Chapter 8
WASTE RESOURCES

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 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 Toward Zero Waste Plan sets a target of 65 percent recycling in commercial and multi-family by 2013. To meet this goal it is necessary to provide sufficient space 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 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
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 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 existing infrastructure limits front-load truck access, or for organics collection. Dumpsters shall be located so that the truck has unrestricted access for servicing and does not need to be moved 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.

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.

8.031 Container Type and Size Selection

See Table 3 for service level guidelines.

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 32-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.

C. **Drop Boxes/Compactors:** For large facilities generating higher volumes of refuse/recycling material, 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. The City of Olympia does not supply, loan, or lease compactors. This equipment is privately owned by the customer. Waste ReSources does collect from this equipment. 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.

3. Facilities that generate medical waste are required to utilize self-contained compactors with hydraulically operated doors.

4. 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.

5. Open top drop boxes are supplied by the City.

8.032 Pad Size and Site Configuration

If dumpsters or drop boxes with compactors are selected, concrete pads will be constructed with 4-inch-thick, Class 3000 cement. 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.

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.

8.0325 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 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.
- In some cases it might mean more than three waste streams, or different combinations of waste streams.
- Garbage, recycling and organics should be co-located to the greatest extent possible.

8.033 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 at the end of this chapter.

If the site enclosure is required, it will meet the following:

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. Refuse site enclosure will require both landscaping and wall or fence at least 6 feet in height on three sides of the refuse site.

E. Minimum available clear width of the gate opening will be 12 feet.

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°** 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 to remain free of all other 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.

8.034 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.

- The minimum outside turn radius for all solid waste vehicles is 42 feet.
- The body of the truck is 14 feet high when traveling.
- At least 25 feet vertical space is required within the loading area.

See Illustrations D,E,and F at the end of this chapter.

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, Cul-de-sac or Temporary Intersection "T", as shown in the City of Olympia Engineering Design and Development Standards. Architects or designers shall use proper turning vehicle templates or computer software (such as AutoTurn) to aid their design. Some typical site configurations are shown on Standard Drawings 8-2A and 8-4B.

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 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) 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)

4. Container Dimensions: Approximate outside dimensions

Drop Boxes	Length	Width	Height
10 Cubic Yard	12’	8’	5’
20 Cubic Yard	18’	8’	6’
30 Cubic Yard	20’	8’	7’
40 Cubic Yard	23’	8’	7’

Compactors – Vary by manufacturer

8.040 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 storm drainage system. The above conditions do not apply to sites approved prior to October 1, 1996.

8.050 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 Technical Services Engineering	601 4TH Avenue E. – Third Floor (360) 753-2670

Table 2: City of Olympia Enclosure and Minimum Pad Specifications

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

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 ½ feet from enclosure walls.

TABLE 3: 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
Classification Building/Customer Type	**Waste Quantities**	**Waste Streams to Consider Allocate 50% to recycling/compost**	**Container Guidelines**
Office (small to medium)	Varies by Size: ½ 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 ½ 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 = yd^3
4.33 weeks/month

Notes:

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 Drawings

Title	Drawing No.
Solid Waste Concrete Pad	8-1
Minimum Design for Front-Load	8-2A
Minimum Design for Front-Load	8-2B

Appendix 2: List of Illustrations

Title	Illustrations No.
Single Front-Load Enclosure	A
Front-Load Side by Side Enclosure	B
Front-Load with Recycle Carts Enclosure	C
Front-Load Overhead Clearance	D
Facility Design	E
Front-Load Enclosure Access Examples	F
Roll-off Container Access	G
Roll-off Container Placement	H

Illustration A: Single Front-Load Enclosure

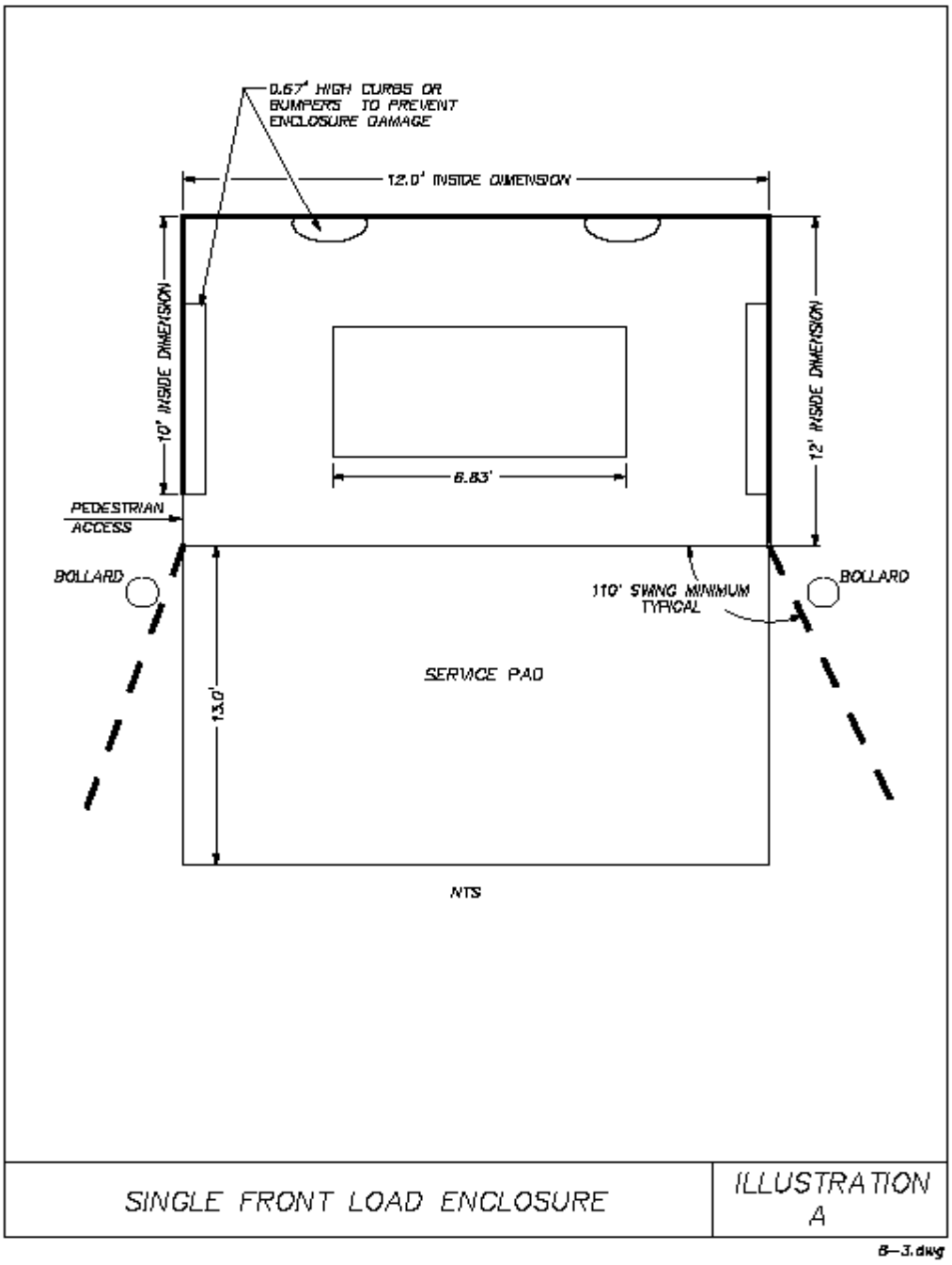


Illustration B: Front-Load Side by Side Enclosure

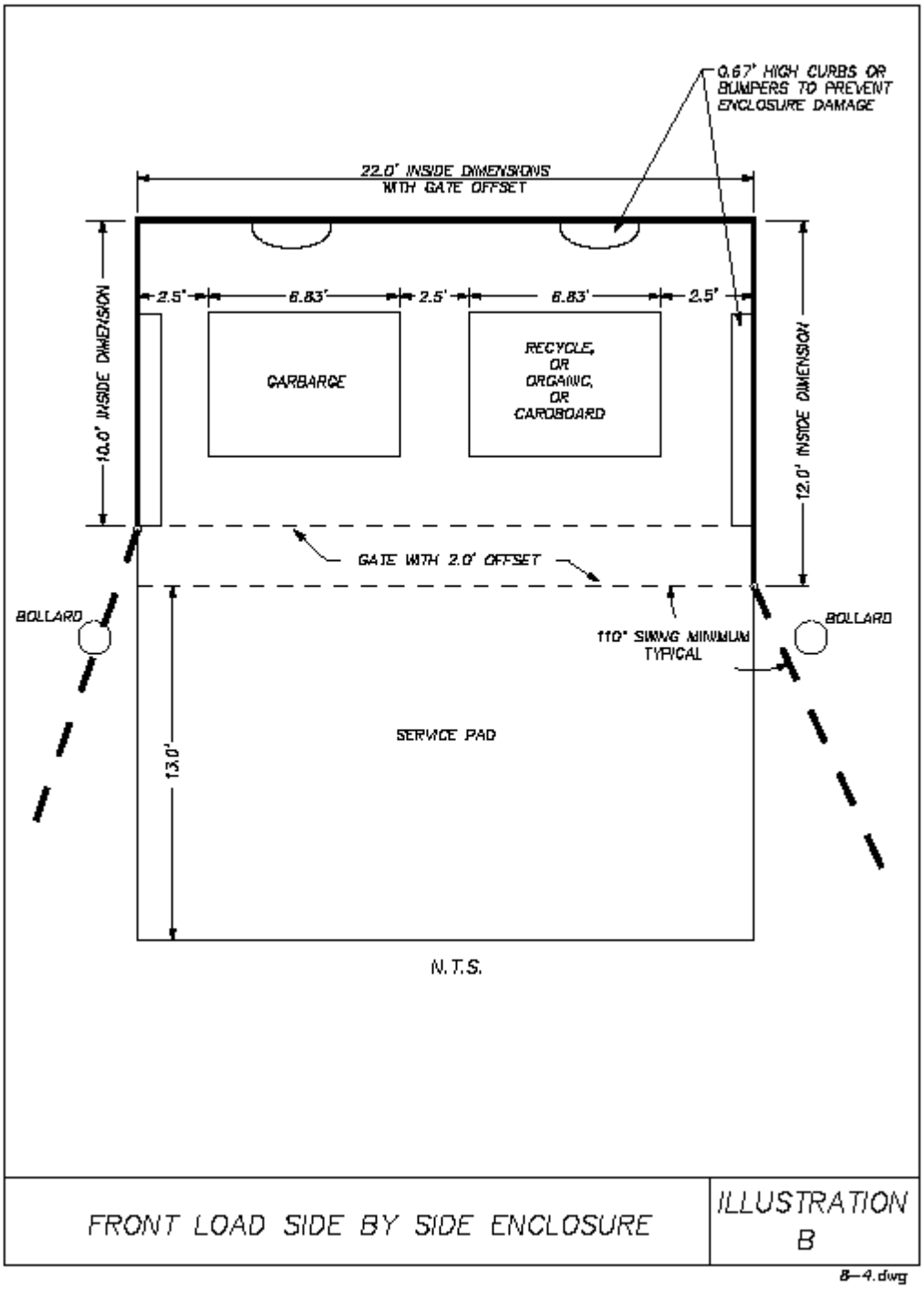


Illustration C: Front-Load with Recycle Carts Enclosure

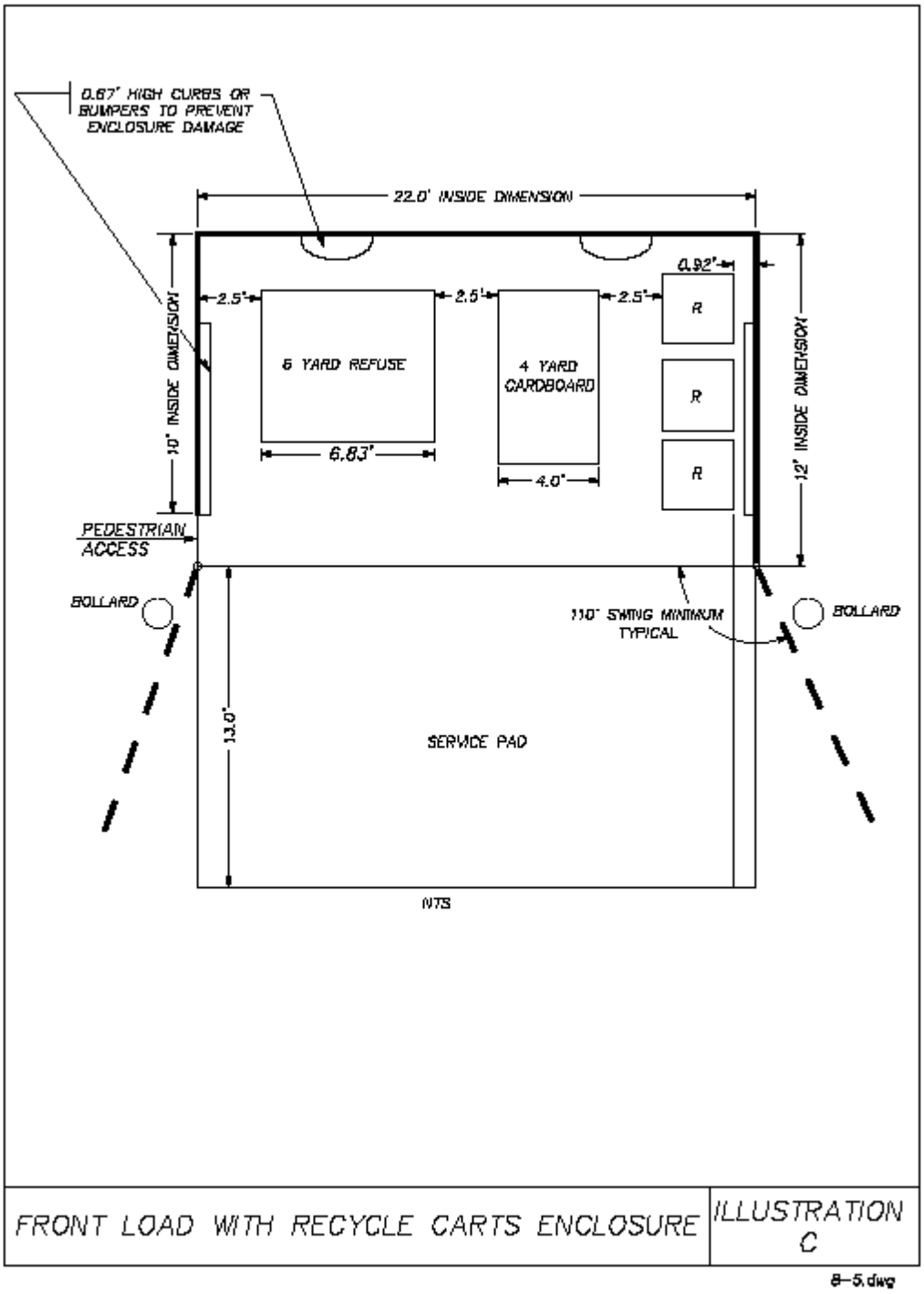
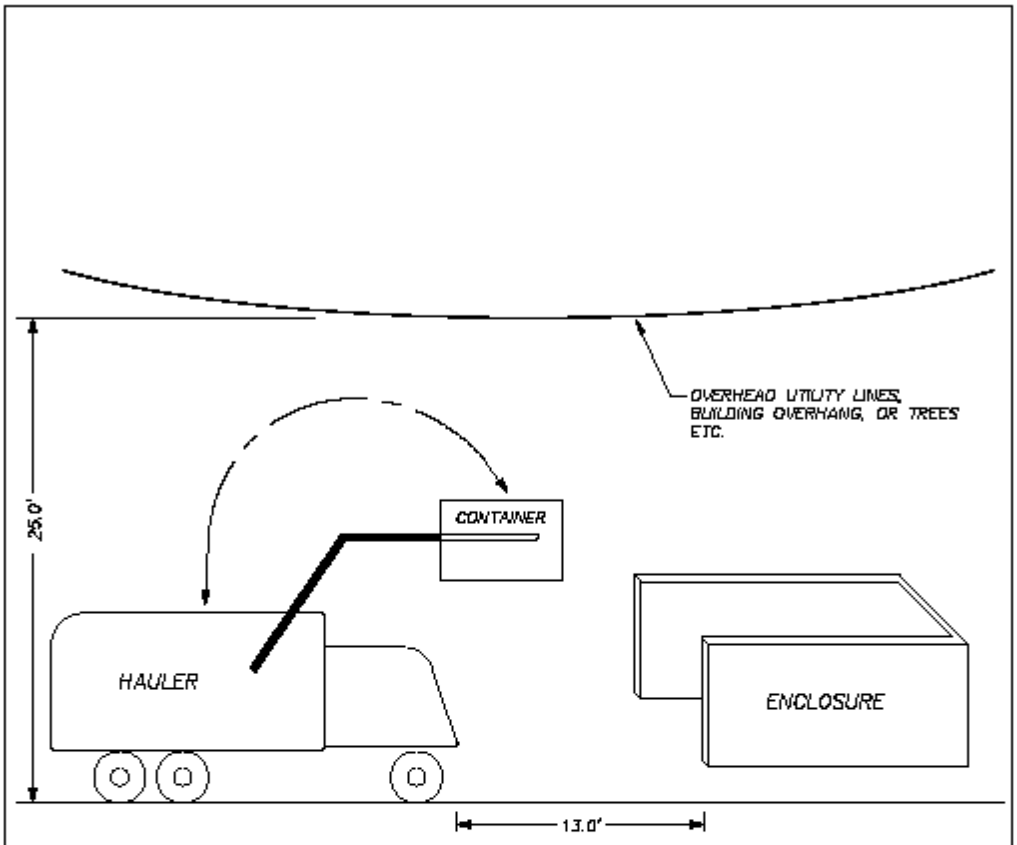


Illustration D: Front-Load Overhead Clearance



NOTE:
25 FOOT CLEARANCE OF OVERHEAD OBSTRUCTIONS IS NECESSARY TO LIFT AND EMPTY THE CONTAINER.

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FRONT LOAD OVERHEAD CLEARANCE	ILLUSTRATION D

8-8.dwg

Illustration E: Facility Design

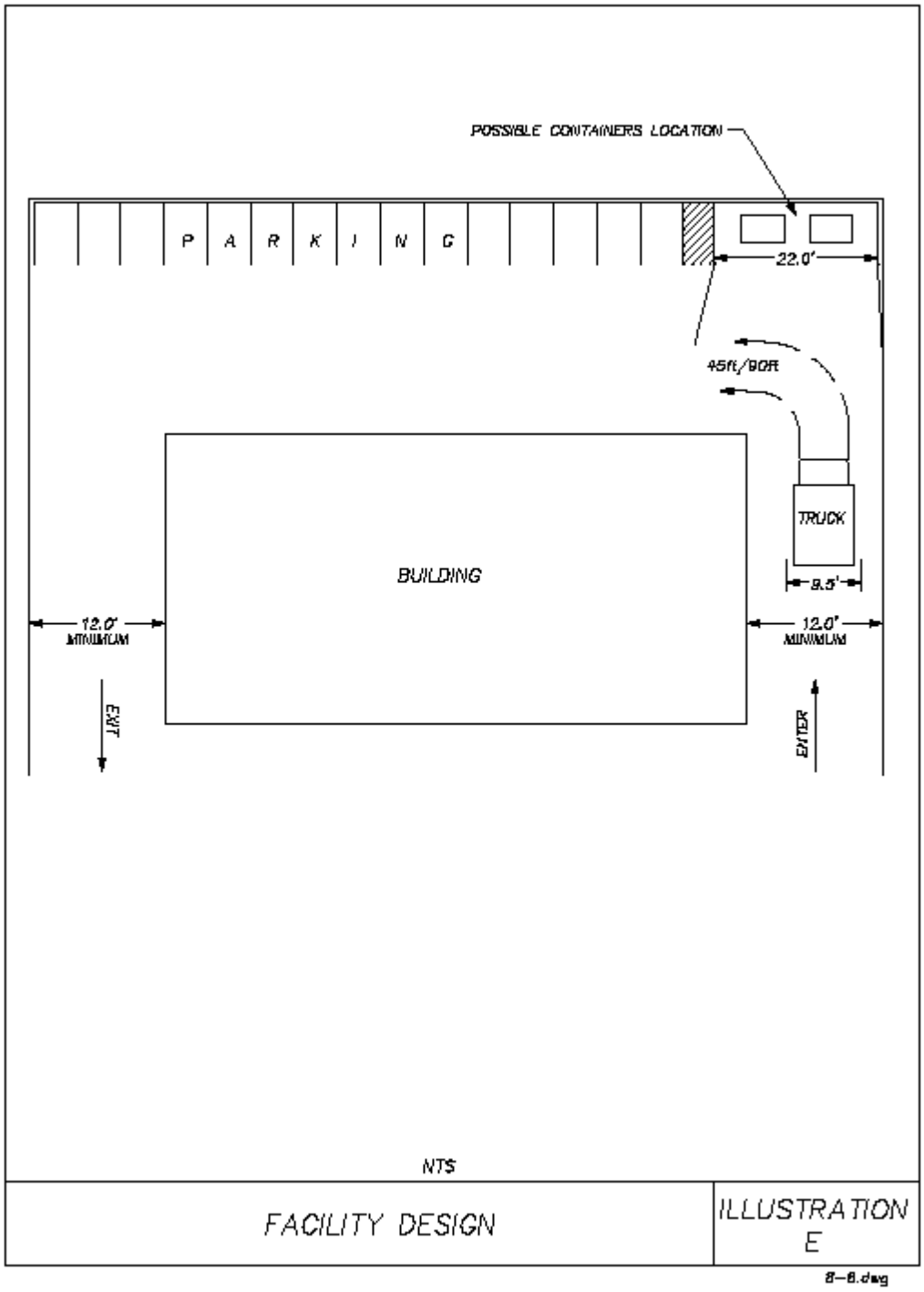


Illustration F: Front-Load Enclosure Access Examples

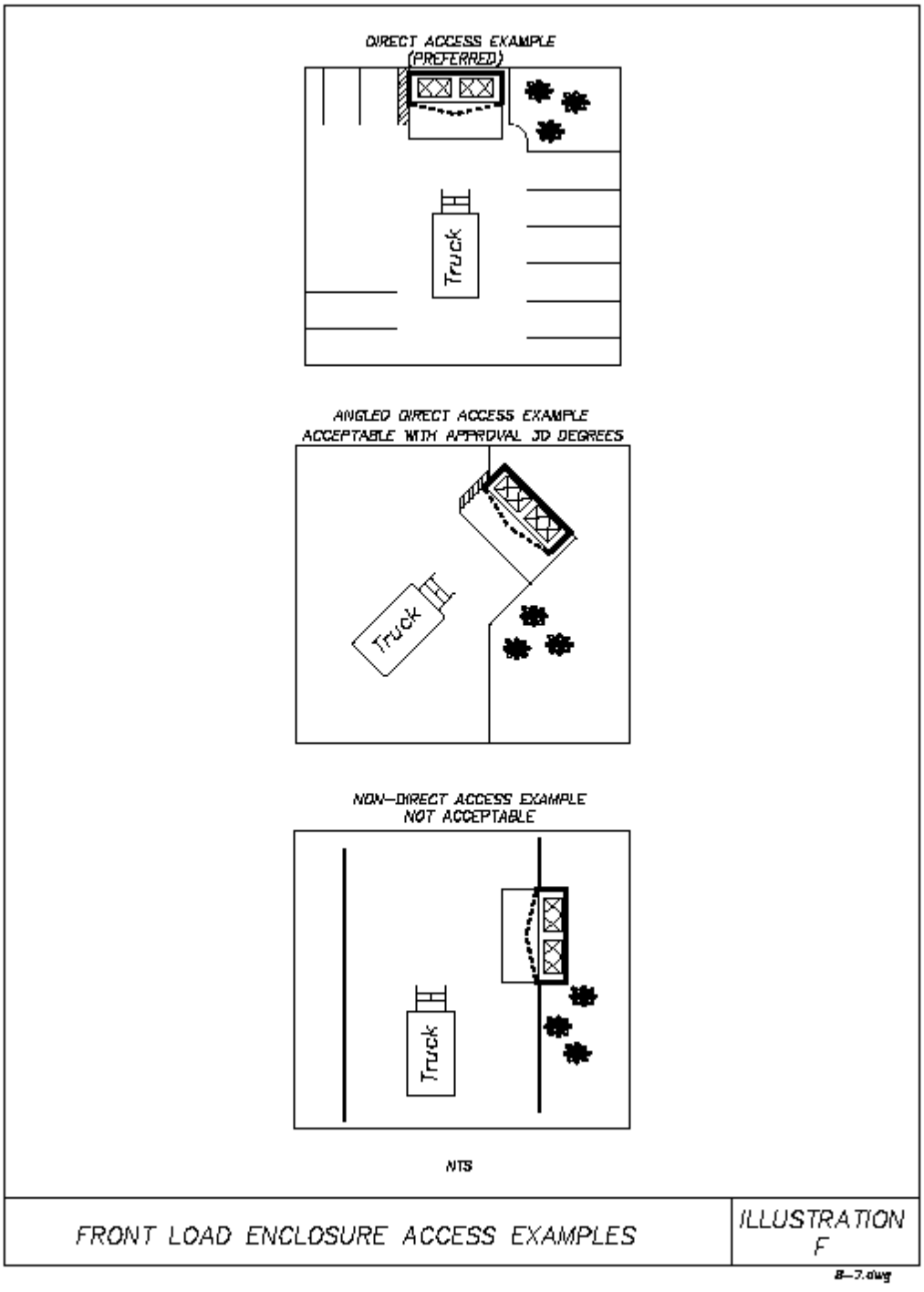


Illustration G: Roll-off Container Access

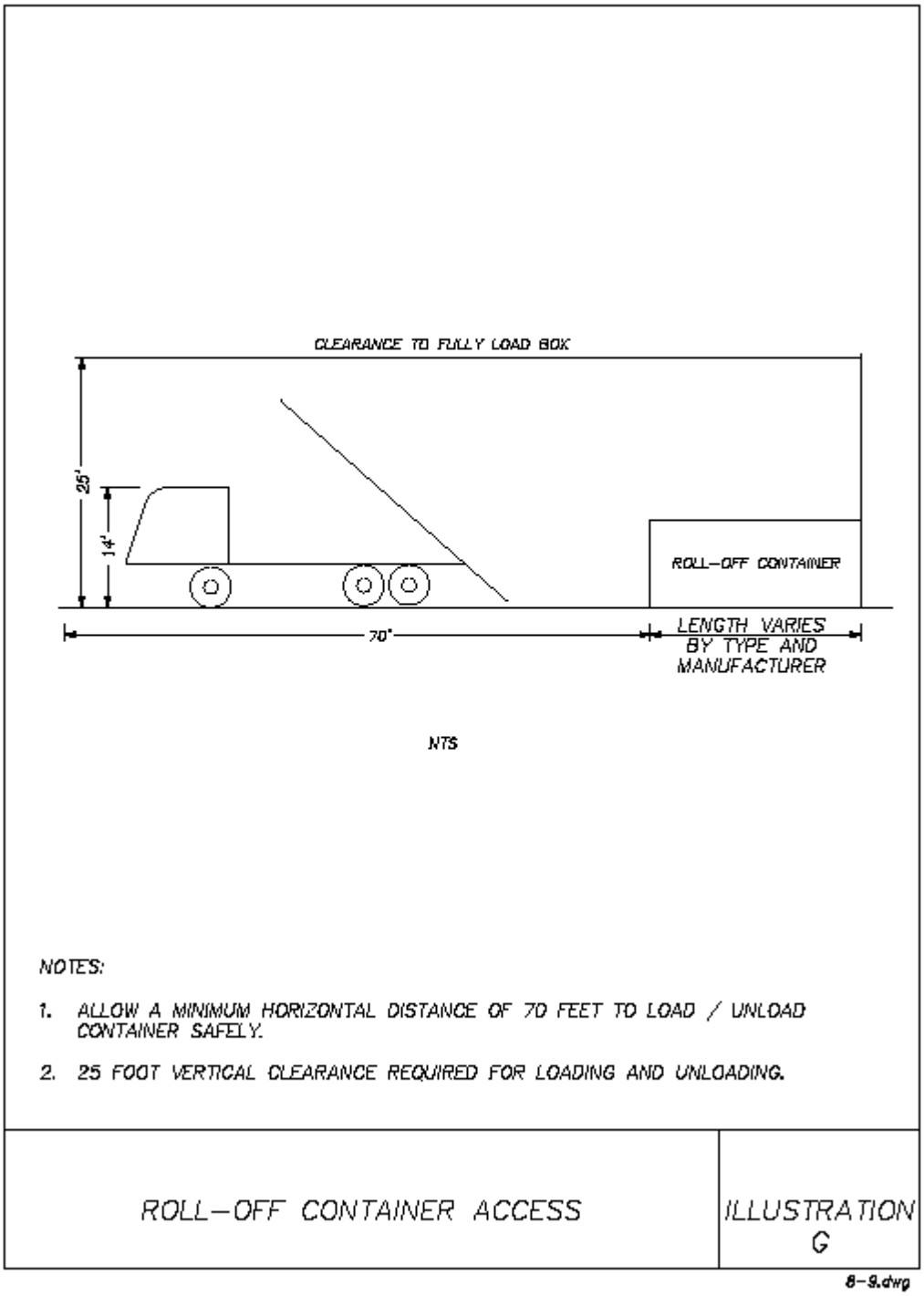
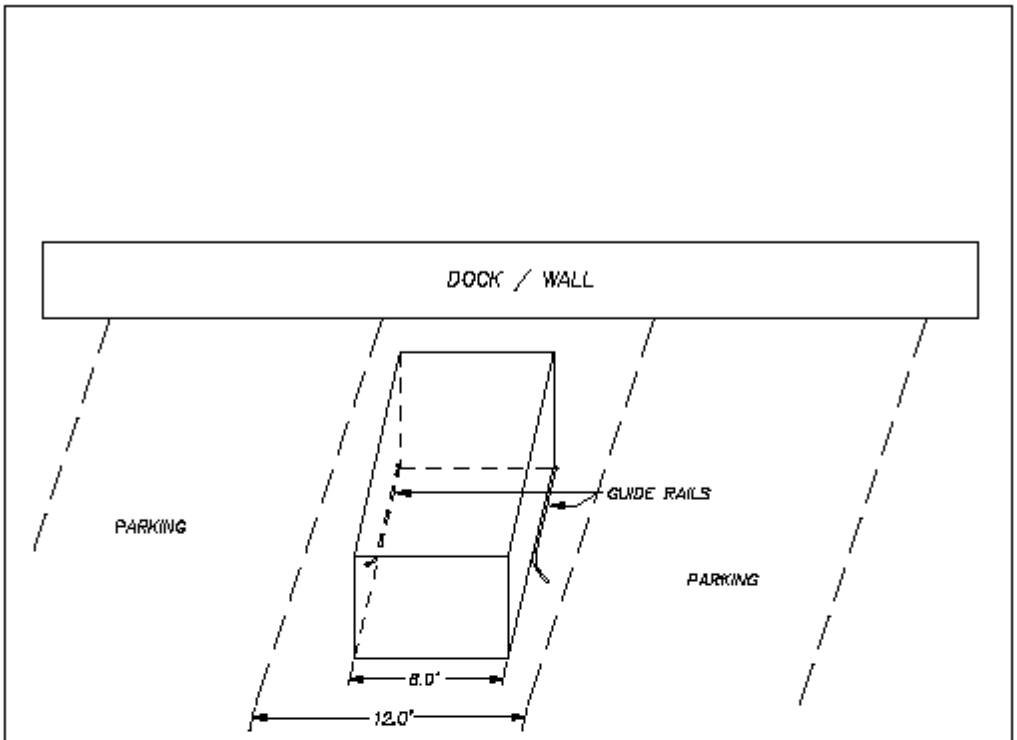


Illustration H: Roll-off Container Placement



NOTES:

1. THIS ILLUSTRATION DEPICTS TOP LOADING DROP BOX OR SIDE LOADING COMPACTOR.
2. ALLOW 12 FOOT WIDE ACCESS FOR DRIVER TO PHYSICALLY CHECK THE SIDES AND REAR OF THE BIN PRIOR TO LOADING ONTO THE VEHICLE.

ROLL–OFF CONTAINER PLACEMENT	ILLUSTRATION H

8–10.dwg