

Chapter Ind 52

GENERAL REQUIREMENTS

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Ind 52.001 Design and supervision. (1) Every new building containing more than 50,000 cubic feet total volume, or addition to a building which by reason of such addition results in a building containing over 50,000 cubic feet total volume, or structural alteration to a building containing over 50,000 cubic feet total volume shall be designed by an architect or engineer in accordance with the provisions of this code; and shall be constructed under the supervision of an architect or engineer who shall be responsible for its erection in accordance with the plans and specifications of the designer. No change from the original plans and specifications shall be made except with the knowledge and consent of the designer, and as provided in Wis. Adm. Code section Ind 50.10.

(2) On completion of the construction, the supervising architect or engineer shall file a written statement with the department of industry, labor and human relations certifying that, to the best of his knowledge and belief, the construction has been performed in accordance with the plans and specifications approved by the department.

(3) No owner shall construct or alter any building, or portion of a building, or permit any building to be constructed or altered, except in accordance with the provisions of this section.

Note: By the term "architect" or "engineer" above is meant "registered architect" or "registered professional engineer", as defined in the Architects and Professional Engineers Registration Act, Section 101.31, Wis. Stats.

History: 1-2-56; cr. (2) Register, August, 1957, No. 20, eff. 9-1-57.

Ind 52.01. *History:* 1-2-56; am. (5) Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (5) eff. 8-1-71 and exp. 1-1-72; cr. (5) eff. 1-1-72, Register, July, 1971, No. 187; r. Register, June, 1972, No. 198, eff. 1-1-73.

Ind 52.02 Windows. (1) Every room in which one or more persons

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live, sleep, or are employed (except storage rooms or other rooms where the nature of the occupancy will not permit) shall be lighted by a window or windows opening directly upon a street or alley, or upon a court on the same lot with the building. The windows shall be so constructed and distributed as to afford light. Every building more than 40 feet deep (measuring at right angles to the windows) shall have windows on at least 2 sides.

Note: For windows and other outdoor openings used for natural ventilation, see Ind 59.24 (4) and Ind 57.19.

(a) The provisions for (1) may be waived for such occupancies as factory, office, mercantile, or educational facilities if provisions are made for artificial lighting as covered by Wis. Adm. Code Chapter Ind 19, Illumination.

1. Requirements applicable to schools or places of instruction shall be as stated in section Ind 56.05.

(2) Every building more than one story in height which does not have windows opening directly upon a street in each story above the first shall be provided with a suitable access for fire department use. Such access shall be a window or door opening through the wall on each floor above the first story. The opening shall be at least 36 inches in width and not less than 48 inches in height with the sill not more than 32 inches above the floor. The openings shall be so spaced that there will be one opening in each 100 feet of wall length in any accessible wall of the building. This requirement for access openings for fire department use shall not apply where a building is equipped throughout with an automatic sprinkler system approved for fire protection purposes.

History: 1-2-56; am. Register, December, 1962, No. 84, eff. 1-1-63; r. and recr. (1) (a), Register, October, 1967, No. 142, eff. 11-1-67; am. (1) (a), Register, May, 1971, No. 185, eff. 6-1-71; r. and recr., Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.03 Window cleaning. (1) Where the tops of windows to be cleaned are more than 20 feet above the floor, ground, flat roof, balcony, or permanent platform, one of the following means shall be provided to protect the window cleaners.

(a) Approved attachments for window cleaner safety belts to which belts may be fastened at each end. Said attachments shall be permanent devices that shall be firmly attached to the window frame, or to the building proper, and so designed that a standard safety belt may be attached thereto; or

(b) An approved portable platform that is projected through the window or supported from the ground, floor, roof or platform level, for the window cleaner to stand upon and that is designed, constructed, maintained and equipped with handrail and toeboard in compliance with the requirements of chapter Ind 1, rules on Safety.

(c) A suspended scaffold, swinging scaffold, swinging chair scaffold, or boatswain's chair scaffold designed, constructed, equipped and maintained in compliance with the requirements of Wis. Adm. Code chapter Ind 35, rules on Safety in Construction, or

(d) Other equally effective devices.

(e) Where the window consists of a fixed panel not more than 24 inches in width alongside a removable panel, the fixed panel may be

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cleaned by reaching through the opening of the removable panel. Where the window consists of a fixed panel between 2 removable panels, the fixed panel may be cleaned by reaching through the openings if such fixed panel is not more than 36 inches in width.

(2) For cleaning the insides of skylights (the highest parts of which are more than 20 feet above the floor, ground, balcony or permanent platform), to which access cannot be gained by any of the means described in Wis. Adm. Code subsection Ind 1.16 (1), scaffolds as specified in chapter Ind 35, rules on Safety in Construction, shall be provided.

(3) All equipment, including building parts and attachments, used in connection with window cleaning, shall be maintained in reasonably safe condition while in use and shall be inspected at least once each month while in use, and within 30 days before their use. It shall be the responsibility of the owner of the individual safety devices or equipment to inspect and maintain the devices or equipment belonging to him so that each will comply with the requirements of this section.

(4) Where the attachments specified in subsection (1) (a) are relied upon for compliance with the provisions of this rule, said employer shall furnish or see that there is provided, an approved suitable safety belt for each employe while cleaning windows.

Note: It will be the policy of the department of industry, labor and human relations to accept anchors and safety belts which have been tested and approved by the Underwriters' Laboratories.

History: 1-2-56; am. Register, December, 1962, No. 84, eff. 1-1-63.

Ind 52.04 Requirements for barrier-free environments. (1) SCOPE. The requirements of this section are intended to insure that all public buildings and places of employment shall be accessible and usable by all citizens, including those with functional limitations.

(2) **DEFINITIONS.** (a) *Access or accessible.* Access or accessible means the ability of a person with a functional limitation caused by impairments of sight, hearing, incoordination, perception, semiambulatory or nonambulatory disabilities to enter and leave a public building, circulate through a public building, and use the public toilet facilities without assistance. Functional limitations may require aids such as wheelchairs, crutches, braces or canes.

(3) **SITE REQUIREMENTS.** A means of access from an ancillary parking facility, street or alley to the building shall be provided.

Note: Section 66.616, Wis. Stats., requires curb ramps for persons with physical disabilities at intersection crosswalks on any city or village street, connecting street, or town road provided with curbs and sidewalks.

(a) *Parking spaces.* Where parking spaces are provided, accessible parking spaces shall be designated and provided at the rate of 2% of the total number of parking spaces provided, with a minimum of one.

1. **Width.** Parking spaces shall be at least 12 feet wide.

2. **Identification and location.** All accessible parking spaces shall be identified and located as close as possible to an accessible building entrance. Parking spaces in a parking ramp shall be located as close as possible to the main entrance of the parking ramp, to an adjacent accessible public walk, or to an accessible elevator.

(b) *Walks.* All walks leading to accessible entrances from parking facilities or public walks shall be at least 48 inches wide and shall have a gradient no more than 5%, and a nonslip surface with no side slope. Walks having a slope not greater than 2% may be constructed with a side slope, across the sidewalk, of one %. Walks with a gradient greater than 5% must conform to the requirements for ramps [Ind 52.04 (7)].

(c) *Communication between buildings or properties.* Walks or enclosed passageways which connect 2 or more properties or buildings and are intended for public use shall provide access to each building or property.

(4) **NEW CONSTRUCTION.** All new public buildings and places of employment shall be designed and constructed with means of ingress and egress, interior circulation, and toilet facilities in accordance with Table 52.04 and the requirements of subsection Ind 52.04 (4). All buildings with multiple uses shall comply with the criteria established in Table 52.04 for each specific use.

Note: The footnotes in Table 52.04 designate specific exemptions and/or requirements for means of ingress and egress, interior circulation and toilet facilities for the occupancies listed.

(a) *Means of ingress and egress.* Access from the exterior grade to the primary entrance and the entrance nearest any on-site parking facilities of all public buildings and places of employment shall be provided to the primary floor by means of a ramp, grade level entrance, or other accessible means approved by the department.

1. **Platforms.** A level platform, not less than 5 feet by 5 feet, shall be provided at the exterior and interior of all entrance doors. The platform shall be designed to provide at least 12 inches of clear space on the knob side of the door.

(b) *Interior circulation.* Access shall be provided to all public use areas of the building, both horizontally and vertically. Interior circulation between floor levels shall be accomplished by the use of ramps, elevators, approved chair lifts, or other accessible means approved by the department.

Note: The department recommends that the elevator control buttons and the emergency call system be accessible. Raised lettering is recommended for call buttons.

(c) *Toilet facilities.* Public toilet facilities shall be accessible on or from the primary floor. Every floor which is accessible, and which is provided with public toilet facilities, shall be provided with accessible toilet facilities which comply with the requirements of Ind 52.04 (8), and the following distribution:

1. The number of water closets provided shall be at the rate of 10% of the total number of water closets in each toilet room, with a minimum of one for each sex.

2. Only one toilet room is required in buildings accommodating less than 5 employees and less than 25 patrons per Ind 52.51 (1) (b) and Ind 54.12 (7).

3. Accessible toilet facilities shall be evenly distributed horizontally and vertically throughout the building.

(5) **ADDITIONS.** All additions to existing public buildings and places of employment shall be provided with a means of ingress and egress,

TABLE 52.04
REQUIREMENTS FOR ACCESSIBLE CONSTRUCTION

Occupancy and Type of Construction	Means of Ingress and Egress		Interior Circulation	Toilet Facilities
	Primary Entrance	Primary Floor		
I. All public buildings and places of employment except II, V, VII and IX ..	Yes ¹	Yes	Yes ¹	Yes
II. Government owned or leased buildings	Yes	Yes	Yes	Yes
III. Factories, office and mercantile buildings	Yes ¹	Yes	Yes ¹	Yes
A. Offices	Yes ¹	Yes	Yes ^{1, 2}	Yes
1. Telephone exchange (equipment)	No	No	No	No
B. Mercantile	Yes ¹	Yes	Yes ¹	Yes
1. Warehouses (storage)	No	No	No	No
C. Factories	Yes ¹	Yes	Yes ¹	Yes
1. Foundries	No	No	No	No
2. Slaughter houses	No	No	No	No
3. Saw and feed mills	No	No	No	No
IV. Theaters and assembly halls	Yes ¹	Yes	Yes ¹	Yes
A. Churches (Ch. Ind 54 and 55) ..				
1. Basements and balconies	N/A	N/A	No	No
2. Naves and chapels	Yes ³	Yes	Yes	Yes
B. Funeral chapels	Yes ¹	Yes	Yes ¹	Yes
C. Auditoriums and theaters (fixed seats)	Yes	Yes ⁴	Yes ⁴	Yes
1. Motion picture booths	No	No	No	No
D. Stadiums and permanent bleachers .	Yes	Yes ⁴	Yes ⁴	Yes
1. Portable bleachers	No	No	No	No
E. Recreational facilities	Yes ¹	Yes	Yes ¹	Yes
F. Night clubs, bars and dining rooms	Yes	Yes	Yes ⁵	Yes
V. Schools and places of instruction	Yes	Yes	Yes	Yes
VI. Libraries, museums and art galleries .	Yes ¹	Yes	Yes ¹	Yes
VII. Residential occupancies				
A. Apartments, row houses and town houses	Yes ⁶	Yes ⁶	Yes ⁷	Yes
B. Motels, hotels and ski lodges	Yes	Yes	Yes ⁸	Yes
C. Fraternities and sororities	Yes	Yes	Yes ⁹	Yes
D. Residential and intermediate care facilities	Yes	Yes	Yes ¹⁰	Yes
VIII. Day care centers ¹¹	Yes	Yes	Yes	Yes
IX. Hospitals, homes for the aged and infirm, nursing homes, mental hospitals, and places of detention	Yes	Yes	Yes ¹²	Yes ¹³
X. Garage occupancies	Yes ⁴	Yes	Yes ¹	Yes
A. Service stations	Yes	Yes	Yes	Yes
B. Parking garages	Yes	Yes	Yes	No
XI. Mechanical equipment rooms, maintenance rooms, and janitor closets	No	No	No	No

N/A = Not applicable.

¹ If the total square footage of the building, including all floors, is less than 20,000 square feet, access is required to the primary floor and interior circulation is required only on the primary floor. In split-level and 2-story buildings, the primary floor shall include at least 40% of the total square footage of the building utilized by the public.

² All health care facilities, including medical and dental offices and clinics, are required to have interior circulation throughout, regardless of the square footage. Mechanical and storage areas do not require interior circulation.

³ Access to the primary floor via the primary entrance is not required in remodeled church entrances if the vertical rise between the exterior grade and the primary floor is greater than 2 feet. Accessible public entry shall be provided to the primary floor, however, at some other location.

⁴ Seating accommodations:

Capacity of place of assembly
1 - 300
Over 300

No. of seating positions
5% of total

15 spaces plus 2% of the total over 300
(maximum required not to exceed 30)

Seating spaces must be an integral part of the seating plan and not segregated. One-half of these spaces shall be designated for patrons using wheelchairs and located on a level grade. One-half of these spaces shall be designed to accommodate patrons using braces, crutches or other aids. Interior circulation is required on the primary floor.

⁶ Interior circulation is required to any level containing the only public facility of its kind in the building.

⁶ All apartment buildings and living units provided with individual exterior entrances shall provide an accessible entrance(s) to a primary floor. The accessible living units shall be provided at the rate of 10% of the total number of living units, with a minimum of one.

⁷ Interior circulation shall be accomplished through the use of 32-inch doors within all accessible living units. All stairways, including stairways within accessible living units, shall provide a 32-inch clear space between the handrails or between the handrail and opposing wall. Corridors shall be wide enough to permit 90° turns by a standard wheelchair into all doorways. If laundry facilities are provided, the facilities shall be accessible in buildings with more than 20 units per building.

⁸ Accessible sleeping units shall be provided at a rate of 5%, with a minimum of one, of the total number of units provided. Grab bars are required in bathrooms in accessible units, and 32-inch doors are required throughout. Corridors shall be wide enough to permit 90° turns by a standard wheelchair into all doorways.

⁹ Access shall be provided to the primary floor, with interior circulation on the primary floor.

¹⁰ Common use areas and 10% of the sleeping rooms shall be accessible.

¹¹ This does not apply to a change of occupancy.

¹² In penal institutions, 10% of the institutional living units on the primary floor shall be accessible. Vertical transportation between tiers of cells is not required.

¹³ Twenty percent of all rooms designated for patient use, and the toilet rooms provided in or for these rooms, shall be designed to permit uninterrupted use by a person confined to a wheelchair, plus ample room for an attendant.

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interior circulation between the existing building and the addition, interior circulation within the addition, and toilet facilities as specified in Table 52.04 and subsection Ind 52.04 (4). If the existing building does not have accessible toilet facilities, toilet facilities as specified in Table 52.04 and subsection Ind 52.04 (4) must be provided in either the addition or the existing facility. If the area of the addition is more than 50% of the gross interior square footage of the existing building, the entire building shall comply with the provisions of Table 52.04 and subsection Ind 52.04 (4).

(6) **EXISTING CONSTRUCTION.** All existing public buildings or places of employment to be remodeled shall be provided with means of ingress and egress, interior circulation, and toilet facilities in accordance with the following:

(a) *More than 50% remodeling.* If more than 50% of the gross interior square footage of a building is remodeled, the entire building shall be provided with the requirements of Table 52.04 and subsection Ind 52.04 (4).

(b) *25% to 50% remodeling.* If 25% to 50% of the gross interior square footage of a building is remodeled, the part of the building which is remodeled shall be provided with the requirements of Table 52.04 and subsection Ind 52.04 (4).

(c) *Less than 25% remodeling.* If less than 25% of the gross interior square footage of a building is remodeled, the requirements of Table 52.04 and subsection Ind 52.04 (4) need not be provided unless the remodeling involves an entrance or exit or toilet facilities.

(d) *Remodeling in buildings with elevators.* If an existing building having passenger elevators is remodeled in accordance with the percentages above, separate accessible toilet room facilities for each sex shall be provided to serve each 5 floors, or fraction thereof, and shall comply with the requirements of subsections Ind 52.04 (4) and (8).

(e) *Change of usage.* If the usage of an existing building presently exempt is changed to a nonexempt usage, the building shall be provided with the requirements of this section.

(f) *Remodeling in stages.* If the remodeling is undertaken in stages, the percentage requirements established in this subsection shall apply to the total sum of the stages.

(7) **RAMP DETAILS.** (a) *Ramp slope.* Ramps shall have a slope of not more than one foot of rise in 12 feet of run. An interior ramp with a slope of one foot of rise in 8 feet may be used to overcome a total height not greater than 3 feet. The ramps must have a non-skid surface and shall have no side slope.

(b) *Ramp width.* Ramps shall be at least 4 feet wide, of which not more than 4 inches on each side may be occupied by a handrail.

(c) *Ramp handrails.* Ramps shall have a handrail on each side which shall be at least 2 feet 6 inches high (preferable height, 2 feet 8 inches). Handrails on unenclosed ramps shall include an intermediate parallel rail at mid height.

(d) *Ramp clearance.* Where ramps are provided to accessible doorways, the floor on each side of the doorway shall be level for a distance of 5 feet from the door.

(e) *Ramp platforms.* Ramps having a 1:8 slope shall have a 5-foot long level platform at 16-foot intervals. Ramps having a 1:12 slope shall have a level platform at 30-foot intervals. Both types of ramps shall have a level platform at least 6 feet long where they turn and at least 6 feet of level clearance at the bottom of the ramps.

(8)* *TOILET FACILITY DETAILS.* (a) *Accessible toilet rooms and compartments.* Accessible toilet rooms and toilet compartments shall be sized to provide ease of access, usability and uninterrupted mobility. Fixtures, doors, and other obstructions shall be arranged to insure accessibility.

(b) *Water closet compartments.* Water closet compartments with a front entrance approach shall be at least 36 inches by 72 inches, or at least 48 inches by 57 inches. Partitions between water closet compartments shall provide 12 inches of clear space from the floor to the bottom of the partition. The compartment door shall be out-swinging and at least 32 inches wide. Sufficient clearance must be maintained to permit the door to open at least 95 degrees.

(c) *Grab bars.* Each grab bar shall be designed and anchored to support a weight of 250 pounds. The grab bars in a 36" x 72" compartment shall be installed on each side of the water closet at 33 inches high and parallel to the floor. The 48" x 57" compartment shall have a horizontal grab bar, 33 inches high, located on the wall nearest the water closet. The grab bars shall have a smooth finish with an approximate outside diameter between 1 to 2 inches, and with 1½ inches clearance between rail and wall.

(d) *Water closets.* The seat height of the water closet shall be 20 inches above the floor.

(e) *Lavatory.* At least one lavatory, mounted at a height which allows 29 inches clear space at the bottom of the apron and a maximum rim height of 34 inches, shall be provided.

Note: It is recommended that water supply controls be single lever controls and that exposed hot water pipes be insulated.

(f) *Mirror and towel dispensers.* At least one mirror and towel dispenser or hand dryer, when provided, shall be mounted not more than 40 inches above the floor.

Note: The department will accept toilet rooms, individual toilet compartments and grab bars as illustrated in the Appendix.

(9) *MISCELLANEOUS DETAILS.* (a)* *Door dimensions.* All accessible exterior doors shall be at least 40 inches wide. All interior doors shall be at least 32 inches wide. The bottom door stile shall be at least 8 inches high. Doors in series and doors located in corridors shall be accessible. One leaf of double-leaf doors shall be at least 32 inches wide.

Note: Automatic power-operated doors are recommended at entrances. Time-delay door closures are recommended at all accessible doors. The manual pull or push of a door is recommended not to exceed 15 pounds. Lever handles or door handles are recommended over conventional door knobs.

(b) *Door thresholds.* If door thresholds are provided, the exterior thresholds shall not extend more than ¼ inch above the finished floor, including the weatherstripping. All exterior thresholds shall be not

* See Appendix A for further explanatory material.

less than 4 inches in width. Interior thresholds shall extend not more than $\frac{3}{8}$ inch above the finished floor or carpeting. All thresholds shall be beveled to provide smooth, unbroken, rounded surfaces.

(c)* *Identification signs.* 1. The international symbol for barrier-free environments shall identify all accessible entrances, toilet facilities, drinking fountains, telephones and parking spaces.

2. The international symbol for barrier-free environments shall be placed at all entrances indicating the location of the nearest accessible entrance(s) and accessible toilet facilities. The symbol at the exterior of the building shall be legible from adjacent streets, driveways or public walks.

3. Where identification signs are provided at the interior of the building, raised letters, numbers or symbols shall be used. The signs shall be located at a height between 4 feet 6 inches to 5 feet 6 inches above the floor. Knurled hardware shall be used to identify doors leading to hazardous areas such as mechanical equipment rooms and loading docks.

(d)* *Wheelchair functions.* All 90-degree, 180-degree, 360-degree and S-turns shall be designed to provide ease of access, usability and uninterrupted mobility.

Note #1: The standard wheelchair dimensions are: length, including footrest and feet, 60 inches; width, including hands and knuckles, 29 inches.

Note #2: The minimum space required to turn 90-degree, 180-degree, 360-degree and S-turns is illustrated in the Appendix.

(e) *Grates.* All openings in gratings that will be in the path of access shall not exceed $\frac{3}{8}$ -inch in width, and shall be installed perpendicular to the direction of travel. Spacers perpendicular to the grate and flush with the top of the grate shall be provided at not more than 18-inch intervals.

(f) *Water fountains.* Water fountains shall be accessible and installed at or adapted to a usable height.

Note: Conventional floor-mounted water coolers can be serviceable to patrons with functional limitations if a small fountain is mounted on the side of the cooler 30 inches above the floor. Fully recessed water fountains are not recommended and should not be recessed in an alcove unless the alcove is wider than a wheelchair.

(g) *Public telephones.* Where coin telephone(s) are provided for public use, a minimum of one telephone shall be accessible.

Note: It is recommended that the height of the telephone coin slot be not more than 54 inches above the floor, with the dial no more than 48 inches from the floor. An adjustable volume control should be provided in areas where such service is appropriate.

History: Cr, Register, December, 1974, No. 228, eff. 1-1-75.

Ind 52.05 Size of courts. (1) In applying the following requirements, a building from 30 to 43 feet high shall be considered as having at least 3 stories, and each additional 13 feet shall be considered an additional story.

(2) Outer lot line courts shall be not less than 5 feet wide for a court 2 stories or less in height and 40 feet or less in length, measured from the lot line to the wall of the building. For each additional story in height, the width of such court shall be increased one foot; and for each additional 15 feet or fraction thereof in length, the width of such court shall be further increased one foot.

* See Appendix A for further explanatory material.

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(3) Outer courts between wings or parts of the same building, or between different buildings on the same lot, shall be not less than 6 feet wide for a court 2 stories or less in height and 40 feet or less in length. For each additional story in height, the width of such court shall be increased one foot, and for each additional 10 feet or fraction thereof in length, the width of such court shall be further increased one foot.

(4) Where outer courts or outer lot line courts open at each end to a street or other open space not less than 15 feet wide, the above lengths may be doubled.

(5) Inner lot line courts one story high shall be not less than 5 feet wide and not less than 45 square feet in area. Inner lot line courts 2 stories high shall be not less than 6 feet wide and not less than 60 square feet in area. For every additional story, every such inner lot line court shall be increased by at least one lineal foot in length and one lineal foot in its width.

(6) Inner courts shall be not less than 10 feet in width nor less than 150 square feet in area for courts 2 stories or less in height; and for every additional story every such inner court shall be increased by at least one lineal foot in its length and one lineal foot in its width.

(7) Courts shall not be covered by a roof or skylight but the entire required area shall be open and unobstructed from the bottom thereof to the sky. No fire escape or stairway shall be constructed in any court unless the court be enlarged proportionately.

(8) Walls of inner courts whose least horizontal dimension is less than one-fourth the height, shall be faced with material with a permanent white surface or shall be painted white at least every 2 years.

(9) No buildings shall be altered or enlarged to encroach upon space reserved under this code for light and air on the lots or parcels of ground on which such building is erected.

History: 1-2-56; am. (2) and (5), Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.06 Ventilation of courts. At the bottom of every shaft or inner court there shall be sufficient access to such shaft or court to enable it to be properly cleaned out. Every inner court which is required under Wis. Adm. Code section Ind 52.02 and which is more than one story in height shall have an intake for fresh air, leading from the street or other open space. The area of such intake in square feet shall equal at least .002 of the number of cubic feet contained in said court, but such area need not be more than 50 square feet. Every intake shall be of not less than 2-hour fire-resistive construction and unless said intake is used as a passageway for persons, there shall be no openings into the same other than the inlet and outlet.

Ind 52.10 Chimneys. (1) The walls of all chimneys shall be built of brick or other approved fire-resistive material, except that a metal smokestack may be provided as specified in section Ind 52.11. No chimney shall rest upon a flooring of wood nor shall any wood be built into, or in contact with any chimney. Headers, beams, joists and studs shall not be less than 2 inches from the outside

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face of a chimney. The foundation of every chimney, flue, or stack, shall be designed and built in conformity with the requirements for foundations for buildings. In no case shall a chimney be corbeled out more than 8 inches from the wall and in every case the corbeling shall consist of at least 5 courses of brick. Chimneys shall extend at least 3 feet above flat roofs and not less than 2 feet above the ridge of gable and hip roofs, and lime-cement or cement mortar shall be used in the laying of chimney masonry above the roof line.

(2) Every masonry chimney shall have walls at least 8 inches in solid thickness, except that in a chimney with a flue not larger than 260 square inches where a fire clay or other suitable refractory clay flue lining is used for the full height of the chimney the walls shall not be less than 4 inches in solid thickness. No smoke flue shall have a cross sectional area less than 64 square inches, except that flue linings 7 inches by 7 inches inside, or 8 inches in diameter inside, may be used.

(3) All flue linings shall be adapted to withstand reasonably high temperatures and flue gases and shall have a softening point not lower than 1800° F. Flue linings shall be not less than 5/8 inch in thickness and shall be built in as outer walls of the chimney are constructed. Flue linings shall start from a point not less than 8 inches below the bottom of the smokepipe intake and shall be continuous to a point not less than 4 inches above the enclosing walls.

(4) Where there is more than one smokepipe connected to a flue, the connections shall be at different levels. Two or more heating units or appliances may be connected to a common smokepipe or breeching if joined by Y fittings as close as practicable to the flue. In all such cases, the size of the breeching and the flue shall be sufficient to accommodate the total volume of flue gases.

(a) *Cleanout opening.* Every chimney shall be provided with a cleanout opening at the base. Such openings shall be equipped with metal doors and frames arranged to remain closed when not in use.

(5) Every chimney shall be designed to withstand the following wind pressure in pounds per square foot over the diametrical area:

(a) Square chimneys	-----	30
(b) Polygonal chimneys	-----	25
(c) Round chimneys	-----	20

(6) Prefabricated chimneys complying with the requirements of Wis. Adm. Code section Ind 59.67 may be used in lieu of masonry chimneys if approved by the department of industry, labor and human relations and are provided with foundations as specified for masonry chimneys, or metal smokestacks or as otherwise approved.

History: 1-2-56; am. (1), r. and recr. (4), Register, August, 1957, No. 20, eff. 9-1-57; am. Register, December, 1962, No. 84, eff. 1-1-63; r. and recr. (6), Register, October, 1967, No. 142, eff. 11-1-67.

Ind 52.11 Metal smokestacks. (1) Steel or iron smokestacks may be used in place of masonry chimneys specified in section Ind 52.10, in which case the thickness of the metal shall be not less than 3/16 inch for heights up to 40 feet and 1/4 inch for greater heights. Such stacks when used for manufacturing, for high pressure

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boilers, furnaces or other similar heating or manufacturing appliances shall be lined with fire brick for a distance of not less than 25 feet from the place where the smoke pipe enters and shall be protected on the outside up to and through the roof of the building with 8 inches of masonry, or a metal shield which provides an 8 inch ventilated air space between such shield and the stack. All stacks shall be properly guyed when the height of the stack exceeds 15 times its least diameter.

Exception:

(a) Public utility or industrial power plants are exempted from the protection requirements of this paragraph if they are of type No. 1 or No. 2 construction as specified in section Ind 51.03.

(2) Smokestacks under 30 feet in height may be constructed of not less than No. 10 U. S. Gauge steel, with either welded or riveted joints, and may be mounted directly upon masonry chimneys or foundations or upon industrial heating or power boilers provided all of which are designed to support the stack load. A clearance of not less than 6 inches shall be maintained at all times around such smokestack and any inflammable material within 12 inches of such smokestack shall be protected by $\frac{1}{4}$ inch of asbestos covered by sheet metal.

History: 1-2-56; am. (1) (a), Register, June, 1972, No. 198, eff. 1-1-73.

Ind 52.12 Smoke pipes. (1) No smoke pipe or breeching serving boilers, furnaces or other similar heating appliances shall pass through any floor, outside window or door, nor through any combustible roof or combustible outside wall, nor through any closet, attic or similarly concealed space.

(2) Where necessary to pass through any partition of non-fire-resistive construction, every smoke pipe shall be encased with incombustible material at least 4 inches thick or with a double safety thimble made of 2 concentric rings of sheet metal with at least one inch open air space between and with the outer ring covered with at least $\frac{1}{4}$ inch asbestos.

(3) No part of any smoke pipe shall be placed nearer to any non-fire-resistive partition or wall than the diameter of the pipe, nor nearer to any non-fire-resistive ceiling than $1\frac{1}{2}$ times the diameter; but the above distances may be reduced by one-half, if the wall or ceiling is covered with not less than $\frac{1}{4}$ inch asbestos board covered with sheet metal, or with equivalent protection.

Ind 52.13 Steam and hot water pipes. No steam pipe or pipe carrying hot water at a temperature exceeding 180 degrees shall be placed within one inch of any woodwork. Every such steam or hot water pipe passing through a combustible floor, ceiling or partition, shall be protected by a metal tube one inch larger in diameter than the pipe and shall be provided with a metal cap. All wooden boxes or casings enclosing steam or hot water pipes, or wooden covers to recesses in walls in which steam pipes are placed, shall be lined with metal.

Ind 52.14 Ducts. Every vertical shaft housing air ducts or a group of ducts in buildings in the theater, school, or hotel classification, shall be enclosed with incombustible material smoothly finished on the inside

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and having a fire-resistive rating as required for each specific situation.

History: 1-2-56; am. Register, December, 1962, No. 84, eff. 1-1-63.

Ind 52.15. History: 1-2-56; r. Register, December, 1962, No. 84, eff. 1-1-63.

Ind 52.16 Floor protection. (1) All stoves and ranges used for cooking, heating or laundry purposes using solid or liquid fuel, and which are more than 16 square feet in horizontal area or which have a flame at the bottom shall be placed on a fire-resistive floor projecting at least 2 feet on each side. If such floor rests on or is in contact with any combustible material, then the fire-resistive floor layer shall be at least 5 inches thick and shall be hollow, with air spaces running horizontally through the same. The air spaces shall be open at both ends and shall be so placed that air can circulate through them; the horizontal area of the air spaces shall equal at least one-half the horizontal area of the slab.

(2) The air spaces may be secured by using hollow tile placed end to end, or by embedding wrought or sheet iron pipes in a layer of concrete. The air spaces should parallel the short dimension of the slab.

(3) If the stove or range is raised at least 6 inches above the floor and such air space is not enclosed, then the fire-resistant floor layer may be reduced to not less than 2 inch solid thickness, without air spaces, provided it is covered with sheet metal.

(4) All stoves and ranges using solid or liquid fuel and which are not more than 16 square feet in horizontal area and not having a flame at the bottom shall, if placed on a combustible floor, be raised at least 6 inches above the floor, and such air space shall not be enclosed. Such floor shall be protected with a stove board of sheet metal or asbestos, projecting at least one foot on all sides.

(5) Gas ranges, domestic hot water heaters and hot plates shall be supported at least 6 inches above any wood floor or other combustible material and, if less than 12 inches above the floor, the wood shall be protected by a metal shield, or such equipment may rest on a masonry support.

(a) The above dimension of 6 inches may be reduced to 3½ inches if the bottom is suitably protected with a metal shield.

Ind 52.17 Wall and ceiling protection. (1) All stoves and ranges used for cooking or laundry purposes and all domestic hot water heaters shall be placed at least 24 inches away from any combustible wall, partition or ceiling, except that such distance may be reduced to 12 inches if the wall, partition or ceiling is protected with at least ¼ inch asbestos board covered with sheet metal, or with an equivalent protection.

(2) The above distances may be reduced one-half in the case of stoves and ranges less than 16 square feet in area, and also in the case of gas ranges of greater area if proper insulation is incorporated in the back of the range.

Ind 52.18 Gas vents. All gas ranges, except those for domestic use,

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hot water heaters, and other gas fired equipment shall be provided with vent pipes conforming to the requirements for smoke pipes as specified in Wis. Adm. Code section Ind 52.12.

Ind 52.19 Gas and oil lamps. (1) Gas and oil lamps shall not be used where electricity is available, except within living units of apartment buildings.

(2) Gas and oil lamps shall be placed at least 6 feet above the floor level, at least 6 inches from any combustible partition or wall, and at least 2 feet (measured from top of flame) below any combustible ceiling unless properly protected by a metal shield with at least 2 inches of air space above. Swinging brackets shall be provided with a guard or stop so that the light cannot come nearer to the partition or wall than one foot. In aisles and public passageways, every such light shall be protected by an incombustible guard unless the light is at least 7 feet above the floor. Gas and oil lights shall be kept at least 2 feet from any drape or window curtain.

(3) Every gas supply main shall have a service cock outside of the building, so placed and maintained that it can be shut off at any time without entering the building.

History: 1-2-56; am. (1), Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.20 Electrical work. All electrical work shall conform to the requirements of the Wisconsin state electrical code of the department of industry, labor and human relations.

Note: For the design requirements for transformer vaults, see chapter B 450 of the Wisconsin state electrical code.

History: 1-2-56; am. Register, January, 1961, No. 61, eff. 2-1-61.

Ind 52.21 Location and maintenance of exits. Every exit mentioned in Wis. Adm. Code sections Ind 51.14 to 51.19, inclusive, shall lead to a street, alley or open court connected with a street. All such exits and all passageways leading to and from the same, shall be kept in good repair and unobstructed at all times.

Ind 52.22 Television and radio receiving antenna. (1) The requirements of this section shall apply to the outdoor portion of all apparatus, more than 12 feet in height, used for receiving television or radio waves.

(2) All television and radio antenna systems, including the supporting tower or mast, shall be constructed of galvanized steel or other corrosive-resistant incombustible material. Where approved by the department of industry, labor and human relations, towers constructed of wood or wood poles set in the ground may be used to support antenna systems but no wood tower or wood pole may be mounted on the roof of any building or structure.

(3) The antenna and tower shall be designed to support the dead load of the structure plus an ice load at least $\frac{1}{2}$ inch in radial thickness. The ice load shall be computed only upon the wires, cables, messengers and antenna.

(a) The tower or mast shall be braced or guyed and anchored to

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resist a horizontal wind pressure of not less than 30 pounds for every square foot (net area) of exposed surface. Guy wires shall not be anchored to a chimney or to any roof ventilator or vent pipe.

(4) Antenna systems installed on the roof of a building shall not be supported by or attached to a chimney. All such installations shall be mounted on an independent platform or base and anchored in place. The platform or base of the tower shall be large enough to distribute the weight of the structure over sufficient roof area so the roof construction will safely support the weight of the structure in addition to the required live and dead roof loads.

(5) All antenna systems shall be so installed that no part of the structure will be nearer to a street, or other public thoroughfare, than the height of the antenna as measured from its platform or base to the topmost point. No wires, cables, or guy wires shall extend over any street or other public thoroughfare or over any electric power or communication lines.

(6) Poles used for electric power or for communication lines shall not be used for supporting or for guying any antenna system. Where antenna installations are so located that damage will be caused to adjacent power or communication lines by the falling of the antenna structure, a separate safety wire shall be attached to top of the tower and secured in a direction away from the power or communication line.

(7) Electrical installations in connection with antenna systems, including the grounding of the tower or mast, shall comply in all respects with the requirements of the Wisconsin state electrical code.

GENERAL SANITATION REQUIREMENTS

Ind 52.50 Toilet rooms required. (1) Every place of employment and public building shall have adequate toilet rooms as provided in the occupancy classifications of this code, completely enclosed and so arranged as to insure privacy.

(2) Separate toilet rooms shall be provided for employes and the general public where deemed necessary by the department of industry, labor and human relations or by the state board of health.

History: 1-2-56; am. Register, December, 1962, No. 84, eff. 1-1-63.

Ind 52.51 Toilet rooms for the two sexes. (1) Where the 2 sexes are accommodated, separate toilet rooms shall be provided except

(a) In apartment houses;

(b) If approved in writing by the department of industry, labor and human relations or the state board of health, or their authorized agents, in buildings accommodating not more than 5 persons of both sexes, provided the door of such toilet room is kept locked and the key is kept in a place accessible to all such persons. But whenever the number of such persons shall exceed 5, separate toilet rooms shall be provided.

(2) Entrances to toilet rooms for the 2 sexes shall be properly separated, by screens or otherwise, and shall, wherever possible, be

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at least 20 feet apart; except this requirement does not apply where the entrance doors to toilet rooms used by the 2 sexes are located in an exterior wall of the building.

Ind 52.52 Sex designated. Wherever women are employed or accommodated, each toilet room shall be distinctly marked with regard to the sex which uses it, and no person shall be allowed to use a toilet room assigned to the other sex, except as provided in section Ind 52.51. The door or room labels shall be the words MEN, or WOMEN, respectively, in letters not less than one inch in height.

History: 1-2-56; am. Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.53 Location, light and ventilation. (1) Every toilet or bathroom shall be so located as to open to outside light and air, by windows or skylights opening directly upon a street, alley or court, except as provided in Wis. Adm. Code section Ind 52.54.

(2) The glass area for a toilet room containing one water closet or urinal shall be at least 4 square feet with at least 2 square feet openable.

(a) Bathrooms containing a water closet or urinal shall be considered as a toilet room.

(3) No toilet room shall have windows or ventilator openings in any elevator shaft or inner court that has windows of habitable rooms above.

(4) Every toilet room having more than one fixture (closets and urinals) shall be ventilated in accordance with the provisions of Wis. Adm. Code section Ind. 59.48 of the building and heating, ventilating and air conditioning Code issued by the department of industry, labor and human relations, except that this requirement shall not apply to chemical or septic toilets which are installed in accordance with the provisions of the chemical toilet code or the septic toilet code issued by the state board of health.

(a) The size of gravity vent ducts, if surmounted with effective siphon type hoods, may be determined as follows: $\frac{A \times 2}{300} = \text{net cross sectional area of vent duct in square feet.}$

Where A = floor area in the toilet room in square feet.

History: 1-2-56; am. Register, December, 1962, No. 84, eff. 1-1-63; r. and recr. Register, October, 1967, No. 142, eff. 11-1-67; am. (3), Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.54 Location without outside windows; when permitted. Toilet rooms will be permitted without windows if they are ventilated in accordance with the requirements of Wis. Adm. Code section Ind 59.48 of the building and heating, ventilating and air conditioning code issued by the department of industry, labor and human relations.

History: 1-2-56; r. and recr. Register, October, 1967, No. 142, eff. 11-1-67.

Ind 52.55 Artificial light. Every toilet room, except those within living units, shall be artificially lighted during the entire period that

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the building is occupied, wherever and whenever adequate natural light is not available, so that all parts of the room, especially the toilet compartments, shall be provided with artificial light intensity of not less than 2.5 footcandles at the floor level.

History: 1-2-56; a.m. Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.56 Size. Every toilet room shall have at least 14 square feet of floor area with a minimum width of 3 feet, and at least 100 cubic feet of air space for each water-closet and each urinal in addition to the space required for lavatories if installed within the toilet room.

Ind 52.57 Floor and base. Every toilet room, except those within living units of apartment buildings, shall have the entire floor and the side walls to a height of not less than 6 inches made waterproof with ceramic tile, terrazzo, painted concrete, marble, slate, monolithic asphalt or other approved material impervious to water.

History: 1-2-56; a.m. Register, September, 1973, No. 213, eff. 10-1-73.

Ind 52.58 Walls and ceilings. (1) The walls and ceilings of every toilet room shall be completely covered with smooth plaster, galvanized or enameled metal, gypsum wallboard $\frac{5}{8}$ inch in thickness with taped joints, or constructed of brick, tile or other masonry units with flush joints or other equivalent smooth, non-absorbent material. Wood may be used only if it is smooth and well covered with 2 coats of body paint and one coat of enamel paint or spar varnish. Wood shall not be used for partitions between toilet rooms nor for partitions which separate a toilet room from any room used by the opposite sex. All such partitions shall be made soundproof. This is not intended to prohibit the use of wood stud partitions between rooms if partitions are lathed and plastered on both sides.

(2) The interior surface of walls and partitions shall be of light color to improve illumination and facilitate cleaning.

History: 1-2-56; r. and recr. Register, September, 1959, No. 46, eff. 10-1-59.

Ind 52.59 Enclosure of fixtures. (1) The fixtures (closets and urinals) in every toilet room shall be arranged to secure privacy in use. Water-closets shall be enclosed with partitions. Urinals shall be placed against walls and arranged individually. Individual floor type urinals shall be placed not less than 24 inches center to center and the space between urinals shall be filled flush with the front and top with non-absorbent material. *Exception:*

(a) The above requirements need not apply to toilet rooms accommodating only a single closet or urinal.

(2) A space of 6 to 12 inches shall be left between the floor and the bottom of each partition. The top of the partition shall be from $5\frac{1}{2}$ to 6 feet above the floor. Doors with the top $5\frac{1}{2}$ to 6 feet above the floor, and the bottom 6 to 12 inches above the floor, shall be provided for all water-closet compartments. All partitions and doors shall be of material and finish required for walls and ceilings under Wis. Adm. Code section Ind 52.58.

(3) The water-closet compartments in toilet rooms shall be not

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less than 30 inches in width, and shall be not less than 54 inches in depth with a clearance of not less than 24 inches between the fixture and the compartment door when closed except as specified in subsection (4). Compartment doors which are hung to swing inward shall clear the fixture not less than 2 inches.

Note: Section 146.085, Wis. Stats., provides that not more than 50% of the toilet compartments of any public toilet room of any public building, other than licensed hotels and resorts, shall be kept locked.

History: 1-2-56; am. (3) and cr. (4), Register, November, 1963, No. 95, eff. 12-1-63; am. (2), Register, February, 1974, No. 218, eff. 3-1-74; r. (4), Register, December, 1974, No. 228, eff. 1-1-75.

Ind 52.60 Fixtures. (1) **WATER CLOSETS.** Only water closets of porcelain, vitreous china, stainless steel or other nonabsorbent materials approved by the department shall be used. Water closet seats shall be of wood or other nonheat-absorbing material and shall have a finished surface that is impervious to water or cleaning agents. In public buildings, places of employment, and all other public places except within living units of apartments, hotel and motel buildings, the water closets shall have elongated bowls. All water closets except within living units of apartment buildings shall have open-front seats without cover.

(2) **URINALS.** (a) *Stall type.* Stall-type urinals shall be set into the floor, and the floor shall be graded toward the fixture. Spaces between stall-type urinals, or urinals and sidewalls, shall be filled in flush with the front and top of the urinal with nonabsorbent material if the space is less than 12 inches.

(b) *Wall type.* 1. Men's wall-hung urinals of a type approved by the department may be installed in all buildings except service stations, schools and institutions.

Note: The department will permit the installation of wall-hung urinals in high schools and facilities for higher education.

2. In buildings where children under the age of 12 may be present, and which contain a toilet room with only one urinal, the urinal shall be a stall type. If the building contains a toilet room equipped with hung urinals, at least one urinal shall be installed at a height suitable for use by children.

Note: The department will accept wall-hung urinals for children located between 12 to 15 inches above the floor, and wall-hung urinals for adults located between 22 to 24 inches above the floor, measured from the front lip of the fixture to the floor.

3. A floor drain, located not more than 12 inches from the wall supporting wall-hanging urinals, or a stall urinal, shall be provided for each group of 4, or less, urinals.

(c) *Flushing devices.* The urinals shall be equipped with an effective automatic or manual foot-operated flushing device.

(d) *Multiple urinals.* Batteries of urinals shall be spaced not less than 24 inches center to center. The center line of a single urinal shall be at least 16 inches from the nearest sidewall or partition.

(e) *Materials.* Only individual urinals of porcelain, vitreous china, stainless steel, or other nonabsorbent materials approved by the department shall be used.

History: 1-2-56; r. and recr., Register, September, 1959, No. 45, eff. 10-1-59; am. (1), Register, September, 1973, No. 213, eff. 10-1-73; r. and recr., Register, December, 1974, No. 228, eff. 1-1-75.

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Ind 52.61 Protection from freezing. All water-closets and urinals and the pipes connecting therewith shall be properly protected against freezing, so that such water-closets and urinals will be in proper condition for use at all times.

Ind 52.62 Disposal of sewage. (1) Each water-closet and urinal, and each lavatory or slop sink, located in a toilet room shall be connected with a sewer and water system, where such systems are available. In locations where a sewer system is not available, or cannot be made available, the disposal of human waste may be accomplished as follows:

(a) Sewage treatment tank and disposal system.

Note: For detailed requirements on such systems see state plumbing code.

(b) Where the local conditions make it impractical to install such system, outdoor toilets, as described in Wis. Adm. Code section Ind 52.63, or other facilities, such as septic toilets installed in accordance with the provisions of the septic toilet code issued by the state board of health, may be used; provided that in the case of places of employment for more than 10 persons, schools larger than 2 rooms, and apartment houses, water-flush toilets as herein described shall be provided, unless outdoor toilets or other facilities are permitted in writing by the department of industry, labor and human relations or the state board of health. In every case where chemical or septic toilets are installed, the approval of plans and specifications therefor by the state board of health shall be secured before work is started.

Ind 52.63 Outdoor toilets. (1) Outdoor toilets shall comply with Wis. Adm. Code sections Ind 52.50 to Ind 52.59, inclusive, and in addition:

(a) No privy, with or without a leaching pit or other container, shall be erected or maintained within 50 feet of any well, 10 feet of the line of any street or other public thoroughfare, 5 feet of the property line between premises or 25 feet of the door or window of any building.

(b) Located on ground that is well drained, and where there is no possibility of contaminating any drinking water supply.

(c) Provided with suitable approach, such as concrete, gravel or cinder walk.

(d) The foundations shall be of concrete or other masonry.

(e) The vault shall extend at least 6 inches above ground, be as dark as possible, and be proof against entrance by flies, rats, or other vermin. The upper portion shall be of concrete, or of brick or stone laid in cement mortar. If in poorly drained soil, the entire vault shall be of concrete, or brick, or stone, laid in cement mortar.

(f) All windows, ventilators and other openings shall be screened to prevent the entrance of flies, and all doors shall be self-closing. A separate ventilator shall be provided for the vault and shall extend from the vault to not less than one foot above the roof and be provided with an effective ventilating hood.

(g) The entire installation shall be kept clean and sanitary. Milk of lime (freshly slaked lime) or other equally effective disinfectant shall be used in the vault and in the urinal trough in sufficient quanti-

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ties, and at frequent intervals. The floors, seats and urinals shall be scrubbed as often as necessary. The vault shall be cleaned out at proper intervals.

Ind 52.64 Maintenance and housekeeping. (1) MAINTENANCE OF TOILETS. Every toilet room, and every part thereof, including walls, floor, ceiling and fixture therein, shall be kept clean, efficient, and in good repair.

(2) **PAPER.** In every toilet room, sufficient toilet paper made of material which will not interfere with the operation of the system or obstruct the fixtures, shall be provided.

(3) **DEFAACEMENT.** Indecent or suggestive marks, pictures, or words are forbidden in toilet rooms, and such defacement when found shall be removed at once.

(4) **SERVICE CLOSETS.** In buildings having 5 or more fixtures (water closets and/or urinals) a service closet shall be provided conforming with the requirements for toilet rooms.

(a) The service closet shall be supplied with mop, broom, bucket, soap, toilet paper, toweling and other equipment for sanitary upkeep of toilet rooms.

History: 1-2-56; r. and recr. (4), Register, October, 1967, No. 142, eff. 11-1-67.