

CITY OF FAIRBANKS
BUILDING DEPARTMENT

CONVENTIONAL STAIR DETAIL
1991 U.B.C.

REVISION 2/7/91
2001 STANDARD PLAN SCALE: 1"=1'

1991 UBC MISCELLANEOUS PROVISIONS FOR STAIRS, HANDRAILS & GUARDRAILS

Stairways

Sec. 3306. (a) General. Every stairway having two or more risers serving any building or portion thereof shall conform to the requirements of this section. When aisles in assembly rooms have steps, they shall conform with the provisions in Section 3315.

EXCEPTION: Stairs or ladders used only to attend equipment are exempt from the requirements of this section.

(b) Width. The minimum stairway width shall be determined as specified in Section 3303 (b), but shall not be less than 44 inches except as specified herein. Stairways serving an occupant load of 49 or less shall not be less than 36 inches in width.

Handrails may project into the required width a distance of 3 1/2 inches from each side of a stairway. Stringers and other projections such as trim and similar decorative features may project into the required width 1 1/2 inches on each side.

(c) Rise and Run. The rise of every step in a stairway shall not be less than 4 inches or greater than 7 inches. Except as permitted in Subsections (d) and (f), the run shall not be less than 11 inches as measured horizontally between the vertical planes of the furthestmost projection of adjacent treads. Except as permitted in Subsections (d), (e) and (f), the largest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch.

EXCEPTIONS: 1. Private stairways serving an occupant load of less than 10 and stairways to unoccupied roofs may be constructed with an 8-inch maximum rise and a 9-inch minimum run.

2. Where the bottom or top riser adjoins a sloping public way, walk or driveway having an established grade and serving as a landing, the bottom or top riser may be reduced along the slope to less than 4 inches in height with the variation in height of the bottom or top riser not to exceed 3 inches in every 3 feet of stairway width.

(d) Winding Stairways. In Group R, Division 3 Occupancies and in private stairways in Group R, Division 1 Occupancies, winders may be used if the required width of run is provided at a point not more than 12 inches from the side of the stairway where the treads are narrower, but in no case shall any width of run be less than 6 inches at any point.

(e) Circular Stairways. Circular stairways may be used as an exit, provided the minimum width of run is not less than 10 inches and the smaller riser is not less than twice the width of the stairway. The largest tread width or riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch.

(f) Spiral Stairways. In Group R, Division 3 Occupancies and in private stairways within individual units of Group R, Division 1 Occupancies, spiral stairways may be installed. Such stairways may be used for required exits when the area served is limited to 400 square feet.

The tread must provide a clear walking area measuring at least 26 inches from the outer edge of the supporting column to the inner edge of the handrail. A run of at least 7 1/2 inches is to be provided at a point 12 inches from where the tread is the narrowest. The rise must be sufficient to provide 6-foot 6-inch headroom. The rise shall not exceed 9 1/2 inches.

(g) Landings. Every landing shall have a dimension measured in the direction of travel not less than the width of the stairway. Such dimension need not exceed 44 inches when the stair has a straight run. There shall not be more than 12 feet vertically between landings. For landings with adjoining doors, see Section 3304 (j).

PORTION OF SECTION 3304 "DOORS"

(i) Floor Level at Doors. Regardless of the occupant load, there shall be a floor or landing on each side of a door. When access for persons with disabilities is required by Chapter 31, the floor or landing shall not be more than 1/2 inch lower than the threshold of the doorway. When such access is not required, such dimension shall not exceed 1 inch. Landings shall be level except for exterior landings, which may have a slope not to exceed 1/4 inch per foot.

EXCEPTIONS: 1. In Group R, Division 3, and Group M Occupancies and within individual units of Group R, Division 1 Occupancies:

- A door may open at the top step of an interior flight of stairs, provided the door does not swing over the top step.
 - A door may open at a landing that is not more than 8 inches lower than the floor level, provided the door does not swing over the landing.
 - Screen doors and storm doors may swing over stairs, steps or landings.
2. Doors serving building equipment rooms which are not normally occupied.

(j) Landings at Doors. Landings shall have a width not less than the width of the stairway or the width of the door, whichever is the greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches. When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing dimension to less than one half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches.

EXCEPTION: In Group R, Division 3, and Group M Occupancies and within individual units of Group R, Division 1 Occupancies, such length need not exceed 36 inches.

A landing which has no adjoining door shall comply with Section 3306 (g).

(i) Handrails. Stairways shall have handrails on each side, and every stairway required to be more than 88 inches in width shall be provided with not less than one intermediate handrail for each 88 inches of required width. Intermediate handrails shall be spaced approximately equally across with the entire width of the stairway.

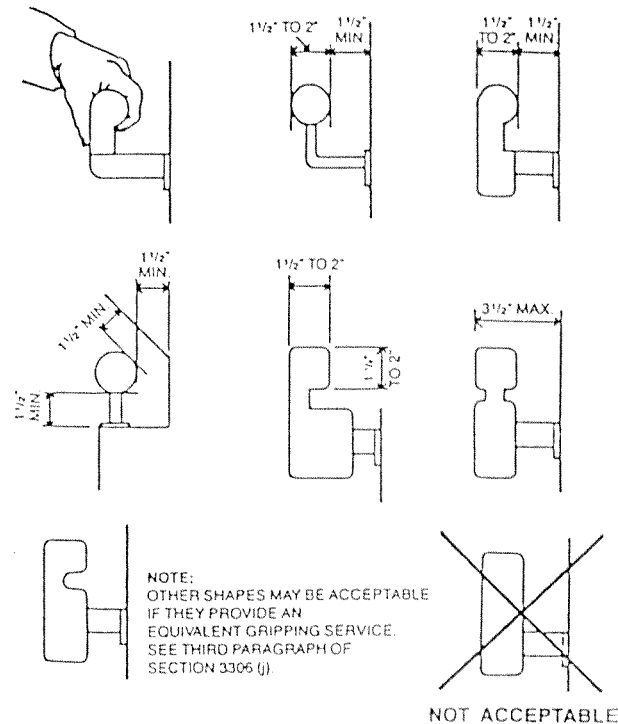
EXCEPTIONS: 1. Stairways less than 44 inches in width or stairways serving one individual dwelling unit in Group R, Division 1 or 3 Occupancies or a Group R, Division 3 congregate residence may have one handrail.

2. Private stairways 30 inches or less in height may have handrails on one side only.

3. Stairways having less than four risers and serving one individual dwelling unit in Group R, Division 1 or 3, or a Group R, Division 3 congregate residence or serving Group M Occupancies need not have handrails.

The top of handrails and handrail extensions shall be placed not less than 34 inches or more than 38 inches above the nosing of treads and landings. Handrails shall be continuous the full length of the stairs and, except for private stairways, at least one handrail shall extend in the direction of the stair run not less than 12 inches beyond the top riser or less than 12 inches beyond the bottom riser. Ends shall be returned or shall terminate in newel posts or safety terminals.

The handgrip portion of handrails shall not be less than 1 1/2 inches or more than 2 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners.



ACCEPTABLE SHAPES AND INSTALLATIONS—HANDRAIL

Guardrails

Sec. 1712. (a) Guardrails. Unenclosed floor and roof openings, open and glazed sides of stairways, landings and ramps, balconies or porches, which are more than 30 inches above grade or floor below, and roofs used for other than service of the building shall be protected by a guardrail.

EXCEPTION: Guardrails need not be provided at the following locations:

- On the loading side of loading docks.
- On the auditorium side of a stage or enclosed platform.
- Along vehicle service pits not accessible to the public.

The top of guardrails shall not be less than 42 inches in height.

EXCEPTIONS: 1. The top of guardrails for Group R, Division 3 and Group M, Division 1 Occupancies and interior guardrails within individual dwelling units, Group R, Division 3 congregate residences and guest rooms of Group R, Division 1 Occupancies may be 36 inches in height.

2. The top of guardrails on a balcony immediately in front of the first row of fixed seats and which are not at the end of an aisle may be 26 inches in height.

3. The top of guardrails for stairways, exclusive of their landings, may have a height as specified in Section 3306 (i) for handrails.

Open guardrails shall have intermediate rails or an ornamental pattern such that a sphere 4 inches in diameter cannot pass through.

EXCEPTIONS: 1. The open space between the intermediate rails or ornamental pattern of guardrails in areas of commercial and industrial-type occupancies which are not accessible to the public may be such that a sphere 12 inches in diameter cannot pass through.

2. The triangular openings formed by the riser, tread and bottom element of a guardrail at the open side of a stairway may be of such size that a sphere 6 inches in diameter cannot pass through.