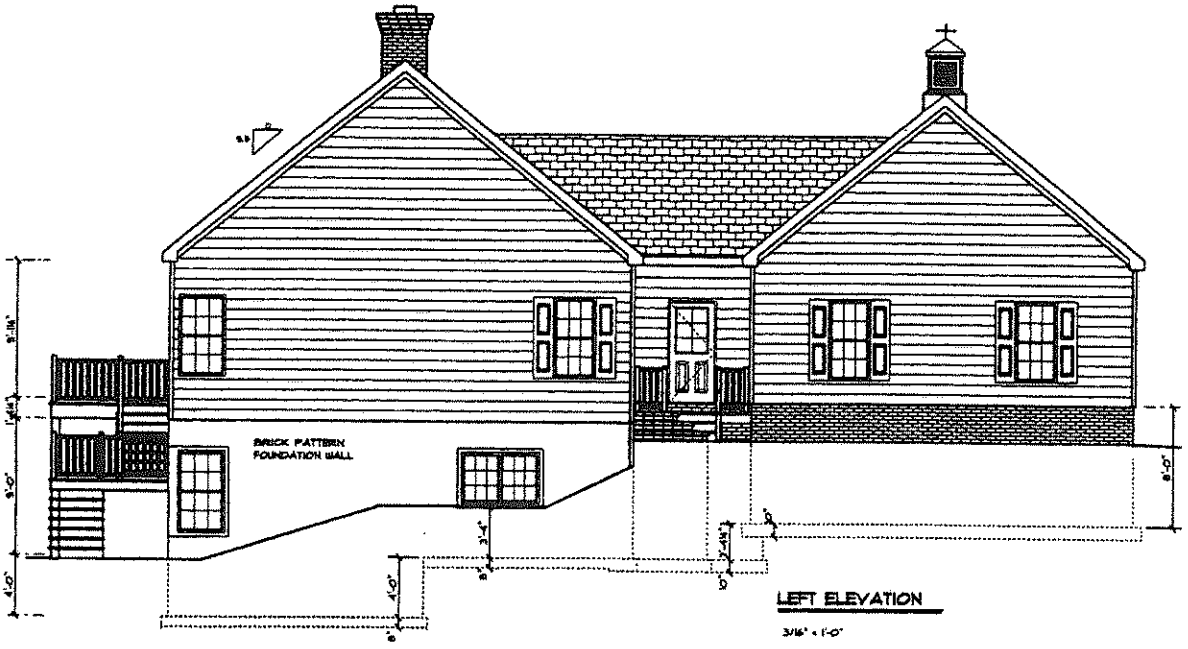
Bremer County

Building & Zoning

Home Builder's Handout



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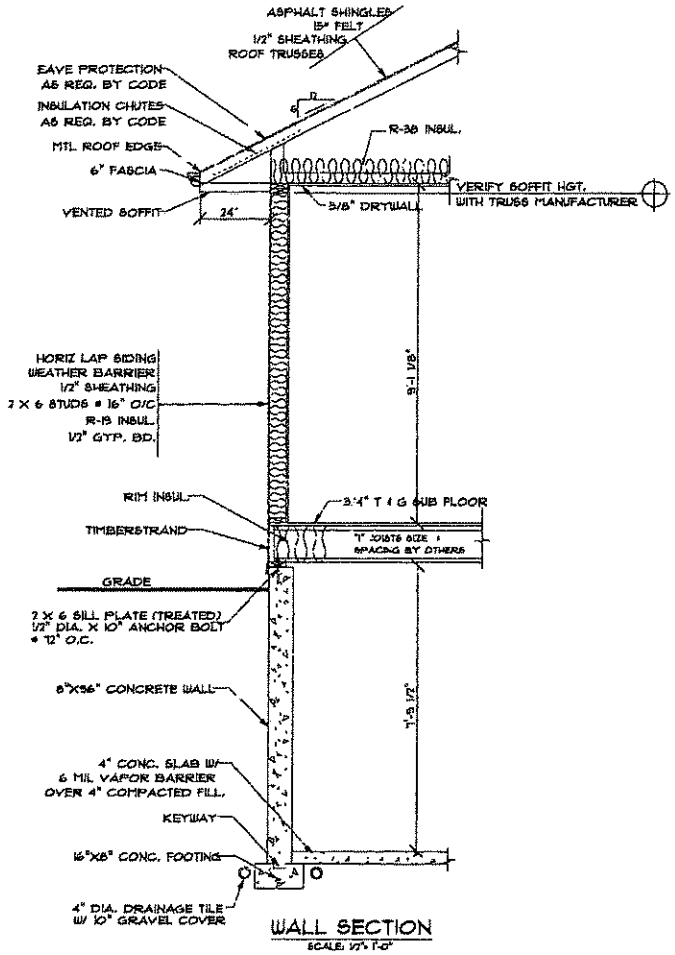
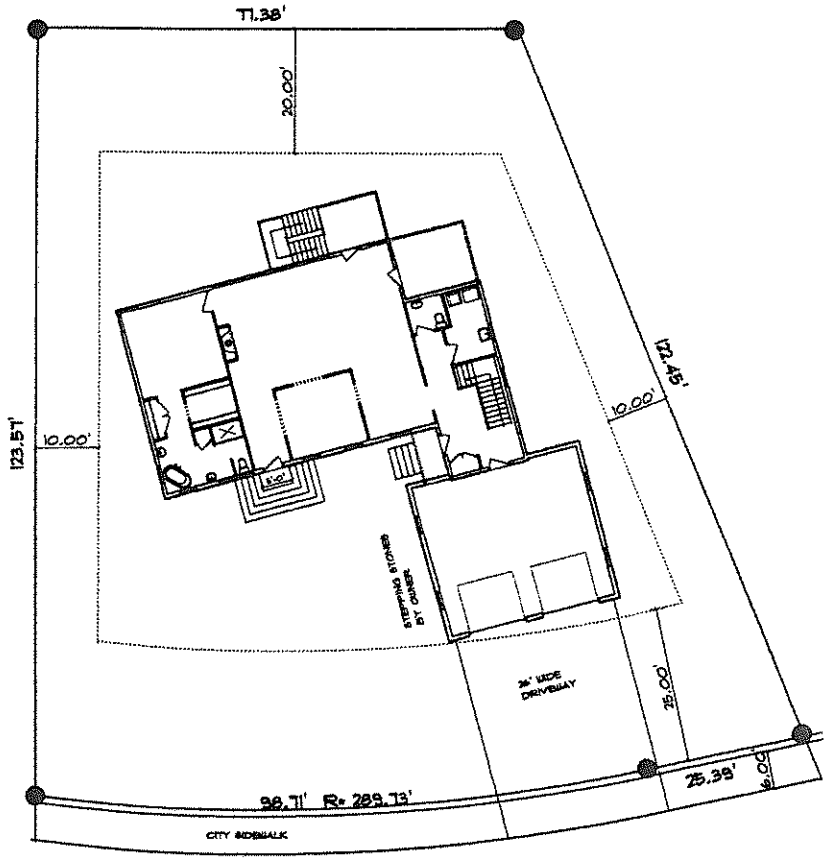


WALL SECTION

SCALE: 1/2" = 1'-0"



PLOT PLAN

Is a Permit Required?

The following shall require a Building Permit:

Building

1. All construction in the Flood Plain.
2. Patios and decks.
3. Garages, pole buildings, or storage sheds over 120 square feet projected roof area.
4. Room additions
5. Dormers, bay windows, or other wall openings.
6. Aluminum, steel, wood, or vinyl siding.
7. Repairing or replacing roofing.
8. Any new construction or remodeling
9. Replacing Windows.

Plumbing/Mechanical/Electrical

1. Furnaces or air-conditioners
2. Water heaters or any other parts of the plumbing system.
3. Any part of the heating, cooling, or ventilation supply or exhaust systems.
4. Circuits, the electrical service, or any other parts of the electrical system.

Zoning Permits are required for:

1. Storage sheds under 120 square feet
2. Fences

How to Obtain a Building Permit

To obtain a building permit for new construction or an addition, several items must be filed and reviewed. This ensures that most of the critical issues are solved before construction begins.

Zoning Requirements

Before a permit can be issued, the Zoning department will check to ensure that all of the Zoning requirements are being met. The permit will not be issued if the proposed construction is not allowed in the zoning district, or does not meet the necessary front, side, and rear yard setback requirements.

Permit Application

The address of the proposed construction, along with the names, addresses, and phone number of the owner and contractor are required. Contractors must supply our office with a Certificate of Liability Insurance, along with any licensing, if applicable.

A site plan is required and should include property boundaries, proposed location of the construction, location of septic system and well, and distances to existing buildings.

Building plans will increase with the complexity of the project. The plans need to include floor plans, footings and foundation plans, wall cross sections, insulation information, window size and location and U-factors. For homes which require private septic systems, a site evaluation must be scheduled with the Sanitarian before the building permits can be issued.

The Building Department will review the information and process the permit once all associated permits are received. The permit applicant will receive an inspection card which is to be posted at the construction site. Any changes to the plans after the permit has been issued shall first be approved by the Building department.

Inspections
It is the responsibility of the permit holder to call for all necessary inspections. 24 hour notification is required to schedule an inspection. No work can be covered from sight until the proper inspections have been completed.

Building Design

Attic Access
An attic access shall be provided to attics of buildings. The opening shall be located in a corridor, hallway, or other readily accessible location. The access opening shall not be less than 22" by 30", and have 30" minimum clear headroom in the attic space at or above the access opening.

Ceiling Height
Habitable rooms, hallways, corridors, bathrooms, toilet rooms, laundry rooms, and basements shall have a ceiling height of not less than 7 feet. The required height shall be measured form the finish floor to the lowest projection from the ceiling.

Exceptions:

1. Beams and girders spaced not less than 4 feet on center may project not more than 6 inches below the required ceiling height.
2. For rooms with sloped ceilings, at least 50 percent of the required floor area of the room must have a ceiling height of at least 7 feet and no portion of the required floor area may have a ceiling height of less than 5 feet.

3. Bathrooms shall have a minimum ceiling height of 6 feet 8 inches over the fixtures and at the front clearance area required for fixtures. A shower or tub equipped with a shower head shall have a minimum ceiling height of 6 feet 8 inches above a minimum area 30 inches by 30 inches at a shower head.

Drywall

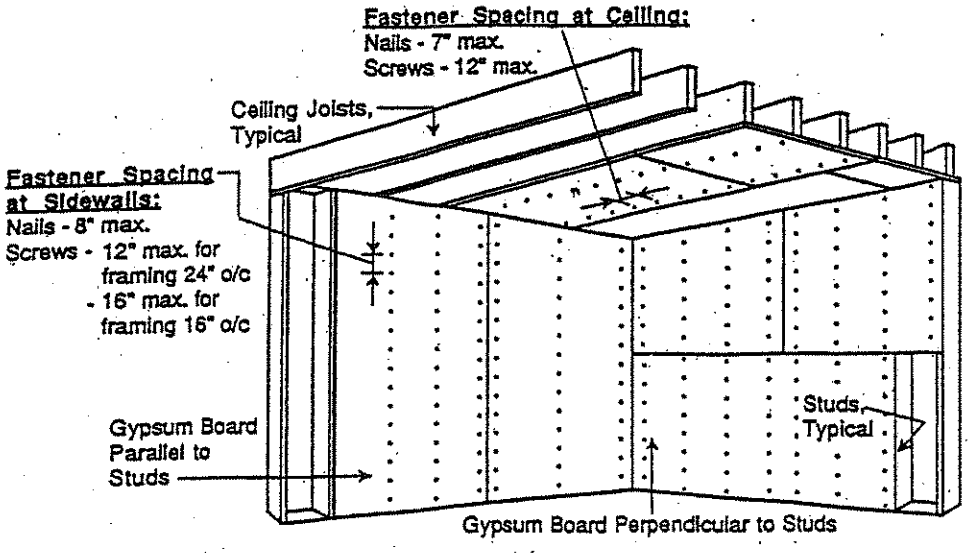
Nails for 1/2 inch drywall shall be No. 13 gauge, 1 3/8 inches long, or a 5d cooler nail.

Nails for 5/8 inch drywall shall be No. 13 gauge, 1 5/8 inches long, or a 6d cooler nail.

Screws should be type S or W and penetrate the wood not less than 5/8".

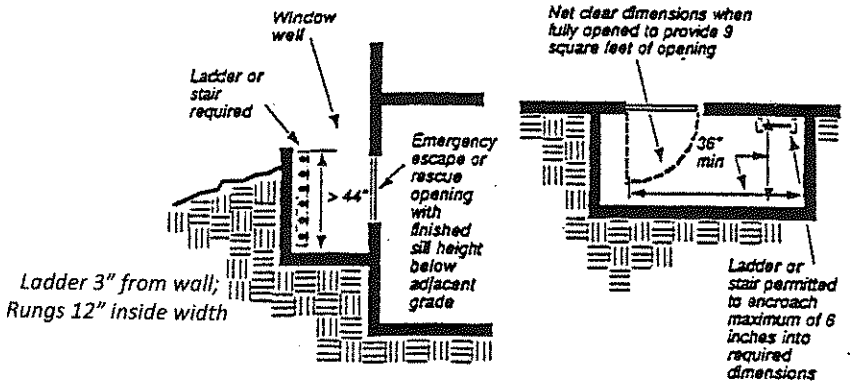
Fasteners spacing at sidewalls; Nails - 8 inches max.
Screws -12 inches max. for studs 24 inches on center
16 inches max. for studs16 inches on center

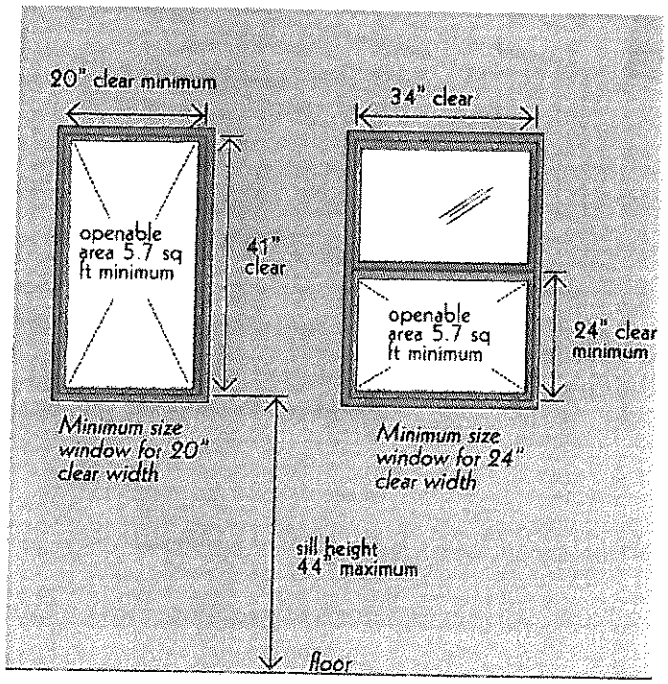
Fasteners spacing on ceilings; Nails - 7 inches max.
Screws - 12 inches max



Exiting

Every dwelling unit basement and sleeping room shall be supplied with an emergency escape and rescue window or opening. If the use of a window well is required it shall be a minimum size of 3 feet by 3 feet, and no deeper than 44 inches. A drain shall also be supplied in the bottom of the window well.





Floating Slabs

Detached one story accessory buildings of light frame construction may be constructed on a floating slab. The slab shall be 4" thick and the thickened edge shall be 8" deeper than the slab thickness and at least 8" in width. The slab shall be reinforced with a minimum of #4 reinforcement bars on two foot centers both directions. The perimeter or grade beam shall be reinforced with a minimum of two continuous #4 bars around the perimeter. The floor slab and grade beam shall be made in one continuous pour. The sub grade shall be free from all sod or other foreign material and shall be provided with a minimum 3" compacted aggregate backfill prior to installing the floor.

Footings

All footings are required to be a minimum of 42 inches deep. Trench footings will be allowed only on one story accessory buildings, or one story residential additions. See section on waterproofing for tile requirements also.

Foundation Plates

Half inch anchor bolts are required to be embedded 7" into the concrete. A minimum of 2 anchor bolts per piece, with the bolts within 12" of the ends of each piece. Bolts shall be a minimum of 3 ½" from the end of each piece. Approved nuts and washers shall be used. Maximum spacing is 6'. Foundation plates or sill material shall be treated to prevent decay.

Foundation Ventilation and Under-floor Clearance

Ventilation openings in under-floor spaces shall not be required where:

1. Exposed earth is covered with a continuous Class 1 vapor retarder. Joints of the vapor retarder shall overlap by 6" and shall be sealed or taped. The edges of the vapor retarder shall extend at least 6" up the stem wall and shall be attached and sealed to the stem wall or insulation.

And

2. One of the following is provided for the under-floor space:
    a. Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute for each 50 square feet of crawlspace floor area, including an air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated per code..
    b. Conditioned air supply sized to deliver at a rate equal to 1 cubic foot per minute for each 50 square feet of under-floor area, including a return air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated per code.

Minimum clearance between bottom of floor joist and the ground beneath shall be 18 inches. Minimum clearance under girders shall be 12 inches.

Basements

All basements shall be provided with a sump. The sump shall be at least 24 inches in diameter and shall extend at least 24 inches below the bottom of the basement floor. The sump shall be capable of positive gravity or mechanical drainage to remove any accumulated water.

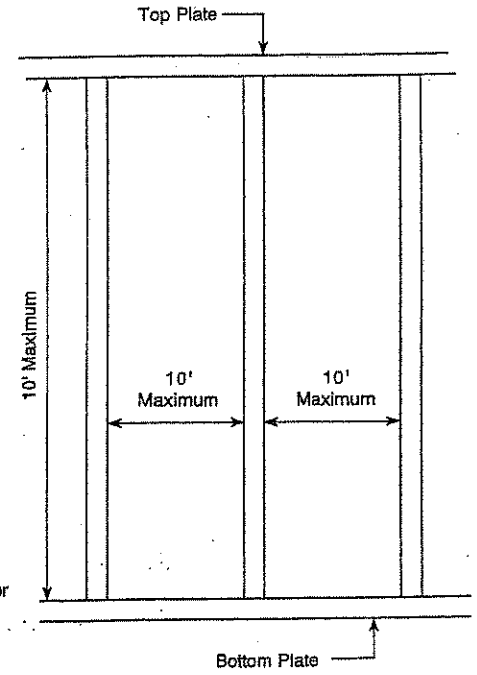
Foundation Walls

Masonry foundation walls shall have the cores filled and reinforced with a minimum #4 bar no greater than 6 feet apart on center, and a minimum of 3 feet from any corner.

Framing

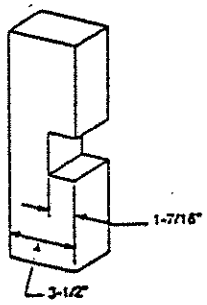
Stud boring; bearing wall - 40% allowed
nonbearing - 60% allowed
Stud notching; bearing walls - 25 % allowed
nonbearing walls - 40% allowed
Fire blocking is required at any vertical or horizontal spaces over 10 feet, in soffit, drop, and cove ceilings, under stair areas, and on staggered stud construction.

Fire Blocks in Concealed Spaces at Ceiling and at 10-foot Intervals along the length of the wall

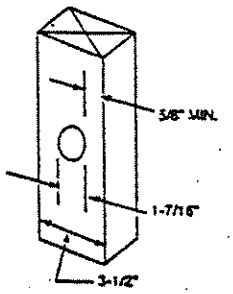


Fire Block Construction:

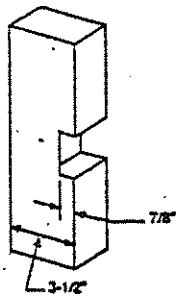
- 2" Nominal Lumber
- 2-1" Nominal Lumber
- 23/32" Plywood
- Gypsum Board
- 3/4" Type 2-M Particle Board
- Cement Fiber Board
- Batts or Blankets of Mineral or Glass Fiber
- Other Approved Materials



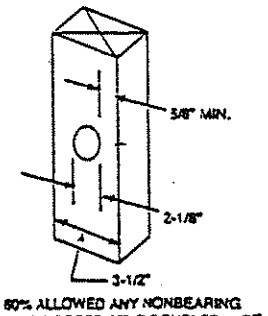
40% ALLOWED NONBEARING



40% ALLOWED ANY WALL SEE EXCEPTION BELOW

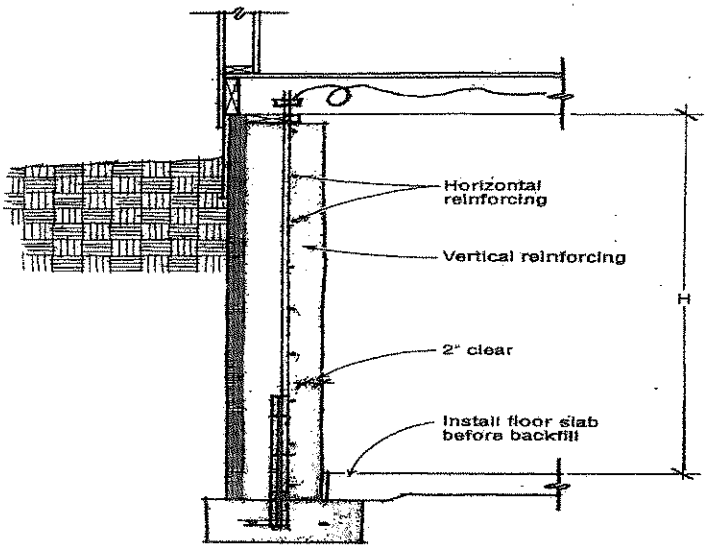


25% ALLOWED EXTERIOR AND BEARING WALLS



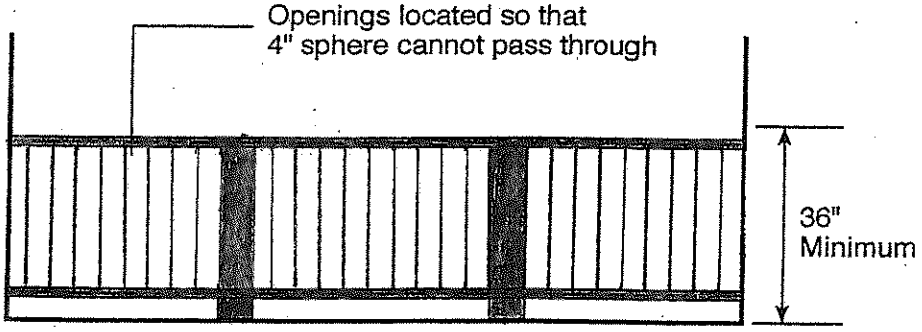
60% ALLOWED ANY NONBEARING WALL OR SCRED STUD DOUBLED NOT MORE THAN TWO SUCCESSIVE DOUBLED STUDS

Grounding



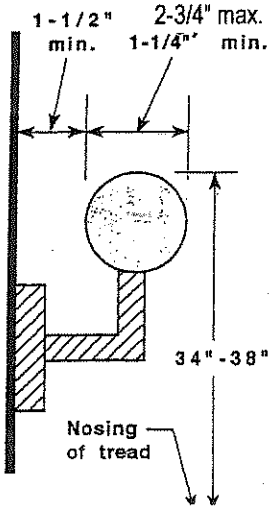
Guardrails

Openings on guardrails shall not be greater than 4 inches. The minimum height for residential guardrail is 36 inches.



Handrails

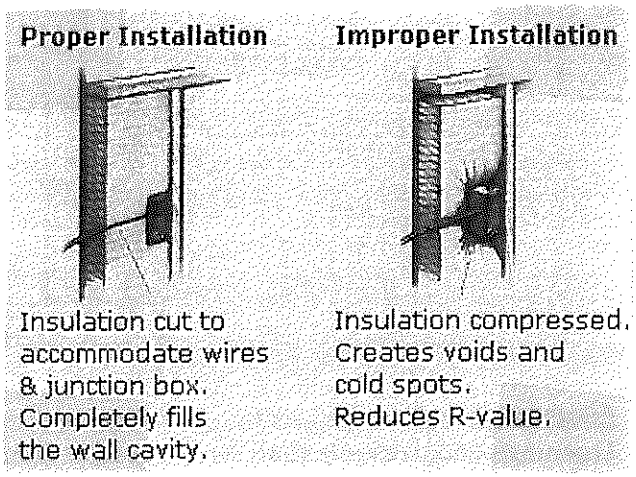
A handrail is required on every stair which has 4 or more risers. It must be a minimum of 1¼ inches in width and 2¾" maximum width and 34 to 38 inches above the nose of the tread. Ends shall be returned to the wall or terminate at a newel post.



Insulation

All new construction must meet the energy requirements found in the 2009 IECC. For Single Family Buildings the minimum R values are:

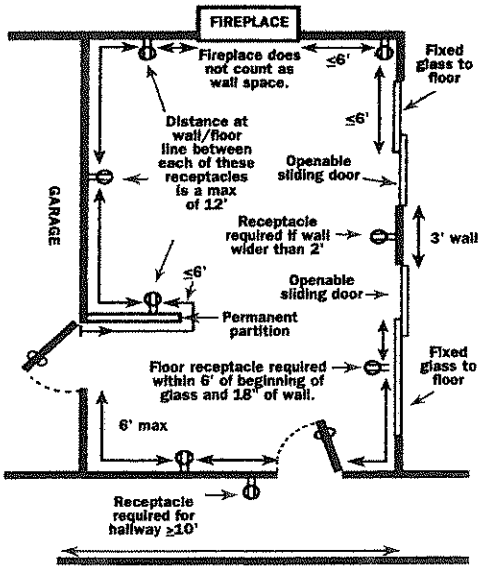
Ceilings – R49
Walls - R19
Basement Walls - R19
Crawl Spaces – 10/13

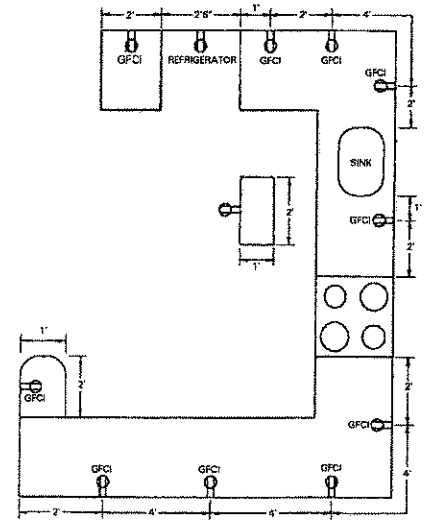


Outlets

In every family room, dining room, living room, library, den, sunroom, bedroom, kitchen, or similar room, receptacle outlets shall be installed so that no point measured horizontally along the floor line in any wall space exceeds 6 feet from a receptacle. Along the counter space in kitchens, pantries, breakfast rooms, or similar rooms, there shall be a minimum of 2 separate 20 Amp branch circuits, and outlets spaced so that no point along the wall line is more than 24 inches from a receptacle outlet. All outlets along kitchen counter tops, in bathrooms, garages, in unfinished areas of basements, and outside must be GFCI protected.

Arc-fault Circuit-Interrupter Protection: All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed arc-fault circuit interrupter, combination-type, installed to provide protection of the branch circuit.



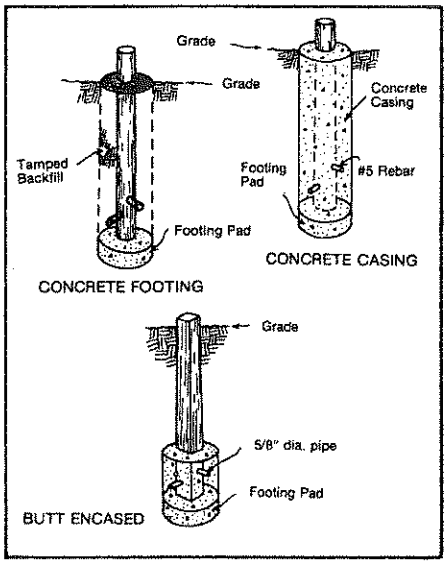


For SI: 1 foot = 304.8 mm.

FIGURE E3901.4
COUNTERTOP RECEPTACLES

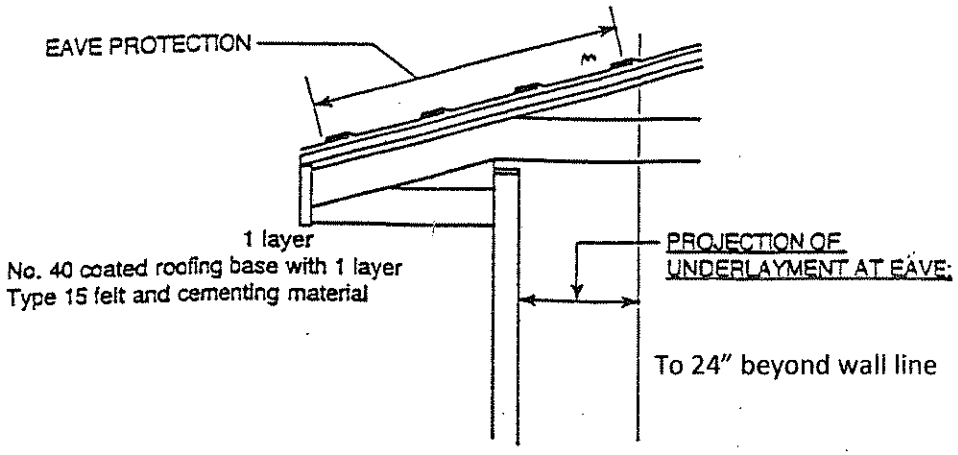
Pole Buildings

Properly certified truss design must be submitted to the building official for approval of the building permit. Pole building footings need to be a minimum of 42 inches deep, with a precast or cast in place (minimum of 6 inches by 10 inches) concrete base. When poles are set in place, a minimum of 12 inches of concrete shall be placed around them. The pole must have a ½ rod extending 3 inches through each side, or a treated wood block nailed to each side to prevent up lift.



Roofs

All roofs shall be designed to withstand a 35 pound per square foot ground snow load and a 90 mph wind speed. When reroofing, no more than 1 overlay of asphalt shingles shall be applied over an existing asphalt shingle roof. In no instance shall roofing material be placed over wood shakes. Roof ice buildup protection is required, extending from the eave up the roof to a line 24 inches inside the exterior wall of the building.



Room Dimensions

Dwelling units shall have at least one room which shall not have less than 120 square feet of floor area. Other habitable rooms except kitchens shall have an area of not less than 70 square feet. Habitable rooms other than kitchens shall not be less than 7 feet in any dimension.

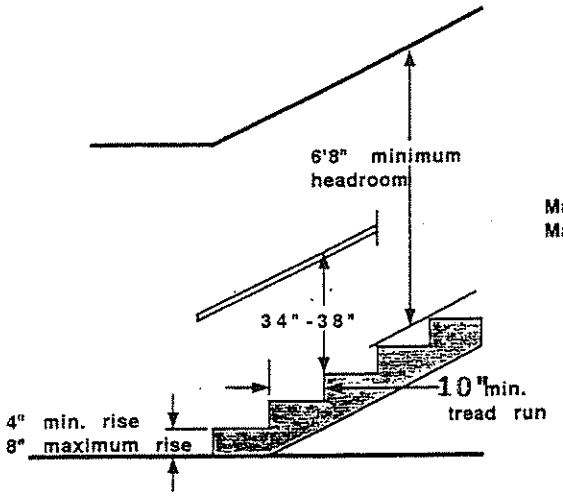
Smoke Detectors and Carbon Monoxide Alarms

Smoke alarms shall be installed a) in each sleeping room b) outside each separate sleeping area in the immediate vicinity of the bedrooms, and c) on each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level. The detectors need to be interconnected, and hardwired with battery back-up.

For new construction, an approved **Carbon Monoxide Alarm** shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages.

Stairs

Minimum headroom for a staircase is 6 foot 8 inches. The maximum rise on a stair step is 8 inches, while the minimum run is 10 inches. A nosing not less than ¾" but not more than 1¼" shall be provided on stairways with solid risers.



OCCUPANT LOAD LESS THAN 10
(Private stairway)

Waterproofing

All basements shall be supplied with foundation drain tile which shall drain by gravity or mechanical means to an approved location. The tile shall be placed below the top of the footing, and covered with a minimum of 6 inches clean washed rock at least 12 inches beyond edge of footing. Tile shall be covered with an approved filter membrane material.

Windows and Ventilation

Living rooms and other rooms used for living, dining or sleeping purposes (habitable rooms, except for kitchens) shall be provided with natural light by means of exterior glazed openings with an area not less than 8% of the total floor area. Bathrooms, water closet compartments, and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than 1½ square feet. Habitable rooms within a dwelling unit shall be provided with natural ventilation by means of openable exterior openings with an area of not less than 4% of the total floor area of such rooms.

For the purpose of determining light and ventilation requirements, any room may be considered as a portion of an adjoining room when one half of the area of the common wall is open and unobstructed and provides an opening of not less than one tenth of the floor area of the interior room or 25 square feet, whichever is greater. Required exterior openings for natural light and ventilation shall open directly onto a public way or a yard or court located on the same lot as the building.

Bathroom Ventilation

Exterior glazed openings shall not be required where artificial light and a mechanical ventilation system are provided. The minimum ventilation rates shall be 50 CFM for intermittent ventilation of 20 CFM for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside of structure.

Wood and Earth Separation

Wood used in construction of permanent structures and located nearer than 6 inches to earth, or where located on concrete slabs placed on earth, shall be treated wood or wood of natural resistance to decay. Where not subject to water splash or to exterior moisture, and located on concrete having a minimum thickness of 3 inches with an impervious membrane installed between concrete and earth, the wood may be of any species.

Where planter boxes are installed adjacent to wood frame walls, a 2-inch-wide air space shall be provided between the planter and the wall. Flashings shall be installed when the air space is less than 6 inches in width. Where flashing is used, provisions shall be made to permit circulation of air in the air space. The wood frame wall shall be provided with an exterior wall covering.

NO BUILDING MAY BE OCCUPIED UNTIL A FINAL INSPECTION IS MADE AND A CERTIFICATE OF OCCUPANY IS ISSUED. A BUILDING OCCUPIED WITHOUT APPROVAL IS A BUILDING CODE VIOLATION. WE REQUIRE THE BUILDING BE UNINHABITED UNTIL FINAL INSPECTION AND APPROVAL IS GRANTED.

This handout is meant to be a simplified guide to construction. It does not replace or supersede the Building Code. If you have any questions on the standards or procedures listed in this packet, please contact us at 319-352-0332. Office hours are 7:00am-4:30pm Monday-Friday