



**City of Walnut Creek**  
**Development Review Services**  
1666 N. Main Street, Walnut Creek, CA 94596  
(925) 943-5834 phone (925) 256-3500 fax

Revised April 30, 2020

Information Bulletin No. IB-014

***Submittal Requirements for New, Relocated, or Replacement Windows or Doors***

A building permit is required for any new, relocated, or replacement windows or doors in residential occupancies (R occupancies) for the following reasons:

- a) New windows or doors in existing walls potentially affect the lateral bracing of the building for wind and seismic loads.
- b) Remodels that increase or decrease the size of existing rough-frame opening dimensions involve framing and siding work. Wider windows or doors also affect the lateral bracing of the building. Taller doors or windows may affect headers. Smaller windows or doors may affect light and ventilation or emergency egress.
- c) Replacement windows may impact light and ventilation and/or emergency egress. Replacement windows of different materials may have smaller net openings due to thicker components. Replacement windows may also have a different style than the original window. Style refers to the type of window: slider, casement, double hung, single hung, bay, etc. Each will have different opening dimensions.
- d) California Energy regulations regulate the U-Factors and Solar Heat Gain Coefficients of new, relocated or replacement windows.

Under no circumstances shall a new, relocated, altered, or replaced window or door cause an otherwise conforming window or door which currently meets light and ventilation, emergency egress opening, and/or safety glazing requirements to become non-conforming. Replacement or altered windows associated with existing bedroom windows that have one or more existing non-conforming elements associated with the net opening width, height or area, or with the sill height, shall not be installed that would allow further reduction in the net opening width, height, or area, or further increases in the sill height.

**PLAN REVIEW**

Planning approval required for all window changes. *Exception: SFR that are not subject to Design Review agreements.* The following shall be submitted where a building permit is required per the listing above:

**1. Floor Plan.**

Floor plans will be required to show how the proposed modifications address lateral bracing, light and ventilation, emergency egress, and/or water proofing. In all cases the floor plan must be clear enough to define where the work is in the building. Generally an overall floor plan is used to provide this information. The city encourages applicants to draw the entire floor plan to a minimum of ¼"=1'-0" scale, meaning for each ¼ inch of paper, it represents one foot in the real world. Drawings which show separately the "before and after" arrangement of the window or door changes are preferred to avoid trying to include too much on one floor plan.

At a minimum, changes which affect lateral bracing will generally require all or a significant portion of the floor plan to be drawn, so that ***braced wall lines*** and the associated ***bracing*** (conforming wall panels within the braced wall lines) may be evaluated. New, relocated or wider replacement windows or doors generally affect the lateral capacity of the building. In this case, completely dimension the segments of solid walls, windows and doors. The city may require that the owner hire an architect or engineer to address the lateral capacity of the building where the proposed changes do not meet *conventional bracing* per the building code definitions.

At a minimum, window and door changes which potentially affect light and ventilation will generally require the drawings to include that portion of the floor area comprised of the exterior walls with the proposed window and/or door changes plus the adjacent rooms for which the window or door serves for light and ventilation. This generally requires including in the drawings all contiguous rooms that could use the window or door for light and ventilation. A good rule-of-thumb is to include all surrounding rooms which have more than 50 percent of the common wall



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between them on the floor plan. The rooms must be fully dimensioned to allow light and ventilation calculations to be made.

Proposed changes to a window or door that may affect emergency egress will require a floor plan clearly showing the location of the bedrooms in relation to the window or door. The plans must clearly label the bedrooms associated with the windows or doors.

Floor plans must be provided for each floor level affected by the window or door changes. Provide any additional framing plans or details to accurately describe the work. In all cases, include the following minimum information on the floor plans:

- a. **Walls.** Delineate clearly between existing, new, and removed walls using a clear and distinguishable wall symbol for each wall type. Use double lines to represent walls. Avoid the use of single lines to represent a wall. Non-filled double lines typically represent existing walls. Solid filled or hatched double lines typically represent new walls. Dashed or dotted double lines typically denote removed walls.
  - b. **Doors and Windows.** Show existing, new, replaced, removed, and/or relocated doors and windows. For new, replaced, and relocated windows, specify the U value of the windows in accordance with the State Title 24 energy provisions. For new or relocated windows or doors, see below for required structural information. Provide window and door sizes. Window sizes are generally given in a format of WidthxHeight or WxH and an abbreviation of the style, such as 4050SL for a slider 4'-0" wide and 5'-0" tall. Door sizes are generally given in the same format without a qualifying style designation, such as 2<sup>10</sup>6<sup>8</sup> for a 2'-10" wide by 6'-8" tall door. Be sure to define all abbreviations used on the plans.
  - c. **Other information needed.** It is important to show the relationship (by way of dimensions and orientation) of all doors relative to windows to properly evaluate the safety glazing requirements of glazing. Also, pools and spas that may be located near windows should be shown on the plans with clear dimensions between them in both the horizontal and vertical directions. It is important to show when windows are within tub or shower enclosures to properly evaluate the need for safety glazing.
2. **Smoke and Carbon Monoxide Detectors.** Smoke and carbon monoxide detectors shall be installed as required by the California Building Code and California Residential code.
  3. **California Title 24 Energy.** The California Energy Code (CEnC) requires replacement windows to meet a maximum U-Factor of 0.40 and a maximum Solar Heat Gain Coefficient (SHGC) of 0.35 for up to 75 square feet of replacement fenestration. For replacement fenestration in excess of 75 square feet, the maximum U-Factor shall be 0.30 and the maximum SHGC shall be 0.23 per CEnC Table 150.1-A. New or relocated windows must meet either the prescriptive approach or the performance approach of the Title 24 energy regulations.
  4. **Structural Drawings and Details.** If a segment of wall is to be removed for a new or relocated window or door, or if an existing window or door is being replaced with a wider window or door, provide a floor or roof/ceiling framing plan above to clearly indicate bearing or non-bearing conditions. The framing plan must include complete spans of the members resting directly on the top plates of the wall being removed and complete span layout of members that are supported by use of kickers resting on top of the wall. For new headers, indicate material specifications for header and posts. Typical designations for headers and posts are 4x12 D.F. No. 1 or better and 4x4 D.F. #1 or better, respectively. The appropriateness of these sizes, species and stress grades will depend upon the loads that the beams or headers must carry. This is why the framing plan is necessary. Footings must be provided directly under posts which support header or beam loads. Details of the footings must be included in the drawings. The City may require an engineer or architect to be hired by the applicant to evaluate beams, headers, posts, and/or footings, as necessary.



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**INSPECTIONS**

The following elements will be reviewed during field inspection. This document is part of your approved set of plans. Please make sure to keep this document attached to your approved set of plans.

**Emergency Escape and Rescue Openings**

- Egress windows: are specifically sized and required in every room used for sleeping purposes on any floor below the fourth story including basements (CRC §R310 et. seq.).
  - **Exception:** Basements used only to house mechanical equipment and not exceeding 200 square feet in floor area (CRC §R310.1).
  - Net clear width of opening: 20 in minimum.
  - Net clear height of opening: 24 in minimum.
  - Maximum dimension of the bottom of the clear opening above finished floor 44 in.
  - Minimum net clear opening: 5.7 sq. ft. (5.0 sq. ft. for grade floor)
    - *The net clear opening must meet the minimum height and width requirements in Table 1E below to calculate out to 5.7 sq. ft.*
    - *The net clear opening must meet the minimum height and width requirements in Table 1F below to calculate out to 5.0 sq. ft.*

**Natural Ventilation**

- Natural ventilation (windows, doors, louvers): minimum openable area to outdoors shall be 4% of the floor area being ventilated **OR** ventilated by engineered mechanical means (CRC §R303.1; CRC §R303.3; CMC §402.2).
  - **Note:** Adjoining rooms used to satisfy natural ventilation requirements shall have a common, unobstructed opening with not less than 1/2 the total common wall area and at least 1/10 the floor area of the interior room, but not less than 25 square feet (CRC §R303.2).
- Required glazing may open into covered patios and porches when compliant under this section (CRC §R303.9 et. seq.).

**Natural Light**

- Natural light: the minimum net glazed area shall not be less than 8% of the floor area of the room served.
  - **Note:** Adjoining rooms used to satisfy natural lighting requirements shall have a common, unobstructed opening with not less than 1/2 the total common wall area and at least 1/10 the floor area of the interior room, but not less than 25 square feet (CRC §R303.2).
- Required glazing may open into covered patios and porches when compliant under this section (CRC §R303.9 et. seq.).

**Energy Conservation**

Required glazing must comply with the prescriptive requirements of the 2013 California Energy Code including documentation (e.g. glazing percentages, solar heat gain coefficient (SHGC), and U-factor) unless a performance design and a full building analysis is presented and approved.

**Safety Glazing**

Refer to CRC section 308 for safety glazing requirements.



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**Reference Tables**

**Table 1E – Net Clear Opening of 5.0 Square Feet**

Emergency Escape and Rescue Openings: Net clear Height and Width Requirements for grade floor: 5.0 sq ft (dimensions in inches)																					
Width	20	20½	21	21½	22	22½	23	23½	24	24½	25	25½	26	26½	27	27½	28	28½	29	29½	30
Height	36	35	34½	33½	33	32	31½	31	30	29½	29	28½	28	27½	27	26½	26	25½	25	24½	24

**Table 1F – Net Clear Opening of 5.7 Square Feet**

Emergency Escape and Rescue Openings: Net clear Height and Width Requirements for at or above grade floor: 5.7 sq ft (dimensions in inches)																													
Width	20	20½	21	21½	22	22½	23	23½	24	24½	25	25½	26	26½	27	27½	28	28½	29	29½	30	30½	31	31½	32	32½	33	33½	34
Height	41	40	39½	38½	37½	36½	35½	35	34½	33½	33	32½	31	31	30½	30	29½	29	28½	28	27½	27	26½	26½	25½	25½	25	24½	24