

BASIC CLIMATIC AND GEOGRAPHICAL DESIGN CRITERIA FOR HUNTINGTON COUNTY

- Wind Speed 90 MPH – Shall be determined on a site-specific basis
- Seismic Zone “B”
- Snow Load 30 pounds per square foot (PSF)
- Foundation Depth 36 inches – This is the minimum foundation depth to bottom of footing from the top of finished grade above the footing.
- Winter Design Temperature – 1 degree Fahrenheit
- Decay – Slight to Moderate
- Termite – Moderate to Heavy
- Weathering – Severe
- Ice Shield Under-Layment Required – Yes
- Air Freezing Index – 1270
- Mean Annual Temp – 50.4
- Grade of Masonry units shall be from ASTM C34, C55, C62, C73, C90, C129, C216 or C562

STAIR LANDING

There shall be a floor or landing at the top and bottom of each stairway (3 foot by 3 foot minimum). The floor or landing at the door shall not be more than 1.5 inches lower than the top of the threshold. The landing at an exterior doorway shall not be more than 8 ¼ inches below the top of the threshold, provided the door, other than exterior storm or screen door does not swing over the landing.

STAIRS

- Stairways – Minimum width of 36 inches.
- Maximum Riser Height – 8 ¼ inches
- Minimum Tread Depth – 9 inches
- Note: The greatest riser height and tread depth shall not exceed the smallest by more than 3/8 inch within any flight of stairs.
- Note: The walking surface of the landing and stairway shall not exceed one unit vertical in 48 units horizontal (2% slope).
- Note: The minimum headroom height in all parts of a stairway shall not be less than 6 feet 8 inches.
- Note: A flight of stairs shall not have a vertical rise greater than 12 feet between floor levels or landings.
- Note: A nosing not less than ¾ inch but not more than 1 ¼ inch shall be provided on stairways with solid risers.
- Note: Open risers are permitted, provided that the opening between treads does not permit the passage of a 4 inch diameter sphere. This applies to risers with a total rise above grade of 30 inches or more.

HANDRAIL

Handrail height is 34 to 38 inches on at least one side and shall serve each tread the full length of the interior/exterior stairs with 4 or more risers. Both ends shall be returned/terminated in newel posts or back to a wall. Handrail grip size shall not be greater than 2 7/8 inches and not less than 1 ½ inches space between wall and rail.



GUARDRAILS

Porches, balconies or raised floor surfaces located more than 30 inches above the floor or grade below 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.

- Note: required guards on open sides of stairways, raised floor areas, balconies, decks and porches shall have intermediate rails or ornamental closures which do not allow the passage of a sphere 4 inches or more in diameter.

UNDER STAIR PROTECTION (interior spaces)

Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with ½ inch gypsum board.

STAIRWAY ILLUMINATION

For interior stairs the artificial light source shall be capable of illuminating the landings and the treads to levels not less than 1 foot-candle (11) lux measured at the center of the treads and landings. Exterior stairways shall be provided with an artificial light source located so that the top landing of the stairway is illuminated. Exterior stairways providing access to a basement from the outside grade level shall be provided with an artificial light source located so that the bottom landing of the stairway is illuminated. The control for activation of the required interior stairway lighting shall be accessible at the top and bottom of each stair without traversing any step of the stair. Illumination of the exterior stairs shall be controlled from inside the dwelling.

EMERGENCY ESCAPE AND RESCUE OPENINGS (windows)

Every sleeping room shall have at least one (1) openable emergency escape rescue opening. This includes those in a basement. Egress windows in bedrooms and basements shall have a maximum sill height of 44 inches above the finished floor and have a net clear opening of 5.7 square feet. If the exterior grade is less than 44 inches from the sill height, the opening may be reduced to 5 square feet. To determine the opening size; open the window and measure the clear width and height. Multiple these together, then divide by 144. The resulting number is the openable square footage.

- Note: The minimum net clear opening height shall be 22 inches.
- Note: The minimum net clear opening width shall be 20 inches.
- Note: The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside.
- Note: Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Sec. R310.2

WINDOW WELLS (basement applications)

The minimum horizontal area of the window well shall be 9 square feet, with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the emergency escape and



rescue opening to be fully opened. Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position.

SMOKE ALARM CODES

Indiana Residential Code

675 IAC 14-4.3-37, Section 313; Smoke Alarms

Adoption Date: 6-15-2008

R313.1 Labeling. Each smoke alarm shall be listed

R313.2 Required smoke alarm locations. At least one smoke alarm shall be installed in each of the following locations:

- (a) In the living area remote from the kitchen and cooking appliances. Smoke alarms located within 20 feet horizontally of a cooking appliance must incorporate a temporary silencing feature or be photoelectric type.
- (b) In each room designed for sleeping.
- (c) On the ceiling of the upper level near the top or above each stairway, other than a basement stairway, in any multistory dwelling. The alarm shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm by an intervening door or obstruction.
- (d) On the basement ceiling near the stairway.

R313.2.1 Alterations and additions. When interior alterations or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hard wired.

Exceptions:

- 1. Smoke alarms in existing areas shall not be required to meet the requirements of R313.5 where the alterations do not result in the removal of the interior wall or ceiling finishes exposing the structure unless there is an attic, crawlspace, or basement available that could provide access for hard wiring and interconnection without the removal of interior finishes.
- 2. Repairs are exempt from the requirements of this section.

R313.3 Prohibited smoke alarm locations. A smoke alarm required under this section shall not be placed:

- 1. Within 3 feet horizontally from a grille moving conditioned air within the living space; or
- 2. In any location or environment that is prohibited by the terms of the listing.

R313.4 Mounting requirements. Smoke alarms required by section R313.2 shall be mounted in accordance with their listing, installation instructions, and the requirements of this section.

R313.4.1 Flat Ceilings. In rooms with flat, peaked sloping or single sloping ceilings with a slope of less than 1.5/12, smoke alarms shall be mounted either:

- 1. On the ceiling at least 4 inches from each wall; or
- 2. On a wall with the top of the alarm not less than 4 inches below the ceiling and not farther from the ceiling than 12 inches or the distance from the ceiling specified in the smoke alarm manufacturer's listing and installation instructions, whichever is less.

R313.4.2 Peaked Sloping Ceilings. In rooms with peaked sloping ceilings with a slope of 1.5/12 or greater, smoke alarms shall be:

1. Mounted on the ceiling or wall within 3 feet measured horizontally, from the peak of the ceiling;
2. At least 4 inches, measured vertically, below the peak of the ceiling; and
3. At least 4 inches from any projecting structural element.

R313.4.3 Single Slope Ceilings. In rooms with a single slope ceilings with a slope of 1.5/12 or greater, smoke alarms shall be:

1. Mounted on the ceiling or wall within 3 feet, measured horizontally, of the high point of the ceiling; and
2. Not closer than 4 inches from any adjoining wall surface or any projecting structural element.

R313.4.4 Visible Notification Appliances. In addition to the smoke alarms required pursuant to this section, listed visible notification appliances, when installed, shall meet the following:

R313.4.4.1 Candela Rating-Sleeping Room. A visible notification appliance, when installed in a room designed for sleeping, shall have a minimum rating of 177 candela, except that when the visible notification appliance is wall-mounted or suspended more than 24 inches below the ceiling, a minimum rating of 110 candela is permitted.

R313.4.4.2 Candela Rating-Nonsleeping Room. A visible notification appliance, when installed in an area other than a room designed for sleeping, shall have a minimum rating of 15 candela.

R313.5 Connection to Power Source. Each smoke alarm shall be powered from:

1. The electrical system of the home as the primary power source and a battery as a secondary power source; or
 2. A battery rated for a 10 year life, provided the smoke alarm is listed for use with a 10 year battery.
- Exception; Visible notification appliances are required to operate from the primary power source but are not required to operate from a secondary power source.

R313.5.1 Circuitry. Each smoke alarm whose primary power source is the home electrical system shall be mounted on an electrical outlet box and be connected by a permanent wiring method to a branch circuit. The same branch circuit may serve more than one smoke alarm. The branch circuit for the alarm shall not include any switches between the branch circuit overcurrent protective device and the alarm and shall not be protected by a ground-fault circuit-interrupter.

R313.5.2 Interconnection. When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm device shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

ROOF TRUSSES

Wood trusses shall be designed in accordance with accepted engineering practice. The design and manufacturer of metal plate connected wood trusses shall comply with ANSI/TPI. Trusses shall be braced to prevent rotation and to provide lateral stability. Truss members shall not be cut, notched, drilled, spliced, or otherwise altered in any way. Wood trusses cannot be "homemade"; they must be designed and built by a manufacturer. Wood rafters can be constructed on-site and are acceptable as long as they meet spacing and span requirements.

DRILLING AND NOTCHING – WALL STUDS

Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeded 25 percent of its width. In non-bearing partitions 40 percent of a single stud width. Any stud may be bored or drilled provided that the diameter of the resulting hole is no greater than 40 percent of the stud width, the edge of the resulting hole is a minimum of 5/8 inch from the edge of the stud and it is not located in the same cross section as a cut or notch. A stud may be bored to a diameter not exceeding 60 percent of its width, provided those located in a bearing partition or exterior wall are doubled and that not more than two successive studs are bored.

DRILLING AND NOTCHING – TOP PLATES

When piping or ductwork is placed in or partly in an exterior wall or interior braced or load bearing wall necessitating cutting, drilling, or notching of the top plate by more than 50 percent of its width a galvanized metal tie not less than 0.054 inch thick and 1.5 inches wide shall be fastened to each plate across and to each side of the opening with not less than eight 16d nails at each side.

Exception; Metal tie not required if the entire side of the wall with the notch or cut is covered by woos structural panel sheathing.

HOUSE / GARAGE SEPARATION

Openings from a private garage directly into a sleeping room is not permitted, other openings between garage and the residence shall be equipped with a 20-minute fire rated door or approved alternate.

Ducts in the garage and ducts penetrating the walls or ceilings separating the garage and dwelling shall be of 26-gage sheet steel or alternate approved material and shall have no openings to the garage. The garage shall be separated from the residence and its attic area by a smoke separation of not less than ½ inch gypsum board applied to the garage side of the framing.

DETACHED GARAGE SEPARATION

Detached garages, carports, and accessory structures shall be separated from dwellings by not less than 6 feet of open space. Detached garages, carports, and accessory structures separated from dwellings by less than 6 feet of open space shall be considered the same as attached garages, carports, and accessory structures. In no case shall garages, carports, or accessory structures be attached to the dwelling when footings of the structure to be attached are above the frost line and the adjacent footings of the dwelling are at or below the frost line unless approved by this department.

FIREBLOCKING

Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space.

Fireblocking shall be provided in wood-frame construction in the following locations;

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs; as follows
 - 1.1 Vertically at the ceiling and floor levels.
 - 1.2 Horizontally at intervals not exceeding 10 feet.
2. At all interconnections between concealed vertical and horizontal spaces such at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Sec. R311.2.

- At openings around vents, pipes, ducts, cables, and wires at ceiling and floor level, with an approved material to resist the passage of flame and products of combustion. Approved materials shall have demonstrated that they comply with ASTM E136. The use of “foam” is not allowed, any and all products must meet the ASTM E136 rating and be installed per manufacturers specifications.

DRAFTSTOPPING

When there is usable space both above and below the concealed space of a floor/ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below draftstopping shall be provided in floor/ceiling assemblies under the following circumstances:

- Ceiling is suspended under the floor framing.
- Floor framing is constructed of truss-type open-web or perforated members.

FOOTING SIZES

Detached garages, detached carports, or accessory structures

Construction Requirements	Local code (Portable 200 sq. ft. maximum)	Monolithic Footings (721 sq. ft. maximum)	Structures with Conventional Foundation
Footings & Foundation	No requirements	8”W x 18”D ⁽²⁾ 12”W x 12”D ⁽²⁾	Indiana Residential Code
Floors	No requirements	Indiana Residential Code	Indiana Residential Code
Exterior Walls	No requirements	Indiana Residential Code	Indiana Residential Code
Girders & Headers	No requirements	Indiana Residential Code	Indiana Residential Code
Roof Systems	No requirements	Indiana Residential Code	Indiana Residential Code
Electrical Power Limits	One 20 amp circuit	Indiana Residential Code	Indiana Residential Code
Water Supply/Sanitation	Not Allowed	(1)	Indiana Residential Code
Permanent Heat	No requirements	(1)	Indiana Residential Code
Maximum Number of Stories	1	1 ⁽³⁾	3

Notes:

- In structures utilizing monolithic floor systems, the water and sanitation systems and permanent heating facilities may be installed when approved flexible connectors are provided.
- 6 x 6 – W2.9 x W2.9 welded wire fabric or equivalent is required when monolithic slab footing system is used.
- One story unless otherwise approved by the building official.

MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

Use	Live Load (pounds per square foot)
Attics – non-accessible ⁽¹⁾	0
Attics – accessible ⁽²⁾	10
Attics – uninhabitable ⁽³⁾	20
Attics – inhabitable ⁽⁴⁾	30 ⁽⁵⁾
Balconies – exterior	60
Decks	40
Rooms – other than sleeping rooms	40
Fire escapes Garages ^{(6), (8)}	50
Guards & Handrails ⁽⁹⁾	200
Sleeping Rooms	30
Stairs	40/300 ⁽⁷⁾

1. Attics where access is not required by Section R807.
2. Attics where access is provided as required by Section R807 and a disappearing stairway or permanent stairway is not provided.
3. Attic spaces having a minimum clear height greater than six (6) feet and are not capable of containing the prism described in footnote 4, and are served by a disappearing or permanent stairway.
4. Attic spaces that are capable of containing a rectangular prism seven (7) feet high by six (6) feet wide by eight (8) feet long of any structural member.
5. For trusses, the thirty (30) pounds per square foot live load shall be applied over the entire length of the truss panel that contains the prism required by footnote 4.
6. Passenger cars only.



MINIMUM WIDTH OF CONCRETE OR MASONRY FOOTINGS (inches)¹

LOAD-BEARING VALUE OF SOIL (psf)				
	1,500	2,000	3,000	>4,000
Conventional Light-Frame Construction				
1-story	12	12	12	12
2-story	15	12	12	12
3-story	23	17	12	12
4-inch Brick Veneer over Light-Frame Construction or 8-inch Hollow Concrete Masonry				
1-story	12	12	12	12
2-story	21	16	12	12
3-story	32	24	16	12