

Enclosure and Facility Design
Guidelines for Recycling and Trash
Removal Service

Prepared by MarBorg Industries
Trash Removal Service Provider for
City of Buellton
Updated November 2014

Front End Loading Containers

Enclosures:

- A. Enclosures should be designed with at least 50% of space designated for recycling. This typically requires separate bins for recycling and trash.
- B. Dimensions vary based on projected usage. When multiple containers go in one enclosure, allow a minimum of 30" between containers. See Illustrations A - D.
- C. Enclosures must be at least 12" larger than each side of bin and no less than 2 feet higher than bin to allow for opening lids when bin is in the enclosure.
- D. Gates must be 2" off the ground and hung on the outside so that, when open, gates are out of the bin's way.
 - a. Gates must be able to open more than 90° and equipped to prevent accidental swinging, which can result in injury to persons or equipment.
 - b. Gate openings must be at least 12" wider than each side of bin.
- E. Bins will damage enclosure walls if proper design specifications are not followed. One of the following two protective measures must be used:
 - a. Installation of a 6" out and 8" high curb around perimeter of inner enclosure wall.
 - b. Installation of wood or metal bumpers to interior enclosure walls. Bolts or screws should be inset on bumpers to avoid injury to collector or user.
- F. Hardware must be of sufficient strength to accommodate repetitive swinging, and individuals with gloves must be able to open them.
- G. Container must rest on a flat, level surface. Floor must be made of concrete.

Pads and Access Areas:

- A. Maximum roll-out by collector is 25' from enclosure to truck.
- B. Roll-out area must be level and free of dips, bumps, and obstructions.
- C. Front end loading trucks can weigh up to 25 tons when loaded. All access surfaces must be engineered accordingly to avoid pavement damage. Concrete surfacing is recommended in all access and service areas. If cost prohibits total concrete surfacing, consider a service pad 105" wide and extending 13' in front of the enclosure. This will accommodate the front wheels of the vehicle while dumping, which is when the heaviest weight occurs. However, if the concrete service pad interfaces with asphalt or another soft surface, the apron of the pad will eventually break down under the weight of the truck approaching the pad.

- D. Allow for overhead clearance of 20' where bin is serviced. Driver will typically move container about 8' away from enclosure before dumping. See Illustration E.
- E. Storm drain grills must not be placed in the driving path of the truck.
- F. Approach and bin location must be designed to minimize backing situations.
- G. Allow for parked cars, delivery trucks, etc.

Approximate Container Dimensions:

	<u>Width</u>	<u>Depth</u>	<u>Height</u>
95 gallon trash cart	29"	34"	46"
2 cubic yard dumpster	81"	40"	52"
3 cubic yard dumpster	81"	48"	60"
4 cubic yard dumpster	81"	55"	67"

Height is measured with the lids closed. Most enclosures are built only to a height about 8" to 10" higher than the dumpster since local ordinances require that lids remain closed at all time except when the container is being loaded or unloaded. When lids are raised, full height from the ground to the top of lids may extend to 120".

1 cubic yard = 6 standard 32 gallon garbage cans = 2 large 95 gallon carts

Send all architectural plans to MarBorg for review and approval.

Required Clearance for Front End Loading Vehicles:

Vertical (Approach and Exit)	15' High
Vertical (When dumping bin)	20' High
Lateral	15' Wide
Turning Radius	(See Illustration F)

Roll Off Containers (Debris Boxes)

Container Placement:

This type of container is most frequently used at construction sites, but it is also designed for very high volume users.

- A. Roll off containers may be placed directly behind a building where space is available at a loading dock to allow loading from above. See Illustration G.
- B. Container should be on a level surface. If placed on an incline, roll-away protection is required. Hauler will provide on site inspections before final container placement.
- C. In-street placement generally requires a minimum of two parking spaces plus room for the truck to maneuver while servicing. 75' minimum is required as shown in Illustration H.
- D. Loading docks should be equipped with bumper pads to avoid undue dock damage. Contact hauler before designing any guide rails for container.
- E. In-street placement may require user to obtain a permit.

Required Clearances for Roll Off Vehicle:

Vertical (Approach and exit)	14' high
Vertical (Rails raised with bin)	25' high
Lateral	10' wide
Service Area Length	75' long

Container Dimensions:

	<u>Length</u>	<u>Width</u>	<u>Height</u>
8 yard "Concrete Washout"	16'	7'	2'
11 yard "Lowboy"	14'	8'	3'
17 yard roll-off	16'	8'	4'
25 yard roll-off	22'	8'	4'
40 yard roll-off	22'	8'	6'

Compacting Units:

Compactors vary in size and the manufacturer should provide capacity and the dimensions. Contact hauler before installing compaction units.

Illustration A

Front End Loading Container Enclosures

This illustration shows one, 4-yard recycling bin and one, 4-yard trash bin.

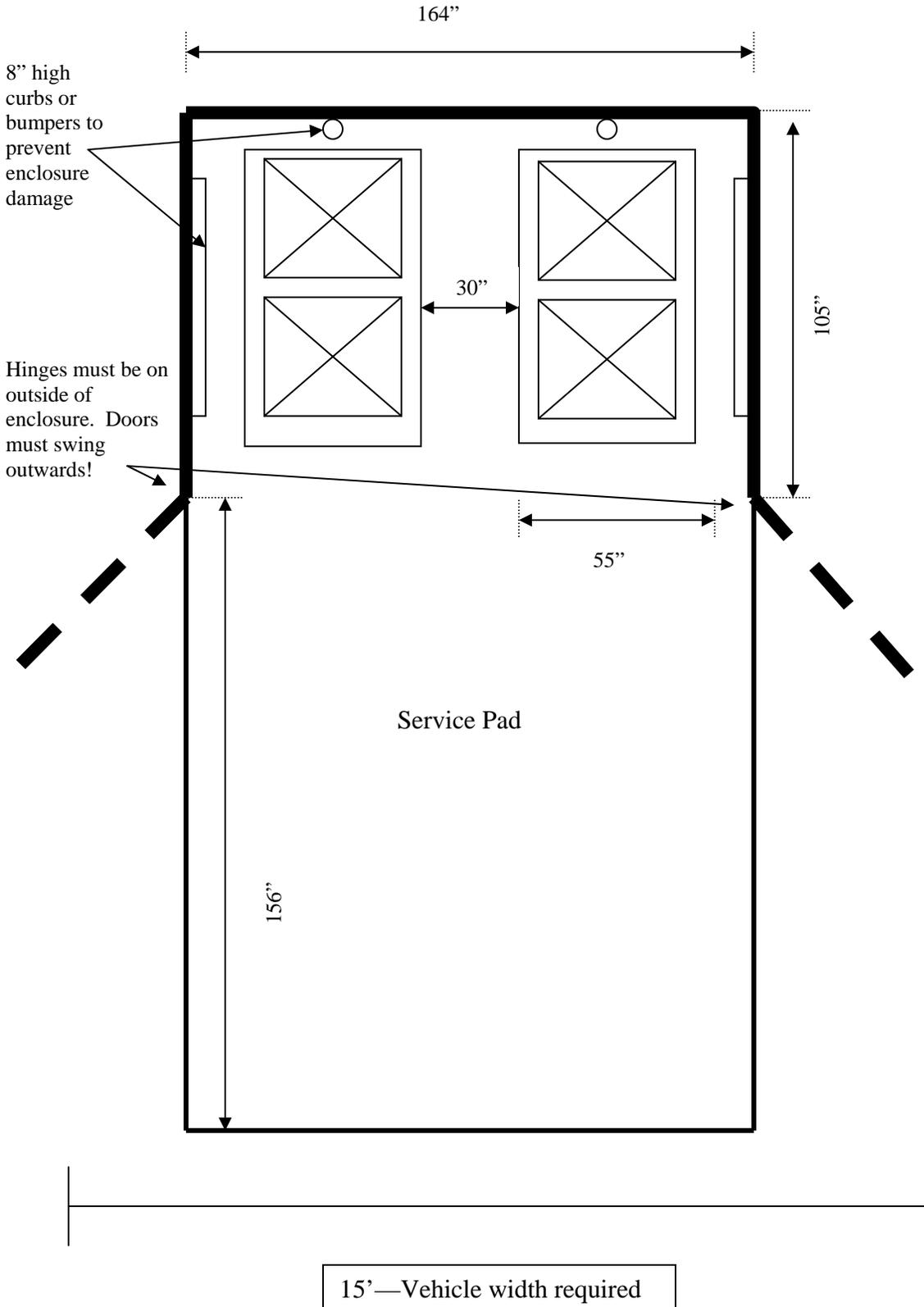


Illustration B

Front End Loading Container Enclosures

This illustration shows one, 3-yard recycling bin and one, 3-yard trash bin.

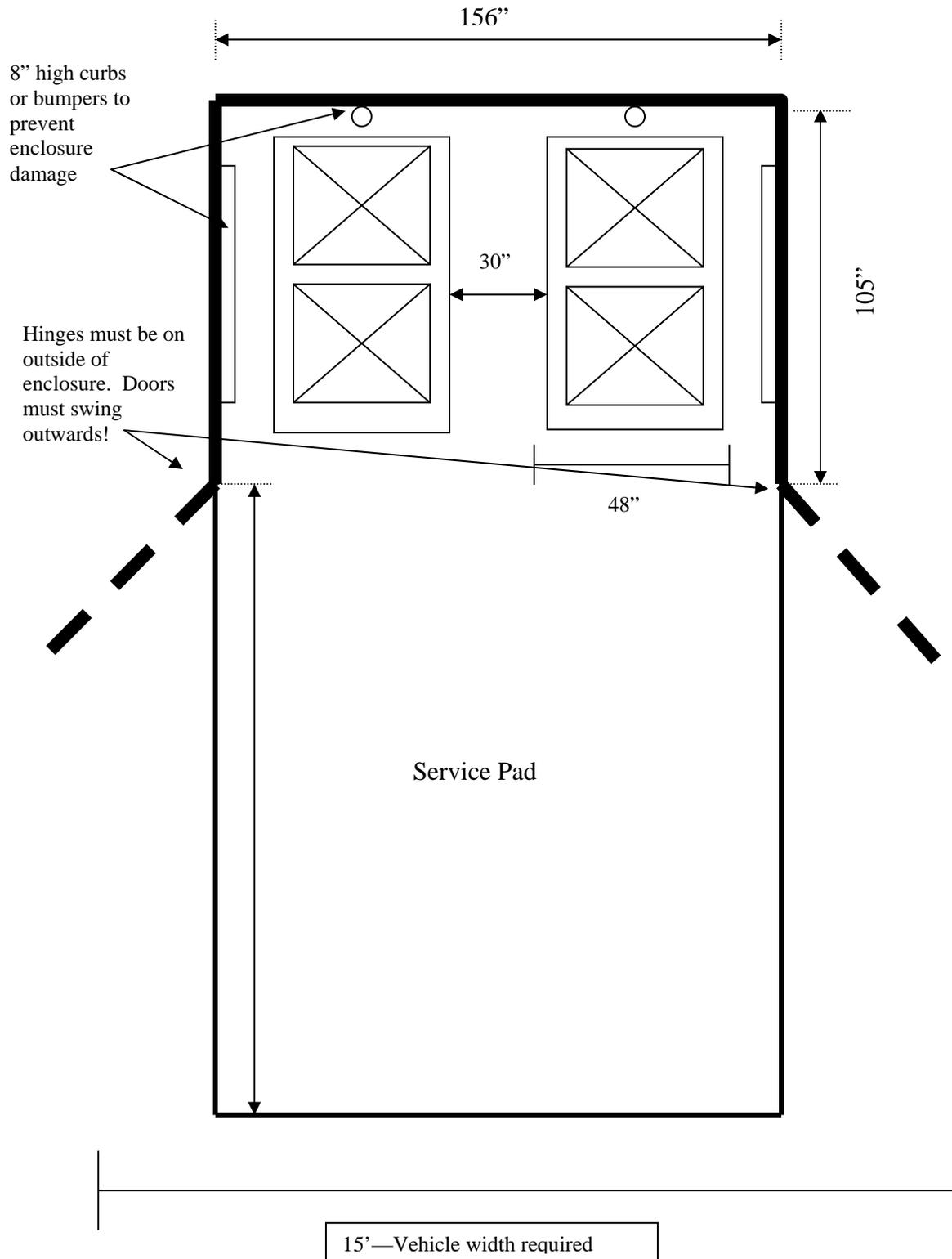


Illustration C

Front End Loading Containers

This illustration shows one, 2-yard recycling bin and one, 2-yard trash bin.

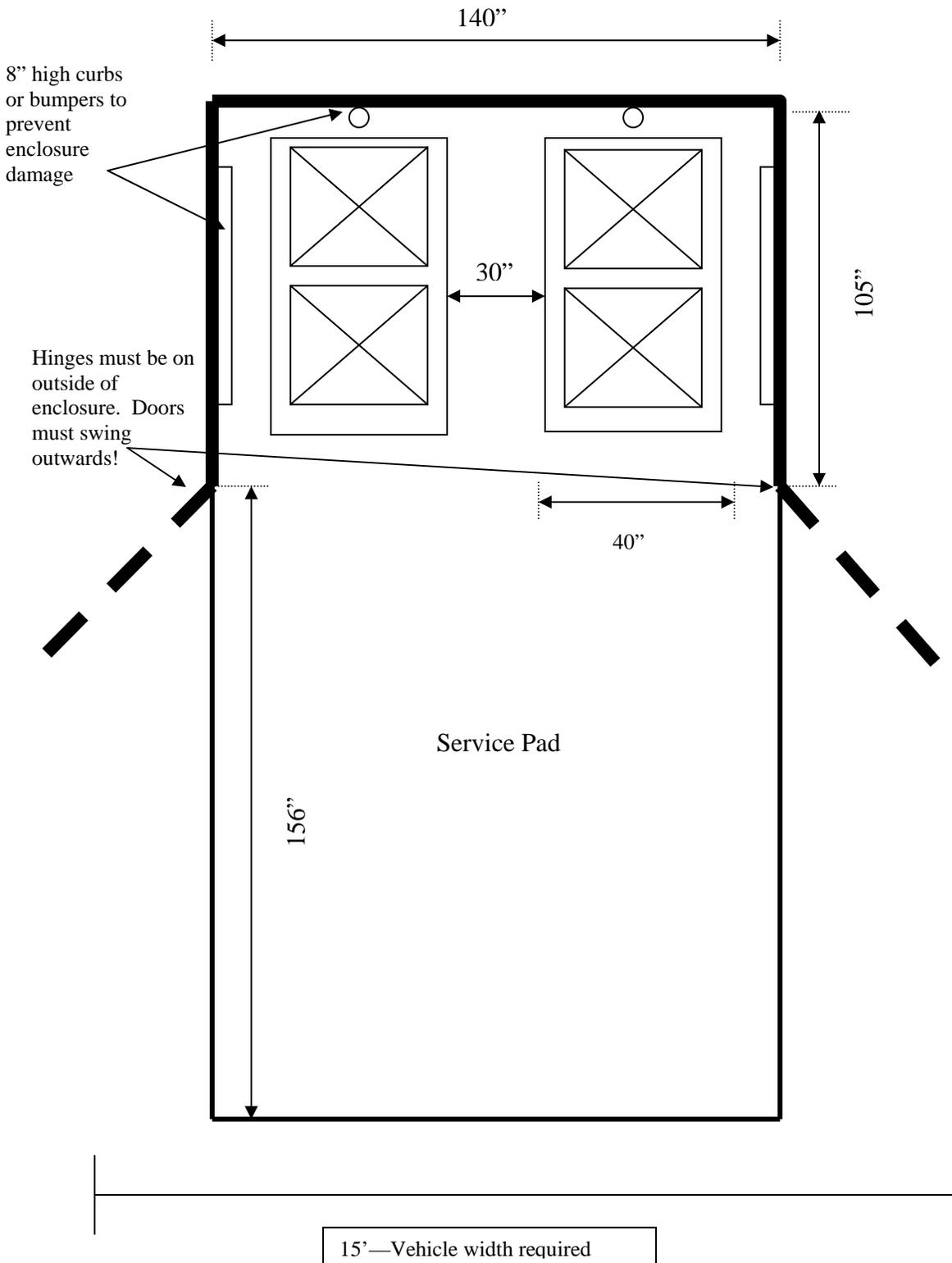


Illustration D

Front End Loading Containers

This illustration shows an alternative alignment for one, 4-yard recycling bin and one, 4-yard trash bin.

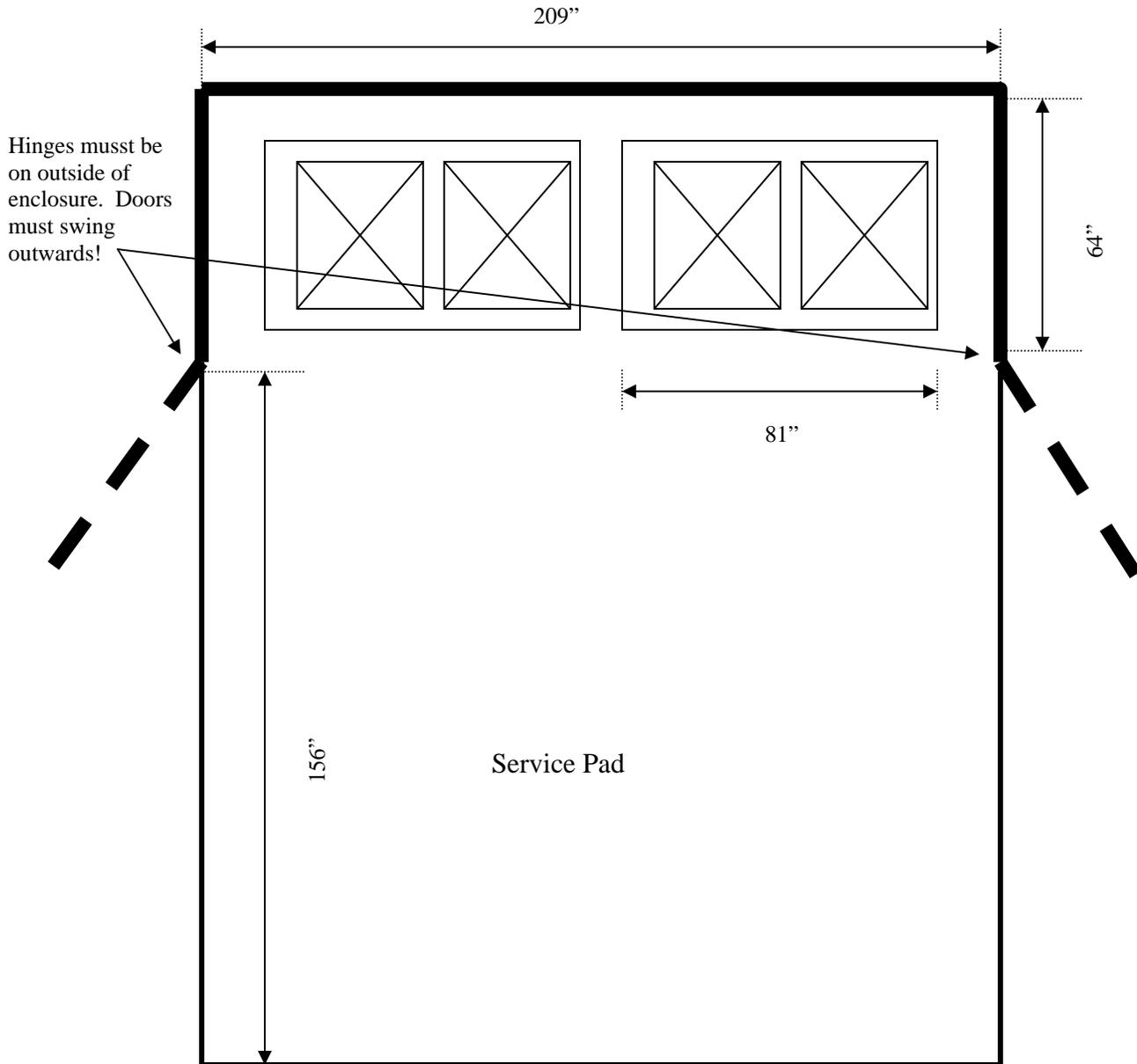


Illustration E

Clearance

20' clearance of overhead obstructions is necessary where the vehicle lifts and empties the container. Generally, the driver will move container 8' away from the enclosure before dumping.

If overhead obstructions exist the hauler must be contacted to perform a visual site check.

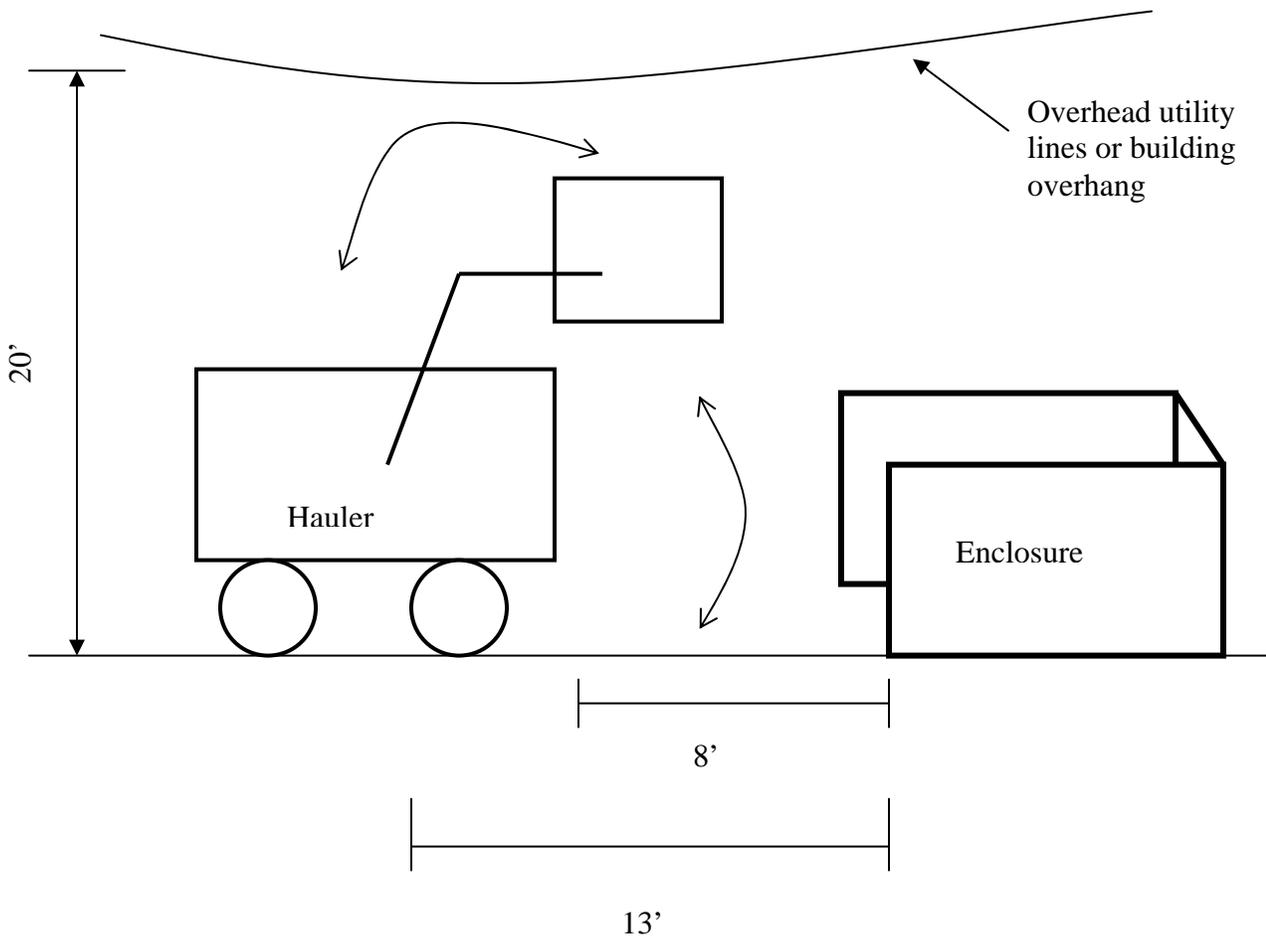


Illustration F

Facility Design

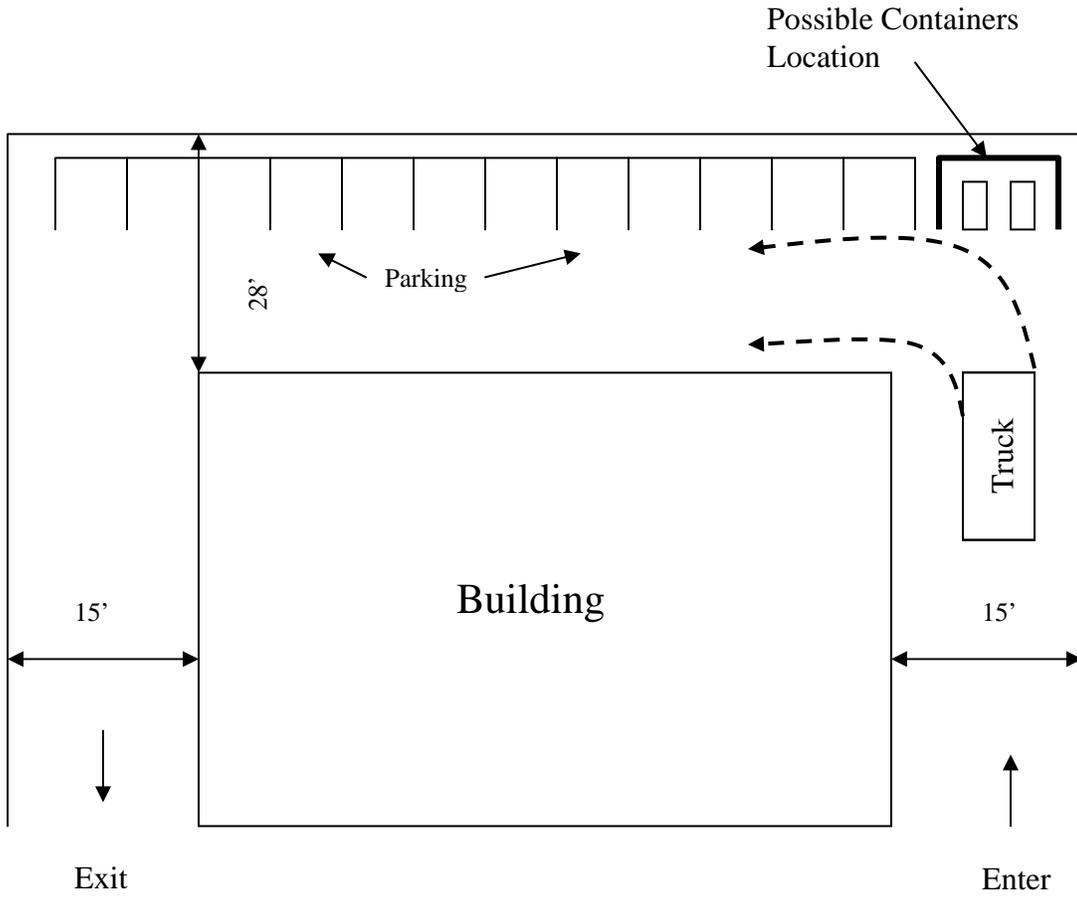


Illustration G

Roll-Off Container Placement

Allow 10' wide access for driver to check the rear of the bin before loading onto vehicle.

This illustration depicts top-loading of container. Container gates are at rear of container (next to dock). If container is to be loaded from ground level, allow minimum of 5' to open gates.

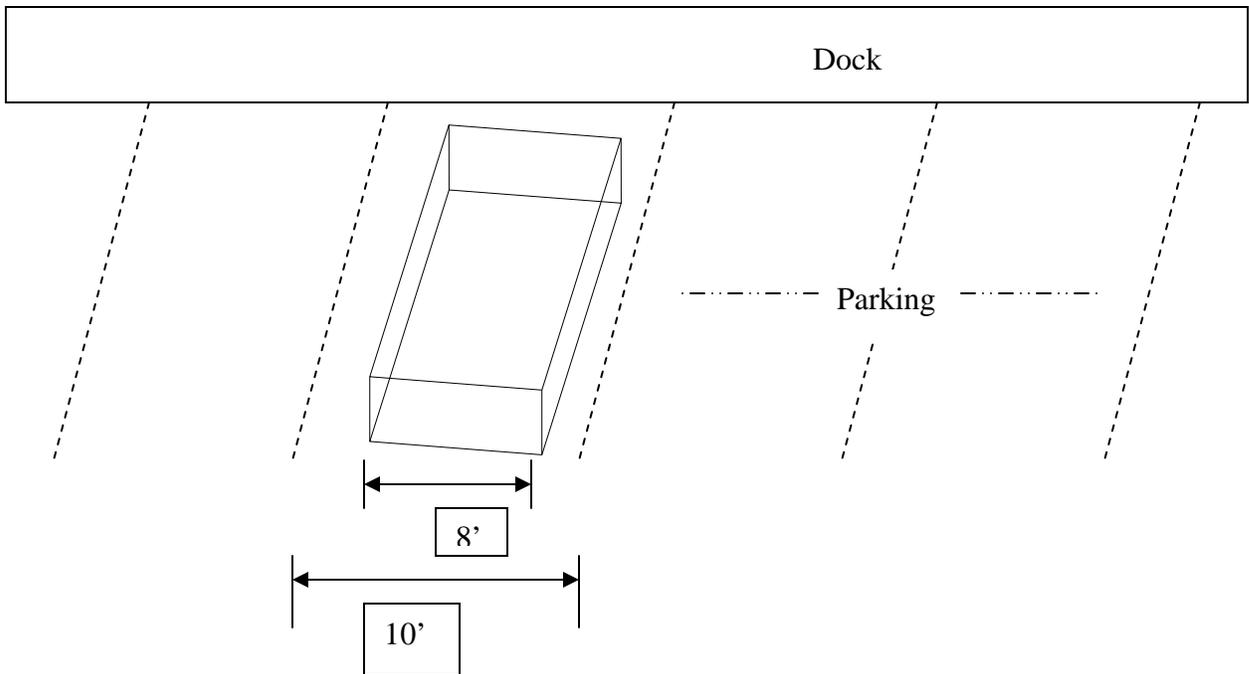
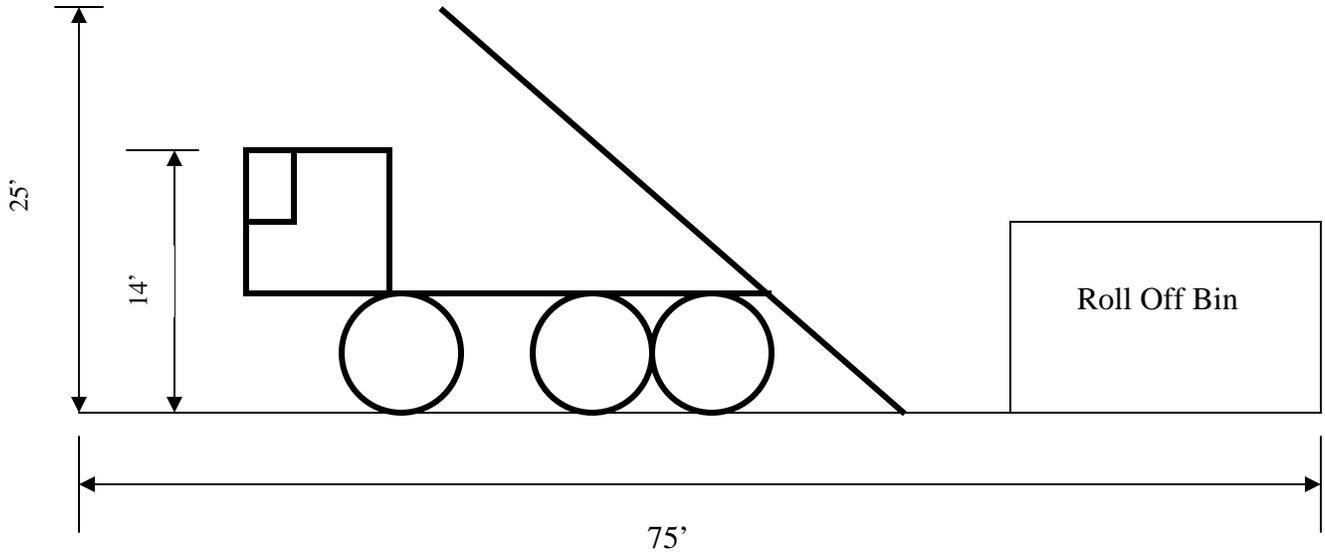


Illustration H

Roll-Off Container Placement

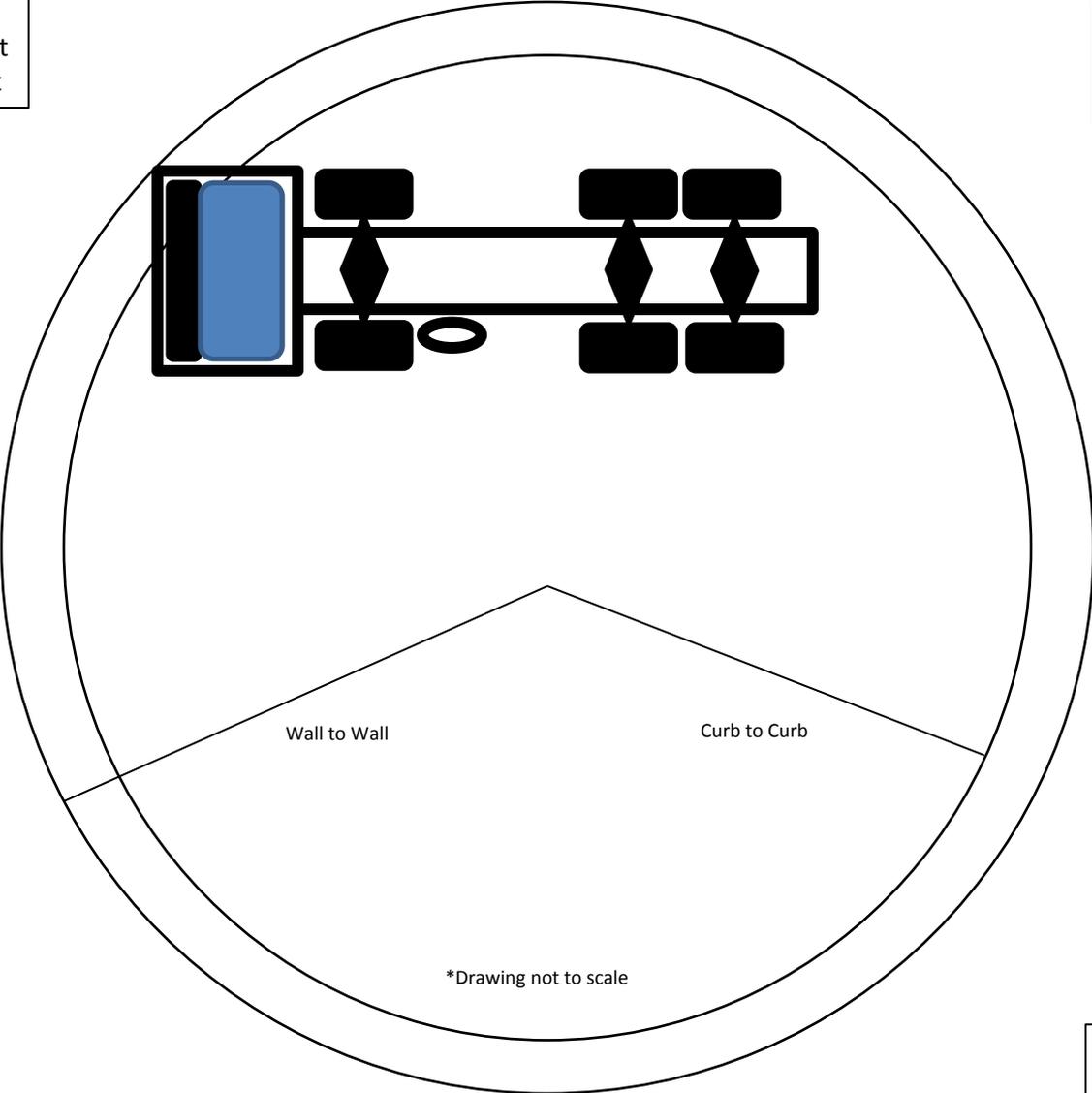
Allow minimum of 75' to load/unload container safely. Truck rails extend to 25' high when servicing container.



Turning Radius

Left Turn Radius
Curb to Curb: 28.1 ft
Wall to Wall: 30.9 ft

Right Turn Radius
Curb to Curb: 29.8 ft
Wall to Wall: 32.5 ft



Commercial Front Loader Dimensions
L: 34'
W: 11'
H: 14'

Residential Truck Dimensions
L: 28-32'
W: 11'
H: 10.5-14'

Truck: Model 320 / Full Truck
Axle: Dana Spicer D2000F 20,000 lb. 3.5 in. drop
Tire: FF: BR 20ply 315/80R22.5 M860
Wheel: FF: Alcoa 893630 Plt 22.5x9.00 Alm Whl
Steering: Power Steering Sheppard M100 Dual

Wheel Base: 195 in.
Weight: 66,000 lbs

Quote/DTPO/CO: Q34499577