

Chapter 10

Landfill Disposal

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

Introduction

RCW 70.95 establishes priorities for the handling and disposal of solid wastes. Clark County is incorporating into this Plan priorities for solid waste handling which places energy recovery at a higher hierarchy level than the state. The County will continue to emphasize "Reduce, Reuse & Recycle" in its programs and messages. This County's hierarchy is as follows:

- Waste reduction (prevention);
- Reuse
- Recycling, with source separation of recyclable materials as the preferred method
- Energy recovery of separated waste;
- Incineration or landfilling of separated wastes;
- Energy recovery of mixed waste;
- Incineration or landfilling of mixed wastes.

The County and cities within the County (Cities) are committed to minimizing the amount of waste being disposed through the implementation and maintenance of aggressive waste reduction (Chapter 4 *Waste Prevention and Reduction*) and waste recycling programs (Chapter #6 *Waste Diversion*). After waste reduction, reuse, recycling, and energy recovery; the remainder of Clark County's waste is landfilled.

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

The *Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions* (WDOE 90-11) defines "waste export" as the hauling of solid wastes generated

within a planning area (Clark County) to processing and/or disposal sites outside of the planning area.

State Legislation and Regulations

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

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

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

RCW 70.95 requires that solid waste management plans include a “review of potential areas that meet the siting criteria as outlined in RCW 70.95.165, WAC 173-304-130 and WAC 173-350-400(2).” MSW handling systems in Clark County are expected to continue to rely on the exportation of MSW to out-of-county disposal sites.

Oregon Revised Statute 459.055, Solid Waste Control (State of Oregon)

Chapter 459.055, Landfills in Farm Use Area; Waste Reduction Programs, is an Oregon Revised Statute (ORS) law that requires out-of-state local governments to implement waste reduction and recycling programs that are at least as effective as programs in similar Oregon jurisdictions, before exporting wastes into Oregon for landfill disposal. The program requires the owner/operator of any landfill that will be accepting out-of-state wastes to apply to the Oregon Department of Environmental Quality (DEQ) and have their application accepted.

Oregon Administrative Rule 340-93-97, Solid Waste Management in General (State of Oregon)

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

Assessment of Conditions

This section describes Clark County’s current MSW landfill disposal system. This system includes the transporting of MSW from the County’s transfer stations [Central Transfer and Recycling Center and (CTR) and West Vancouver Materials Recovery Center (West Van)] to the landfill at Finley Buttes for disposal. The Washougal Transfer Station is to be constructed in the Port of Camas/Washougal. Waste from this transfer facility will be transported by truck to the Wasco County Landfill. Since the MSW from each transfer station is disposed in Oregon, ORS 459.055 (waste reduction and recycling) and OAR 340-93-97 (landfill standards) apply to the County’s disposal of waste. Disposal of special wastes (such as: asbestos, petroleum-contaminated soils,

and bulky wastes) is described in Chapter 14 *Special Wastes*; construction and demolition waste disposal is addressed in Chapter 12 *Construction and Demolition*.

Waste Export/Import Program

Clark County and the City of Vancouver have contracted with Columbia Resource Co. (CRC) to receive and process MSW and to transport and dispose of non-recycled MSW generated in Clark County. The initial term of the contract was for 20 years; ending on December 31, 2011. Clark County and the City of Vancouver had the option of extending the contract for up to two 5-year extensions. In May of 2006, Clark County and the City of Vancouver opted to exercise a five year extension to the contract extending the term to December 31, 2016. The waste transfer and additional materials recovery elements of the CRC contracts are described in Chapter 8 *Waste Transfer and Material Recovery System*. In 1999 Waste Connections, Inc. purchased CRC and the Finley Buttes Landfill, as well as an additional landfill in Wasco County, Oregon. CRC, Finley Buttes and Wasco County Landfill are wholly owned subsidiaries of Waste Connections, Inc.

The State of Oregon, under ORS 459.055, requires local governments, outside of Oregon, to implement waste reduction and recycling programs if they transport waste to Oregon landfills. These programs must be at least as effective as Oregon programs in similar jurisdictions. The local government programs must apply to and be accepted by the Oregon DEQ, before wastes can be exported to Oregon.

Some other MSW practices are known to exist including the following:

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

Transport System

CRC is responsible, by long-term contract, for the transportation of all “non-recycled” waste from Clark County to Finley Buttes Landfill in Morrow County, Oregon. Waste collected at the West Van Materials Recovery Center and Central Transfer and Recycling Center will be transported consistent with the County’s current long-term contract including the Finley Buttes Landfill as described herein. The contract requires transport by barge or by rail, allowing truck transport only if specifically authorized by the County under unusual circumstances or certain economic conditions. The current process for transporting non-recycled MSW to the final disposal site at Finley Buttes Landfill is as follows:

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

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

Each shipping container holds approximately 30 tons of MSW and has an internal volume of approximately 90 cubic yards. The existing staging yard behind the dock has a storage capacity of approximately 500 containers. Two sizes of barge systems are used for transport. The smallest barges carry up to 36 containers; the largest carry up to 80 containers. Based on the tonnage of non-recycled waste exported to Finley Buttes Landfill, the average number of loaded shipping containers transported upriver and through the Port of Morrow were about 950 containers per month in 2006.

The CRC contract has been amended to include the Wasco County Landfill as the primary disposal facility for waste which is to be collected at the Washougal Transfer Station. The Finley Buttes Landfill will serve as the designated alternative disposal site to the Wasco County Landfill. In order to eliminate “double-handling”, the waste will be top-loaded into trucks, tarped, and transported directly from the Washougal Transfer Station to the Wasco Landfill for disposal. This waste may be transported to the Wasco County Landfill as follows:

- The routing of trucks from the Washougal Transfer Station to the Wasco Landfill may be by State Highway 14 east to the Dalles Bridge, over the bridge to Oregon, and then south on Highway 197 to the Wasco Landfill.
- At the Wasco Landfill, the wastes may be unloaded directly at the landfill face.
- The barging system may serve as the alternative transport system for waste from the Washougal Transfer Station to Finley Buttes Landfill.

A backup disposal facilities plan was submitted to the County by CRC in 1992. The Plan describes the designated alternative disposal sites if Finley Buttes Landfill ceases operations, either temporarily or permanently. CRC has backup disposal agreements with both Columbia Ridge Landfill in Gilliam County, Oregon, operated by Waste Management, Inc., and Roosevelt Regional Landfill in Klickitat County, Washington, operated by Allied Waste. In addition, a landfill in Wasco County, Oregon is owned and operated by Waste Connections Inc. Both truck and rail transports are available to these backup sites. The County plans to enter into an interlocal agreement with Cowlitz County to have the Cowlitz County Landfill available as a backup disposal facility in the event of an emergency and transport to the eastern regions is not available.

Landfill Disposal Sites

Finley Buttes Landfill

Finley Buttes Landfill is located in Morrow County, Oregon, approximately 180 miles east of Clark County and approximately 12 miles south of Boardman, Oregon. The facility is privately owned and operated. It is the designated disposal site for MSW generated within Clark County. The landfill is designed, constructed and operated to be in compliance with all requirements of the Oregon DEQ and EPA Subtitle D MSW landfill requirements.

The projected life of the current permitted landfill exceeds the 20-year period covered by this Plan. The permitted life of the landfill is 300 years. Finley Buttes Landfill occupies a permitted 510-acre site. The estimated available fill capacity at the site, as currently permitted by the Oregon DEQ, is 131,859,000 tons of MSW.

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

Wastes defined and regulated as “hazardous” under Oregon and federal laws are prohibited from being disposed at Finley Buttes. Surveillance by landfill personnel and regulatory agencies, record-keeping and reporting activities and shipping documentation requirements lower the potential for the disposal of hazardous wastes into the landfill. Personnel are trained to recognize and manage hazardous and other prohibited materials. The contract with CRC indemnifies the County against any pollution-related liabilities associated with waste disposal at Finley Buttes Landfill. Even though this indemnification and other similar indemnification clauses in waste export contracts have not yet been legally tested, there is no evidence of significant legal exposure to Clark County. With the CRC contract, City of Vancouver wastes are directed to the Finley Buttes Landfill for disposal.

Wasco County Landfill

Wasco County Landfill is a Subtitle D Regional Landfill located about five miles southeast of The Dalles, Oregon near the intersection of Interstate 84 and U.S. Route 197. The landfill is privately owned and operated and is the designated disposal site for MSW from the Washougal Transfer Station and as a backup facility to the Finley Buttes Landfill. The Washougal Transfer Station is located in the Port of Camas and Washougal. Waste from this facility will primarily come from the Camas/Washougal area.

The landfill site comprises 337 acres with 213 acres of the site permitted by the Oregon DEQ for active landfilling. The landfill operator estimates that there is approximately 73 years before reaching capacity.

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

The landfill has implemented waste screening procedures to exclude prohibited waste and manage acceptable wastes. Scale attendants visually inspect incoming loads to look for any hazardous or unacceptable materials. The field supervisor and equipment operators inspect each load as it is discharged and compacted into the landfill. Randomly selected waste loads are to be emptied in a separate area and thoroughly screened. Special wastes are subject to additional evaluation and approval, with periodic laboratory testing.

The County long-term contract indemnifies the county against any pollution related liabilities associated with the waste disposed at the Wasco County Landfill. There is no evidence of significant legal exposure to Clark County from using this site.

Abandoned and Closed Landfill Sites

Clark County has many small abandoned and closed landfills. Documentation on sites, which could contain MSW and special wastes, is limited. More detailed descriptions of abandoned and closed landfill sites in Clark County are presented in *Issue Paper #9: Landfills* prepared by the Groundwater Advisory Committee of the Intergovernmental Resource Center. These detailed descriptions include site locations, operation dates, closure dates, monitoring data, risk assessments and current regulatory status. Appendix L summarizes the known historic landfill/dumping sites in Clark County. The listing order of the sites in the table is not based on their relative liability or contamination.

Leichner Landfill

The Leichner Landfill was the last MSW landfill in Clark County. This facility, owned by Leichner Brothers Land Reclamation Company, was permitted to operate as a sanitary landfill and to receive MSW and some CDL wastes. The landfill site is located in the south-central part of the County in the Orchards/Five Corners area.

Under an order from the Washington Department of Ecology the Leichner Landfill ceased operations on December 31, 1991. After it closed, a final cover system was constructed above the previous waste disposal areas and related environmental control systems were installed. Final closure activity at the site was completed in September 1992.

In December 1988, prior to the landfill closure, Clark County and the City of Vancouver entered into an agreement with the owner of the landfill, Leichner Brothers Land Reclamation Company (LBLRC), which gave the County and the City a significant role in overseeing the closure and post-closure monitoring at the landfill. The agreement required the formation of an oversight committee for the administration of the landfill who members include representatives from LBLRC, the City of Vancouver, Clark County Public Works and Clark County Public Health. The Leichner Landfill Oversight Committee meets on a quarterly basis to discuss on-going post-closure activities and issues that arise through the administration of the site.

On-going post-closure activities of the site include groundwater monitoring, storm water monitoring and management of the landfill gas collection system. Post-closure monitoring and maintenance of the site is performed by an engineering consulting firm under contract with the parties to the agreement.

The parties to the agreement have been in on-going discussions regarding future redevelopment of the landfill site. The 110 acre site has the potential to be developed into a park and/or a light industrial park.

Recommendations

1. Utilize the existing contract for garbage export to Finley Buttes Landfill located near Boardman, Oregon and Wasco County Landfill located near The Dalles, Oregon for its duration, but consider alternative disposal options for the next contract.
2. No new MSW landfills are to be sited in Clark County.
Clark County has sufficient contractual capacity to transfer, transport and dispose of all MSW generated in the County. The designated disposal sites, Finley Buttes and Wasco County Landfills, have a combined disposal capacity of several hundred years. The siting of a MSW landfill in Clark County is not economically viable due to a limited entry franchise system or contracts that direct MSW collected from the Cities and County to the County designated facilities operated by CRC. In addition, the siting of a MSW landfill in Clark County is not warranted due to adverse environmental considerations in this area.
3. Evaluate a regional approach to managing the transfer, transportation and disposal of MSW including the formation of a Disposal District

Interlocal agreements entered into between the Cities and the County call for the evaluation of a regional solid waste system.