

SECTION 18

MISCELLANEOUS

SWIMMING POOLS

On April 14 1998, the Board of Supervisors adopted Ordinance 5102 which incorporated the State Swimming Pool Safety Act regulations into Section 7-15 (Private Swimming Pools - General) of the County Code. The ordinance also requires current pool owners to provide at least one of the approved safety features if they remove the existing enclosure.

For purposes of this Section, "private swimming pool" shall include any structure, whether in-ground or above ground, designed or used for swimming or recreational bathing that contains water in excess of 18".

Whenever a construction permit is issued for construction of a new swimming pool at a private, single-family home it shall be equipped with at least one of the following safety features:

1. The pool shall be isolated from access to a home by an enclosure that has **all** of the following characteristics:
 - a. Any access gates through the enclosure open away from the swimming pool, and are self-closing with a self-latching device placed no lower than 60" above the ground.
 - b. A minimum height of 60".
 - c. A maximum vertical clearance from the ground to the bottom of the enclosure of 2".
 - d. Gaps or voids, if any, do not allow passage of a sphere equal to or greater than 4" in diameter.
 - e. An outside surface free of protrusions, cavities or other physical characteristics that would serve as handholds or footholds that could enable a child below the age of five (5) years to climb over.
2. The pool shall incorporate removable mesh pool fencing that meets American Society for Testing and Materials (ASTM) Specification F 2286 standards in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device.
3. The pool is equipped with a manually or power-operated safety pool cover that meets all of the performance standards of the ASTM, in compliance with standard F 1346. If the safety pool cover is electrically operated, the control for the pool cover shall be mounted at least 60" above grade or above the floor.
4. All doors providing direct access from the home to the pool are equipped with exit alarms, either battery operated or connected to the electrical wiring of the residence, that make audible, continuous alarm sounds when the door is opened or left ajar. The exit alarms shall produce sounds at or exceeding sound pressure of 80 dB at a distance of 10' from the alarm emitter.
5. All doors providing direct access from the home to the pool are equipped with a self-closing, self-latching device with a release mechanism placed no lower than 54" above the floor.

6. Swimming pool alarms that, when placed in pools, will sound upon detection of accidental or unauthorized entrance into the water. These alarms shall meet ASTM Standard F 2208 and include surface motion, pressure, sonar, laser, and infrared type alarms.
7. Other means of protection, if the degree of protection afforded is equal to or greater than that afforded by any of the devices set forth in items 1-6 above as determined by the building official.

New pools and spas shall have at least two circulation drains per pump that shall be hydraulically balanced and symmetrically plumbed through one or more "T" fittings, and that are separated by a distance of at least three feet in any dimension. Suction outlets that are less than 12" across shall be covered with anti-entrapment grates, as specified in ASME/ANSI Standard A 112.19.8, that cannot be removed except with the use of tools.

Remodeled or modified pools and spas shall require that the suction outlet of the existing pool/spa be upgraded so as to be equipped with an anti-entrapment cover meeting current standards.

Spas that are equipped with locking safety covers that comply with ASTM-ES 13-89 shall be exempt from these regulations.

All plans submitted to the county for swimming pools to be constructed shall show compliance with the following requirements.

1. Pool plans, specifications and design calculations shall be prepared by a civil or structural engineer, licensed to practice in the State of California. Design criteria may include, but not necessarily be limited to, consideration of geologic, geographic and topographic features of a pool site, groundwater, soil conditions performance standards and maintenance requirements. The building official may require whatever information he deems necessary to satisfy himself that a pool design protects the public health and safety.
2. All plans shall have a plot plan and at least one cross-section through the foundation.
3. A detail of proposed fencing to be used will be required for plan checking. A specification of the approved safety features in lieu of an enclosure (fence) will be required for plan checking.
4. For pool design and construction, soils in Sonoma County shall be assumed to be expansive unless the owner can show by actual soil tests, performed by a recognized soil testing laboratory, that the soils are not expansive. The soil around the pool shall slope away from it to prevent surface waters from draining into the pool and to prevent ponding, or a drainage system shall be provided to collect surface water.
5. Final inspection, approval and use of all pools constructed shall be withheld until all of the necessary requirements have been complied with.

NOTE: Public or semi-public swimming pool plans shall be approved by the County public health officer.

RESIDENTIAL GARAGES AND CARPORTS

The common wall between a dwelling and an attached garage shall have ½" gypsum wallboard on the garage side. Any opening between the dwelling and the attached garage must be protected with a self-closing, tight-fitting, solid wood door not less than 1⅜" in thickness or a 20 minute rated assembly.

If there is living area above the garage, the ceiling common walls and bearing walls must be of ⅝" type X gypsum wallboard.

All support posts less than 8" x 8" must be protected with ⅝" Type "X" gypsum wallboard.

Any steel posts must be covered to comply with a required one-hour fire resistive construction

Any beams less than 6" x 10" must be protected with ⅝" Type "X" gypsum wallboard.

Electrical receptacles on firewall boxes must be one-hour rated. Electrical panels must not be located in a firewall unless protected with one-hour fire resistive construction.

Receptacles located in a garage must be at least 18" above the floor level and have approved ground fault circuit protection. GFCI's are not required on outlets dedicated for a single, specific appliance. Water heaters generating a glow, spark, or flame capable of igniting flammable vapors may be installed in a residential garage, provided the pilots and burners, or heating elements and switches, are at least 18" above the floor level.

Water heaters or furnaces installed in areas where they may be subjected to mechanical damage shall be suitably guarded against such damage.

A carport with no enclosed uses above and entirely open on two or more sides attached to a single family dwelling need not be separated from the dwelling by fire-resistive construction.

Ducts in a private garage and ducts penetrating the walls or ceilings separating the dwelling unit from the garage shall be constructed of a minimum 0.019-inch sheet steel and shall have no openings into the garage.

RETAINING WALLS - ("generic design" not intended to be used in place of retaining wall designed by an engineer or architect.) Can be used in place of design by engineer for walls retaining up to 4 feet of material with or without a surcharge except when surcharged by a structure or driveway.

Engineered retaining walls that are part of a structure or interact with a structure, for example catchment walls or walls where failure of the retaining wall could negatively impact the structure, shall have seismic forces applied per the recommendation of a licensed geotechnical engineer.

Site retaining walls unrelated to structures need not have seismic loads applied.

For engineered site retaining walls the design soil lateral loads shall be: 60 psf/ft for active pressure, and 100 psf/ft for at-rest pressure unless there is a geotechnical report, in which case the geotechnical engineer's recommendations must be used.

A. POURED CONCRETE RETAINING WALL NOTES:

1. All concrete shall be 2500 psi minimum at 28 days. Use a minimum 5 sack mix.
2. Steel to be deformed bars conforming to ASTM A 615, grade 40 minimum.
3. Minimum Cover requirements for reinforcement:
 - a. cast against and exposed to earth: 3"
 - b. formed and exposed to earth or weather: 2"
4. 4" perforated pipe shall drain to daylight away from structures.
5. All reinforcing steel bars shall be securely tied at each end or as near thereto as possible. All steel shall be lapped 24" where splices occur.
6. Provide waterproof covering on soil side of retaining wall, if wall adjoins living space.

B. MASONRY BLOCK RETAINING WALL NOTES:

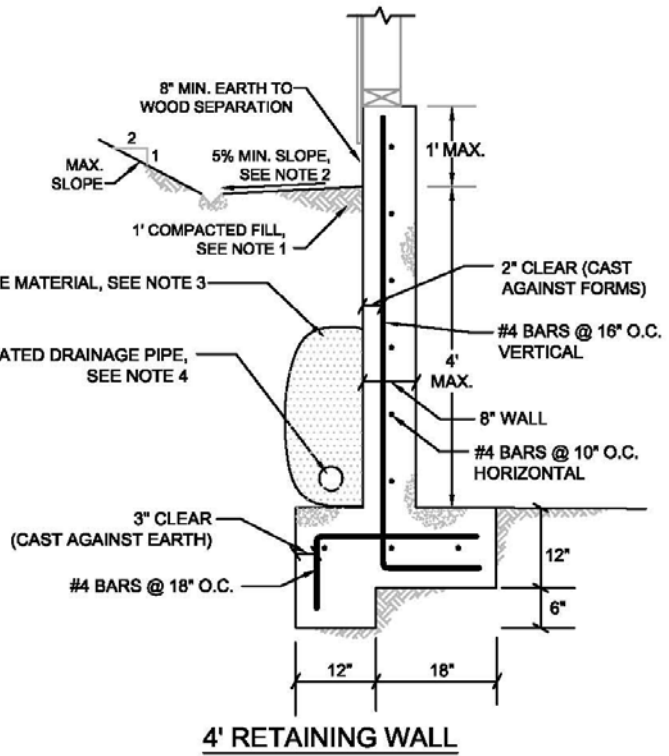
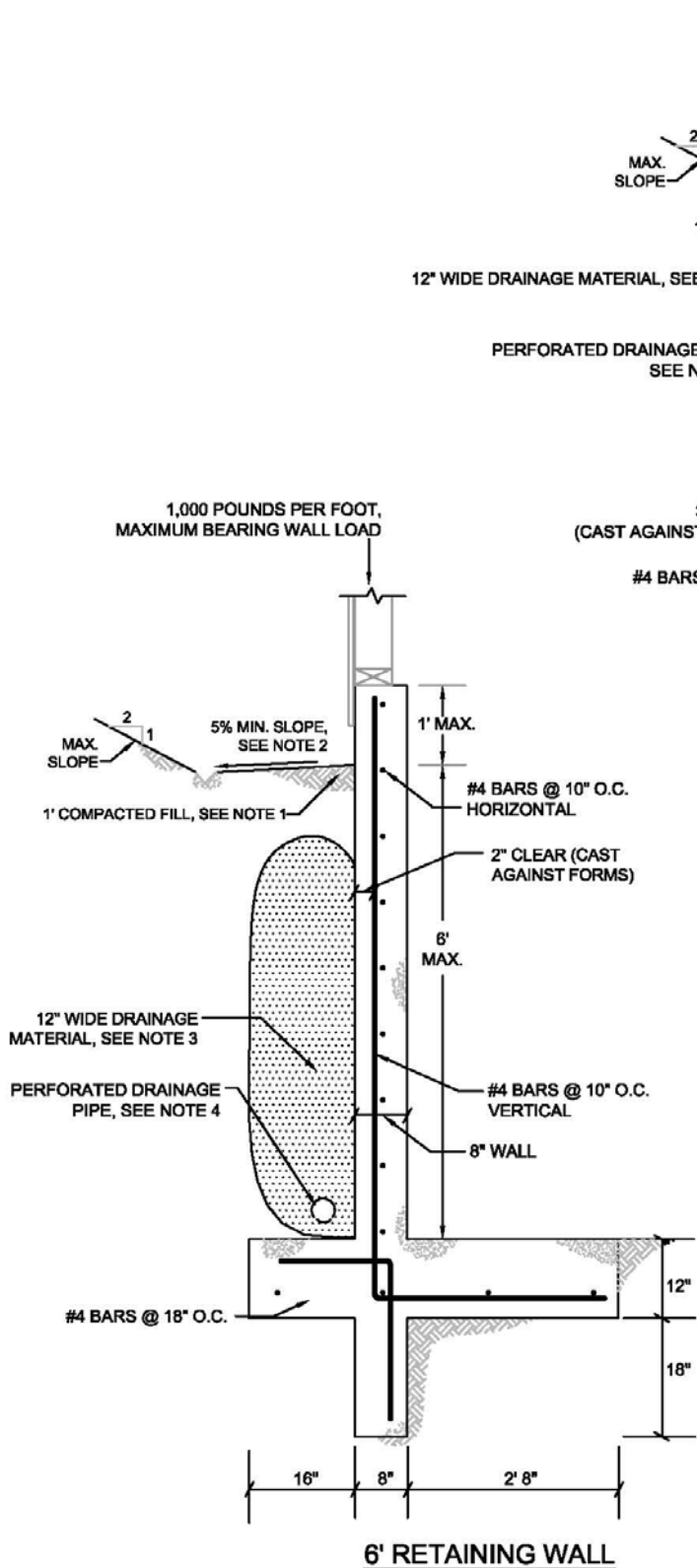
1. Concrete block shall be Grade N conforming with specification ASTM C 90-86.
2. All cells shall be fully grouted. Grout shall be 2000 psi minimum at 28 days.
3. Mortar shall be Type S conforming to UBC Standard 21-14.
4. Steel to be deformed bars conforming to ASTM A 615, grade 40 minimum.
5. All horizontal steel to be placed in bond beam block.
6. Minimum cover requirements for reinforcement:
 - a. cast against and exposed to earth: 3"
 - b. formed and exposed to earth or weather: 2"
7. 4" perforated pipe shall drain to daylight away from structures.
8. All reinforcing steel bars shall be securely tied at each end or as near thereto as possible. All steel shall be lapped 27" or more where splices occur.
9. Provide waterproof covering on soil side of retaining wall, if wall adjoins living space.
10. Rebar must be at or on retained material side of the centerline of the cell.

C. WOOD WALL STANDARD DETAILS

1. Minimum 6" x 6" or 6" round pressure treated posts max 4' on center.
2. Minimum 2500 psi concrete with minimum 3 inch clearance around post.
3. Minimum 4" by 12" nominal pressure treated horizontal members with 1/4 inch to 1/2 inch spaces for drainage attached to post with minimum two 20 d galvanized fasteners per post.

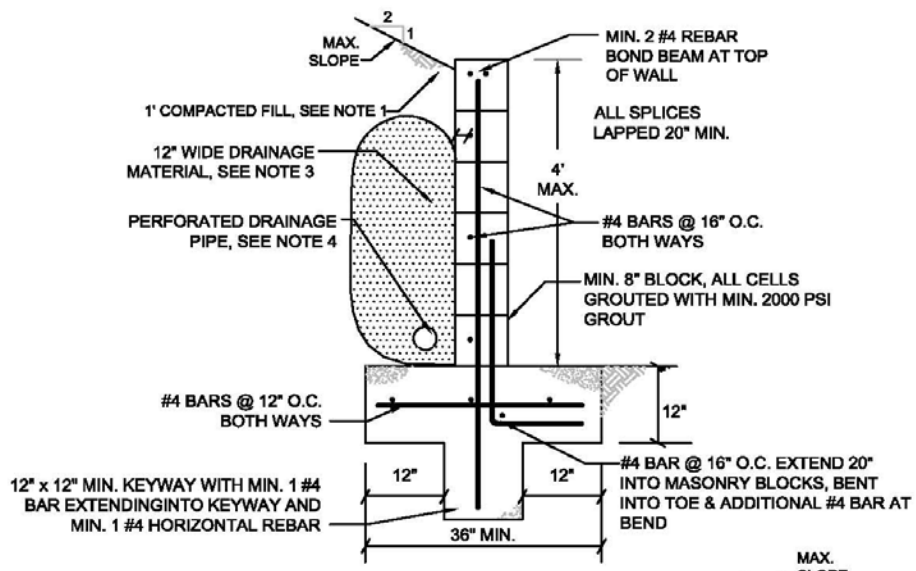
D. I-BEAM STANDARD DETAILS

1. Minimum 4" by 12" nominal pressure treated horizontal members between flanges. Provide 1/4 inch to 1/2 inch spaces for drainage with maximum 1 inch clearance between wood member and web.
2. Minimum 2500 psi concrete with minimum 3 inch clearance around I-beam.

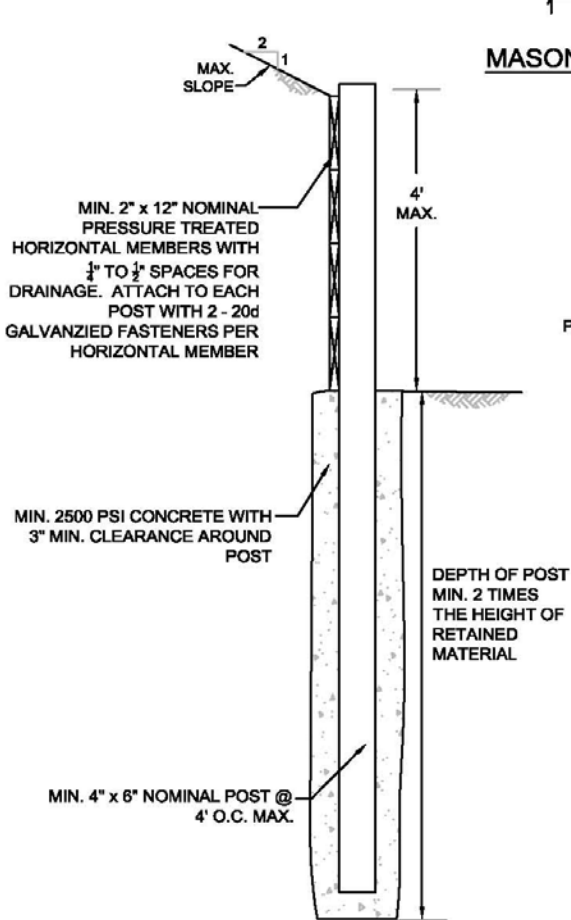


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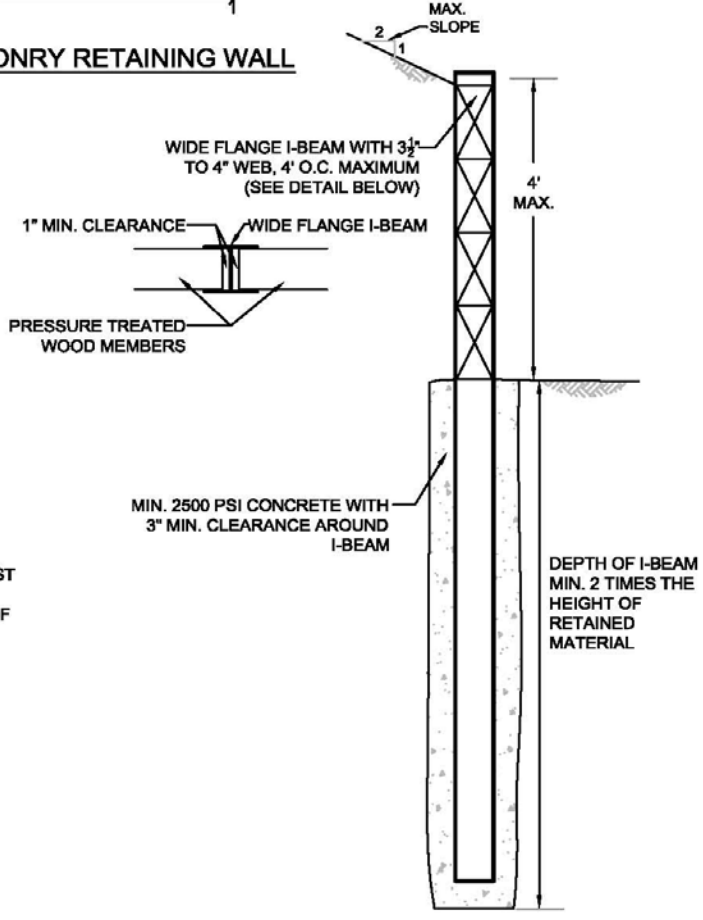
1. 1' minimum compacted fill soil cap shall be moisture conditioned to near optimum moisture content, and compacted in 8" maximum lifts to provide an impermeable barrier to surface water infiltration.
2. Per CBC 1803.3, the ground adjacent to a building foundation must slope away from the building at 5% minimum for at least 10 feet, or to approved alternative method for diverting water away. Impervious surface within 10' of the foundation must be sloped 2% minimum.
3. Minimum 12" wide, Class 2 Aggregate Baserock, or (3/4)" crushed rock wrapped in an approved non-woven filter membrane). A minimum of 2" must be below the drainage pipe and 6" minimum above the pipe.
4. Minimum 4" Schedule 40 perforated pipe, holes placed down, sloped 2% minimum to an approved outlet location. Cleanouts shall be provided as necessary. All 90° bends shall be made with (2) 45° pieces or additional cleanouts may be required.



MASONRY RETAINING WALL



WOOD RETAINING WALL



I-BEAM RETAINING WALL

WOOD DECK CONSTRUCTION

Open, uncovered wood decks less than 30" high (top of decking to grade) do not require building permits or guards. (Stairways having more than three risers do require handrails).

All framing materials exposed to weather must be preservative-treated or naturally durable wood. Hardware and fasteners must be hot-dipped galvanized, stainless steel, silicon bronze or copper.

Typical wood decks under 10' high may be constructed of 2 x 6 open decking, supported by 2 x 6, #2 or better pressure-treated doug fir (PTDF) joists spaced 24" on center.

Joists shall span from a 2 x 8 ledger applied to the side of the residence to 4 x 8 beams, #2 PTDF, or better, spaced 8' on center. Use joist hangers at the ledger and provide solid blocking between joists over beams.

The ledger must be securely fastened to the rim joist or blocking within the residence floor joist system. Ledgers at decks shall be secured with 3-16d common nails at 2' o.c., minimum. Deck joists shall be positively attached to residence framing at 8' o.c. with connectors not subject to withdrawal, typically LTT19's.

Beams shall be supported by pressure treated 4 x 4 posts at 8' o.c., which shall be supported by 24" x 24" concrete footing pads, 12" deep into undisturbed soil.

Posts shall have PC44 or EPC44 post caps and PBS44A, or equivalent, standoff bases cast into the footing. (Alternate systems may be used upon review and approval by PRMD)

Decks over 30" high must be cross braced between at least two opposed posts parallel with the ledger.

Guards must be at least 42" high, containing no openings over 4" wide or high. Guards shall be supported by 4" x 4" posts at 4' o.c., bolted to the joist/beam system below.

NOTES:

1. Joist sizes provided above are examples of approved conventional construction. Please consult CBC span tables on page 8.3 for longer spans.
2. Refer to Appendix 5 for allowable decking materials in Wildland Urban Interface Areas.

GLASS AND GLAZING

Glass shall be firmly supported on all four edges. Glazing subject to human impact loads, as defined below by CBC Section 2406.3, shall be of Category I Glazing (9 square feet or less) or Category II Glazing (greater than 9 square feet and all glazing in item 5 below and all glazing in sliding patio type doors), Plastic Glazing, Glass Block, or Louvered Windows or Jalousies.

2406.3 Hazardous Locations

The following shall be considered hazardous locations for the purpose of glazing.

1. Glazing in swinging doors, except jalousies.
2. Glazing in fixed and sliding panels of sliding door assemblies and panels in sliding and bifold

closet door assemblies.

3. Glazing in storm doors.
4. Glazing in all unframed swinging doors.
5. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs, and showers. Glazing in any portion of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60" (1525 mm) above a standing surface.
6. Glazing in an individual fixed or operable panel adjacent to a door where the nearest exposed edge of the glazing is within a 24 inches (610 mm) arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches (1525 mm) above the floor or walking surface.

Exceptions:

1. Panels where there is an intervening wall or other permanent barrier between the door and glazing.
 2. Where access through the door is to a closet or storage area 3 feet or less in depth. Glazing in this application shall comply with Section 2406.3 Item 7.
 3. Glazing in walls perpendicular to the plane of the door in a closed position, other than the wall towards which the door swings when opened.
7. Glazing in an individual fixed or operable panel, other than those locations described in Items 5 and 6, above, that meets all of the following conditions:
 - 7.1 Exposed area of an individual pane greater than 9 square feet (0.84 m²).
 - 7.2 Exposed bottom edge less than 18 inches (457 mm) above the floor.
 - 7.3 Exposed top edge greater than 36 inches (914 mm) above the floor.
 - 7.4 One or more walking surfaces within 36 inches (914 mm) horizontally of the plane of the glazing.

Exceptions to Item 7:

When a protective bar is installed on the accessible sides of the glazing 34 inches (864 mm) to 38 inches (965 mm) above the floor. The bar shall be capable of withstanding a horizontal load of 50 pounds per linear foot (729 N/m) without contacting the glass and be a minimum of 1- ½" (38.1 mm) in height.

Outboard pane in insulating glass units and in other multiple glazed panels in Item 7 when the bottom exposed edge of the glass is 25' (7620 mm) or more above any grade, roof, walking surface, or other horizontal or sloped (within 45 degrees of horizontal) surface adjacent to the glass exterior.

8. Glazing in railings regardless of height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels.
9. Glazing in walls and fences used as the barrier for indoor and outdoor swimming pools and spas when all of the following conditions are present:
 - 9.1 The bottom edge of the glazing on the pool or spa side is less than 60" (1525 mm) above a walking surface.

9.2 The glazing is within 60" (1525 mm) of a swimming pool or spa water's edge.

10. Glazing adjacent to stairways, landings and ramps within 36" horizontally of a walking surface; when the exposed surface of the glass is less than 60" above the plane of the adjacent walking surface.
11. Glazing adjacent to stairways within 60" horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 60" above the nose of the tread.

Exception to Items 10 & 11:

The side of a stairway, landing or ramp which has a guardrail or handrail, including balusters or in-fill panels, where the glazing is designed to resist a load of 200 lbs at the top, applied from any direction, and the plane of the glass is greater than 18" from the railing.

EXCEPTIONS: The following products, materials and uses shall not be considered specific hazardous locations:

1. Openings in doors through which a 3" sphere is unable to pass.
2. Decorative glass in Items 1,6 or 7.
3. Glazing materials used as curved glazed panels in revolving doors.
4. Commercial refrigerated cabinet glazed doors.
5. Glass-block panels complying with CBC 2101.2.5
6. Louvered windows and jalousies complying with the requirements of CBC 2403.5.
7. Mirrors and other glass panels mounted or hung on a surface that provides a continuous backing support.

SLOPED GLAZING AND SKYLIGHTS

This section applies to the installation of glass or other transparent, translucent, or opaque glazing material installed at a slope of 15 degrees or more from the vertical plane, including glazing materials in skylights, roofs, and sloped walls. Sloped glazing and skylights shall be designed to withstand the loads specified in the California Building Code Sections 1609 & 2404.2.

ALLOWABLE GLAZING MATERIALS

Sloped glazing shall be of any of the following materials, subject to the limitations in this section.

1. Laminated glass with a minimum 30-mil polyvinyl butyral interlayer
2. Fully tempered glass
3. Heat-strengthened glass
4. Wired glass

5. Approved rigid plastics meeting the requirements of Section 2607

For multiple-layer glazing systems, each light or layer shall consist of any of the glazing materials specified above.

HEAT-STRENGTHENED GLASS

Heat-strengthened glass is glass which has been reheated to just below its melting point and then cooled. This process forms a compression on the outer surface and increases the strength of the glass. However, heat-strengthened glass has the unsatisfactory characteristic of breaking into shards, as does annealed glass. Thus, heat-strengthened glass required screen protection below the skylight to protect the occupant from falling shards.

TEMPERED GLASS

Tempered glass is glass which has been specially heat treated or chemically treated to provide high strength. When broken, the entire piece of glass immediately breaks into numerous small granular pieces. Because of its high strength and manner of breakage, tempered glass had been considered in the past to be a desirable glazing material for skylights without any protective screens. However, as a result of studies by the industry which show that tempered glass is subject to spontaneous breakage, such that large chunks of glass may fall under this condition, the CBC now requires screen protection below tempered glass.

IDENTIFICATION

Each light shall bear the manufacturer's label designating the type and thickness of glass. When approved by the building official, labels may be omitted, provided an affidavit is furnished by the glazing contractor certifying that each light is glazed in accordance with approved plans and specifications. Identification of glazing in hazardous locations shall be in accordance with Section 2406.2.

Each pane of tempered glass shall be permanently identified by the manufacturer. The identification shall be etched or ceramic fired on the glass and be visible when the unit is glazed. Tempered spandrel glass is exempted from permanent labeling, but such glass shall be identified by the manufacturer with a removable paper label.

SCREENING

Heat-strengthened glass and fully-tempered glass when used in single-layer glazing systems shall have screens installed below glazing. The screens shall be capable of supporting twice the weight of the glazing, be firmly and substantially fastened to the framing members, and installed within 4" of the glass. They shall be constructed of a noncombustible material not thinner than 12 gauge wire (0.0808") with a mesh not larger than 1" by 1". Heat-strengthened glass, fully tempered glass and wired glass, when used in multiple-layer glazing systems as the bottom glass layer over the walking surface, shall be equipped with screening.

Exception: Screens need not be provided within individual dwelling units when fully tempered glass is used as single glazing or in both panes of an insulating glass unit when all of the following conditions are met:

1. The area of each pane (single glass) or unit (insulating glass) shall not exceed 16

square feet (1.49m²).

2. The highest point of the glass shall not be more than 12' above any walking surface or other accessible area.
3. The nominal thickness of each pane shall not exceed $\frac{3}{16}$ ".

FRAMING

Skylights installed in a roof with a pitch less than 3:12 shall be mounted at least 4" above the plane of the roof on a curb constructed of materials as required for the frame. Skylights may be installed in the plane of the roof when the roof slope is greater 3:12. (For other than single family dwellings construction curbs are required for pitches less than 12:12).

MASONRY FIREPLACES & CHIMNEYS

Masonry fireplaces do not comply with current emission standards. Please see the section on Wood-Fired Appliances in section 16 for additional information.

MANUFACTURED HOME, COMMERCIAL COACHES, SET-UP OR PERMANENT FOUNDATION

A manufactured home is a structure licensed by the State of California and built to state standards contained in Title 25, California Administrative Code and the model codes.

1. Customer Services Provides the Following:
 - a. Building Permit Application
 - b. Submittal Checklist
 - c. School District Certificate of Compliance
 - d. Housing and Community Development form HCD-433A
 - e. Housing and Community Development's User Guide (if requested)
 - f. Permit History
2. Documents Required from the Applicant:
 - a. Completed forms provided in Step 1, the Permit Technician will review for completeness and initial forms.
 - b. Four (4) sets of site plans dimensioned with setbacks to property lines showing the proposed structure and any existing structures, access to property, driveway location (Fire Safe Standards), Septic System, Well, etc.
 - c. Four (4) sets of floor plans. (An additional two (2) sets of site plans and floor plans required if structure on a septic system.)
 - d. Two (2) sets of tie down layout plans.

- e. Four (4) sets of elevation plans.
 - f. Two (2) sets of set-up manuals:
 - 1. Coach to have state approval documentation for occupancy use. 15psf is the minimum acceptable wind load rating.
 - 2. If using standard sheet with multiple installation options, applicant shall **void all details that do not apply to their specific installation.**
 - g. Two (2) sets of foundation plans and details by one of the following:
 - 1. State-approved manufacturer's plans
 - 2. Engineer or architect prepared plans with calculations and stamped and signed drawings,
 - 3. State-approved generic plans, stamped and signed.
 - h. If this is a commercial coach, applicant must provide plans to meet accessibility requirements.
3. Clearances from Other Sections (Cubicle Areas)
- a. Code Enforcement cubicle will review project when a violation exists on property.
 - b. Zoning cubicle will review for setbacks, land use and other related zoning items.
 - c. Well & Septic cubicle must review all permits where sewage disposal is by a septic system and/or water supply is from a private well.
 - d. Building cubicle will review commercial coaches and residential projects.
4. Calculate Plan Check and Site Review Fees. Direct Applicant to the Cashier:
- a. Permit Technician, at intake, will inform applicant of general plan check procedures, time frames and fees.
 - b. Cashier will inform applicant of need to post address and stake out corners of the structure prior to site review.
5. Permit May Be Issued When Plan Check Is Completed and All Clearances Have Been Obtained as Indicated on the Check List:
- a. The Permit Technician calculates all fees and verifies School Fee Receipt.
 - b. The applicant is directed to the cashier.
6. Certificate of Occupancy: after the Installation Is Completed and Before a Certificate of Occupancy May Be Issued When a Permanent Foundation Has Been Installed:
- a. A check payable to State of California for \$11.00 per unit must accompany completed form HCD-433(a) prior to issuance of certificate of occupancy.
 - b. A check payable to the County Recorder for \$8.00 will be collected for recordation of form HCD-433(a) prior to issuance of certificate of occupancy.

- c. The owner will be provided with a completed certificate of occupancy form HCD-513(c) and for HCD-433(b) to complete and file with the County Recorder, prior to Final Inspection
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- 7. A relocation from outside of Sonoma County of an existing manufactured home, or an addition to an existing manufactured home above the threshold shown in Section 2, will require a fire sprinkler installation. This retrofit shall be permitted through, and initial hydrostatic inspection conducted by, HCD. Forms for this and other manufactured home procedures can be downloaded from the following link: <http://www.hcd.ca.gov/forms.html>