

11 82 26 – Waste Compactors and Destructors

1. Introduction

A. This Construction and Design standard covers waste compactor guidelines including placement and access, pads, bollards, screening, drainage and lighting. This document is to be used in conjunction with other related sections listed below:

11 82 13	Solid Waste Bins
11 82 23	Recycling Equipment
A11 82 26	Waste Compactors and Destructors Appendix

B. Design considerations for waste and recycling containers must be based on the building's usage and occupancy.

1. Site dimensions and configurations should be adjusted accordingly. Ideally, the recycling carts and dumpsters will be on the same pad in the same enclosure.
 - a. In some cases it is necessary for the dumpsters (or compactors) to be located on separate pads from the carts.
 - b. A variety of programs, i.e. animal bedding, grease, and food waste collection can also utilize these stations.
 - c. Many locations requiring compactors may also require containers for grease, food waste or animal bedding.
2. The Sanitation and Recycling Office should be contacted to help determine the number of compactors needed, and size and type of any additional equipment that may be included.

2. References

- A. This site [www.p2pays.org/food/main.oil.htm] provides information regarding fats, oils and grease (FOG) management in North Carolina.
- B. NC General Statute 130A-309.10(f).
- C. Durham County Regulations.
- D. University policy regarding hazardous materials.
- E. Marathon Equipment Standard Colors by Sherwin Williams.

3. Design Standards

- A. Compactors

1. Compactors are considered part of the building and require that the equipment be designed into the project.
2. When necessary, doghouses and feeder chutes may need to feed material into the compactor.
3. The compactor should be located on ground level adjacent to the dock.
4. Provide an anti-freeze hydrant for wash down purposes at all sites using compactors.

B. Placement and Access

1. Position the compactor such that the truck can have a forward, straight approach to the compactor. To do this, take into consideration the turning radius, truck length, and angle of approach.
2. Compactors are to be serviced by a front load truck.
3. All containers shall be located on an accessible path of travel per the ADA and State Building Code.
4. If the design includes outdoor compactors, there must be a ramp at least 5' wide for access to the recycling containers.

C. Pads

1. The pad for a 20-30 cubic yard horizontal compactor should be at least 12' wide x 40' long. Additional space may be needed for the electrical unit.
2. Elevation drawing and details for outdoor service areas must be shown on the plans.
3. The pad should be a minimum of 3,000 PSI concrete, with #4 bars at 12" on center each way, and 6" thick.
4. Pour the pad on compacted earth with a minimum base of 4" ABC stone. These are minimum requirements.
5. Final structural design of the pad shall be based on project requirements.

D. Bollards

1. Bollards are required for all compactors.
 - a. Use bollards at the wall entrances by the compactor to protect the walls from being hit by the service truck.
 - b. Use bollards behind the compactor to protect the walls from being hit.

2. Bollards at compactors are to be 6" in diameter and filled with concrete. These should be located 12" from the center of the bollard to the rear of the pad (or screen wall).
3. The bollards shall be 6'-6" in total length with at least 2' set in reinforced concrete.
4. Finish the bollards with one coat exterior metal primer, and two coats exterior safety yellow.

E. Screening

1. Where required, use enclosure walls to screen sites from public view with constructed elements and landscaping. An enclosure is required for all outdoor service areas unless exempted by the Architects Office.
2. The interior and exterior enclosure walls shall:
 - a. Be determined by the University Architect or other appropriate person or office.
 - b. Match the exterior architectural finishes of the adjacent building(s).
3. Enclosure walls shall have weeps evenly spaced around the bottom edge to allow for drainage. These weeps and the grade of the floor shall direct the run-off into landscaped areas rather than onto concrete sidewalks and driveways.
4. The minimum recommended wall height to screen compactors is 7'.
5. Consideration should be given to maintaining visibility for vehicular and pedestrian safety issues.
6. Priority should be given to any power requirements or drainage needs of the units.
7. Do not install any piping equipment, utility walls or access hatches inside the outdoor service area enclosure.
8. All walls should meet current building codes.

F. Drainage

1. Do not locate grease pit/traps for cafeterias inside the outdoor service area enclosure.
2. Pipe drain into sanitary sewer system and provide an oil water separator system. Drain size should be consistent. Please consult Duke's Engineering Utilities Services (DUES) to finalize drain sizes.
3. The floor of the enclosure (or the pad) shall slope 1/8" per foot to allow rainwater and other liquids to drain off without puddling.

4. If a grease pit/trap is necessary for the building, it shall have an enclosure separate from the outdoor service areas enclosure. The two may share a common wall, but they shall have their own enclosure walls and separate entrances.
5. In the event of a failure in the compactor seal or other malfunction, the site must be sloped for drainage into a drain located out from under the container.

G. Lighting

1. Provide sufficient lighting per Section 26 56 29 – Site Lighting for the security of the personnel and campus community using the sight at night and during the early morning hours.
2. Provide adequate illumination per Section 26 56 29 – Site Lighting inside and outside the enclosure and on the normal routes to/from the adjacent building(s).
3. Solar power and motion and daylight sensors may be used.

H. Paint

1. All compactors are to be painted Marathon Equipment Standard Colors by Sherwin Williams Dark Brown 07-009.

4. Documentation and Review Requirements

- A. All equipment and receptor layout is to be submitted to the Sanitation and Recycling Office for approval. Contact the Sanitation and Recycling Office for assistance before ordering equipment to meet the needs for the specific building.
- B. It is important to review the plan carefully to ensure the collection of all bins, compactors, etc. can be accessed by the associated truck in the designed location.

5. Installation and Performance Requirements

A. Building Wiring Information

1. The control box will be surface mounted.
2. The disconnect box must be located near the control box and should be wired for a 10 HP 3 phase motor with 480 V.

B. Electrical

1. Install operation switch sufficiently far from compactor to maintain safe operation.
2. Do NOT place where broom handles or other devices can be used to “lock” the switch in the operating position.

- C. Containers ordered as part of a capital project are to be installed by the project. For containers purchased outside of a capital project please contact the Sanitation and Recycling Office to coordinate installation.

6. As-Built Requirements

- A. Locations for all equipment and bins should be noted on the as-built drawings along with their use and size.
- B. Any changes to the layout, pads, ramps, or drainage should all be noted on the as-built drawings.