



American National Standard: For Sanitation

Non-Sewered Waste Disposal Systems: Minimum Requirements



Portable Sanitation Association International

Revision of
ANSI Z4.3-1995

ANSI®
American National Standard:
For Sanitation

Non-Sewered Waste Disposal Systems:
Minimum Requirements

Secretariat
Portable Sanitation Association International

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American National Standard

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Foreword

(This Foreword is not part of the American National Standard Z4.3-2016)

The U.S. Public Health Service as Supplement No. 108 to the Public Health Reports in 1933 published the original version of this standard. The American National Standard superseded this with standards for a Sanitary Privy, ANSI Z4.3-1935. The American National Standard was revised and expanded several times over the years. The 1987 edition superseded the American National Standard Minimum Requirements for Non-Sewered Waste Disposal Systems, ANSI Z4.3-1979.

Whereas ANSI Z4.3-1935, as its title indicates, was confined to requirements for a sanitary privy, ANSI Z4.3-1987 and additionally with its 1995 edition, was much broader in scope and included all devices now available and acceptable for disposal of human waste where the lack of water or temporary nature of the installation makes water carriage systems impracticable.

The minimum requirements for non-sewered waste disposal systems have taken on much greater importance with the acceptance by the public of clean portable restroom facilities. These facilities, once used primarily on construction projects, have become commonplace throughout the American scene, particularly because of the advent of durable plastics in bright colors. They are now found at parks, playgrounds, athletic events and literally any gathering of people that does not have access to permanent toilet facilities. The success or failure of clean portable restroom facilities is dependent on proper usage. The limited capacity of these units demands proper service. Current standards reflect the most up-to-date human engineering and state-of-the-art deodorizers and procedures.

The provisions in this standard are the result of extended and careful consideration of available knowledge and experience on the subject of non-sewered waste disposal systems and are intended to present minimum requirements recommended for use by employers, property owners, event planners and others. The provisions are also suitable for adoption by governmental administrative authorities.

Suggestions for improvement of this standard will be welcome. They should be sent to the Portable Sanitation Association International, 2626 E. 82nd Street, Suite 175, Bloomington, MN 55425 or to info@psai.org.

Consensus for approval of this standard as an American National Standard was achieved by use of the Canvass Method.

The following organizations recognized as having an interest in the standardization of non-sewered waste disposal systems were contacted prior to the approval of this standard. Inclusion in this list does not necessarily imply that the organizations concurred with the submittal of the standard to ANSI.

Organization Represented	Name of Representative
American Rental Association	Carla Brozick
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CB&T Division of Synovus Bank	Jonathan Payne
Chandler Equipment Inc.	Todd Devecsery
City of Enid, OK	Alan Peterson
Construction Contractors Association of Hudson Valley	Alan Seidman
Crosier's Sanitary Service/PSAI	Ron Crosier
Emery and Webb Insurance	Joe Neumann
Enterprise Financial Solutions, Inc.	Blake Miller
Enviro-Clean	Robert "Bob" Earl
Erickson Tank and Pump	Andrew Erickson
Georgian Bay Sanitation	Laurie Robillard
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Ontario Association of Sewage Industry Services	Chris Aitkin
PolyJohn Canada	Jake Groen
PolyPortables	Eric Capers Frank Youngblood
R&R Sanitation	Jim Reisinger
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RS Waste Services Inc.

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Satellite Industries

Ronald Holmstadt

Vanguard Management

John Calhoun

Washington Onsite Sewage Association

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West Willow Community Church

Don Tines

American National Standard: For Sanitation In Places of Employment: Minimum Requirements

1 Scope and Purpose

1.1 Scope

This standard applies to sanitary waste disposal systems, including at places of employment, wherever such systems are not connected to a sanitary sewer, septic tank or on-site sewage-disposal treatment facility.

1.2 Purpose

The purpose of this standard is to assure that adequate sanitary waste-disposal facilities are provided, including but not limited to places of employment, and wherever non-sewered waste-disposal systems are present.

2 Definitions

ADA-compliant: A device that is fully compliant, when properly installed, with the current requirements of the Americans with Disability Act Accessibility Guidelines (ADAAG) as legislated by the Americans with Disabilities Act of 1990.

Approved: Approved by the authority having jurisdiction.

Black water: Combined domestic effluent including liquid and solid human body waste and the water discharged from toilet usage.

Conservation: The preservation and protection of natural resources.

Fixture: A device for receiving water and/or waste matter that directs these substances into a sanitary drainage system. A fixture can include bathtubs, lavatories, showers, sinks, toilets, urinals and water closet bowls.

Flush toilet facility: A flush toilet facility is one utilizing a water or non-water flushing fluid that may be deposited into a container or receptacle, or may be re-circulated by a closed system for flushing purposes. Such a facility may be housed in a permanent or portable structure.

Grey water: Water that has already been used for bathing, washing, laundry or dishwashing but does not contain human or food waste.

Lavatory: A washbowl or basin permanently installed with running water, for washing hands, arms, face or head.

Non-flush toilet facilities: A non-flush toilet facility is one wherein the waste is deposited directly into a container or receptacle without flushing, sometimes containing a solution of water and deodorizer. Such a facility may be housed in a permanent or portable structure.

Non-sewered waste disposal system: A sanitary waste-disposal system not connected to a sanitary sewer, septic tank or on-site sewage disposal system.

Number of employees: For the purpose of this standard, the maximum number of employees present on a regular 40-hour workweek shift.

Permanent: For the purpose of this standard, the term "permanent" means not readily or not easily re-locatable.

Portable: For the purpose of this standard, the term "portable" means readily or easily re-locatable.

Potable water: Water that is free of objectionable pollution, contamination, minerals or infection, is approved for drinking, culinary and domestic purposes by the authority having jurisdiction, or in the absence of such authority, water meeting the requirements of the U.S. Environmental Protection Agency.

Recycled (reclaimed) wastewater: Water that has passed through a treatment facility mainly for use in irrigation, dust control or fire suppression and is clearly marked "non potable and unsafe for consumption," therefore encouraging conservation of potable water.

Sanitary condition: Within the meaning of this standard, that physical condition of working quarters which will tend to prevent the incidence and spread of disease.

Sanitize: To make free from dirt, infection, disease, etc., by cleaning it: to make something sanitary.

Tertiary standards: a final stage of water treatment before it can be discharged back into the environment.

Toilet facility: A series of fixtures (including showers) maintained within a room for the purpose of defecation, urination, or maintaining personal hygiene.

Urinal: A fixture maintained within a toilet facility for the sole purpose of urination.

Water closet: A toilet or fixture, which is designed to receive human waste directly from the user and discharge it to the drainage system.

3 General Requirements

3.1 In places of temporary employment, where ten persons or fewer are employed, a single toilet may be provided for use within a standard 40-hour workweek. See Table 1.

Number of Employees	Minimum number of toilet facilities
<u>If serviced once per week*</u>	
1-10	1
11-20	2
21-30	3
31-40	4
Over 40	1 add'l for each 10
<u>If serviced more than once per week*</u>	
1-15	1
16-35	2
36-55	3
56-75	4
76-95	5
Over 95	1 add'l for each 20
NOTE: "Servicing" refers to the emptying of waste, the sanitizing of the facility, and restocking of all necessary items.	

3.2 Toilet facilities shall be installed, maintained and operated in a manner that will not endanger the health or safety of employees or any person using the facility.

3.3 Toilet facilities, with separate fixtures for each gender, shall be provided in all places of employment whether indoors, outdoors or underground, except where toilet facilities will be occupied by no more than one person at a time, can be latched from the inside and contain at least one toilet. When these conditions are all met separate toilet facilities for each gender need not be provided (See 3.8).

3.4 The number of units to be provided for each gender shall be based upon the number of employees of that gender for whom the facilities are furnished and shall be in accordance with Table 1. Where single-occupancy facilities are equipped with more than one type of fixture,

only one facility shall be counted for the purpose of Table 1. Where multiple-occupancy facilities are equipped with numerous fixtures (urinals/ toilets), only one fixture in each facility will be counted for the purpose of Table 1.

3.5 Where employees of more than one employer are present at a place of employment (such as, but not necessarily limited to, construction sites with employees of several subcontractors), it shall be the responsibility of each employer to provide toilet facilities sufficient for the total number of their own employees. Where the number of employees at a place of employment fluctuates widely, the number of toilet facilities required should be determined by the maximum number of employees present during a regular 40-hour workweek shift.

3.6 It shall be the responsibility of the employer to ensure that all facilities and fixtures are maintained in a clean and sanitary condition. When toilet facilities require periodic servicing, the responsibility lies with the employer to provide sufficient toilet facilities and servicing to prevent the stated capacity of those facilities from being exceeded and therefore resulting in an unsanitary condition. The employer shall also assure ready access to the toilet facilities by the required servicing equipment.

3.7 Facilities shall be located so as to be readily accessible to the employees for whom they are furnished (See 3.8).

3.8 The requirements of 3.3 and 3.4 do not apply to "mobile crews" or to normally unattended work locations so long as employees working at these locations have transportation immediately available to facilities that meet the other requirements of Section 3. The determination of whether work crews are mobile is dependent upon factors such as worksite operations and circumstances. In general, "mobile crews" job functions require continual or frequent movement from jobsite to jobsite on an hourly basis. Work crews, whether contracted or sub-contracted, involved in housing construction need to be calculated based on Table 1, and are not considered to be "mobile."

3.9 Toilet paper with a holder fixture shall be provided for every toilet fixture. An adequate supply of toilet paper shall be maintained at all times.

3.10 Every toilet shall have a seat made of substantial material having a nonabsorbent finish; this does not preclude a seat molded into the fixture when a urinal is provided.

3.11 Every toilet seat shall be provided with a hinged lid.

4 Permanent Facility Requirements

All requirements for permanent facilities are covered under the scope of ANSI/PSAI Z4.1-2016 American National Standard: For Sanitation, In Places of Employment: Minimum Requirements, and are not covered under the scope of this standard.

5 Portable Facility Requirements

5.1 Structures housing portable toilet facilities may be mobile trailers or prefabricated, skid-mounted, or otherwise portable unit. If they contain more than one toilet fixture, each fixture shall occupy a separate compartment with a door and walls or partitions between fixtures to assure privacy. Toilet facilities intended for male use shall be equipped with urinals. Urinals do not need to occupy separate compartments.

5.2 The interior floors, walls, ceilings, partitions and doors of all portable structures shall have a finished surface of solid material that can be easily sanitized. It shall be completely enclosed and not transparent from the outside.

5.3 Every portable toilet facility shall provide adequate space for the user with minimum inside dimensions of 91 cm (3 ft) front-to-back and side-to-side, inside clear height of 1.98 m (6 ft 6 in) and a toilet fixture riser height of 35 to 51 cm (14 to 20 in).

5.4 The door housing a single toilet facility shall be provided with an inside latch. Any door leading to the outside shall be self-closing.

5.5 If the facility contains a tank in which waste is stored, that tank shall be vented to the outside of the structure with a minimum nominal vent area of 45 cm² (7 in²).

5.6 Portable toilet facilities shall be provided with a screened ventilation opening having a cross-sectional area of at least 0.09 m² (1 ft²) per fixture.

5.7 All ADA-Compliant portable facilities must be manufactured in accordance with the most current requirements of the Americans with Disability Act Accessibility Guidelines (ADAAG) There is to be no difference between a permanent or portable facility, including that all necessary equipment must be installed. Every effort must be made to provide the same opportunities for any person with a disability as an able bodied person may have. In order to supply the necessary number of ADA-compliant units for special events and large gatherings, a 5% ratio must be applied to the total number of units rented. That calculated number of units, rounded up to the nearest whole integer must be made available to meet ADA requirements.

5.8 It is preferred that all portable facilities are located so that after dusk, a form of light is available for safety of use and to deter vandalism.

5.9 To prohibit tip-over in high wind situations, it is recommended that no more than two units be tethered together and then stabilized on the ground.

6 Types of Portable Facilities

6.1 Requirements

6.1.1 Waste containers shall be fabricated from nonabsorbent, watertight materials.

6.1.2 Deodorizers or biological agents, if used in the waste containers, will follow accordance with all applicable federal, state and local provisions.

6.1.3 A method of hand cleansing must be made available – either through a hand sanitizer solution and dispenser within the unit or by providing hand wash stations.

6.2 Non-flush and flush portable toilet and urinal requirements

6.2.1 All materials that are in contact with waste and deodorizers shall be nonabsorbent and corrosion-resistant.

6.2.2 Waste passages shall have smooth surfaces and shall be free of obstructions, recesses or chambers that would allow fouling to occur.

6.2.3 Deodorizers, when used, shall be in accordance with applicable federal, state and local provisions. At each time of service the waste container shall be completely drained and sanitized, then recharged with water and deodorizers before use.

6.2.4 Flushing shall be accomplished by controls operable without special knowledge and are clearly identifiable. The unit must have a vigorous flow to carry waste into the container.

6.3 Hand wash station requirements

6.3.1 All units intended for hand washing must be labeled and clearly identified as “*Not for Consumption*” or with an equivalent warning not to drink the water. The number of units to be provided is to be based upon the number of toilet facilities required, and shall be in accordance with Table 2.

Table 2
Minimum number of Hand Wash Stations

Number of toilet facilities	Hand wash stations required*
1-10	1
11-20	2
21-30	3
31-40	4
Over 40	1 add'l for each 10

NOTE: For the purpose of this standard, the required number of hand wash stations are equipped with a minimum of one faucet. Care must be taken to ensure that the required numbers of stations are provided based on the type and style of unit being delivered.

6.3.2 Materials that are in contact with grey water shall be nonabsorbent and corrosion-resistant.

6.3.3 Potable water and wastewater passages shall have smooth surfaces and shall be free of obstructions, recesses or chambers that would allow fouling or algae build up to occur.

6.3.4 At each time of service the wastewater container shall be completely drained and sanitized, then recharged with water that was potable prior to being transferred to the service truck. At the moment of transfer, the water then becomes non-potable and unsafe for consumption. All necessary items (hand soap and paper towels) are to be restocked in order for the unit to be considered fully functional.

6.3.5 Units should be serviced at a maximum of 45 days and sanitized with a 10% bleach and water solution to maintain sanitary conditions.

6.4 Trailer facility requirements

6.4.1 Types of manufactured portable sanitation trailers can range from enclosing portable restrooms, decontamination units, locker compartments, shower facilities or combination units and laundry equipment.

6.4.2 Unless otherwise designated, all trailer systems must be in accordance with Title 24, Code of Federal Regulations, Part 3280 for Mobile / Manufactured Home Construction Standards, including Part 3280.607 – Plumbing Fixtures, in addition to all applicable federal, state and local provisions.

7 Disposal of Wastewater

7.1 Discharge and disposal of wastewater must follow all applicable federal, state and local laws, and be in accordance with proper disposal of wastewater by the authorities having jurisdiction.

7.2 Adherence to the policies set forth by the local authorized wastewater treatment facilities will be observed in terms of proper policy and procedure for discharge and disposal of wastewater.

7.3 Both the company and the employee operating within the industry must meet any and all federal, state or local municipalities standards, licensing and permits, in order to haul and dispose of liquid waste.

7.4 Every effort must be made to minimize any potential threat to the environment by following safety procedures and policies for accidental spills set forth by local authorities.

8 Revisions to ANSI Standards referenced in this Document

When an American National Standard in this document are superseded by a revision approved by the American National Standards Institute, Inc., the most current approved revision shall apply.