

Suffolk County  
Department of Health Services  
Division of Environmental Quality

**Guidelines  
For the Construction of  
Storage Areas for Portable Containers**

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I. Introduction

In accordance with §760-1215 of Article 12 of the Suffolk County Sanitary Code, storage areas for

portable containers of toxic or hazardous materials must conform to standards approved by the commissioner of the Suffolk County Department of Health Services. "Toxic or hazardous materials," when used in these guidelines, means any substance, solution or mixture, as defined in §760-1203 of Article 12.

A Permit to Construct, issued by the Office of Pollution Control, must be obtained prior to the installation or modification of any facility for the storage of toxic or hazardous materials. No person shall use, or cause to be used, any facility for the storage of hazardous or toxic materials until a Permit to Operate, issued by the department has been obtained.

During and after construction, the facility must be inspected by a representative of Suffolk County Department of Health Services to ascertain conformity with these guidelines. The applicant must notify the department 48 hours prior to the commencement of approved construction. Inspection will normally be made within 48 hours of notice, provided a Permit to construct has been issued by the department.

All drums, or other portable containers used for the storage or handling of toxic or hazardous materials, whether indoors or outdoors, shall be stored in a way that will prevent the release of any of the contents of the containers to the ground or surface waters.

## II. Application Procedure for Approval to Construct

Written approval of plans, and a Permit to Construct issued by the Office of Pollution Control, are required before the start of a storage facility construction.

### A. Plans shall be accompanied by:

1. One copy of an application for a Permit to Construct, signed by the owner of the storage facility, or in the case of a corporation or partnership, by an officer of the corporation, a general partner, or the facility manager with power of attorney.
2. A listing by the owner, general partner, facility manager or an officer of the corporation, of all the toxic or hazardous materials (raw materials and waste materials) to be stored at the facility.
3. A statement as to the type of fire extinguishing system used.
4. A filing fee, as per the current fee schedule, payable to Suffolk County Department of Health Services ~ see Section V for exemptions.

### B. Plan submittal shall:

1. Bear the seal and signature of the professional engineer or architect licensed in the state of New York on each drawing ~ see Section V for exemptions.
2. Be submitted in quadruplicate.
3. Be drawn to suitable scale for plot plan, depending upon area covered, and a suitable scale for details of the storage area.

4. Be of standard drawing sizes of 18"x 24" or 24"x 36".
5. Show the following:
  - a. plot plan and key map
  - b. buildings (existing and new)
  - c. sewage and industrial disposal system(s)
  - d. location of all storm drains or other leaching pools which are contained on the property, or are within 100 ft. radius of the storage location (on or off property)
  - e. details of construction of the proposed storage location, including plan cross-section and elevation
  - f. proposed finished grading
  - g. specifications for materials of construction for all standard aspects of the storage area, including, but not limited to, roofing, flooring, foundation, piping and methods of sealing.
  - h. any surface waters within 100 ft. of the property
  - i. location of all water supply wells within the boundaries of the property.

Upon review of a completed application (application forms, plans, specification and fee), approval of acceptable plans will be issued by the placement of an approval-to-construct stamp on the plans. Approval to construct will be valid for the period specified on the permit.

### III. Procedure for Final Approval of Installation

- a. A Permit to Operate will be issued for a period not to exceed five years for each storage area after the following procedures have been completed:
  - 1.A preconstruction meeting, where required by Suffolk County Department of Health Services, attended by owner (or authorized representative) and contractor to discuss the department's requirements for inspection.
  - 2.Submittal to the department of a letter from a licensed professional engineer, architect, owner, corporate officer or facility manager, certifying that construction has been completed according to approved plans.
  - 3.Approval of the completed facility after inspection by a representative of the department.
  - 4.Submittal of two copies of as built drawings if required by the department.

5.Submittal of completed storage registration form.

#### IV. Minimum Specifications

##### A. General requirements for all storage areas ~~

###### 1. Introduction

Drums and other portable containers of toxic and/or hazardous materials must, at all times, be stored on an impervious, chemically resistant surface compatible with the materials being stored.

The storage area shall be completely enclosed with a berm or dike of impermeable construction in compliance with these specifications.

Where possible, dry fire extinguishing systems are to be used in lieu of water sprinkler systems in storage areas to prevent the generation of a large volume of contaminated water in the event of a fire.

Drums and other portable containers shall be stored indoors unless prevented by pertinent fire regulations. Outdoor storage, for other than fire safety reasons, shall only be allowed with written permission of the department.

Heat shall be provided for storage of materials with freezing points at ambient temperatures.

###### 2. Inspection and Reporting

Every container on each site must be available for inspection routinely at any time. Any leakage or spillage of hazardous materials must be reported by the facility owner to the department within two hours of detection.

###### 3. Records

Inventory records of stored materials must be kept up-to-date at all time, and must be available for inspection by a representative of the department. Records must indicate deliveries, consumption, sale and final disposal. These records shall be kept for five years.

###### 4. Posting and Labeling

A Permit to Operate, issued by the department, must be posted on the site so that it is readily visible. A notice warning of the presence of hazardous materials, and giving any safety information, must also be posted.

All containers used for the storage of hazardous materials, must be labeled as to their contents.

All facilities for the storage of hazardous **wastes** must have posted an industrial waste collection sheet containing information regarding the quantity of each type of waste stored. The name of the

registered scavenger, and the date and amount of pickup, must also be recorded.

#### 5. Required Floor Area

All sides of any stored supply of containers shall be easily accessible for handling and inspection. The minimum required floor area for 55-gallon drum storage is based upon the total number of drums stacked two high according to the following table ~ see Explanation of Table below:

Table 1

| <u>Total Number of Drums</u><br>(stacked two high) | <u>Required Area</u><br>(Sq. Ft.) |
|----------------------------------------------------|-----------------------------------|
| 4                                                  | 25                                |
| 10                                                 | 50                                |
| 14                                                 | 75                                |
| 18                                                 | 100                               |
| 36                                                 | 200                               |
| 54                                                 | 300                               |
| 72                                                 | 400                               |
| 90                                                 | 500                               |
| 180                                                | 1,000                             |
| 198                                                | 1,100                             |
| 272                                                | 1,500                             |
| 362                                                | 2,000                             |
| 452                                                | 2,500                             |

#### Explanation of Table 1

For interpolations, use 10 sq.ft. of floor area for 18 drums. Required floor area for containers, other than 55-gallon drums, is based upon equivalent volumes. In rooms where fire sprinklers are installed, storage capacity in excess of minimum will be required. Minimum berm height is 6 inches, unless otherwise approved.

Drums shall not be stacked more than two high, and only on their ends unless approved storage racks are provided. Where approved racking systems are installed, which may increase the total number of drums over than described in Table 1, the berm size or storage area must be increased to retain a minimum 30% of the total drum volume.

Allowance for protection of larger area in lieu of specific locations within the floor area of industrial buildings will be considered on a case-by-case basis.

#### 6. Berms and Floors

- a. minimum berm height is 6 inches above finished floor grade, unless otherwise approved.
- b. minimum floor thickness is 6 inches.
- c. berms may be included as an integral part of building walls and door openings.
- d. berms and floor shall be constructed of materials impervious to attack by the chemicals being

stored.

- e. berms shall be cast integrally with the floor where possible. If not possible, berms shall be tied into the floor with steel reinforcing and sealed with compounds compatible with materials being stored.
- f. no wall scuppers are allowed below the top of the berm.
- g. ramps for access are required unless otherwise approved.
- h. existing building walls may comprise sections of the berm only if structurally sound.

## 7. Concrete Specifications

- a. berms and floor shall be constructed a minimum 3,000 psi reinforced concrete designed for all superimposed dead and live loads.
- b. a minimum of two test cylinders shall be taken at time of construction for each 50 cubic yards of concrete cast ~ testing shall be by the owner if required by the department.
- c. concrete shall be moist cured for a minimum of seven days.
- d. concrete shall be of waterproof construction and air-entrained and shall be sealed, using a chemically resistant coating certified by the coating manufacturer to be impervious to the chemicals being stored.
- e. if expansion joints are installed, they must be made impervious to the materials being stored.
- f. surface preparation and finishing shall be consistent with recommendations of the coating manufacturer.

## 8. Doorways

- a. door openings in storage rooms shall be fitted with liquid-tight raised sills or ramps suitable for passage of forklift trucks.
- b. the height of the sills or ramps shall be the same as, or higher than, the berm height.

## B. Special requirements for indoor storage areas ~~

### 1. Construction of new indoor storage areas

In place of, or supplemental to berming, floor drains leading to a holding tank may be installed within the storage room. The floor shall be pitched to the floor drains. The holding tank may be of single-wall construction if kept for emergency use only. Such tanks shall be constructed of materials impervious to the chemicals stored, and shall be designed in accordance with Article 12 requirements for single-walled holding tanks. Each tank shall be fitted with alarms which will meaningfully annunciate when liquid has entered the tank. The alarm must also annunciate high liquid level conditions.

Tanks intended to store drippings or waste products on a day-to-day basis must be of double-walled construction in accordance with Article 12 requirements for double-walled tanks. Double-walled means constructed with more than one containment layer with space between the layers sufficient to allow monitoring of any leakage into or out of the space. All tanks and drainage systems must pass a leak test that meets the requirements of the department.

Minimum tank sizing shall be equivalent to storage volume lost through reduction in berm size or fire insurance regulations, whichever is greater. Manways shall be provided for all tanks with gasketed manhole covers and access to grade.

## 2. Upgrading of Existing Indoor Storage Areas

Bermed storage areas, or storage rooms existing prior to creation of these guidelines, conform to all of the requirements for indoor storage areas.

## C. Special Requirements for ***Outdoor*** Storage Areas

In addition to the specifications under General Requirements for All Storage Areas, outdoor storage areas must also meet the following requirements:

### 1. Roofs

- a. storage area must be roofed and pitched for drainage of storm water runoff.
- b. if roof drains lead to underground leaching facilities, they must be hard piped to an accessible leaching pool.
- c. roofing must be designed in accordance with building code standards and be adequate to support wind and snow loads.
- d. minimum height of roof above grade is 8 feet ~ this height may be reduced for installation having storage for less than twenty-five 55-gallon drums or equivalent.
- e. where fencing is used in place of walls, the roof must overhand the fence and berm by 2 feet 6 inches minimum on all sides.

### 2. Walls

- a. fencing or walls are required around the drum storage area ~ walls or chain-link fencing are to be six feet high as a minimum.
- b. a locking gate to the storage area is required.

### 3. Drains and Sumps

No drains or drainage systems will be allowed within the enclosure. Where possible, the floor shall be pitched toward a sump to facilitate collection of spilled materials. The sump shall be cast integrally with the floor and shall not exceed five cubic feet in capacity.

#### D. Storage of Materials in Other Structures

Storage in truck bodies, residential-type garden sheds or other unapproved facility is prohibited unless incorporated into an area which meets the criteria described under A, B and C above.

#### E. Equivalent Designs

Alternate methods of construction that are equivalent to the above specifications may be submitted for review and approval by the department.

### V. Exemptions

#### A. Small storage areas

Facilities having *indoor* storage for a total of less than five 55-gallon drums or equivalent are exempt from registration and secondary containment requirements; however, provision must be made to store containers in a manner that will prevent spills from escaping to the ground.

#### B. Existing storage areas

Bermed storage areas for storage rooms existing prior to creation of these guidelines are exempt from the filing fee. Please check current fee schedule for applicable registration fees.

A final permit to operate will not be issued until these facilities have been upgraded to meet departmental standards. Sketches of planned construction may be submitted by the owner with the application for a Permit to Construct, unless otherwise requested by the department.