

Chapter 8

WASTE RESOURCES

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8.000 WASTE RESOURCES

8.010 General

The mission of the City of Olympia Waste ReSources Line of Business is “*We lead and inspire our community toward a waste free future,*” and the strategic role is “*We create opportunities to eliminate waste.*” To that end, Waste ReSources provides a variety of garbage (refuse), recyclable materials, and organics collection services in the City.

The Director of Waste ReSources provides the administration for the Waste ReSources Line of Business and oversees the collection and disposal of garbage and recycling materials.

The Community Planning and Development Department, in coordination with the Public Works Department’s Waste ReSources Line of Business, is responsible for reviewing and approving refuse/recycling site locations, site configuration, container size and type, and site enclosure associated with private and public development.

Solid waste is defined as all waste and discarded materials, including rubbish and debris, waste, discarded food, animal and vegetable matter, wastepaper, cans, glass, ashes, offal, and boxes.

These standards provide basic guidelines for planning, designing, and constructing of refuse/recycling collection sites that will be used by building occupants and waste haulers.

These standards include, but are not limited to, design review of new, remodeled, or upgraded collection sites.

Waste ReSources staff is available to assist in integrating City-provided containers such as carts, dumpsters, drop boxes, and client-owned containers and compactors to meet both the client’s specific collection needs and Waste ReSources requirements.

Olympia’s Waste ReSources Management Plan has set goals for increasing recycling and composting from its customers. To meet this goal it is necessary to provide sufficient space in and/or adjacent to commercial and multifamily buildings for building occupants to sort and store garbage, recycling, and organics.

Proper site location, vehicle passage, enclosure design and service level will result in long-term benefits for both the building occupant(s) and waste hauler; and serve to optimize:

- Employee and worker safety
- Recycling and diversion

- Collection efficiency

Aesthetics WAC 51-50-009 of the State Building Code requires local jurisdictions to require all new buildings to provide sufficient space for storage of recyclable materials and solid waste. The storage area shall be designed to meet the needs of the occupancy, efficiency of pickup, and shall be available to occupants and haulers. At least 50 percent of the solid waste and recycling storage area shall be designated for recyclable and compostable materials.

8.020 Collection Services

Waste ReSources provides for collection and disposal of all solid waste and recycling generated from all occupied residential premises within the City a minimum of once every two weeks; and solid waste generated by commercial businesses, mixed-use and multi-family a minimum of once per week. Table 1 lists a variety of collection services, by waste stream, with the City-provided carts, dumpsters, drop boxes, and client-owned compactors.

Collection services are provided by the following types of vehicles.



Figure 1: Tilt frame drop box “roll-off” truck



Figure 2: Front-load truck
 Standard for new development and remodel



Figure 3: Automated side-load
 Residential collection and multi-family recycling



Figure 4: Rear-load truck Limited use only

Table 1: Current Collection Services by Waste Stream

Garbage	Services	Containers	Pick-up Vehicles
Residential	Curbside collection	Carts ¹	Fully automated side-load truck

Garbage	Services	Containers	Pick-up Vehicles
Small Commercial	Site collection	Dumpsters ²	Front-load truck, rear-load truck in select downtown area only
Large Commercial	Site collection	Drop boxes ³ , compactors ⁴	Tilt-frame drop box truck
Recycle Materials			
Residential	Curbside collection	Carts ¹	Fully automated side-load truck
Multi-family:			
Commingled	Site collection	Carts ¹	Fully automated side-load truck
Cardboard	Site collection	Dumpsters ²	Front-load Truck
Construction/ demolition debris	Site collection	Drop boxes ³	Tilt-frame drop box truck
Organics			
Residential	Curbside collection	Carts ⁶	Fully automated side-load truck
Small Commercial	Site collection	Carts ⁶ , dumpsters ⁵	Rear-load truck
Small/Large Commercial	Site collection	Dumpsters ⁵ , drop boxes ³	Tilt-frame drop box truck, Rear-load truck

¹ 20-, 35-, 65-, and 96-gallon carts provided by the City.
² 1-, 1.5-, 2-, 3-, 4-, and 6-cubic yard dumpsters provided by the City.
³ 10-, 20-, and 30-cubic yard drop boxes provided by the City.
⁴ 5-, 10-, 15-, 20-, 25-, 30-, 35-, and 40-cubic yard "roll-off type compactors owned by customers.
⁵ 1-, 1.5-, 2-, and 3- cubic yard dumpsters provided by the City
⁶ 35 and 95 -gallon green carts provided by the City.

Olympia’s standard for commercial, multi-family and mixed-use garbage collection is front-load dumpster service. Rear-load dumpster service is ~~only available where~~ limited to the following:

- ~~Existing sites where~~ infrastructure limits or prohibits front-load ~~truck access~~ side-load collection, or
- ~~for Commercial~~ organics collection, or
- As approved by the City Engineer, through the Deviation Request process outlined in Section 1.050 of the EDDS.

Dumpsters, drop boxes and compactors shall be located so that Waste ReSources vehicles and staff have unrestricted access for servicing and do not need to be moved manually by the driver.

Automated side-load service is the standard for all residential single-family collection and multi-family recycling. Carts should be located so they can be emptied without movement by the driver. High volume waste generators should consider compactors and drop boxes for garbage and in some cases recycling.

8.030 Design Standards

The design of solid waste collection facilities will conform to current City standards. The design elements include, but are not limited to, container type and size selection, pad size and slope, drainage issues, site configuration, site enclosure, site location, and collection vehicle passage analysis. The above information will be clearly shown and labeled for refuse/recycling site design review during the approval process. The City of Olympia Community Planning and Development Department and the Public Works Department will review and approve the plans.

See Table 4 for Solid Waste Generation Guidelines.

Failure to obtain plan approval prior to construction may require alteration, relocation, or complete reconstruction of the solid waste site enclosure at the customer's expense. Otherwise, Waste ReSources will have the right to refuse to provide collection services.

8.0318.040 Container Type and Size Selection

A. **Carts:** Residential carts shall be accessible to designated collection vehicles at the curb, street, or alley where the collection vehicle can stop legally for collection and loading. This will be determined by Waste ReSources.

B. **Dumpsters:** Dumpsters should be considered when a facility generates more than five ~~3235~~-gallon cans of trash per week. ~~For small businesses, dumpsters should be used.~~ The requirements for dumpsters are as follows:

1. A permanent dumpster will not be delivered until the refuse/recycle site or pad is inspected and approved by Community Planning and Development and Waste ReSources.
2. Speed bumps are not permitted within 50 feet of the enclosure and shall be located so that they do not interfere with collections.
3. Dumpsters shall not be modified or altered by the customer.

4. All dumpsters are 7 feet wide. The depth and height vary by container size.

C. **Drop Boxes/Compactors:** For large facilities generating higher volumes of refuse/recycling material, self-contained "roll-off" type compactors or drop boxes are recommended and more cost effective and efficient over time.

1. City of Olympia Waste ReSources will be contacted during planning and design if the applicant (owner) plans on providing a compactor. This allows the new, remodeled, or rehabilitated container to interface with the City's collection vehicle capabilities and capacity both present and planned.

2. Compactors vary in size and the manufacturer should provide capacity and the dimensions.

~~23.~~ The City of Olympia does not supply, loan, or lease compactors. This equipment is privately owned by the customer. Waste ReSources does service (collect) roll-off type compactors. Collection is contingent on the compatibility of the compactor and City collection vehicles. If any modifications to the compactor are required, these modifications must be completed before collection can begin and are at the owner's expense.

~~34.~~ Apartment style front and rear-load compactor units cannot be serviced (collected) by the City of Olympia and are therefore not permitted for use by Olympia garbage customers.

~~45.~~ Breakaway-type compactors shall not be installed after January 1, 2016. All new and replacement compactors shall utilize self-contained compactors with hydraulically operated doors.

6. Compactors at medical type facilities shall be self-contained.

~~57.~~ Compactors that contain polluted liquid and do not have a watertight seal are to be connected to the closest sanitary sewer system. The connection to the sanitary sewer must meet the requirement described in Chapter 7.

~~68.~~ Open top and lidded drop boxes are supplied by the City.

9. Roll-off containers may be placed directly behind a building where space is available at a loading dock to allow loading from above.

10. Loading docks should be equipped with bumper pads to avoid undue dock damage from heavy container. Contact Waste ReSources before designing any bumper rails for container.

11 Drop box container shall be placed on a level surface, with no more than 0.5% slope. If site constraints require it to be placed on a slope exceeding this grade, roll-away protection is required and must be approved in advance by Waste ReSources, after a scheduled onsite inspections, before final container placement.

12 Guide rails and stops are required to avoid damaging container or surrounding structure(s). Guide rails shall be designed in an “L” fashion so that the container wheels roll directly on the concrete pad.

13. Approximate outside dimensions of Containers:

<u>Drop Boxes</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>
<u>10 Cubic Yard</u>	<u>12'</u>	<u>8'</u>	<u>5'</u>
<u>20 Cubic Yard</u>	<u>18'</u>	<u>8'</u>	<u>6'</u>
<u>30 Cubic Yard</u>	<u>20'</u>	<u>8'</u>	<u>7'</u>
<u>40 Cubic Yard</u>	<u>23'</u>	<u>8'</u>	<u>7'</u>

Compactors - Vary by container size and manufacturer

8.0328.050 Pad Size and Site Configuration

If dumpsters, ~~or~~ drop boxes, ~~with~~or compactors are selected, concrete pads will be constructed with 6-inch-thick, Class 3000 concrete reinforced with welded wire fabric. The sizes of the concrete pads for enclosures can be found in Table 2. The pad sizes for the privately owned compactors will be evaluated on a case-by-case basis.

All food establishments shall locate solid waste containers on a concrete pad which is smooth, durable and sloped to catch basin installed within the limits of the concrete pad; all consistent with WAC 246-215-05505.

Refuse/recycling sites and pads will be sloped to provide positive drainage. The slope will not exceed 0.005 ft/ft (1/16-inch per foot) in any direction. The site and pad drainage slope will provide easy passage by collection vehicles and crews. The concrete pad details are shown in Standard Drawing 8-1.

Concrete pads shall extend forward of the enclosure opening a minimum of 13 feet to accommodate collection vehicle weight, movement of containers and rolling of compactors and drop boxes.

8.03258.060 Space Allocation

The amount of space provided for the storage and collection of waste shall be designed in a manner consistent with the types and amount of waste the building occupants expect to generate.

- ~~Generally, this will mean p~~Planning for a minimum of two waste streams - garbage and recycling.
- If food scraps are expected to be generated in larger quantities, such as at a restaurant, planning for organics is required.
- Multi-family complexes, mixed-use buildings and certain commercial businesses shall plan for separate cardboard collection in addition to other waste streams. In some cases ~~it might~~this may mean more than three waste streams, or different combinations of waste streams.
- Garbage, recycling, cardboard and organics should be co-located to the greatest extent possible.

8.0338.070 Site Enclosure

Site enclosure requirements will be determined on a case-by-case basis, taking into account the planned collection site and surrounding environment. __

See ~~Illustrations A, B and C~~the standard drawings at the end of this chapter, as well as Table 2 below, for more information.

The site enclosure shall meet the following requirements:

- A. Refuse site enclosure will be made of wood, concrete blocks, or chain link fence with horizontal or vertical blinds or other approved material.
- B. Enclosures shall be designed with at least 50 percent of their volumetric capacity designated to recycling/diversion. As an alternative, separate enclosures could be constructed for each waste stream.
- C. Gates are only required where the waste receptacle will be visible from a public right-of-way.
- D. Minimum available clear width of the gate opening for a single dumpster will be 12 feet; for two dumpsters, 20 feet. Each additional dumpster requires 8 to 10 feet of clear opening width.
- E. Enclosures shall be adequately sized for the quantity and dimensions of the solid waste containers they need to hold, so that there is adequate room to both use and service them.
- F. Refuse/recycling site enclosure gates shall have locks/stops (J hooks) in both the open and closed positions. J-hook stops must attach to the ground to hold gate in fully opened position to prevent truck and/or gate damage.
- G. Refuse site enclosure gate hinges will be located on the outside exterior walls. Gates will swing out a minimum of 110 degrees from the closed position, so that the collection vehicle does not scrape mirrors or cause damage to the enclosure or truck.
- H. Gate bollards shall be used where opened gates might hit parked cars, or cause other property damage.
- I. 8-inch wide by 2-inch thick dumpster bumpers will be anchored on the pad immediately adjacent to all three inside walls of the enclosure to prevent the dumpster from contacting the walls.
- J. Refuse site enclosures are for solid waste containers only. No other material storage is allowed and shall remain free of all materials that would interfere with the collection or collection vehicle while providing service. Floor will be kept clean and free of grease, oil, and other trip or slip hazards. Dumpster will not be serviced until such situation is remedied.
- K. Enclosure shall be located and configured such that the Waste ReSources/recycling collection vehicle can approach, dump and replace the container with NO MANUAL MANEUVERING of the container by the driver.
- L. City of Olympia Waste ReSources will provide a lock to ensure City access to enclosures.

Table 2: City of Olympia Enclosure and Minimum Pad Specifications

Number of Dumpsters in Enclosure	Minimum Enclosure Dimensions 'Inside Pad Size' ¹
1	12 feet wide x 10 feet deep
2	20 22 feet wide x 10 feet deep

¹Additional space will be required if more than 2 containers are used

8.0348.080 Site Location and Collection Vehicle Passage

The City of Olympia uses front-load vehicles, roll-off trucks, as well as rear-load on a limited basis. ~~The horizontal "front load" dimension is similar to the size of the 30' wheelbase Single Unit Truck (SU 3) identified by AASHTO with 7.7 foot front overhang.~~ Vehicle characteristics for developing turning movements are shown in Table 3.

Table 3: Vehicle Characteristics for Developing Turning Movements

Vehicle Characteristic	Side Loader	Drop Box	Front Loader
Lock to Lock Time (seconds)	6.3	5.0	11.7
Steering Lock Angle (degrees)	23	29	31
Overall Length (feet)	32.25	35	36.5
Wheelbase (feet)	17.5	19	16
Front Overhang (feet)	6.25	6	8
Rear Overhang (feet)	8.5	10	12.5
Width (feet)	9.5	9.5	9.75
(Tractor) ¹ Front Track (feet)	8.25	8.5	8.25
(Tractor) ¹ Rear Track (feet)	8	8.25	8
Trailer Rear Track (feet)	N/A	N/A	N/A

¹If vehicle is articulated

Clearance Requirements:

- The minimum outside turn radius for all solid waste vehicles is 42 feet.
- The body of the truck ~~is-requires~~ 14 feet high clearance when traveling through the site.
- At least 25 feet vertical space is required within the loading area for front-load and drop boxes.
- Service area length 60' long (clear area in front of container).
- Service area width 12' wide minimum.
- Drop box/compactor lifting bale shall be within 2' of the threshold.
- 14' vertical clearance (roof clearance if container is covered).

See Illustrations D, E, and F the standard drawings at the end of this chapter for more information.

For all new, remodeling, and rehabilitation projects, the City will require that the refuse/recycling site be located to accommodate the use of front-load collection vehicles with no manual manipulation of containers required by the driver.

- Architects or designers shall provide enough turning space at site entrance(s) and exit(s) for the collection vehicle without disrupting local traffic.
- Collection vehicles shall have the ability to pull forward into traffic on the roadway.
- Minimum vehicle turnaround and maneuvering space is required at all collection locations.
- Refuse/recycling sites will be located for ease of passage by both collection personnel and vehicles.

Passage to refuse/recycling sites will follow designated traffic patterns and will provide adequate maneuvering area for collection vehicles and containers before, during, and after hours of business operation. Passage routes will be a minimum of 12 feet wide and without obstructions.

Minimum turnaround and maneuvering space requirements are defined in City of Olympia Standard Drawing 4-5, for Cul-de-sacs and Temporary Intersection “Ts”/Hammerheads. Architects or designers shall use proper turning vehicle templates or computer software (such as AutoTurn) to aid their design. Truck characteristics for turning movements are listed in Table 3. Some typical site configurations are shown on Standard Drawings 8-2A and 8-2B.

The passage surface to a refuse/recycling site or pad will be well-compacted surface with a maximum slope of 0.03 ft/ft (3/8 inch per foot).

All areas designed for storage and collection of waste materials should be designed to provide convenient and safe access for those who put materials in containers and those responsible for collection.

Suggested options for convenient tenant access:

- Staggered gates.
- Walk-in access separate from the main service gate.

Waste collection vehicles need direct and straight access to containers for servicing.

- **Front-load trucks** - Drive forward in order to connect to and service containers.
- **Roll-off trucks** - Back up in order to connect to and load containers.
- **Rear-load trucks** - (Limited use and preapproval required) Back up in order to connect and service containers.

~~8.035~~ ~~Roll-off Containers (drop boxes and self-contained roll-off compactors)~~

~~1. Roll off containers are recommended for high volume waste generators. There are several reasons that businesses may choose to have a drop box or compactor.~~

- ~~• They increase collection efficiency and are more cost effective when multiple pickups per week might otherwise be required.~~
- ~~• Drop boxes provide much greater capacity for waste than dumpsters, thereby reducing the number of times a container needs emptied each week/month.~~
- ~~• Compactors reduce volume before transport and minimize or eliminate scavenging.~~
- ~~• Contact Public Works Waste ReSources before installing compaction units. Compactors vary in size and the manufacturer should provide capacity and the dimensions.~~

~~2. Container Placement:~~

- ~~• Roll off containers may be placed directly behind a building where space is available at a loading dock to allow loading from above.~~
- ~~• Loading docks should be equipped with bumper pads to avoid undue dock damage from heavy container. Contact Waste ReSources before designing any bumper rails for container.~~
- ~~• Container should be on a level surface. If placed on an incline, roll away protection is required. Waste ReSources will provide onsite inspections before final container placement.~~
- ~~• Guide rails and stops are required to avoid damaging container or surrounding structure(s).~~

~~3. Required Clearances for Roll Off Vehicle—See Illustrations G and H at the end of this chapter.~~

- ~~• Vertical (approach and exit; roof clearance if container is covered) 14' high~~

- Vertical (rails used to raise and load bin) 25' high
- Lateral 12' wide
- Service area length 70' long (clear area in front of container)
- Lifting bale shall be within 2 feet of the threshold

4. Container Dimensions: Approximate outside dimensions

<u>Drop Boxes</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>
10 Cubic Yard	12'	8'	5'
20 Cubic Yard	18'	8'	6'
30 Cubic Yard	20'	8'	7'
40 Cubic Yard	23'	8'	7'
<u>Compactors</u> —Vary by container size and manufacturer			

8.0408.090 Grease and Liquid Biological Waste

Grease, manure, offal, or other biological noxious waste materials must be placed in a physically separate collection container to prevent these materials from entering the refuse/recycling area. The waste must be securely wrapped by the customer. This site will be separate from the refuse/recycling site and will be labeled as such. Stored material that generates effluent requires a refuse/recycling site drainage system. This system must be connected to the sanitary sewer system. These refuse/recycling sites will be covered to prevent stormwater runoff from entering the sanitary sewer system. This coverage will meet the Uniform Fire Code (UFC) Section 1103, Combustible Materials.

Under no condition will the refuse/recycling site drainage system be connected to a stormwater or storm drainage system. The above conditions do not apply to sites approved prior to October 1, 1996.

8.0508.100 Contact Agency

Public Works Waste ReSources	Maintenance Center 1401 Eastside St. SE Olympia, WA 98501 (360) 753-8368
Community Planning & Development	City Hall 601 4TH Avenue E. - Second Floor (360) 753-8314
Public Works Engineering	601 4TH Avenue E. - Third Floor (360) 753-2670

All dumpsters measure 80 inches wide. To avoid damaging the enclosure and provide for effective collection, dumpsters shall be set at least 2 feet apart and at least 2 1/2 feet from enclosure walls.

TABLE 4: Solid Waste Generation Guidelines

This table provides an approximate guide for certain customer types based on a review of existing customer accounts. For customer types and building classifications where waste generation varies greatly by size of establishment, builder shall provide analysis of anticipated waste generation. Waste ReSources will assist in final determination of capacity needs. Compactors and drop boxes are strongly encouraged where waste volumes exceed 6 cubic yards per week for a given waste stream and having multiple dumpsters is not possible.

Classification Building/Customer Type	Waste Quantities	Waste Streams to Consider Allocate 50% to recycling/compost	Container Guidelines
Coffee Stand or Similar	1/3 to 2 yards	Organics, garbage & some recycling	Carts and dumpsters
Multi-family Apartments Condominiums	1.1 cubic yards/household/month [4.33 weeks/month]	Garbage, recycle and organics	Compactor if >100 units Dumpsters and carts <100 units Centralized waste collection
Grocery / Market	Varies by Size: Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Organics, garbage, recycling collection Stores benefit from having an onsite cardboard and plastic film bailer	Large grocery should consider having 1 or 2 waste compactors, and space for organics and recycling, as well as a cardboard and plastic film bailer
Hotel	0.5 - 0.7 yd ³ /room/month (est.)	Garbage, cardboard, recycling, possibly organics if there is a restaurant	Large hotels will need a compactor for garbage, a cardboard dumpster, recycling carts or dumpster, and plan for organics if there is a restaurant
Hospital	Varies by Size: Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Garbage, medical waste, cardboard, recycling, organics	Drop box/compactor: Compactor to meet medical waste requirements-see Section 8.031 (C)
Mixed-use	Varies by Size: Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs -Use multifamily analysis for residential units.	Garbage, recycling, cardboard, organics.	Compactors, dumpsters, carts depending on assessment
Medical Clinic	Varies by Size: 3 to 12 cubic yards weekly Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Garbage, medical waste, cardboard, recycling	Dumpsters, carts
Office (small to medium)	Varies by Size: 1/2 to 6 cubic yards. Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Recycling and garbage	Carts and dumpsters
Office (large complex)	Varies by Size: 12 to 15 cubic yards Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Recycling, shredded paper, recycling garbage, organics	Dumpsters, compactors, carts
Restaurant	Varies by Size: Can vary from 2 to 25 yd ³ weekly Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Organics, garbage and some recycling Organics will be a significant portion of waste	Compactor, dumpster, carts
Retail	Varies by Size: Small retail may generate 1/2 yd ³ weekly, whereas large retail, or big box stores may generate 30 yd ³ weekly Builder to provide waste generation analysis and consult with Waste ReSources for final determination of capacity needs	Cardboard, recycling, garbage, other	Carts and dumpster for small and medium retail Single or multiple compactors are advised for large retail

~~Some business types may have unique wastes such as large metals, pallets, plastic wrap or other recyclable wastes that are typically handled separately from garbage, traditional recycling, or organics.~~

~~Yard = cubic yard = yd³~~

~~4.33 weeks/month~~

Notes:

1. Some business types may have unique wastes such as large metals, pallets, plastic wrap or other recyclable wastes that are typically handled separately from garbage, traditional recycling, or organics.

2. Yard = cubic yard = yd³

3. 4.33 weeks/month

4.4. Contact the City of Olympia Waste ReSources Waste Prevention and Reduction staff at (360) 753-8509 for information regarding the benefits of composting and recycling and how to incorporate organics and recycling into your facility.

Appendix 1: List of Standard Drawings

Title	Drawing No.	File Type (DWG includes all drawings in chapter)
	Chapter 8 – All	PDF DWG
Solid Waste Concrete Pad	8-1	PDF DWG
Minimum Design for Front-Load	8-2A	PDF DWG
Minimum Design for Front-Load	8-2B	PDF DWG
Single Front-Load Enclosure	8-3	PDF DWG
Front-Load Side By Side Enclosure	8-4	PDF DWG
Front-Load With Recycle Carts Enclosure	8-5	PDF DWG
Facility Design	8-6	PDF DWG
Front-Load Enclosure Access Examples	8-7	PDF DWG
Front-Load Overhead Clearance	8-8	PDF DWG
Roll-Off Container Access	8-9	PDF DWG
Roll-Off Container Placement	8-10	PDF DWG