

CHAPTER SEVEN: RECYCLING & SOLID WASTE MANAGEMENT PLAN



NEWPORT MUNICIPAL AIRPORT

AIRPORT MASTER PLAN UPDATE

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INTRODUCTION

After 23 short-term extensions to the Federal Aviation Administration (FAA) Vision 100 – Century of Aviation Authorization Act, the United States Congress passed, and President Obama signed on February 14, 2012, Public Law 112-95, the FAA Modernization and Reform Act of 2012 (FMRA). The FMRA incorporates reference guidance provided by the United States Environmental Protection Agency (EPA), and contains a number of provisions that relate to improving the sustainability of airports. Further, Section 133 of the FMRA states that the issuance of a grant for an airport master plan requires confirmation that the master plan scope of work includes a review of solid waste recycling at the airport. An airport master plan must address issues relating to solid waste recycling at the airport including:

- The feasibility of solid waste recycling at the airport;
- Minimizing the generation of solid waste at the airport;
- Operation and maintenance requirements;
- The review of waste management contracts; and
- The potential for cost savings or the generation of revenue.

In September 2012, the FAA issued Program Guidance Letter 12-08 addressing the implementation of relevant FMRA sections. The Program Guidance Letter acts as the regulatory standard until such time as the FMRA can be included within future revisions of FAA Order 5100-38C, *Airport Improvement Handbook*, and FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*.

The FAA Planning and Environmental Division is in the process of developing guidance aimed at helping airports address these new requirements. In the absence of a final guidance from the FAA, a number of publications were used to guide the development of the Recycling and Solid Waste Management Plan for the Newport Municipal Airport (Airport), these include:

- ***FAA Program Guidance Letter 12-08, Guidance on Airport Recycling, Reuse, and Waste Reductions Plans***, FAA (September, 2014)
- ***Recycling of Airport Pavements***, Samuel H. Carpenter, Luis Diaz and Damon Brandley (March, 2001)
- ***Recycling, Reuse and Waste Reduction at Airports***, FAA (April, 2013)
- ***EPA 530-K-08-002 - Developing and Implementing an Airport Recycling Program***, US EPA (April, 2009)
- ***ACRP Synthesis 10 – Airport Sustainability Practices***, Transportation Research Board (TRB) (2008)
- ***ACRP Report 80 – Guidebook for Incorporating Sustainability into Traditional Airport Projects***, TRB (2012)
- ***Interim Guidance for Airport Sustainable Master Plan Pilot Program***, FAA (May, 2010)
- ***The Sustainable Airport Manual, Version 3 (SAM)***, Chicago Department of Aviation (November, 2012)

TYPES OF AIRPORT GENERATED WASTE

This section provides a brief overview of the types of waste that are encountered at airports in general and at general aviation (GA) airports specifically. It must be noted that this list is not intended to be all-inclusive but does enumerate the most common types of airport waste encountered at GA airports.

Municipal Solid Waste (MSW) consists of everyday items that are used and then discarded, such as product packaging, furniture, clothing, bottles, food scraps, and newspapers.

Construction and Demolition Waste (C&D) is generally categorized as MSW. However, as it can be a major component of airport waste, it has been separated into its own category for the purposes of this chapter. C&D waste is any non-hazardous solid waste from land clearing, excavation, and/or the construction, demolition, renovation or repair of structures, roads, and utilities.

Green Waste is categorized as MSW and is also referred to as yard waste. Green waste consists of tree, shrub and grass clippings, leaves, weeds, small branches, seeds, pods, and similar debris generated by landscape maintenance activities.

Spill cleanup and remediation wastes are another type of special waste. These materials are generated during cleanup of spills and/or the remediation of contamination from various types of sites on an airport (e.g. storage tanks, oil and gas production, vehicular leaks, spills from maintenance activities, etc.).

Hazardous Wastes are covered by regulations outlining legal handling, treatment or disposal. Hazardous wastes are either specifically “listed” in the regulation (40 CFR 261.31-.33), or are ignitable, corrosive, toxic or reactive (as defined in 40 CFR 261.21 - .24). Hazardous wastes most often encountered in the aviation industry include:

- solvents
- caustic parts washes
- heavy metal paint waste and paint chips
- wastewater sludges from metal etching and electroplating
- unused epoxies and monomers
- waste fuels (including sump fuel or tank sludges) and other combustibles
- unusable water conditioning chemicals
- illegal dumping of containerized chemicals
- contaminated sludge in GA aircraft wash rack oil/water separators
- nickel cadmium (ni-cad) batteries
- waste pesticides

Universal Hazardous Wastes. The EPA developed less stringent regulations for certain hazardous waste, known as universal wastes, set forth in 40 CFR part 273, the Universal Waste Rule. If handled in a responsible method prior to legal recycling, these wastes are less heavily regulated. This rule provides a set of streamlined regulations to reduce the regulatory burden by allowing longer time for the storage of these wastes, reduced record-keeping requirements, and consolidation off-site without a permit. Universal wastes are:

- Generated in a wide variety of settings other than the industrial settings usually associated with hazardous wastes;
- Generated by a vast community (typically greater than 1,000 sources);
- May be present in significant volumes in non-hazardous waste management systems unless measures are made to separate out these recyclable wastes.

Federal and state regulations govern the collection and management of these universal widely generated wastes, thus facilitating environmentally sound collection and proper recycling or treatment since economical recycling options exist for most of these wastes. Regulations also encourage the development of municipal and commercial programs to reduce the quantity of universal hazardous wastes going to landfills. States can modify the universal waste rule and add additional universal waste(s) in individual state regulations, so the regulations for Oregon are reviewed below.

REVIEW OF FEDERAL, STATE, AND LOCAL SOLID WASTE MANAGEMENT GUIDELINES

This section includes a review of the current recycling and waste management practices and regulations at the Federal, State, and Local level. It is important to note that on the national level, the EPA oversees a variety of waste issues. These include regulation of hazardous wastes, landfill regulations, and setting recycling goals. More specific recycling legislation is localized through city or state governments.

Federal Waste Management Practices

Federally, the Airport follows FAA and EPA regulations for the management of solid waste. The guidelines set by the FAA and EPA aid waste management efforts by providing guidance on how to manage materials such as hazardous wastes. The EPA implemented the Resource and Conservation and Recovery Act of 1976 (RCRA), which provides general guidelines for the waste management program envisioned by Congress. Under RCRA Subtitle C, the EPA has established a system for controlling hazardous waste from the time it is generated until its ultimate disposal. This federal law guides the City in the process of handling and disposing of hazardous waste. The City also follows the EPA's Environmentally Preferred Products (EPP) program and Green Seal products that are certified by the EPA.

Along with the rules and regulations the EPA has put forth, there are also guidance documents for recycling efforts. A document published by the EPA called *Developing and Implementing an Airport Recycling Program* has helpful guidance on how to implement recycling at an airport. Included in this document is a set of worksheets and instructions for identifying and measuring waste.

The FAA provides guidance on preparing airport recycling, reuse, and waste reduction plans. An example of this guidance is the memorandum issued by the FAA on September 30, 2014, titled *Guidance on Airport Recycling, Reuse, and Waste Reduction Plans*.

State of Oregon Waste Management Practices

The 1991 Oregon Legislature enacted a menu of recycling program elements or options in Senate Bill 66 (numbers 1 through 8). The 1997 Oregon Legislature made changes to some of these program options

and added one more (number 9). Oregon Administrative Rules (OAR 340-090-0040) clarify requirements for each of the following program elements:

- Weekly, residential curbside collection of source-separated recyclable materials, on the same day as garbage service. (If this program element is not implemented, a minimum of monthly curbside collection is still required.) Local governments must also give notice to each person of the opportunity to recycle and encourage source separation of recyclable materials through an education and promotion program.
- An expanded recycling education and promotion program which includes, among other things, recycling collection promotion directed at residential and commercial solid waste service customers and generators at least four times a year.
- Provision of at least one durable recycling container directly to each residential collection service customer.
- Recycling collection service provided to multi-family dwelling complexes having five or more units.
- Residential yard debris collection program for collection and composting of residential yard debris.
- Regular, on-site collection of source-separated principal recyclable materials from commercial generators.
- Establishment of an expanded system of recycling depots which are conveniently located to the population served.
- Garbage collection rates established as a waste reduction incentive, including a mini-can option.
- A collection and composting program for commercial and institutional food waste, non-recyclable paper and other compostable waste.

All cities with population of 4,000 or more must provide a minimum of three recycling program elements and basic recycling education and promotion. All cities with population 10,000 or more, such as the case with Newport, must provide an additional one or two recycling program elements (depending on the activities chosen). The Oregon Department of Environmental Quality (DEQ) can also approve alternative recycling programs that comply with administrative rules adopted by the Oregon Environmental Quality Commission.

City of Newport Waste Management Practices

Through a review of the City's municipal code, it does not appear there are specific rules and regulations for the City beyond the state's policy listed above. The City of Newport, through City Ordinance 2067, has established a code relating to solid waste based on State of Oregon requirements.

City of Newport Ordinance No. 2067, as an amendment to Chapter 7.05 of the Municipal Code provides the guidance for the City of Newport to regulate solid waste.

Purpose of Ordinance No. 2067:

1. To insure safe, economical and comprehensive solid waste service;
2. To insure rates that are just, fair, reasonable and adequate to provide necessary public service and to prohibit rate preferences and other discriminatory practices; and

3. To provide for technologically and economically feasible solid waste recovery by and through the franchise.

The City's solid waste management priorities, in order, are:

1. Reduce the amount of solid waste generated;
2. Reuse materials for the purposes for which they were originally intended;
3. Recycle materials that cannot be reused;
4. Resource recover material where possible;
5. Assure that remaining wastes will be disposed of in a manner that fully meets all requirements of state statutes and regulations.

The City recognizes that the priorities are subject to economic and technical considerations.

The opportunity to recycle shall be an integral part of the overall solid waste collection system, taking advantage of coordinated area-wide service, promotion, education and marketing.

The City encourages and will cooperate in research and demonstration projects in recycling, reuse, resource recovery and solid waste management generally by its franchisees, with technical assistance from other sources, as required.

The City's solid waste management program is intended to carry out state solid waste requirements and shall be interpreted to be consistent with state law and regulations regulating solid waste.

AIRPORT WASTE AUDIT

A waste audit survey was distributed to all airport tenants. The intent of the survey was to identify the sources, types and quantities of recyclable materials, along with identifying existing recycling practices. The results of the survey are provided below and included in **Appendix H**. In total, the survey collected results from 5 tenants at the Airport.

Three of the respondents were individual Airport tenants personally responsible for removal of their own waste. None of these users relied on a commercial service to remove waste from their hangar area. Respondents indicated that they did one of two things:

1. Majority of users (two) responded that they transport any garbage generated at the Airport within their own personal hangar to their personal residence to dispose.
2. One user responded that they did not generate any solid waste at their hangar.

*The types of waste generated by these users was not indicated on the survey responses.

Three tenants rely on commercial service for solid waste removal. These tenants are The United States Coast Guard (USCG), FedEx, and the Airport fixed base operator (FBO). The USCG and Airport FBO use different contractors for waste removal. The USCG has solid waste removed 3 times per week by Waste Connections. The survey response indicates that the USCG pays \$23,552 per year for this service, which is significantly more than any other tenant surveyed. The Airport FBO has waste removed once per week by Thompson Sanitary Service. The airport manager indicated that waste removal charge for one year was \$3,240.

Both the FBO and the USCG provide recycling bins. The FBO provides two recycling containers (for plastic, cardboard, and paper) along with three trash bins. The USCG provides one recycling container along with two trash bins. Neither of these tenants provide recycling related training to their employees.

The survey found that the Airport FBO generates approximately 21 total pounds of waste per week. The main component of the waste was paper (19 pounds). The other components were organic waste such as food scraps (one pound) and other items such as copier toner cartridges (one pound). The Airport FBO was the only tenant to return the completed Waste Sort Form.

Review of the Feasibility of Solid Waste Recycling at the Airport

This section examines the feasibility of solid waste recycling activity at the Airport. Airport staff and Airport users were interviewed to gain a better understanding of the solid waste recycling activities, potential opportunities, and challenges for the improvement and expansion of the recycling program.

Section 133 of the FMRA includes a list of factors that influence the scope and nature of an airport recycling program. These factors are listed and a brief discussion of their relevance and implication to the Airport is provided below:

- Local markets for recyclable commodities;
- Cost for transport and processing recyclables;
- Local recycling infrastructure;
- Willingness of an airport and its tenants to implement recycling programs;
- The nature of an airport's waste stream;
- Competition between recycling and landfilling firms; and
- Airport layout and logistics.

The City and its tenants have shown a willingness to implement recycling programs, and the City does have appropriately marked recycling containers throughout the FBO. Airport tenants are in charge of their garbage disposal and recycling practices. Given the size of the Airport and its activity levels, both current and projected, recycling and waste management practices and their feasibility is heavily influenced by the overall recycling and waste management practices within Lincoln County and the City of Newport.

While the amount of waste generated at the Airport is not sufficient to financially justify certain investments that will positively impact the Airport's ability to recycle its waste, such as the purchase of a compactor for co-mingled recyclables, these investments might be justified as part of the City's overall recycling plan. The Airport is reliant on the local recycling infrastructure, which in turn is influenced by the regulations of the State of Oregon.

Minimizing the Generation of Solid Waste at the Airport

Other than the requirements of Oregon Administrative Rules (OAR 340-090-0040), there are no mandatory requirements for solid waste management and reduction at the Airport. That said, there are a number of voluntary measures that the City can take. These measures have proven successful at other airports and they include:

- Implementing a Source Reduction Program that encourages the purchase of recycled materials and products.
- Implementing a Green Waste to Compost Program that would recycle grass clippings and tree trimmings from landscape operations into compost and mulch.
- Implementing a Tire Recycling Program that would include grinding up tires from Airport vehicles and possibly tenant vehicles as well, and use them in paving materials for future construction and maintenance projects.
- Implementing a Pavement Recycling Program for new Airport pavement replacement projects.
- Implementing a new Recycling Advertising Program for recycling bins that would educate and alert passengers on the proper disposal of waste materials.
- Providing clearly marked collection bins in the terminal and around the Airport.

Operations and Maintenance Requirements

The FBO, and USCG have designated recycling bins. There is not a recycling service available at the Airport, and recyclable goods must be dropped off at a local drop site. It is recommended that the City establish a recycling plan that includes performance-based measures and goals for waste reduction.

The recycling plan should, at a minimum, include the following:

- Establishment of an annual baseline data for all disposed and recycled waste at the Airport.
- Establishment of waste collection and recycling goals. These goals should be continuously updated as the program progresses.
- Development of a methodology for the continuous monitoring of the program and its results.

Studies have shown that the key to long-term success of any recycling and solid waste minimization plan is planning and education¹. The Airport's plan should include realistic goals and objectives, based on the baseline data obtained from the survey, and continuous monitoring to measure the program's success and adjust its goals accordingly. Examples of measurable goals could include reducing the total generation of solid waste from airport operations by a certain percent annually and/or diverting a defined percent of the waste stream generated from the Airport by a predetermined date.

Review of Waste Management Contracts

The Airport's waste is collected by Waste Connections and Thompson Sanity Service. The waste removal schedule varies depending on the tenant but ranges from three times per week to once per week. The cost of this service also varies by tenant. Individual tenants are not required to contract for these services; however, they are expected to keep their hangar free of trash and debris.

The Potential for Cost Savings or the Generation of Revenue

Recycling is the transfer of material out of the waste stream and diverting it from landfills so that it can be reused, repurposed, or remanufactured into new products. As the volume of waste sent to landfills decreases, the cost of such trash disposal also decreases.

¹“Decision Maker’s Guide to Solid Waste Management”, Volume II, (EPA 530-R-95-023), 1995

Establishment of a recycling program can provide appreciable cost savings. Initial costs to plan and implement the program, including the purchase of bins and pick-up/sorting service, if needed, should eventually be offset by reduced trash disposal fees and less waste creation over time. Material costs often include the purchase or leasing of collection bins, storage containers, container signage and employee education literature, and the cost of transporting recyclable materials to an off-site processing facility.

In addition to cost savings, recycling saves energy that would be used to extract resources or create products from virgin materials. Recycling also creates more jobs than traditional trash disposal services. For every one job at a landfill, there are 10 jobs in recycling processing and 25 jobs in recycling-based manufacturing².

The greatest potential for cost savings for the Airport would result from recycling programs aimed at keeping recycled material at the Airport instead of transporting off-site. As addressed above under Measures for Minimizing Generation of Solid Waste at the Airport, the Airport could implement a Green Waste to Compost Program or a Tire Recycling Program as measures to reuse recyclable material for the maintenance of the Airport.

CONCLUSION

The Airport currently has an adequate recycling program for the existing and forecasted activity levels. However, modest enhancements to the recycling and solid waste management process could potentially reduce costs. These enhancement include:

- Working with the City on establishing baseline data for the current Airport recycling activity.
- Developing objectives and setting measurable targets to monitor the success of the plan. This includes working with tenants to assess the success of the plan and adjusting the objectives and targets based on the obtained results.
- Established a designated recycling procedure at the Airport FBO.
- Implementing a recycling education program for the Airport employees and tenants.
- Implementing a recycling pick up service for all tenants at the Airport.

² Eco-cycle, accessed March 1st, 2014.