



Handrails are railings that provide a gripping surface along stairs and ramps. Guardrails (also known as guards) are railings that provide fall protection at elevated stairs, walks, ramps, decks, and similar walking surfaces. This handout applies only to handrails and guardrails installed in one- or two-family dwellings and townhouses regulated under the provisions of the International Residential Code (IRC).

Handrails at stairs and ramps must comply with the following:

- Handrails must be provided on at least one side of a continuous run of stairs or flight of stairs with 4 or more risers.
- Handrails are required on at least one side of a ramp having a slope greater than 1" in 12".
- Handrails must be installed at a consistent height of not less than 34" and not more than 38" measured from the sloped plane adjoining the tread nosing or finished ramp surface.
- Handrails must be continuous for the full length of the flight of stairs from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight.
- Handrail ends must be returned to a wall, or they must end at a newel post or safety terminal.
- The use of a volute, turnout, starting easing, or starting newel is allowed over the lowest tread.
- Handrails that are adjacent to a wall must have a minimum of 1½" between the wall and the handrail.
- Handrails must not project more than 4½" into either side of a stairway.
- Handrails must meet the requirements for a Type I or Type II handrail. Please see the illustrations on page 2 of this handout. If you are uncertain if the handrail you are planning to use will meet the IRC requirements, please contact the building permit office for verification of a particular handrail design or style before purchasing and installing the railing.

Guardrails (guards) at elevated surfaces must comply with the following:

- Guardrails must be located along open-sided walking surfaces including, walkways, porches, patios, balconies, stairs, ramps, landings or raised floor surfaces that exceed a height of 30" above the floor or ground below at any point within 36" horizontally measured from the edge of the walking surface. Where guardrails are required, a guardrail must be provided along the open side of fixed bench seating and the guard must extend a minimum of 36" above the fixed seating surface.
- Open sides of stairs with a total rise of 30" or more must have a guardrail not less than 34" in height measured from the sloped plane adjoining the tread nosing.
- Where guardrails are required, the opening between intermediate rails or balusters must not allow a 4" diameter sphere to pass through the opening.
 - The triangular opening formed by the riser, tread, and bottom rail of a guardrail at the open side of a stairway must not allow a 6" diameter sphere to pass through the opening.

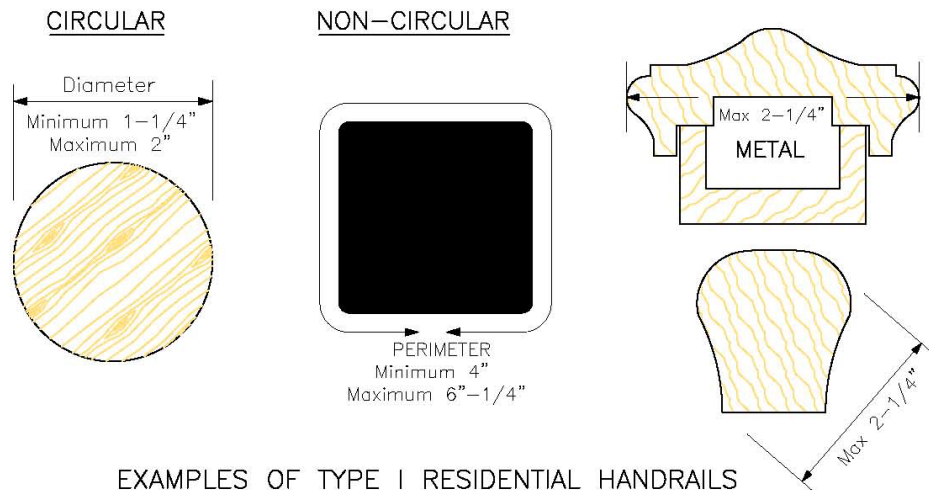


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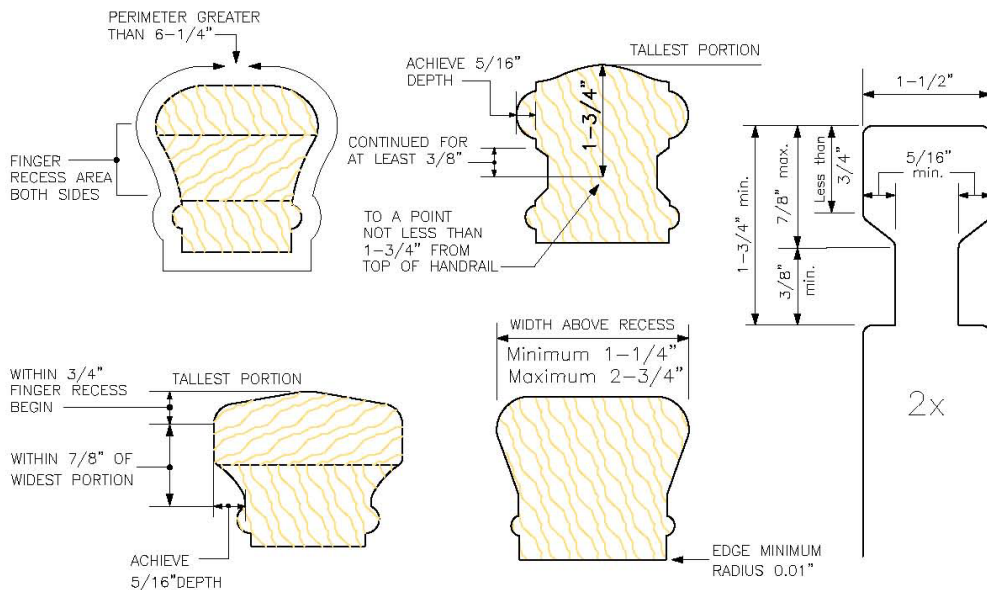
Railings

- Openings for required guardrails on the sides of stair treads must not allow $4\frac{3}{8}$ " diameter sphere to pass through the opening.
- Guardrails must be designed and attached to support a minimum of a 200-pound concentrated force applied in any direction along the top and 50 pounds applied to a one-square-foot area at any point along the guardrail balusters or similar. As a rule, the top rail must not deflect more than $\frac{1}{2}$ " in 10' of continuous run.

We are happy you are building in Lakewood, and we want to provide whatever information you require. Please call 303.987.7500 with any questions.



EXAMPLES OF TYPE I RESIDENTIAL HANDRAILS

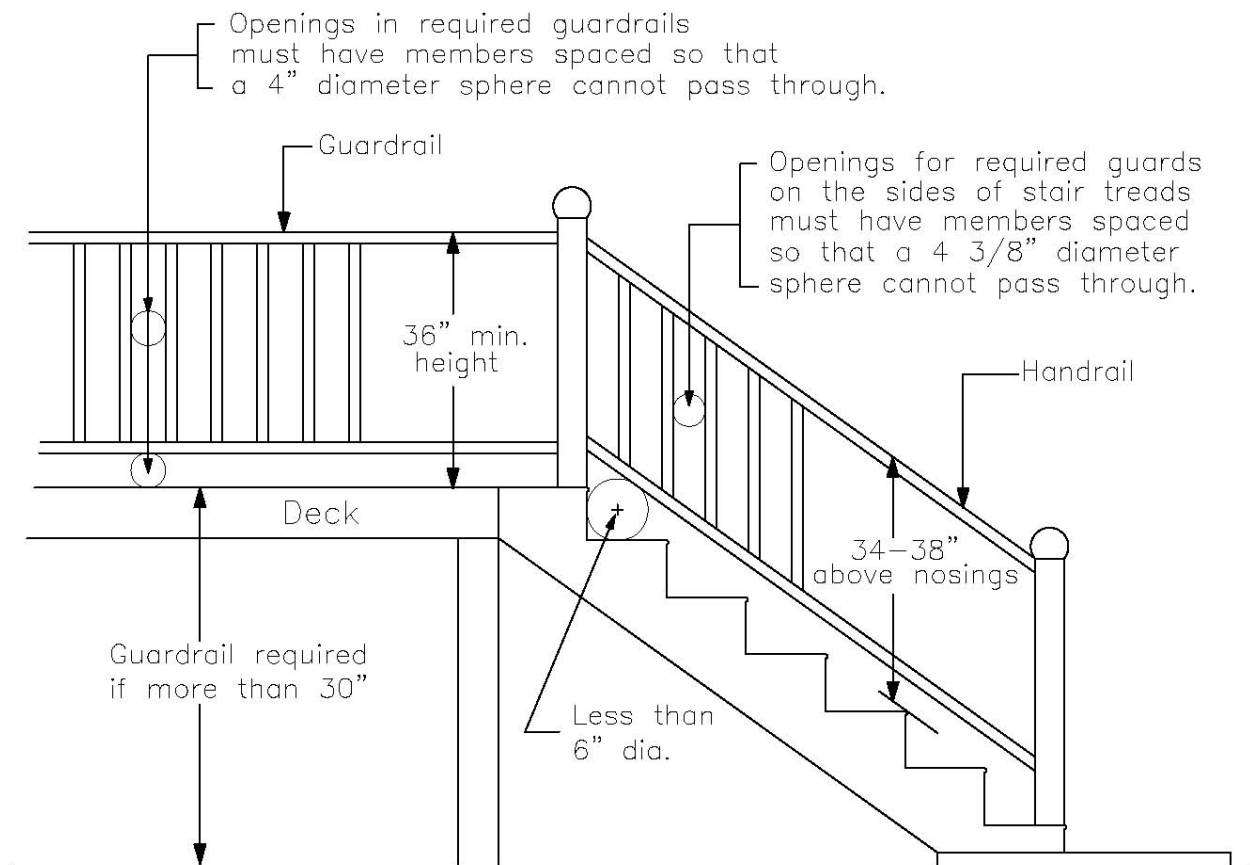


EXAMPLES OF TYPE II RESIDENTIAL HANDRAILS



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Railings



Guardrail and Handrail Details