



## SCREENED or 3 SEASONS PORCH

**Reference:** 2018 International Residential Code  
Code of Ordinances, City of Marion, Zoning Regulations, Chp. 176

**Permit requirements:** A building permit is required when adding an addition or altering an existing structure. All residential attached additions are to be located per the zoning guidelines listed below.

**Zoning guidelines: Planning & Zoning Dept.** Phone – 743-6320. Fax – 373-4260.  
(Contact the above department with questions about setbacks and other zoning requirements.)

- *Required side yard* dimension is 7 feet from property line to structure unless your home is located on a corner lot. The setback for a corner lot is 12 feet from the side property line.
- *Required front yard* setback is 25 feet from the property line to the structure.
- The *required rear yard* dimension is 20% of the depth of the lot with a minimum of 15 feet and a maximum of 25 feet.
- No portion of the main structure (including overhangs) can encroach into an easement.

**Applying for a permit:** (Submit 2 sets of building plans for review and approval.)

- Complete the “**Sample Site Plan**” showing all required information.
- Fill out all of the applicable information on this handout or submit detailed, scaled plans.
- Present all completed plans to the Building Department located at 1225 6<sup>th</sup> Ave. for review.
- Upon completion of the review, you will be notified by phone to secure your permit.

**Cross Section Drawing:** (include size, material, and spacing) (See attached forms)

- Footing diameter, size of posts, deck support beams, joists, final grade level.
- Wall framing, ceiling heights, wall sheathing, headers.
- Ceiling joist, rafters, trusses, roof sheathing.
- Eave ice barrier, roof felt underlayment, type of roof covering, soffit fascia, attic vents.
- Siding and exterior finishes.
- Windows and screening material description.
- **Guard detail—when porch floor is more than 30 inches above grade measuring 3 feet out, guards are required. Screen alone is not a guard.**

**Stair Cross Section:** (When applicable) (See “*Residential Stair Brochure*”)

- Rise, run, headroom, handrail height, guard spacing, and stair width.

**Exterior Elevations:**

- Show height of structure from final grade. The porch should not alter the drainage of the property or direct additional water onto a neighbor.
- Windows, doors, headers

**Additional permits required:**

- Separate electrical, mechanical, and plumbing permits are required for any work performed.
  - State licensed contractors are to perform the work and obtain the necessary permits. Single family dwelling homeowners can do the work but a permit is required.

**Inspections required:**

- Footings – after all excavation is complete and forms are set and before concrete is poured.
- Rough electrical, mechanical, plumbing, and lastly, rough framing before insulating and covering walls.
- Final grade inspection prior to seed or sod.
- Final inspection – after all work is completed and prior to use the permit holder should contact the Marion Building Department and arrange a final inspection. Once approved, a **Certificate of Occupancy** will be issued by the Building Department.

**Design consideration:**

- All wooden members of decks shall be pressure treated ACQ (approved pressure treated to .40 retention) or rot resistant wood (redwood or cedar).
- Deck portion of porch shall be designed and constructed for a load of 100# per square foot. If there will be additional loads (large planters, hot tub, etc.), additional design issues must be addressed.
- Metal flashing (stainless steel, copper, or vinyl) is required behind the ledger board where it attaches to the house. Galvanized metal or aluminum is not to be used.
- Look for hardware with “zamx” or “triple zinc”.
- Joist hangers with proper nails are required whenever joists do not have at least 1½” bearing. (Hangers must be rated for the ACQ treated lumber.
- Footings are to be a minimum of 42” deep below grade. Footing diameters will vary with the size of the deck and number of posts. Footing holes shall not contain loose soil and be flared at the bottom. (3-seasons or screened porch footings should be located at the outer extremities of the deck and adjusted in size for the increased loads.)
- Posts to be anchored to prevent movement.
- Cantilevers (joist overhang past the beam) is not recommended on porches without special design. Also beams should not overhang posts without special design.
- Guardrails at least 36” high are required on screened porches or with “Easy Breeze windows” when over 30” above the adjacent grade measured out 3 feet from the edge of the porch.
- Porches can be constructed over escape windows with certain conditions.
- Handrails are required for 4 or more stair risers. The height shall be 34 – 38” above the tread nosing.
- Some windows might need to be safety glazed (tempered) depending on location and size.

# SCREENED OR 3 SEASONS PORCH

**Size of new porch:** \_\_\_\_\_ X \_\_\_\_\_

**Roof covering:** \_\_\_\_\_

**Roof pitch:** \_\_\_\_\_" in 12".

**Eave ice protection:** Required to a point 24" inside the exterior wall.

**Roof underlayment:** Minimum 15# asphalt felt underlay.

**Roof sheathing:** \_\_\_\_\_" plywood or OSB.

**Roof framing:** (check one below)

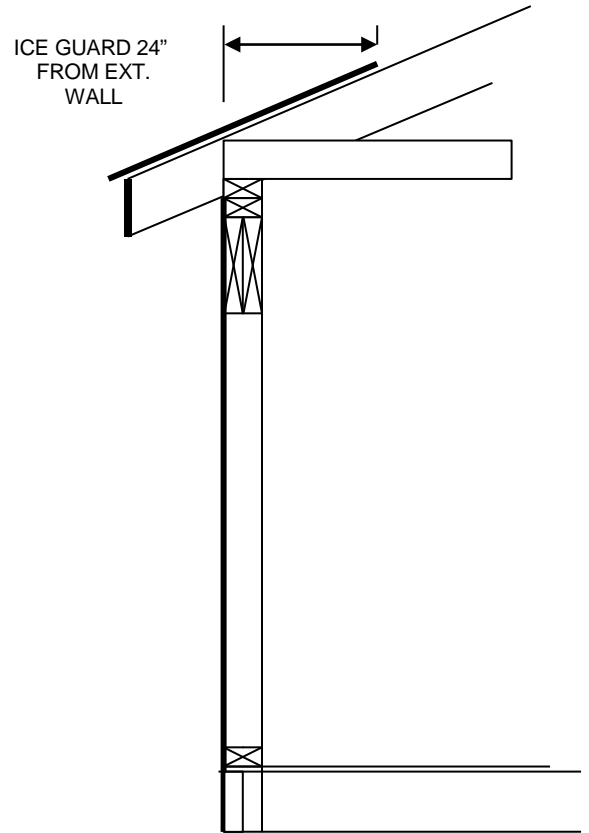
- Trusses \_\_\_\_\_' on center
- Rafters – 2" X \_\_\_\_\_" on \_\_\_\_\_" center
- Joists – \_\_\_\_\_" X \_\_\_\_\_" on \_\_\_\_\_" center

**Walls:** 2" X \_\_\_\_\_" X \_\_\_\_\_' studs on \_\_\_\_\_" center  
 Double 2" X \_\_\_\_\_" top plate  
 Bottom plate 2" X \_\_\_\_\_" pressure treated

**Wall sheathing:** \_\_\_\_\_" plywood or OSB

**Headers:** Double 2" X \_\_\_\_\_" over windows/doors

**Windows/Screen:** \_\_\_\_\_



- Footing – call for a footing inspection after footing holes are dug and before pouring concrete. Footing holes shall not contain loose soil and should be flared out at the bottom of the holes.

# LEDGER BOARD INSTALLATION

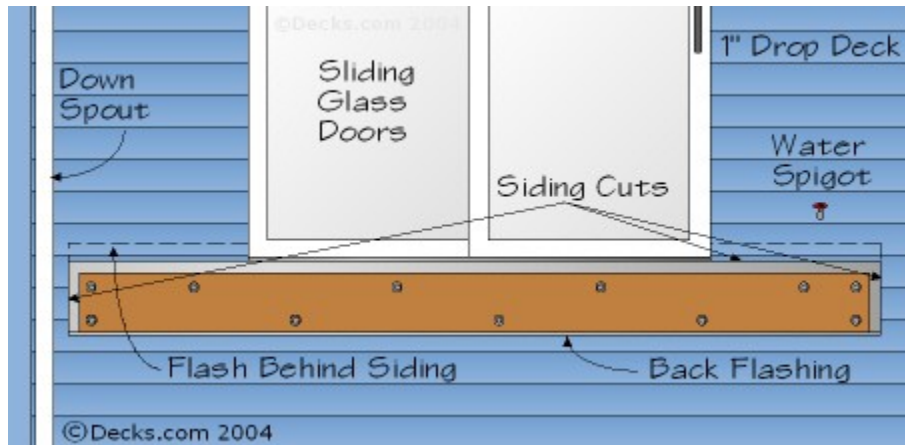


Photo courtesy of Decks.com

## LEDGER

- Minimum of 1/2" lag screws or bolts are required and are to be staggered with spacing as shown in the table below.
- All screws or bolts are to be placed 2 inches in from the bottom and top edge of the ledger and between 2 and 5 inches in from the ends.
- Tips of the lag screws are to extend past the inside face of the band joist.
- Lag screws, bolts, and washers are to be hot-dipped galvanized or stainless steel when using.
- Ledger boards shall not be attached to open web trusses, brick veneers, or hollow concrete block.

| JOIST SPAN                | 6' OR LESS                                   | 6'1" to 8' | 8'1" to 10' | 10'1" to 12' | 12'1" to 14' | 14'1" to 16' | 16'1" to 18' |
|---------------------------|--|------------|-------------|--------------|--------------|--------------|--------------|
| <b>Connection details</b> | <b>Inches on center spacing of fasteners</b> |            |             |              |              |              |              |
| 1/2" diameter lag screw   | 30   | 23         | 18          | 15           | 13           | 11           | 10           |
| 1/2" diameter bolt        | 36   | 36         | 34          | 29           | 24           | 21           | 19           |

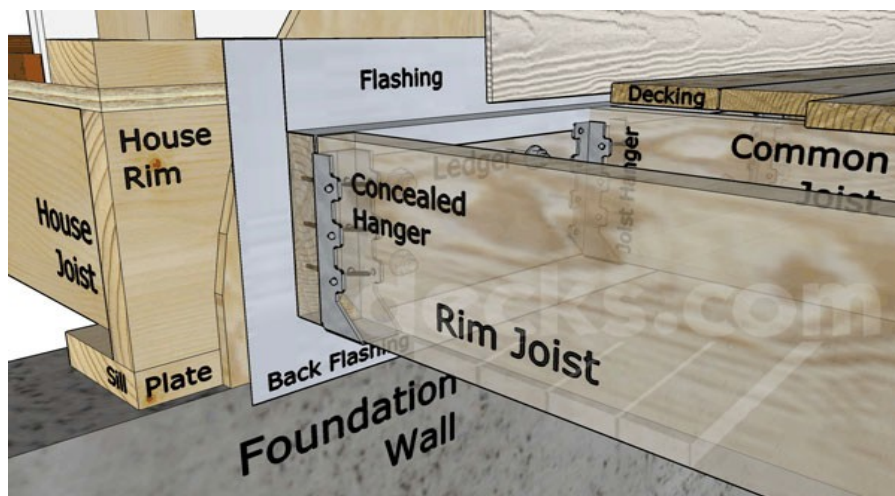


Photo courtesy of Decks.com

## FLASHING

- House siding must be removed prior to the installation of the ledger board. Flashing is required where a ledger is fastened to wood construction. Flashing material shall be copper with copper nails, stainless steel, UV resistant plastic, or galvanized steel coated with G-185 coating.

# Beam, Footing, & Span Table

(Maximum allowable spans are based on #2 Southern Pine CCA .40 pressure treated lumber. Other lumber species will have shorter spans that indicated.)

- **Note: Covered decks and screened porches will require larger footings and additional requirements.**
- **Charts and tables are for reference. All plans are verified by the building department.**

| Joist Size | Joist Spacing | Joist Max. Span | Beam Size | Beam Max Span (Post Spacing) | Posts: Size & Max. Height At ove Grade |               |               | Footing Diameter Inches | Corner Footing Diameter Inches | Deck Boards Min. Size |
|------------|---------------|-----------------|-----------|------------------------------|--|---------------|---------------|-------------------------|--------------------------------|-----------------------|
|            |               |                 |           |                              | 4 x 4 In Feet                          | 4 x 6 In Feet | 6 x 6 In Feet |                         |                                |                       |
| 2 X 6      | 12" o.c.      | 10'-9"          | 2—2 x 6   | 6'0"                         | 12                                     | 16            |               | 14                      | 12                             | 5/4 x 6               |
| 2 x 6      | 16" o.c.      | 9'-9"           | 2—2 x 6   | 6'-3"                        | 12                                     | 16            |               | 12                      | 12                             | 5/4 x 6               |
| 2 x 6      | 24" o.c.      | 8'-6"           | 2—2 x 6   | 6'-10"                       | 12                                     | 16            |               | 12                      | 12                             | 2x4 or 2x6            |
| 2 x 8      | 12" o.c.      | 14'-2"          | 2—2 x 8   | 6'-9"                        | 10                                     | 12            | 20            | 16                      | 14                             | 5/4 x 6               |
| 2 x 8      | 16" o.c.      | 12'-10"         | 2—2 x 8   | 7'-2"                        | 10                                     | 12            | 20            | 16                      | 12                             | 5/4 x 6               |
| 2 x 8      | 16" o.c.      | 12'-10"         | 2—2 x 10  | 8'-10"                       | 9                                      | 12            | 20            | 18                      | 14                             | 5/4 x 6               |
| 2 x 8      | 24" o.c.      | 11'-0"          | 2—2 x 8   | 7'-8"                        | 10                                     | 12            | 20            | 16                      | 12                             | 2x4 or 2x6            |
| 2 x 8      | 24" o.c.      | 11'-0"          | 2—2 x10   | 9'-6"                        | 10                                     | 12            | 20            | 18                      | 14                             | 2x4 or 2x6            |
| 2 x 10     | 12" o.c.      | 18'-0"          | 2—2 x10   | 7'-9"                        | 8                                      | 10            | 16            | 20                      | 16                             | 5/4 x 6               |
| 2 x 10     | 16" o.c.      | 16'-1"          | 2—2 x10   | 8'-0"                        | 8                                      | 10            | 16            | 18                      | 16                             | 5/4 x 6               |
| 2 x 10     | 16" o.c.      | 16'-1"          | 2—2 x 12  | 9'-2"                        | 6                                      | 10            | 16            | 20                      | 16                             | 5/4 x 6               |
| 2 x 10     | 24" o.c.      | 13'-1"          | 2—2 x 10  | 8'-7"                        | 9                                      | 10            | 20            | 18                      | 14                             | 2x4 or 2x6            |
| 2 x 10     | 24" o.c.      | 13'-1"          | 2—2 x 12  | 10'0"                        | 8                                      | 10            | 16            | 20                      | 16                             | 2x4 or 2x6            |
| 2 x 12     | 12" o.c.      | 21'-9"          | 2—2 x 12  | 8'-3"                        | 6                                      | 8             | 16            | 22                      | 16                             | 5/4 x 6               |
| 2 x 12     | 16" o.c.      | 18'-10"         | 2—2 x 10  | 7'5"                         | 8                                      | 8             | 16            | 20                      | 16                             | 5/4 x 6               |
| 2 x 12     | 16" o.c.      | 18'-10"         | 2—2 x 12  | 8'-7"                        | 6                                      | 8             | 16            | 20                      | 16                             | 5/4 x 6               |
| 2 x 12     | 24" o.c.      | 15'-5"          | 2—2x10    | 8'-2"                        | 8                                      | 8             | 16            | 18                      | 14                             | 2x4 or 2x6            |
| 2 x 12     | 24" o.c.      | 15'-5"          | 2—2 x 12  | 9'-5"                        | 6                                      | 8             | 16            | 20                      | 16                             | 2x4 or 2x6            |

- Post and footing sizes are approximate based on 2000 psf soil bearing and other assumptions for a standard deck.
- Sway bracing may be required on taller posts.
- **Note: Covered decks and screened porches will require larger footings and additional requirements.**

# PORCH CONSTRUCTION

(Not to scale)

## Size of desired porch:

- A. Deck width \_\_\_\_\_ ft. \_\_\_\_\_ in.
- B. Joist length \_\_\_\_\_ ft. \_\_\_\_\_ in.

## Ledger board: (Flashing required)

- Size: \_\_\_\_\_" X \_\_\_\_\_" X \_\_\_\_\_'
- Lag or bolt size: \_\_\_\_\_

## Joists:

- Size: \_\_\_\_\_" X \_\_\_\_\_" X \_\_\_\_\_'
- Spacing: \_\_\_\_\_" on center
- Length of cantilever: \_\_\_\_\_

## Beams: (Any splices to be over a post.)

- Beam size: \_\_\_\_\_" X \_\_\_\_\_"
- Length of beam: \_\_\_\_\_'
- Number of beams needed: \_\_\_\_\_

## Flashing material: \_\_\_\_\_

## Posts:

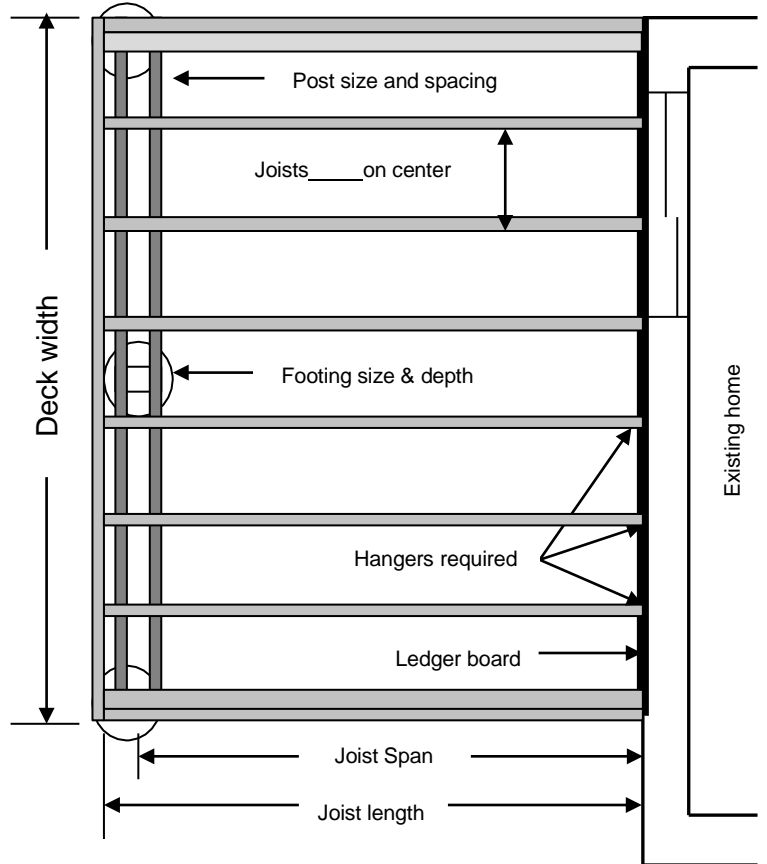
- Height of deck off ground: \_\_\_\_\_
- Posts spacing: \_\_\_\_\_'
- Number of posts needed: \_\_\_\_\_

## Decking:

- Material: \_\_\_\_\_
- Size desired: \_\_\_\_\_" X \_\_\_\_\_"

## Footings: (42" min. depth)

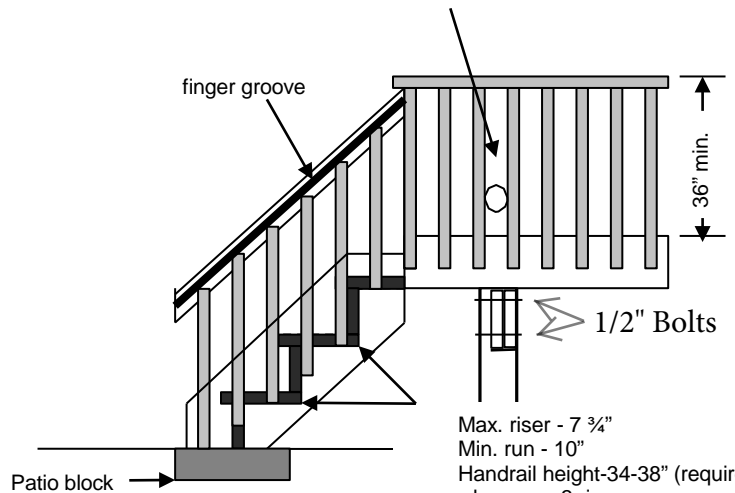
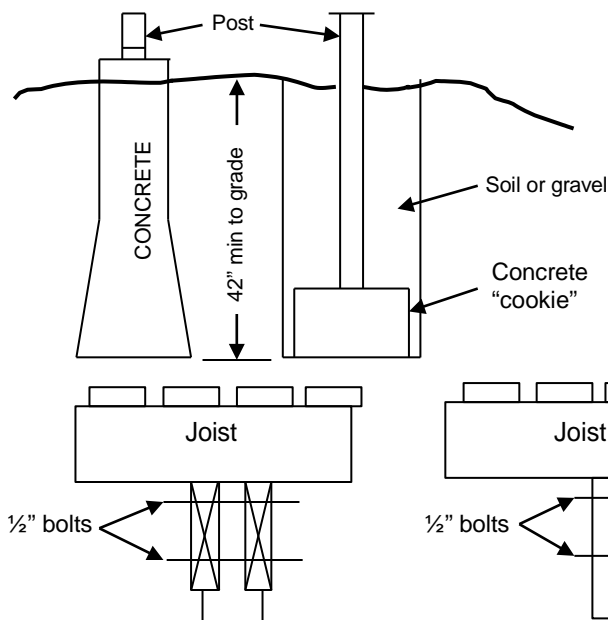
- Diameter of footing: \_\_\_\_\_
- OPTION: \_\_\_\_\_



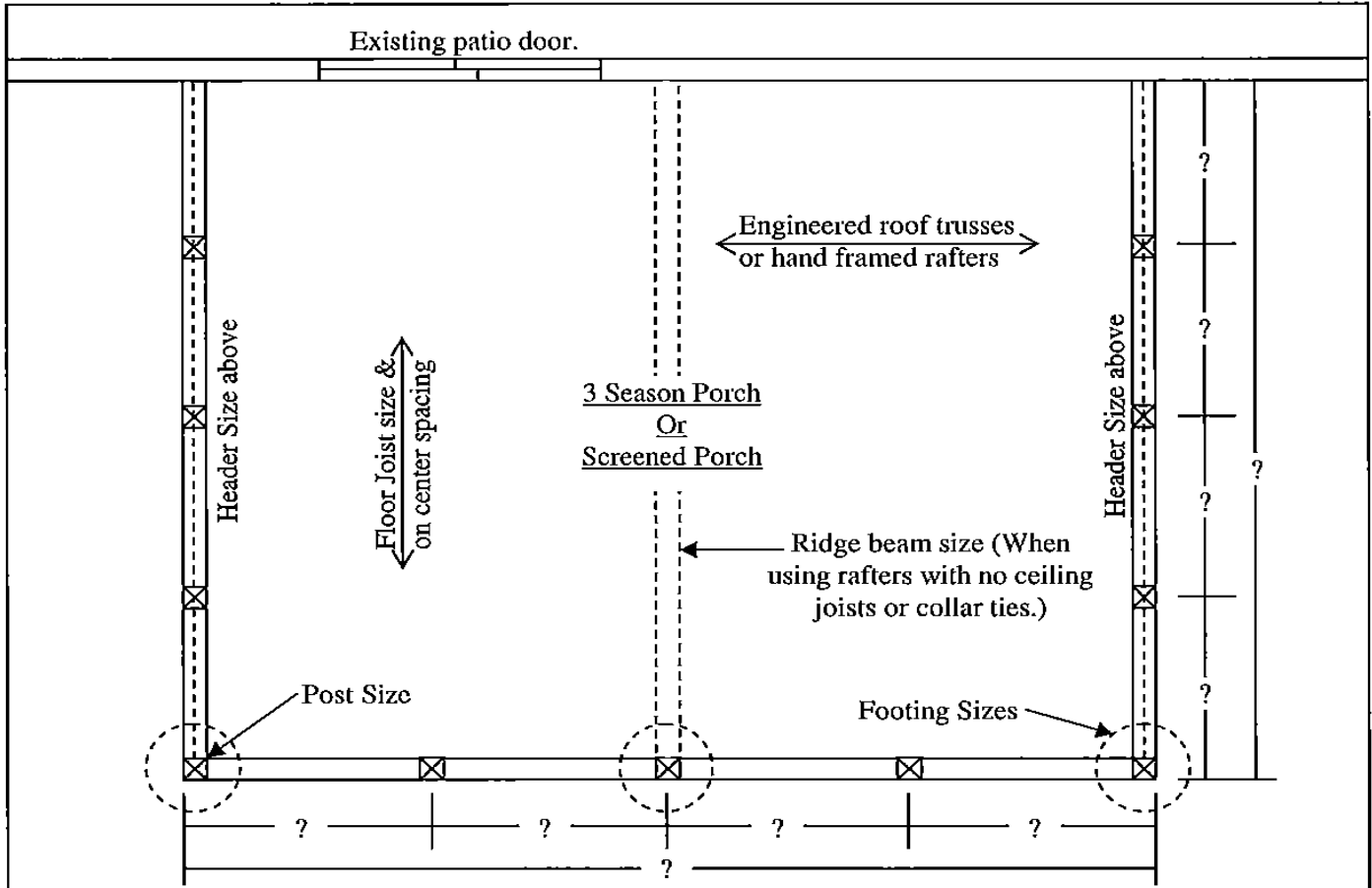
4" sphere cannot pass through

### OPTION "A"

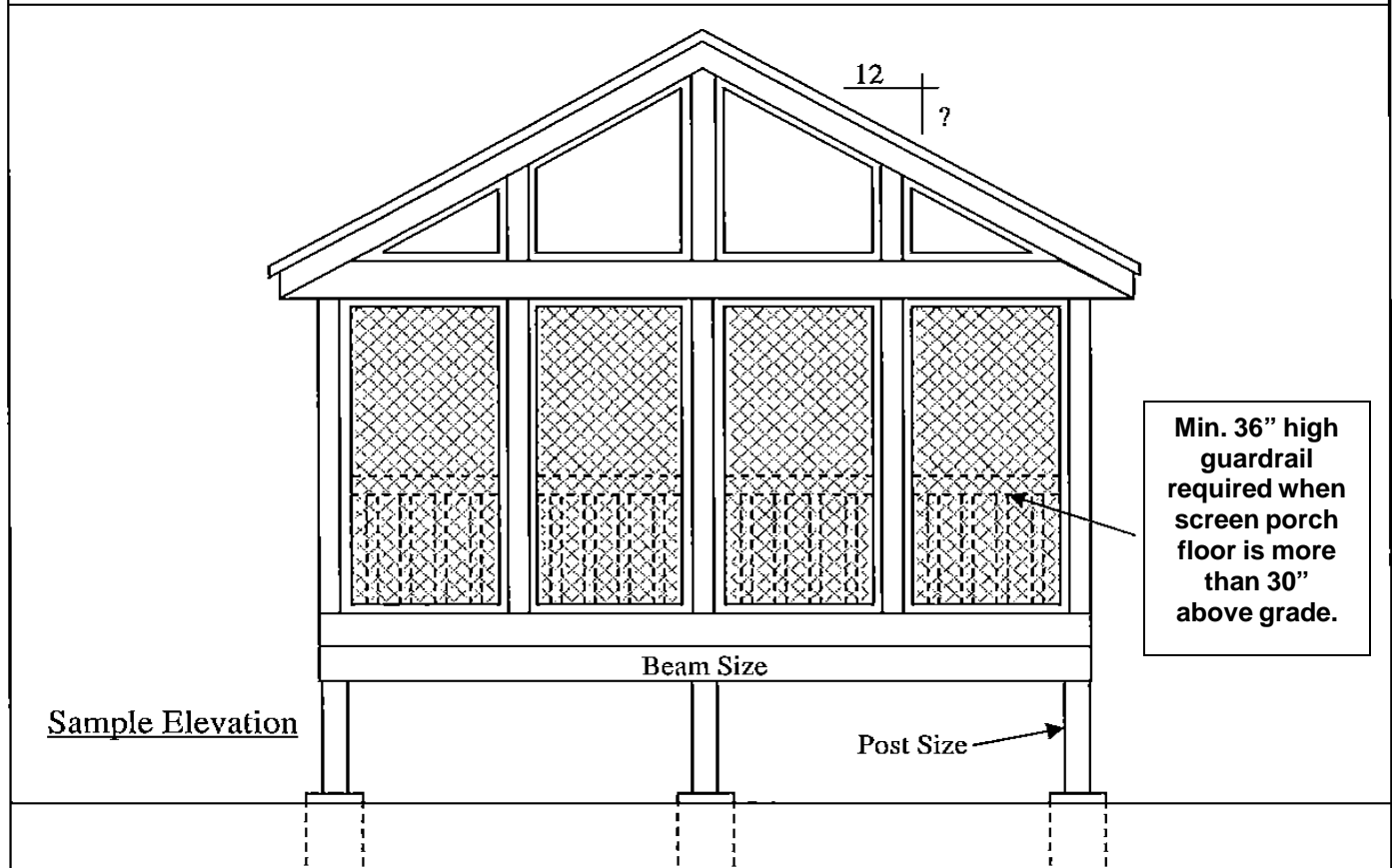
### OPTION "B"



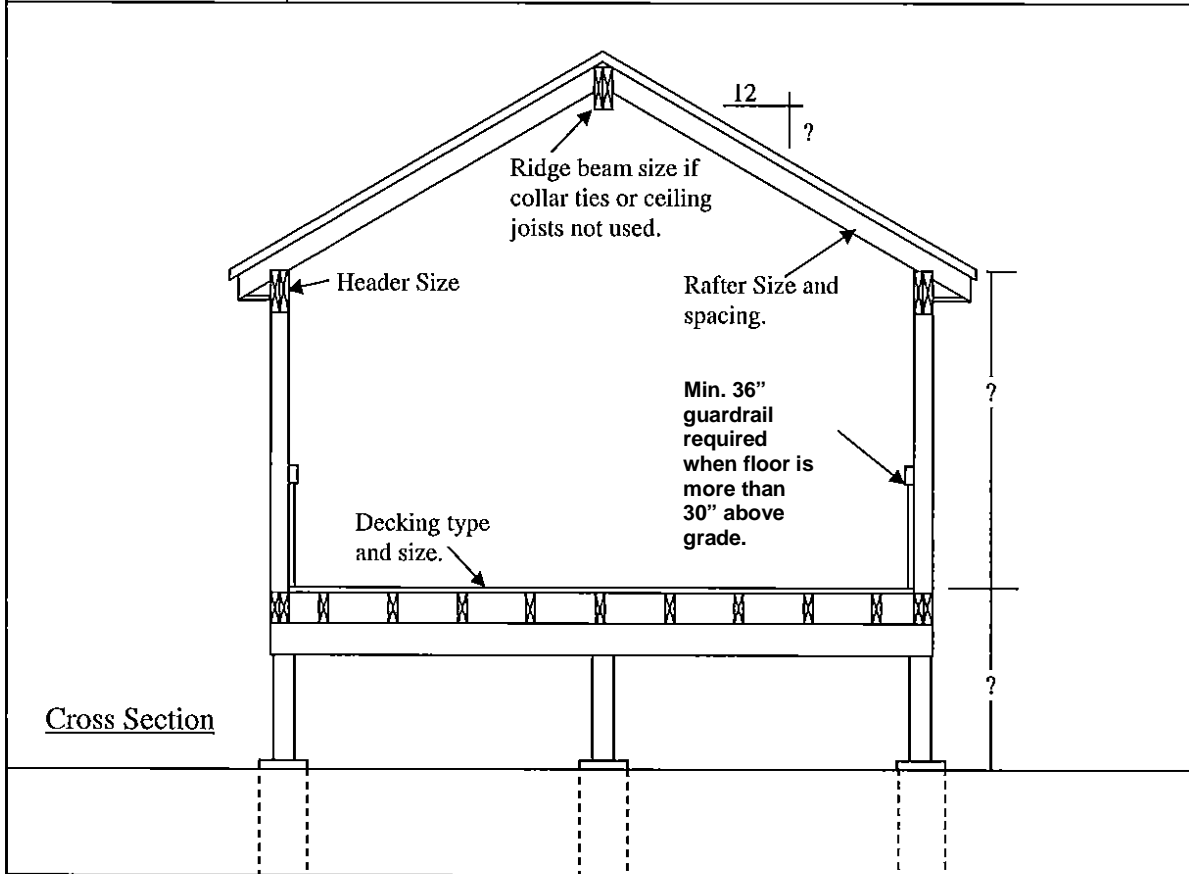
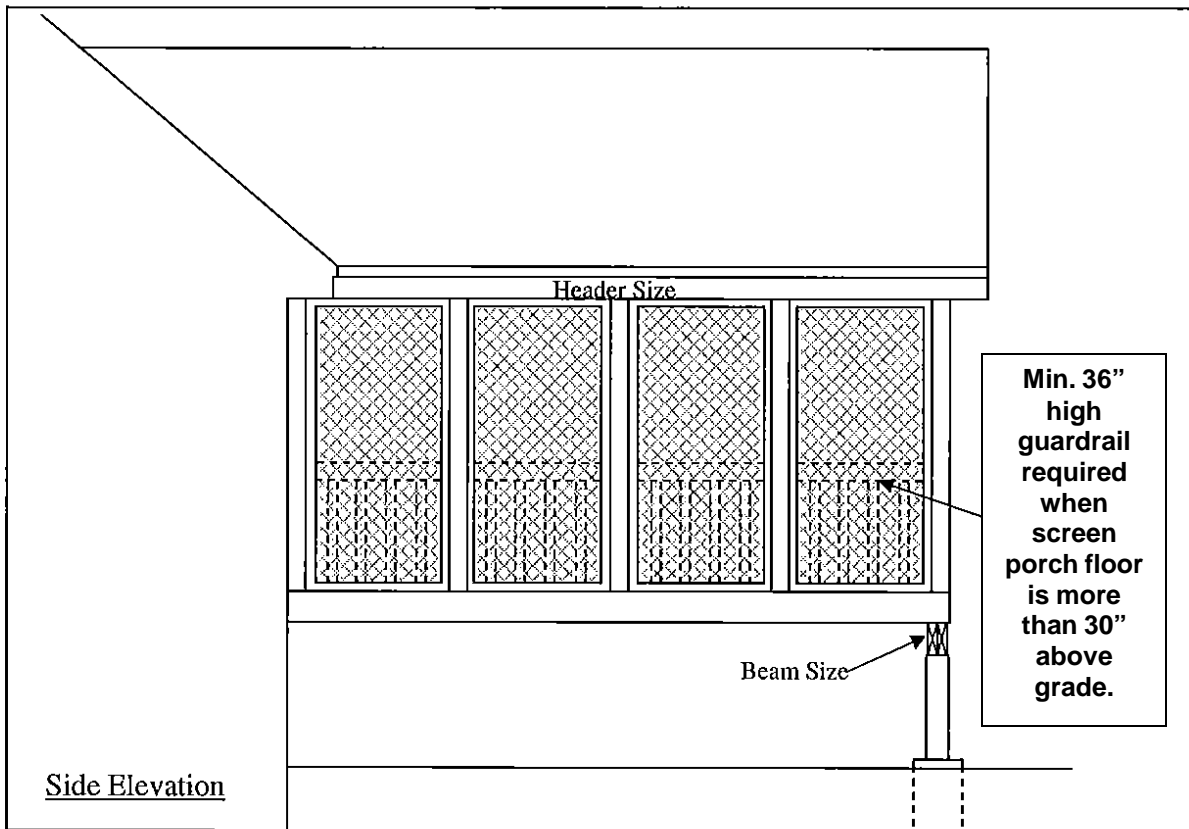
### Beam connection to posts



Sample Floor Plan



Sample Elevation



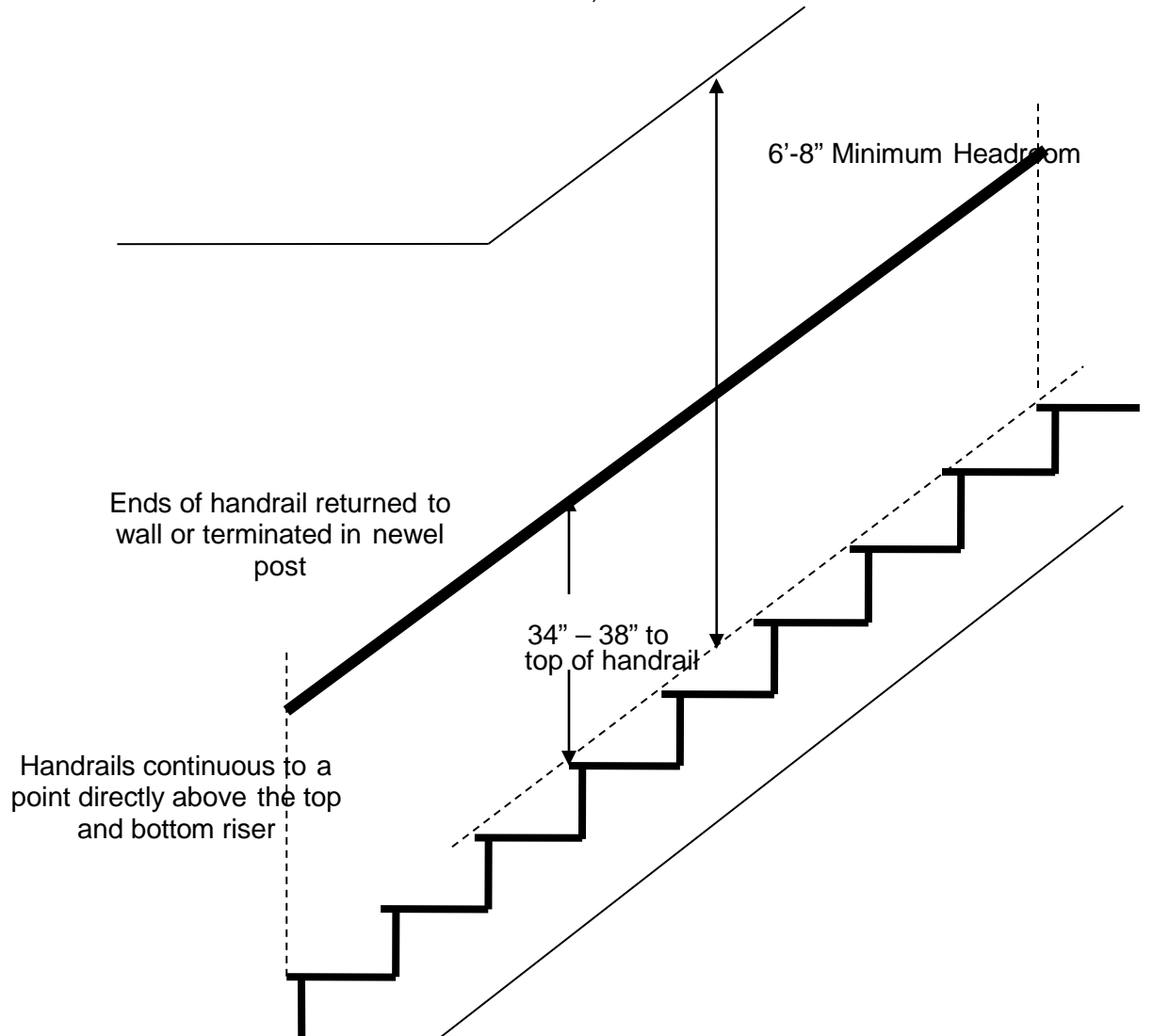


RESIDENTIAL STAIRS

# STAIRS & RAILINGS

One & Two Family Dwellings

**REFERENCE:** 2018 International Residential Code, Section R311 & R312.



## WIDTH

- Minimum width of 36 inches.
- Handrails shall not project more than 4.5 inches on either side of the stairway.

## HEADROOM

The minimum headroom in the stairway shall not be less than 6 feet, 8 inches measured vertically from the sloped plane of the tread nosing or from the floor surface of the landing or platform.

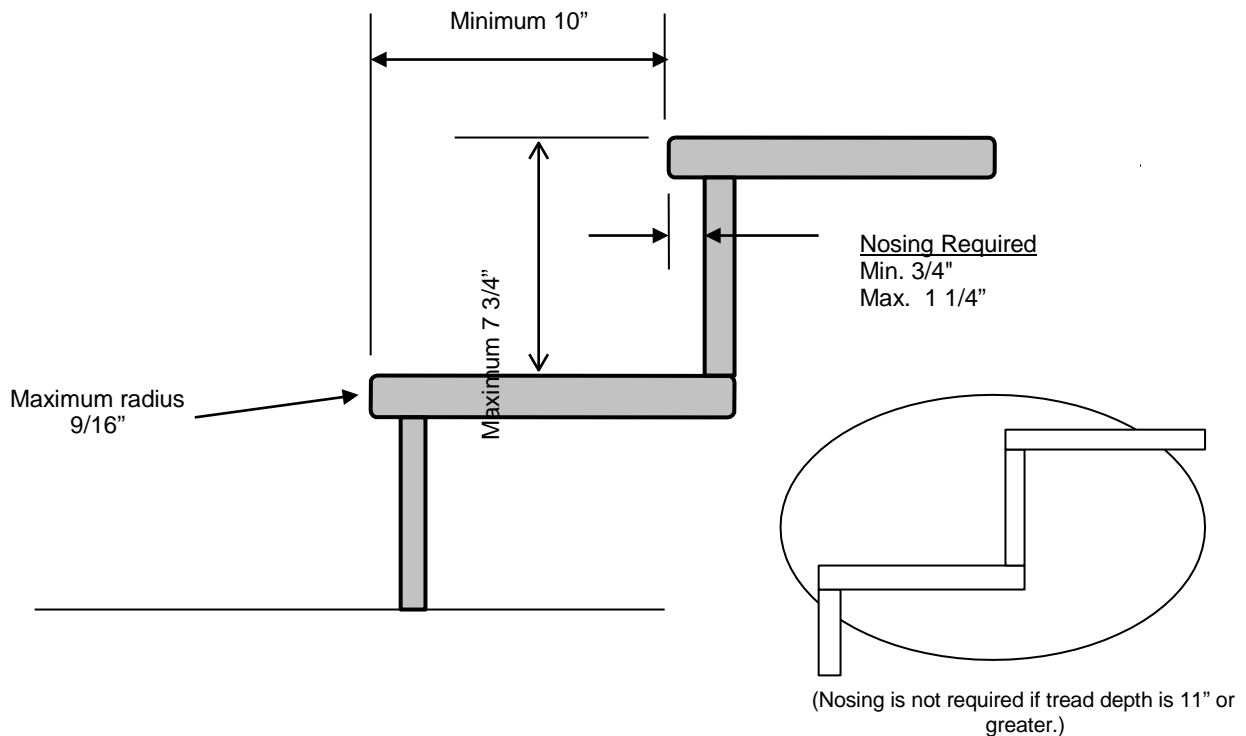
## HANDRAILS

- A handrail is required on at least one side of stairways. It shall be continuous the full length of the flight of stairs with four or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight.
- Ends shall be returned to the wall or terminate in newel posts or safety terminals.
- Handrail height shall be between 34 and 38 inches measured from the nosing of the tread. The handgrip portion of handrails shall have a circular cross section of 1 ¼" minimum to 2" maximum. Other shapes that provide an equivalent grasping surface are permissible. Edges are to have a minimum radius of 1/8".

## RESIDENTIAL STAIRS

# TREAD DETAIL

One & Two Family Dwellings



## TREADS & RISERS

- Maximum riser is 7-3/4" and the minimum tread depth is 10".
- The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8".
- The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8".
- Open risers are permitted provided the opening between treads does not permit the passage of a 4" ball.

## TREAD PROFILE

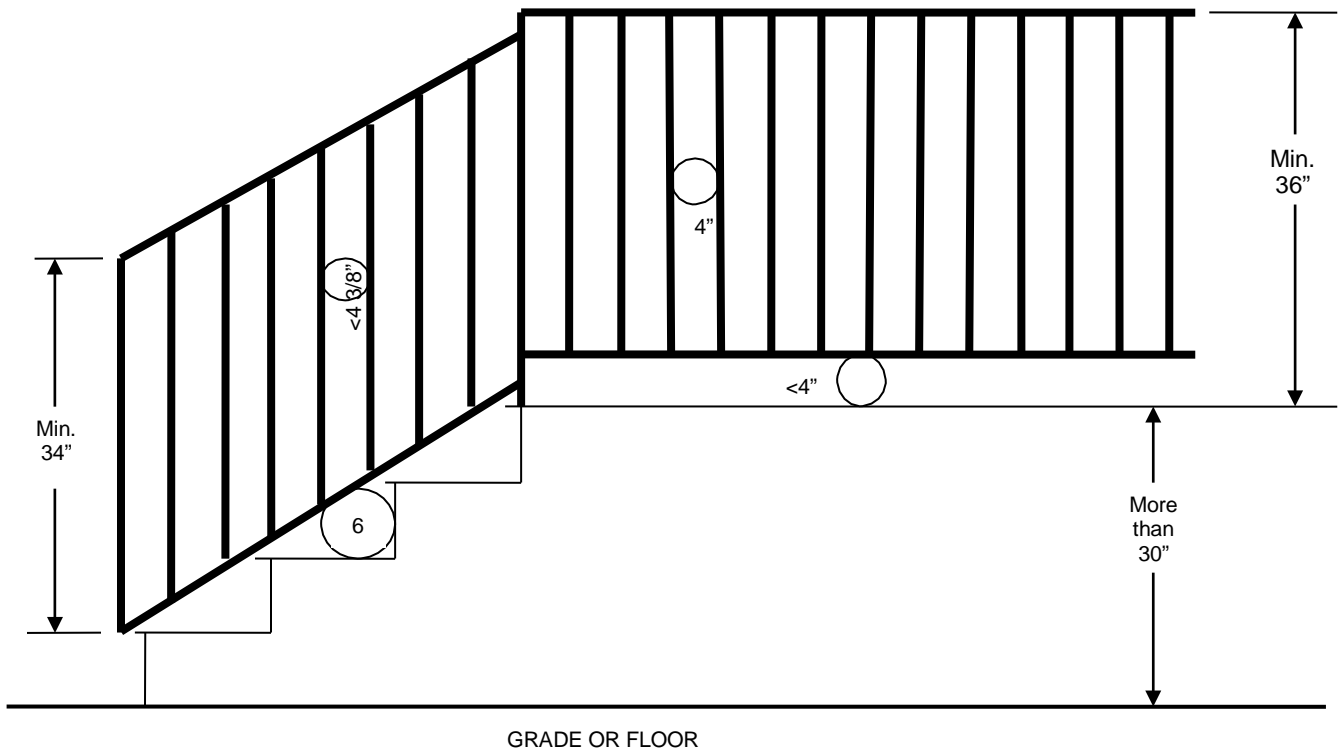
- A nosing not less than 3/4" but not more than 1-1/4" is required on stairways with solid risers less than 11" in width.
- The greatest nosing projection shall not exceed the smallest by more than 3/8".
- Open risers are permitted if the opening between the treads does not permit the passage of a 4" diameter sphere.
- (A nosing is not required where the tread depth is a minimum of 11".)

# RESIDENTIAL GUARDS

## One and Two Family Dwellings

### GUARDS REQUIRED

- Porches, decks, or raised floor surfaces located more than 30 inches above the floor or grade shall have guards not less than 36 inches in height.
- Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads.
- Required guards shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches in diameter. Required guards shall not be constructed with horizontal intermediate rails or other ornamental pattern that results in a ladder effect.
- Stairway required guards
  - The triangular openings formed by the riser, tread, and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a sphere 6 inches in diameter cannot pass through.
  - Stairway guard openings shall not allow a sphere  $4 \frac{3}{8}$ " to pass through.



# HANDRAILS

One & Two Family Dwellings

### Handrail Shapes

**A**=Circular cross section of at least 1 ¼" and not greater than 2".  
**B**=not less than 1 ½".  
 Other profiles may be permitted. Check with building dept.

### FYI

- Min. stairway width not less than 36".
- Handrails can encroach not more than 4.5" on each side.
- Handrails required on min. 1 side.
- All stairs should be illuminated.
- Flight of stairs shall not have vertical rise greater than 12'
- Maximum rise – 7 ¾"
- Minimum run – 10"
- A landing or floor is required at the each side of each exterior door.
- Landing to be minimum width of door served and minimum 36" in direction of travel.