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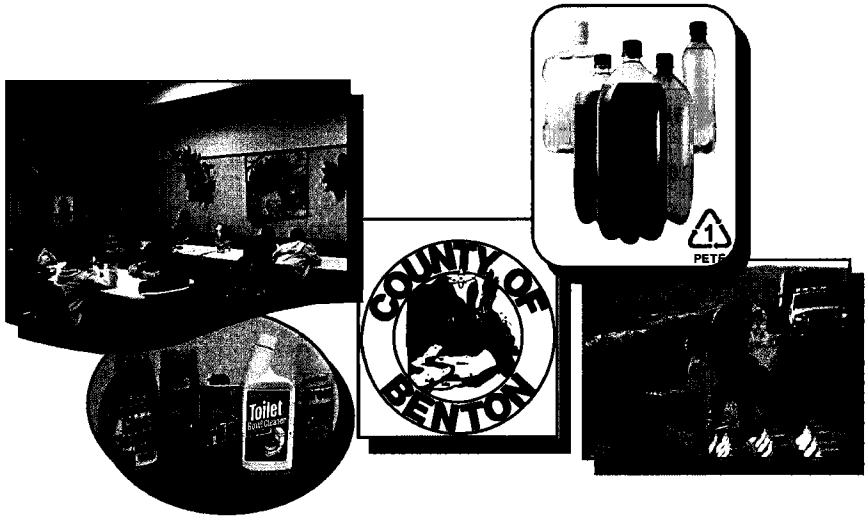
Solid Waste Plan
2013

'a "roadmap" to managing the comprehensive solid waste and MRW management systems in Benton County.'



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Chapter 1

Introduction

1.0 Introduction

The 2013 Benton County Comprehensive Solid Waste Management and Moderate Risk Waste Management Plan (2013 Plan) provides background and guidance for a long-term approach to solid waste and moderate risk waste (MRW) management in the region. This 2013 Plan comprises the combined comprehensive solid waste management plan (CSWMP) and Local Hazardous Waste/Moderate Risk Waste (MRW) Plan for the incorporated and unincorporated areas of Benton County (combined Plan).

1.1 Purpose and Organization of Plan

The purpose of this 2013 Plan is to serve as a "roadmap" to managing the comprehensive solid waste and MRW management system in Benton County. The 2013 Plan was developed as a joint effort of Benton County and the cities of Benton City, Kennewick, Prosser, Richland, and West Richland. It is intended to provide citizens and decision makers in Benton County with a guide to implement, monitor, and evaluate future activities in the planning area for a 20-year period. The recommendations for the 2013 Plan not only guide local decision makers, but substantiate the need for local funds and state grants to underwrite solid waste and MRW projects.

The 2013 Plan conforms to the requirements of the State Solid Waste Management "Reduction and Recycling Act" (RCW 70.95), meets minimal Functional Standards (WAC 173-350), and Solid Waste Handling Standards (WAC 173-350), and follows suggested protocol as outlined in "Guidelines for the Development of Local Comprehensive Solid Waste Management Plans and Plan Revisions" (Waste 2 Resource Program, February 2010, Publication No. 10-07-005).

The MRW Plan has been prepared to meet the planning requirements prescribed in the Local Hazardous Waste Planning Guidelines, RCW 70.105.220 and RCW 70.951.020, and follows the suggested protocol as outlined in Guidelines for Developing and Updating Local Hazardous Waste Plans (Waste 2 Resources Program, October 2009, Publication No. 09-07-073). The purpose of the MRW Plan is to establish the goals and objectives for the safe handling and management of moderate risk waste, which is composed of household hazardous waste (HHW) and conditionally exempt small quantity generator (CESQG) waste generated in the County. The Plan will direct and guide the management of these wastes over a twenty year planning period, from 2010 to 2030. The recommendations included in the MRW Plan are based on existing conditions and forecasts of future conditions in the County.

The Plan is organized as follows:

Chapter 1	Introduction and Background of the Planning Area
Chapter 2	Waste Stream Analysis
Chapter 3	Education and Outreach, Waste Reduction, Recycling, and Organics
Chapter 4	Collection Systems
Chapter 5	Transfer and Disposal
Chapter 6	Special Wastes
Chapter 7	Moderate Risk Waste Plan
Chapter 8	Administration and Enforcement
Chapter 9	Implementation

1.2 2013 Plan Goals and Objectives

The intent of this Plan is to establish the foundation for the proper management of solid waste and MRW in Benton County. This Plan update incorporates the following goals and objectives:

Goal #1: Emphasize public outreach and educational programs.

Objectives:

- Expand methods of outreach, including use of social media.
- Host and advertise events to increase participation.
- Coordinate events regionally.
- Link regional websites.
- Provide all types of information, including financial.

Goal #2: Continue developing solid waste programs and projects that promote and maintain a high level of public health and safety which protects the human and natural environment of Benton County

Objectives:

- Address the management of all types of solid waste.
- Lead by example in environmental protection and in meeting environmental regulations.
- Provide consistency among resource, land use, and waste management plans.
- Address illegal accumulation of waste at residences and other locations.

Goal #3: Manage solid wastes in a manner that promotes, in order of priority: waste reduction, reuse, and recycling, with source separation of recyclables as the preferred method.

Objectives:

- Work toward reaching a diversion rate of 50% by 2020.
- Emphasize programs for commercial waste diversion.

- Establish consistent methodologies to measure the baseline and future progress in achieving waste diversion.
- Obtain accurate data on waste diversion activities.
- Support statewide product stewardship policies.

Goal #4: Encourage and expand coordination and communication regarding solid waste issues among all jurisdictions, agencies, and private firms in Benton County.

Objectives:

- Encourage consistent policies across jurisdictions.
- Encourage public involvement in the planning and implementation process.
- Emphasize local responsibility for solving solid waste management issues.

Goal #5: Provide for efficient collection, transfer, and disposal of MSW and recyclables.

Objectives:

- Ensure access to collection or drop-off services for residences, businesses, and industry.
- Locate recycling and solid waste transfer, processing, and disposal facilities to optimize service levels and transportation efficiencies.
- Ensure adequate disposal capacity.

Goal #6: Establish guidelines and strategies for management of specific waste streams.

Objectives:

- Develop a plan to prepare for management of disaster debris.
- Develop Best Management Practices for agricultural waste reuse and recycling.
- Develop a plan for managing tires.
- Develop a plan for managing universal waste.
- Continue and expand the use of litter work crews.

Goal #7: Promote and reduce obstacles to the development of new solid waste technologies and facilities

Objectives:

- Identify specific waste streams appropriate for technology or facility development.
- Identify regionally beneficial opportunities.

1.3 Planning Authorities

1.3.1. Solid Waste Advisory Committee

According to Chapter 70.95 RCW, each county shall establish a local solid waste advisory committee (SWAC) to assist in the development of programs and policies for solid waste handling and disposal, and to review and comment upon proposed rules, policies, or ordinances prior to their adoption. Two primary responsibilities of the SWAC are to advise on the 2013 Plan development and to assist in the plan adoption process. This Plan Update was prepared under the direction and guidance of the SWAC. The SWAC has participated in the 2013 Plan development by reviewing the previous plan and draft versions of the 2013 plan, providing input and comment on all issues covered by the 2013 Plan, acting as a liaison to their constituencies, and assisting in public involvement. The committee also reviewed the complete draft and final plans, and will be asked to recommend the 2013 Plan for adoption by the county and municipalities. After the 2013 Plan is adopted, the SWAC will routinely evaluate implementation of recommended programs, and will help to promote waste reduction and recycling throughout the region. SWAC members will also participate in amending the 2013 Plan, if necessary.

Members of the SWAC are included in **Exhibit 1-1**. Meetings are whenever action by the SWAC is needed, or at least quarterly. Minutes of the meetings are on file in the County Public Works office.

Exhibit 1-1. Solid Waste Advisory Committee Members, 2013

Name	Affiliation	Name	Affiliation
Darrick Dietrich, Chair	Basin/Ed's Disposal, Inc.	Khris Olsen	Public Citizen
Shon Small	Benton County	Patrick Puntney	Clayton-Ward
Lloyd Carnahan	City of Benton City	Pete Rogalsky	City of Richland
John Deskins	City of Kennewick	Roscoe Slade	City of West Richland
Bob Elder	City of Prosser	Jeff Wheatley	Waste Management
Mike Jewett	Sanitary Disposal		

1.3.2. Role of Local Governments

The cities of Benton County have chosen to fulfill their solid waste management planning responsibilities by participating with the county in preparing a joint city-county plan for solid waste management.

The 2013 Plan has been developed with Benton County as the lead agency and participation and cooperation defined in an inter-local agreement among the County and the cities of Benton City, Kennewick, Prosser, Richland, and West Richland, with only the Hanford area excluded.

1.4 Solid Waste Planning History in Benton County

This 2013 Plan is the most recent plan and supersedes all previous Benton County solid and hazardous waste plans, including the *1977 Comprehensive Solid Waste* Management *Plan for Benton and Franklin Counties*, the *1994 Benton-Franklin Counties Comprehensive Solid Waste Plan*, and the *2006 Solid Waste Management Plan Update* (the 2006 Plan).

Exhibit 1-2. lists key recommendations from the 2006 Plan and their current implementation status.

Exhibit 1-2. Status of Previous Solid Waste Management Plan Recommendations

Recommendations	Status
Public Education and Outreach	
1. Develop and distribute bilingual outreach materials.	Ongoing
2. Develop and distribute direct mailing newsletter.	Ongoing in City of Richland
3. Develop phone book section insert with information on solid waste and recycling.	Not implemented
4. Increase use of social media and web sites for information dispersion.	Ongoing
5. Provide technical assistance to schools and businesses.	Ongoing
Waste Reduction	
1. County to procure recycled content products.	Ongoing
2. Develop environmentally preferable purchasing criteria for computers and electronics.	Not implemented
3. Implement City/County waste reduction policies.	Ongoing
4. Develop and implement methods to measure waste reduction results.	Not implemented
5. Provide reuse or swap shops, or both, at landfill or drop-off sites for used residential materials	Implemented
Recycling	
1. Implement internal recycling program for County operations.	Implemented
2. Implement special event recycling.	Ongoing
3. Expand recycling drop-box program.	Ongoing
4. Implement rewards program for residential recyclers.	Ongoing
5. Implement recognition program for commercial waste reduction and recycling successes.	Ongoing

Recommendations	Status
6. Provide education to businesses on recycling.	Ongoing
7. Provide commercial waste audit assistance.	Not implemented
Organics	
1. Expand yard waste chipping program.	Ongoing
2. Encourage food waste management at restaurants and other establishments, such as donations to food banks, processing for animal waste, or rendering.	Not implemented
3. Investigate opportunities for biomass processing.	Ongoing
4. Assess feasibility of in- or out-of-county composting facility.	Implemented
Collection Systems	
1. Change service levels to capture more households for recycling.	Ongoing
Transfer and Disposal	
1. Expand Horn Rapids Landfill to ensure in-county disposal capacity.	Not Implemented
2. Assess long-haul of MSW out of City of Richland.	Ongoing
3. Expand local transfer station capacity.	Not Implemented
Construction and Demolition Debris	
1. Provide education programs for contractors.	Not Implemented
2. Establish construction, demolition, and inert waste diversion specifications for public projects.	Not Implemented
3. Use recycled content building specifications for public projects.	Not Implemented
4. Develop disaster management plan.	Not Implemented
5. Establish locations for staging and temporary storage of disaster debris.	Not implemented
6. Assess development of regional C&D facility.	Not implemented
Wood Waste	
1. Support diversion at transfer stations and landfills.	Ongoing
2. Provide public education on facilities to divert wood waste.	Ongoing
Industrial Wastes	
1. Continue to monitor and regulate industrial waste disposal; provide assistance as necessary.	Ongoing
Agricultural Wastes	
1. Form committee to discuss potential opportunities for alternative energy industries using agricultural waste.	Ongoing
Tires	
1. Implement City/County purchasing programs for recycled tire products.	Not implemented
2. Reduce City/County tire waste through maintenance and repair program.	Ongoing

Recommendations	Status
3. Provide tire waste public education programs.	Ongoing
Biomedical Wastes	
1. Provide education materials for correct management of residential medical waste.	Ongoing
2. Collect sharps and outdated pharmaceuticals at MRW collection sites.	Ongoing
Asbestos	
1. Educate homeowners on proper handling methods.	Ongoing
Moderate Risk Wastes	
1. Expand public education program.	Ongoing
2. Provide information on alternative products.	Ongoing
3. Use mobile collection center to target rural areas.	Not implemented
4. Expand household hazardous waste collection to include biomedical waste generated by households.	Ongoing
5. Implement recognition program for businesses.	Ongoing
6. Provide business collection assistance.	Ongoing
7. Continue enforcement efforts.	Ongoing
Tank Pumping	
1. Continue private sector management of septage.	Ongoing
2. Assess feasibility of developing facility if disposal becomes limited for oil/waste separator sludge.	Ongoing
3. Continue private sector management of fats/oil grease tank pumping.	Ongoing
Electronic Wastes	
1. Inventory available opportunities for e-waste collection and recycling.	Ongoing
2. Establish relationships with recyclers and programs to recycle e-waste.	Ongoing
Administration	
1. Facilitate interagency cooperation.	Ongoing
Enforcement	
1. Coordinate enforcement activities among responsible agencies.	Ongoing
2. Improve coordination among County agencies, cities, and other relevant public agencies responsible for illegal dumping cleanup, education, and prevention programs.	Ongoing
3. Develop coordinated public outreach and education program.	Ongoing

1.4.1. City of Richland 2011 Solid Waste Management Plan

The 2011 City of Richland Solid Waste Management Plan documents existing waste management policies and current programs established and operated by the City. The City's plan is incorporated by reference into the County plan, and is not intended to replace the City's commitment to the Benton County Comprehensive Solid Waste Management Plan and Interlocal Agreement. Copies of Richland's Solid Waste Management Plan may be obtained by contacting the City's Public Works Department.

The City's plan serves as a guide to Richland's solid waste management approach in the years ahead. Highlights of the plan's recommendations include the following:

- Enhance existing waste and recycling programs for commercial customers.
- Continue curbside collection of food waste by the commercial sector.
- Expand Horn Rapids Landfill.
- Expand diversion of construction and demolition materials at Horn Rapids Landfill as markets allow.
- Support diversion of wood waste at transfer station and landfill.
- Encourage and support research and development of alternative energy industries and development of new recycling technologies.
- Promote programs and provide incentives that encourage and support waste reduction, reuse, and recycling.

1.5 Relationship to Other Plans

The solid waste management plan must be viewed in the context of the overall planning process within all jurisdictions. As such, it must function in conjunction with various other plans, planning policy documents, and studies which deal with related matters. Included among these are the County Comprehensive Plan and Zoning Code, Shoreline Management Master Plan, capital facility plans, emergency management plans, watershed plans, and floodplain management plans.

1.5.1. Benton County Comprehensive Plan

The planning guidelines require that the solid waste management plan reference comprehensive land use plans for all participating jurisdictions to ensure that the solid waste management plan is consistent with policies set forth in the other documents. This includes e the Benton County Comprehensive Land Use Plan 2006 Update (with amendments).

Benton County's Comprehensive Plan is the official statement adopted by the Benton County Board of Commissioners (Board) setting forth goals and policies to protect the health, welfare, safety, and quality of life of Benton County's residents. The fundamental purpose of the plan is to manage growth and land use in order to sustain and enhance the quality of life for county residents, as that quality is defined by the residents themselves via the public process. The plan

expresses a long-range vision of how citizens want their rural community to look and function in the future. The plan helps to focus, coordinate, and direct the many diverse activities of County departments by providing a comprehensive and common vision.

1.5.2. Shoreline Management Plans

Shoreline management plans establish policies and regulations for development along shorelines. Shorelines include all waters of the state, including reservoirs, floodplains, and their associated wetlands. While the area is recognized as arid and semi-arid, there are a number of hydrological features meeting the definitions for protection under the Washington Shoreline Management Act of 1972. Benton County contains Mound Pond and Yellepit Pond. The shorelines of the Columbia and Yakima Rivers are also regulated by the Shoreline Management Act. The Benton County Shoreline Management Master Plan prohibits development of sanitary landfills along shorelines.

1.6 Background of the Planning Area

The planning area includes Benton County and the cities of Benton City, Kennewick, Prosser, Richland, and West Richland, with only the Hanford area excluded. The county is bordered on the west by Klickitat and Yakima counties, on the north by Grant county, on the east by Franklin and Walla Walla counties, and on the south by Umatilla county, Oregon.

1.6.1 Population

Between 1990 and 2010, the County's population increased from 112,560 to 188,931, a 68% increase. Exhibit 1-3 contains population data for 1990 -2010.

Exhibit 1-3. Benton County Population 1990-2010

Area	1990	2000	2005	2010
Benton County	**112,560**	**142,475**	**159,286**	**188,931**
Unincorporated	27,849	33,169	34,979	43,453
Incorporated	84,711	109,306	124,307	145,478

Source: 2011 update to the Benton County Comprehensive Plan

There are five population centers in Benton County: Benton City, Kennewick, Prosser, Richland, and West Richland. Between 2005 and 2010, the County's population increased nearly 19%. The population growth for Benton County between 2005 and 2010 is summarized in

Exhibit 1-4. As indicated, the City of Benton City experienced the highest rate of growth during the period, while the City of Richland experienced the greatest increase in population.

Exhibit 1-4. Benton County Population, 2005-2010

	2005 Population	2010 Population	Rate of Population Growth	Change in Population
County Total	**159,286**	**188,931**	**18.6%**	**29,645**
Unincorporated	**34,979**	**43,453**	**24.2%**	**8,474**
Incorporated	**124,307**	**145,478**	**17.0%**	**21,171**
Benton City	2,901	3,779	30.3%	878
Kennewick	62,715	71,794	14.5%	9,079
Prosser	5,331	5,668	6.3%	337
Richland	43,309	52,901	22.1%	9,592
West Richland	10,051	11,336	12.8%	1,285

Source: 2011 update to the Benton County Comprehensive Plan

The land area of the County is 1,782 square miles. In 2011, a little over 50% of the county was in some form of agricultural use. Exhibit 1-5 indicates the distribution of land use in the County.

Exhibit 1-5. Benton County Land Use

Land Use Type	Acres	Square Miles	Percent
Cities and Urban Growth Area	**71,235**	**111**	**6%**
Hanford Site	**266,220**	**416**	**24%**
Unincorporated Area			
Irrigated Agriculture	251,406	393	23%
Dryland Agriculture	309,373	484	28%
Rangeland & Undeveloped	183,973	288	16%
Residential (rural)	22,342	35	2%
Public	5,945	9	1%
Commercial	3,035	0.5	0
Industrial	1,526	2.3	0
Aggregate	367	0.57	0
Unbuildable	251	0.39	0
Total Unincorporated Area	**778,218**	**1,235**	70%
Total County Area	**1,115,673**	**1, 782**	**100%**

Source: 2006 Benton County Comprehensive Plan, updated 2011

The Hanford Reservation accounts for over 24% of the County's area, or about 416 square miles. The land use trend on the Hanford Site can be broadly described as the gradual reintegration of

major portions of Hanford's resources (land, water, and infrastructure) into the economy, custom, and culture and regulatory authority of local jurisdictions within which the Site lies. The Site is presently being cleaned up for future uses that, in addition to federal missions, will likely include non-defense related private and public sector uses. Local jurisdictions are preparing land use plans for the portions of the Hanford Site within their boundaries. The Hanford Site is not included in the county's solid waste management plan.

1.6.2 Economy

During the current decade, all of eastern Washington is experiencing significant population and economic growth for reasons beyond local influence. It is anticipated that the current regional growth trend will continue into the near and mid-term future (5 to 10 years).

The region's economy is anchored in agriculture, bio and high-technology, manufacturing, service industry, and government. Businesses range from a U.S. Department of Energy (DOE) national laboratory, high-tech firms, environmental and engineering companies, to food growers and processors, wineries, and manufacturers. Three major sectors have been the principal driving forces of the economy in the Benton County since the early 1970s:

- DOE and its contractors operating the Hanford Site;
- Supply System in its construction and operation of nuclear power plants; and
- The agricultural community, including a substantial food-processing component.

Except for a minor amount of agricultural commodities sold to local-area consumers, the goods and services produced by these sectors are exported outside the County. In addition to the direct employment and payrolls, these major sectors also support a sizable number of jobs in the local economy through their procurement of equipment, supplies, and business services. A summary of the non-agricultural employment is provided in Exhibit 1-6.

In addition to these three major employment sectors, three other components can be readily identified as contributors to the economic base of the county. The first of these, loosely termed "other major employers," include the five major non-Hanford employers in the region. A summary of the major employers of the region (Benton and Franklin counties) is provided in **Exhibit 1-1-7.**

Exhibit 1-6. Tri-Cities MSA Non-Agricultural Employment February 2011

Category	Employees
Total Nonfarm	98,500
Goods Producing	12,700
Construction	5,700
Manufacturing	7,000
Services Providing	85,800
Private Services	67,700
Trade, Transportation, Utilities	15,200
Financial Services	3,700
Government	18,100

Source: Tri-City Development Council, accessed January 2013.
http://www.tridec.org/site_selection/tri-cities_demographics/labor_forceemployment/

Exhibit 1-7. Major Employers in the Tri-Cities Region

#	Company	Industry	Employees
1	Battelle/Pacific Northwest National Laboratory	Research and Development	4,485
2	URS	Government	3,500
3	CH2M Hill	Government	3,260
4	ConAgra	Value Added Agriculture Products	3,057
5	Bechtel National	Government	2,850
6	Kadlec Medical Center	Health Services	2,175
7	Washington River Protection	Government	1,686
8	Mission Support Alliance	Government	1,478
9	Washington Closure Hanford	Government	1,370
10	Tyson Foods	Value Added Agriculture Products	1,300
11	Energy Northwest	Research and Development/Manufacturing	1,222
12	Kennewick General Hospital	Health Services	1,072
13	Broetje Orchards	Value Added Agriculture Products	1,000
14	Lourdes Health Network	Health Services	807
15	AREVA	Manufacturing	662
16	Apollo Inc.	Manufacturing	625
17	Lockheed Martin	Technology/Government	600
18	Boise Cascade	Manufacturing	571
19	Fluor Federal Services	Government	541
20	Department of Energy (DOE)	Government	414

Source: Tri-City Development Council, accessed January 2013. http://www.tridec.org/site_selection/tri-cities_demographics/major_industry_employers/#Top 25 Employers

1.7 Evaluation of Potential Landfill Sites

A preliminary siting review assessment was performed in 1994, with the intent of providing an initial assessment of the feasibility of siting a new landfill in Benton County (copy of feasibility on file with Benton County). Some of the locational standards are not appropriate for evaluating an entire county at once. These criteria are site specific and should be used when evaluating a single candidate site or a limited number of potential sites. The Solid Waste Management Plan should not be used for detailed site analysis, but rather to identify areas that can be examined in detail in other studies.

Areas addressed in the study included the following, all other factors determined by the Benton-Franklin Health District.

- Geology
- Surface water
- Climatic factors
- Groundwater
- Slope
- Land use
- Soil
- Cover material
- Toxic air emissions
- Flooding
- Capacity

Chapter 2

Waste Stream Analysis

2.0 Waste Stream Analysis

An accurate analysis of the types and quantities of waste generated provides the necessary data for identifying existing and future solid waste system needs, and the policies and programs to be implemented to meet those needs. This chapter analyzes Benton County's waste generation trends, and utilizes historical and projected population data to produce a 20-year (2012 to 2032) waste generation forecast. The chapter also includes waste composition data for the disposed waste stream, in order to identify potential opportunities for recycling, composting or other diversion activities.

For the purposes of this analysis, waste generation is defined as tons of solid waste disposed and diverted in Benton County. Most types of solid waste are disposed of in landfills; however, some wastes are incinerated, used as soil amendment, or disposed in sites designated for a specific type of waste. The largest component of the waste stream is mixed municipal solid waste (MSW) and consists of waste typically generated by residences, offices, and other businesses and institutions, excluding special wastes. Special wastes include industrial waste, wood waste, demolition debris, biomedical wastes, sludge and septic tank pumpings, tires, and other types of wastes. Each category of special waste has its own characteristics and handling needs. Special waste and hazardous wastes produced by households, and by businesses in small quantities, are addressed separately in Chapters 6 and 7 of this Plan.

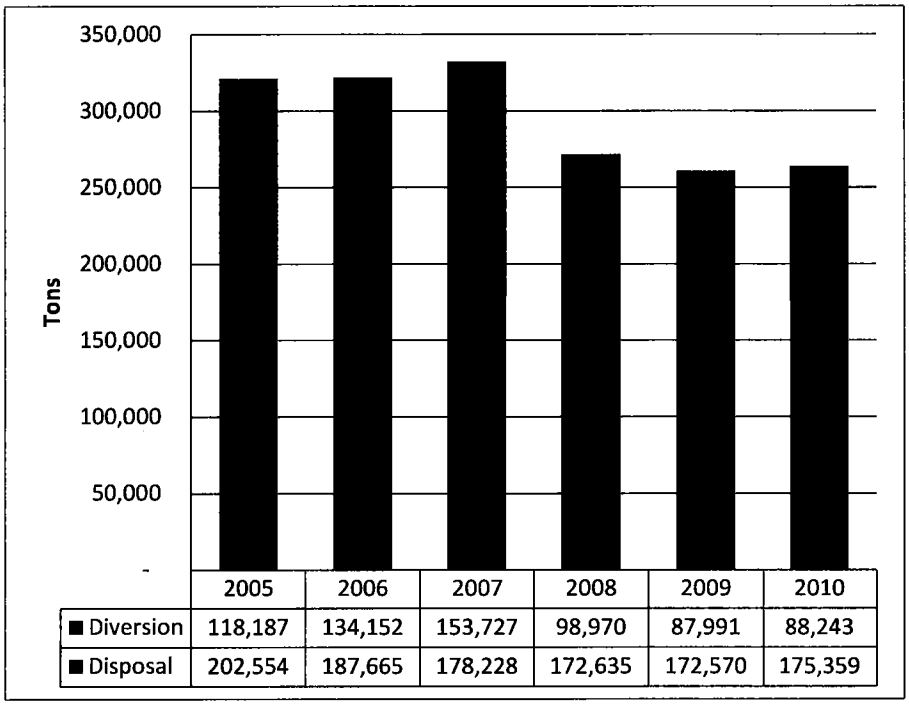
Data used in this Plan reflect a key difference between disposed and diverted quantities of waste. As used in this Plan, disposed solid waste is considered to be all solid waste placed in landfills within, or outside of the county. Diverted waste includes waste that is recycled, composted, or otherwise diverted from disposal.

2.1 Waste Generation

According to data from Ecology, the total amount of waste generated in Benton County in 2010 was approximately 263,000 tons, including 175,000 tons disposed and 88,000 tons diverted. **Exhibit 2-1** depicts the amount of solid waste generated in the County between 2005 and 2010. The overall decline in generation beginning in 2008 is indicative of the economic slowdown and similar to other regions across the state and country.

The disposal data includes municipal solid waste that is disposed in landfills, as well as other types of disposed waste, such as construction, demolition, and inert debris and petroleum contaminated soil. The diversion data incorporates recycled materials as well as materials that are diverted, such as asphalt and concrete, and wood waste diverted for energy recovery.

Exhibit 2-1. County-wide Waste Generation, 2005 - 2010

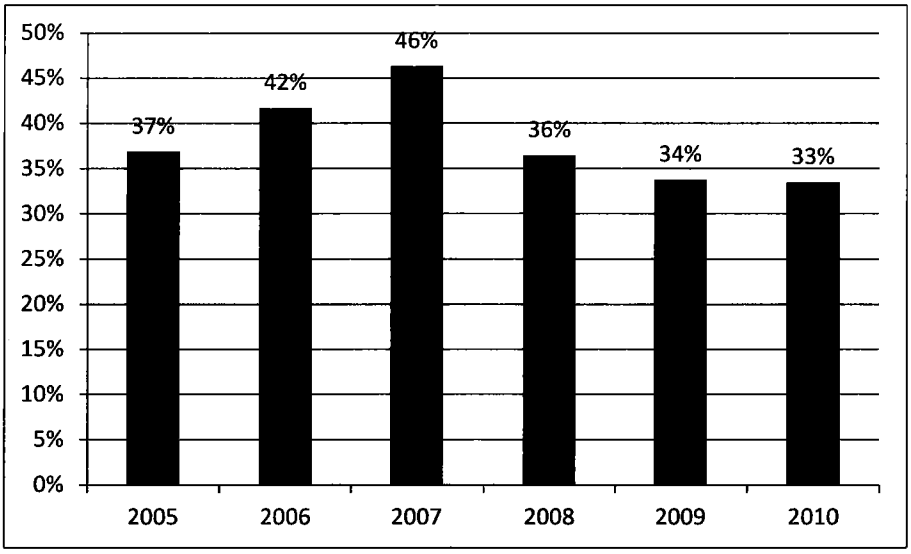


	2005	2006	2007	2008	2009	2010
■ Diversion	118,187	134,152	153,727	98,970	87,991	88,243
■ Disposal	202,554	187,665	178,228	172,635	172,570	175,359

2.2 Diversion Rate

The County's overall diversion rates for the years 2005 through 2010 are shown in **Exhibit 2-2**. The decline in the diversion rate can be attributed to the decline in the economy, and most notably decline in building construction, which contributed significantly to the quantity of waste diverted, specifically inert, asphalt and concrete, etc. The County has established a goal of 50% diversion by 2020. Policies and programs will be recommended in the Plan to enable the County to reach the diversion goal.

Exhibit 2-2. County-wide Diversion Rate, 2005 to 2010



2.3 Waste Generation Projections

2.3.1. Per Capita Waste Generation

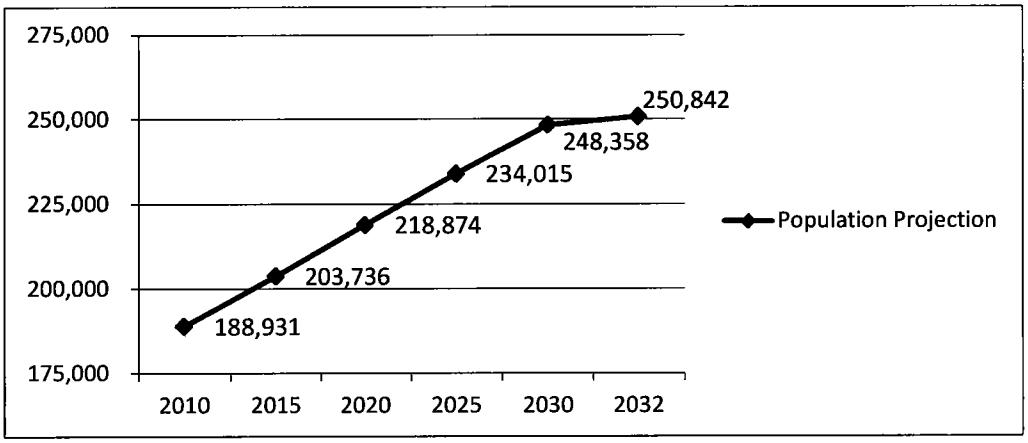
The methodology used to estimate solid waste generation rates for the next 20 years consists of using the per capita generation rate and multiplying this rate by population projections. The per capita waste generation rate for the State of Washington in 2009 was 12.37 lbs/person/day (disposed amounts include all waste that was disposed in MSW, limited purpose, and inert landfills and incinerators, both in-state and exported). Utilizing this number and Benton County population data, the 2010 waste generation in Benton County would be calculated to be over 426,000 tons, which is more than the 263,600 tons reported for the County in 2010. Therefore, this study calculates the County's per capita generation rate using the known data from 2010. That calculation is:

$$\text{2010 Per Capita Waste Generation Rate} = \frac{\text{Total Waste Generation (tons)}}{\text{Population (pp)}} = \frac{\text{263,603 (tons)}}{\text{188,931 (pp)}} \times \frac{\text{2,000 lb}}{\text{ton}} \times \frac{\text{365 days}}{\text{year}} = \textbf{7.65 lb/pp/day}$$

2.3.2. Population Projections

The population projections for the Solid Waste Management Plan planning period 2010 to 2032 utilizes the 2011 County Comprehensive Plan. Based on this data, it is estimated that the County's population will reach 250,842 by the year 2032. In **Exhibit 2-3**, the population projections are shown in 5 year increments through 2030, and then extrapolated to 2032 for the purposes of waste generation planning. The population of the County is anticipated to continue growing over the next 20 years, by approximately 7-8 % every 5 years. This is based on the Washington State Office of Financial Management High Series population projections.

Exhibit 2-3. Benton County Population Projections 2010-2032



Source: Washington State Office of Financial Management.

Utilizing the population projections from the County Comprehensive Plan and the per capita waste generation rate above, the estimated waste generation over the 20-year planning period is calculated, as shown in **Exhibit 2-4**.

Exhibit 2-4. Benton County Solid Waste Projections 2010-2032

	2010	2015	2020	2025	2030	2032
Projected Waste Generation (tons)	263,603	284,259	305,380	326,505	346,517	350,206

Waste generation is influenced by various demographic and economic factors, including changes in levels of employment and personal income, the value of recyclable materials, the price of disposal services, changes in product design and packaging, and changes in behavior affecting waste reduction and recycling activities. Some of these factors are difficult to measure over time, while others are so interrelated that using them in a statistical analysis lowers the accuracy of the forecast. For these reasons, a forecast was developed based on the historical waste generation and using population to indicate the upper limit of potential increase in solid waste

generation within the county. However, it is important to realize that any of these related factors may change within the forecast period. To maintain accuracy, the generation rate should be monitored and projections should be routinely updated.

2.3.3. Level of Service

The population projections for Benton County predict a growth of approximately 62,000 people between 2010 and 2032. In order to maintain an adequate level of service, Benton County will need to provide waste management programs for an additional 86,500 tons estimated to be generated in 2032.

2.4 Waste Composition

In addition to the amount of waste being generated, it is important to evaluate the components of disposed waste in order to identify potentially recyclable and compostable materials. This information is valuable in planning effective recycling and waste minimization programs.

Several factors affect waste composition, including opportunities available for recycling or composting materials, types of business and industry, the area climate, occurrence of natural disasters, mix of urban versus rural designations, the density of single and multi-family dwellings, and technological advances.

No detailed waste composition study has been performed to date for Benton County. Waste composition studies from other jurisdictions are summarized by Waste Generation Area in the 2009 Washington Statewide Waste Characterization Study (Ecology, 2010). In order to estimate the types and quantities of materials that comprise Benton County's disposed waste stream, the categorical percentages from the Central Waste Generation Area, where Yakima and Grant Counties were sampled, were multiplied with the 2010 disposed tonnage for Benton County.

The results of the composition analysis are summarized in **Exhibit 2-5**; the complete analysis is included in **Appendix A**. As indicated, the top 5 material types include: organics (food, leaves and grass); construction and demolition materials (carpet, soil, rocks, sand, asphalt roofing, and insulation); paper packaging (cardboard, kraft paper, mixed/low grade paper packaging); wood debris (painted wood, pallets and crates, wood waste and treated wood); and consumer products (textiles, furniture, televisions).

The information presented in **Exhibit 2-5** and **Appendix A** is important for identifying the types and quantities of materials that could potentially be targeted for recycling, composting or other diversion programs.

Exhibit 2-5. Waste Disposal Composition Summary for Benton County

Material	Percent	Estimated Benton County Tons
Paper Packaging	10.4%	19,649
Paper Products	8.2%	15,492
Plastic Packaging	6.7%	12,658
Plastic Products	4.8%	9,069
Glass	3.5%	6,613
Metal	6.2%	11,714
Organics	26.2%	49,500
Wood Debris	9.9%	18,704
Construction Materials	11.1%	20,971
Consumer Products	8.5%	16,059
Hazardous/Special Wastes	3.2%	6,046
Residues	1.2%	2,267
TOTAL	**100%**	**188,742**

Source: Washington 2009 Statewide Waste Characterization Study, Central Waste Generation Area

Chapter 3

Education and Outreach, Waste Reduction, Recycling, and Organics

3.1 Education and Outreach, Waste Reduction, Recycling, and Organics

This chapter describes existing programs and potential options for reducing the amount of waste being generated and disposed in Benton County. The programs discussed in this chapter are organized as follows:

- Education and Outreach
- Waste Reduction
- Recycling
- Organics

The first section describes education and outreach, which is key to successful waste education/recycling programs and a required element of the plan (**RCW 70.95.090(7)(b)(iv)**). Programs recommended for implementation will educate and promote concepts of waste reduction and recycling throughout the County. The next section, waste reduction, discusses programs that reduce the amount of waste generated, while the final two sections discuss programs that reduce the amount of waste requiring disposal (recycling and organics management).

3.1 Education and Outreach

The County's solid waste planning goals and objectives in the area of public education and outreach are:

Goal #1: Emphasize public outreach and educational programs.

Objectives:

- Expand methods of outreach, including use of social media
- Host and advertise events to increase participation
- Coordinate events regionally
- Link regional websites
- Provide all types of information, including financial

Goal #2: Encourage and expand coordination and communication regarding solid waste issues among all jurisdictions, agencies, and private firms in Benton County.

Objectives:

- Encourage consistent policies across jurisdictions.
- Encourage public involvement in the planning and implementation process.
- Emphasize local responsibility for solving solid waste management issues.

3.1.1 Existing Programs

Public education and outreach programs supporting waste reduction, recycling and organics management activities have been ongoing. Local governments have developed programs on a variety of topics. Education efforts include the following:

- Display booth
- Speakers bureau
- Solid waste videos
- Mailings and advertisements
- Promotional materials
- Composting workshops
- Compost bin sales
- Environmental workshops
- Classroom outreach
- Website
- Social Media

Examples of outreach and education programs developed within the county are described below.

Benton County--

The County provides information on its website and on its Facebook page about the location of drop-off and buy-back sites for recyclables, as well as ways to reduce and reuse materials, the proper disposal of household hazardous waste, the Washington E-Cycle Program, used motor oil collection sites, and disposal of medical waste. The County purchases and maintains recycling containers that are available to public events for free upon request. The County also provides outreach on all its programs at a booth at the County Fair, and information to high schools on paper recycling, as well as provides support to the City of Richland's Green Living Office, and the Benton-Franklin Cooperative Extension office's composting seminars.

City of Richland--

The City has a part time "Environmental Education Coordinator" who provides information to the public about various environmental issues effecting the City or community. Information is regularly sent out to the public in newsletters, utility bill inserts, press releases to radio and television, e-newsletters and other printed publications (including the local newspaper). The Green Living Office also has a number of environmental resources available to the public, including books, curriculum, handouts, and videos. Programs and presentations relating to the environment also are made available to service organizations, businesses, non-profit organizations, and students/schools.

The City's website and social media outlets include information on how to recycle in Richland and the materials that are accepted through various programs. The City of Richland has a 24-

hour government access channel (CityView, Channel 13) which regularly plays environmentally related videos during the "Eye on our Earth" segment, and runs public service announcements. The City has an Electronic Reader Board with waste reduction and recycling information uploaded for motorists to see. The City also encourages homeowners to compost in their own backyard, and hosts backyard composting programs each year where free bins and books are provided to each trained participant. The City has implemented a Green Recognition Program for businesses, schools, and organizations to showcase their knowledge and apply for recognition awards.

City of Kennewick--

Each new resident and business is mailed a brochure outlining the City's existing programs. The City provides curbside and drop box recycling information on its website, and also offers backyard composting workshops.

3.1.2 Options

The following are options for public outreach and education programs.

1. Website and Social Media

Benton County's website concerning solid waste and recycling program activities has expanded since the 2006 SWMP, but could be further expanded to include additional outreach materials including bilingual materials, description of how the County is leading by example in waste reduction, and regionally coordinated links and messages, including social media links. Benton County should regularly update its website to be a successful component of a waste reduction and recycling education campaign. As with any promotional medium, the website must be user-friendly, accurate, and interesting. The website should be professionally designed, if possible.

2. Technical Assistance to Schools and Businesses

This option recognizes the need to reach schools and businesses regarding their handling of waste. Outreach to schools and businesses would offer free technical assistance and waste audits to identify opportunities to implement waste reduction, recycling and composting activities. A functional waste reduction and recycling program in a school yields daily reminders to the students of their direct impacts on the environment. The benefits of this alternative are that commercial sources produce a significant portion of solid waste in Washington. This alternative is inline with the State's Beyond Waste Plan (Initiative 1).

3. Landfill/Facility Tours/Interactive Education

The County, City of Richland, and private companies could offer tours of the landfill and other facilities that engage students and the community with presentations on waste reduction, recycling, and other solid waste management issues.

3.1.3 Recommendations

The Solid Waste Advisory Committee reviewed the options discussed above and has recommended the following options:

1. Website and Social Media

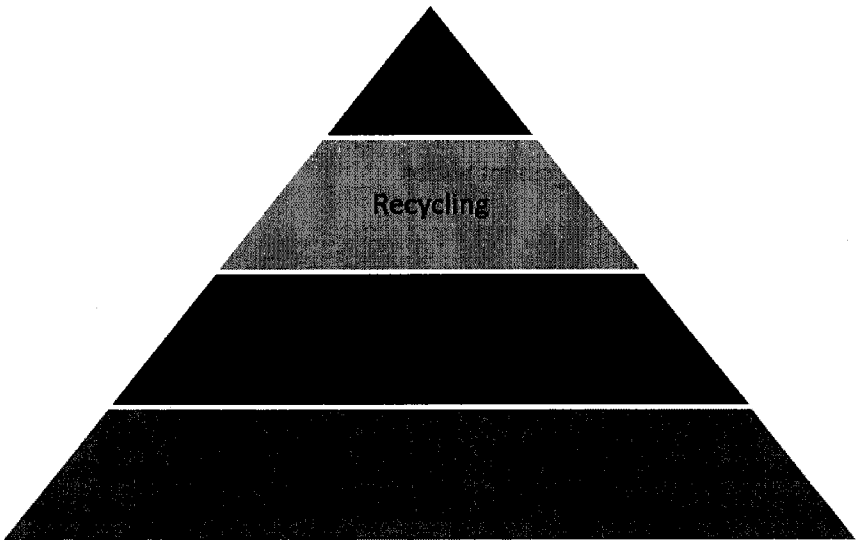
The County will strive to make its website more user friendly, and make sure it is updated as often as possible. It will include more bilingual material in order to reach out to additional residents. More information will be posted on our Facebook page to reach additional residents.

2. Technical Assistance to Schools and Businesses

The County will try additional outreach to schools and businesses and offer assistance to their staff with waste reduction, recycling and composting activities.

3.2 Waste Reduction

Waste reduction is defined as a reduction in the amount and/or toxicity of waste entering the waste stream. While all components of an Integrated Solid Waste Management System are important, reduction of waste at its source should be applied prior to implementation of other techniques, creating less waste to be recycled, reused, composted, incinerated, or landfilled.



The solid waste hierarchy places source reduction as the top priority

Waste reduction is the most environmentally significant and cost-effective way to impact waste generation. Reducing waste is achieved by reducing consumption, reusing durable products, retrieving materials from disposal, reducing the toxicity of the waste stream, or a combination of these options. Unlike recycling or diversion, most waste reduction methods require no material processing. A key component of both volume and toxicity reduction involves moving "upstream" to encourage manufacturers to make less wasteful, less hazardous products.

The County's planning goal and objectives in the area of waste reduction are as follows:

Goal #3: Manage solid wastes in a manner that promotes, in order of priority: waste reduction, reuse, and recycling, with source separation of recyclables as the preferred method.

Objectives:

- Support and maintain a solid waste system that protects human health and safety
- Work towards reaching a diversion rate of 50% by 2020.
- Emphasize programs for commercial waste diversion.
- Establish consistent methodologies to measure the baseline and future progress in achieving waste diversion.
- Obtain accurate data on waste diversion activities.
- Support statewide product stewardship policies

The following sections present a discussion of existing waste reduction programs and options for expanded or new residential and commercial waste reduction programs.

3.2.1 Existing Programs

Area jurisdictions are involved in several internal activities. The county and cities are working to instill waste reduction and recycling as a work ethic among employees, and to set an example for the community.

Washington State offers a statewide, online materials exchange, www.2good2toss.com, for municipalities. This website provides a free, online bulletin board for residents to sell or give away used, but useable items, instead of sending them to the landfill. The City of Richland lists www.2good2toss.com as well as other outlets, and they provide a handout with community reuse ideas for material exchange and reuse, such as second-hand stores, Goodwill, New Beginnings Thrift Store, and antique stores. Habitat for Humanity operates a ReStore in Richland where used and surplus building materials are sold.

The City of Kennewick is currently updating its website, and department managers are evaluating how to include the solid waste program, which will likely highlight information on waste reduction, reuse, and recycling. There are several second hand or thrift stores in the City, including Goodwill, St. Vincent de Paul, Value Village, Second Hand Haven, and Plato's Closet.

3.2.2 Options

Following are potential programs and policies for waste reduction:

1. Support Product Stewardship and Extended Producer Responsibility Policies

Product Stewardship is the act of minimizing health, safety, environmental and social impacts, and maximizing economic benefits of a product and its packaging throughout all lifecycle stages. The producer of the product has responsibility to minimize adverse impacts, along with other stakeholders, such as suppliers, retailers, and consumers, who also play a role. Stewardship can be either voluntary or required by law.

Extended Producer Responsibility (EPR) is a mandatory type of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the producer and away from the public sector; and (2) providing incentives to producers to incorporate environmental considerations into the design of their products and packaging.

Benton County could initially support Product Stewardship programs for those items that are hazardous or toxic, and cannot be collected and handled safely via existing collection systems. Product Stewardship programs should not be for commodities that already pay their own way to

be recycled. Traditional recyclables should be left to the open market to be recycled; and the community should encourage greater market development. Policy decisions regarding end of life management of materials are the responsibility of the local policy decisions of Benton County and the local jurisdictions.

The County and cities can also become Associate Members of the Northwest Product Stewardship Council (NWPSC). Associate members are local, state, regional and federal government agencies, businesses, and non-profit organizations that support the NWPSC mission and product stewardship principles. Associate Members are required to sign on to the program on behalf of their entire agency or organization. Associate Members agree to support product stewardship programs and legislation as their agency or organization allows.

The next step is to work closely with local businesses to promote producer responsibility through voluntary initiatives and take-back programs and to work with communities regionally and statewide on more comprehensive measures. Some of the next measures the County can also consider undertaking include:

- Adopt a procurement policy that includes Extended Producer Responsibility (EPR).
- Consider partnerships with local businesses to take-back products they sell that are hazardous.
- Publish articles in newsletters highlighting the program to the general public.
- Identify businesses, especially manufacturers, and meet with them to explain the program.

2. Environmentally Preferable Products Guidelines

Environmentally preferable products (EPP) typically are defined as products that have a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. They include products that have recycled content, reduce waste, use less energy, are less toxic, and are more durable.

Some of the benefits of EPP include:

- Improved ability to meet existing environmental goals.
- Improved worker safety and health.
- Reduced liabilities.
- Reduced health and disposal costs.

The County and cities would consider giving preference to the purchase of environmentally preferable products, and promote vendors/contractors to meet these requirements as well.

3. County/City Waste Reduction Policies

In addition to educating consumers and businesses, it is important for local governments to "practice what they preach." Through numerous, small choices employees make each day, large amounts of waste can be prevented. Employees should be encouraged to learn more about waste reduction practices and work toward implementing and promoting such practices. Such practices by county/city employees should be implemented whenever practicable and cost-effective.

4. Promote Use of Existing Waste Exchanges

The County and other cities could promote the use of existing online materials exchange websites.

5. Promote Use of Reuse Stores and Organizations

The County and cities could promote the use of existing reuse stores and organizations in the County for residents and businesses to donate used clothing, household goods, and other items. Promotions could be implemented through the County's website, at clean up events, and other regional events.

6. Waste Reduction Requirements for New Developments

The County and cities could require new residential and commercial development projects to incorporate measures to reduce the amount of waste generated during construction and operation. Examples include incorporating green building guidelines such as recycled content building materials, material reuse and recycling requirements, landscaping specifications, construction waste diversion, and other measures.

7. Methods to Measure Waste Management and Reduction Results

Waste reduction can be an elusive concept to measure. Even when an organization does show a reduction in their waste stream over time, without a full characterization of the waste generated before and after changes are implemented, it is difficult to prove which initiatives are successful and how successful they are. However, it continues to be a vitally important concept because it is much easier and less expensive to simply never generate waste then it is to find a way to recycle it. For that reason, the County must continue to promote waste reduction methods and set an example for other establishments by adopting waste reduction strategies.

3.2.3 Recommendations

The Solid Waste Advisory Committee reviewed the options discussed above and has recommended the following options:

1. Support Product Stewardship and Extended Producer Responsibility Policies

Benton County supports Product Stewardship programs for those items that are hazardous or toxic, and cannot be collected and handled safely via existing collection systems.

2. Environmentally Preferable Products Guidelines

The County and cities will research ways to give preference to the purchase of environmentally preferable products, and promote vendors/contractors to meet these requirements as well.

3. County/City Waste Reduction Policies

The County and cities will research ways to teach their employees to learn more about waste reduction and recycling, and work toward implementing and promoting such practices in the workplace.

4. Promote Use of Existing Waste Exchanges

The County and other cities will explore ways to promote the use of existing online materials exchange websites.

5. Promote Use of Reuse Stores and Organizations

The County and cities will explore ways to promote the use of existing reuse stores and organizations in the County.

6. Waste Reduction Requirements for New Developments

The County and cities will explore ways to encourage new residential and commercial development projects to incorporate measures to reduce the amount of waste generated during construction and operation.

Recycling

Recycling is the second tier in the hierarchy of solid waste management in the State. Although Washington State's goal to achieve a statewide recycling rate of 50 percent has not been met, recycling has continued to increase. The County's goal and objectives for recycling are established in the following:

Goal #3: Manage solid wastes in a manner that promotes, in order of priority: waste reduction, reuse, and recycling, with source separation of recyclables as the preferred method.

Objectives:

- Work towards reaching a diversion rate of 50% by 2020.
- Emphasize programs for commercial waste diversion.
- Establish consistent methodologies to measure the baseline and future progress in achieving waste diversion.
- Obtain accurate data on waste diversion activities.

3.2.4 Benton County Recycling/Diversion Rate

There are numerous methodologies for calculating a recycling or diversion rate, as described below.

MSW Recycling Rate: To determine a recycling rate that is consistent and comparable to past years, Ecology has measured a very specific part of the solid waste stream since 1986. It is roughly the part of the waste stream defined as municipal solid waste by the Environmental Protection Agency. It includes durable good, nondurable good, containers and packaging, food wastes, and yard trimmings. It does not include industrial waste, inert debris, asbestos, biosolids, petroleum contaminated soils or construction, demolition and landclearing debris recycled or disposed of at municipal solid waste landfills and incinerators.

Diversion Rate: Since the mid-1990s, Ecology has noted very large increases of material recovery in "non-MSW" waste streams; most notable are the growing industries in recycling asphalt, concrete, and other construction, demolition, and land clearing debris. The recovery of these materials for uses other than landfill disposal is termed "diversion." The diversion rate is an overall measure which includes materials that fall under the "MSW Recycling Rate" and also "diverted" materials.

It has been estimated that in 2010, the residents and businesses in the county generated approximately 263,000 tons of waste, and approximately 88,000 tons of this waste was diverted from disposal, for a diversion rate of 33%. The 2010 diversion rate is calculated using the following formula:

$$\text{Diversion Rate (\%)} = \frac{\text{Diversion (tons)}}{\text{Waste Generation (tons)}} = \frac{88{,}243}{263{,}603} = 33.48\ \%$$

A summary of the types and quantities of materials diverted in Benton County in 2010 is shown in **Exhibit 3-1**.

Exhibit 3-1. Benton County Diversion – 2010

Material	Total (tons)	Material	Total (tons)
Paper		**Batteries**	
Corrugated cardboard	9,134	Batteries - Auto Lead Acid	119
High grade	258	Batteries - Household Dry Cell (alkaline/carbon)	5
Mixed	837	Batteries - NiCad/NiMH/Lithium	4
Newspaper	2,093	**Special Wastes**	
Plastic		Antifreeze	125
HDPE	59	Asphalt and/or Concrete	10,076
LDPE	117	Asphaltic Materials (excluding roofing)	10,088
PET	42	Concrete	17,686
Plastic - other	27	Electronics	162
Photographic films	4	Electronics - computers/other	63
Container Glass	803	Electronics - CRT/TVs	57
Metals		Fluorescent Lamps (4 foot)	6
Ferrous metals	25,545	Fluorescent Lamps (8 foot)	1
Non-ferrous metals	1,964	Fluorescent Lamps (Other)	9
Aluminum cans	195	Reuse - Clothing & Household items	28
Tin cans	48	Reuse - general	64
Appliances/White Goods	3,102	Tires (burned for energy)	51
Organics		Tires (retreaded)	4
Food Processing Waste	1,058	Tires (reused/resold)	54
Rendering - meat scraps	329	Oil Filters	35
Rendering - used cooking oil	84	Textiles (rags, clothing, other)	487
Wood (burned for energy)	450	Tires (recycled)	169
Wood - recycled	12	Used oil	1,907
Yard Debris	883		
		Total	***88,243***

Source: Washington State Department of Ecology Recycling Data for Benton County

3.2.5 Oregon State Requirements

Oregon statute (ORS 459.305) requires out-of-state local governments, which export more than 75,000 tons annually into Oregon for landfill disposal, to provide the opportunity to recycle and implement recycling education programs. Specifically, the local government must either achieve a recovery rate equivalent to that achieved in a comparable Oregon county or implement an equivalent recycling program. The disposal site operator is responsible for demonstrating to the Oregon Department of Environmental Quality that the city from which the waste originates has implemented an equivalent recycling program.

An equivalent recycling program requires that each person be notified of the opportunity to recycle and be encouraged to source-separate recyclables through education programs. Additionally, for cities with a population of:

- Less than 4,000, a convenient drop-off recycling location must be provided for source-separated recyclables.
- 4,000 or more, monthly curbside collection of source-separated recyclables must be provided.

Furthermore, cities with a population of more than 4,000 are required to implement certain elements out of a list of nine provided in the statute. The elements include:

- Provide durable recycling containers (e.g., recycling bins).
- Provide weekly curbside recycling collection, on the same day as garbage collection.
- An expanded education program that informs generators on how to recycle; the benefits of reducing, reusing, recycling, and composting; and promotes the use of recycling services. The city must either submit an education plan to DEQ or implement an education program that follows the requirements of ORS 459A.010(2)(c)((B).
- Collection of at least four principal recyclable materials from each multi-family dwelling complex having five or more units.
- An effective residential yard debris collection and composting program that promotes home composting and includes either monthly curbside collection of yard debris or a system of yard debris collection depots that are open weekly.
- A commercial recycling program for source-separated materials for firms employing 10 or more persons and occupying 1,000 square feet or more in a single location.
- Expanded depots for recycling and expanded education to increase depot use.
- Residential collection rates that encourage waste reduction, reuse, and recycling, through reduced rates for smaller containers and a rate that does not decrease on a per-pound basis for large containers.
- A collection and composting system for food, contaminated paper, and other compostable waste from commercial and institutional entities that generate large quantities of this waste.

Cities that export more than 75,000 tons annually, and with a population of at least 4,000 to 10,000, must implement the first three elements or design a program incorporating at least three elements from the list. Cities with a population of more than 10,000 must implement the first three elements and one additional element or design a program that includes at least five elements from the list.

3.2.6 Waste Management submitted a Waste Reduction Certification plan, and it is approved by the Oregon Department of Environmental Quality for the City of Kennewick. Ed's Disposal has applied for, and has an approved Waste Reduction Certification Plan by the Oregon Department of Environmental Quality. This Waste Reduction Plan has been approved without the requirement of a curbside program.Existing Programs

County and City Internal Recycling Programs--

Benton County collects cardboard, paper, plastics and metals from many County buildings, which is recycled by local haulers, including Clayton-Ward Recycling. Some County maintenance projects reuse materials, such as recycled asphalt, however there is no requirement for this practice.

City of Benton City has a paper recycling program. Ed's Disposal collects the office paper from City facilities, and the City returns its ink cartridges

City of Kennewick employees collect their office paper and aluminum cans in boxes located in all major departments. Cardboard is also separated for recycling. A local recycler picks up the materials and transports it to their main collection center for recycling.

City of Richland collects and recycles office paper, phone books, cardboard, toner cartridges, cell phones and rechargeable batteries. In addition, many of the buildings collect aluminum, plastic, and tin. Cardboard is also separated for recycling. Materials are collected by staff and transported to a local recycler. The City has also adopted a procurement policy for recycled content materials (Richland Municipal Code (RMC) Title 3.04.140). The City's intent is to promote the use of recycled products and recyclable products by the City departments, and stimulate demand for recycled products and help develop markets for recyclable and reusable materials. City departments are to use recycled and recyclable products whenever practical and reasonable. The contracts office maintains a list of recycled and recyclable products available to the City departments.

City of West Richland has an office paper recycling program. The materials are collected by Ed's Disposal.

City of Prosser has no formal program. City staff recycles office paper and cardboard using containers placed in various office spaces. Roadside tree trimming is chipped and used for

landscaping and/or playground fall zones. Some City road projects have used asphalt road grindings for alleyways, however there is no requirement for this practice.

The development and implementation of these programs help encourage local government employees to take the recycling habit home with them, promoting recycling both at home and in the workplace.

Residential and Commercial Recycling Programs–

Benton County--The principal method for collecting recyclables from residents and businesses in Benton County is through a system of conveniently located drop boxes. In addition, a number of private and non-profit recycling centers provide opportunities to recycle a wide variety of materials, such as paper, aluminum, glass, auto batteries, scrap metal, used motor oil, and white goods. Materials may be dropped off for free or sold, depending on the item and the recipient. Most of the buyback centers and drop-off sites are conveniently located. Some facilities specialize in collecting only certain types of materials. For example, one company only accepts batteries. Other facilities provide comprehensive collection of such items as glass, aluminum, tin, paper, plastic, used oil, scrap metal, cardboard, and car batteries. Usually these facilities pay for some materials and accept other materials at no charge. The County maintains a list of available recycling opportunities on its website. The locations of drop boxes and buy-back centers are provided in **Exhibit 3-2.**

Exhibit 3-2. Location of Recycling Drop Boxes and Buy-Back Centers

Facility Location/Type of Facility	Owner/Operator
Benton City ***Recycling Drop Box Sites*** • 7th Street and Dale Avenue • 920 Horne Drive	Ed's Disposal
Kennewick Kennewick Transfer Station 2627 Ely Street ***Recycling Drop Box Sites*** • 4602 West Clearwater Avenue (Winco parking lot) • 2721 West Kennewick Avenue and Highway 395 (McDonalds parking lot) • West 7th Avenue and South Washington Street • 7011 West Canal Drive (Wok King parking lot) • 7704 South Bermuda Road (Bermuda Fire Station) •	Waste Management Waste Management

Facility Location/Type of Facility	Owner/Operator
• Chevron, Corner of Keene & Queensgate Village N • 119 East Albany Street	Clayton Ward Company
Prosser ***Recycling Drop Box Sites*** • 1006 Dudley Avenue • Sherman Avenue City Yard	Basin Disposal
Richland Horn Rapids Landfill/HHW/MRW 3120 Twin Bridges ***Recycling Drop Box Sites*** • West 7th Avenue and 'W' Avenue, Battelle complex • 2411 George Washington Way, near the 7-Eleven • 2400 Stevens Drive, near the Hanford Bus Lot • 1300 Block of Jadwin Avenue, Uptown Shopping Center behind the Texaco Station • 1378 Lee Boulevard, west of Fran Rish Stadium • 103 Keene Road, south of ACE Hardware • 2801 Duportail in the Walmart Parking Lot • Corner of Queensgate Drive and Keene Road	City of Richland
Richland (con) ***Recycling Drop Box Sites*** • 1936 Saint Street	Clayton Ward Company
West Richland ***Recycling Drop Box Sites*** • 460 South 40th Avenue • 4300 Block of Mt. Adams View	Ed's Disposal

The City of Kennewick has a curbside collection program for recycling of glass tin, aluminum, PETE and HDPE containers; newspaper, cardboard, mixed paper, and magazines, and used motor oil.

The City of Richland City Council authorized a pilot program for curbside recycling in 2009, and service began in May 2009. The duration of the pilot program was from May through December 2009. A contract was let to a local vendor to process recycled materials. The program included an aggressive communications effort with the residents in the targeted areas, including residential utility bills, messages on the City's website, an established phone line, messaging on the municipal reader board and information available through additional means. The pilot program was a complete success with 922 tons of recyclable items were processed and

diverted from the landfill. The program was then rolled out to all residents in 2010 as a voluntary program, resulting in a 27% participation rate.

3.2.7 Designation of Recyclable Materials--

The Washington Administrative Code (WAC 173-350-100) defines Recyclable Materials to mean, "those solid wastes that are separated for recycling or reuse, including, but not limited to, papers, metals, and glass that are identified as recyclable material pursuant to a local comprehensive solid waste plan." In order for any material to be considered a recyclable material under Chapter 173-350, it must be identified as such in the local comprehensive solid waste management plan. If a materials is not identified in the plan as recyclable, then the ability of the person/company wanting to recycle this material and be able to benefit from some of the exemptions granted under Section 350 does not exist. If materials are not designated as recyclables, they remain regulated as solid wastes.

The following materials are designated as recyclable materials in the County:

- Paper (newspapers, magazines, mixed paper, and corrugated cardboard).
- Glass bottles (clear, brown, and green).
- Plastic bottles (PETE and HDPE).
- Steel and aluminum cans.
- Other ferrous and non-ferrous metals
- Electronics
- Used motor oil
- Antifreeze
- Household batteries
- Automobile batteries.
- Organic Waste
- Construction Wood Waste
- Concrete
- Brick
- Asphalt

The addition or deletion of materials accepted for recycling will require ongoing evaluation and will be based on several factors, such as market stability and collection and processing costs. As required by the planning guidelines, criteria have been developed for adding or removing materials from the above list of materials. The following will be considered for adding new materials:

- Local markets and/or brokers expand their list of acceptable items based on new uses for materials or technologies that increase demand.
- New local or regional processing or demand for a given material occurs.
- Sufficient quantity of the material is available in the waste stream.

- The material can be collected efficiently and has minimal processing requirements.
- Other conditions not anticipated at this time.

Removing materials from the list requires:

- The market price becomes so low that it is not longer feasible to collect, process, and/or ship to markets.
- No market can be found for an existing recyclable material, causing the material to be stockpiled with no apparent solution in the near future.
- Other conditions not anticipated at this time.

Although it is unlikely that any existing recyclables would be removed from the current collection program barring a sudden shift in market conditions, it is likely that additional markets might become available for materials not currently recycled.

A proposal to add or delete a designated recyclable material will be brought to the SWAC, who will vote for or against the proposal. Following approval or non-approval of the proposal, all parties in the County will be notified of the addition or deletion of the material.

3.2.7 Options

Benton County and the cities have established an objective of working towards reaching a diversion rate of 50% by 2020. One method to reach this rate is to increase recycling. This section presents programs and policies to increase recycling, including county and city internal recycling programs, and residential and commercial recycling programs.

1. Expanded Recycling Drop-Box Program

Benton County and the cities could consider expanding the current drop-box program by either adding additional materials for collection or adding additional sites located in the county:

- At a minimum, the County and cities should periodically evaluate the range of recyclables accepted at the current drop boxes and determine whether new materials should be added.
- The County and cities also should monitor growth patterns within the county and provide drop boxes to areas that are showing increased growth.

2. Rewards Program for Residential Recyclers

Recycle Bank is a program that rewards customers for recycling by providing incentives for recycling higher weights of materials. The program works by implanting or attaching a radio frequency identification (RFID) tag to the recycling cart, this RFID corresponds to an account number with Recycle Bank. Customers must activate their own Recycle Bank accounts to participate. The collection vehicles are equipped with weight sensing collection arms and RFID readers. When the recycling is collected the RFID tag is read and a computer stores recycled

material weight collected by account. This information is then downloaded into the Recycle Bank program and the amount of materials recycled earns the account holder points. These points can be redeemed at many major retailers for goods or services. This type of program could be implemented in Kennewick and Richland, which have residential curbside recycling service.

3. Commercial Waste Assistance

Many industry associations have taken on the role of promoting recycling within their industries. This is particularly true for large businesses where waste reduction and recycling provide opportunities to reduce overhead costs and where disposal costs have risen substantially. It is often the smaller businesses that may lack information about opportunities and the role recycling may play in reducing disposal costs.

The City of Richland offers businesses information on its website on how to conduct a waste audit. Benton County and the other cities could work with the certificated haulers to provide its businesses with free technical assistance, by providing waste assessments. A waste assessment should address:

- The amount, nature, and composition of the waste generated in all functional areas of an establishment.
- How the waste is produced, including relevant management policies and practices.
- How the waste is managed.

The information from the waste assessment is the basis for identifying and developing the waste reduction and recycling options for the business.

4. Recycling Opportunities Related to the Wine Industry

During an informal survey, several of the wineries identified the need for recycling drop boxes closer to their facilities such as the Prosser Wine Village and Red Mountain. Such drop boxes are available for hire, and some wineries have chosen to recycle their glass through this option. The following options for assistance to the wine production industry could include: (1) additional recycling drop boxes for cardboard and bottles (should accept all colors of glass commonly used in wine industry); (2) connecting wineries to artists who repurpose corks and/or wine bottles; (3) bringing in wine industry experts to hold workshops presenting newest technology and ideas for processing of post-production organics; and (4) serving as a conduit between wineries and other markets interested in purchasing post-production organics.

3.2.8 Recommendations

The Solid Waste Advisory Committee reviewed the options discussed above and has recommended the following options:

1. Expanded Recycling Drop-Box Program

Benton County will study the feasibility of adding additional sites located in the county.

2. Rewards Program for Residential Recyclers

Benton County will partner with Cities who provide curbside recycling to explore the feasibility of a program similar to the Recycle Bank Rewards Program.

3. Commercial Waste Assistance

Benton County and the other cities will consider the feasibility of working with the certificated haulers to provide their businesses with technical assistance to perform waste assessments.

4. Recycling Opportunities Related to the Wine Industry

Benton County will study the options to assist the wine industry in their recycling/reuse efforts.

3.3 Organics

One of the initiatives of the State's Beyond Waste Plan is to increase recycling for organic materials. Yard waste collection programs are required where there are "adequate markets or capacity for composted yard waste within or near the service area to consume the majority of the material collected." For Benton County, the following goal and objective is related to the management of organics:

Goal #6: Establish guidelines and strategies for management of specific waste streams.

Objective:

- Develop Best Management Practices for agricultural waste reuse and recycling.

3.3.1 Existing Programs

The County and cities actively promote backyard composting as a waste reduction method by providing backyard composting workshops. The County supports the efforts of the Cities of Prosser, Benton City and West Richland in their chipping programs, as well as the composting seminars held by WSU Cooperative Extension.

The City of Richland has added seasonal collection of organic yard trimmings at the curb to its basic residential garbage services. Households, except apartments and condos, are provided one green yard waste can. Additional cans are available for a monthly fee of two dollars. Materials

that can be placed in the green can include loose grass, leaves, plant trimmings, garden debris like inedible fruits and vegetables, non-treated wood and branches less than 12" in diameter. The material is collected separately from garbage, every other week on the regular collection day. The program operates between the first week of March and the last week of November. In addition, during the spring and fall, drop boxes are placed in Richland neighborhoods for the collection of bulky and excess yard debris. The City also encourages residents to use a mulching lawn mower, backyard composter, and other methods to manage their organic waste.

The organic material collected in the City's residential yard waste collection program is processed at the Horn Rapids Composting Facility. The compost facility opened in 2010 and accepts residential yard waste with no charge to the resident. Biosolids from the City's Wastewater Treatment Plant is composted with the green waste. The composting program will save landfill space, help meet the State's recycling goal and provide compost materials to the public. The program processed approximately 800 dry tons of biosolids, 1,500 tons of wood waste and 1,200 tons of curbside yard waste in 2011. Compost produced from the first few years of operation will be used as cover material for the area of the landfill that is being closed.

3.3.1.1 Organic Waste Inventory for Benton County

The Port of Benton, in cooperation with the Benton County Solid Waste Advisory Committee, conducted a study in 2009 to evaluate organic wastes in Benton County that may be useful for generating renewable energy. This work was funded by a grant from the Washington State Department of Ecology (Ecology). Completion of the study is consistent with Port of Benton and Benton County goals to promote local economic development, along with public health and safety, social services, and environmental quality.

The results of the study showed that, in general, the top categories of available waste materials are food processing wastes, wheat straw from irrigated wheat fields, various solid wastes (such as wastepaper, yard waste, etc.), corn stover, grape pomace, mint slug, and turf grass straw. The October 2009 Draft Report is on file in the Benton County Public Works Department.

3.3.2 Options

1. Expand Yard Waste Chipping Program

A semi-annual program providing a chipper at designated drop-off sites throughout the area would divert additional materials from the landfill, and provide additional capacity to handle yard waste in the County. This option would only be implemented when appropriate end use markets are available for the chipped material, which may include public use for parks, medians or other landscaped areas, or in private operations.

2. Implement Curbside Green Waste Collection for Commercial Customers

This option incorporates a voluntary curbside green waste collection service for commercial customers. The service would be provided at the appropriate service frequency. The materials collected would be processed for mulch, composting, or other uses at designated and permitted compost facilities.

3. Diversion of Organic Waste from Wine Industry

The growing wine industry within Benton County is a waste producing sector that has not been previously addressed within the County's Plan. This industry produces very specific waste streams including organics that are by-products of the wine making process. An informal survey of several of the larger wine producers within Benton County identified a few common disposal methods of organics processing, including on-site land application, burial in pits, and selling to cattle ranchers for feed. The pit burial method can create hazardous conditions depending on the size and depth of the pit and whether or not access is limited in order to prevent accidental encounters. The County should work with wine industry representatives to identify opportunities to divert materials for beneficial use that are environmentally sound and protect public health.

3.3.3 Recommendations

The Solid Waste Advisory Committee reviewed the options discussed above and has recommended the following options:

The County will support the efforts of the cities to provide yard waste chipping, and continue to study ways in which to use the resultant material in environmentally appropriate ways. It will also research ways to expand the city-only program into the non-incorporated areas. It will support the agricultural and wine industry in finding uses for organic wastes produced in Benton County.

Chapter 4

Collection Systems

4.0 Collection Systems

This chapter provides a discussion of refuse collection in Benton County, including background information on how refuse collection is regulated, the legal authority that counties and municipalities have in managing collection services for solid waste and recyclables, and existing conditions for these activities. The chapter concludes with a discussion of the potential options for meeting existing and future collection needs in the county.

For the purposes of this plan, Benton County has established the following goal and objectives in relation to collection of solid waste:

Goal #5: Provide for efficient collection, transfer, and disposal of MSW and recyclables.

Objectives:

- Ensure access to collection or drop-off services for residences, businesses, and industry.
- Locate recycling and solid waste transfer, processing, and disposal facilities to optimize service levels and transportation efficiencies.
- Ensure adequate disposal capacity.
- Support the current WUTC authority as the appropriate framework to achieve safe and environmentally sound solid waste collection systems, allow for universal access to solid waste collection at just and reasonable rates.

4.1 Background

The Washington Utilities and Transportation Commission (WUTC), the county, and the municipalities regulate refuse collection in Benton County. The regulatory authority and jurisdiction of each of these entities is described below.

4.1.1 WUTC Authority

The WUTC supervises and regulates solid waste collection companies. WUTC authority (Chapter 81.77 RCW and Chapter 480-70 WAC) is limited to private collection companies and does not extend to municipal collection operated by municipalities or their contractors. The Commission requires reports, establishes rates, and regulates service areas and safety practices.

A private solid waste collection company must apply to the WUTC for a certificate of public convenience and necessity to operate in the unincorporated areas of the county or in incorporated areas which choose not to regulate refuse collection. The WUTC grants certificates within a designated service area to an applicant based on cost data, documented need for the service, and, if the district is already served by a certificate holder, the ability or inability of the existing certificate holder to provide service to the satisfaction of the WUTC. The Commission requires annual reports showing the refuse collection company's gross operating revenue. Certificates

may have terms and conditions attached and may be revoked or amended after a hearing held by the WUTC.

Commission regulation of solid waste collection companies does not include collecting or transporting of recyclable materials from a drop box or recycling buy-back center. It also does not include collecting or transporting recyclable materials by or on behalf of a commercial or industrial generator of recyclable materials to a recycler for use or reclamation (Chapter 81.77.010(8) RCW). Transportation of these materials is regulated under Chapter 81.80 RCW which governs the regulation of motor freight carriers. These carriers require a WUTC permit and proof of insurance to operate in the state. If the commercial recycling hauler also possess a certificate to operate as a solid waste company, WUTC is responsible for ensuring compliance with safety practices. For other commercial recycle haulers, the Washington State Patrol oversees hauler traffic safety practices.

4.1.2 County Authority

The rights of the counties in terms of solid waste collection include the establishment of solid waste collection districts for the mandatory collection of solid waste (Chapter 36.58.100 RCW). However, solid waste collection districts cannot include incorporated areas without the consent of the legislative authority of the city or town.

To form a solid waste collection district, public hearings must be held and the county legislative authority must determine that mandatory collection is in the public interest. County provision of collection services can be implemented only if the WUTC notifies the county that no qualified haulers are available for a district. Under mandatory collection, a hauler may request that the county collect fees from delinquent customers.

In Benton County, all unincorporated areas are covered by WUTC certificate holders; there are no solid waste collection districts. Although county authority to collect refuse in the unincorporated areas is limited, counties have the legal authority to assess fees on collection services provided in those areas. Presently, Benton County includes a surcharge tax on garbage collected in the unincorporated portions of the County. RCW 36.58.045 authorizes counties to assess such fees to fund administration and planning expenses associated with solid waste management.

4.1.3 Municipality Authority

Cities and towns have several options for managing solid waste collection under state law, including:

The city may choose not to manage or regulate its own refuse collection services. Collection services may then be provided by the certificate hauler(s) with authority for that area under the regulation of WUTC.

- The city may require a private company to obtain a refuse collection license from the city and to conform to all city collection guidelines.
- The city may award contracts to private companies for refuse collection in all or part of the city. The contract hauler does not need to hold a WUTC certificate for that area. Usually contracts are awarded based on selection criteria as determined by the city. The city may decide to manage and maintain its own municipal collection system for all or part of its jurisdiction.

The WUTC would not have jurisdiction over the last two options (Chapter 81.77.020 RCW). State law also allows municipalities to require residents and businesses to subscribe to designated refuse collection services.

The City of Richland is the only municipality in the region that provides collection services through a city solid waste utility.

4.2 Existing Refuse Collection Services

Refuse collection services in Benton County are provided through a number of different mechanisms, including municipal, WUTC certificates, and municipal contracts. The existing collection services and arrangements for each entity are described below.

4.2.1 Unincorporated Benton County

Refuse collection in unincorporated Benton County is provided under certificates granted by the WUTC. Four haulers are certified to collect waste in Benton County, as indicated in **Exhibit 4-1**. Maps of the service areas for each certificate holder are provided in **Exhibits 4-2 through 4-5**.

Basin Disposal, Inc.: Serves primarily the eastern area of Benton County, and the Hanford site. Waste collected by BDI trucks is brought to the BDI transfer station located in Pasco (1721 Dietrich Road) and is long-hauled to the Finley Buttes landfill for disposal.

Ed's Disposal, Inc.: Ed's Disposal, Inc., primarily serves central Benton County. Waste is transported to the BDI transfer station in Pasco and long-hauled to the Finley Buttes landfill for disposal.

Sanitary Disposal, Inc.: Sanitary Disposal, Inc. collects waste from the southwestern corner of Benton. Waste collected in the County is transported to a transfer station in Umatilla County, Oregon, between the Cities of Hermiston and Umatilla, and is long-hauled to the Finley Buttes landfill for disposal.

Waste Management of Kennewick: Serves areas throughout unincorporated Benton County for the collection and disposal of solid waste. Waste collected by Waste Management is

transported to its transfer station in Kennewick, and hauled to the Columbia Ridge landfill for disposal.

Exhibit 4-1. Benton County Certificated Haulers

Certificate G-118 Basin Disposal, Inc. PO Box 3850 Pasco, WA 99302-3850 (509) 547-2476	**Certificate G-173** Sanitary Disposal, Inc. Box 316 Hermiston, OR 97838 (541) 567-8842
Certificate G-110 Ed's Disposal, Inc. PO Box 3850 Pasco, WA 99302-3850 (509) 547-2476	**Certificate G-237** Waste Management of Kennewick PO Box 6088 Kennewick, WA 99336-0088

4.1.2 Benton City

The City of Benton City contracts with Ed's Disposal, Inc. for residential and commercial solid waste collection. Residents are provided with either a 64-or 96-gallon wheeled cart, which is collected weekly using an automated truck. Additional residentially generated garbage is allowed at no extra charge, as long as it is no more than 65 pounds per item. Commercial customers are serviced by Ed's Disposal, and businesses can contract for waste and recycling (cardboard only) collection.

4.1.3 City of Kennewick

The City of Kennewick contracts with Waste Management to provide collection services to residences and businesses within the city. Residential refuse is collected using automated curbside collection vehicles. Residents can choose either a 35-gallon or a 96-gallon cart for refuse. The rates vary by size of the cart, and are lower for the smaller cart, which encourages residents to recycle more, and discard less refuse. There is an additional charge for refuse that does not fit in the cart.

Recycling service is provided at no additional charge. Residents are provided bins for curbside collection of recyclables. One bin is used for the collection of glass bottles and jars. The second bin is used for the collection of comingled recyclables, including aluminum cans, tin cans, paperboard milk cartons, P.E.T. plastic soda and H.D.P.E. plastic milk bottles, newspaper, and magazines. Residents are instructed to place cardboard and used oil next to the bins. There is no limit on the amount of clean recyclables residents can place at the curb.

Exhibit 4-2. Certificate G-118, Basin Disposal, Inc.

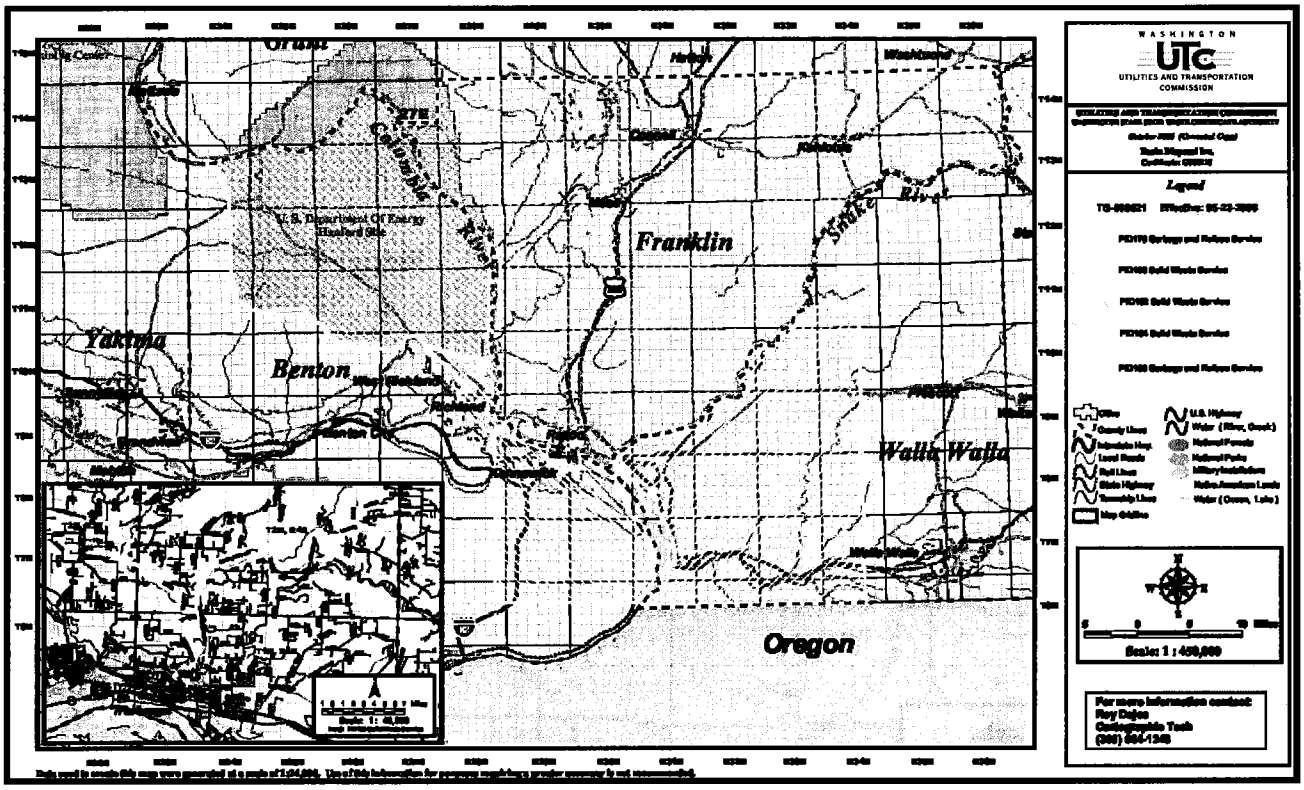


Exhibit 4-3. Certificate G-110, Ed's Disposal, Inc.

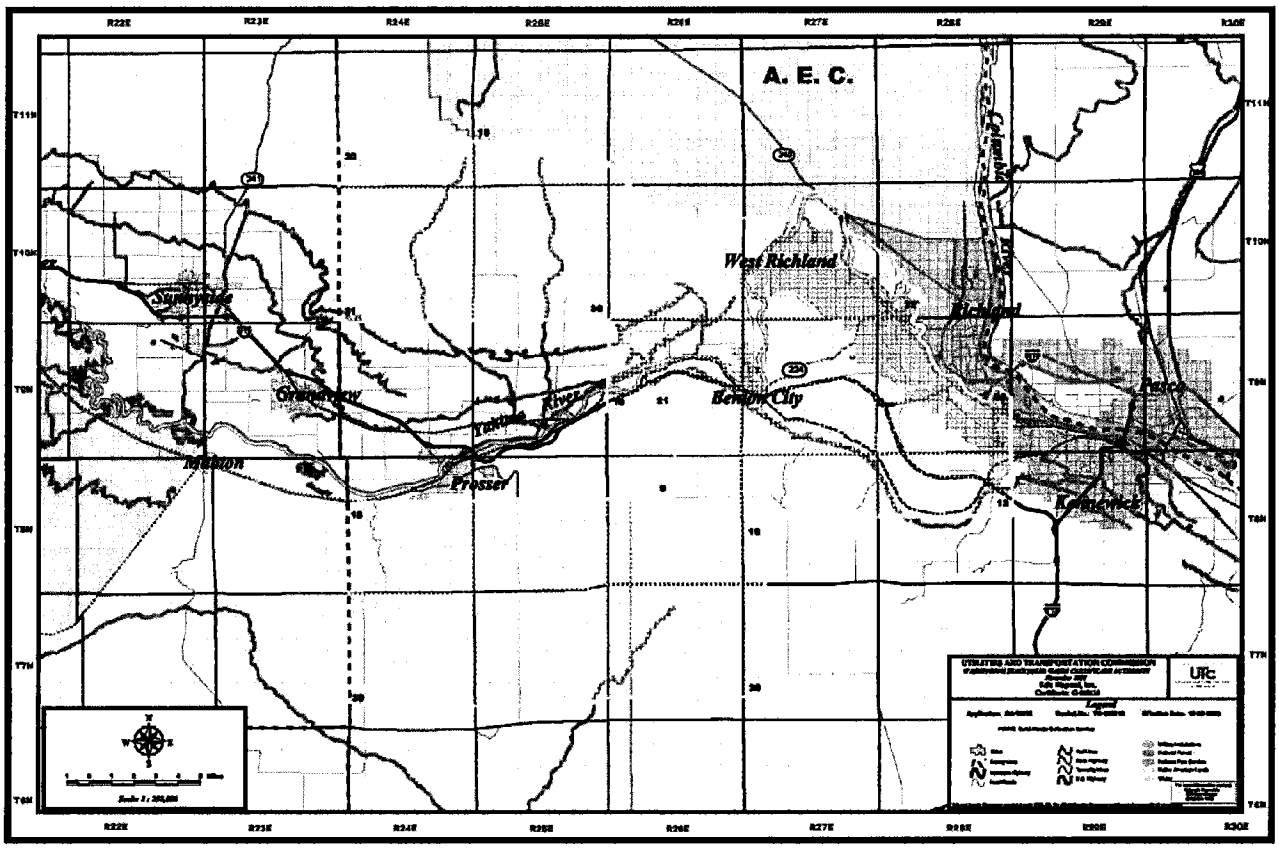


Exhibit 4-4. Certificate G-173, Sanitary Disposal, Inc.

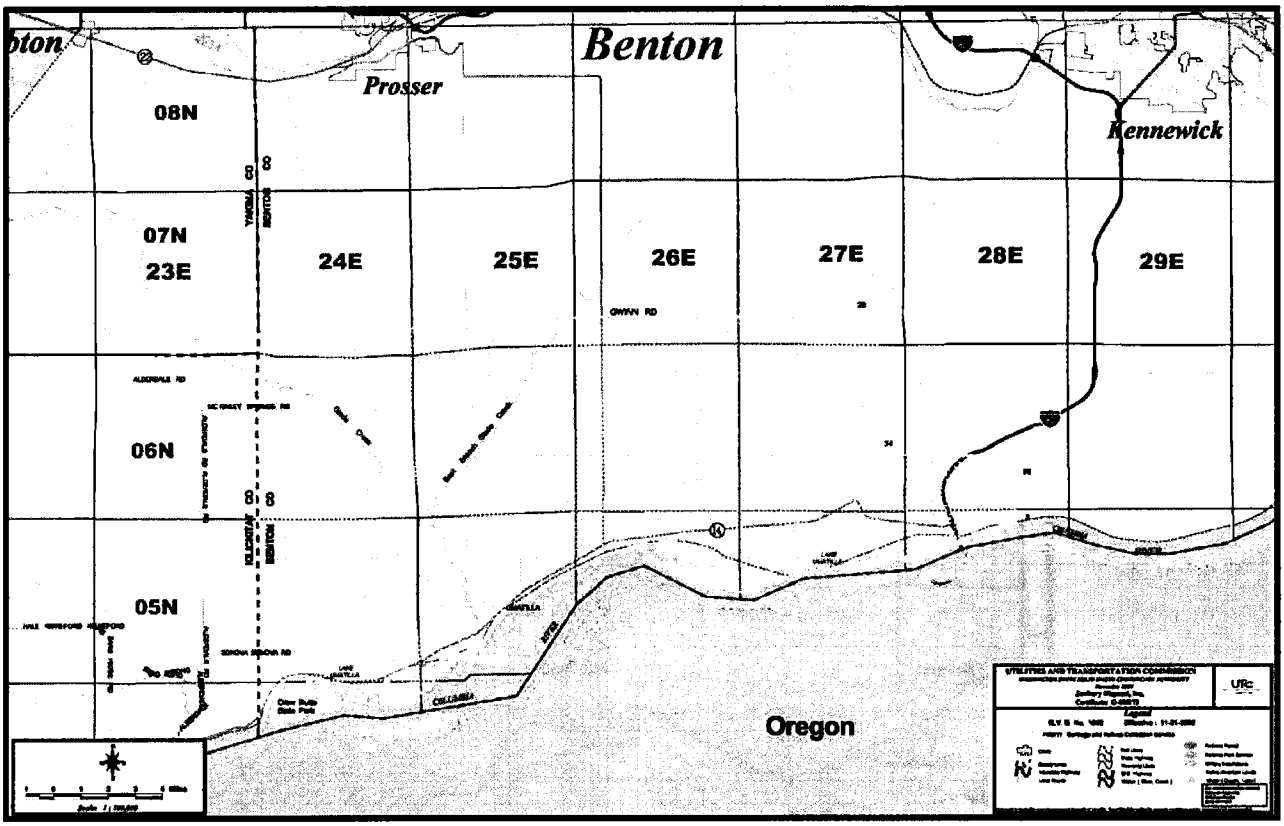
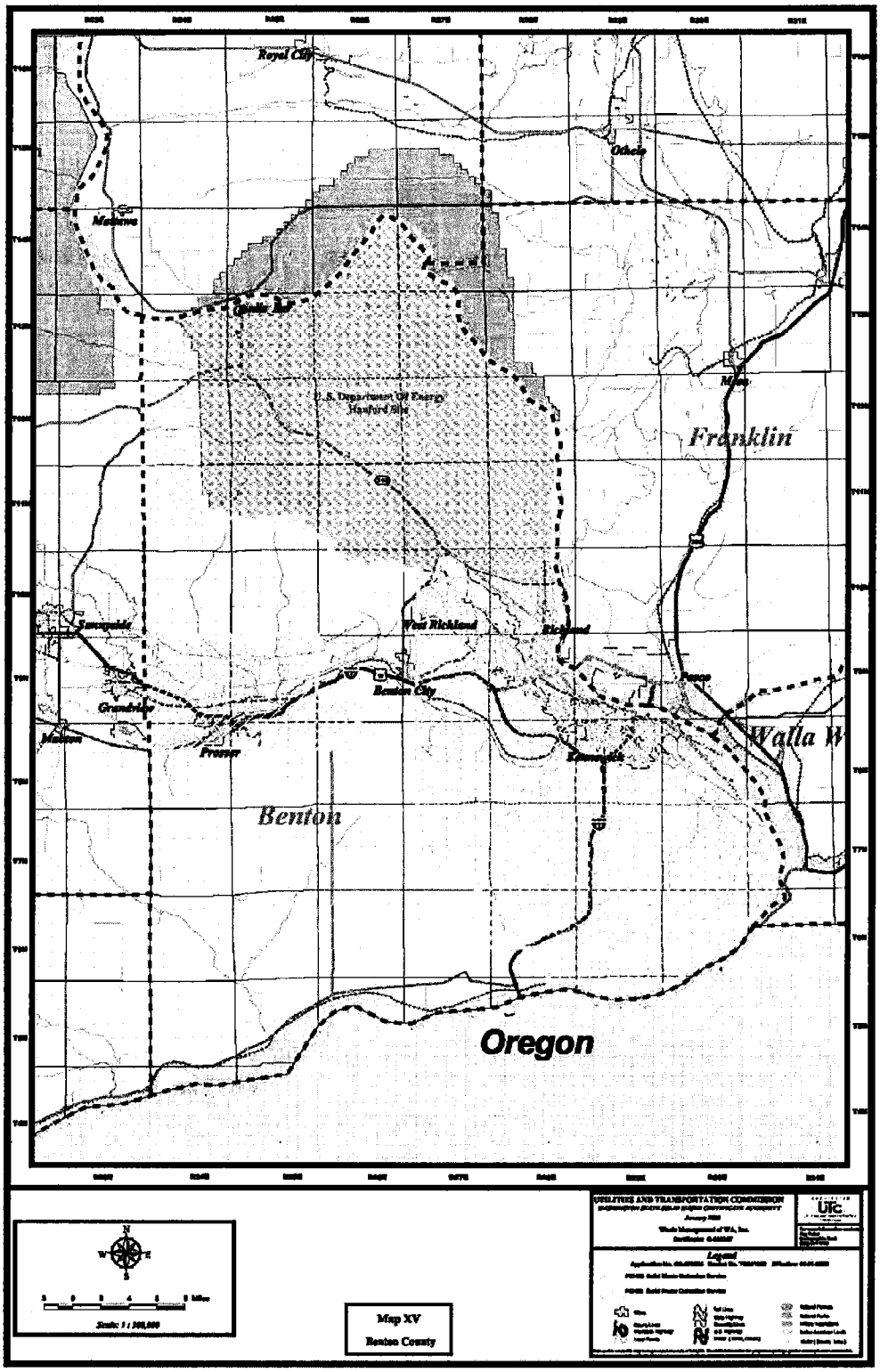


Exhibit 4-5. Certificate G-237, Waste Management of Kennewick



City residents also are provided coupons that allow them the opportunity to self-haul waste to the transfer station free of charge up to 12 times per year, replacing Spring and Fall Cleanup Events. Waste Management also offers scheduled holiday clean-ups.

4.1.4 City of Prosser

The City of Prosser contracts with Basin Disposal, Inc. (BDI) for residential and commercial solid waste collection. Residents are provided with either a 64-or 96-gallon wheeled cart, which is collected weekly using an automated truck. Additional residentially generated garbage is allowed at no extra charge, as long as it is no more than 65 pounds per item. Additionally, Prosser sponsors a spring cleanup event for all waste except household hazardous waste, and a fall clean up event for vegetative waste only. Commercial customers are serviced by BDI, and businesses can contract for waste and recycling (cardboard only) collection.

4.1.5 City of Richland

The City of Richland's Public Works Department, Solid Waste Division provides residential, commercial and roll-off box collection services in the City. Residential customers comprise approximately 47% of the collection (by weight), and commercial and roll-off customers each contribute about 28% and 24%, respectively. All waste is hauled directly to the Horn Rapids Landfill.

Richland city crews collect residential waste five days per week from approximately 16,000 residential accounts. Participation in the curbside recycling program is voluntary, and an additional monthly fee applies to that service.

The City of Richland has added seasonal collection of organic yard trimmings at the curb to its basic residential garbage services. Households, except apartments and condos, are provided one green yard waste can. Additional cans are available for a monthly fee of two dollars. Materials that can be placed in the green can include loose grass, leaves, plant trimmings, garden debris like inedible fruits and vegetables, non-treated wood and branches less than 12" in diameter. The material is collected separately from garbage, every other week on the regular collection day. The program operates between the first week of March and the last week of November. In addition, during the spring and fall, drop boxes are placed in Richland neighborhoods for the collection of bulky and excess yard debris. The City also encourages residents to use a mulching lawn mower, backyard composter, and other methods to manage their organic waste.

The City provides commercial collection services to approximately 845 accounts. Private haulers provide recycling services to some City businesses.

4.1.6 West Richland

The City of West Richland contracts with Ed's Disposal, Inc. for residential and commercial solid waste collection. Residents are provided with either a 64-or 96-gallon wheeled cart, which is collected weekly using an automated truck. Additional residentially generated personal garbage is allowed at no extra charge, as long as it is no more than 65 pounds per item. Commercial customers are serviced by Ed's Disposal, and businesses can contract for waste and recycling (cardboard only) collection.

4.3 Existing Programs for Self-Hauled Waste

Several options are available in the County for residents that choose to self-haul their waste.

4.3.1 Drop Box Facilities

There is a Drop Box Facility located in Prosser for city residents that choose to self haul. This drop box is operated by BDI. The drop box is open for 16 hours per week on Wednesdays, Fridays, and Saturdays. Paints, auto batteries, and non-commercial motor oil and antifreeze also are accepted at the facility.

Ed's Disposal, Inc., operates a Drop Box Facility in Benton City. This drop box is also open 16 hours per week, on Thursdays and Saturdays. The facility also accepts paints, auto batteries, and non-commercial motor oil and antifreeze.

The Drop Box facilities consist of an elevated receiving floor and a stationary compactor unit. The receiving floor is generally 20 feet by 30 feet in size and is constructed of asphalt. The facility operator uses a tollbooth on-site to conduct transactions.

Once waste is compacted into the container, the loaded container is transported to the BDI Transfer Station located in Pasco, prior to shipment to Finely Buttes landfill for disposal. **Exhibit 4-6** provides a summary of waste tonnages collected at the two drop boxes.

Exhibit 4-6. Tons of Self-Hauled Waste at Benton City and Prosser Drop Boxes

	Year					
Drop Box Facility	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Benton City	230+	230+	120+	130+	80+	105+
Prosser	230+	220+	210+	210+	80+	80+

Source: BDI, Inc.

4.4 Collection Requirements

4.4.1 Urban and Rural Designation

The 1989 legislation allows counties to contract for the collection of source-separated recyclable materials from residences within unincorporated areas. Under this provision, counties can manage, regulate and establish the price of curbside recycling collection services. However, this does not mean the counties are authorized to operate their own solid waste collection systems as municipalities may. If the counties do not elect to contract for the collection of source separated recyclable materials from residences, the WUTC must be notified in writing no later than ninety days following the approval of the solid waste management plan's waste reduction and recycling element. Upon notification, the WUTC would have the responsibility for implementing any mandated curbside recycling or yard waste programs and determining their service levels, as addressed in the waste reduction and recycling element of the solid waste management plan.

Municipalities have the authority to provide or contract for residential curbside recycling services within their boundaries (Chapter 35.21.120 RCW). Additionally, they have the authority to manage, regulate, and fix the price of these services. Municipalities designated as urban are required to provide curbside collection of recyclables, or an equivalent program [70.95.090(7)(b)(i)]. Municipalities designated as rural may choose to meet minimum service level requirements either independently or in cooperation with the county.

The 2010 Guidelines for solid waste management plans issued by the Department of Ecology require local governments to develop clear criteria to determine the designations for urban and rural areas for disposal and waste reduction and recycling (RCW 70.95.092). Criteria to be considered include:

- Anticipated population growth.
- The presence of other urban services.
- Density of developed commercial and industrial properties.
- Geographic boundaries and transportation corridors.

The Cities of Kennewick and Richland have been designated as "urban" (population of 12,000 or more) and the remainder of the cities and unincorporated Benton County is designated "rural." The planning guidelines recognize that there are differences in the services that can be offered to urban versus rural areas for solid waste services. Estimated 2010 population and housing densities are provided in **Exhibit 4-7.** The rural nature of Benton County limits the economic feasibility of certain methods of recyclables collection. For example, curbside collection may only be economically feasible in the two communities which have a population base to support this type of system.

Exhibit 4-7. 2010 Estimated Population and Housing Densities

Jurisdiction	2010 Population	Land Area (sq. mi.)	Estimated Population Density (pop/sq.mi.)	Number of Housing Units	Average Estimated Housing Density (houses/sq. mi.)
Unincorporated County Area	43,453	1,235	35	12,214	10
Benton City	3,779	2.56	1,476	1,185	463
Kennewick	71,794	25.9	2,772	27,205	1,050
Prosser	5,668	4.08	1,389	1,907	467
Richland	52,901	39.34	1,345	20,426	519
West Richland	11,336	20.43	555	4,398	215

Source: Washington State Office of Financial Management April 1 2011 Population (High Series), Population Density, and Housing

As required in RCW 70.95.090(5)(d), solid waste collection needs must be projected for the next six years. Requirements for future collection services will depend on population growth. Forecasted growth in population for Benton County for the years 2012 through 2018 are provided in **Exhibit 4-8.** As indicated, the population of unincorporated Benton County is estimated to reach 48,979 in 2018 and incorporated Benton County will reach 163,975. This level of growth will most likely require additional collection routes. In addition, the City of West Richland is expected to exceed 12,000 residents by 2014, and will be required to provide curbside recycling, or an equivalent program, under the current "urban" designation.

Exhibit 4-8. Forecasted Population, 2012-2018

	Year						
Area	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Unincorporated	**44,826**	**45,528**	**46,242**	**46,859**	**47,555**	**48,262**	**48,979**
Incorporated	**150,074**	**152,426**	**154,815**	**156,877**	**159,208**	**161,574**	**163,975**
Benton City	3,898	3,959	4,022	4,075	4,136	4,197	4,259
Kennewick	74,062	75,223	76,402	77,420	78,570	79,738	80,923
Prosser	5,847	5,939	6,032	6,112	6,203	6,295	6,389
Richland	54,572	55,427	56,296	57,046	57,894	58,754	59,627
West Richland	11,694	11,877	12,064	12,224	12,406	12,590	12,777

Source: Benton County Comprehensive Plan, 2011 Update

4.4.2 Options

At this time, solid waste collection appears adequate for the residents of Benton County. However, continued population growth will likely require additional collection routes in the future. The following options have been submitted to the Solid Waste Advisory Committee for their consideration:

1. Mandatory Collection in Unincorporated Areas.

Currently, collection services in the unincorporated county are voluntary. Residents and businesses may choose to self-haul their waste to drop boxes, transfer stations, or to the Horn Rapids landfill. The County could consider making collection services mandatory. Mandatory collection requires that all residents within a defined area sign up and pay for a minimum level of service. The primary reasons for taking this step are to minimize illegal dumping and to distribute the costs of recycling and solid waste management equitably among all residents.

To require mandatory collection in an unincorporated area or county-wide, the County would be required to form a collection district as described in RCW 36.58A.030 The statute requires the County to hold public hearings on the issue and get approval by the County Commissioners. The Commissioners could approve a mandatory collection district in all or part of the County if it was deemed in the public interest and necessary for the protection of public health. The procedures

The County has traditionally maintained a voluntary system based on the rural nature of much of the County unincorporated areas, and the preference of the community to give residents the option to subscribe to service or self-haul their waste to a permitted facility.

2. Further Evaluation of Recycling Service Level Changes for County Unincorporated Area

In the 2006 Plan update, the option to change recycling service levels was recommended for implementation. The County has evaluated the option, but has not made any changes to the existing service level, which is established as a population of 12,000. Since the 2006 Plan adoption, the City of Richland has implemented curbside recycling for single-family residents.

The County could consider changing the population requirement as a means to offer more convenient recycling in certain County area by using housing density rather than population. The WUTC haulers would be required to provide the recycling services specified in the Plan. Working with the haulers, the County could define a new minimum service level that expands recycling and encourages haulers to invest in additional equipment for the service.

4.4.3 Recommendations

The Solid Waste Advisory Committee reviewed the options discussed above and has recommended the following options:

Benton County will continue to monitor the current garbage collection practices, and make changes if deemed necessary and prudent.

Chapter 5

Transfer and Disposal

5.0 Transfer and Disposal

This chapter includes a discussion of solid waste handling systems that includes transfer stations, landfills, and export of waste outside of Benton County and the laws governing these activities.

The County has adopted the following goals and objectives for landfilling and transfer:

Goal #5: Provide for efficient collection, transfer, and disposal of MSW and recyclables.

Objectives:

- Ensure access to collection or drop-off services for residences, businesses, and industry.
- Locate recycling and solid waste transfer, processing, and disposal facilities to optimize service levels and transportation efficiencies.
- Ensure adequate disposal capacity.

5.1 Transfer Stations

Waste transfer stations play an important role in a waste management system, serving as a link between local waste collection programs and the final disposal facility. The primary reason for using a transfer station is to reduce the cost of transporting waste to disposal facilities. Consolidating smaller loads from collection vehicles into larger transfer vehicles enables collection crews to spend less time traveling to and from distant disposal sites and more time collecting waste. Transfer stations reduce overall transportation costs, air emissions, energy use, truck traffic, and road wear and tear. The Horn Rapids Transfer Station is used to eliminate the needs for customers to access the landfill, reducing the risks associated with self-haul vehicles interacting with commercial collection vehicles.

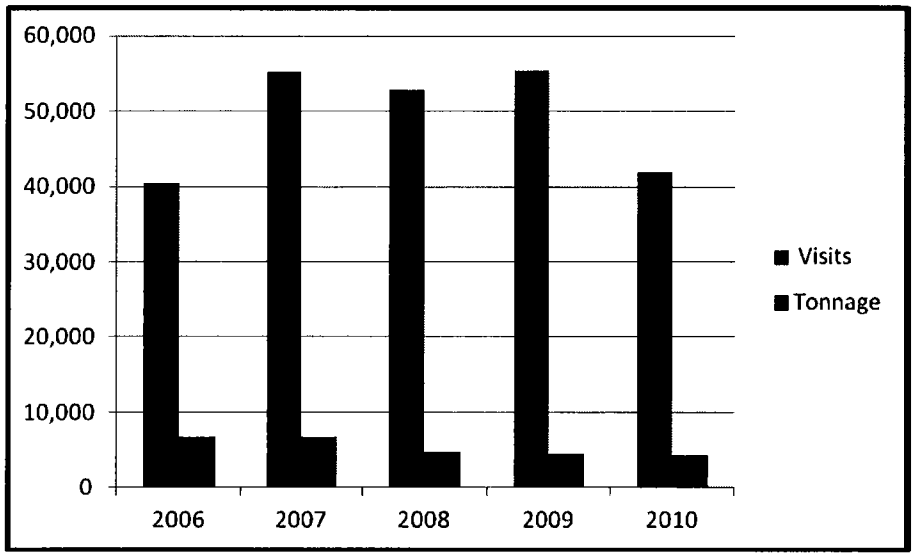
There are four transfer stations that are used for management of waste generated in Benton County. The transfer stations are described in the following sections.

5.1.1 Horn Rapids Landfill Transfer Station

The City of Richland operates a transfer station at the Horn Rapids Landfill. The transfer station is utilized by self-haulers for the disposal of waste, and eliminates the need for these customers to access the operation area of the landfill.

Data on the use of the transfer station from 2006-2010, including number of visits and tonnage, is included in **Exhibit 5-1**. The number of visits has averaged over 40,000 per year over the past five years, and tonnage has averaged 54,000 tons per year.

Exhibit 5-1. Horn Rapids Landfill Transfer Station Annual Visits and Tonnage



5.1.2 Waste Management Transfer Station

Waste Management operates a transfer station in Kennewick which is available for use by collection vehicles and the general public. The facility also includes a public recyclable materials and limited-purpose moderate risk waste drop-off area that accepts used oil, used antifreeze, and paint. The facility is open Monday through Saturday.

5.1.3 BDI Transfer Station

Columbia Basin LLC, d.b.a. BDI Transfer, operates a transfer station in Franklin County, at 1721 Dietrich Road in Pasco, which is available for use by commercial haulers and the general public. The facility accepts municipal solid waste, recyclable materials, and moderate risk waste (moderate risk waste is accepted from Franklin County residents only). Waste collected in Benton County by Basin Disposal, Inc., and Ed's Disposal, Inc., is sent to this facility.

5.1.4 Hermiston Transfer Station

Waste collected in the County unincorporated area by Sanitary Disposal is taken to the company's Transfer Station in Hermiston, Oregon. The facility is permitted to accept municipal solid waste.

5.2 Landfills

Solid waste landfills in the State of Washington are regulated by local health departments and the Department of Ecology through the Criteria for Municipal Solid Waste Landfills Chapter 173-351 WAC. This section will provide information on Benton County landfill goals, local facilities, and an inventory of present capacity.

5.2.1 Existing Landfills

Over the past 10 years, nine landfills have been used to dispose of waste generated in Benton County. They include:

- City of Kennewick Inert Landfill, Washington.
- City of Prosser Inert Landfill, Prosser, Washington.
- Columbia Ridge Landfill, Arlington, Oregon.
- Finley Buttes Regional Landfill, Morrow County, Oregon.
- Graham Road, Spokane County, Washington.
- Greater Wenatchee Landfill, Douglas County, Washington.
- Horn Rapids Landfill, Richland, Washington.
- Roosevelt Regional Landfill, Klickitat County, Washington.
- Sudbury Road Landfill, Walla Walla, Washington.

The majority of waste disposed from Benton County is taken to the Columbia Ridge Landfill in Arlington, Oregon. Other major landfills used for disposal of waste from Benton County include the Horn Rapids Landfill in the City of Richland, and the Finley Buttes Regional Landfill in Morrow County, Oregon. In 2007, 5,000 tons of soil, rock, gravel and asphalt were taken to Drollinger Park as part of the City of Richland's closure of this park in 2008.

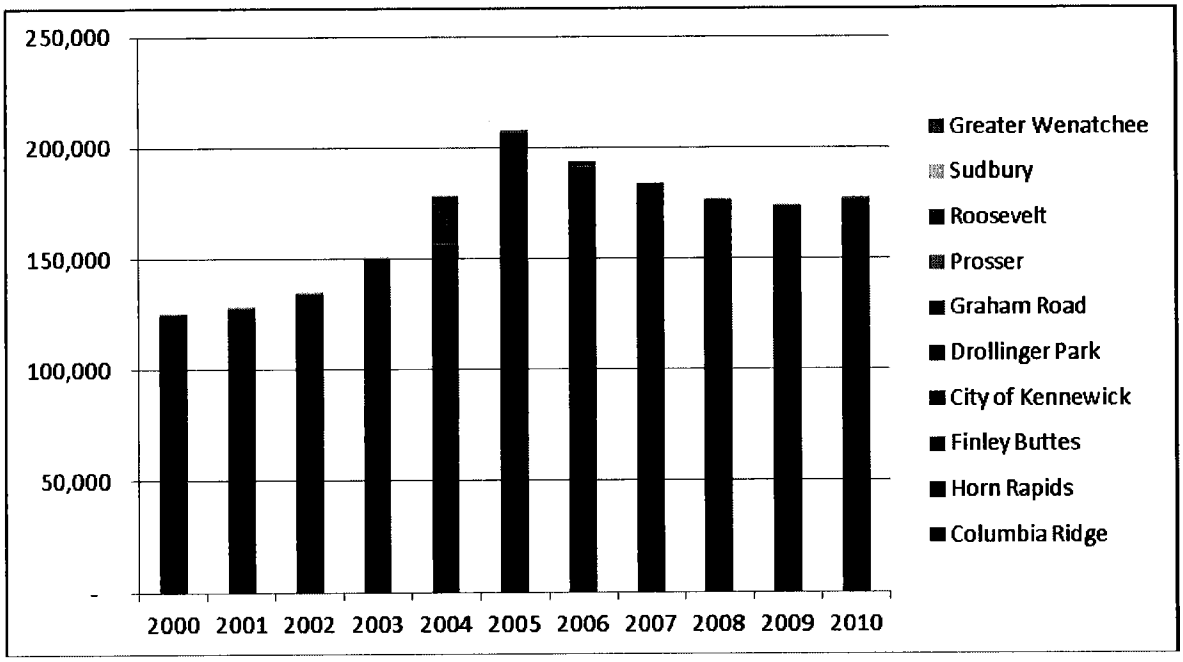
The Benton County tonnages reported for these landfills are provided in **Exhibit 5-2.**

Horn Rapids Landfill--

The City of Richland owns and operates the Horn Rapids Landfill, located approximately 3.5 miles northwest of town, off of Highway 240. Approximately 46 acres, out of 114, of the property is permitted for solid waste disposal. Adjacent to the permitted area is a separately permitted area of approximately 25 acres for the land application of biosolids, including 5 acres for the compost facility. In addition, there are approximately 14 acres which are occupied with facilities that include:

- An office/toll booth and a scale for weighing incoming loads.
- A transfer station for use by self-haul residential and small commercial waste and recyclables haulers.
- An area for land farming of petroleum contaminated soils generated in Benton County.

Exhibit 5-2. Disposal Summary for Benton County



The landfill operates under a solid waste disposal permit issued by the Benton-Franklin Health District in compliance with provisions of Chapter 173-351 WAC. The existing landfill was constructed prior to Subtitle D regulations, and therefore was not designed with a bottom liner or leachate collection system. A 4-acre vadose monitoring zone has been established within the Northeast corner of the permitted 46-acre disposal area. Small amounts of organic contamination have appeared in the water samples collected at the property boundary. Additional wells were installed in 1998 closer to the active disposal area to further define concentration levels of contaminates. The City of Richland has finished the remedial investigation, as required by the Toxics Control Act, and designed and installed a landfill gas extraction system that has been approved by the Department of Ecology. Part of the gas system design also includes a modified closure design that extends the landfill's capacity to December 2013, which has been approved by Ecology. The City's financial assurance for Closure/Post-Closure is being funded by a surcharge collected against each ton of waste crossing the scales. The City has completed a Master Plan for the future of the site.

Due to the advent of the City's voluntary residential recycling program, waste disposal activities within the currently permitted area are projected to continue until 2018. Expanding diversion programs to commercial customers and to further expand construction and demolition recycling will add more time to the use to the current facility. After the current facility is full, the City will need to develop and use a new permitted space or long haul waste to a regional landfill.

The Landfill is open to city and non-city residents. City residents are allowed to dispose of waste at the Landfill for $10 a visit. Residents must be present, have proper identification and show their City of Richland utility bill in order to dispose of their waste. Richland commercial and non-Richland residential and commercial customers are charged for disposal according to the rate schedule established at the Landfill. The rates are assigned by vehicle type for residential waste, and by vehicle type and weight for commercial and construction debris. Some exceptions can be made for Richland residential waste hauled in a commercial vehicle, as determined by the Landfill site superintendent. In addition, rates are also established for different types of wastes.

Information on the Horn Rapids Composting Facility is included in Chapter 3, Section 3.4.1.

Data on the use of the landfill is available for the past 5 years, including number and types of users, and volume and weight of materials disposed. Historical data for landfill transactions and disposal for the last 6 years is summarized in **Exhibit 5-3**.

Exhibit 5-3. Horn Rapids Landfill Use

Year	Visits	Tons
2005	44,089	63,435
2006	51,356	66,186
2007	55,145	68,183
2008	51,947	65,932
2009	75,151	58,327
2010	57,393	52,521

City of Prosser Inert Landfill--

The City of Prosser owns and operates an inert waste landfill located on the south side of town within the City limits. The landfill is used by the City Public Works Department only and is not open to the general public. The site was permitted by the BFHD on September 19, 1990; however, material has been accepted at the site since August 1, 1990. In 2010, a reported 250 tons of material were disposed at the facility.

City of Kennewick Inert Landfill--

The City of Kennewick operates an inert waste facility in a similar manner to Prosser. In 2010, approximately 1,458 tons of materials were disposed at the landfill from Benton County.

Columbia Ridge Landfill--

The Columbia Ridge Landfill is a regional landfill that is owned and operated by Waste Management, Inc. The landfill is situated on a 2,036-acre site located in Arlington, Oregon. The facility is designed to meet both state and federal environmental standards and operates under

Oregon Department of Environmental Quality Permit #391. The landfill became operational in 1990 and has a life expectancy of over 100 years. In 2010, approximately 86,603 tons of material was disposed at the landfill from Benton County.

Finley Buttes Landfill--

The Finley Buttes Regional Landfill is located in Morrow County, Oregon. It is a regional solid waste management facility, owned by Waste Connections, which serves the Pacific Northwest. The landfill is located 10 miles south of Boardman, Oregon. Access to the site is by highway, Columbia River barge system, and rail.

The site is operated under ODEQ Solid Waste Disposal Permit No. 394 and 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. Landfilling operations at the site began in 1990. Waste Connections is permitted to utilize 510-acres of the 1,802-acre site for municipal solid waste (MSW) disposal.

The estimated available fill capacity at the site, as currently permitted by the Oregon DEQ, is 90 million tons of MSW. The landfill receives over 500,000 tons of MSW annually. In 2010, 37,109 tons of material was accepted from Benton County. The projected life of the currently permitted landfill exceeds the 20-year period covered by the 2006 Benton County Solid Waste Management Plan Update.

Graham Road Limited Purpose Landfill--

The Graham Road Facility is owned and operated by Waste Management of Washington, Inc., and is located in Spokane County. Graham Road is a Limited Purpose Landfill that accepts construction and demolition debris, asbestos, tires, wood, concrete, asphalt, special waste, petroleum-contaminated soils, creosote-contaminated wood, and railroad ties. Graham Road has been in operation since 1991. Waste Management has owned and operated the landfill since 1997. In 2010, approximately 8.7 tons of asbestos-containing waste was sent to the facility from Benton County.

Roosevelt Regional Landfill--

The Roosevelt Regional Landfill is located in a remote area of Klickitat County in South Central Washington. The largest private landfill in the state, Roosevelt covers an area of 2,545-acres, has a 120 million ton capacity, and a 40-year expected life span. The landfill is designed to meet all current solid waste landfill regulations, including the Criteria for Municipal Solid Waste Landfills (WAC 173-351). The landfill is operated by Allied Waste/Republic Service Company. This landfill currently accounts for 69% of the State's disposal capacity and in 2010 received

some type of solid waste from 26 counties in Washington.[1] In 2010, approximately 477 tons of material was accepted from Benton County.

Sudbury Road Landfill--

This landfill is located in Walla Walla County, Washington. It is owned by the City of Walla Walla. Since 1994, limited amounts of asbestos containing materials originating from Benton County have been sent to this landfill for disposal. In 2008, 11 tons of asbestos containing material and about 12 tons of MSW were sent for disposal to this facility. In 2009, about 2 tons of asbestos containing material and 6 tons of MSW were sent to this facility. No material was taken to the Sudbury Road Landfill in 2010.

5.3 Waste Import/Waste Export

5.3.1 Waste Import

Waste import" refers to transfer of waste into Benton County from other areas. Some waste entering the County comes from neighboring Franklin County residents bringing materials to the Horn Rapids Landfill in Richland. This is assumed to be a very small amount of waste, and is not tracked independent of regular residential waste brought to the landfill. Periodically, Yakima County residents may use the Prosser Drop Box Facility, particularly during Prosser Cleanup Days. The Prosser Inert Landfill, as stated above, only accepts demolition waste from its Public Utility Department. Therefore, the importation of municipal solid waste for landfill disposal is essentially non-existent in Benton County.

5.3.2 Waste Export

"Waste export" refers in this section to the transfer of waste from Benton County to a landfill located outside the area. Waste Management of Kennewick, Ed's Disposal, Inc., and Basin Disposal, Inc., of Pasco, and Sanitary Disposal of Hermiston provide for the collection of solid waste, and export waste out of the county for disposal. Information on the provision of this service is provided below.

Waste Management

Currently, Waste Management of Kennewick is under contract with the City of Kennewick, and under a WUTC franchise certificate to portions of unincorporated Benton County, for the collection and disposal of solid waste. Waste collected by Waste Management of Kennewick is transported to its transfer station in Kennewick. At the transfer station, the waste is off-loaded and compacted into closed-top transfer vehicles for transport to Waste Management's Columbia Ridge Landfill in Arlington, Oregon. Waste Management utilizes third party transportation companies for the 90-mile transfer of waste from the Kennewick transfer station to the Columbia

[1] Washington State Department of Ecology, *Solid Waste in Washington State--Nineteenth Annual Status Report.*

Ridge Landfill. Currently, eight to nine fully loaded transfer trucks (each carrying 31 tons of compacted solid waste) make the trip from the Kennewick transfer station to the Columbia Ridge Landfill each day. Additional transport can be added to accommodate waste for the planning period.

Ed's Disposal, Inc.

Ed's Disposal, Inc., of Pasco collects waste from unincorporated areas of Benton County, and the cities of West Richland and Benton City. The waste is brought to the BDI Transfer Station in Pasco and long-hauled to the Finley Buttes Landfill for final disposal. The BDI Transfer Station can easily accommodate volumes of waste projected for the 20-year planning period.

Basin Disposal, Inc.

Basin Disposal, Inc., of Pasco collects waste in unincorporated areas of Benton County and the City of Prosser. Waste collected by Basin Disposal, Inc., is brought to the transfer station in Pasco, and is long-hauled to the Finley Buttes facility for final disposal.

Sanitary Disposal

Sanitary Disposal, Inc. collects waste from unincorporated areas in the southern portion of Benton County. Waste collected in this section of the county is transported to Sanitary Disposal's transfer station in Umatilla County, Oregon, and is then long-hauled to the Finley Buttes Regional Landfill in Morrow County, Oregon.

5.4 Landfill Capacity

Given current technology and disposal patterns, landfills are and will remain a necessary and important component of waste management. Source reduction and recycling can divert significant portions of the waste stream, but not all components of the waste stream are recyclable. Therefore, Benton County will be required to continue to secure out-of-county disposal capacity or create additional capacity within the County.

As discussed above, three landfills provide the majority of disposal capacity for the County:

- The Horn Rapids Landfill, located in Richland.
- Two regional landfills: Columbia Ridge Landfill and Finley Buttes Landfill.

The Horn Rapids Landfill has the capacity to accept waste generated by the City of Richland for approximately 6 years. The current permitted capacity is anticipated to be used up sometime in 2018 at the City's current rate of waste placement. After the current facility is full, the City will need to develop and use a new permitted space or long haul waste to a regional landfill. The two regional landfills have capacity well beyond the timeframe addressed by this plan.

5.5 Options

The following options are presented for consideration:

1. Monitor the City of Richland's Process to Evaluate the Feasibility of Expanding the Horn Rapids Landfill to Ensure In-County Disposal Capacity.

The City is evaluating the feasibility of expanding the Horn Rapids Landfill. Initial studies indicate the landfill could be expanded to accommodate seven million tons, or approximately 65,000 tons per year for 66 years, depending on the quantity of material disposed per year. The landfill would be constructed in compliance with Subtitle D regulations for sanitary landfills, and would accept municipal solid waste for disposal. The expanded facility would provide convenient disposal opportunity for residents and businesses at the same level of service as the existing facility. The estimated cost to expand the Landfill is $33 million over the 53 year life of the new facility. The first phase of the new Landfill will be about $6 million to begin operations. Operations and maintenance costs would be similar to existing costs. Expansion would ensure in-County disposal capacity for County and City residents.

The County and cities should monitor the City's planning effort, and where feasible, provide input into the process.

5.6 Recommendations

The Solid Waste Advisory Committee reviewed the options discussed above and has recommended the following options:

The County and cities will monitor the City's planning effort, and where feasible, provide input into the process.

Chapter 6

Miscellaneous Wastes

6.0 Miscellaneous Wastes

The purpose of this section is to review the generation, handling, and disposal methods for several special wastes in Benton County. These wastes require special handling and disposal and are generally managed separately from municipal solid waste. The wastes addressed in this chapter are:

- Agricultural wastes.
- Asbestos.
- Biomedical wastes.
- Construction, demolition, inert and disaster debris.
- Petroleum contaminated soil.
- Street wastes.
- Tires.
- Electronic wastes.

Wastes such as low-level radioactive wastes and biosolids will not be addressed in the Plan. Universal waste is addressed in the MRW Plan included in Chapter 7. There may be other items for the special waste category but they have not been identified or have not caused a problem in the County. The nature and sources of these wastes, as well as the existing programs for managing these wastes in Benton County are described, and where warranted, options are presented.

6.1 Goals and Objectives

With respect to specific waste streams, the County has adopted the following goal and objectives:

Goal #6: Establish guidelines and strategies for management of specific waste streams.
Objectives:

- Develop a plan to prepare for management of disaster debris.
- Develop Best Management Practices for agricultural waste reuse and recycling.
- Develop a plan for managing tires.
- Develop a plan for managing universal waste.
- Continue and expand the use of litter work crews.

6.2 Agricultural Waste

Agricultural wastes are by-products of farming and ranching that include crop harvesting waste and manure.

6.2.1 Existing Conditions

According to the 2007 Census of Agriculture, the number of farms in Benton County is increasing; up 24 percent from 1,313 farms in 2002 to 1,630 farms in 2007. The total farm acreage increased by 4 percent, totaling 632,636 acres in 2007 over the 607,963 acres in 2002.[1] The 2007 cattle inventory was 39,324 up from 28,513 in 2002.

Agricultural wastes result from farming and ranching activities, and consist of primarily crop residues and manure. In 2007, the top crop items in acreage were listed as follows:

- Wheat for grain, 94,268 acres.
- Vegetables harvested for sale, 73,530 acres
- Potatoes, 32,170 acres
- Grapes, 23,322 acres
- Sweet corn, 22,500 acres

The Port of Benton, in cooperation with the Benton County Solid Waste Advisory Committee, conducted a study in 2009 to evaluate organic wastes in Benton County that may be useful for generating renewable energy. This work was funded by a grant from the Washington State Department of Ecology (Ecology). The results of the study showed that, in general, the top categories of available agricultural waste materials are food processing wastes, wheat straw from irrigated wheat fields, corn stover, grape pomace, mint slug, and turf grass straw. The report estimated that over 300,000 tons per year of organic agricultural residuals are available in Benton County. **Exhibit 6-1** summarizes the estimated quantity of organic agricultural residuals available in Benton County. In addition, the report identified additional, larger quantities of materials in neighboring counties, such as Franklin, Yakima, Walla Walla, and Klickitat. The report is on file in the Benton County Public Works Department, 620 Market St., Prosser, Washington, or can be viewed online at www.co.benton.wa.us .

[1] 2007 Census of Agriculture, Benton County, United States Department of Agriculture, Washington Agricultural Statistics Service.

Exhibit 6-1. Summary of Organic Residuals Available in Large Quantities in Benton County

Material	Estimated Annual Quantity (tons)	Availability
Food Processing Wastes	>200,000	Potentially available (potato waste and apple pomace in demand for cattle feed).
Corn Stover (assumes 50% left in field)	72,000	Available (some existing collection and use)
Wheat Straw (irrigated fields, assumes 50% left in field)	35,000	Available (some existing use)
Wood (woody orchard prunings)	3,200 to 8,300	Partially available
Grape Pomace	12,000-20,000	Available
Horse and cattle manure (non-dairy)	15,000	Available
Mint	6,400-8,300	Available
Turf Grass Straw	7,400-12,500	Available (some alternate uses)

6.2.2 Options

1. Continue to Work Cooperatively with Port of Benton and Regional Agencies to Identify Opportunities for Beneficial Use of Organic Residuals from Agriculture

Given the rural nature of Benton County, the potential exists for the generation of significant amounts of agricultural waste. Although little agricultural waste requires disposal in Benton County, the Port of Benton report identified opportunities for use of the materials for energy generation and/or establishment of regional organics management centers, either in the county or on the county perimeter.

A committee has been formed that discusses potential opportunities in the County to further investigate opportunities for developing these types of alternative energy industries. Interested and affected stakeholders to be included in the discussions have included city and county representatives, farmers, processors, energy industry representatives, and the waste and recycling industry.

6.3 Asbestos

Asbestos is a material that was used for thermal insulation, surfacing materials, and other purposes in buildings throughout the 1950s, 1960s, and 1970s. When asbestos-containing material (ACM) becomes easily crumbled by hand pressure, it is called friable and dangerous because it can release asbestos fibers into the air. Likewise, cutting or sanding of non-friable

ACM can release asbestos fibers into the air. Friable asbestos fibers are a known carcinogen, which can cause lung cancer and other disabling and fatal diseases.

Federal regulations governing handling, transportation, and disposal of ACM are known as the National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61). Requirements for asbestos disposal include, to name a few, standards for covering the waste, maintenance of waste shipment records, and maintenance of records concerning location and quantity of waste disposed.

Ecology Dangerous Waste Regulations (WAC 173-401-531) states that asbestos waste that contains 0.01% of friable asbestos exceeds the criteria for carcinogenic dangerous waste and must be regulated. WAC 173-303-071(3)(m) exempts friable asbestos waste from regulation as dangerous wastes, provided these wastes are managed in compliance with, or in a manner equivalent to, the asbestos management standards of NESHAP (40 CFR Part 61).

The Benton Clean Air Authority (BCAA) is the local agency responsible for enforcing federal, state, and local asbestos regulations. The Authority has adopted local regulations, consistent with existing federal and state regulations, for the removal, encapsulation, and disposal of ACM. In its regulations, BCAA has lowered the limits for notification and emission control from 260 linear feet (or 160 square feet) to 10 linear feet (or 48 square feet). Asbestos may only be removed by licensed asbestos contractors or by homeowners after a notice is provided to BCAA. Asbestos contractors are licensed by the Washington State Department of Labor and Industries.

6.3.1 Existing Conditions

Municipal solid waste landfills can accept non-friable asbestos wastes if acceptance and disposal procedures are in compliance with federal, state, and local regulations. There are a limited number of facilities that currently accept ACM for disposal. Asbestos waste generators in Benton County can haul their waste to either the Columbia Ridge Landfill (Oregon) or the Roosevelt Regional Landfill (located in Klickitat County) for disposal. Both sites have approved programs for asbestos waste disposal. As discussed in Chapter 5, some ACM originating in Benton County is sent to Sudbury Road and Graham Road landfills. The Horn Rapids Landfill has modified their waste policy to accept ACM (non-friable asbestos).

Asbestos-containing materials can be disposed of in solid waste landfills if they are encapsulated, packaged, and covered for disposal in accordance with the local, state, and federal asbestos regulations described previously. Acceptance of asbestos at a landfill facility requires special handling of the material, additional paper work, and additional training of personnel. These requirements increase asbestos waste disposal costs.

6.3.2 Options

1. Encourage BCAA to Increase Enforcement of Asbestos Waste Disposal Activities

Asbestos regulations require a written notice of intent to remove or encapsulate asbestos. This notice is provided to the BCAA and includes information for handling of the wastes, from removal and encapsulation to disposal. The BCAA is responsible for ensuring that the procedures outlined in the notice of intent are enforced. The BCAA should be encouraged to increase enforcement of asbestos waste disposal activities, including additional follow-up on notices of intent to ensure that the wastes were disposed of in the approved manner. Fining illegal dumpers and publicizing incidents of illegal asbestos dumping in local newspapers should help to discourage illegal dumping and help the public become educated and aware of proper disposal practices.

2. Provide Education to Homeowners on Proper Handling and Disposal

Much of the asbestos waste generated results from demolition and remodeling projects. The quantities generated are a direct result of the amount of this type of work that is conducted. While private contractors are generally aware of asbestos handling requirements, homeowners doing their own project work may not recognize asbestos-containing materials. Current BCAA requirements allow homeowners to remove their own asbestos if they are doing the renovation/remodeling work themselves. Some homeowners may be unknowingly placing asbestos-containing materials from small remodeling projects in with their trash. There may be a need to educate homeowners about proper identification of asbestos-containing materials and proper handling and disposal methods. While some information is available on the BCAA website, the County could work with BCAA to develop more comprehensive information and outreach strategies.

6.4 Biomedical Wastes

Medical treatment and research facilities generate a wide range of special wastes that require handling and disposal. Because of the variety of waste streams, several different regulatory agencies at the local, regional, state, and federal level have regulations pertaining to best management practices, and apply their own definitions to waste types. For the purpose of this Plan Update, biomedical waste means, and is limited to the following types of waste in accordance with RCW 70.95K.010:

a. **Animal Waste:** Waste animal carcasses, body parts, and bedding of animals that are known to be infected with or that have been inoculated with, human pathogenic microorganisms infectious to humans.

b. **Biosafety Level 4 Disease Waste:** Waste contaminated with blood, excretions,

exudates, or secretions from humans or animals which are isolated to protect others from highly communicable infectious diseases that are identified as pathogenic organisms assigned to biosafety Level 4 by the Centers of Disease Control, National Institute of Health, Biosafety in Microbiological and Biomedical Laboratories, current edition.

c. **Cultures and Stocks:** Wastes infectious to humans, includes specimen cultures, cultures and stocks of etiologic agents, wastes from production of biologicals and serums, discarded live and attenuated vaccines, and laboratory waste that has come into contact with cultures and stocks of etiologic agents or blood specimens. Such waste includes but is not limited to culture dishes, blood specimen tubes, and devices used to transfer, inoculate, and mix cultures.

d. **Human Blood and Blood Products:** Discarded waste human blood and blood components, and materials containing free-flowing blood and blood products.

e. **Pathological Waste:** Waste human source biopsy materials, tissues, and anatomical parts that emanate from surgery, obstetrical procedures, and autopsy. "Pathological waste" does not include teeth, human corpses, remains, and anatomical parts that are intended for interment or cremation.

f. **Sharps Waste:** All hypodermic needles, syringes with needles attached, IV tubing with needles attached, scalpel blades, and lancets that have been removed from the original sterile package.

The handling, transport, treatment, and disposal of infectious waste are regulated in some fashion by the following entities:

- U.S. Environmental Protection Agency.
- Washington Department of Ecology.
- Washington Department of Health.
- Washington Department of Transportation.
- Washington Utilities and Transportation Commission (WUTC).
- Benton-Franklin Health District.
- National Hospital Certification Association.

Under the Medical Waste Tracking Act of 1988 (MWTA), the EPA gives states the responsibility of permitting infectious waste treatment technologies. Treatment technologies must be consistent with the requirements of Title V of the Federal Clean Air Amendments.

Washington State agencies most directly involved in this process are Ecology, the Department of Health, and the WUTC. Ecology administers permits for the following biomedical wastes treatment alternatives:

- Incineration.
- Autoclaving.
- Chemical Disinfection.

- Microwaving.
- Macrowaving (for offsite treatment only).
- Gas vapor and irradiation sterilization.

6.4.1 Existing Conditions

The two major hospitals in the area (Kennewick General Hospital and Kadlec Medical Center, located in Richland) no longer incinerate their biomedical wastes. One franchise hauler, Stericycle, has a certificate granted by the WUTC (certificate G-244) to collect biomedical throughout the state. The collection service is provided on an on-call and regular basis.

Major generators of biomedical wastes in Benton County dispose of their wastes through a licensed state franchise service provider. At this time there have been neither reported problems with biomedical wastes nor identification of biomedical waste disposed improperly in the waste stream. Although no problems have been identified, a potential exists for improper disposal of these wastes. The BFHD provides a brochure on proper home disposal of syringes and lancets, and refers the medical community to Stericycle for disposal options.

While most medical facilities are informed about proper management of biomedical wastes, residential generators may not be informed about proper management for sharps and outdated pharmaceuticals. Pharmaceutical wastes present both wastewater and solid waste management issues. Often residents flush unwanted pharmaceuticals down toilets or pour them down drains, leading to potential contamination of surface waters, ground waters, and biosolids. In areas where there are wells and septic systems, this practice could affect drinking water. Proper disposal is also an issue for solid waste collection workers who must handle the waste.

6.4.2 Options

Two options to address residential biomedical waste are presented:

1. Educational materials for correct management of medical waste generated by residents.

Educational materials should continue to inform residents about the risks associated with their wastes and the services available to properly store and dispose of them. Residential sharps generators can use information about correct containers and collection opportunities.

2. Collection of sharps and outdated pharmaceuticals at household hazardous waste collection sites.

Some communities currently provide collection for sharps and outdated medicines at household hazardous waste collection centers. Some will provide sharps containers, but most encourage residents to use sturdy, shatter and puncture proof, plastic bottles as sharps containers. Residents are provided label to use to identify the bottle as a sharps container, so it is not inadvertently put in a recycling bin.

6.5 Construction and Demolition Debris

Construction and demolition (C&D) debris consists of the materials generated during the construction, renovation, and demolition of buildings, roads, and bridges, and included within the definition of Solid Waste (WAC 173-350-100). This waste stream often contains:

- Concrete
- Wood (from buildings)
- Asphalt (from roads and roofing shingles)
- Gypsum (the main component of drywall)
- Metals
- Bricks
- Glass
- Plastics
- Salvaged building components (doors, windows, and plumbing fixtures)
- Trees, stumps, earth, and rock from clearing sites

A category closely related to C&D is "inert waste." Inert waste includes cured concrete that has been used for structural and construction purposes, including embedded steel reinforcing and wood, that was produced from mixtures of Portland cement and sand, gravel, or other similar materials; asphaltic materials that have been used for structural and construction purposes (e.g., roads, dikes, paving) that were produced from mixtures of petroleum asphalt and sand, gravel, or other similar materials; brick and masonry that have been used for structural and construction purposes; ceramic materials produced from fired clay or porcelain; and glass, composed primarily of sodium, calcium, silica, boric oxide, magnesium oxide, lithium oxide or aluminum oxide. Glass presumed to be inert includes, but is not limited to, window glass, glass containers, glass fiber, glasses resistant to thermal shock, and glass-ceramics. Glass containing significant concentrations of lead, mercury, or other toxic substance is not presumed to be inert; nor are stainless steel and aluminum.

The primary difference between the two types of waste is that demolition waste is considered susceptible to decomposition, whereas inert waste is considered resistant to decomposition.

6.5.1 Disposal Regulations

Under WAC 173-350-400, Limited Purpose Landfills include, but are not limited to, landfills that receive segregated industrial solid waste, construction, demolition and landclearing debris, wood waste, ash (other than special incinerator ash), and dredged material. WAC 173-350 require liners and leachate collection systems for Limited Purpose Landfills.

Disposal of inert wastes is specifically addressed in WAC 173-350. Under that regulation, the requirements for inert sites are significantly reduced from those required for solid waste landfills. For example, no liners, leachate collection or treatment systems are required for inert fills. The less stringent requirements would result in cost savings in all aspects of construction, operation,

and maintenance of the inert fill. It is often advantageous to divert inert wastes from the municipal solid waste stream for disposal at an inert landfill. This reduces the amount of costly landfill space consumed by wastes that do not necessarily require disposal in a solid waste landfill. A higher level of regulatory overview should be part of any permitted Inert Waste Landfill so that non-permitted material (i.e. non-inert Solid Waste) does not become deposited in a non-lined landfill).

Options for disposal of C&D and inert wastes include:

g. **Use of Inert Waste as Fill Material:** WAC 173-350-410 provides for use of limited amounts (less than 250 cubic yards) of inert waste as general unregulated fill material.

h. **Disposal in Inert Waste Landfills:** Inert landfills may only manage concrete, asphalt, masonry, ceramics, glass, aluminum, and stainless steel. The waste must meet the definition of "inert" provided earlier.

i. **Disposal in Limited Purpose Landfills:** Limited purpose landfills are available to accept many other types of wastes including industrial waste, demolition waste, problem waste, and wood waste. Design criteria for limited purpose landfills are performance based, subject to location standards, design and operating criteria, ground water monitoring, and financial assurance. Limited purpose landfill design specifications may often include a liner and leachate collection system.

6.5.2 Existing Conditions

C&D waste generated in Benton County is managed at several landfills, which were previously discussed in Chapter 5. The tonnages of Benton County demolition and inert waste accepted at these facilities are provided in **Exhibit 6-2**. The majority of C&D materials are delivered to the Horn Rapids Landfill, where the materials are reused, recycled, or disposed. The City uses a tub grinder to pulverize wood material for use as intermediate cover material at the Landfill.

Limited recycling and reuse opportunities exist for C&D in Benton County. Opportunities do exist for scrap metals, asphalt, and concrete recycling in the City and region. **Exhibit 6-3** contains a list of facilities in the region that accept C&D materials. Concrete and asphalt pavement is crushed and used as base material for new construction or as aggregate in new asphalt. Wood waste is processed and sold for landscaping mulch or used to produce new wood products. It is often used for hog fuel for steam-generated electricity. Gypsum from wallboard is ground and used to manufacture new wallboard, and fertilizer. Architecturally valuable timbers, hardware, doors and windows are salvaged and reused with minimal or no processing. When recovered, these materials are not regulated as disposed waste.

Exhibit 6-2. Demolition and Inert Waste Disposal Summary for Benton County

Disposal Site	2005			2006			2007			2008			2009			2010		
	Dem.	Inert	Total	Dem	Inert	Total	Dem.	Inert	Total	Dem.	Inert	Total	Dem.	Inert	Total	Dem.	Inert	Total
Horn Rapids Landfill	16,569	1,520	18,089	11,380	1,119	12,499	22,267	1,640	23,907	21,101	823	21,924	18,594	1,541	20,135	18,014	36,626	54,640
Roosevelt	125		125	669		669	160		160			0	70		70			0
Columbia Ridge						0			0			0			0			0
Graham Road (LP)	4	2	6			0	2.5		3	21		21	1.34		1			0
Prosser (I/D)		207	207			0		453	453			0			0		69	69
City of Kennewick (I/D)		9,130	9,130			0		2,513	2,513			0			0		979	979
Total	16,698	10,859	27,557	12,049	1,119	13,168	22,430	4,606	27,036	21,122	823	21,945	18,665	1,541	20,206	18,014	37,674	55,688

Source: Washington Department of Ecology, Solid Waste Disposal Data by County (Landfilled and Incinerated: 1994 – 2010)

Exhibit 6-3. Regional C&D Facilities

Facility	City	Materials
Ray Poland and Sons, Inc.	Kennewick	Concrete, rebar
Pacific Steel and Recycling	Kennewick	All grades of construction metals
Twin City Metals	Kennewick	Aluminum, Brass , Copper, Ferrous scrap, Lead, Nonferrous, Porcelain/cast-iron, Stainless steel, Wire (ferrous, bare wire, insulated)
HVAC Recovery / Pick Up	Kennewick	Copper
R S Davis Recycling Incorporated	Hermiston, OR	Scrap metal
Ross Scrap Yard	Hermiston, OR	Scap metal
Super Scrap	Kennewick	Scrap metal
DLC Recycling	Yakima	Scrap metal
DRS	Richland	Clean drywall
Mayflower Metals	Prosser	Scrap metal
Tommy's Steel and Salvage	Pasco	Ferrous and non-ferrous metals
Central Pre-Mix	Pasco	Clean concrete block, bricks, rock, and gravel
Inland Asphalt	Richland	Concrete and asphalt
American Rock Products	Richland	Concrete (No metal or asphalt)

6.5.3 Options

Many C&D materials, such as wood, asphalt, concrete, rock, gypsum, and various metals, have multiple potential uses and are cost-effectively recovered, processed, and used as raw materials for new (or renewed) end uses. Additional materials can be salvaged, for example, concrete and asphalt pavement is crushed and used as base material for new construction or as aggregate in new concrete and asphalt. Wood waste is processed and sold for landscaping mulch or used to produce new wood products. It is often used for hog fuel. Gypsum from wallboard is ground and used to manufacture new wallboard, and fertilizer. Architecturally valuable timbers, hardware, doors and windows are salvaged and reused with minimal or no processing. When recovered, these materials are not considered, or regulated, as waste.

Such activities reduce pressure on waste disposal facilities, reduce dependence on "virgin" raw materials, and decrease energy use. In addition, the economic value of this market activity is enormous. In many communities, C&D and inert materials are now recognized as having significant potential to contribute to recycling goals and reduce waste overall.

C&D wastes are generated at a rate which is proportional to construction activity in a county and therefore dependent on the economic climate as well as population growth. Since Benton County will continue to experience growth and redevelopment, there will be C&D waste to be handled.

Historically, C&D and inert wastes have been collected, transported, recycled, and disposed by the private sector. This responsibility should remain with the private sector. Benton County

should, however, support private efforts by encouraging separation of recyclable or reusable materials from the waste stream.

In keeping with the state goals and policies for waste reduction and recycling, the following options have been presented to the Solid Waste Advisory Committee as a means to gain more control and insight into the disposal of demolition wastes, to reduce the amount of C&D and inert wastes requiring disposal, and to prepare for emergencies and disasters that create debris:

1. Provide Education Programs for Contractors.

A straightforward method to help divert C&D and inert waste is to provide general contractors with educational material and information about alternative facilities that take C&D and inert waste. This could be as simple as providing a brochure listing the diversion facilities in the region, with hours, location, cost, and material types accepted. Providing information on reuse opportunities, such as exchange programs, can also be useful. A key opportunity for informing contractors about reduction and recycling opportunities is during the permitting process.

In addition to general reduction and recycling opportunities, contractors could be provided information about deconstruction and green building practices:

Deconstruction: This involves dismantling of a structure, salvaging building contents and components, and finding viable markets and outlets for materials. This practice can be used to varying degrees, which can range from reuse of an entire structure or foundation, to select assemblies and systems, to the careful removal of specific materials or items.

Green Building: Increasing the amount of green building practices is one of the five key initiatives identified in the State's Beyond Waste Plan. Green building is defined by the Beyond Waste plan as "design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants in five broad areas: sustainable site planning; conservation of materials and resources; energy efficiency and renewable energy; safeguarding water and water efficiency; and indoor air quality." The Beyond Waste Plan adopted a short-term goal of "dramatically increasing adoption of environmentally preferable building construction, operation and deconstruction practices throughout the state and the region." A separate long-term goal was also adopted, which is for "green building to be a mainstream and usual practice throughout the state."

The Beyond Waste Plan makes seven recommendations specifically for green building:

a. Coordinate and facilitate partnerships to implement the green building action plan.

b. Lead by example in state government.

c. Provide incentives that encourage green design, construction and deconstruction and begin removing disincentives.

d. Expand capacity and markets for reusing and recycling construction and demolition

materials.

e. Provide and promote statewide residential green building programs.

f. Increase awareness, knowledge and access to green building resources.

g. Encourage innovative product design.

2. Establish C&D and Inert Waste Diversion Specifications for County or City Projects.

Another method for encouraging C&D and inert waste diversion is to include C&D and inert waste diversion requirements/procedures into project specifications, which are part of the contract between the contractor and the project owner. Because specifications are a major communication tool to convey the requirements of a construction or demolition project, specifications that contractors are required to follow could also include conditions and requirements for diverting C&D and inert materials. If the conditions are not met, the contractor could be held accountable.

The specification would require the contractor to submit a C&D waste management plan to the project owner and architect which will recover 50 - 75% of the C&D wastes for reuse and recycling. The plan must include a list of reuse and recycling facilities that will be used and materials that will be recovered. At the end of the project, the contractor must provide a final accounting of the disposition of recovered materials, including submittal of receipts, to receive final payments.

3. Use Recycled Content Building Specifications for County or City Projects.

There are building materials made with recycled content (insulation, plastic lumber, tiles) that are market ready, competitively priced and perform as well as virgin products. To generate demand and promote the reuse of C&D and inert materials in their present and recycled form, Benton County and the cities would require the use of recovered and recycled materials for county building and renovation projects.

As discussed above, the Beyond Waste Plan Green Building Initiative objective is "to dramatically increase adoption of environmentally preferable building construction, operation and deconstruction practices throughout the state and the region." The long-term goal of this initiative is "for green building to be a mainstream and usual practice throughout the state."

Other governmental actions are being taken on the state and local level. The High Performance Green Building Bill was signed in to law by Governor Gregoire on April 8, 2005. This bill adopts LEED (Leadership in Energy and Environmental Design) standards for state-owned buildings and schools.

4. Develop a Disaster Management Plan for Benton County.

In the aftermath of a disaster, the primary focus of government response teams is to restore and maintain public health and safety. As a result, debris diversion programs such as recycling and reuse can quickly become secondary. Advance planning, through a Disaster Management Plan, can help Benton County identify options for collecting, handling, storing, processing, transporting, diverting, and disposing of debris. Preparing a plan before an emergency happens can save valuable time and resources if it is needed.

5. Additional Oversight of Small Inert Waste Fill Projects

The county adheres to the state regulation that inert waste fill of less than 250 cubic yards does not have to be permitted. Improvements could be made in the level of control or scrutiny the county applies to individual demolition and/or construction projects, especially those in the unincorporated areas of the county. Some record of volume, waste type, fill location, and responsible party should be maintained. This could be facilitated through the issuance of demolition permits or through the building permit process.

6.6 Petroleum-Contaminated Soils

Petroleum-contaminated soils (PCS) are soils that have been contaminated by a petroleum product through leaks from petroleum product storage tanks or spills. Some PCS can be contaminated with lead, benzene, solvents, and PCBs and therefore may be considered hazardous. This section discusses only non-hazardous PCS.

PCS requires clean up when hydrocarbon contamination levels exceed those specified in Ecology's Model Toxics Control Act Cleanup Regulation (MTCA) (WAC 173-340). Under the MTCA, there are separate cleanup levels for industrial verses non-industrial zoned land along with maximum allowable levels for each individual constituent. PCS above MTCA cleanup levels can be treated in-situ, in place, or excavated and treated onsite or at an approved treatment facility.

6.6.1 Existing Conditions

Proper disposal of PCS is largely the responsibility of the generator. PCS generated in Benton County may be disposed of in several ways, including treating their soils onsite, disposing of them at a regional treatment center, or disposing of them at a permitted landfill. The generator must select a method approved by Ecology and typically will use cost to make the final selection of disposal method.

One option which is only available to generators in Benton County is to haul the PCS to the Horn Rapids Landfill, where the wastes are land farmed, disked in with native soils, and then used as

cover and road-building materials at the landfill. The Benton-Franklin Health District monitors the acceptance of PCS at the landfill and requires testing of the material before it is used at the landfill at least 6 months after it was first land farmed. The Horn Rapids Landfill uses a special form and procedure to track PCS through the treatment process. The BFHD approves and monitors PCS delivered to the Horn Rapids Landfill for treatment and re-use.

Other options for disposal are the Kennewick and Pasco transfer stations and export to one of the regional landfills. Generators with PCS designated as dangerous wastes must find other methods of appropriately disposing of their wastes that complies with all local, state, and federal regulations.

Present disposal and treatment options for PCS appear to be adequate. PCS wastes generated in Benton County will continue to be disposed at the Horn Rapids Landfill, on-site, Roosevelt Regional Landfill, Finley Buttes Landfill, and Columbia Ridge Landfill.

6.6.2 Options

1. Maintain Existing System

The County and cities should promote the private sector to continue to manage and dispose of PCS. These operations are likely to continue to use the Horn Rapids Landfill or other appropriately permitted facilities. Where appropriate, the County and cities should support and encourage the private sector to treat contaminated soils to minimize the amounts landfilled.

6.7 Street Wastes

Street wastes are collected during maintenance activities of cleaning streets, parking lots, storm sewers, and drainage systems. They are considered a solid waste in RCW 70.95.030 when the liquids have been decanted. Typically these street wastes fail the Model Toxics Control Act standards for total petroleum hydrocarbon (WTPH 418.1 Modified) and heavy metals; however, on the east side of Washington, street sweepings do meet MTCA standards due to the high volatilization. Many generators are now disposing of this material in landfills at considerable expense.

6.7.1 Existing Conditions

Street sweepings and vactor truck wastes collected at the Richland and Kennewick Decant Facilities have routinely tested under MTCA levels. Kennewick disposes of the material at their Inert Landfill, while Richland uses it for cover at the landfill. Prosser also disposes of street sweepings in their Inert Landfill. Decanted water from both decant facilities enter oil/water separators and each city's sewerage system. The City of Kennewick is looking into the feasibility of a decant facility that would handle contaminated street waste.

6.7.2 Options

1. Evaluate Potential Reuse of Street Wastes

Numerous reuse options for street wastes are potentially available. For example, the material might be used as feedstock in cement manufacture, asphalt production, composting, concrete manufacture, and industrial fill. Other reuse options include construction uses like fill or roadbed material. Some of the processing and reuse options for street wastes may not be realistic given regulations, permitting requirements, and material specifications involved in the options, leaving landfilling or treatment as the only options. Richland and Kennewick have both constructed street waste facilities, with all wastes going to landfills.

6.8 Tires

A waste tire is a tire no longer usable for its original intended purpose because of wear, damage, or defect (RCW 70.95.550) Tires do not include the metal wheel to which they are usually fastened. With its useful life over, it must be stored (temporarily), and then recycled or disposed. Tire dealerships remove most old tires in the process of selling new ones. Individuals may also accumulate old tires. When vehicles are junked, the tires on the vehicle, spares, and snow tires may be stored by the owner or taken to a wrecking yard.

In 2005, the Washington State Legislature passed SHB 2085, creating a Waste Tire Removal Account with funds for cleanup of unauthorized and unlicensed tire piles. Funds for this account come from a $1 fee for each new replacement tire sold in Washington. The 2009 Legislature passed Senate Bill 5976 that transfers most of the collected tire fee revenue to Department of Transportation every other year (starting in 2011) (RCW 70.95.532). Ecology currently receives an annual tires budget of $500,000. This funding reflects an 80% reduction from previous years.

Ecology is changing the focus of the Tire Program in light of the funding reduction. At the start of the program, we focused on removal of unauthorized tire piles. All of the tire piles identified in the 2005 Study of Unauthorized Tire Piles have been cleaned up along with many others.

6.8.1 Existing Conditions

The tire pile regulations are applicable and enforceable for piles where more than 800 tires are stored (WAC 173-350). The Benton-Franklin Health District permits one tire pile facility within the County, and is aware of three other un-permitted piles at area wrecking yards. Tire collection events are held in Prosser and West Richland, sponsored by the Benton County Mosquito Control District.

Tires are accepted for a fee at the Horn Rapids Landfill. Tires are no longer buried, but transported off site to recycling operations. Waste Management accepts tires at the Kennewick Transfer Stations for a fee. Tires are not collected curbside with refuse. Tires are shipped by

Waste Management to a facility in Richland. Tires are accepted at the BDI Transfer Station for a fee, and tires are collected at curbside with the refuse in West Richland, Prosser and Benton City, as well as Ed's Disposal and Basin Disposal's county service areas.

Most large tire retailers contract with a tire collector for transport away from the site and eventual disposal/recycling. The majority of tires collected in the county are transported out of the county or state.

Currently tires are not a major concern, if they are properly collected, stored, and transported out of Benton County. Tires will continue to be accepted at the Richland Landfill, Kennewick Transfer Station, BDI Transfer Station, and local tire retailers. The BFHD will identify tire piles that do not comply with state regulations and require compliance with these regulations. Tire policy and enforcement should be a consistent focus of Benton County to prevent the accumulation of tires outside of the traditional solid waste system.

6.8.2 Options

1. Develop a Plan for Management of Tires

Although currently tires are not a major concern in Benton County, the collection of tires at individual residents or businesses has the potential to become a nuisance. The County and cities should develop a plan to address the accumulation of tires on individual properties, and should pursue state grants, if available, to assist in tire pile cleanup. Municipal and county solid waste staff should coordinate tire recycling activities with programs in other jurisdictions.

2. *County and City Purchasing Programs for Recycled Tire Products.*

As was discussed in Chapter 3, Benton County can use its purchasing power to promote markets for scrap tires. There are a wide variety of tire-derived products available in the marketplace such as molded rubber products (e.g., carpet underlay, flooring material, dock bumpers, patio decks, railroad crossing blocks, roof walkway pads, rubber tiles and bricks, movable speed bumps). EPA has developed recycled-content recommendations for many products made from scrap rubber. Additionally, rubberized asphalt can have applications in many public works projects and loose fill crumb rubber can be used in a variety of applications for recreation and outdoor use such as playgrounds and walking trails.

Purchasing programs also can promote the use of retreads in government fleets, which is a common practice in commercial fleets for large truck tires. Retreading refers to reusing a tire casing and applying a new tread to the tire surface. EPA also has a procurement guideline developed for retread tires.

2. County and City Programs to Reduce Tire Waste.

City and county governments can divert tires from the waste stream from their fleets through maintenance and repair programs. Good tire maintenance can extend the life of a tire significantly. Windshield stickers can be used to remain maintenance facilities to check tires just as stickers are used for oil changes. Tires also can be repaired, if damaged, to increase their life span. Tire waste also can be reduced by purchasing longer-life tires.

3. Public Education Programs.

Consumers can be educated on tire maintenance, tire repair, and lifecycle costs to encourage purchase of longer-life tires. One specific target for educational materials could be companies that operate commercial fleets.

6.9 Electronic Waste

Electronic waste refers to discarded computers, monitors, printers, fax machines, cell phones, electronic cables, and other electronic products. In 2006, the Washington State Legislature passed Engrossed Substitute Senate Bill 6428, which established the Washington State Electronics Product Recycling Law. The law requires manufacturers of electronic products sold in Washington State to finance and implement electronics collection, transportation, and recycling programs in Washington State no later than January 1, 2009. This program is available to households, small governments, small businesses, and charities. Ecology oversees this program. Electronic products that are covered in the legislation include cathode ray tube (CRT) and flat panel computer monitors having a viewable area greater than 4 inches when measured diagonally, desktop computers, laptops, portable computers, and e-readers.

6.9.1 EXISTING CONDITIONS

Implemented in January 2009, E-Cycle Washington provides free recycling of computers, monitors, laptops, e- readers, and televisions to residents, charitable organizations, small businesses, and small government agencies.

The business locations that accept and recycle or reuse electronic materials in Benton County include the following:

- Clayton Ward Recycling, 119 East Albany, Kennewick
- Clayton Ward Recycling, 1936 Saint St., Richland
- Goodwill - Columbia Center Mall, 100 Columbia Center Blvd., Kennewick
- Goodwill - Fred Meyer Donation Center, Corner of 10th and Hwy 395, Kennewick
- Goodwill - Albertsons Donation Center, 140 W. Gage Blvd., Richland
- Goodwill - Walmart Donation Center, 2801 Duportail St., Richland
- Value Village, 731 N Columbia Center Blvd., Kennewick
- Stay Tan West, 3680 W. Van Giesen, West Richland
- Staples, 1480 Tapteal Dr., Richland
- Office Depot, 1717 George Washingon Way, Richland

- Office Depot, 6815 W. Canal Dr., Kennewick
- Best Buy, 6809 W. Canal Dr., Kennewick

6.9.2 OPTIONS

1. Monitor and Evaluate E-Waste Program

The County should monitor the current E-Cycle program for effectiveness. Beginning in 2010, local governments and local communities are encouraged to submit an annual "Satisfaction Report" to Ecology by March 1. The entity responsible for preparing the solid waste management plan for an area is responsible for submitting the Satisfaction Report. The report must use a template Ecology provides that will include information on:

Accessibility and convenience of services and how they are working in their community.

- What services aren't working and why.
- Suggestions for improvements to services plans provide.
- Description of public outreach and education.
- Any other relevant information.

One copy is to be submitted electronically, and an additional paper copy is to be submitted by mail. Within 90 days, Ecology will either approve the report or request additional information.

Ecology will use information in these reports when evaluating recycling plan service levels and revisions.

3. E-Waste Education

Local governments are required by Ecology to provide their citizens with information about the E-Cycle program through existing educational methods typically used by local government. This includes listing locations and hours of operation of local collection sites and services. Ecology has developed a Local Government Toolkit, to promote E-Cycle Washington. This toolkit is available on the Department of Ecology web site. This public education program will promote the existing drop-off locations in the County that are part of the state program.

4. Update list of available opportunities for e-waste collection and recycling

This information is on the County's website, along with a link to the Ecology website. The County should regularly update the information to ensure it is accurate.

6.10 Recommendations

The SWAC reviewed the options for special wastes, and recommends the following policies and programs for implementation:

Benton County and the Cities will continue to monitor the handling of special wastes and pursue increased education and continued support in the enforcement and cleanup of hazardous wastes. We will work on developing a disaster management plan for Benton County and in cooperation with its Cities.

Chapter 7

Moderate Risk Waste

7.0 Moderate Risk Waste

7.1 Introduction

The purpose of this Plan is to establish the goals and objectives for the safe handling and management of moderate risk waste (MRW), which is composed of household hazardous waste (HHW) and conditionally exempt small quantity generator (CESQG) waste generated in the County. The Plan will direct and guide the management of these wastes over a twenty year planning period, from 2012 to 2032. The recommendations included in this Plan are based on existing conditions and forecasts of future conditions in the County.

This Plan includes the geographic area of Benton County, including both the incorporated and unincorporated areas. The lead agency in its development is the Benton County Department of Public Works. The population distribution across the County averages 106 people per square mile, with more residents living in the incorporated cities/towns of the county (77%) as compared to the unincorporated area (23%). In 2010, the total County population was 188,931 people. Population growth from 2000 to 2010 was approximately 32%. Estimates prepared by the Washington State Office of Financial Management (high series) project the population to be 250,842 by the year 2030.

The Plan was prepared with input from the Solid Waste Advisory Committee (SWAC) during the 2012 Solid Waste Management Plan update process. A list of the SWAC members and the meeting dates, along with information on where minutes from those meetings are archived, is included in Chapter 1.

7.2 Current Conditions

A Moderate Risk Waste facility operated at the Horn Rapids Landfill from 1995 to 2010. The facility was staffed with two full time personnel, and accepted waste from households and small quantity generators in Benton County. The types of materials collected at the Horn Rapids Facility included the following:

- Paint (oil base and latex)
- Cleaning Agents
- Polishes
- Antifreeze
- Batteries
- Gasoline
- Adhesives and glues
- Fluorescent light bulbs/tubes
- Propane Cylinders
- Aerosols
- Transmission & brake fluid
- Wood preservatives and stains
- Pesticides
- Motor oil and anti-freeze
- Pool Chemicals

In 2010, the facility was destroyed in a fire. Since that time, the County has operated collection events to provide opportunities for County residents and eligible businesses to properly dispose of MRW. The quantities of materials collected at the facility and at collection events, from 2008 through 2011, are indicated in **Exhibit 7-1**.

Exhibit 7-1. MRW Materials Collected in Benton County 2008-2011 (pounds)

Year	Household Hazardous Waste (HHW)	Small Quantity Generator Waste (SQG)	TOTAL	% HHW	%SQG
2008	295,069	19,693	314,762	94%	6%
2009	356,852	6,328	363,180	98%	2%
2010[1]	117,131	7,356	124,487	94%	6%
2011[2]	137,754	N/A	137,744	N/A	N/A

[1]Partial year due to fire

[2] Two collection events, participants not tracked

The previous MRW facility received an average of approximately 4,675 customers per year, with the majority of customers coming from Richland, West Richland, and Kennewick, and small numbers of customers from Prosser, Benton City, and unincorporated Benton County, see **Exhibits 7-2 and 7-3**.

Exhibit 7-2: MRW Customer Trips

Year	Trips HHW	Trips SQG	Trips TOTAL
2008	4,450	79	4,529
2009	4,748	77	4,825
2010[1]	3,815	48	3,863

[1]Partial year due to fire

Source: 2008 – 2010 trip counts from MRW and SQG Annual Reports. 2009 and 2010 forms track used oil, battery, and antifreeze customers separately and customer trips for these materials are not tracked.

Exhibit 7-3: MRW Customer Source Breakdown (based on 2008 MRW Customer Tracking)

City	Trips	Percent of Total
West Richland	386	8.7%
Richland	3,633	81.6%
Prosser	12	0.3%
Kennewick	271	6.1%
Benton City	71	1.6%
Benton County (other)	77	1.7%
TOTAL	**4,450**	**100%**

In addition to the former MRW facility at the Horn Rapids Landfill, Benton County offered satellite HHW drop-off facilities in Benton City and Prosser to provide convenient disposal options for County residents. These facilities were operated by Basin Disposal, Inc. of Pasco, WA.

The Benton City satellite facility is located at the City shop south of the intersection of Della St and 7th St. In Prosser the satellite facility is located at the City Yard/transfer station at 10th St. & Sherman St. These facilities currently collect only used oil. The used motor oil is collected and recycled by Oil Recycling and Refining Company, whose local facility is at 403 N. Dayton, Kennewick.

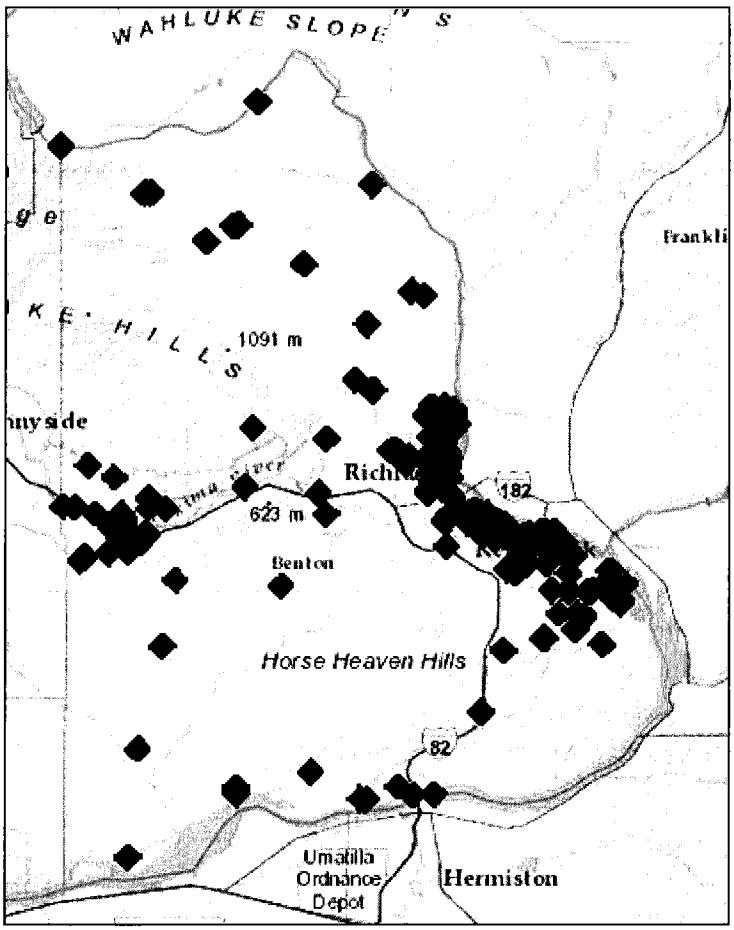
7.3 Hazardous Waste

Businesses or institutions producing or accumulating hazardous waste above the quantity exclusion limits are required to meet a stringent set of regulations when storing, handling, and disposing of their hazardous wastes. In addition, these fully regulated hazardous waste generators must comply with extensive waste tracking and reporting requirements. SQGs must meet certain requirements for identifying and managing their hazardous wastes, but are exempt from portions of the waste tracking and reporting requirements.

7.3.1. Hazardous Waste Generators

Businesses in the County that are registered as hazardous waste generators have an EPA/State identification number issued under Chapter 173-303-WAC, as listed in Ecology's Facility Site Identification (F/SID) database (as of February 2012. A map showing the distribution of the registered hazardous waste generators is included as **Exhibit 7-4**

Exhibit 7-4. Distribution of Hazardous Waste Generators



7.3.2. Hazardous Waste Sites

Ecology publishes the Hazardous Sites List as required by WAC 173-340-330. The list is updated twice per year. It includes all sites that have been assessed and ranked using the Washington Ranking Method. Also listed are National Priorities List (NPL) sites. Sites on the Hazardous Sites List (excluding NPL and TSP sites) have undergone a preliminary study called a Site Hazard Assessment (SHA). An SHA provides Ecology with basic information about a site. Ecology then uses the Washington Ranking Method (WARM) to estimate the potential threat the site poses, if not cleaned up, to human health and the environment. The estimate is based on the amount of contaminants, how toxic they are, and how easily they can come in contact with people and the environment. Sites are ranked relative to each other on a scale of one to five. A rank of one represents the highest level of concern relative to other sites, and a rank of five the lowest. Hazard ranking helps Ecology target where to spend cleanup funds. However, a site's actual impact on human health and the environment, public concern, a need for an immediate

response, and available cleanup staff and funding also affect which sites get first priority for cleanup. A site may be removed from the list only if the site is cleaned up. In some cases, long-term monitoring and periodic reviews may be required to ensure the cleanup is adequate to protect the public and the environment. Placing of a site on the list does not, by itself, imply that persons associated with the site are liable under Chapter 70.105D RCW.

7.4 Transporters and Facilities

Hazardous waste transportation companies that are registered with Ecology which can service businesses in Benton County are included in Exhibit 7-5. This is a partial list, and does not constitute a recommendation. All transporters of hazardous waste require a common carrier permit issued by the Washington Utilities and Transportation Commission (WUTC), under RCW 81.80.

There are presently no treatment facilities in the County. If it became necessary to site a hazardous waste facility in the County to handle the County's waste, the 2006 Comprehensive Plan designates specific areas of the County for Heavy Industrial land uses. Heavy industries are by definition those that in the normal course of activity transport, store or produce emissions, smoke, glare, noise, odor, dust and hazardous materials as products or byproducts. Lands designated Heavy Industry on the Land Use Map are lands wherever they have, or are in reach of attributes essential to industrial activities, and where they will not present unmanageable conflicts with other land uses, and have rail and water borne transportation access; isolation from high density residential and commercial uses; large acreages for outside storage and maneuvering of trucks and rail equipment. Heavy Industrial lands are designated in the south county, in the south Finley area, north of Prosser, and on the Hanford Site. The county's supply of Industrial designated lands is augmented by similar designations within cities in the county.

Furthermore, in Chapter 11.34 of the County Zoning Code under the Heavy Industrial (HI) district, Section 11.34.05 Uses Requiring a Conditional Use Permit, allows for a hazardous waste treatment and/or hazardous waste storage facility treating waste not generated on the same or a contiguous parcel; provided that such facility complies with Washington State siting criteria set forth in RCW 70.105.21, and if a conditional use permit is issued by the Board of Adjustment after notice and public hearing.

Exhibit 7-5. Hazardous Waste Transporters

Company	Location
Able Cleanup Technologies	Spokane
Adar Construction, Inc.	Spanaway
Advanced Waste Services	West Allis
ARCOM Oil	Tacoma
BELFOR Environmental, Inc.	Portland
Big Sky Industrial	Spokane

Exhibit 7-5. Hazardous Waste Transporters

Company	Location
Bulk Service Transport	Spokane
CCS (a division of PNE Corp.)	Longview
Certified Cleaning Services	Tacoma
Chemical Waste Management	Arlington
Chem-Safe Environmental	Kittitas
Clean Harbors	SeaTac
Coeur d'Alene Dredging	Valleyford
Emerald Services	Seattle
EQ (Environmental Quality Company)	Wayne
FBN Enterprises	Bellevue
HAZCO Environmental Services	Richmond
Innovac	Edmonds
Marine Vacuum Service	Seattle
Phoenix Environmental Services	Tacoma
PSC Environmental Services	Washougal
Regional Disposal (RABANCO)	Seattle
Safety Kleen	North Highlands
SQG Specialists	Salem
TW Services	Madison
U.S. Ecology	Grand View
Univar USA	Redmond
Veolia Environmental Services (formerly Onyx)	Phoenix
Waste Management of Auburn	Auburn
WasteXpress Environmental Services	Portland

7.5 Legal Authority for Program

Local governments are required by the Washington State Hazardous Waste Management Act (HWMA, Chapter 70.105 RCW) to address moderate risk waste management in their jurisdictions. Moderate risk wastes are hazardous wastes produced by households, and by businesses and institutions in small quantities. Commercial and institutional generators of hazardous waste are conditionally exempt from full regulation under the HWMA, provided that they do not produce or accumulate hazardous waste above specified quantities defined by Ecology (quantity exclusion limits). These "small quantity

generators" produce hazardous wastes in quantities that do not exceed the following State regulatory limits:

- 220 pounds (100 kg) of dangerous waste per month or per batch.
- 2.2 pounds (1 kg) of acute or extremely hazardous waste per month or per batch.

In addition, to maintain its status as a small quantity generator, a business or institution may not accumulate more than 2,200 pounds of dangerous waste or more than 2.2 pounds of acute or extremely hazardous waste at one time.

Businesses or institutions producing or accumulating hazardous waste above the quantity exclusion limits are required to meet a stringent set of regulations when storing, handling, and disposing of their hazardous wastes. In addition, these fully regulated hazardous waste generators must comply with extensive waste tracking and reporting requirements. Small-quantity generators must meet certain requirements for identifying and managing their hazardous wastes, but are exempt from portions of the waste tracking and reporting requirements.

In 1991, RCW 70.951.020 was added requiring local governments to amend their local hazardous waste plans to include the Used Oil Recycling Act, for the management of used oil as part of MRW management.

The Beyond Waste Plan, published in 2004, establishes five initiatives as starting points for reducing wastes and toxic substances in Washington. Initiative #2 is Reducing Small-Volume hazardous materials and wastes. The goal of this initiative "...is to accelerate progress toward eliminating the risks associated with products containing hazardous substances." Specifically, the initiative encompasses products and substances commonly used in households and in relative small quantities by businesses.

In 2009, Ecology updated the MRW Planning Guidelines, and in 2010 Ecology updated the Guidelines for the Preparation of Solid Waste Management Plans. Included in the new guidelines are new requirements for a combined Solid Waste and MRW Plan. This section has been prepared to meet the requirements for a combined Solid Waste and MRW Plan.

7.6

7.7 Financing

Benton County's MRW program is funded from a number of sources, including revenue from garbage excise fees, matching monies from Cities, and grant funding. Costs for the program include labor and operations. The 2010 costs and revenue for the Benton County MRW program are presented in **Exhibit 7-6.**

Exhibit 7-6. MRW Program Costs and Revenue (2010)

Activity	$ Amount
Costs (includes contractor costs, wages, permits, etc.)	$280,000

Revenue (includes grants)	$280,000

7.8 Governance

The legal authority for decisions regarding the implementation of the MRW plan is the responsibility of the Benton County Board of County Commissioners.

7.9 Program Philosophy

The following are the goals and objectives of the Benton County MRW program:

- Protect natural resources and public health by eliminating the discharge of moderate risk waste into solid waste systems, wastewater treatment system, and into the environment though indiscriminate disposal;
- Manage moderate risk wastes in a manner that promotes, in order of priority: waste reduction, recycling, physical, chemical, and biological treatment, incineration, solidification and stabilization, and landfilling;
- Increase public awareness of available alternatives and the importance of proper disposal of moderate risk wastes;
- Improve opportunities for the safe disposal of moderate risk wastes by citizens and businesses within Benton County;
- Improve disposal options available to farmers and ranchers for agricultural chemical waste;
- Reduce health risks for workers coming in contact with moderate risk wastes that may be disposed of in the solid waste stream or in wastewater treatment systems;
- Coordinate moderate risk waste management programs with existing and planned systems for waste reduction, recycling, and other programs for solid waste management;
- Encourage cooperation and coordination among all levels of government, citizens, and the private sector in managing moderate risk wastes;
- Emphasize local responsibility for solving problems associated with moderate risk waste, rather than relaying on the state or federal government to provide solutions; and
- Comply with the requirements of the Washington State Hazardous Waste Management Act (RCW 70.105.220) directing each local government to prepare a local hazardous waste management plan.

The County's overall vision is to reduce the generation of MRW, and to eliminate the improper disposal of MRW. Through education and outreach, the County envisions a change in behavior and habits that will accomplish these goals and objectives.

7.10 Program Services

The County is considering a number of options for household hazardous waste collection, public education, and business technical assistance, as described below:

7.10.1. Household Hazardous Waste Collection

The Benton County MRW facility, located at the Horn Rapids Landfill, was lost due to a fire in 2010. In 2011, a feasibility study was initiated to identify the optimum approach for MRW management in the county, and the funding mechanisms to develop and operate the selected system. The analysis looked at four potential operating scenarios, including:

1) Permanent facility similar to the previous operations at the Horn Rapids Landfill
2) Permanent facility similar to the previous operations at an alternate location
3) Permanent facility with increased operations, including satellite facilities with an expanded list of materials for collection.
4) Joint Benton-Franklin counties facility

Based on feedback from City MRW staff, provisions for the following MRW activities were also considered in the evaluation and conceptual design of a new facility:

- MRW processing including can crushing, material bulking, and fluorescent tube crushing
- Enclosed facility for weather protection and staff comfort
- Provisions for use and storage of forklift
- Covered customer unloading area for weather protection
- Facility located on industrial zoned site (or easily changed to industrial)
- Access and layout to allow for maneuvering of semi-truck for material loadout
- Consideration for administrative area

Included in the study was an analysis of the potential level of service to be provided, such as targeted materials, projected customer types, operating days and hours, and staffing. Projected MRW quantities through the year 2030 are provided in **Exhibit 7-7**. The projections are based on average material quantities received in 2008 and 2009 (prior to interruption of fixed MRW facility operation), an average of 95% of materials received from HHW customers and 5% of materials received from SQG, and population projections per the Washington State Office of Financial Management's High Series.

Exhibit 7-7: Projected MRW Quantities
(pounds)

Year	HHW	SQG	TOTAL
2015	347,256	18,277	**365,533**
2020	373,058	19,635	**392,693**

2025	398,866	20,993	**419,859**
2030	423,312	22,280	**445,592**

The MRW facility feasibility study also identified potential locations to site an MRW facility and conceptual facility layouts were developed and evaluated to determine the most efficient MRW operations. Based on the siting analysis, further evaluation of three of the identified potential sites was recommended: the City of Richland shop (or adjacent parcel), Benton County Road Maintenance Shop, and I-82/Badger Road sites. The Horn Rapids Landfill remains a viable site for the MRW facility if the no growth scenario is determined to be the optimal operational model.

Capital and annual O&M cost estimates for the various operating scenarios, as well as a discussion of possible funding sources for the various operating scenarios were also developed as part of the study. The study will conclude with an evaluation matrix for determining an optimal MRW facility and operating scenario, based on identified level of service criteria, operational models, preferred sites, conceptual layouts, capital and O&M costs, and funding mechanisms. The complete study is included in **Appendix E**.

7.10.2. Public Education

Household hazardous waste outreach efforts will be continued and may be increased, including distribution of flyers to households, businesses, at County facilities, and on the County websites. These efforts will be continued on an ongoing basis to reach new residents. The County will utilize flyers/handouts available from Ecology and the Washington Toxics Coalition to distribute information to residents and businesses on MRW generation and disposal

7.10.3. Small Business Technical Assistance

The County could provide free technical assistance to businesses wanting to learn how to reduce and manage hazardous waste. The program would include a set of outreach, education, and assistance components integrated with other waste reduction programs.

7.10.4. Small Business Collection Assistance

The County would continue the existing program of offering small businesses the opportunity to bring their wastes to the MRW facility for proper handling and disposal.

7.11 Process for Updating Implementation Plan

The County and SWAC will review the Plan on a regular basis to identify any necessary changes to the goals, objectives, and implementation plan. Changes may be deemed necessary due to changes in State law, conditions in the County, budgets, and/or others issues. If changes are

identified, the County and SWAC will work together to develop the changes, for review and approval by the County and local jurisdictions.

7.12 Implementation Plan

The following constitutes the Implementation Plan for the Benton County MRW/LHWM Plan.

The SWAC is continuing to study the purchase of property suitable to siting a new MRWF, siting the facility, building and operating the facility.

7.13 Annual Budget

The County's budget for the implementation of the Plan is included in **Exhibit 7-8**. Actual budgets to carry out the Plan will vary from year to year as specific programs are defined, and will depend upon availability of grant funding and the budget approved by participating local governments.

Exhibit 7-8. MRW Plan Implementation Budget and Schedule

Activity	Projected Costs	Funding Mechanism (Tip Fees/Grants/Others)	Implementation Year
Public Education	$50,000	Grants, excise fees	2012
Business Technical Assistance	$10,000	Grants, excise fees	2012
MRW Facility			
Capital Costs	$890,000 - $1,500,000	Grants, loans, excise fees	2016
Operating Costs	$395,000 - $518,000/yr	Grants, excise fees	2020

Chapter 8

Administration and Enforcement

8.0 Administration and Enforcement

8.1 Administration

The Washington State Solid Waste Management Act, RCW 70.95, assigns local government the primary responsibility for managing solid waste. This chapter describes the administrative structure for solid waste management planning and permitting in Benton County.

Administrative responsibility for solid waste management in Benton County is divided among several agencies and jurisdictions. The administrative responsibilities of each organization are described below.

8.1.1 Solid Waste Advisory Committee

The State requires that counties establish a Solid Waste Advisory Committee (SWAC) to assist in the development of programs and policies concerning solid waste handling and disposal (RCW 70.95). The Benton County SWAC is an advisory board to the Board of Benton County Commissioners and makes recommendations to the Commissioners on matters relative to the development of solid waste handling programs and policies. One of its main functions is to provide a forum within the community for the expression of opinions regarding solid waste handling and disposal plans, ordinances, resolutions, and programs prior to adoption. SWAC members represent citizens, public interest groups, business, the waste management industry, and local government. The SWAC has a significant role in developing and updating Benton County's Comprehensive Solid Waste Management Plan.

8.1.2 Benton County Public Works Department Solid Waste Program

RCW 36.58 authorizes Benton County to develop, own, and operate solid waste handling facilities in unincorporated areas of the county, or to accomplish these activities by contracting with private firms. The County also has the authority and responsibility to prepare comprehensive solid waste management plans for unincorporated areas and for jurisdictions that agree to participate with the County in the planning process.

The County has entered into interlocal agreements with all of the incorporated cities within the county for the purpose of solid waste management planning and implementation. Interlocal Agreements are developed in accordance with Chapter 39.34 RCW, Interlocal Cooperation Act, for the purpose of permitting local governments to cooperate with one another in the performance of tasks, thus achieving economies of scale and reducing duplication of effort. An Interlocal Agreement is signed by the authorized officials of the local governments involved, and specifies the services and/or facilities to be provided and any compensation between the local governments for such services and/or facilities. The Interlocal Agreements between Benton County and the incorporated cities will remain in effect through December 2013, and will be negotiated for renewal for 2014-2016. A copy is included in Appendix C.

Benton County exercises its solid waste responsibilities through the Benton County Public Works Department, and specifically through the Solid Waste program. The Solid Waste program has the responsibility for developing and implementing the solid waste management plan, formulating interlocal agreements, administering public education programs, and providing staff support for the SWAC.

8.1.3 Incorporated Cities

RCW 35.21.152 allows cities to develop, own, and operate solid waste handling systems and to provide for solid waste collection services within their jurisdictions. There are five incorporated cities and towns in Benton County. The City of Richland operates its own residential garbage collection system and the remaining four cities contract with private haulers.

8.1.4 Benton-Franklin Health District

The Environmental Health Division within the Benton-Franklin Health District provides much of the regulatory oversight in Benton County. The agency is the responsible local authority (per RCW 70.95.160) for issuing permits for solid waste facilities. The agency also is responsible for assessing compliance with permit conditions and has the responsibility for maintaining compliance through enforcement activities. The Health District's responsibilities extend to the following areas for solid waste management:

Solid Waste Facilities: The Health District issues operating permits for waste handling facilities, including landfills, transfer stations, and recycling facilities.

Special Wastes: The Health District issues permits for demolition and inert waste landfills and facilities for managing septic and street wastes.

The specific permit requirements for solid waste disposal facilities are defined in WAC 173-351 and WAC 173-350. Health District responsibilities for processing and evaluating these permits are defined in RCW 70.95.180. These state regulations require jurisdictional health departments to evaluate solid waste permit applications for their compliance with all existing laws and regulations and their conformance with the Solid Waste Management Plan and all zoning requirements. The Department of Ecology's review and appeal process for a permit issued by the Health District is explained in RCW 70.95.185.

8.1.5 Benton Clean Air Authority

The Benton Clean Air Authority is responsible for controlling the emission of air contaminants from sources in the Benton County with authority derived from federal and Washington State Clean Air Acts. Relevant laws are the Code of Federal Regulations (40 CFR) and RCW 70.94, respectively. In addition, there are a limited number of local regulations in the Benton Clean Air Authority Regulation 1. The WAC 173-400 series of the administrative code is the principal source of regulatory implementation of Washington State air pollution laws.

In terms of solid waste management, the issue is principally one of media transfer in which potential air pollutants are not allowed to be released into ambient air under compliance and enforcement responsibilities of the BCAA. Consequently, some materials, such as vegetative matter that was previously burned legally, can no longer be burned, and specific prohibited materials that could never have been burned legally are being diverted to the solid waste stream. Outdoor burning is currently restricted to permitted residential, land clearing, and agricultural burning plus a certain exempted burning of vegetative materials, principally outside Urban Growth Boundaries. No outdoor burning is allowed within Urban Growth Boundaries except agricultural burning and specifically exempted burning.

Another specifically regulated material that is solid waste is asbestos containing material for which the BCAA requires proper removal, handling, transport, and landfill disposal. The BCAA is also responsible for regulating odor and any hazardous or toxic emissions from any material of biological or non-biological origin. A specific example of the latter is composting facilities. In so far as these materials are involved with a diversionary activity or recycling, the requirements for compliance with air regulations may affect the feasibility of such efforts, operation of relevant materials handling facilities, and whether these materials may be in or out of the solid waste stream.

Some specific compliance and enforcement responsibilities of the BCAA are permitting for composting facilities, landfills, and wastewater treatment plants. Nuisance odor and fugitive dust are among the regulated events.

8.1.6 Washington State Department of Ecology

Ecology has the primary authority for solid waste at the state level. Ecology assists local governments in the planning process by reviewing, providing comments, and approving preliminary and final drafts of solid waste management plans. This review is to ensure that local plans conform to applicable state laws and regulations. In its Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions, Ecology offers recommendations on the preparation of solid waste management plans. Ecology also makes recommendations and comments on reviews of solid waste handling and disposal permits to ensure that the proposed site or facility conforms to applicable laws and regulations.

8.1.7 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 within specified geographic areas of the state. RCW 70.95.096 also grants the WUTC the authority to review solid waste management plans to assess solid waste collection cost impacts on rates charged by collection companies regulated under RCW 81.77 and to advise the County and Ecology of the probable effects of the Plan's recommendations on those rates.

8.2 Enforcement

A number of different entities are responsible for enforcing solid waste management regulations and requirements within Benton County: the Benton-Franklin Health District, the Benton Clean Air Authority, the Benton County Sheriff's Office, the Washington State Department of Ecology, the Washington Utilities and Transportation Commission, and the incorporated cities. The enforcement responsibilities of these entities are discussed below.

8.2.1 Benton-Franklin Health District--

The Benton-Franklin Health District (BFHD) carries the responsibility for enforcing many solid waste regulations and programs within Benton County. State law gives local health departments responsibility for:

"ordinances governing solid waste handling implementing the comprehensive solid waste management plan covering storage, collection, transportation, treatment, utilization, processing and final disposal including but not limited to the issuance of permits and establishment of minimum levels and types of service for any aspect of solid waste handling." (RCW 70.95.160)

In addition, RCW 70.95.160 states that:

"such...ordinances shall assure that solid waste storage and disposal facilities are located, maintained, and operated in a manner so as properly to protect the public health, prevent air and water pollution, are consistent with the priorities established in RCW 70.95.010 and avoid the creation of nuisances."

Falling under the definition of "solid waste handling facilities" are landfills, wood and tire piles, construction and demolition debris sites, compost facilities, transfer stations, and landfills.

The BFHD's enforcement responsibilities extend to the following areas of solid waste management:

Illegal dumping: BFHD receives and investigates public health related complaints resulting from illegal dumping, improper storage, and littering. If, after notification from BFHD, the property has not been cleaned up, the information is forwarded to the Benton County Prosecuting Attorney's Office for legal action. It also issues clean-up orders.

Solid waste facilities: BFHD issues and renews permits, and makes periodic inspections of solid waste handling facilities. Inspections ensure that these facilities do not create public health problems, nuisances, or environmental contamination. All solid waste facilities accepting solid waste are inspected at a minimum of every 2 months. Facilities, such as closed facilities or facilities with active permits that are not currently accepting waste, are inspected two times per year. The Richland Landfill is inspected at least annually by the Health District for compliance

with State Criteria for Municipal Solid Waste Landfills and Benton-Franklin Health District regulations.

8.2.2 Benton Clean Air Authority--

The Benton Clean Air Authority has the responsibility of monitoring the emission of air contaminants from sources in Benton County and is responsible for enforcement of emissions standards. The Authority also regulates asbestos handling and open burning in the County.

8.2.3 Benton County Sheriff's Office--

Complaints against illegal dumping are handled by the Sheriff's Office in Benton County. Offenders are fined approximately $150 for each day the garbage remains at the illegal dumpsite. Few offenders are apprehended.

8.2.4 Washington State Department of Ecology--

Although primary enforcement for solid waste management is through jurisdictional health departments, Ecology has a range of enforcement authorities under various statutes to address existing or potential sources of pollution, including those which result from improper solid waste handling and management. For instance, Ecology has broad authority to take enforcement actions under the State Water Pollution Control Act, the Hazardous Waste Management Act, and the Model Toxics Control Act. Collectively, these laws allow Ecology to issue orders and impose penalties for noncompliance. Under some circumstances, Ecology may also take direct action to remedy threats to public health and the environment, and seek to recover costs from potentially liable parties.

In some instances, Ecology may assume the duties and responsibilities of jurisdictional health departments. RCW 70.95.163 authorizes local health departments to enter into an agreement with Ecology to assume some, or all, of their solid waste regulatory responsibilities and authorities, such as biosolid and septic permitting and enforcement.

8.2.5 Washington Utilities and Transportation Commission

The WUTC regulates the collection of solid waste in unincorporated areas of the County. The WUTC's enforcement mechanisms include fines and revocation of the right of private collectors to collect solid waste. The WUTC also enforces against companies that illegally collect solid waste without a certificate.

8.2.6 Incorporated Cities

Cities and counties have the authority to establish solid waste programs, pass ordinances, and provide resources to monitor compliance and take corrective action where necessary. For instance, within the City of Richland's Public Works Department, the Solid Waste Department is responsible for enforcing compliance with refuse collection regulations. The Department

monitors compliance of daily operations at the landfill. The Department also works with the Health District to enforce litter control and illegal dumping programs. The cities are also responsible for enforcing local ordinances covering zoning, land use, illegal dumping, and littering.

8.3 Options

Responsibilities for implementing the Solid Waste Management Plan are assigned to various local agencies. Since responsibilities for specific tasks are assigned to more than one agency, each of the jurisdictions needs to recognize the importance of carrying out all tasks in a manner that ensures efficient use of resources (by avoiding duplication of effort), avoids gaps in program activities, and avoids conflicts or inconsistencies. This can be accomplished by holding regular coordination meetings, sharing informational materials, and briefing the Solid Waste Advisory Committee. Participating jurisdictions should track progress as they implement each of the recommendations contained in the Plan as a means to determine the effectiveness of each element of the Plan and the need for adjustments or revisions. As programs are implemented, participating agencies should also solicit comments and suggestions from citizens and participating businesses, regarding the programs' adequacy and effectiveness. The SWAC and the Central Regional Office of the Department of Ecology should receive progress reports on the Plan's implementation. The SWAC should be asked to review and recommend any necessary adjustments or revisions to planned activities.

Enforcement activities within Benton County generally are focused on compliance with permit conditions and regulatory standards, littering, and illegal dumping. Response often comes from law enforcement agencies for littering. Code Enforcement and the BFHD are responsible for enforcement of illegal dumping/improper disposal. One key issue is to ensure adequate staffing and funding for the agencies responsible for enforcement.

A second key enforcement issue pertains to illegal dumping. Washington's Model Litter Control and Recycling Act (RCW 70.93) prohibits the deposit of garbage on any property not properly designated as a disposal site. Revisions (RCW 70.93.060) provide stiffer penalties for littering and illegal dumping in rural areas including classification as a misdemeanor, punishable by specific penalties. Illegal dumping can be addressed through enhanced enforcement activities and education.

The following options address administration and enforcement of solid waste issues in Benton County:

1. Facilitate Interagency cooperation

The large number of different agencies and jurisdictions responsible for solid waste management in Benton County makes interagency cooperation essential. This can be achieved through commitments on the part of each entity to participate on the advisory committee(s), and

coordinating committee meetings between the counties and municipalities to facilitate the exchange of information. In addition, coordination can be achieved if technical staff work closely with their counterparts in the other jurisdictions performing similar or related functions.

A cooperative approach to program evaluation is also essential to ensure that the goals and objectives of solid waste management are being met, and to monitor changes that take place in solid waste generation and disposal. Once Benton County and the municipalities have adopted the Plan, mechanisms will need to be developed to ensure that the Plan is effectively implemented. One method for evaluating programs is to continue to utilize the Planning Committee of the SWAC to review the success of individual program components and the Plan as a whole. Methods of review could include tracking waste quantities, participation rates, expenses, income, and implementation problems. Reviews could occur periodically to make necessary adjustments once the Plan is implemented.

2. *Coordinate enforcement activities to attain maximum impact without duplication.*

Complex environmental issues, increased emphasis on recycling and waste reduction programs, more complicated operational requirements at sanitary landfills, and the need to coordinate all aspects of the solid waste system, including hazardous waste, have drawn attention to enforcement. Jurisdictions must take the time and effort, not only to understand the laws, but they must also examine their organizations and staffing levels to adequately address the requirements of the laws. Because the majority of solid waste problems are regional, each jurisdiction needs to establish appropriate means of interacting with other jurisdictions.

3. *Improve coordination among County agencies, cities, and other relevant public agencies responsible for illegal dumping cleanup, education, and prevention programs.*

Several Washington communities have addressed illegal dumping concerns by convening a task force to evaluate the roles of the county, cities, and other relevant public agencies responsible for illegal dumping cleanup, education, and prevention programs. Such an effort can lead to better coordination, reduced overlap of responsibilities, and reduced gaps in coverage. This can also lead to uniform enforcement capabilities and quicker response to halt illegal activities.

4. *Develop a coordinated public outreach and education program.*

Education is an important aspect of addressing illegal dumping and related problems. The purpose of a preventive action program is to raise public awareness about illegal dumping. Each jurisdiction could pool their efforts for coordinated outreach. Emphasis could be placed on encouraging citizens to report illegal dumping sites by establishing a "hotline," so that dump sites may be cleaned up before they become a larger problem.

8.4 Recommendations

The Solid Waste Advisory Committee reviewed the option discussed above and has recommended the following options:

1. Facilitate Interagency cooperation;
2. Coordinate enforcement activities to attain maximum impact without duplication;
3. Improve coordination among County agencies, cities, and other relevant public agencies responsible for illegal dumping cleanup, education, and prevention programs;
4. Develop a coordinated public outreach and education program.

Chapter 9

Implementation

9.1 INTRODUCTION

The purpose of this chapter is to outline the actions and budget necessary to implement the recommendations contained in this plan.

9.2 SIX-YEAR CAPITAL AND OPERATING FINANCING

The RCW (Section 70.95.101(3)(c) requires the solid waste management plan to contain a 6-year construction and capital acquisition program for public solid waste handling facilities, including development and construction or purchase of publicly financed solid waste management facilities. The legislation further requires plans to contain a means for financing both capital costs and operations expenditures of the proposed solid waste management system. Any recommendation for the development, construction, and/or purchase of public solid waste management and recycling facilities or equipment should be included in this discussion. Financing operation expenditures should also be added to this section of the plan.

Capital and operating expenses to implement the Plan recommendations over the next 6 years are summarized in Exhibit 9-1. Actual budgets to carry out the recommendations will vary from year to year as specific programs are defined, and will depend upon availability of grant funding and budget approved by local governments. It is important to note that because Benton County relies on the private sector for the majority of solid waste management activities, very few capital costs are projected for the participating jurisdictions.

9.3 IMPLEMENTATION SCHEDULE

The implementation of the recommendations contained in this Plan will begin upon approval of the Plan by the jurisdictions and Ecology. The schedule for implementation is included as Exhibit 9-2. The schedule may be revised as the Plan is updated, and as the objective and needs of the County and jurisdictions change. As indicated, for some recommendations, the programs have been or will be implemented within a few months, for other recommendations implementation will span many years.

Exhibit 9-1. Implementation Costs

CHAPTER	Recommendation	Cost			
		Year 1	Year 3	Year 6	Expense type
3. Outreach and Education	1. Update Website	$600	$700	$800	Labor
	2. Provide Technical Assistance to Schools and Businesses	$200	$1,200	$400	Labor
	3. Arrange Recycling Facility Tours/Interactive Education	$50	$100	$150	Labor
3. Waste Reduction	1. Support Product Stewardship and Extended Producer Responsibility Policies	$50	$50	$50	Labor
	2. Promote Environmentally Preferable Products Preference and Purchasing	$50	$50	$50	Labor
	3. Promote Waste Reduction Practices in County and City operations	$50	$50	$50	Labor
	4. Promote Use of Online Materials Exchanges	$50	$50	$50	Labor
	5. Encourage Use of Reuse Stores and organizations	$50	$50	$50	Labor
	6. Consider Implementing Waste Reduction Requirements for New Developments	$50	$50	$50	Labor
	7. Monitor Progress and Efficacy of Waste Management and Reduction Measures	$250	$400	$600	Labor
3. Recycling	1. Evaluate Need for Additional Materials and New Locations for Drop-Box Program	$50	$50	$50	Labor
	2. Consider Implementing a Rewards Program for Residential Recyclers	$50	$5,000 (if imple-mented)	$6,000 (if imple-mented)	Labor Cash or Merch for Awards
	3. Provide Commercial Waste Assistance as Needed	$50	$400	$600	Labor
	4. Evaluate Recycling Opportunities Related to the Wine Industry	$200	$300	$400	Labor

Exhibit 9-1. Implementation Costs

CHAPTER	Recommendation	Cost			
		Year 1	Year 3	Year 6	Expense type
3. Organics	1. Expand Yard Waste Chipping Program as Funding and Markets Become Available	$1,600	$0 (assuming program become self-sufficient)		Labor, Equip-ment Rental
	2. Encourage Curbside Green Waste Collection for Commercial Customers	$1,200	$0 (assuming market for green waste become available or paid for through increased garbage fees)		Labor, Equip-ment Costs for Hauling
	3. Evaluate Diversion Opportunities for Organic Waste from Wine Industry	$50	$50	$50	Labor
4. Collection Systems	1. Consider Mandatory Collection in Unincorporated Areas.	Minimal costs assuming garbage fees would cover cost			
	2. Further Evaluation of Recycling Service Level Changes for County Unincorporated Area	$50	$50	$50	Labor
5. Transfer and Disposal	1. The County will monitor, and where appropriate and feasible, provide input into the City of Richland's process evaluating the feasibility of expanding Horn Rapids Landfill.	$300	$300	$300	Labor
6. Agricultural waste	1. Continue to Work Cooperatively with Port of Benton and Regional Agencies to Identify Opportunities for Beneficial Use of Organic Residuals from Agriculture	$50	$50	$50	Labor
6. Asbestos	1. Encourage BCAA to Increase Enforcement of Asbestos Waste Disposal Activities	$50	$50	$50	Labor
	2. Provide Education to Homeowners on Proper Handling and Disposal	$50	$50	$50	Labor, copying
6. Biomedical Waste	1. Provide educational materials for correct management	$50	$50	$50	Labor

Exhibit 9-1. Implementation Costs

CHAPTER	Recommendation	Cost			
		Year 1	Year 3	Year 6	Expense type
	of medical waste generated by residents.				copying
	2. Evaluate feasibility of sharps and outdated pharmaceuticals collection at household hazardous waste collection sites.	$50	$50	$50	Labor
6. Construction and Demolition Debris	1. Provide waste reduction, green building and debris management information to contractors	$300	$300	$300	Labor
	2. Evaluate establishing C&D and Inert Waste Diversion Specifications for private Projects.	$50	$50	$50	Labor
	3. Evaluate establishing C&D and inert waste diversion specifications for public (city and county) projects	$50	$50	$50	Labor
	4. Develop a Disaster Management Plan for Benton County.	$3,200	$200	$200	Labor
	5. Provide additional Oversight of Small Inert Waste Fill Projects	$300	$300	$300	Labor
6. Petroleum Contaminated Waste	1. Maintain Existing System	$50	$50	$50	Labor
6. Street Wastes	1. Evaluate Potential Reuse of Street Wastes	$50	$50	$50	Labor
6. Tires	1. Develop a Plan for Management of Tires accumulated on individual properties.	$1,200	$0 (assuming fees for tire collection would cover costs)		Labor Equipment Rental
	2. Evaluate **implementation of** County and City Purchasing Programs for Recycled Tire Products.	$50	$50	$50	Labor
	3. Implement Programs to Reduce Tire Waste.	$2,000	$2,500	$3,000	Labor Increased costs for tire purchases

Exhibit 9-1. Implementation Costs

CHAPTER	Recommendation	Cost			
		Year 1	Year 3	Year 6	Expense type
	4. Initiate Public Education Programs.	$300	$500	$600	Labor, Printing Costs
6. Electronic Waste	1. Monitor E-cycle program effectiveness and submit annual satisfaction report when feasible	$50	$50	$50	Labor
	2. Provide E-cycle information on website	$50	$50	$50	Labor
	3. Update website with e-waste collection and recycling information.	$50	$50	$50	Labor
7. Moderate Risk Waste	1. Household Hazardous Waste Collection- Develop New MRW Facility	$300,000	$600,000	1.6M	Land Purch., Development Permitting and Construction Management, Operations & Disposal Costs
	2. Continue, and expand as possible, public outreach and education efforts.	$50	$50	$50	Labor
	3. Provide technical assistance, as possible, to small business	$400	$500	$600	Labor
	4. Provide opportunities for small business to dispose of small quantities of waste at future facility.	$0 (Assuming that fees for collection and disposal would cover costs)			

Exhibit 9-1. Implementation Costs

CHAPTER	Recommendation	Cost			
		Year 1	Year 3	Year 6	Expense type
	5. Contact business to sponsor collection events	$50	$50	$50	Labor
8. Administration and Enforcement	1. Facilitate interagency relationships on issues related to solid waste management.	$50	$50	$50	Labor
	2. The various agencies in the county involved in solid waste management will work together to coordinate enforcement activities.	$50	$50	$50	Labor
	3. The county, cities, and other relevant public agencies, to the extent practicable, will coordinate programs regarding illegal dumping cleanup, education, and prevention.	$200	$300	$400	Labor
	4. Implement a coordinated public outreach and education program addressing illegal dumping and related problems	$200	$300	$400	Labor

Exhibit 9-2. Implementation Schedule

CHAPTER	OPTION	IMPLEMENTATON YEAR					
		2013	2014	2015	2016	2017	2018
3. Outreach and Education	1. Update Website						
	2. Provide Technical Assistance to Schools and Businesses						
	3. Arrange Solid Waste Facility Tours/Interactive Education						
3. Waste Reduction	1. Support Product Stewardship and Extended Producer Responsibility Policies						
	2. Promote Environmentally Preferable Products Preference and Purchasing						
	3. Promote Waste Reduction Practices in County and City operations						
	4. Promote Use of Online Materials Exchanges						
	5. Encourage Use of Reuse Stores and organizations						
	6. Consider Implementing Waste Reduction Requirements for New Developments						
	7. Monitor Progress and Efficacy of Waste Management and Reduction Measures						
3. Recycling	1. Evaluate Need for New Materials and Locations for Drop-Box Program						
	2. Consider Implementing a Rewards Program for Residential Recyclers						
	3. Provide Commercial Waste Assistance as Needed						
	4. Evaluate Recycling Opportunities Related to Wine Industry						

Exhibit 9-2. Implementation Schedule

CHAPTER	OPTION	IMPLEMENTATON YEAR					
		2013	2014	2015	2016	2017	2018
3. Organics	1. Expand Yard Waste Chipping Program as Funding and Markets Become Available						
	2. Encourage Curbside Green Waste Collection for Commercial Customers						
	3. Evaluate Diversion Opportunities for Organic Waste from Wine Industry						
4. Collection Systems	1. Consider Mandatory Collection in Unincorporated Areas.						
	2. Further Evaluation of Recycling Service Level Changes for County Unincorporated Area						
5. Transfer and Disposal	1. The County will monitor, and where appropriate and feasible, provide input into the City of Richland's process evaluating the feasibility of expanding Horn Rapids Landfill.						
6. Agricultural waste	1. Continue to Work Cooperatively with Port of Benton and Regional Agencies to Identify Opportunities for Beneficial Use of Organic Residuals from Agriculture						
6. Asbestos	1. Encourage BCAA to Increase Enforcement of Asbestos Waste Disposal Activities						
	2. Provide Education to Homeowners on Proper Handling and Disposal						
6. Biomedical Waste	3. Provide educational materials for correct management of medical waste generated by residents.						
	4. Evaluate feasibility of sharps and outdated pharmaceuticals collection at household hazardous waste collection sites.						

Exhibit 9-2. Implementation Schedule

CHAPTER	OPTION	IMPLEMENTATON YEAR					
		2013	2014	2015	2016	2017	2018
6. Construction and Demolition Debris	1. Provide waste reduction, green building and debris management information to contractors						
	2. Evaluate establishing C&D and Inert Waste Diversion Specifications for private Projects.						
	3. Evaluate establishing C&D and inert waste diversion specifications for public (city and county) projects						
	4. Develop a Disaster Management Plan for Benton County.						
	5. Provide additional Oversight of Small Inert Waste Fill Projects						
6. Petroleum Contaminated Waste	1. Maintain Existing System						
6. Street Wastes	1. Evaluate Potential Reuse of Street Wastes						
6. Tires	1. Develop a Plan for Management of Tires accumulated on individual properties.						
	2. Evaluate implementation of County and City Purchasing Programs for Recycled Tire Products.						
	3. Implement Programs to Reduce Tire Waste.						
	4. Initiate Public Education Programs.						
6. Electronic Waste	4. Monitor E-cycle program effectiveness and submit annual satisfaction report when feasible						
	5. Provide E-cycle information on website						
	6. Update website with e-waste collection and recycling information.						

Exhibit 9-2. Implementation Schedule

CHAPTER	OPTION	IMPLEMENTATON YEAR					
		2013	2014	2015	2016	2017	2018
7. Moderate Risk Waste	1. Household Hazardous Waste Collection- Develop New MRW Facility						
	6. Continue, and expand as possible, public outreach and education efforts.						
	7. Provide technical assistance, as possible, to small business						
	8. Provide opportunities for small business to dispose of small quantities of waste at future facility.						
	9. Contact businesses to sponsor collection events						
8. Administration and Enforcement	5. Facilitate interagency relationships on issues related to solid waste management.						
	6. The various agencies in the county involved in solid waste management will work together to coordinate enforcement activities.						
	7. The county, cities, and other relevant public agencies, to the extent practicable, will coordinate programs regarding illegal dumping cleanup, education, and prevention.						
	8. Implement a coordinated public outreach and education program addressing illegal dumping and related problems						

APPENDIX A
WASTE COMPOSITION DATA

Material	Percent	Estimated Benton County Tons
Paper Packaging	**10.4%**	**19,649**
Newspaper Packaging	0.0%	0
Cardboard/Kraft Paper Packaging	5.3%	10,013
Other Groundwood Paper Packaging	0.2%	378
Mixed/Low Grade Paper Packaging	3.2%	6,046
Compostable Paper Packaging	0.9%	1,700
R/C Paper Packaging	0.8%	1,511
Paper Products	**8.2%**	**15,492**
Newspaper	1.2%	2,267
Cardboard/Kraft Paper Products	0.0%	0
Magazines	0.6%	1,134
High-Grade Paper Products	0.6%	1,134
Other Groundwood Paper Products	0.2%	378
Mixed Low Grade Paper Products	1.9%	3,590
Compostable Paper Products	2.9%	5,479
Paper Processing Sludge	0.0%	0
R/C Paper Products	0.8%	1,511
Plastic Packaging	**6.7%**	**12,658**
#1 PETE Plastic Bottles	1.0%	1,889
#1 PETE Plastic Non-bottles	0.3%	567
#2 HDPE Plastic Natural Bottles	0.4%	756
#2 HDPE Plastic Colored Bottles	0.3%	567
#2 HDPE Plastic Jars & Tubs	0.2%	378
#3 PVC Plastic Packaging	0.0%	0
#4 LDPE Plastic Packaging	0.0%	0
#5 PP Plastic Packaging	0.3%	567
#6 PS Plastic Packaging	0.6%	1,134
#7 Other Plast1c Packaging	0.7%	1,323
PLA Packaging	0.0%	0
Plastic Merchandise Bags	0.5%	945
Non-industrial Packaging Film Plastic	1.5%	2,834
Industrial Packaging Film Plastic	0.8%	1,511
R/C Plastic Products	0.1%	189

APPENDIX A
WASTE COMPOSITION DATA

Material	Percent	Estimated Benton County Tons
Plastic Products	**4.8%**	**9,069**
#1 PETE Plastic Products	0.0%	0
# 2 HOPE Plastic Products	0.0%	0
#3 PVC Plastic Products	0.1%	189
#4 LOPE Plastic Products	0.0%	0
#5 PP Plastic Products	0.0%	0
# 6 PS Plastic Products	0.0%	0
#7 Other Plastic Product s	1.2%	2,267
PLA Products	0.0%	0
Plastic Garbage Bags	1.2%	2,267
Plastic Film Products	0.4%	756
R/C Plastic Products	1.9%	3,590
Glass	**3.5%**	**6,613**
Clear Glass Containers	1.4%	2,645
Green Glass Containers	0.3%	567
Brown Glass Containers	0.9%	1,700
Plate Glass	0.2%	378
Stoneware/Kitchen Ceramics/Glassware	0.1%	189
R/C Glass	0.6%	1,134
Metal	**6.2%**	**11,714**
Aluminum Beverage Cans	0.6%	1,134
Aluminum Foil/Containers	0.1%	189
Other Aluminum	0.2%	378
Other Nonferrous	0.1%	189
Food Cans Tinned	0.7%	1,323
Food Cans Coated	0.1%	189
White Goods	0.0%	0
Other Ferrous Metal	1.9%	3,590
R/C Metals	2.5%	4,723
Organics	**26.2%**	**49,500**
Food ·Vegetative	9.2%	17,382
Food · Non-vegetative	3.1%	5,857
Leaves & Grass	8.8%	16,626
Prunings	1.1%	2,078
Animal Manure	1.2%	2,267
Animal Carcasses	0.0%	0
Crop Residues	0.0%	0
Fruit Waste	1.4%	2,645
R/C Organics	1.4%	2,645

APPENDIX A
WASTE COMPOSITION DATA

Material	Percent	Estimated Benton County Tons
Wood Debris	**9.9%**	**18,704**
Treated Wood	1.4%	2,645
Painted Wood	2.9%	5,479
Dimensional Lumber	1.2%	2,267
Engineered Wood	1.0%	1,889
Pallets & Crates	1.9%	3,590
Other Untreated Wood	0.2%	378
Wood By-Products	0.0%	0
R/C Wood Wastes	1.3%	2,456
Construction Materials	**11.1%**	**20,971**
Natural Wood	0.0%	0
Insulation	1.0%	1,889
Asphalt Paving	0.3%	567
Concrete	0.2%	378
Drywall	1.0%	1,889
Carpet	2.1%	3,968
Carpet Padding	0.6%	1,134
Soil, Rocks, Sand	1.4%	2,645
Asphalt Roofing	1.6%	3,023
Plastic Flooring	0.2%	378
Ceramics & Brick	0.2%	378
R/C Construction Materials	2.5%	4,723
Consumer Products	**8.5%**	**16,059**
Televisions - CRT	0.7%	1,323
Televisions - LCD	0.0%	0
VCRs , DVDs, DVRs	0.0%	0
Computer Monitors - CRT	0.1%	189
Computer Monitors - LCD	0.0%	0
Computers	0.0%	0
Computer Peripherals	0.1%	189
Audio Equipment	0.1%	189
Gaming Equipment	0.0%	0
Other Consumer Electronics	0.3%	567
Textiles· Organic	2.1%	3,968
Textiles - Synthetic	1.2%	2,267
Shoes. Purses. Belts	0.3%	567
Tires & Rubber	0.5%	945
Furniture	2.1%	3,968
Mattresses	0.4%	756

APPENDIX A
WASTE COMPOSITION DATA

Material	Percent	Estimated Benton County Tons
R/C Consumer Products	0.6%	1,134
Hazardous/Special Wastes	**3.2%**	**6,046**
Pesticides/Herbicides	0.0%	0
Mercury Vapor Lighting	0.0%	0
Compact Fluorescent Lights	0.0%	0
Fluorescent Tubes	0.0%	0
Asbestos	0.0%	0
Latex Paint	0.1%	189
Solvent-based Glues	0.0%	0
Latex -based Glues	0.0%	0
Oil-based Paint & Solvent	0.0%	0
Caustic Cleaners	0.0%	0
Dry-cell Batteries	0.0%	0
Wet-cell Batteries	0.0%	0
Gasoline Kerosene	0.0%	0
Motor Oil	0.0%	0
Antifreeze	0.0%	0
Other Vehicle Fluids	0.0%	0
Oil Filters	0.0%	0
Explosives	0.0%	0
Med1ca l Wastes	1.1%	2,078
Pharmaceuticals Vitamins	0.0%	0
Disposable Diapers	1.9%	3,590
Other Cleaners and Soaps	0.1%	189
Other Hazardous	0.0%	0
Other Non-hazardous	0.0%	0
Residues	**1.2%**	**2,267**
Ash	0.1%	189
Dust	0.0%	0
Fines	1.1%	2,078
Sludge/Special l industrial	0.0%	0
Total	**99.9%**	**188,742**

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MRW Facility Final Siting Memo

To: Pete Rogalsky, PE; City of Richland Donna Holmes, Benton County	
From: Nona Diediker, HDR Project Manager	Project: Benton County – Moderate Risk Waste (MRW) Facility Site Identification
CC:	
Date: June 27, 2013	Job No: 174159

This is the final siting memo in a series of memos related to a site search for a MRW facility. All preceding memos are summarized within. HDR was tasked by Benton County (County) to identify a list of three to six potential sites that are currently available for sale that meet the criteria for a new regional MRW facility. The search was broken into five distinct phases with screening criteria for each phase as summarized below. All phases of the research are now complete and a final list of potential sites is provided.

Phase 1: Fatal Flaw Search Criteria

The fatal flaw search criteria utilized the most critical criteria established in the initial siting study conducted by HDR, and applied to all Benton County properties to eliminate sites that did not meet the minimum requirements for a candidate site. These criteria included:

1. Land use/zoning - Current land use or zoning of "industrial" and properties vacant or unimproved.
2. Proximity to residential zoning - At least 1,000 feet from any property with a current land use or zoning of "residential".
3. Floodplain - Located outside of the 100-year floodplain area.

Phase 2: Primary Search Criteria

The base line search criteria were applied to all candidate sites that were not eliminated under the fatal flaw analysis. This search utilized the remaining criteria established in the initial siting study conducted by HDR, and was applied in the order listed below. These criteria were used to refine the list of candidate properties to at least six preferred sites, and included:

1. Proximity to major population base - Within the municipal boundaries of the Cities of Richland or Kennewick.
2. Property Size – one-acre minimum for all properties; up to five-acre maximum for privately owned properties.
3. Easy access from highway or major roadway - Within three miles of a highway or arterial road.
4. Site Ownership - First preference given to sites owned by the City of Richland, City of Kennewick, or County of Benton. Local government-owned property is preferred. Alternate municipal ownership or site lease also considered.

5. Cultural Sites - Must not contain culturally significant archeological or historical sites; based on available data. This research was limited to readily available information found on the Department of Archaeology and Historic Preservation (DAHP) website, http://www.dahp.wa.gov/, of known cultural and historic sites. Sites that have not been previously disturbed may require additional review for cultural finds potential. Additional review could include tasks such as literature review, informal consultation with DAHP, a pedestrian survey of the site, and subsurface sampling by a professional archaeologist.
6. Contamination - Must not contain any known contaminated sites, based on readily-available data. This research was limited to what was found on the Department of Ecology's website, https://fortress.wa.gov. A Phase I Environmental Site Assessment is recommended prior to purchase of selected property or for a limited shortlist of properties.
7. Terrain - Must be on relatively flat terrain; not in a steep canyon, valley, or hillside. This research was limited to map views and preliminary site visits to some parcels.

Phase 3: Secondary Search Criteria

The secondary site review criteria was applied to the preferred sites and used for establishing a ranked list of sites in order to identify a final list of recommended sites. As part of the criteria, if there were not enough sites that were available for sale, the parameters of the primary search criteria would be expanded to increase the pool of preferred sites. These criteria were also be applied to the top three sites identified during the original site study conduced by HDR.

1. Estimated Cost to Purchase.
2. Available for Sale.
3. Soundness of Title.
4. Availability of utilities (water and power) to site assuming storm water and sewer will be managed on site.
5. Estimated property purchase/agreement schedule.

The initial Phase 1 and Phase 2 research resulted in a raw data list of over 300 parcels. The Phase 1 research criteria was ultimately refined to only include industrial zoned properties, after zoning research indicated that industrial zoning and public use properties were likely the only property use types to support the MRW facility without extensive rezoning. Improved properties were also excluded from the Phase 1 search criteria and the Phase 2 search criteria was modified to only identify properties within the Cities of Richland and Kennewick. These noted changes in criteria resulted in a more reasonable and manageable list of 135 candidate sites which was then further refined to the non-city owned **(Table 1)** and city-owned sites **(Table 2)**.

Table 1. Non City Owned Sites

Parcel ID	Owner	Location Address	Acres	Land Use Description	Richland Zoning	Kennewick Zoning
127083000022000	MEHIC DULE	UNKNOWN,RICHLAND,WA,99352,	1.0	Industrial: Vacant land	Medium Industrial	
127083000023000	MEHIC DULE & ALMA	UNKNOWN,RICHLAND,WA,99352	1.0	Industrial: Vacant land	Medium Industrial	
134082000007000	LAMB-WESTON INC	UNDETERMINED,WA,USA	1.15	Industrial: Vacant land	Medium Industrial	
127084000005000	BRESINA WILLIAM L	UNDETERMINED,WA,USA	1.53	Industrial: Vacant land	Medium Industrial	
127083000002000	PORT OF BENTON	UNDETERMINED,WA,USA	2.08	Undeveloped HBU Commercial	Medium Industrial	

Parcel ID	Owner	Location Address	Acres	Land Use Description	Richland Zoning	Kennewick Zoning
134081000022000	DKSMITH PROPERTIES LLC	2004 SAINT ST,RICHLAND,WA,99354,	2.1	Business services	Medium Industrial	
134082000005000	LAMB-WESTON INC	UNDETERMINED,WA,USA	2.1	Industrial: Vacant land	Medium Industrial	
134082000016000	HENNINGSEN ENTERPRISES INC	TO BE ASSIGNED,RICHLAND,WA,99352,	2.12	Industrial: Vacant land	Medium Industrial	
134082000001002	GARTIN WILLIAM J & JOAN R	UNDETERMINED,WA,USA	2.77	Industrial: Vacant land	Medium Industrial	
134082000014000	LAMB-WESTON INC	UNDETERMINED,WA,USA	2.78	Industrial: Vacant land	Medium Industrial	
134081000026000	GILBERT PAUL A	UNDETERMINED,WA,USA	2.8	Industrial: Vacant land	Medium Industrial	
134081000003000	CHAPMAN JOHN H	UNDETERMINED,WA,USA	3.28	Commercial Retail Land	Medium Industrial	
134082000004000	LAMB-WESTON INC	UNDETERMINED,WA,USA	3.38	Industrial: Vacant land	Medium Industrial	
127083000003005	WALIGURA TRUSTEE NICHOLAS C	ROBERTSON DR,RICHLAND,WA,99354,	3.53	Industrial: Vacant land	Medium Industrial	
134082000006000	LAMB-WESTON INC	UNDETERMINED,WA,USA	4.13	Industrial: Vacant land	Medium Industrial	
134082000012000	PORT OF BENTON	UNDETERMINED,WA,USA	4.67	Industrial: Vacant land	Medium Industrial	
127083000014000	PORT OF BENTON	UNKNOWN,RICHLAND,WA,99352,	4.82	Industrial: Vacant land	Medium Industrial	
121081012558001	TIMBERLINE PROCESS & CONTROLS IA	2680 BATTELLE BLVD,RICHLAND,WA,99352,	1.96	Industrial: Vacant land	Heavy Manufacturing	
122082000001000	PACIFIC ECOSOLUTIONS INC	1991 BATTELLE BLVD,RICHLAND,WA,99352,USA	5	Industrial: Vacant land	Heavy Manufacturing	
131904010146002	NORTH PACIFIC GRAIN GROWERS	UNDETERMINED,WA,USA	1.386	Food & kindred products		Industrial, Heavy
131904000003000	NORTH PACIFIC GRAIN GROWERS	UNDETERMINED,WA,USA	2.69	Industrial grain elevators		Industrial, Heavy
132994013084002	PORT OF KENNEWICK	6504 W HOOD PL,KENNEWICK,WA,99336,	1.11	Industrial: Vacant land		Industrial, Light
132994013084003	PORT OF KENNEWICK	6416 W HOOD PL,KENNEWICK,WA,99336,	1.25	Industrial: Vacant land		Industrial, Light
132994000001003	KELLER KENNEWICK PARTNERSHIP	W DESCHUTES,WA,USA	1.27	Industrial: Vacant land		Industrial, Light
106801020025001	PUBLIC UTILITY DISTRICT #1	UNKNOWN,KENNEWICK,WA,99337,	1.32	Industrial: Vacant land		Industrial, Light
132994020003009	FALCON VIDEO COMMUNICATIONS LPA	JOHN DAY,WA,USA	1.34	Industrial: Vacant land		Industrial, Light
132994012775001	KADINGER JESSE C & YVONNE M	6517 W HOOD PL,KENNEWICK,WA,99336,	1.352	Industrial: Vacant land		Industrial, Light
132994000018000	MUSSER SCOTT S & TERESA L	UNKNOWN,,,,,USA	1.56	Industrial: Vacant land		Industrial, Light
132994013084001	SAGE BAY COMPANY LLC	6512 W HOOD PL,KENNEWICK,WA,99336,	1.61	Industrial: Vacant land		Industrial, Light
106801020026001	BECKER CO TRUSTEES DONALD L & PAMALA	UNKNOWN,KENNEWICK,WA,99337,	2.44	Repair services		Industrial, Light
132994020003015	PORT OF KENNEWICK	JOHN DAY,WA,USA	2.91	Industrial: Vacant land		Industrial, Light
106802000002000	CURTIS- CERVO TRUSTEE FREEDA	512 E COLUMBIA DR,KENNEWICK,WA,99336,	3.07	Commercial Retail Land		Industrial, Light
132993000006007	KENNEWICK IRRIGATION DISTRICT	UNKNOWN,KENNEWICK,WA,99336,	3.08	Industrial: Vacant land		Industrial, Light
132993000009002	PORT OF KENNEWICK	6951 W GRANDRIDGE BLVD,KENNEWICK,WA,9933	1.83	Commercial Retail Land		Public Facilities

Table 2. City of Richland and City of Kennewick Properties

Parcel ID	Owner	Location Address	Acres	Land Use Description	Richland Zoning	Kennewick Zoning
12708300001800	CITY OF RICHLAND	2277 ROBERTSON DR,RICHLAND,WA,99354,	1.17	Industrial: Vacant land	Medium Industrial	
12708300002400	CITY OF RICHLAND	UNKNOWN,RICHLAND,WA,99352,	1.23	Industrial: Vacant land	Medium Industrial	
12708300001900	CITY OF RICHLAND	2235 ROBERTSON DR,RICHLAND,WA,99354,	1.99	Industrial: Vacant land	Medium Industrial	
12708300001500	CITY OF RICHLAND	UNKNOWN,RICHLAND,WA,99352,	2.72	Industrial: Vacant land	Medium Industrial	
12708400000600	CITY OF RICHLAND	UNKNOWN,RICHLAND,WA,99352,	2.87	Industrial: Vacant land	Medium Industrial	
12108101255800 2	CITY OF RICHLAND	2650 BATTELLE BLVD,RICHLAND,WA,99352,	1.39	Industrial: Vacant land	Heavy Manufacturing	
12108101255800 3	CITY OF RICHLAND	2630 BATTELLE BLVD,RICHLAND,WA,99352,	1.41	Industrial: Vacant land	Heavy Manufacturing	
10680103000300 1	CITY OF KENNEWICK	416 N KINGWOOD,KENNEWICK,WA,99337	1.04	Utilities		Industrial, Heavy
10680102001000 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	1.94	Industrial: Vacant land		Industrial, Heavy
10680102001700 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2	Industrial: Vacant land		Industrial, Heavy
10680102000800 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.56	Industrial: Vacant land		Industrial, Heavy
70189100000201 6	CITY OF KENNEWICK	UNDETERMINED,KENNEWICK,WA,99336,	1.54	Office / Retail Condo		Industrial, Light
10680102001800 1	CITY OF KENNEWICK	UNKNOWN,KENNEWICK,WA,99337,	3.13	Industrial: Vacant land		Industrial, Light
10680102000300 2	CITY OF KENNEWICK	UNDETERMINED,WA,USA	1.31	Utilities		Public Facilities
10680102001600 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.3	Utilities		Public Facilities
10680102002400 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.32	Utilities		Public Facilities
10680102001900 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.34	Utilities		Public Facilities
10680102002700 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.34	Utilities		Public Facilities
10680102002000 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.5	Utilities		Public Facilities
10680102002300 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.5	Utilities		Public Facilities
10680102001500 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.5	Utilities		Public Facilities
10680102000600 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.64	Utilities		Public Facilities
10680102000100 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	2.9	Utilities		Public Facilities
10680102001100 0	CITY OF KENNEWICK	UNDETERMINED,WA,USA	4.84	Utilities		Public Facilities

The non City Owned Sites were cross referenced against current commercial properties listed for sale on the Commercial Brokers Association (CBA) web site and one site from that list was identified as on the market. That site is owned by DK Smith Properties LLC and is shown in **Table 3.**

To further expand the list of properties currently available for sale, we reviewed all available properties on the CBA site using a slightly more relaxed criterion (commercial properties were accepted) which resulted in the list of properties noted in **Table 3.**

Table 3. Phase 3 Sites Meeting Baseline Criteria

Parcel ID	Owner	Land Use/ Zoning	1000 ft from Res Property	Outside 100 yr floodplain	Within Richland Kennewick City Limits	1-5 Ac	Within 3 mi of hwy or arterial road	Area SF	Comments
132993013280005	KENNEWICK PUBLIC HOSPITAL DISTA	Com	Yes	Yes	Yes	Yes	Yes	78,408	Within commercial shopping and office bldgs, adjacent to medical offices/hospital
132993013280003	KENNEWICK PUBLIC HOSPITAL DISTA	Com	Yes	Yes	Yes	Yes	Yes	50,530	Within commercial shopping and office bldgs, adjacent to medical offices/hospital
134081000022000	DKSMITH PROPERTIES LLC	Ind	Yes	Yes	Yes	Yes	Yes	91,476	Adjacent to industrial property use and warehouse type activities
103891011524005	BJAZEVICH ANDREW & DALENE	Com	No	Yes	Yes	Yes	Yes	77,101	About 3.3 miles inside 1000 ft res buffer
132993013280006	KENNEWICK PUBLIC HOSPITAL DISTA	Com	No	Yes	Yes	Yes	Yes	78,408	About 60ft of property is within 1000 ft res buffer
131991012977001	CCH BUSINESS PARK LLC	Com	No	Yes	Yes	Yes	Yes	109,335	About 300ft inside 1000 ft res buffer
131994013034008	GRANDRIDGE INVESTORS LLC	Com	No	Yes	Yes	Yes	Yes	44,431	About 600ft inside 1000 ft res buffer

The original three preferred site alternatives identified in the Draft MRW Conceptual Layouts and Preliminary Siting Evaluation Memo completed by HDR on March 26, 2012, were also reviewed using the above-noted criteria. The results of this analysis are presented in **Table 4.**

Table 4. Original Sites subjected to Phase 3 Criteria

Parcel ID	Owner	Land Use/ Zoning	1000 ft from Res Property	Outside 100 yr floodplain	Within Richland Kennewick City Limits	1-5 Ac	Within 3 mi of hwy or arterial road	Area SF	Comments
116984020000202	City of Richland	Ind	No	Yes	Yes	No	Yes	1,300,266	About 900ft inside 1000ft res buffer; 29.85 ac.
111892020046002	Benton County Road Maintenance Shop	PF	No	Yes	Yes	Yes	Yes	111,078	About 3 miles inside 1000 ft res buffer
111884000001000	Clarence T Bumgardner et al) I-82/Badger	Com	No	Yes	Yes	No	Yes	841,144	About 320ft inside 1000 ft res buffer; 19.31 ac.

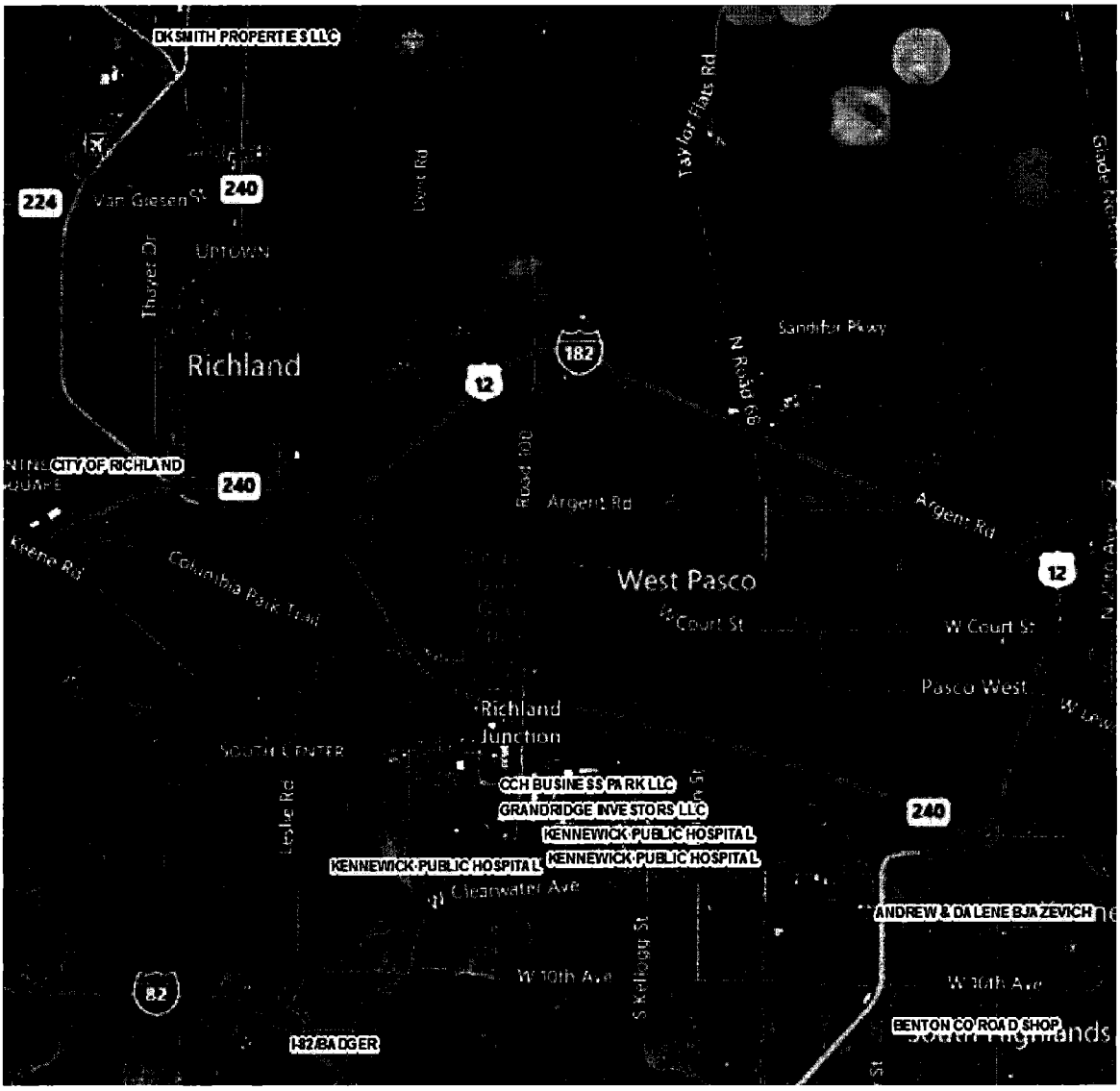
The research in this memo and the March 2012 memo has resulted in a prospective site list of ten private properties with six individual owners and two public properties owned by Benton County and the City of Richland. Phase 3 analyses of these properties used the criteria below with interim results shown in Table 5. An overview map of the Phase 3 sites is presented in Exhibit 1.

1. Estimated Cost to Purchase.
2. Available for Sale.
3. Soundness of Title.
4. Availability of utilities (water and power) to site assuming storm water and sewer will be managed on site.
5. Estimated property purchase/agreement schedule.

Table 5. Phase 3 Evaluation of Sites

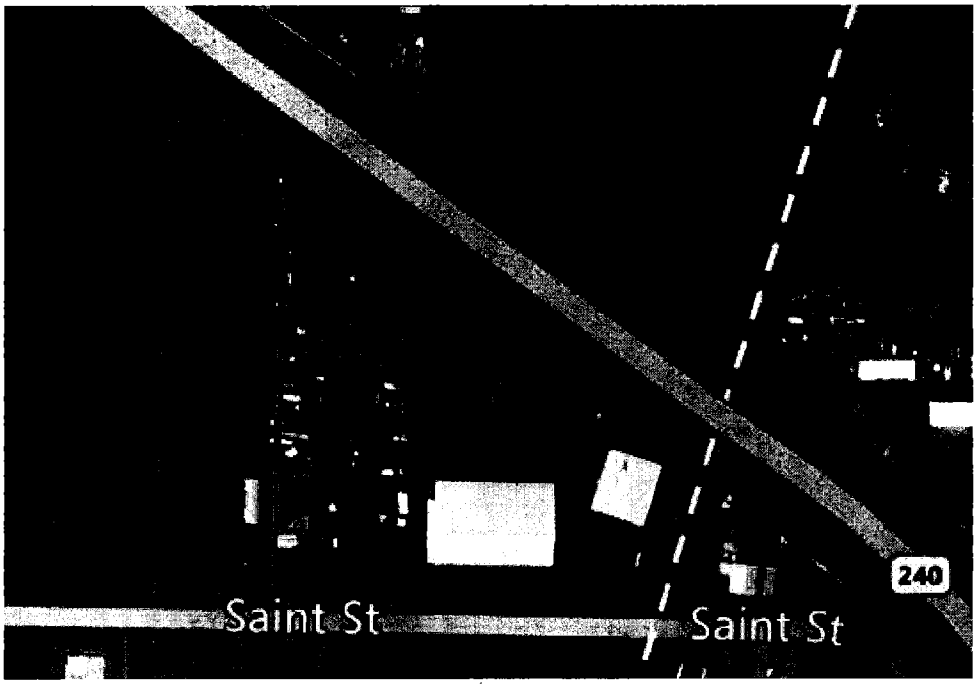
Parcel ID	Owner	Estimated Cost	Available For Sale	Soundness of Title	Utilities to Site	Purchase Closing Schedule
132993013280005	KENNEWICK PUBLIC HOSPITAL DISTA	$430, 046 listing	Yes	To be completed	Yes	3-4 months
132993013280003	KENNEWICK PUBLIC HOSPITAL DISTA	$278,152 listing	Yes	To be completed	Yes	3-4 months
134081000022000	DKSMITH PROPERTIES LLC	$175,000 listing	Yes	To be completed	Yes	3-4 months
103891011524005	BJAZEVICH ANDREW & DALENE	$50,000 listing	Yes	To be completed	TBD	3-4 months
132993013280006	KENNEWICK PUBLIC HOSPITAL DISTA	$461,963 listing	Yes	To be completed	TBD	3-4 months
131991012977001	CCH BUSINESS PARK LLC	$792,680 listing	Yes	To be completed	TBD	3-4 months
131994013034008	GRANDRIDGE INVESTORS LLC	$339,879 listing	Yes	To be completed	TBD	3-4 months
116984020002002	City of Richland	$2,703,180 estimate	No	To be completed	TBD	6-9 months
111892020046002	Benton County Road Maintenance Shop	$259, 090 estimate	No	To be completed	TBD	6-9 months
111884000001000	I-82/Badger (Clarence T Bumgardner et al)	$772,400 estimate	Yes?	To be completed	TBD	3-4 months

Exhibit 1. Overview Map of Phase 3 Sites

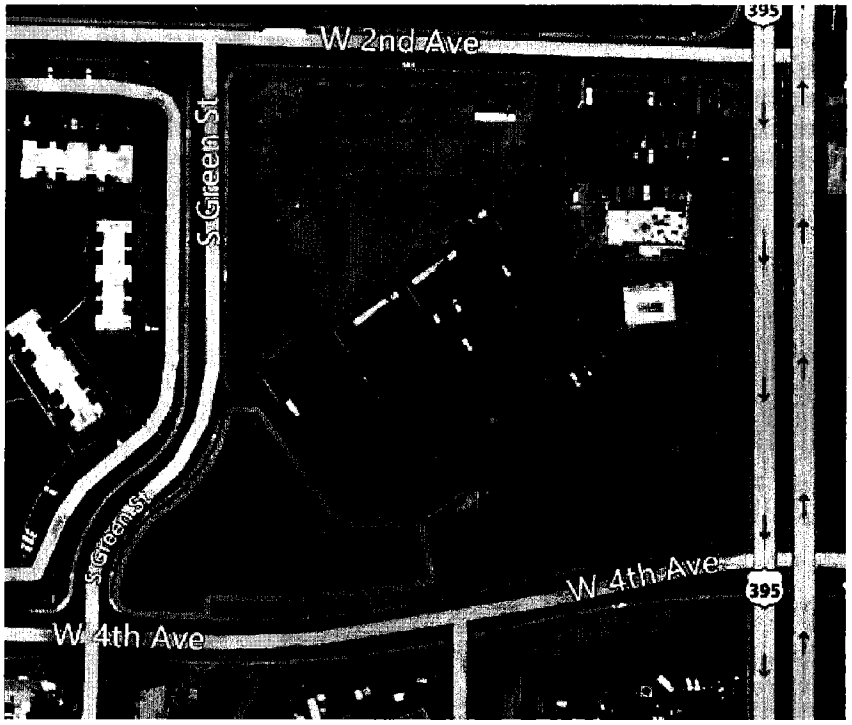


Kennewick Public Hospital

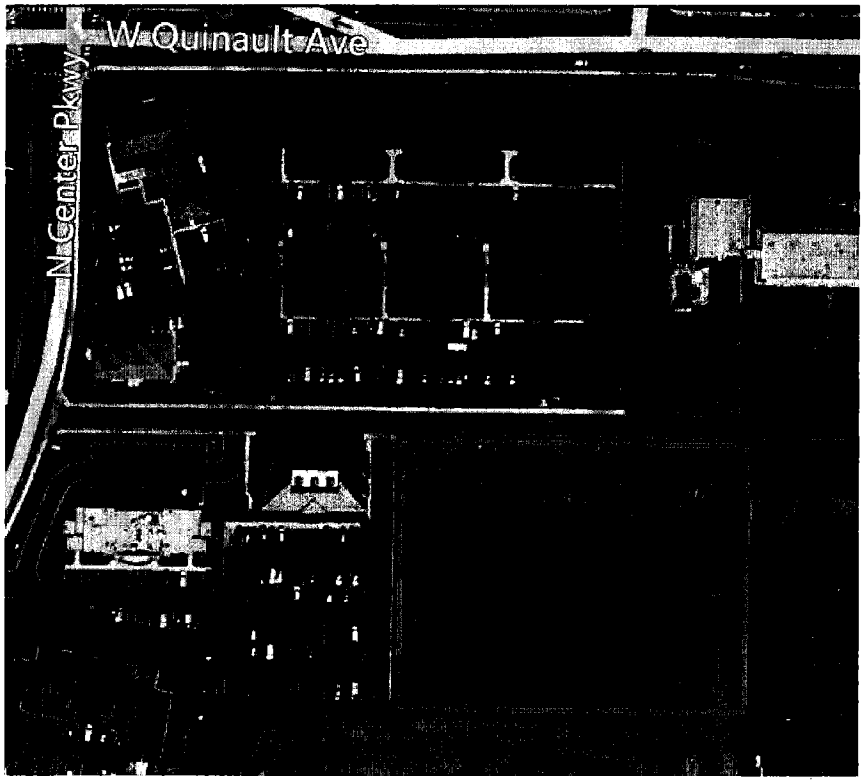
DK Smith Properties



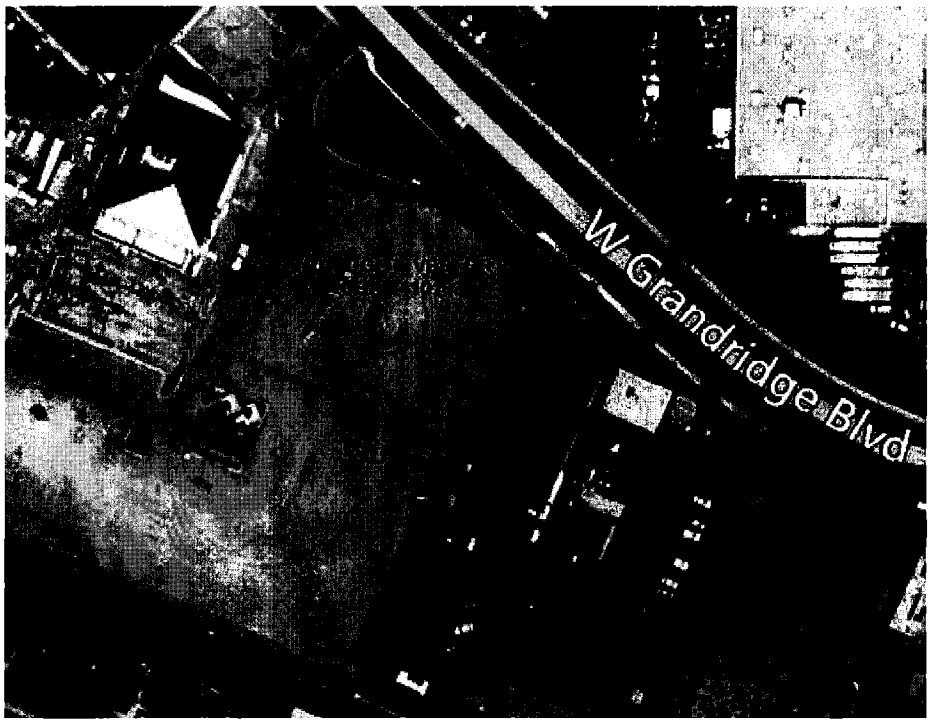
Andrew & Darlene Bjazevich



CCH Business Park LLC

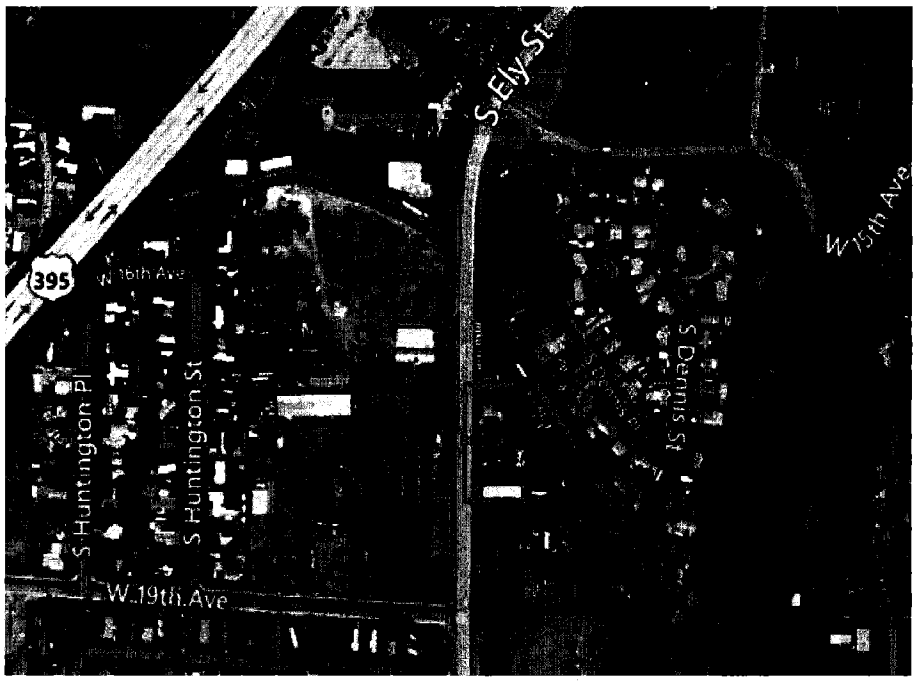


Grandridge Investors LLC



City of Richland

Benton County



Lawrence Bumgardner

Phase 4: Expanded Search Criteria for Areas of Interest

A meeting was held on December 12, 2012 with representatives from the County and cities of Richland, West Richland, and Kennewick to discuss the results of Phase 3 and provide guidance on the next phase of the project.

During the above-noted meeting, the following sites were determined to be non compatible sites.

Site Location	Reason For Deletion
Kennewick Public Hospital (multiple sites)	Not compatible with future development plans; adjacency to Vista Field and entertainment district
Andrew & Dalene Bjazevich	Incompatible Land Use; immediately adjacent to hotel, restaurant, high-density residential, and retail/commercial
CCH Business Park LLC	Incompatible Land Use; adjacent properties consist of offices, restaurants, hotels, professional services (e.g., dental, medical, and law offices)
Grandridge Investors LLC	Incompatible Land Use; adjacent properties consist of offices, restaurants, hotels, professional services (e.g., dental, medical, and law offices)

Based on the above-noted results, three potential "areas of interest" from the sites identified in Table 5 were identified: City of Richland; I-182/Badger; and Benton County sites. Additional research was requested for areas within the vicinity of the noted sites and for properties owned by the Kennewick Irrigation District (KID). A third tier list of sites was produced based on the search criteria indicated below. The Phase 4 list of sites **(Table 6)** was generated with the intent of further review and refinement in order to add to the preferred site list generated in Phase 3. Maps of the three areas of interest and associated Phase 4 sites are provided in **Exhibit 2**.

Third Tier Parcel List Research Criteria

1. Selected the City of Richland, I-182/Badger, and Benton County sites and created a 1,000 ft buffer around them.
2. Selected all parcels that intersect this 1,000 ft buffer (182 parcels).
3. Selected all parcels from previous selection that were between one to five acres in size (56 parcels).
4. Selected all parcels from previous selection that had their centroid in the likeable zoning layer (26 parcels). *This count includes the Benton County and I-182/Badger sites that were buffered by 1,000 ft.
5. Created a new layer that included all KID parcels that were near the three parcels needing additional research (15 parcels).
6. Selected only those records that were between one to five acres in size (four parcels) for KID.
7. This resulted in identification of four KID parcels, two of which were removed from the list because they are not zoned for Business Commerce.
8. Combined the three areas of interest list and the KID list to produce the Phase 4 list of sites.

Table 6. Phase 4 Sites

Parcel ID	Owner	Location Address	Acres	Land Use Description	Benton County Zoning	Kennewick Zoning	Richland Zoning	Within 1000ft of Residential
116983BP4176001	KENNEWICK IRRIGATION DISTRICT	3771 KENNEDY RD, RICHLAND, WA 99352	1.51	Commercial Retail Land			Business Commerce	Yes
121981000002018	KENNEWICK IRRIGATION DISTRICT	UNKNOWN, RICHLAND, WA 99352	1.02	Commercial Retail Land			Business Commerce	Yes
116984013070002	BB QUEENSGATE LLC	2560 QUEENSGATE DR, RICHLAND, WA 99352	1.17	RT General Merchandise			General Business	Yes
116984013070003	BB QUEENSGATE LLC	2530 QUEENSGATE DR, RICHLAND, WA 99352	2.54	Commercial Retail Land			General Business	Yes
116984013096001	BDC RICHLAND LLC	2762 DUPORTAIL ST, RICHLAND, WA 99352	1.69	Commercial Retail Land			General Business	Yes
116984020002004	CITY OF RICHLAND	3000 QUEENSGATE DR, WA	1.00	Industrial: Vacant Land			General Business	No
116984000002012	FIRST RICHLAND L.P.	UNDETERMINED, RICHLAND, WA 99352	2.63	Commercial Retail Land			General Business	Yes
116984013161003	FIRST RICHLAND L.P.	2751 DUPORTAIL ST,RICHLAND, WA 99352	1.11	RT Eating and Drinking			General Business	Yes
116984013161004	FIRST RICHLAND L.P.	2725 DUPORTAIL ST, RICHLAND, WA 99352	1.87	RT General Merchandise			General Business	No
116984013162001	FIRST RICHLAND L.P.	2935 DUPORTAIL ST, RICHLAND, WA 99352	1.00	RT General Merchandise			General Business	Yes
116984013162002	FIRST RICHLAND L.P.	2927 DUPORTAIL ST, RICHLAND, WA 99352	1.46	RT General Merchandise			General Business	Yes
116984013162003	FIRST RICHLAND L.P.	2921 DUPORTAIL ST, RICHLAND, WA 99352	2.68	Commercial Retail Land			General Business	Yes
116984013162004	FIRST RICHLAND L.P.	2917 DUPORTAIL ST, RICHLAND, WA 99352	2.38	Commercial Retail Land			General Business	Yes
116984013163001	FIRST RICHLAND L.P.	2701 QUEENSGATE DR, RICHLAND, WA 99352	1.74	Finance Insur Real Estate			General Business	Yes
116984013163003	FIRST RICHLAND L.P.	2651 DUPORTAIL ST, RICHLAND, WA 99352	2.00	RT General Merchandise			General Business	Yes
116984013163004	FIRST RICHLAND L.P.	2947 QUEENSGATE DR, RICHLAND, WA 99352	1.71	Commercial Retail Land			General Business	No
116984012471001	RABER LLC	686 TRUMAN AVE, RICHLAND, WA 99352	1.30	Misc Manufacturing			General Business	No
116984012471002	RABER LLC	670 TRUMAN AVE, RICHLAND, WA 99352	1.30	Business Services			General Business	No
116984012471003	RABER LLC	654 TRUMAN AVE, RICHLAND, WA 99352	1.51	Contract Construction Services			General Business	No
116984020002005	STARWEED LLC	3050 QUEENSGATE DR, RICHLAND, WA 99352	1.39	Business Services			General Business	No

Parcel ID	Owner	Location Address	Acres	Land Use Description	Benton County Zoning	Kennewick Zoning	Richland Zoning	Within 1000ft of Residential
111892020046002	BENTON COUNTY	UNDETERMINED, WA	2.55	Governmental Services		Public Facilities		Yes
110891000024000	BENTON COUNTY PUD	UNDETERMINED, WA	1.04	Utilities		Public Facilities		Yes
111892010477001	BENTON COUNTY PUD	UNDETERMINED, WA	2.68	Utilities		Public Facilities		Yes
111892020047003	CITY OF KENNEWICK	1811 S ELY ST, KENNEWICK, WA 99337	4.22	Governmental Services		Public Facilities		Yes
111892020015006	PUBLIC UTILITY DISTRICT #1	UNDETERMINED, KENNEWICK, WA 99337	3.16	Utilities		Public Facilities		Yes
111881020000011	COTTONWOOD COMMERCIAL PLAZA LLCA	UNDETERMINED, KENNEWICK, WA 99338	1.38	Commercial Retail Land	INTERCHANGE COMMERCIAL			No
111881020000012	COTTONWOOD COMMERCIAL PLAZA LLCA	UNDETERMINED, KENNEWICK, WA 99338	1.47	Commercial Retail Land	INTERCHANGE COMMERCIAL			No
111881020000013	COTTONWOOD COMMERCIAL PLAZA LLCA	UNDETERMINED, KENNEWICK, WA 99338	2.07	Commercial Retail Land	INTERCHANGE COMMERCIAL			No

Exhibit 2. Phase 4 Areas of Interest and Sites

HDR Engineering, Inc.
Real Estate Services

2805 Saint Andrews Loop, Suite A
Pasco, WA 99301-6121

Phone (509) 546-2040
Fax (509) 546-2090
www.hdrinc.com


MRW Potential Sites
Benton County Road Shop Research Area
1000R Buffer on Research Parcels
Fourth Tier Parcels
Date: 2/13/2013
0 0.035 0.07 0.14
Miles
HDR

Phase 5: Final Site List

Following review and input regarding the Phase 4 information, the Phase 4 site list was refined. The goal was to identify 2-3 preferred sites to add to the Phase 3 sites (for a total of 6 sites), and review the list using the following criteria:

1. Estimated cost to purchase
2. Available for sale
3. Soundness of title
4. Availability of utilities (water and power) to site assuming storm water and sewer will be managed on site
5. Estimated property purchase/agreement schedule.

The process began with the three original preferred sites (City of Richland City Shops, Benton County Road Maintenance Shop, and Bumgardner property) and continued parcel by parcel from the three research areas until a total of six sites were identified (3 preferred, 3 new). Per direction from the SWAC at the March 13, 2013 meeting, the site search was to begin in the I-82/Badger research area and progress to the City of Richland research area, and end with the Benton County Road Shop research area until three new viable sites were identified. However, subsequent to the meeting, the County withdrew the three Cottonwood sites from the I-82/Badger research area due to their proximity to an elementary school. Therefore, the search began with the Richland City Shops research area.

The tasks included in this process were as follows:

1. Complete a detailed site review including site visits by one project staff if site access is feasible, review readily available property sales listing data, order and review of title, and prepare a preliminary cost estimate to acquire the properties based on available public data of the sites on the preferred list along with the three sites identified in the preliminary siting process.
2. Compile final results into a brief MRW Site Identification Technical Memo. Potential issues were identified through review of readily available public information sources (e.g., comprehensive plans, sensitive areas ordinances, agency websites, and aerial photos) and onsite observations if site access is feasible.

Table 7 presents the list of sites that were eliminated from further consideration and reason for dismissal. Table 8 presents the final sites meeting all the MRW site criteria. Photos of 3 of the 4 final sites are provided in Exhibit 3.

Table 7. Sites Dismissed from Further Study

Parcel ID	Owner	Location Address	Reason for Dismissal
111892020047003	CITY OF KENNEWICK	1811 S ELY ST, KENNEWICK, WA 99337	City not interested in selling
111881020000011	COTTONWOOD COMMERCIAL PLAZA LLCA	UNDETERMINED, KENNEWICK, WA 99338	Incompatible land use; adjacent to elementary school
111881020000012	COTTONWOOD COMMERCIAL PLAZA LLCA	UNDETERMINED, KENNEWICK, WA 99338	Incompatible land use; adjacent to elementary school
111881020000013	COTTONWOOD COMMERCIAL PLAZA LLCA	UNDETERMINED, KENNEWICK, WA 99338	Incompatible land use; adjacent to elementary school
116984012471001	RABER, LLC	686 Truman Ave Richland, WA 99352	Owner not interested in selling any of the 3 parcels
116984020002005	STARWEED, LLC	3050 Queensgate Drive RICHLAND, WA 99353	Owner not interested in selling; mini-storage facility
11189202004003	CITY OF KENNEWICK	1811 S. ELY St. KENNEWICK,WA 99337	City of Kennewick City Fire Training Facility
111892010477001	BENTON CO. PUD	524 S AUBURN ST KENNEWICK, WA 99336	PUD STORAGE FACILITY
111891000024000	BENTON CO. PUD	524 S AUBURN ST KENNEWICK, WA 99336	PUD STORAGE FACILITY & SHOPS

Table 8. Sites Still Under Consideration

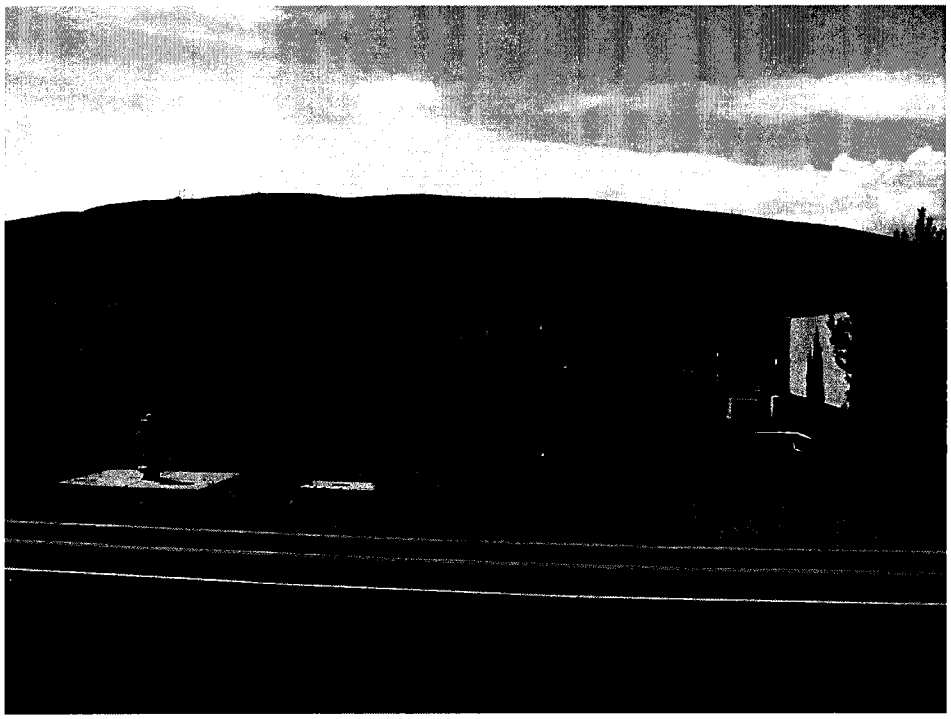
Parcel ID	Owner	Location Address	Estimated Cost[1]	Available for Sale	SEPA Issues[2]	Comments
116983BP4176001	KENNEWICK IRRIGATION DISTRICT	3771 KENNEDY RD, RICHLAND, WA 99352	$270,000 OR $4.00/SF	Yes	None identified; transportation impact analysis consideration	Awaiting appraisal requested by KID's Property Mgr.
111884000001000	C. L. BAUMGARTNER	X'ing of I-82 & Badger Rd.	$772,400 OR $0.90/SF	Yes	None identified	Unable to reach property owner by phone
1169840200022800	City of Richland	2800 Queensgate	$2,703,180 or $2.07/SF	Not listed	None identified; transportation impact analysis consideration	Currently City of Richland shops and storage yard
111892020046002	Benton County	East side of S. Ely next to Kennewick Fire Training facility	$313,160 or $6.91/SF	Not Listed	None identified	Road Shop & equipment storage

[1] Assessed value as of May 8, 2013

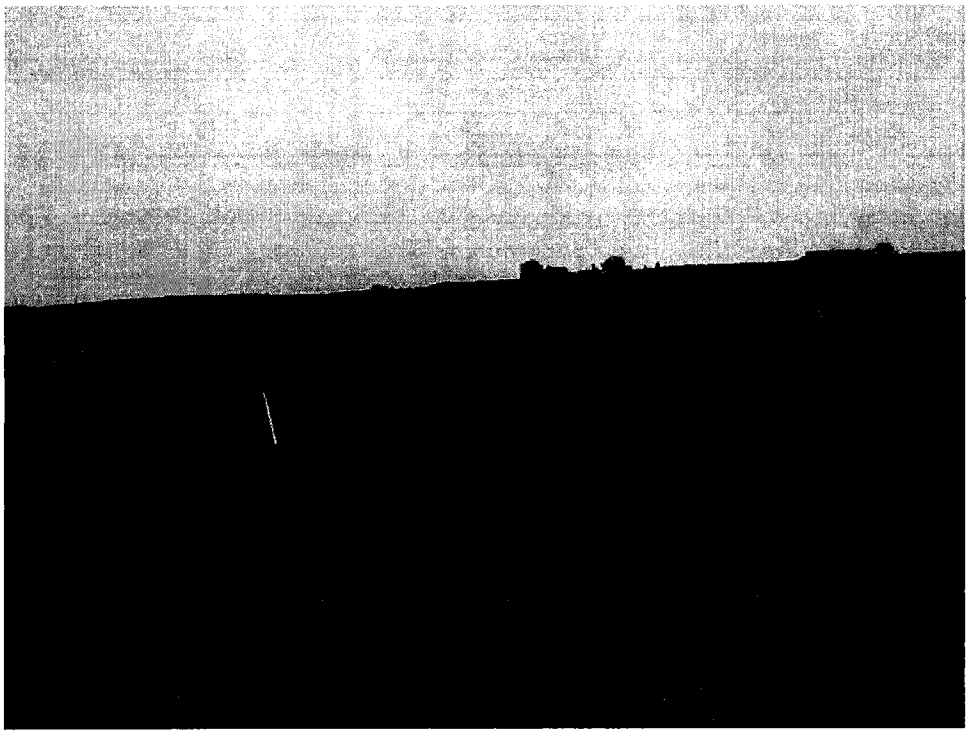
[2] Based on readily available data including review of DAHP and Ecology websites for known cultural or contaminated sites respectively.

Exhibit 3 – Site Photos

Kennewick Irrigation District



Baumgartner



City of Richland – Queensgate

BENTON COUNTY MRW FACILITY OPERATIONAL EVALUATION MATRIX
HDR Engineering, Inc.
May 30, 2013

Scenario[1]	Scenario Name	Criteria: Siting[2]		Level of Service (LOS)[3]		MRW Customer Experience[4]		Total Cost[5,7]		Funding Impacts[6,7]		TOTAL
		Weight	Score	Weight	Score	Weight	Score	Weight	Score	Weight	Score	
1	Baseline (located at Horn Rapids Landfill)	5	5 **25**	3	1 **3**	3	1 **3**	4	3 **12**	5	2 **10**	**53**
2	Baseline with Alternative Location	5	3 **15**	3	2 **6**	3	2 **6**	4	4 **16**	5	3 **15**	**58**
3a	Alternative Location with Increased Population	5	3 **15**	3	3 **9**	3	3 **9**	4	4 **16**	5	4 **20**	**69**
3b	Alternative Location with Increased Convenience	5	3 **15**	3	5 **15**	3	5 **15**	4	2 **8**	5	3 **15**	**68**

Weight Range : 1= unimportant criteria, 2=moderately important, 3=important, 4=very important, 5= critical criteria
Score Range : 1=does not meet criteria requirements, 2=meets few criteria requirements, 3=adequately meets criteria requirements , 4=meets most of criteria requirements, 5=fully meets criteria requirements

NOTES:

1 Alternates to Scenario 2 and Scenario 3a were developed to compare capital costs for an unenclosed building (e.g. three-sided) which would be the minimum structure type for MRW operations. This alternative is not included in this evaluation.

2 Includes land use, available utilities, property ownership, and public perception. Also see initial siting evaluation, Table 6 in MRW Conceptual Layouts and Preliminary Siting Evaluation Memorandum (HDR, April 2012).

3 Includes operating hours, staffing requirements, storage/processing capabilities, see Level of Service Criteria for Moderate Risk Waste Operations Memorandum (HDR, February 2012).

4 Includes convenience of location, ease of access, available drop off hours, and variety of materials accepted, see Level of Service Criteria for Moderate Risk Waste Operations Memorandum (HDR, February 2012) and MRW Conceptual Layouts and Preliminary Siting Evaluation Memorandum (HDR, April 2012).

5 Includes estimated capital and annual operations and maintenance (O&M) costs over estimated 20-year operating period.

6 Based on weighted cost per person and per pound of material, see MRW Financial Evaluation Memorandum (HDR, April 2012).

7 Scoring of cost criteria based on relative cost or impact per scenario rather than meeting definition of criteria.

INTER-LOCAL AGREEMENT
REGARDING SOLID WASTE MANAGEMENT
BENTON COUNTY

This Agreement addresses City-County joint participation in the countywide Solid Waste Plan and joins public agencies to exercise their powers, thereby maximizing their ability to provide services and facilities which will best fulfill the needs of the community as a whole, and is made and entered into effective the first day of January 2012, by and between Benton County, a political subdivision of the State of Washington, hereafter referred to as the Lead Agency, and the cities of Benton City, Kennewick, Richland, Prosser, and West Richland, political subdivisions of the State of Washington, and hereafter referred to as Participating Jurisdictions. The Participating Jurisdictions and Lead Agency may be referred to herein collectively as the Parties, also referred to as the Solid Waste Advisory Committee (SWAC).

I. RECITALS

WHEREAS, the parties hereto recognize the requirement to prepare and implement solid and hazardous waste plans under RCW Chapter 70.95 and RCW Chapter 70.105, and

WHEREAS, the parties hereto recognize the requirement to conduct a public review process to develop and review the Benton County Comprehensive Solid Waste Plan; and

WHEREAS, the parties hereto recognize the adopted Benton County Comprehensive Solid Waste Plan fulfills their jurisdictional requirements under RCW Chapter 70.95 and RCW Chapter 70.105; and

WHEREAS, the parties hereto wish to enter into a cooperative effort to administer, plan, and implement the recommendations contained within the adopted Benton County Comprehensive Solid Waste Plan; and

WHEREAS, each Participating Jurisdiction and Lead Agency shall have one equal vote with regards to policies and decisions made pursuant to all matters of policy and finance; And

WHEREAS, the Lead Agency will manage, track and provide custody for this Agreement, and

WHEREAS, the undersigned signatories of this Agreement are duly authorized to enter into the same by properly adopted resolutions,

NOW THERFORE, in consideration of the foregoing recitals and the mutual agreements and covenants herein contained, the parties agree as follows:

II. AGREEMENTS

A. AUTHORITIES

The parties to this Agreement have and possess, both jointly and severally, the primary responsibility for effective solid and hazardous waste management, planning and implementation under RCW Chapters 70.95 and 70.105. Under RCW Chapter 39.34, the Inter-local Cooperation Act, local governments are authorized to cooperate to provide themselves with services of the nature herein agreed to.

B. PURPOSE

This Agreement is entered into pursuant to RCW Chapter 39.34 for the purpose of cooperative management of solid waste within Benton County. It is the intent of the parties to work cooperatively in developing a comprehensive solid waste management plan pursuant of RCW Chapters 70.95 and 70.105 that is viable and economically responsible to their citizens. Specifically, this Agreement will provide for the administration, planning and operations of the adopted Benton County Comprehensive Solid Waste Management Program.

C. DEFINITIONS

For the purpose of this Agreement, the following definitions shall apply:

'Fair Share' - the amount owed by each of the Parties based upon current population figures supplied by the Washington State Office of Financial Management (OFM), and the corresponding population percentage applied to the Solid Waste Program Budget.

'Solid Waste Advisory Committee' (SWAC) - a committee comprised of a representative of each of the Parties. Each Party shall designate its representative to the SWAC to the Lead Agency. The SWAC shall review Solid Waste Program budget and activities and make recommendations to the Benton County Commissioners.

'Lead Agency' - Benton County, a political subdivision of the State of Washington. The Lead Agency, will administer, plan and implement the Plan and Solid Waste Program.

'Participating Jurisdictions' - any City who has entered into the County-wide Solid Waste Inter-local Agreement with the Lead Agency and who has agreed to mutually support and financially contribute to the administration, planning and implementation of the Plan.

'Parties' or 'Solid Waste Advisory Committee' - the collective term for all Participating Jurisdictions and Lead Agency.

'Plan' - the Benton County Comprehensive Solid Waste Management Plan, as the same exists now or may hereafter be amended.

'Routine Operating Agreement' (ROA) - an agreement that is established for the purpose of accomplishing a task set forth by the Parties and is funded within the Solid Waste Program Budget.

'Solid Waste Advisory Committee Members Bylaws' - the bylaws the same as now exist or may hereafter be amended.

'Solid Waste Program Budget' - the annual Countywide Solid Waste Budget, as prepared by Benton County and accepted by the SWAC, that appropriates funds to Routine Operating Agreements and administrative functions that meet specific requirements in RCW 70.95 and/or accomplishes goals as set fourth in the Plan.

'Task' - a project, program, activity, etc., that is annually funded from the Solid Waste Program Budget. All tasks are approved by the SWAC as needed and shall meet the recommendations set forth in the Plan.

'Task Manager' is designated to lead and manage a Task per the ROA.

D. LOCAL ADOPTION OF PLAN

Under the authority of RCW 70.95.080 each Participating Jurisdiction has elected to enter into this agreement with the County pursuant to which those jurisdictions shall participate in preparing a joint City-County Plan. Prior to the Plan's "Final Draft" phase, when it goes to Ecology for review, each Participating Jurisdiction is required to adopt the Plan. If any Participating Jurisdiction elects not to adopt the Plan, the Lead Agency will call for a SWAC vote. If a supermajority vote (i.e. 5 of 6) is reached in favor of adopting, the opposing jurisdiction will have to choose between developing a Plan alone, or adopting the favored Plan. If two or more jurisdictions oppose adopting the Plan, then the Parties will revert back to the phase of "Revising the Preliminary Draft Plan" during which a draft Plan revision will be made to satisfy a supermajority vote. The Plan will be adopted by at least the "in favor" supermajority and submitted to Ecology for final approval.

E. PLAN IMPLEMENTATION

Pursuant to RCW 70.95.080 and RCW 70.105.220, the Participating Jurisdictions and Lead Agency will jointly prepare a Plan in accordance with "Guidelines for the Development of Local Solid Waste Plans and Plan Revisions" (*i.e.* Department of Ecology (WDoE) Publication No. 90-11) and implement the Plan's recommendations. Pursuant to RCW 70.95.094, the "Final Draft Plan" shall be deemed approved, if the WDoE does not disapprove it within forty-five (45) days of receipt.

F. BENTON COUNTY SOLID WASTE ADVISORY COMMITTEE

The Parties hereto recognize and support the SWAC as an advisory board created under authority of RCW 70.95.165. The SWAC is an ongoing advisory committee. The SWAC is the focal point of the public involvement effort used in the planning, development and implementation of the Plan. The SWAC also provides advice to the Parties on solid and hazardous waste issues and assists the Parties in developing solid waste ordinances, rules, guidelines and policies prior to their adoption.

G. REGIONAL PLANNING AREA

The Parties hereto recognize the geographical planning area covered by this Agreement to be the incorporated areas of the Participating Jurisdictions and the unincorporated area of Benton County. The Hanford Nuclear Reservation is exempted from the Plan and this Inter-local Agreement.

H. ROUTINE OPERATING AGREEMENT IMPLEMENTATION

Prior to the annual Solid Waste Program Budget workshop, all task managers are required to submit their ROA. As a minimum, an ROA will include: 1) Task Introduction Statement; 2) Task Scope of Work; 3) Task Responsibilities; 4) Annual Task Cost; and 5) Quality Control. Eligibility of an ROA request is based on task cost and meeting recommendations set forth in the Plan. The SWAC will approve tasks based on a supermajority (*i.e.* 5 of 6) in-favor vote.

I. SOLID WASTE PROGRAM BUDGET

The Parties agree to mutually and financially support the administration, planning and operations of the Plan recommendations or as specified in RCW 70.95. The Lead Agency shall prepare a Solid Waste Program Budget each year for the upcoming budget year. The budget will also include Routine Operating Agreements that provide information on projects funded by the annual budget.

J. FAIR SHARE

The Parties agree to pay a Fair Share of the administration, planning and operation of the Solid Waste Program, as determined and voted-on by the SWAC and approved by the Benton County Commissioners. Said Fair Share shall be a percentage of

all program costs that are not covered by Coordinated Prevention Grant Funds, share percentages to be updated each January of the Agreement, being based on the most recent population figures as supplied by the Washington State OFM. The Parties agree to remit their fee to the Lead Agency within sixty (60) days of receiving an invoice from the Lead Agency. The Lead Agency's fair share shall be based on the population for the unincorporated areas of the County.

K. DISBURSEMENT OF ASSETS AND DEBTS

If this Agreement is terminated, all Parties to this Agreement shall determine the disbursement of any outstanding debts and the allocation of any assets. If the Parties cannot agree to the disbursement of any outstanding debts and the allocation of any assets, the issues are to be submitted for arbitration, pursuant to state law, RCW 7.04 *et seq.* The Lead Agency and the contesting jurisdiction agree that such arbitration shall be conducted before one (1) disinterested arbitrator.

L. DURATION

This Agreement shall commence on the date set forth above and will continue in effect for two (2) years, or until superseded by another Interlocal Agreement. As stipulated within RCW 70.95.110(1), each Plan shall be maintained in a current condition and reviewed and revised periodically as may be required by the WDoE. Upon each review such plans shall be extended to show long-range needs for solid waste handling facilities for twenty (20) years in the future, and a revised implementation schedule and implementation budget for six (6) years in the future.

M. REVIEW AND RENEGOTIATION

Any Party may request a review and/or renegotiations on any provision of the Agreement during the six-month period immediately preceding the ending date for the Agreement. Such request must be made in writing to the Lead Agency and must specify the provision(s) of the Agreement for which review/renegotiation(s) are requested. Review and/or renegotiation(s) pursuant to such a written request shall be immediately referred to the SWAC for their review and recommendation. Notwithstanding any other provisions in this paragraph to the contrary, the Parties may, pursuant to the procedure outlined within the Solid Waste Advisory Committee Members Bylaws, modify or amend any provision(s) of this Agreement at any time during the term of this Agreement.

N. TERMINATION

This Agreement may be terminated by any Participating Jurisdiction, by written notice to the Lead Agency no less than three hundred sixty five (365) days immediately preceding the implementation date of the next Solid Waste Program Budget. This Agreement may be terminated by the Lead Agency by written notice to each Participating Jurisdiction no less than three hundred sixty five (365) days immediately preceding the implementation date of the next Solid Waste Program Budget. The Parties agree: (1) that

the termination will not absolve a terminating Party of any financial responsibility to the extent a financial responsibility continues to exist pursuant to the provisions of this Agreement; and (2) that prior to termination, a withdrawing City shall submit to the SWAC how it intends on meeting its planning obligation under RCW 70.95.080.

O. WAIVER

No waiver by any of the Parties of any term or condition of this Agreement shall be deemed or construed to constitute a waiver of any other term or condition or of any subsequent breach whether of the same or a different provision of this Agreement.

P. ENTIRE AGREEMENT

This Agreement, including the recitals and all subsequent attachments and addendums, constitutes the entire Agreement between the Parties and shall be governed by the laws of the State of Washington. There are no other oral or written agreements or understanding between the Parties as to the subject matter contained herein. The venue for any action of law, suit in equity and judicial proceeding for the enforcement of this Agreement shall be instituted and maintained only in the courts of competent jurisdiction in Benton County, Washington.

Q. SEVERABILITY

Any provisions of this Agreement that is determined to be illegal, invalid or unenforceable for any reason shall be ineffective to the extent of such prohibition without invalidating the remainder of this Agreement.

FOR BENTON COUNTY, WASHINGTON.

Shon Small, Chairman
Board of County Commissioners

3/12/2013
Date

Attest:

Clerk of the Board

3/12/2013
Date

Approved as to Form:

Deputy Prosecuting Attorney

2-21-13
Date

I certify that on this 12 day of March, 2013, before me, the undersigned Notary Public in an for the State of Washington, duly commissioned and sworn, personally appeared ~~James R. Beaver~~ Shon Small, to me known to be the Chairman of the Board of Commissioners for Benton County, Washington, the corporation that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument and that the seal affixed is the corporate seal of Benton County.

Witness my hand and official seal hereto affixed the day and year first above written.

MARILU FLORES
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
SEPT. 22, 2013

Notary Public in and for the State of
Washington residing at Prosser WA
My commission expires: 9-22-13

FOR THE CITY OF BENTON CITY, WASHINGTON.

Lloyd Carnahan, Mayor — Date: 9/4/12

Attest:

Stephanie Haug, CMC, City Clerk/Treasurer — Date: 9/4/12

Approved as to Form:

Lee Kerr, City Attorney #39345 — Date: 9/4/12

I certify that on this 4th day of September, 2012, before me, the undersigned Notary Public in an for the State of Washington, duly commissioned and sworn, personally appeared Lloyd Carnahan and Stephanie Haug, to me known to be the Mayor and City Clerk-Treasurer, respectively, of the City of Benton City, Washington, the corporation that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument and that the seal affixed is the corporate seal of the City of Benton City.

Witness my hand and official seal hereto affixed the day and year first above written.

PATRICK [illegible] NOTARY PUBLIC 10.20.2012 STATE OF WASHINGTON

Notary Public in and for the State of Washington residing at Benton Co
My commission expires: 10/20/2013

FOR THE CITY OF KENNEWICK, WASHINGTON.

Steve C. Young, Mayor

12/18/12
Date

Attest:

Linda C. Spier, Deputy City Clerk

12/18/12
Date

Approved as to Form:

Lisa Beaton, City Attorney

12/18/12
Date

I certify that on this 18th day of December, 2012, before me, the undersigned Notary Public in an for the State of Washington, duly commissioned and sworn, personally appeared Steve C. Young and Linda C. Spier, to me known to be the Mayor and Deputy City Clerk, respectively, of the City of Kennewick, Washington, the corporation that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument and that the seal affixed is the corporate seal of the City of Kennewick.

Witness my hand and official seal hereto affixed the day and year first above written.

CHRISTINA M. HUMANN NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 12-09-16

Notary Public in and for the State of Washington residing at Kennewick
My commission expires: 12/9/2016

FOR THE CITY OF PROSSER, WASHINGTON.

Paul Warden, Mayor — 11-28-2012 Date

Attest:

Rachel Shaw, City Clerk — Date 11/28/2012

Approved as to Form:

Howard Saxton, City Attorney — 11/28/2012 Date

I certify that on this 28th day of November, 2012, before me, the undersigned Notary Public in an for the State of Washington, duly commissioned and sworn, personally appeared Paul Warden and Rachel Shaw, to me known to be the Mayor and City Clerk, respectively, of the City of Prosser, Washington, the corporation that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument and that the seal affixed is the corporate seal of the City of Prosser.

Witness my hand and official seal hereto affixed the day and year first above written.

TONELLE MARIE YOST NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES OCT. 4, 2015

Notary Public in and for the State of WA
Washington residing at Prosser, WA
My commission expires: 10/4/2015

FOR THE CITY OF RICHLAND, WASHINGTON.

Cindy Johnson, City Manager — Date: 8-31-12

Attest:

Marsha Hopkins, City Clerk — Date: 8/31/12

Approved as to Form:

Thomas O. Lampson, City Attorney — Date: 8/27/12

I certify that on this 31 day of August, 2012, before me, the undersigned Notary Public in an for the State of Washington, duly commissioned and sworn, personally appeared Cindy Johnson and Marsha Hopkins, to me known to be the City Manager and City Clerk, respectively, of the City of Richland, Washington, the corporation that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument and that the seal affixed is the corporate seal of the City of Richland.

Witness my hand and official seal hereto affixed the day and year first above written.

DEBRA C. BARHAM
Notary Public
STATE OF WASHINGTON
My Commission Expires 11-16-12

Notary Public in and for the State of Washington residing at Benton County
My commission expires: 11/16/12

FOR THE CITY OF WEST RICHLAND, WASHINGTON.

Donna Noski, City Mayor — Date: 8/29/12

Attest:

Julie Richardson, City Clerk — Date: 8/29/12

Approved as to Form:

Bronson Brown, City Attorney — Date: 8/29/12

I certify that on this 29th day of August, 2012, before me, the undersigned Notary Public in an for the State of Washington, duly commissioned and sworn, personally appeared Donna Noski and Julie Richardson, to me known to be the Mayor and City Clerk, respectively, of the City of West Richland, Washington, the corporation that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument and that the seal affixed is the corporate seal of the City of West Richland.

Witness my hand and official seal hereto affixed the day and year first above written.

ILKA M. GILLIAM NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 2-19-13

Ilka M Gilliam
Notary Public in and for the State of Washington residing at Kennewick
My commission expires: 2-19-13

APPENDIX D

WUTC
COST ASSESSMENT QUESTIONNAIRE

Please provide the information requested below:

PLAN PREPARED FOR THE COUNTY OF: BENTON

PLAN PREPARED FOR THE CITY OF: N/A

PREPARED BY: HDR Engineering, Inc.; Michelle Leonard, Project Manager

CONTACT TELEPHONE: 509.546.2041 DATE: 4/16/2013

DEFINITIONS

Please provide these definitions as used in the Solid Waste Management Plan and the Cost Assessment Questionnaire.

Throughout this document:
YR.1 shall refer to **2013.**
YR.3 shall refer to **2015.**
YR.6 shall refer to **2018.**

Year refers to (circle one) **calendar** (Jan 01 - Dec 31)

1. **DEMOGRAPHICS:** To assess the generation, recycling and disposal rates of an area, it is necessary to have population data. This information is available from many sources (e.g., the State Data Book, County Business Patterns, or the State Office of Finance and Management).

1.1 Population

1.1.1 What is the **total** population of your County/City?

YR.1 **197,954** YR.3 **203,736** YR.6 **209,836**

1.1.2 For counties, what is the population of the area **under your jurisdiction?** (Exclude cities choosing to develop their own solid waste management system.)

YR.1 **45,528** YR.3 **46,859** YR.6 **48,262**

1.2 References and Assumptions

Population projections using OFM High Growth Management Series, which is anticipates growth over the next 20 years by approximately 7-8% every 5 years.

2. **WASTE STREAM GENERATION:** The following questions ask for total tons recycled and total tons disposed. Total tons disposed are those tons disposed of at a landfill, incinerator, transfer station or any other form of disposal you may be using. If other, please identify.

2.1 Tonnage Recycled

2.1.1 Please provide the total tonnage **recycled** in the base year, and projections for years three and six.

YR.1 **88,243** YR.3 **113,352** YR.6 **129,196**

2.2 Tonnage Disposed

2.2.1 Please provide the total tonnage **disposed** in the base year, and projections for years three and six.

YR.1 **177,979** YR.3 **171,089** YR.6 **163,761**

2.3 References and Assumptions

Disposal and diversion data from Ecology and County records. Diversion estimates assumes County will increase diversion approximately 2% per year, to 50% by 2020, as outlined in Chapter 1, Plan Goals and objectives section 1.2.

3. **SYSTEM COMPONENT COSTS:** This section asks questions specifically related to the types of programs currently in use and those recommended to be started. For each component (i.e., waste reduction, landfill, composting, etc.) please describe the anticipated costs of the program(s), the assumptions used in estimating the costs and the funding mechanisms to be used to pay for it. The heart of deriving a rate impact is to know what programs will be passed through to the collection rates, as opposed to being paid for through grants, bonds, taxes and the like.

3.1 Waste Reduction Programs

3.1.1 Please list the solid waste programs which have been implemented and those programs which are proposed. If these programs are defined in the SWM plan please provide the page number. (Attach additional sheets as necessary.)
Refer to sections 3.1.1 and 3.2.1 for existing programs.

IMPLEMENTED	PROPOSED
Public Education and outreach	**EPR Support and guidelines**
Donations to non-profits	**Technical assistance to schools and business**
	Promotion of reuse opportunities
	Promotion of online waste exchanges
	Requirements for new developments
	Measuring of waste reduction

3.1.2 What are the costs, capital costs and operating costs for waste reduction programs implemented and proposed?

IMPLEMENTED

YR.1 $150,000 YR.3 $ 160,000 YR.6 $170,000

PROPOSED

YR.1 $180,000 YR.3 $200,000 YR.6 $200,000

3.1.3 Please describe the funding mechanism(s) that will pay the cost of the programs in 3.1.2.

IMPLEMENTED

YR.1 **Grant** YR.3 **Grant** YR.6 **Grant**

PROPOSED

YR.1 **Grant** YR.3 **Grant** YR.6 **Grant**

3.2 Recycling Programs

3.2.1 Please list the proposed or implemented recycling program(s) and, their costs, and proposed funding mechanism or provide the page number in the draft plan on which it is discussed (attach additional sheets as necessary).

IMPLEMENTED

PROGRAM	COST	FUNDING
Drop boxes	$ 20,000	**Grants; revenue from recyclables**

PROPOSED

PROGRAM	COST	FUNDING
Expand drop boxes	$50,000	**Grants; revenue from recyclables**
Technical assistance	$20,000	**Grants; revenue from recyclables**

3.3 Solid Waste Collection Programs

3.3.1 Regulated Solid Waste Collection Programs

Fill in the table below for each **WUTC regulated** solid waste collection entity in your jurisdiction. (Make additional copies of this section as necessary to record all such entities in your jurisdiction.)

WUTC Regulated Hauler Name: Basin Disposal, Inc.
G-Permit # 118

RESIDENTIAL	YR.1	YR.3	YR.6
- # of Customers	**1,005**	**1,035**	**1,066**
- Tonnage Collected	**1,333**	**1,373**	**1,414**
COMMERCIAL			
- # of Customers	**155**	**160**	**164**
- Tonnage Collected	**6,205**	**6,391**	**6,582**

WUTC Regulated Hauler Name: Ed's Disposal, Inc.
G-permit #110

RESIDENTIAL	YR. 1	YR3.	YR.6
- # of Customers	**3,131**	**3,224**	**3,321**
- Tonnage Collected	**4,947**	**5,095**	**5,248**
COMMERCIAL			
- # of Customers	**136**	**140**	**144**
- Tonnage Collected	**719**	**741**	**763**

WUTC Regulated Hauler Name: Waste Management of Kennewick
G-permit #237

RESIDENTIAL	YR1.	YR3.	YR.6
- # of Customers	**5,372**	**5,533**	**5,699**
- Tonnage Collected	**6,196**	**6,382**	**6,573**
COMMERCIAL			
- # of Customers	**519**	**535**	**551**
- Tonnage Collected	**5,205**	**5,361**	**5,522**

WUTC Regulated Hauler Name: Sanitary Disposal, Inc.
G-permit #173

RESIDENTIAL	**YR.1.**	YR3.	YR.6
- # of Customers	**176**	**181**	**187**
- Tonnage Collected	**587**	**605**	**623**
COMMERCIAL			
- # of Customers	**36**	**37**	**38**
- Tonnage Collected	**1,774**	**1,827**	**1,882**

Waste collection projections based on population projections for county, OFM, high series.

3.3.2 Other (non-regulated) Solid Waste Collection Programs Fill in the table below for other solid waste collection entities in your jurisdiction. (Make additional copies of this section as necessary to record all such entities in your jurisdiction.)

Hauler Name: City of Richland

	YR. 1	YR. 3	YR. 6
# of Customers	**16,845**	**17,800**	**18,900**
Tonnage Collected	**37,000**	**39,000**	**41,000**

3.4 Energy Recovery & Incineration (ER&I) Programs
(If you have more than one facility of this type, please copy this section to report them.)

3.4.1 Complete the following for each facility:

Name: **N/A**
Location: _____
Owner: _____

Operator: _____

3.4.2 What is the permitted capacity (tons/day) for the facility? **N/A**

3.4.3 If the facility is not operating at capacity, what is the average daily throughput?

YR.1 **N/A** YR.3 **N/A** YR.6 **N/A**

3.4.4 What quantity is estimated to be land filled which is either ash or cannot be processed.

YR.1 **N/A** YR.3 **N/A** YR.6 **N/A**

3.4.5 What are the expected capital costs and operating costs, for ER&I programs (not including ash disposal expense)?

YR.1 **N/A** YR.3 **N/A** YR.6 **N/A**

3.4.6 What are the expected costs of ash disposal?

YR.1 **N/A** YR.3 **N/A** YR.6 **N/A**

3.4.7 Is ash disposal to be: **N/A**
_____ on-site?
_____ in county?
_____ long-haul?

3.4.8 Please describe the funding mechanism(s) that will fund the costs of this component. **N/A**

3.5 Land Disposal Program
(If you have more than one facility of this type, please copy this section to report them.)

3.5.1 Provide the following information for each **land disposal facility** in your jurisdiction which receives garbage or refuse generated in the county.

Landfill Name: **Horn Rapids Landfill**
Owner: **City of Richland**
Operator: **City of Richland**

3.5.2 Estimate the **approximate tonnage** disposed at the landfill by **WUTC regulated haulers.** If you do not have a scale and are unable to estimate tonnages, estimate using cubic yards, and indicate whether they are compacted or loose.[1]

YR.1 **N/A** YR.3 **N/A** YR.6 **N/A**

[1] Compacted cubic yards will be converted at a standard 600 pounds per yard. Loose cubic yards will be converted at a standard 300 pounds per cubic yard. Please specify an alternative conversion ratio if one is presently in use in your jurisdiction.

All waste collected by WUTC regulated haulers is disposed outside the County.

3.5.3 Using the same conversion factors applied in 3.5.2, please estimate the **approximate tonnage** disposed at the landfill by other contributors.

YR.1 **54,359** YR.3 **55,446** YR.6 **56,555**

This includes City of Richland and self-haulers at Horn Rapids Landfill

3.5.4 Provide the cost of operating (including capital acquisitions) each landfill in your jurisdiction. For any facility that is privately owned and operated, skip these questions.

YR.1 **N/A** YR.3 **N/A** YR.6 **N/A**

The Horn Rapids Landfill is owned and operated by the City of Richland.

3.5.5 Please describe the funding mechanism(s) that will defray the cost of this component.
N/A

3.6 Administration Program

3.6.1 What is the budgeted cost for administering the solid waste and recycling programs and what are the major funding sources.

Budgeted Cost

YR.1 **$80,000** YR.3 $100,000 YR.6 $ 120,000

Funding Source

YR.1 **Grants/County and Inter-local contributions** YR.3 **Same** YR.6 **Same**

3.6.2 Which cost components are included in these estimates?

Expenses included in the estimate are as follows: salaries and wages, personnel benefits, supplies, permits, other services and charges, and capital expenditures.

3.6.3 Please describe the funding mechanism(s) that will recover the cost of each component.

Funding mechanisms include grants. The Benton Governance Technical Advisory Committee, Solid Waste Advisory Committee and County Commissioners target grants for specific programs as determined.

3.7 Other Programs

For each program in effect or planned which does not readily fall into one of the previously described categories please answer the following questions. (Make additional copies of this section as necessary.)

3.7.1 Describe the program, or provide a page number reference to the plan.

NA

3.7.2 Owner/Operator

3.7.3 Is WUTC Regulation Involved? If so, please explain the extent of involvement in section 3.8.
NA

3.7.4 Please estimate the anticipated costs for this program, including capital and operating expenses.

YR.1 **$NA** YR.3 **$NA** YR.6 **$NA**

3.7.5 Please describe the funding mechanism(s) that will recover the cost of this component.

NA

3.7 **References and Assumptions** (attach additional sheets as necessary)

4. FUNDING MECHANISMS: This section relates specifically to the funding mechanisms currently in use and the ones, which will be implemented to incorporate the recommended programs in the draft plan. Because the way a program is funded directly relates to the costs a resident or commercial customer will have to pay, this section is crucial to the cost assessment process. Please fill in each of the following tables as completely as possible.

Table 4.1.1 Facility Inventory

Facility Name	Type of Facility	Tip Fee per Ton	Transfer Cost**	Transfer Station Location	Final Disposal Location	Total Tons Disposed	Total Revenue Generated (Tip Fee x Tons)
NONE							

Table 4.1.2 Tip Fee Components

Tip Fee by Facility	Surcharge	City Tax	County Tax	Transportation Cost	Operational Cost	Administration Cost	Closure Costs
NONE							

Table 4.1.3 Funding Mechanism

Name of Program Funding Mechanism will defray costs	Bond Name	Total Bond Debt	Bond Rate	Bond Due Date	Grant Name	Grant Amount	Tip Fee	Taxes	Other	Surcharge
Outreach and Education; waste reduction					CPG	$20,000				
Yard Waste Chipping Program					ATB	$14,000				
Recycling Drop Box Program					CPG	$20,000				
HHW Collection Events					CPG	$180,000				
MRW Facility					CPG	$N/A				

Table 4.1.4 Tip Fee Forecast

Tip Fee per Ton by Facility	Year One	Year Two	Year Three	Year Four	Year Five	Year Six

4.2 **Funding Mechanisms** summary by percentage: In the following tables, please summarize the way programs will be funded in the key years. For each component, provide the expected percentage of the total cost met by each funding mechanism (e.g., Waste Reduction may rely on tip fees, grants, and collection rates for funding). You would provide the estimated responsibility in the table as follows: Tip fees = 10%; Grants = 50%; Collection Rates = 40%. The mechanisms must total 100%. If components can be classified as "other," please note the programs and their appropriate mechanisms. Provide attachments as necessary.

Table 4.2.1 Funding Mechanism by Percentage

Year One

Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Education and Outreach; waste reduction		75		25		100
Yard waste chipping program		75		25		100
Recycling Drop Box Program		75		25		100
HHW Collection Events		75		25		100
MRW Facility Development		75		25		100

Table 4.2.2 Funding Mechanism by Percentage

Year Three

Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Small business hazardous waste disposal at MRW facility	100					100
MRW Facility Development		25	25	25	25	100
Education and Outreach; waste reduction		75		25		100
Yard waste chipping program		75		25		100
Recycling Drop Box Program		75		25		100

Table 4.2.3 Funding Mechanism by Percentage

Year Six

Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
MRW Facility Operations		25		25	50	100
Education and Outreach; waste reduction		75		25		100
Yard Waste chipping program		75		25		100
Recycling Drop Box Program				100		100

4.3 References and Assumptions

Please provide any support for the information you have provided. An annual budget or similar document would be helpful.

4.4 Surplus Funds

Please provide information about any surplus or saved funds that may support your operations.