land into depressions, discovery of unwanted buried and subsequent removal of wastes by new property owners. This plan recommends that the on-site burial of solid waste be prohibited.

The Washington Department of Agriculture has held pesticide collection events throughout the state. The intent is to collect and properly dispose of banned, "out-of-specification" and expired pesticides that cannot be applied to crops.

White Goods

Definitions

Large household appliances, also known as "white goods," are defined as appliances, such as washing machines, water heaters, clothes dryers, stoves, refrigerators and freezers. White goods are easily recycled for their metal value after an appliance has been stripped of insulation, plastic, glass, non-ferrous metals, lubricants, refrigerants, and other contaminants. Most of the materials in white goods are recyclable, but environmentally threatening components, such as PCB-contaminated capacitors in older appliances, mercury-containing switches and oil-filled compressors, or refrigerants in refrigerators, freezers or air conditioners can cause environmental contamination when damaged.



Photo: Mother Earth News

Assessment of Conditions

White goods can be picked up curbside by the contracted or franchised haulers and are also collected or accepted by several private companies in Clark County. Some appliance companies accept self-hauled white goods or remove used white goods as part of the pick-up or delivery service for new appliances. The following companies accept self-haul white goods or provide curbside collection:

- Metro Metals NW/Pacific Coast Shredding
- Certificated and contracted solid waste haulers
- Columbia Resources Company (transfer station)
- Licensed recyclers operating within the City of Vancouver
- Appliance repair, reuse, and/or retail businesses operating within the region
- Clark Public Utilities Program

These companies may charge a handling or stripping fee for appliances that are self-hauled to their drop-off facilities or may also offer a payment or donation receipt based on an appliance's scrap value. WUTC-certificated and city-contracted haulers also provide curbside pickup of white goods upon request, generally for a fee. Most white goods, after stripping, are recycled through Metro Metals NW/Pacific Coast Shredding, Inc. in Vancouver. Additional metal recycling firms operate in Portland, Oregon and surrounding communities.

The City of Vancouver, in coordination with its contracted collector, offers each residential waste customer a single free curbside pick up of a major appliance during the year, when scheduled in advance through the hauler. Some City of Vancouver neighborhood associations also allow white goods to be dropped off during their annual neighborhood clean up.

Refrigerants

State and federal regulations to control the release of refrigerants into the atmosphere have significantly affected white goods handling. Refrigerants, such as Freon, are almost universally used in refrigerators, freezers and air-conditioning systems. In response to both the federal and state Clean Air Acts, no refrigerants may be released from refrigeration, commercial or industrial appliances. As a result, venting refrigerants during white goods processing or disposal is not permitted. White goods processors must recover refrigerants from appliances.

The Washington Department of Ecology has adopted WAC 173-303-506, for the management of used or "spent" refrigerants. The rule also conditionally exempts spent refrigerants from WAC 173-303, Dangerous Waste Regulations, when they are reclaimed or recycled.

CRC Transfer Stations

The CRC transfer stations provide central locations for the collection of white goods and bulky wastes. The transfer stations also assist in the distribution of public education materials concerning:

- Recycling opportunities for oversized wastes;
- Current handling requirements for white goods.



Bulky Wastes

Definitions

Bulky wastes are large items of refuse such as furniture and other oversized wastes, that would typically not fit into residential disposal containers. For the purposes of this Plan, bulky wastes do not include white goods, such as washing machines, water heaters, clothes dryers, stoves, refrigerators and freezers.

Assessment of Conditions



Currently, residential bulky wastes are not collected on regular routes by the WUTC certificated collection company, Waste Connections, Inc. Waste Connections will provide on-call services for bulky wastes; there is an additional fee for this service. A number of small private collection operators informally advertise as “clean-up” services, to collect and dispose of these oversized wastes from residential generators. The hauling bulky waste by a clean up service provider is typically considered incidental to the service, and is not regulated by the WUTC.

In the cities of Vancouver and Camas, bulky wastes are collected at the curb on certain days of the week by reservation only. In the City of Vancouver, this service is provided by the contracted hauler Waste Connections, Inc. In the City of Camas, the service is provided by the City Solid Waste Division. Common items such as chairs, sofas, and mattresses have set collection rates.

The City of Vancouver sponsors annual neighborhood cleanup events for bulky wastes in active and recognized City neighborhoods.

Some bulky wastes from larger non-residential generators are collected by Waste Connections, Inc., often via drop box service and some bulky wastes are self-hauled by both residential and non-residential generators to CRC transfer stations.

Vehicle Wastes: Hulks and Auto Fluff

Definitions

Vehicle hulks are not specifically defined in WAC 173-350. For the purposes of this Plan, “vehicle hulks” are defined as abandoned or discarded vehicle bodies. ORS 459.247 prohibits the disposal of vehicle hulks in landfills.

Auto fluff is generally defined as the light weight material left over after vehicles are shredded and the majority of all metals are removed. Metal is magnetically separated from auto fluff in the shredding process. The material is not recyclable, but may be used as cover material at a landfill.

Travel trailers and camper shells are considered MSW and bulky wastes, not vehicle hulks. Recreational vehicles are considered vehicles. Mobile Homes are not considered hulk vehicles for the purposes of this chapter. However, the transportation, demolition and disposal of mobile homes involve a number of regulatory challenges similar to hulk vehicles. Clark County has collaborated with the various agencies having jurisdiction over the transportation, demolition and disposal of mobile homes to develop information to assist residents and contractors with the process. Clark County has created a brochure on demolition and disposal of mobile homes.

Assessment of Conditions

Code enforcement officers in the cities and Clark County, along with local law enforcement agencies (including the Clark County Sheriff’s Department and the State Patrol) jointly administer the abandoned vehicle hulk management program in Clark County.



Photo: WA Dept. Ecology

When an abandoned vehicle is determined to be a public nuisance, one of these agencies contacts the property owner and requests that the vehicle be removed or stored out of sight. If the registered owner of the vehicle cannot be located or is not responsible, the affected property owner can be authorized by the local law enforcement agency to have the vehicle towed and scrapped. Noncompliance with the request will result in the agency getting a licensed hulk hauler to remove the vehicle. Sometimes the vehicles are filled with garbage, which creates additional costs.

Local wrecking yards and metal recyclers also accept vehicles for disposal when accompanied by a title certificate proving ownership. Auto hulks have fluids, refrigerants, air bags and tires removed, and then they are crushed and transported to the auto shredder operation at Pacific Coast Shredding LLC in Vancouver or Schnitzer Steel Products Company in Portland.

Hulk vehicles delivered to the shredding facilities may contain fluids such as gasoline, oils, brake fluid and antifreeze. Clark County encourages the proper management of these fluids by residents or hulk haulers. Residents may set antifreeze and oil at the curb for recycling if they are a curbside recycling customer and follow the specific preparation requirements. Residents can also take antifreeze and oil to the transfer stations for recycling. Hulk vehicles may contain mercury switches. Clark County recommends the removal of mercury switches prior to shredding. The [Washington Department of Ecology's Mercury Switch Program](#) assists wrecking yards with the cost of removing these devices prior to recycling. Pacific Coast Shredding has participated in the Ecology program since 2007.

Tires

Definitions

RCW 70.95 defines "waste tires" as "tires that are no longer suitable for their original intended purpose because of wear, damage or defect." It defines "storage" or "storing of tires" as "the placing of more than 800 waste tires in a manner that does not constitute final disposal of the waste tires." It defines "transportation" or "transporting" as "picking up or transporting waste tires for the purpose of storage or final disposal."

Regulations



Photo: Ehow.com

RCW 70.95.500 requires that only authorized sites be used for tire storage or disposal of vehicle tires. Other disposal on land or in water is illegal and is punishable by a civil penalty, which shall not be less than \$200, and not more than \$2,000 for each offense. Beginning in July of 2005, the state legislature enacted WAC 458-20-272 reinstating a \$1 per tire charge. The legislature limited the use of funds generated by the fee to clean up of unauthorized tire piles and measures to prevent future accumulation of unauthorized tire piles.

WAC 173-350-420 establishes general facility standards for temporary storage of piles of used vehicle tires. In Oregon, waste tires are regulated under ORS 459.705, ORS 459.790, and OAR 340-93-040. ORS 459.247 prohibits the disposal of whole passenger vehicle tires in landfills. Off-road and chipped tires are allowed in landfills.

Assessment of Conditions

Currently, waste tires are accepted from self-haul residential and non-residential generators at the CRC transfer stations. The waste tires are segregated by tires on rims and tires not on a rim then placed in trailers for shipment. Tires on the rim are transported to Finley Buttes Landfill where they are removed from the rim, shredded and landfilled. Tires that are off the rim are transported to RB Tire Recycling located in Portland, OR. RB processes the tires into a crumb rubber product that is utilized in a variety of prod-

ucts including rubber mats. Waste tires are also collected by retail tire outlets and stored for later transport to processing facilities. Large retail outlets transport their waste tires to various operations. Currently, most waste tires generated within the County are shredded and then recycled.

Illegal dumping of tires is an ongoing concern. Tires collected within the County right of way are temporarily stored at county maintenance facilities before transport to processing facilities. As part of the City of Vancouver's Spring Clean-up program, each garbage customer receives a coupon redeemable for recycling/disposal of up to four passenger tires. Only City residents are eligible to participate. The City pays for the Spring Clean-Up program utilizing franchise fees collected from garbage customers.

Industrial Process Waste or Sludge

Definitions

Sludge is generally defined as "a semi-solid substance consisting of settled sewage solids, combined with varying amounts of water and dissolved materials generated from a wastewater treatment plant or other industrial source." Industrial process waste includes materials that have similar physical properties to sewage sludge, but may contain inorganic chemicals that result from a specific industrial process.

Regulations

Ecology regulates industrial process waste or sludge as solid waste in Clark County. Wastewater treatment by-products that qualify as Class A or Class B biosolids are subject to [WAC 173-308](#).

Testing requirements regarding dangerous waste designation of industrial process waste may be subject to management requirements of [WAC 173-303](#). Waste designated as "dangerous" is outside the scope of this plan. Refer to *Appendix K Special Waste Management Plan* for additional guidance. In Oregon, sludge disposal is regulated by DEQ under [OAR 340-94-040](#).

Assessment of Conditions

Permitting and regulation of biosolids (wastewater treatment solids) is subject to [WAC 173-308](#), with oversight provided by the Washington Department of Ecology and local Health Departments with delegated authority.

The amount of industrial process waste or sludge generated in Clark County is largely unknown because there are no requirements to report. Industrial process waste is generally managed as described in the Special Waste Management Plan for Clark County found in *Appendix K*.

Contaminated Soils

Definitions

Contaminated soils are considered a problem waste as described in [WAC 173-304](#). Problem wastes are defined as "...soils removed during the cleanup of a remedial action site, or a dangerous waste site closure or other cleanup efforts and actions and which contain harmful substances but are not designated dangerous wastes." [WAC 173-303](#) should be reviewed for possible applicability to particular materials or sources.

Regulations

The Washington Department of Ecology has established guidance for the handling and disposal of contaminated soils in Washington. Petroleum-contaminated soils are regulated in *Guidance for Remediation of Petroleum Contaminated Sites* (WA

Ecology No. 10-09-057). In Oregon, contaminated soils are regulated under OAR 340-93-170.

Current Practices

Finley Buttes and Wasco County landfills are permitted to dispose of petroleum-contaminated soils. Other landfills permitted to dispose of petroleum contaminated soils are the Roosevelt Regional Landfill in Klickitat County, Washington; and the Columbia Ridge Landfill in Gilliam County, Oregon. Petroleum-contaminated soils can also be delivered to the CRC transfer stations, with advance notice.

Appropriate Treatment

These soils must be handled in accordance with WAC 173-303 (Dangerous Wastes). Guidance should be obtained from the Washington Department of Ecology on this issue. Some petroleum-contaminated soils can be treated on-site to lower their contamination levels.

Ash

Definitions

Ash is generally defined as “residue including any air pollution flue dusts from combustion or incineration of material including solid wastes, biomass and fuels.”

Regulations

Ash from MSW incineration is regulated under RCW 70.138 and WAC 173-306 in Washington. Ash from other forms of incineration, such as sludge or wood waste incineration, is regulated under WAC 173-303 or 173-350, depending on the characteristics of the ash. In Oregon, MSW ash is regulated by DEQ under OAR 340-93-190.

Quantities

The City of Vancouver Westside Wastewater Treatment Plant currently incinerates its de-watered sewage sludge. Solids from the Marine Park Wastewater Treatment Plant are also handled at the Westside Plant. The incinerator ash and grit is transported to Finley Buttes Landfill through the West Van transfer station. The City is investigating options to utilize the ash as an additive to construction or building materials.

The Georgia-Pacific mill located in Camas generates ash from burning hog fuel to power the boiler. The mill indicates that the annual amount of hog fuel boiler ash it has generated and landfilled has varied considerably from year to year.

Asbestos

Definitions



Asbestos is defined in 40 CFR Part 61, SWAPCA 476 and WAC 296-65. Asbestos is the commercial term for a group of highly fibrous minerals that readily separate into long thin microscopic fibers. The fibers are heat resistant and chemically inert and possess a high electric thermal insulation quality. As a result, asbestos was used when a non-combustible, non-conducting or chemically resistant material was required. However, the fibers are considered a carcinogenic air pollutant, when inhaled and the use was widely restricted by the U.S. EPA in the late-1980's.

On July 12, 1989, EPA issued a final rule banning most asbestos-containing products. In 1991, this regulation was overturned by the Fifth Circuit Court of Appeals in New Orleans. As a result of the Court's decision, the following specific asbestos-containing products remain banned: flooring felt, rollboard, and corrugated, commercial, or specialty paper. In addition, the regulation continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as “new uses” of asbestos.

Regulations

issued new National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations in 1990 that place additional reporting and operation requirements on landfill operators who accept asbestos-containing waste.

Friable asbestos is regulated in Washington under WAC 173-350; in Clark County by the Southwest Clean Air Agency under SWCAA 476 and Labor & Industries under WAC 296-65. SWCAA issues permits for asbestos removal and demolition. In Oregon, asbestos is regulated by DEQ under OAR 340-25.

Current Practices

Currently, most self-hauled and commercially collected asbestos waste in the County appears to be disposed of at regional landfills in Washington or Oregon and through the CRC transfer station system.

Asbestos processing at the CRC transfer station facilities is conducted by trained personnel who oversee the unloading and processing of the waste. The asbestos waste hauler is responsible for providing trained asbestos handling personnel to unload bagged asbestos waste by hand and place the wastes in the designated area. Asbestos must be properly bagged and sealed before the facility will accept it. Asbestos is placed in lockable containers for storage at the facility for up to 45 days. Asbestos containers are transported first to Washougal Transfer where the material is consolidated in a trailer. The trailers are transported to Wasco Landfill for final disposal. The landfill identifies the area where the asbestos is disposed in the landfill utilizing GPS technology. A record of the disposal location is maintained by the landfill.

Landfills permitted to dispose of asbestos include Roosevelt Regional Landfill in Klickitat County, Washington; Wasco County Landfill in Wasco County, Oregon; Finley Buttes Landfill in Morrow County, Oregon; Columbia Ridge Landfill in Gilliam County, Oregon; and Hillsboro Landfill in Washington County, Oregon.

Dredge Spoils

Definitions

Dredge spoils consist of soils and other organic materials generated by dredging operations. Dredge spoils are often used as upland fill and generally do not enter the MSW handling and disposal system unless testing reveals contaminants. If contaminants are found, the spoils would be classified as a Solid or Dangerous Waste and require special disposal.

Assessment of Conditions

Dredge spoils are subject to the same waste designation rules as contaminated soils. Independent testing and the CCPH's approval is required before dredge spoils will be accepted for landfilling. In addition, dredge spoils must be dewatered before they are accepted for disposal. Wasco County Landfill operates a dredge spoils dewatering facility in The Dalles, OR to process dredge spoils prior to disposal in the landfill. Dewatered and dried dredge spoils are acceptable cover material at Finley Buttes, Wasco County and other landfills in Washington and Oregon. If testing reveals the contamination is below certain levels, spoils can be used as fill with certain conditions.



Photo: NOAA

Street Sweepings and Vector Wastes

Definitions

Vector wastes or catch basin wastes are collected through private collection contractors and local municipal jurisdictions. Street sweeping wastes are collected primarily through local municipal jurisdictions. The material consists of soils, gravel, vegetative matter and various solid wastes such as cigarette butts, paper and beverage containers. The soils and vegetative matter are generally contaminated by hydrocarbons.

This section addresses only those wastes collected and managed by local jurisdictions. These wastes are typically considered "Solid Waste" as defined by RCW 70.95, and are managed in accordance with applicable federal, state and local regulations.

Assessment of Conditions – Street Sweepings

Clark County Public Works collects and stores street sweeping material at a permitted processing site located at Whatley Pit. The Cities of Vancouver, Camas, Washougal and Battle Ground and the Washington State Department of Transportation also deliver street sweepings to Clark County's permitted processing site located at Whatley Pit.

When a large enough pile is accumulated a large trommel screen is brought on site to remove the solid waste debris. The screened organic material is utilized as soil amendment for roadside landscape projects and parks projects.

Assessment of Conditions – Vector Waste (Catch basin cleanout waste)

Clark County Public Works operates a decant facility to process vector waste generated in the County. The facility is located at Whatley Pit. The Cities of Vancouver and Battle Ground as well as the Washington State Department of Transportation also utilize the decant facility at Whatley Pit for waste collected in vector trucks.

The City of Camas operates a decant facility at the Camas Public Works Operation Center. Other local jurisdictions manage these materials through similar means.

The material collected at the Whatley Pit decant facility is dewatered and screened to remove the excess liquids and debris. The remaining organic material is utilized as soil amendment for roadside landscape projects and parks projects.

Animal Carcasses

Animal carcasses in excess of 15 pounds are considered agricultural wastes. Chapter 246-203-121 WAC and Chapter 16.68 RCW "Disposal of Dead Animals" address the minimum requirements for this special waste. While these rules allow for burial of animal carcasses with a minimum of three feet of cover and 100' from any well or surface water, this Plan recommends against this practice unless an emergency or disease outbreak occurs, whereby disposal by means of burial is deemed essential to prevent the spread of disease and authorized by the Health Officer. In these rare instances, the minimum requirement of three feet of cover and 100' distance from any well or surface water would apply. This Plan recommends the following acceptable practices for disposal of dead animals in Clark County. All carcasses must be transported to the disposal site within 24 hours.

- Rendering by a licensed rendering company;
- Incineration at a permitted facility suited for this waste type;
- Composting utilizing "Best Management Practices" found in Mortality Composting Management Guidelines developed by the department of Agriculture.
- Disposal at a CRC Transfer Facility

Animal feeding operations should incorporate best management practices for managing animal carcasses generated from on-going operations.

Disaster Debris

The Regional Solid Waste Management System is responsible for the handling of debris resulting from a disaster, both natural and man-made. There is a need for the development of a comprehensive plan to establish responsibilities for the management of debris accumulated as a result of an emergency or major disaster. This disaster debris plan should describe the policies and procedures in managing debris on a regional basis; specify goals, recommend practices and implementation strategies; provide tools and reference information to facilitate debris management and recovery; and address dissemination of information to the public. The plan is needed to ensure that the disaster debris efforts are coordinated, efficient, effective, and environmentally sound. The plan will be based on the following:

- Disaster debris will be managed according to the following hierarchy – Reuse, Recycle, Recover, Reduce and Landfill
- Debris will be removed from the right-of way
- Debris clean-up areas will be prioritized to remove first from public roads and streets and to allow access to emergency operations facilities and essential public facilities
- Eliminate debris-related threat to public health and safety
- Debris removal from private property is the responsibility of the property owner
- Disaster debris that is to be placed in a landfill will be taken to a regional solid waste system facility
- Normal garbage service will be restored as quickly as possible

Recommendations

1. **Continue to support the legal private sector haulers** to be the primary provider of services for the collection, processing and recycling of white goods, bulky wastes, vehicle hulks, tires, petroleum-contaminated soils, ash and other special wastes as defined by the *Special Waste Management Plan* in *Appendix K*.
2. **Utilize the process described in the Special Waste Management Plan** (Appendix K) to determine if materials should be handled as special waste or not and by whom.
3. **Develop a system plan** for handling disaster debris.
4. **Work with state regulatory agencies to develop a waste management plan** for proper disposal of animal carcasses in the event of disease outbreak or disaster.
5. **The county and cities should update their ordinances** to regulate on site burial of Solid Waste; and prohibit on site burial of Moderate Risk Waste, Hazardous Waste, Biomedical Waste, or certain Special Waste on residential, commercial, industrial or agricultural property.
6. **No new Special Waste landfills** are to be located in the County (due to the sole source aquifer) – rely on recycling and out-of-county disposal.
7. **As viable regional technologies and markets evolve** for recovery of tires, ash, or other special wastes, review and evaluate local policies that would support economic recovery over landfill disposal.

End of Chapter 14

Chapter 15

WASTE MONITORING AND PERFORMANCE MEASUREMENT

This chapter explores what data is needed to measure the effectiveness of the County's waste reduction, recycling and waste diversion programs.

Primary reasons to monitor recycling and waste generation data:

- Assisting with planning and decision-making;
- Setting waste reduction, recycling or diversion, objectives and targets;
- Identifying waste generation and recycling trends;
- Determining the viability and capacity of existing solid waste recycling and disposal facilities;
- Evaluating economic impacts (current and future years) of the solid waste management system.

In order to improve programs, performance data must be accurately measured and used consistently. Targets are intended to measure progress towards the end result. For example, the end results of an effective solid waste reduction program are to reduce the amount of materials generated, landfilled, and to reduce toxicity. Table 15-1 shows the county's targets.

Table 15-1 Clark County Solid Waste Program 5-Year Targets

Increase the recycling rate to 55 percent and the diversion rate to 70% by:

- Reducing per person per day landfilled volumes (pounds) by 5%
- Reducing per person per day amounts of waste generation by 5 pounds

Note: 2012 Baseline. Goal Date = 2017

The following types of data are tracked to measure a program's effectiveness:

- Waste recycling and diversion rates
- Waste generation
- Pounds per household per month collected through residential curbside recycling programs;
- Waste Stream Analysis Data

Assessment of Conditions

In 1989, the statewide recycling rate was 27% and Washington State's legislature originally established a statewide recycling goal of 50 percent which was updated in 2002 as a goal to be reached in 2007. The state recycling rate reached 49% in 2010 and for 2011, the 50% goal was finally reached. **The statewide diversion rate for 2011 is 54%. For the County during 2011, the 50% recycling goal was achieved and a 64% diversion goal was reached.**

Why should we be concerned about waste composition?

To reduce and manage waste effectively, we need to know what is in the waste stream. This changes over time as the economy changes, new products and packaging are created, and societal behavior changes. It is essential that we have current data on the waste stream so that we can make good waste management decisions, lowering our environmental and economic costs.

- Washington Department of Ecology

Waste Recycling and Diversion Rates

The recycling rate is the percentage of all waste generated by residents and businesses that is re-manufactured and made into new products. Calculating the recycling rate is complicated. It involves collecting garbage and recycling data from a variety of measurable sources. Only those materials re-manufactured into new products are considered to be recycled, according to guidelines established by the Environmental Protection Agency (EPA). The following section shows the calculation of the Clark County waste recycling rate.

Equation For Calculating the Waste Recycling Rate

MSW Recycling Rate =	Total MSW Recycled
	Total MSW Generated

Note:

Total MSW Generated = Total tons Recycled + Total tons Recovered + Total tons Disposed

MSW = Municipal Solid Waste (does not include industrial, special and demolition wastes)

Recycling Rate (2011) 50.2% =

$$\frac{315,918 \text{ tons}}{315,918 \text{ tons} + 84,166 \text{ tons} + 228,718 \text{ tons}}$$

The diversion rate is the percentage of all waste generated by residents and businesses that is recycled and recovered (not made into new products). Examples of waste recovery include: wood and yard wastes, motor oil and hazardous wastes and tires that are burned for fuel, concrete, asphalt and rubble that are crushed and used as aggregate rock substitute; and rendering.

Equation For Calculating the Waste Diversion Rate

MSW Diversion Rate =	Total MSW Recycled + Total MSW Recovered
	Total MSW Generated

Note:

Total MSW Generated = Total tons Recycled + Total tons Recovered + Total tons Disposed

MSW = Municipal Solid Waste (does not include industrial, special and demolition wastes)

Some on-site or home diversion practices have not been included in the diversion calculation (i.e. backyard composting, grasscycling, vermicomposting).

Diversion Rate (2011) 63.6% =

$$\frac{315,918 \text{ tons} + 84,166 \text{ tons}}{315,918 \text{ tons} + 84,166 \text{ tons} + 228,718 \text{ tons}}$$

Table 15-2 Annual Recycling and Waste Diversion Rates

Year	Recycling Rate ¹	Waste Diversion Rate ²
2000	31%	52%
2001	30%	43%
2002	30%	43%
2003	36%	48%
2004	37%	52%
2005	38%	55%
2006	36%	56%
2007	41%	56%
2008	44%	53%
2009	46%	56%
2010	49%	57%
2011	50%	64%

Source: Clark County Solid Waste Program

1 Recycling Rate is percentage of waste generated that is re-manufactured but not made into new products.

2 Diversion Rate is percentage of waste generated that is recovered but not made into new products.

Tracking non-residential tonnage (one component included in the above calculations) is challenging, and the following issues must be considered when working with the data:

- non-residential programs are not subject to contractual reporting requirements
- non-residential waste diversion and recycling is driven by the competitive free market, and data is considered proprietary information
- commercial tonnages are often under-reported; some recyclables are transported out of the county and some recycling merely goes unreported, as in the case of retail/wholesale corrugated shipments that go directly back to distributors and unknown recyclers

The City of Vancouver’s Recycling Ordinance, VMC Chapter 5.62, establishes licensing procedures for all commercial recyclers operating within the City of Vancouver through which collectors report annual tons collected both in the City and outside the city within Clark County. County solid waste staff work with Vancouver solid waste staff and access state data to determine commercial recycling tonnage estimates within the City of Vancouver and Clark County.



Wastebusters 2012 Challenge

Waste Generation

While Washingtonians and Clark County residents are recycling more, we are also generating more waste. We live in a throwaway society but we can, as stated by Washington State's *Beyond Waste Plan*, "transition to a society that views wastes as inefficient uses of resources and believes that most wastes can be eliminated. Eliminating wastes will contribute to environmental, economic and social vitality."

The amount of garbage produced by each person in the state has fluctuated during the past five years. In Clark County during 2008, 2009 and 2010, the pounds of waste produced per person per day decreased. This was due primarily to the economic downturn during those years where overall tons landfilled also decreased. In 2010, the waste generation rate increased. In 2011, the average waste per person each day was 7.95 pounds which is below the waste generated in 2007. As Table 15-3 shows Clark County's pounds of waste per capita generated per day.

Table 15-3 Waste Generation in Clark County

Year	Tons Landfilled	Tons Recycled	Tons Recovered	Population	Pounds Per Capita Disposed Per Day	Pounds Per Capita Recycled Per Day	Pounds Per Capita	Pounds Per Capita Generated Per Day
2003	235,176	161,295	57,192	379,577	3.39	2.33	0.83	6.55
2004	251,275	195,451	81,049	383,300	3.59	2.79	1.16	7.54
2005	265,691	224,099	95,487	391,500	3.72	3.14	1.34	8.19
2006	277,529	225,930	126,560	403,500	3.77	3.07	1.71	8.56
2007	273,619	256,105	89,300	415,000	3.61	3.38	1.18	8.17
2008	254,467	234,245	47,941	424,200	3.29	3.03	0.62	6.93
2009	231,759	241,814	52,322	432,999	3.06	2.73	0.66	6.66
2010	227,868	261,052	42,599	425,363	2.99	3.36	0.55	6.90
2011	228,718	315,918	84,166	433,418	2.89	3.99	1.06	7.95

Pounds Recycled Per Household Per Month

The County measures residential curbside recycling programs by tracking the number of pounds of curbside recyclables collected per household per month. Table 15-4 shows pounds per household per month of recyclables collected in Clark County and the cities who contract separately with Waste Connections for curbside recycling services.

Table 15-4 Pounds of Materials Recycled Per Single Family Household Per Month

Year	Urban County	Rural County	Vancouver	Camas	Washougal	Ridgefield
2003	65	77	56	58	60	n/a
2004	68	73	66	60	60	n/a
2005	65	73	59	55	53	66
2006	59	70	56	54	49	66
2007	56	66	53	55	49	57
2008	53	64	51	55	47	49
2009	56	63	44	53	47	47
2010	58	65	51	53	60	45
2011	58	64	51	54	60	55

Waste Stream Analysis Data

Clark County regularly conducts a waste stream analysis to determine the make-up of the waste that is delivered to the transfer stations for disposal. The most recent waste composition study was done during 2012 (Appendix I). Table 15-5 shows that the county's waste stream still contains significant amounts of potentially recyclable products including: paper, food waste, construction/demolition waste, plastics and metals.

When considered together, yard debris, food wastes and wood waste represent the largest quantity of potentially divertable material – 32.5 percent – still being disposed in the county's waste stream. At 8.4 percent, recyclable paper is second. The volume of wood and other construction waste is another large component of the waste stream. Due to the proximity to Portland, additional amounts of construction demolition wastes are taken outside of the Clark County Solid Waste System for disposal and/or recovery. This information is difficult to track.

It is important to also note that although the percentage of hazardous/special waste in the overall waste stream is small (0.33%), the environmental impact of improper disposal of millions of pounds of this material is great. A detailed analysis of hazardous waste is presented in the chapter on Moderate Risk Waste.

One objective of the waste stream analysis is to provide reliable baseline data that will assist the County in evaluating the effectiveness of existing and future waste reduction, recycling and recovery programs. In addition, monitoring helps determine the actual recycling and waste reduction rate in Clark County. Waste stream analyses have been conducted for 1993, 1996, 1999, 2003, 2008 and 2012.

Table 15-5 Waste Stream Analysis Data (What's Still Being Thrown Away) (Note: most recent data on left)

Category	2012	2008	2003	1999	1995	1993
Paper	14.6%	18.3%	19.2%	21.8%	23.3 %	26.1 %
Newspaper	0.6%	1.0%	1.6%	2.1%	2.0%	1.8%
Cardboard	3.1%	4.7%	4.0%	4.7%	5.3%	4.7%
Mixed Waste Paper	4.5%	6.1%	7.0%	6.4%	8.0%	8.8%
All Other Paper	6.4%	6.5%	6.6%	8.6%	8.0%	10.8%
Plastic	13.7%	13.2%	11.5%	12.9%	11.6%	10.4%
Metal	6.0%	6.8%	7.1%	7.2%	6.6%	6.1%
Aluminum Cans	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Ferrous Materials	1.4%	2.8%	3.1%	2.1%	2.4%	2.1%
Non-Ferrous Metals	0.5%	0.3%	0.2%	0.2%	0.3%	0.2%
All Other Metals	3.8%	3.4%	3.5%	4.5%	3.5%	3.4%
Organic	22.7%	17.7%	19.1%	17.8%	16.0%	17.9%
Food Scraps	20.4%	16.3%	15.3%	14.5%	11.9%	12.1%
Yard Debris	2.3%	1.5%	3.8%	3.3%	4.1%	5.8%
Glass	2.5%	2.8%	3.2%	3.2%	2.7%	2.7%
Clear Bottles	0.9%	1.1%	1.5%	1.5%	1.4%	1.4%
Brown Bottles	0.5%	0.5%	0.7%	0.7%	0.4%	0.4%
Green Bottles	0.4%	0.3%	0.4%	0.4%	0.4%	0.3%
Non-Recyclable Glass	0.8%	0.9%	0.5%	0.5%	0.5%	0.6%
Wood, CD	19.2%	15.1%	18.2%	15.9%	18.3%	18.9%
Wood	9.8%	9.7%	10.4%	8.5%	9.4%	10.5%
Construction/Demolition	9.4%	5.4%	7.8%	7.4%	8.9%	8.4%
Remaining Waste	21.3%	26.1%	21.7%	21.2%	21.5%	17.9%

Recommendations

1. **The County will continue to track program data** for goals and objectives and measure against established baselines to evaluate performance.
2. **The County will continue to work with Columbia Resource Company and Waste Connections of Washington** to improve garbage and recycling data management and tracking.
3. **The County will conduct periodic waste characterization studies at the transfer stations** to monitor the impact of waste reduction and recycling programs and to identify potential changes to the solid waste program, and to gather self-haul data.
4. **The County will maintain and regularly update a master electronic Solid Waste data report.** (See Appendix J)

End of Chapter 15

Chapter 16

Enforcement

Enforcement activities support the implementation of policies developed and documented in the solid waste management plan. This chapter reviews solid waste regulations, which govern local government programs, the solid waste industry and solid waste generators in Clark County.

The enforcement goals of Clark County's solid waste programs are:

- **To assure Clark County continues to be a healthy, clean and livable community** by promoting proper storage, transfer and disposal of solid waste by both public and private sectors through education and, if necessary, enforcement.
- **To maintain an institutional framework** that delineates the roles and responsibilities of the various enforcement agencies and ensures that the framework facilitates inter-jurisdictional cooperation, communication and the orderly, cost-effective and environmentally sound management of the solid waste system.
- **To ensure agencies with the authority to implement solid waste rules** and regulations function in a responsible and efficient manner.
- **To ensure adequate monitoring and proper handling procedures** are in place for managing various types of solid waste materials generated in Clark County.
- **To ensure agencies charged with implementing and enforcing solid waste rules and regulations are adequately staffed**, funded and managed in a cost effective manner.

Assessment of Conditions

A number of different entities are responsible for enforcing solid waste management requirements within Clark County: Clark County (Public Health, Code Enforcement and Environmental Services), the cities and towns of Clark County, Southwest Clean Air Agency (SWCAA), Washington State Department of Ecology and Washington Utilities and Transportation Commission (WUTC).

The following sections present, the authorities of the regulating agencies and the regulations which apply. Summary chart 16-1 lists the regulating agencies, regulated parties, and references the related regulations. Cities and counties must set local requirements that are at least as strict as state standards but which may be stricter.

Regulating Agencies - Clark County

Environmental Services/Solid Waste

Under RCW 70.95, the Clark County Regional Solid Waste Program is responsible for the implementation of the *Solid Waste Management Plan* and coordination with other enforcement agencies. Garbage collection in unincorporated areas is administered and collection regulations are enforced through the WUTC. Clark County's Code Enforcement staff is responsible for a variety of solid waste enforcement functions in unincorporated areas of the County including monitoring and controlling illegal dumping, littering, and solid waste-attractive related nuisances.

The water quality ordinance Chapter 13.26A prohibits the discharge of contaminants to storm drains, surface water and ground water. Prohibited discharges include spills of waste materials. The water quality ordinance also includes requirements for businesses and government agencies to use source control practices to prevent and control spills. Solid waste facilities siting and operating permits must conform to the *Clark County Solid Waste Management Plan*, as well as the *State's Solid Waste Handling Standards* (WAC 173-350) and *Criteria for Municipal Solid Waste Landfills* (WAC 173-351).

Public Health/ Environmental Health Division

The Environmental Public Health Division within Clark County Public Health (CCPH) carries the responsibility for enforcing many solid waste regulations and programs within Clark County. CCPH is mandated to assure compliance with certain State and local regulations such as WAC 173-304, 350, & 351 and certain regulations and codes of the County and municipalities.

Public Health's enforcement responsibilities extend to the following areas of solid waste management:

- **Illegal Dumping.** Public Health receives and investigates public health-related complaints resulting from illegal dumping, burying waste, and waste accumulations, improper storage and littering. They have the authority to issue clean-up orders in the appropriate jurisdiction.
- **Solid Waste Facilities.** Public Health issues, renews, and when necessary suspends or revokes permits and makes routine inspections of solid waste handling and disposal facilities. Inspections ensure that facilities meet permit requirements and do not create public health problems, nuisances, or environmental contamination. Schedules for corrective or remediation actions are established by Public Health for those facilities which are not in compliance. All permits must conform to the Clark County Solid Waste Management Plan and the State's Solid Waste Handling Standards (WAC 173-304 and 173-350).
- **Landfills.** Public Health's responsibilities for processing and evaluating permits for solid waste disposal facilities are defined in RCW 70.95.185. These state regulations require jurisdictional health departments to evaluate solid waste permit application for their compliance with all existing laws and regulations and their conformance with the Solid Waste Management Plan and all zoning requirements. Washington State Department of Ecology's review and appeal process for a permit issued by the Public Health is explained in RCW 70.95.185. Public Health inspects all (active and closed) landfills and dumpsites in Clark County at least twice a year for compliance with State (WAC 173-304, WAC 173-350), local and County regulations.
- **Special Wastes.** Public Health assures compliance with State, local and County regulations on handling, storage, transport and disposal of Biomedical Wastes, Moderate Risk Waste (including waste oil), and other special wastes such as asbestos.



Regulating Agencies - Cities and Towns

City of Vancouver	The City contracts for garbage collection. Within the City of Vancouver, the Solid Waste Division is responsible for enforcing compliance with its garbage collection regulations by all-residential and commercial collectors operating within the city local ordinance (VMC 6.12). The city contracts for all residential recycling and yard debris collection. Garbage collection service is mandatory for residences in the City of Vancouver. Vancouver also maintains a recycling licensing program for vendors that provide recycling services to business and industry within the city (VMC 5.62). There is mandatory garbage and recycling ordinance requiring all residences to participate in solid waste collection services or to at least pay for the services. The Division conducts special clean up activities within neighborhoods. The City's Code Enforcement staff enforces against litter, illegal dumping and nuisance violations.
City of Battle Ground	Garbage collection in Battle Ground is administered and collection regulations are enforced through the WUTC. Battle Ground provides for recycling and yard waste collection under the County's contract. All waste services are through subscription. The city conducts periodic clean-up events within its borders. The City's Code Enforcement office enforces against litter, illegal dumping and nuisance violations.
City of Camas	Camas provides municipal curbside and container garbage collection and contracts for recycling, yard debris and drop box collection services. There is a mandatory garbage ordinance requiring all residences to participate in solid waste collection services or to at least pay for the services. The city conducts periodic clean-up events within its borders. The City's Code Enforcement offices enforce against litter, illegal dumping and nuisance violations.
City of La Center	Garbage, recycling and yard waste collection in La Center is administered and collection regulations are enforced through the WUTC. These services are provided through subscription. The city conducts periodic clean-up events within its borders. The City's Police or Public Works Department enforces against litter, illegal dumping and nuisance violations.
City of Ridgefield	The City contracts for garbage, recycling and yard waste collection. The City is responsible for enforcing compliance with its collection regulations by all residential and commercial collectors operating within the city. There is a mandatory garbage ordinance requiring all residences to participate in solid waste collection services or to at least pay for the services. The city conducts periodic clean-up events within its borders. The City's Code Enforcement staff enforces against litter, illegal dumping and nuisance violations.
City of Washougal	The City contracts for residential, commercial/industrial and drop box garbage collection services as well as recycling and yard debris collection. The City is responsible for enforcing compliance with its collection regulations by all residential and commercial collectors operating within the city. There is a mandatory garbage ordinance requiring all residences to participate in solid waste collection services or to at least pay for the services. The city conducts periodic clean-up events within its borders. The City's Code Enforcement staff enforces against litter, illegal dumping and nuisance violations.
Town of Yacolt	Garbage and recycling collection in Yacolt is administered and collection regulations are enforced through the WUTC. The town conducts periodic clean-up events within its borders. The Town's Code Enforcement staff enforces against litter, illegal dumping and nuisance violations.

Special Purpose Districts

Southwest Clean Air Agency (SWCAA)

SWCAA has the responsibility of monitoring the emission of air contaminants from sources in Clark County. In terms of solid waste management, this agency monitors emissions from landfills (including some closed landfills), recycling/transfer facilities, composting sites and contaminated soils sites. SWCAA also regulates friable asbestos handling and open burning in the County.

Washington State Department of Ecology

RCW 70.95 gives Washington State Department of Ecology the authority to promulgate solid waste regulations; review and appeal facility permits, and approve solid waste management plans. Facility permitting regulations are set forth in WAC 173-350 and are called the Solid Waste Handling Standards. MSW regulations are found in WAC 173-351. Jurisdictional health agencies have the authority to permit solid waste handling facilities that are designated in county solid waste management plans.

Washington Utilities and Transportation Commission (WUTC)

The WUTC regulates the collection of solid waste in all unincorporated areas throughout the state and within incorporated areas which do not assume jurisdiction for regulation of solid waste. Certificates are issued by the WUTC allowing private collection companies to operate in a specified area, at a set rate or tariff for various services, and under certain service conditions. The WUTC's enforcement mechanisms include fines and the revoking of a private collector's right to collect solid waste. The WUTC also enforces against companies which illegally provide solid waste collection service without a certificate. Solid waste collection is regulated under RCW Chapter 81.77.

Regulated Parties and Activities

Regulations governing solid waste management in Clark County apply to the solid waste industry and individual generators. This section briefly summarizes the regulations pertaining to each of these segments and notes which agencies are currently enforcing the regulations. Additional information on many of the following regulations may be found in the Plan chapter which addresses the topic.

Regulations Governing the Solid Waste Collection Industry

The WUTC (RCW 81.77 and WAC 480-70) regulates solid waste collection. There are two exceptions to WUTC regulation: within those cities that have assumed jurisdictions for regulation of solid waste (Vancouver, Camas, Washougal and Ridgefield), and, within counties or cities that have assumed jurisdiction for regulation of residential recycling collection. Clark County has assumed jurisdiction for such regulation and contracts with Waste Connections, Inc. for residential recycling and yard waste collection. The State regulates rates, services and reporting. Haulers that collect within the cities of Vancouver, Washougal and Ridgefield are regulated through collection contracts and ordinances maintained by those cities. City and county contracts address similar issues as well as how and where to deliver the collected waste. Camas is the only city providing municipal collection services. The City of Vancouver licenses commercial recycling services providers.

Designated Disposal Sites. The County is authorized by RCW 36.58 to designate disposal sites for all solid waste collected in the unincorporated area of the County. Chapter 9.32 of the Clark County code recognizes this authority and the Plan designates the three transfer stations in the County as disposal sites, with the Finley Buttes Landfill and Wasco Landfill (on a limited basis) being the final disposal sites. The County's recycling, transfer, transport and out-of-county disposal contract with Columbia Resource

Company, a wholly owned subsidiary of Waste Connections Inc., states that waste collected by Waste Connections or an affiliate within Clark County will be delivered to the designated facilities.

The County has also entered into interlocal agreements with the Cities which include provisions that waste will be delivered to the designated facilities. The Columbia Resource Company contract and the interlocal agreements were amended and adopted in May 2006.

The only exception to this is the wastes collected by Waste Control, Inc. in northwest Clark County. County solid waste regulations recognize that self-hauled wastes, recyclable materials, and non-residential generated recyclable materials are exempt from being directed to the designated disposal site (exempted by RCW 81.77).

Illegal Hauling. Solid waste hauling is regulated by either the WUTC or by the cities that have assumed jurisdiction. Enforcement of these hauling regulations is performed by the respective entities. Solid Waste within our solid waste system should be hauled by Waste Connections, Inc. and should be taken to a county designated transfer facilities. Exemptions to these regulations are loads that are self-hauled or classified as an occasional/incidental transport. Recovered or recycled materials can be hauled by a registered recycling hauler and must be taken to a facility where the materials are recovered.

Regulations Governing Solid Waste Handling Operations and Facilities

These facilities and operators are subject to the *State's Solid Waste Handling Standards*, WAC 173-350, which are enforced by local Public Health agencies, through a solid waste handling facility permit system. Facility siting is regulated by both State siting standards and county or city land use ordinances, which may require conditional use permits for solid waste facilities. Disposal facilities are subject to additional regulations, including long term monitoring (WAC 173-350 & 351). The state solid waste regulations that the Washington State Department of Ecology enforces result from state legislation, RCW 70.95, and federal laws, such as the *Resource Conservation and Recovery Act* (RCRA), the *Clean Water Act*, the *Clean Air Act* and others.



Photos source: Waste Connections

Regulations Governing Waste Generators

County, cities and town conduct illegal dumping enforcement and abatement activities within their boundaries, including cleaning up dump sites, identifying offenders and enforcing municipal codes on illegal dumping and private accumulations of materials. Illegal dump sites on public property are generally managed by the agency owning the property. Illegal dump sites on private property (including forestland) are the responsibility of the owner. Litter clean-up activities are conducted by the Clark County Corrections Department and municipalities, the Washington State Department of Ecology's Youth Corps program, and volunteer groups.

Public Health assures compliance with County regulations on infectious waste and moderate risk hazardous wastes (including waste oil) and other special wastes; and responds to complaints regarding illegal dumping, burying and accumulations of waste on private property. Current County (24.12.060) and cities' code allows for burial of wastes, which were generated on site. This includes solid waste resulting from residential or agricultural activities as well as non-putrescible commercial or industrial waste. On-site burial of regulated waste such as hazardous waste, toxic waste, biomedical waste, and certain types of special waste are prohibited. The ability to bury certain solid waste on site results in problems such as health and sanitation problems, contamination of soils and/or water, attraction of vectors, settling of land into depressions, discovery of unwanted buried material and subsequent removal of wastes by new property owners. This plan recommends that the on on-site burial of solid waste be regulated and discouraged.

The County also regulates discharges of moderate and hazardous risk wastes through its Water Quality Ordinance (13.26A) and National Pollutant Discharge Elimination System (NPDES) program administered through the County's Clean Water Program.

To prevent littering, Clark County requires all waste haulers, individuals, and businesses to cover waste being transported to county solid waste facilities. The facility operators assist the county in enforcing Chapter 9.32 of the County Code (the "uncovered load" regulation) by issuing informational brochures and warnings; selling tarps (an option offered in lieu of a fine) and notifying the County of repeat offenders. Chapter 7 of this Plan recommends expanding the County's regulation for unsecured loads of transported waste to include enforcement through the Clark County Sheriff's Office.

Several cities, including the City of Vancouver, have ordinances that require residential generators to have garbage and recycling service, and all generators must comply with city codes (e.g., applicable Vancouver codes are VMC 6.12 and 5.62). This allows the city to resolve hauling compliance issues by enforcing requirements for hauling garbage and/or recycleables or on the generator who is contracting with the hauler. While not often utilized, it is an additional tool for the city. Vancouver also has a water resources protection ordinance that regulates land use and operations (some waste related) that could impact surface or ground water).



Photo source: EPA

Table 16-1 Solid Waste Enforcement Roles in Clark County

Regulated Parties	Regulations	Enforcement Agencies
Solid Waste Industry		
Collection	RCW 81.77, WAC 480-70 City & County Contracts & Ordinances	WUTC County, Vancouver, Camas, Washougal, Ridgefield
Handling Operations & Facilities (disposal/transport)	County & City land use regulations WAC 173-350, WAC 173-351	County & Cities Ecology
Waste Generators		
	City “mandatory solid waste” and recycling ordinances;	Cities
	County & Cities ordinances;	County, Cities
	Burn ban	SWCAA
	County Water Quality ordinance	County
	Hazardous material handling	Ecology
	Industrial waste regulations	Ecology
	Infectious Waste regulations	Ecology
	RCRA Subtitle D	EPA
	Clark County Code Chapter 32 & 40	County

Recommendations

State Agency Regulatory and Enforcement Issues

1. **Continue to support the WUTC in active enforcement** of its garbage hauling franchises; one option is through the WUTC delegating some authority to local authorities.
2. **Continue to participate** in the Washington Department of Ecology processes to update state regulations.

Regional/Local Regulatory and Enforcement Issues

3. **Develop educational strategies for the building and business communities**, as well as the general public, which explain recycling; franchise hauling rights; and self-hauling regulations. A list of authorized haulers and recyclers should be developed in conjunction with the County’s proposed registration program of recycling haulers (Chapter 7).
4. **County and cities should develop and implement ordinances** to allow enforcement of existing city, county and state regulations through fines and penalties.
5. **Develop and distribute educational information** that describes the role of the various agencies regarding enforcement activities, roles and contacts in Clark County and its cities.
6. **Continue to host workshops for businesses** to be aware of handling and disposal requirements related to moderate risk waste and special wastes.
7. **The County and cities should update their ordinances to regulate on site burial of Solid Waste**; and prohibit on site burial of Moderate Risk Waste, Hazardous Waste, Biomedical Waste or certain Special Wastes on residential, commercial, industrial or agricultural property.
8. **Adopt an ordinance expanding enforcement provisions for unsecured loads** of transported waste (See Chapter 7, Waste Recycling).
9. **Develop a County program for registering commercial recycling haulers** which will be consistent and coordinated with the cities’ and state’s registration programs (See Chapter 7).
10. **Update the County’s ordinances regarding directing waste to designated disposal sites** in the County’s regional solid waste management system.
11. **Work with state regulatory agencies to develop a waste management plan for proper disposal of animal carcasses** in the event of disease outbreak or disaster. (See Chapter 14, Special Wastes)

End of Chapter 16

Chapter 17

FUNDING & FINANCING

As described in Chapter 2, Administration, Clark County's solid waste system involves a combination of public and private companies and agencies. Private industry owns and operates the county's solid waste transfer and disposal facilities and many of the collection operations in the county. Clark County's role is to plan and manage the regional system, including implementing programs for waste recycling, waste prevention, toxicity reduction and management of household hazardous waste in accordance with state statutes. The County also oversees post-closure and cleanup activities at former disposal sites. The seven cities have various roles, related primarily to waste collection within their boundaries.

In Clark County, as well as other areas of the state, solid waste funding has often supported local litter abatement, recycling programs, pollution prevention programs, resource conservation, sustainability efforts and related environmental awareness efforts. As noted in Chapter 6, Waste Diversion, many of these programs and efforts are required by Washington law, while others are required by Oregon law (which also applies, because the County's solid waste is disposed in Oregon). This chapter describes funding and financing mechanisms supporting solid waste management programs in the county. It does not attempt to describe the finances of the private companies involved in the regional solid waste system.

Legislation

The following are Washington and Oregon statutes that regulate managing solid waste management systems. The current county system does not include solid waste disposal and collection districts; these are planning options which are available to the county in the future.

Rates – Counties

Under [RCW 36.58.040](#), counties have full jurisdiction to construct, purchase or contract for the development of solid waste handling systems or facilities, and to establish the rates and charges. Counties may also award contracts for solid waste handling that include collection of county fees.

Under [RCW 36.58.045](#), counties may levy fees on the collection of solid waste in unincorporated areas of the county, to fund administration and planning expenses.

Under [RCW 36.58.100-150](#), counties may establish solid waste disposal districts, which are independent taxing authorities, and may collect disposal fees based on weight or volume of materials received. The district may issue general obligation bonds for capital purposes and may issue revenue bonds for other activities. The district may fund its operation through excise taxes. The disposal district may not include a city or town without the consent of the city council.

Under [RCW 36.58A](#), Solid Waste Collection Districts, counties may establish a district within the county in which solid waste collection service is mandatory. A collection district may not include a city or town without the consent of the city council.

Rates – Cities

Under [RCW 35.21.130](#), Cities may require property owners and occupants to use the solid waste collection and disposal system (including recycling systems) and may set rates.

Under [RCW 35.21.152](#), cities have full jurisdiction to construct or purchase or contract for the development of solid waste handling systems or facilities, and to establish the rates and charges.

Rates – State

Under [RCW 81.77.030](#), The Washington Utilities and Transportation Commission (WUTC) sets collection rates for haulers who are certificated by the WUTC. WUTC is to set rate structures consistent with the state’s solid waste management priorities in [RCW 70.95](#), and also consistent with minimum levels of collection and recycling services established pursuant to county solid waste management plans.

Under [RCW 81.77.080](#) and [110](#), solid waste collection companies certificated by the WUTC must **pay an annual fee of 1% of their gross operating revenue** to the WUTC to pay for its costs of regulating them.

Taxes – State

Under [RCW 82.18](#), the state Department of Revenue collects a 3.6% tax on the collection of solid waste. These monies are directed to the state’s Public Works Trust Fund established under [RCW 43.155](#), and are not in any way allocated or reserved for solid waste projects. In 2012, the Department of Revenue collected \$34,281,000 statewide from the solid waste collection tax. As of 2012, Clark County Public Works had 9 low-interest loans from the Public Works Trust Fund that will be repaid in 15 years in annual installments on each loan ranging from \$47,368 to \$521,930. The funds from these loans were used for county road projects and will be paid back by the County Road Fund.

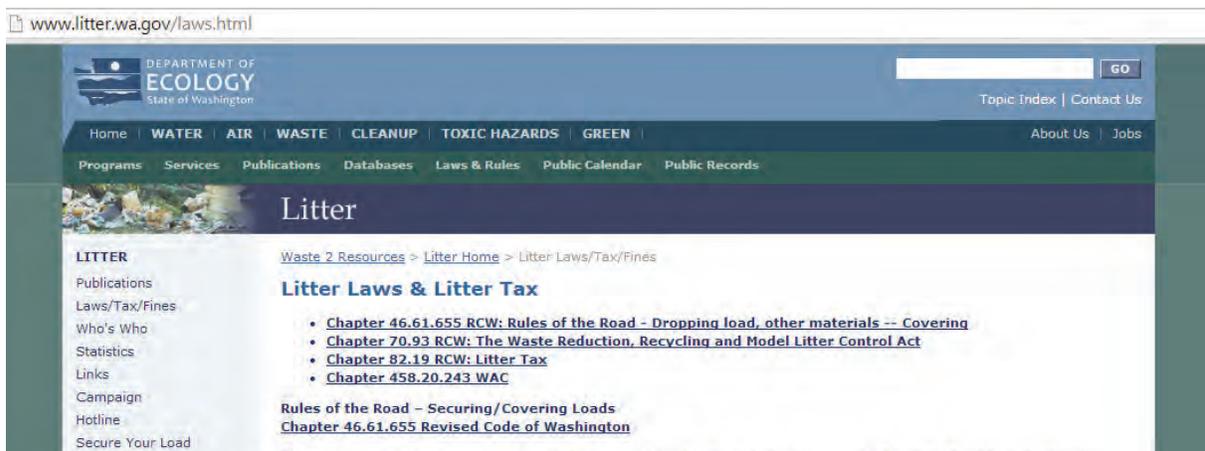
Taxes – State Solid Waste Facility Permit Fees

[RCW 70.95.180](#) grants the Clark County Public Health Department the authority to collect permit fees on solid waste facility permits.

Grants

[RCW 82.21.030](#) imposes a tax (“Toxics Tax”) on petroleum products, pesticides and certain chemicals. [RCW 70.105D](#), the *Model Toxics Control Act* (MTCA), directs a portion of the revenues from this tax into the *Local Toxics Control Account* (LTCA). MTCA directs the funds to be allocated consistent with state priorities including those in [RCW 70.95](#), the Waste Not Washington Act. The LTCA is to be used for grants to local governments for remedial actions, solid and hazardous waste planning and plan implementation. In recent years the Legislature has on occasion directed that LTCA funds be used for certain other purposes, potentially reducing or eliminating the funds available from this source for CPG grants to local governments.

[RCW 70.93](#), the *Waste Reduction, Recycling and Model Litter Control Act*, authorizes the Washington Department of Ecology to promote and stimulate recycling, encourage litter abatement, and provide employment in litter cleanup and related activities for the state’s youth. Funding generated from a tax (the “Litter Tax”) on products such as fast-food containers supports these activities, and also a grant program for litter clean-up in and by local communities.



Assessment of Conditions

Clark County Solid Waste Program Funding

The County Solid Waste Fund is an enterprise fund: all solid waste revenues remain in the fund. The revenue sources for the County Solid Waste Fund include: County administrative fees paid by the contractor under the disposal and collection contracts; state grants; a share of revenue from sales of recyclable materials; interest income; and sponsorships and partnerships with businesses and organizations in the community. The Solid Waste Fund Policy identifies that the fund is to be used for regional waste reduction, recycling programs, and other solid waste related programs. The 2013-14 Clark County biennium budget allocates \$7.2M in appropriations for the solid waste program (Fund 4014).

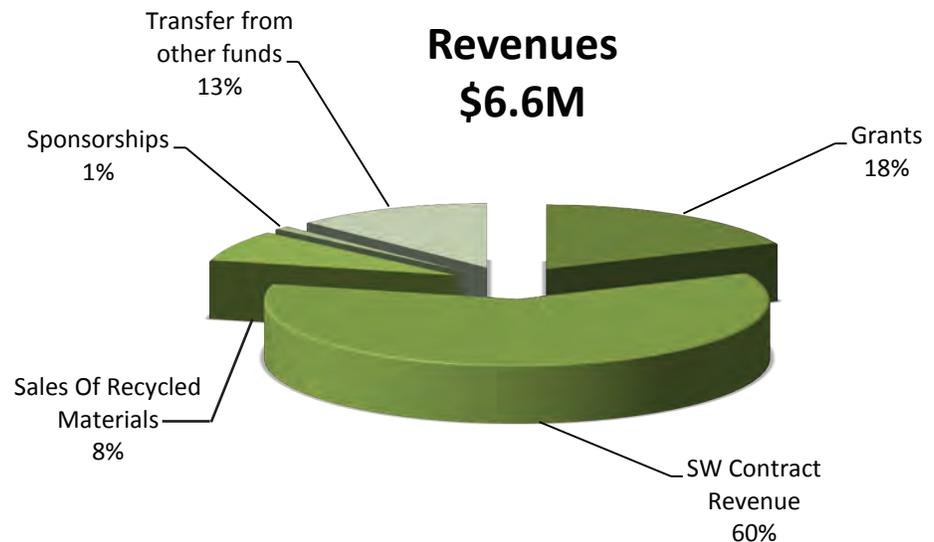
On the following pages, Table 17-1 outlines the funding sources for various solid waste activities in the county. Table 17-2 shows solid waste revenue sources and program areas for local and government agencies. As these tables show, no property taxes or County General Fund monies are used to fund solid waste programs in Clark County.

1. Disposal Contract Administrative Fees

Users of the transfer stations pay a per-ton tipping fee to dispose waste. Beginning in 1999 (when Waste Connections Inc. purchased CRC and assumed its contract) the county moved from a per-ton tip fee surcharge to a monthly administrative fee paid by the transfer station owner/operator to the county to generate revenue for regional solid waste programs. This funding structure is in place until the contract for Solid Waste Recycling, Transfer, Transport and Out-of-County Disposal (disposal contract) expires.

Upon execution of the 2006 contract extension and the completion of the third transfer facility, the administrative fee was increased. In addition, the disposal contractor now covers the cost for disposal of household hazardous waste received at the three County-contracted transfer stations.

The disposal contract includes provisions for Consumer Price Index - based adjustments to the administrative fee. The County will receive a per-ton increase on incremental tons if the transfer stations receive more than a specified number of tons each year. Also, host fees are now being paid to the City of Vancouver for the West Vancouver Materials Recovery Center and to the City of Washougal for the Washougal Transfer Station. The anticipated 2013-14 County budget for the disposal contract administrative fees is estimated at \$3,437,453.



2. Recycling and Yard Waste Collection Contracts Administrative Fees

The County assesses a recycling and yard waste contract administrative fee on recycling and/or yard waste collection service. The fees are collected monthly by the recycling and yard waste collection contractors as part of the collection rate and are submitted to the County. These fees cover the county's costs of administering the contracts. The anticipated 2013-14 County budget for contract administrative fees is estimated at \$471,510.

3. Grants

The County and cities may apply for grants from the Washington Department of Ecology's Coordinated Prevention Grants (CPG) program to partially fund mandates from the state for solid waste management activities. The CPG grant program is funded from the state's Local Toxics Control Account (see Legislation, above). Grant-funded programs must be in compliance with the County's Comprehensive Solid Waste Management Plan. A 25% local match is required, and activities and expenditures must be approved by Ecology staff. The CPG grants are usually offered by Ecology on a biennial cycle. During 2013, the Ecology award Clark County with 2-year CPG in the amount of \$1,436,560 to support the Solid Waste and Public Health programs.

The County and cities may also receive Community Litter Cleanup Program grants which are funded from the Waste Reduction, Recycling and Model Litter Fund (see Legislation, above). These small grants help to pay for litter and illegal dump cleanup programs in the County and cities.

Other grants from other public and private sources may occasionally become available. In the past, grants from other sources have been used to purchase street banners, survey recycling setouts, remove hazardous materials from school science labs, and purchase event recycling containers. These other grants are utilized when available, but are not relied upon to fund core program services.

4. Interest

The Solid Waste Program Fund 4014 is an enterprise fund. Interest is earned on this fund and these earnings remain with the fund. During the past few years, the amount of interest earned by the fund has not been a material amount. The anticipated 2013-14 County budget for interest earned is estimated at \$32,000.

5. Sale of Recyclable Materials

Under contract agreements with Columbia Resource Company, the recyclable materials received through the County and City of Vancouver single-family and multi-family curbside recycling collection programs are marketed. A portion of the revenue generated by marketing the recyclable materials is forwarded to the County and City of Vancouver, based on the number of tons collected in each jurisdiction and the value of the materials that are marketed. The anticipated 2013-14 County portion for sale of recyclable materials is estimated at \$502,000.

6. Sponsorships and Partnerships

The County has placed a priority on developing sponsorships and partnerships with community businesses and organizations in sharing the costs of solid waste programs and outreach events for the purpose of business development. This is provided through direct funding, in-kind contributions or direct purchase of goods or services. The County has developed agreements which are entered into defining the contribution, the roles and responsibilities of each party. The anticipated 2013-14 County budget for sponsorships and partnerships is estimated at \$56,000.

Table 17-1

Funding Sources For Solid Waste Activities in Clark County			
Activity	Funding	Source	Oversight
Collection of mixed municipal solid waste	Collection fees (garbage bills)	Collection customers	WUTC, Cities
Transfer, transport & disposal; Material recovery from MSW; HHW facility operation	Tip fees	Included in collection fees; collected at transfer station from self-haulers	County/City of Vancouver contract
Processing of recyclable materials	Processor (CRC)	Sale of materials	County/CoV contract
Collection of recyclables, yard debris	Collection fees (recycling bills, yard debris bills)	Collection customers	County & cities
HHW collection events	County Solid Waste Fund	(Regional) County Admin Fees & state CPG grants (LTCA*)	County
Technical assistance and outreach; program development for waste & MRW reduction, prevention, handling	County Solid Waste Fund	(Regional) County Admin Fees & state CPG grants (LTCA*)	County; cities participate through SWMP and interlocal agreements
Regional solid waste planning, coordination and system administration	County Solid Waste Fund	(Regional) County Admin Fees & state CPG grants (LTCA*)	County; cities participate through SWMP and interlocal agreements
Special wastes handling	Private handlers	(Regional) User fees	Public Health
Litter clean-up	Ecology; Cities, businesses and organizations	WRR&MLC ** City & County funds	County contract Local arrangements
Local clean-up events	City funds	City contract fees, other sources	Cities
SW Handling facility siting, permitting, monitoring	Permit fees	(Regional) facility operators or proponent	Public Health
Leichner Landfill post-closure maintenance & monitoring	FARF, a trust fund***	Fee on disposal at Leichner Landfill, 1990-91	Leichner Landfill Oversight Committee

*LTCA=Local Toxics Control Account, funded from a state tax on production of hazardous materials – Coordinated Prevention Grant (CPG) Program

**WRR&MLC = Waste Reduction, Recycling and Model Litter Control Fund, from a state tax on fast-food containers, etc.

*** FARF = Financial Assurance Reserve Fund

Table 17-2

Solid Waste Revenue Sources Per Agency	
Agency	Funding
Clark County, WA (Solid Waste Program)	Administrative fees on garbage, recycling and yard waste collection; sale of recyclable materials; state CPG grants fund regional programs; sponsorships and partnerships with community businesses and organizations.
Clark County, WA (Health Department)	Solid waste handling permit fees; Solid Waste Fund transfers; and state CPG grants fund facility inspections, complaint response, and enforcement activities.
City of Battle Ground	A tax on garbage collection supports the city's general fund.
City of Camas	Residential garbage collection fees pay for collection services, billing and clean-ups. Franchise fee on commercial garbage collection goes to city general fund.
City of La Center	No solid waste revenues. Clean-ups are funded from Reserve Fund.
City of Ridgefield	Garbage collection franchise fee of 10% is built into contractor costs, is paid quarterly, and supports the city's general fund.
City of Vancouver	City fee on garbage collection; sale of recyclable materials; and host fee on transfer station funds solid waste administration, education, clean-ups, leaf collection and other related services; a utility tax of 20% on garbage collection fees goes to general fund.
City of Washougal	Tax on garbage collection, which funds solid waste billing, administration, and spring clean-ups, through the city's general fund.
Town of Yacolt	No solid waste revenues. Clean-ups are funded by general fund.
WA Department of Revenue	A 3.6% tax on garbage collection provides roughly a half-million dollars annually to the state's public works trust fund, which finances capital projects throughout Washington. The tax is not a funding source for any of the solid waste programs in the county.
WA Utilities & Transportation Commission	Franchise fee on garbage collection in unincorporated County, Battle Ground, La Center & Yacolt funds WUTC administration.

Leichner Landfill Financial Assurance Reserve Fund (FARF)

Clark County has a continuing financial responsibility for monitoring and maintaining the closed Leichner landfill. Through various agreements with the County, the City of Vancouver, Leichner Landfill, and the Washington Department of Ecology, the County manages and administers the financial affairs associated with closure and post-closure cost of the Leichner Landfill. Maintenance activities are performed by the County and private consultants approved by the County. The funding comes from monies contributed by ratepayers on the disposal fees when the landfill was in operation and interest that is earned on the fund balance. Sufficient funds are provided in the FARF to support these activities through the 25-year post closure care term.

City Revenues and Expenditures

Vancouver's City Council sets collection rates for garbage, residential recycling and yard debris within the City. The rate formulas include collection costs, disposal fees and City fees, as well as a utility tax, which the garbage collection contractor pays on a monthly basis. Recycling collection is funded through the customer fees plus a portion of revenues received from the sale of recyclable materials.

The City fee is used for the Solid Waste Services Program, which provides for staff, contract management, regulatory and enforcement activities, solid waste and recycling education, public information, neighborhood clean-up programs, leaf collection, the neighborhood recycling education program, and solid waste program administration. Vancouver's Solid Waste Utility Tax supports the City's general fund programs including Public Safety.

Camas is the only Clark County City which operates its own residential garbage collection service; and receives user fees for the service. Both Camas and Washougal handle solid waste billing, and in both of these cities, the solid waste fund is an enterprise fund. The general funds for Battle Ground, Camas, Ridgefield and Washougal all receive revenues from their respective taxes or franchise fees on garbage collection (see Table 17-2). Yacolt and La Center have no solid waste revenues.

Public Health Solid Waste Revenues and Expenditures

Clark County Public Health receives annual permit fees from permitted facilities in Clark County, including the three County-contracted transfer stations. These fees fund inspections, permit request reviews, and related activities. Public Health also receives Coordinated Prevention Grant (CPG) funds from the Washington Department of Ecology and a transfer from the Clark County Solid Waste Fund for solid waste enforcement activities (See Chapter 16 Enforcement).

State Agency Solid Waste Revenues and Expenditures

The WUTC collects a franchise fee which is included on garbage collection rates in unincorporated Clark County and the cities with WUTC haulers. The franchise fee revenues help support WUTC administration, including a customer service telephone line, rate review and occasional enforcement activities related to non-licensed garbage hauling.

The Washington Department of Revenue collects a tax from residents and businesses throughout Clark County on garbage disposal. Revenue from this tax goes to the state's Public Works Trust Fund, which makes loans to fund capital projects such as roads, bridges, and sewer systems. The garbage tax is not a source of funding for Clark County's Solid Waste program.



Recommendations

1. **Clark County will continue to fund its existing programs** from revenue sources currently in place for regional support, including the Coordinate Prevention Grant (CPG) from the Department of Ecology.
2. **Clark County will fund new and expanded waste reduction and recycling programs** from existing funding structures.
3. **Clark County will continue to rely on the private sector** to fund and finance large capital improvement projects for the regional solid waste system.
4. **Clark County will pursue and apply for applicable federal and state grants.**
5. **Clark County will evaluate funding options** to ensure that funding of required solid waste, waste prevention and recycling roles continues.
6. **Clark County will explore opportunities to develop business growth** and further economic development opportunities related to improving recycling markets, solid waste infrastructure and related purposes to assure sustainable funding.

End of Chapter 17

Chapter 18 Implementation Schedule

The table below identifies the timeframes for implementing the recommendations from the Chapters in this Plan. Work on many of the recommendations is on an “on-going” basis; some of the work is identified for specific years; and some work is on-going with an emphasis during specific years.

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
Chapter 2 – Administration								
1. Work with the Washington State Recycling Association and other counties and state agencies to develop a legislative update to RCW 70.95’s goal of a statewide recycling rate of 50%.	X							
2. Work with state government on local issues related to solid waste, waste prevention and recycling needs in particular related to providing additional funding options.		X	X					
3. Maintain a Regional Solid Waste System Steering Committee through Interlocal Agreements which will be comprised of the Public Works Directors and Environmental Services Director. This Committee will formalize roles, make recommendations of such matters as: contracts; budgets; public education; outreach and marketing; resource sharing; system analysis and improvements.	X							
4. When convenient, the County and cities may coordinate to take advantage of contracts, co-locating, etc.	X							
5. Integrate the County Solid Waste Program to include other environmental issues, such as water quality, that has impact on and is significantly affected by solid waste.	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
6. Begin discussions regarding long-term management options for waste transfer and disposal, beyond the existing agreement that run through 2016 (plus any contract extensions). These discussions should include evaluation for public ownership of facilities with continued contracting for operations.					X			X
7. Continue and expand coordination with other agencies for educational and technical assistance programs.	X							
8. The County should work with Portland Metro to advance proposals that would mutually benefit both regions; provide for a reciprocal exchange of technical assistance and input for areas of mutual concern; enhance communication; and when appropriate use joint contracts.	X	X	X					
9. Continue to facilitate public/private partnerships and collaborations with other regional governments on any items of common interest and relating to solid waste issues.	X	X	X					
10. The County should continue with implementation of the EMS program and expand into other County departments and the region. EMS programs should be required, when appropriate, in contracts such as the collection and disposal contracts.	X							
Chapter 3 – Sustainable Choices								
1. Partner with other County departments and with other regional agencies to incorporate sustainable choices into planning and development for managing our waste stream and communicate the context of sustainable materials management, life cycle analysis, and related concepts through approaches and recommendations identified in the chapters that follow.	X	X						
2. Continue to pursue and develop product stewardship programs, in coordination with other public and private entities.	X	X						

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
Chapter 4 – Waste Prevention and Reduction								
1. Expand and augment County's and cities' waste prevention and reduction education and promotion programs for residential, institutional and commercial generators of waste.	X							
2. Continue and expand yard debris and chemical reduction programs such as natural gardening and home composting.	X							
3. SWAC and the County and cities should take an active role in identifying and preventing new types of wastes from entering the waste stream by continuing to focus on products which create more waste and less recycling.	X							
4. Lobby State and federal governments to pass legislation that requires waste prevention and product stewardship: including packaging reduction and improvements.			X					
5. Continue county in-house waste prevention programs and practices.	X							
6. Expand public recognition programs through a community awards event and develop new ones through the Green Neighbors, Green Business and Washington Green Schools programs.		X						
7. Utilize partnerships with other regulatory agencies and representatives of the business community to increase the visibility and accessibility of commercial assistance programs and Green Business program.	X							
8. Place emphasis on commercial waste reduction while maintaining existing programs for residential waste reduction through the Green Business program.	X							
9. Investigate the potential for providing financial incentives to encourage waste reduction among ratepayers.		X						

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
Chapter 5 – Education & Promotion								
1. Meet regulatory requirements by providing waste management education and outreach programs with an emphasis on waste prevention, reduction and sustainability.	X							
2. Continue to build partnerships with agency partners, the service providers, businesses and non-government organizations on education and outreach activities.	X							
3. Focus educational activities through using effective marketing strategies and public involvement and outreach plans. Provide performance measures and regular evaluations that relate to desired outcomes for each program in achieving program goals and objectives in conjunction with County's budget cycle.	X							
4. Continue to promote and support the three core programs: Washington Green Schools, Clark County Green Business, and Clark County Green Neighbors.	X							
5. Enhance the County's presence on the internet with web, Facebook and Twitter sites.	X	X						
6. Continue to implement residential educational programs and activities to support proper curbside recycling and to increase participation and recovery.	X	X						
7. Increase education and outreach information to be more accessible to diverse populations.		X	X					
Chapter 6 – Waste Diversion								
1. Continue and expand existing public education and promotion for residential and non-residential recycling.	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
2. Periodically evaluate the range of recyclables handled by the recycling collection program to determine whether materials should be added or dropped.	X							
3. Continue to encourage non-residential recycling through incentives, technical assistance, pilot programs, and recognition programs. Utilize as needed, WCI Waste Reduction Coordinators in helping businesses develop diversion programs for recycling and food waste recovery.	X							
4. Require new contracts with waste service providers to attain and maintain ISO 14001 certification for their operations in Clark County.	X							
5. SWAC to review and identify strategies for working with the Washington Utilities and Transportation Commission (WUTC) and WUTC-certificated haulers to develop rate structures that support and encourage waste reduction and recycling.		X						
6. Collaborate with other agencies (both regional and state) for tracking tonnage data in the unincorporated areas.	X							
Chapter 7 – Waste Collection								
1. Adopt a county service level ordinance to provide: a) minimum collection service levels for residential and nonresidential customers; b) access by the County and cities to collection system information; c) enhanced coordination between WUTC-certified collection companies and County and city contractors.		X						
2. Support and investigate state legislative efforts to provide counties with the same options for management of waste collection that cities have.			X					
3. Develop a program for registering commercial recycling haulers and tracking tonnage data in the unincorporated areas.			X					

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
Chapter 8 – Waste Transfer and Material Recovery System								
1. Review the completed transfer station feasibility study to evaluate the future needs of the north county area. This analysis should consider population and economic growth and the potential to increase the number of residents taking advantage of scheduled collection services as well as an evaluation for upgrading CTR to address near-term and future traffic concerns. Any future facility would be sited in accordance with the guidelines and criteria listed in Appendix M.				X				X
2. The County and cities should explore the option to purchase the CRC waste transfer system facilities prior to the contract option date of 2021.						X		X
Chapter 9 – Energy Recovery and Incineration								
1. The County will continue the established energy recovery program for wood waste, monitoring the volume being diverted from landfill disposal.	X							
2. The county should periodically evaluate biomass incineration plant to manage its special waste management. Biomass incineration utilizing forest feedstock does not meet the definition of Solid Waste and is outside the realm of this plan. The county should conduct further research on the technology and feasibility of energy recovery from the municipal waste stream.			X					X
3. The county should periodically evaluate biogas technology in helping to manage its solid waste.		X						
Chapter 10 – Landfill Disposal								
1. Utilize the existing contract for garbage export to Finley Buttes Landfill located near Boardman, Oregon and Wasco County Landfill located near The Dalles, Oregon as the primary disposal sites for Clark County waste for the duration of the current disposal contract, but consider alternative disposal options when planning begins for the next contract.	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
2. No new MSW landfills are to be sited in Clark County. This limitation is due to the Sole Source Aquifer designation of the underlying Troutdale Aquifer.	X		X					
3. Evaluate a regional approach to managing the transfer, transportation and disposal of MSW including the formation of a Disposal District. Interlocal agreements entered into between the Cities and the County call for the evaluation of a regional solid waste system.						X		X
4. Master planning for the Leichner Landfill site. Master planning should include public outreach and involvement to determine the best and highest use of the site while creating the least impact to surrounding neighborhoods.		X	X					
5. Long term planning for the Rufener Landfill site, to include decommissioning.		X	X					
Chapter 11 – Moderate Risk Waste Plan								
1. The County should continue: <ul style="list-style-type: none"> • Develop information/educational materials • Provide workshops and presentations • Conduct technical assistance visits including with the Green Business Program • Participate in the Local Interagency Network Cooperative (LINC) • MRW Collections (curbside collections, home collections, satellite collection events, and at permanent collection facilities) • Review technical information regarding current or newly identified hazardous materials • Promote and track local participation in E-Cycle Washington • Collaborate and partner to provide recycling and disposal options for newly identified hazardous materials entering the waste stream, e.g. batteries from electric vehicles. 	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
<p>2. The County should also:</p> <ul style="list-style-type: none"> • Continue to promote and support the development of local sites and events, as well as state and national programs, for diversion of prescription control and non-controlled substances (e.g. prescription drugs whose possession and use are regulated by the Drug Enforcement Administration (DEA)) • Prohibit the disposal of all moderate risk waste through the municipal solid waste collection and disposal system as an incentive to reduce waste at the source or to separate it from garbage for collection at a hazardous waste collection facility. In Clark County, household hazardous wastes, such as oil-based paint and other wood finishing products, pesticides, corrosive cleaners, automobile batteries and motor oil are already prohibited from disposal at the transfer stations by CRC. Disposal of electronics (CTRs, televisions, CPUs) are prohibited to transfer to Oregon landfills. • Provide more education to businesses so that all businesses are better informed to reduce their use of hazardous or toxic materials with a priority on education for Small Quantity Generators (SQGs). Develop and continue to provide programs that emphasize the waste hierarchy (waste prevention/reuse/recycling/recovery) for e-waste, paint and industrial waste. • Collaborate and partner with the service providers, non-governmental agencies and organizations to develop and/or implement technical assistance, information, education and promotion activities. • Continue to support and fund trainings and workshops, and Master Composter/Recycler programs as resources to promote waste toxics reduction, recycling activities and proper management of solid wastes. • Support options for hazardous/toxic materials reuse with a focus on small quantity generators for these and other materials programs • Encourage reuse of paint and computers. • Research the potential for industrial waste exchange. 	X	X						

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
Chapter 12 – Construction and Demolition Waste								
1. Sponsor public and private sector education programs designed to encourage C&D waste reduction and recycling.	X							
2. Expand C&D waste recycling and reuse in the private sector and enhance and expand C&D waste recycling and reuse opportunities at West Van and other sites as demand allows.	X							
3. Partner with County Community Development to use the (building and demolition) permitting process to educate applicants about available recycling opportunities and proper disposal options.	X							
4. Partner with the public and private sectors to facilitate new recycling opportunities for the C&D waste stream within the County to ensure convenient and cost-effective disposal alternatives.	X							
5. Rely on recycling and the export of residual wastes to a county designated facility to handle C&D generated in the County; in recognition that Clark County’s Troutdale Aquifer is designated as a sole source aquifer; no new C&D landfills should be sited in the County.	X		X					
6. Continue to provide both source-separated and post-collection recycling opportunities for C&D wastes at the CRC transfer stations including installation of a new or reconditioned sort line at the West Van Materials Recovery Center for Construction and Demolition Waste.		X						
7. Incorporate information on C&D wastes from the 2012 Waste Stream Analysis as baseline data; monitor and document generation and disposal data for C&D wastes on an annual basis.		X						
8. Educate, advocate and increase the number of green buildings in Clark County through public and private partnerships.	X							
9. Provide clear information to the public on WUTC regulations and for hauling C&D waste.	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
10. Work with Community Development and Community Planning to allow time for deconstruction projects within permit timelines.	X							
11. Update County and cities ordinances to regulate on site burial of Construction and Demolition Debris on residential, commercial, industrial or agricultural property.		X						
12. Partner with the public and private sectors to advocate and facilitate economic development through recovered C&D materials.	X							
Chapter 13 – Organic Wastes								
1. Expand and maintain food waste collection program at schools and businesses; assist with setup and on-going training and education needs	X							
2. Conduct a study to determine the feasibility of a residential mixed organics recovery program		X						
4. Encourage conditionally exempt vermicomposting operations to handle food scraps locally which could create local jobs.			X					
5. Work with partner agencies to increase food donations.		X						
6. Focused outreach to residents and businesses on practices to reduce the volumes of food waste generated.			X					
7. Consider a landfill ban on yard waste and/or food waste.			X					
Chapter 14 – Special Wastes								
1. Continue to support the legal private sector haulers to be the primary provider of services for the collection, processing and recycling of white goods, bulky wastes, vehicle hulks, tires, petroleum-contaminated soils, ash and other special waste as defined by the Special Waste Management Plan in Appendix K.	X							
2. Utilize the process described in the Special Waste Management Plan to determine if materials should be handled as special waste or not.	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
3. Develop a system plan for handling disaster debris.		X	X					
4. Work with state regulatory agencies to develop a waste management plan for proper disposal of animal carcasses in the event of disease outbreak or disaster.			X					
5. The county and cities should update their ordinances to regulate on site burial of Solid Waste; and prohibit on site burial of Moderate Risk Waste, Hazardous Waste, Biomedical Waste, or certain Special Waste on residential, commercial, industrial or agricultural property.			X					
6. No new Special Waste landfills are to be located in the County (due to the sole source aquifer) – rely on recycling and out-of-county disposal.	X		X					
7. As viable regional technologies and markets evolve for recovery of tires or other special wastes, review and evaluate local policies that would support economic recovery over landfill disposal.			X					X
Chapter 15 – Waste Monitoring and Performance Measurement								
1. The County will continue to track program data for goals and objectives to measure against established baselines to evaluate performance.	X							
2. The County will continue to work with Columbia Resource Company and Waste Connections Inc. to improve garbage and recycling data management and tracking.	X							
3. The County will conduct waste characterization studies at the transfer stations to monitor the impact of waste reduction and recycling programs and to identify potential changes to the solid waste program, and to gather self-haul data.	X			X				X
4. The County will maintain and regularly update a master electronic Solid Waste data report. (See Appendix J)	X							

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
Chapter 16 - Enforcement								
1. Continue to support the WUTC in active enforcement of its garbage hauling franchises; one option is through the WUTC delegating some authority to local authorities.	X							
2. Continue to participate in the Washington Department of Ecology processes that update state regulations.	X							
3. Develop educational strategies for the building and business communities, as well as the general public, which explain recycling; franchise hauling rights; and self-hauling regulations. A list of authorized haulers and recyclers should be developed in conjunction with the County's proposed registration program of recycling haulers.		X	X					
4. County and cities should develop and implement ordinances to allow enforcement of existing city, county and state regulations through fines and penalties.			X					
5. Develop and distribute educational information that describes the role of the various agencies regarding enforcement activities, roles and contacts in Clark County and its cities.		X						
6. The County and cities should update their ordinances to regulate on site burial of Solid Waste; and prohibit on site burial of Moderate Risk Waste, Hazardous Waste, Biomedical Waste or certain Special Wastes on residential, commercial, industrial or agricultural property.			X					
7. Adopt an ordinance expanding enforcement provisions for unsecured loads of transported waste.			X					
8. Update the County's ordinances regarding directing waste to designated disposal sites in the County's regional solid waste management system.			X					

Chapter Recommendations	Implementation Timeframe							
	On-going	2014	2015	2016	2017	2018	2019	Year 7 -20
9. Work with state regulatory agencies to develop a waste management plan for proper disposal of animal carcasses in the event of disease outbreak or disaster.			X					
Chapter 17 – Funding and Financing								
1. Clark County will continue to fund its existing programs from funding currently in place for regional system support, including the Coordinated Prevention Grant from the Department of Ecology.	X							
2. Clark County will fund new and expanded waste reduction and recycling programs from existing funding structures.		X	X					
3. Clark County will continue to rely on the private sector to fund and finance large capital improvement projects for the regional solid waste system.	X							
4. Clark County will investigate and pursue federal and state grants.	X							
5. Clark County will evaluate funding options to ensure that funding of required solid waste, waste prevention and recycling roles continue.	X							
6. Clark County will explore opportunities to develop business growth and further economic development opportunities with interest in sustainable funding.	X	X	X					