CITY OF DANA POINT

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B030 – WINDOWS

2022 CALIFORNIA CODES
CODE CYCLE

01/02/2023
EFFECTIVE DATE

RESIDENTIAL WINDOW REPLACEMENTS

INTRODUCTION

The following information is provided as a guide for detached one-and-two family dwelling window replacements and new installations using the 2022 California Residential Code. Within the City of Dana Point, all window and exterior door replacements require a building permit, regardless of how they are classified. This includes both “retrofit windows” and “new construction flanged windows.”

All window permits will require a floor and/or plot plan and a window schedule to accompany the application. Planning review and approval is required prior to permit issuance. In areas with a Homeowner’s Association (HOA), approval from the HOA is also required.

The plan must show the locations of the existing windows and the replacement windows size and type. The plan must identify the rooms associated with the window replacements and all sleeping room rescue egress must be clearly identified. Any changes to an existing non-compliant egress window will trigger compliance with the current applicable code dimensional requirements. See the section below for egress windows.

ENERGY REQUIREMENTS

Replacement window installations, without a Performance Energy Analysis, shall comply with the Mandatory Measures Prescriptive requirements. High Performance Windows are required, reducing the U-Factor down to 0.30 and the SHGC down to 0.23, per the 2022 California Energy Code Table 150.1-A.

WINDOW SCHEDULE

A window schedule shall be provided on the plan listing the window sizes, egress components, U Factor, SHGC and any tempered glass requirements.

VERY HIGH FIRE HAZARD SEVERITY ZONE

For properties located within the Very High Fire Hazard Zone, the new and/or replacement windows shall be of tempered glass. For vinyl frame windows, the corners shall be of a welded construction with a metal reinforcement.

When installed, skylights and sloped glazing must be of tempered glass or other approved and tested materials, and meet the requirements of the Class A Assembly.

Please note, most plastic skylights and plastic sloped glazing do not meet the fire resistive requirements of the code. To install plastic skylights, the product must be listed, fire rated and tested by a nationally recognized testing laboratory.

WINDOW INSTALLATION

Approved corrosion-resistive flashings shall be installed shingle fashion in a manner to prevent entry of water into the wall cavity or structural framing components. All flashings shall be installed following the Window Manufacturer's Instructions and ASTM 2112 and AAMA installation guidelines (CRC R703.4).

For retrofit windows, the existing moisture barrier is not disturbed, allowing the use of sealants and caulking.

DOOR CONVERSIONS

When changing an existing window to a sliding or French door, or when adding a new door, the following additional elements and/or requirements shall apply:

- Landings are required at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2 percent).
- Landing elevations at the required egress doors shall not be more than 1 1/2 inches lower than the top of the threshold.

  Exception: *The exterior landing or floor shall not be more than 7-3/4 inches below the top of the threshold provided the door does not swing over the landing or floor. When exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.*
- Exterior lighting required. A switch and light is required outside each outdoor entrance or exit.
- Installation of a new door will change the electrical receptacle layout within the room serviced by the door. Compliance of the minimum distances between outlets will apply.
- An electrical permit and inspection are required when moving the electrical wiring to allow a new door, and adding the required lighting.

SMOKE ALARMS AND CARBON MONOXIDE ALARMS

The entire dwelling shall be provided with Smoke and Carbon Monoxide alarms, per CRC Sections R314.8.2 and R315.2.2, for interior and exterior alterations, repairs, or additions having a valuation in excess of $1,000, or when one or more sleeping rooms are added or created.

Smoke Detectors shall be installed in the following locations:

- In each sleeping room.
- Outside each separate sleeping area in the immediate vicinity of the bedroom(s).
- 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.
- When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit.
- Not less than 3 feet horizontally from a bathroom door unless prevented.
- In the hallway and in the room open to the hallway in dwelling units where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches or more.

  Exception:

  Interconnection is not required in existing dwelling units where repairs do not result in the removal of wall and ceiling finishes, there is no access by means of attic, basement or crawl space, and no previous method for interconnection existed.

Carbon Monoxide Alarms shall only be required in the specific dwelling unit or sleeping unit for which the permit was obtained. An approved Carbon Monoxide Alarm shall be installed in dwelling units and in sleeping units within which fuel-burning appliances are installed, and in dwelling units that have attached garages with direct access into dwelling.

Such alarms shall be installed in the following locations/conditions:

- Inside sleeping units within which fuel burning appliances are installed.
- Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s).
- On every level of a dwelling unit, including basements.
- When more than one carbon monoxide alarm is required to be installed within the dwelling unit or within a sleeping unit, the alarm shall be interconnected in a manner that activation of one alarm shall activate all of the alarms in the individual unit.

  Exception:
  Interconnection is not required in existing dwelling units where repairs do not result in the removal of wall and ceiling finishes, there is no access by means of attic, basement or crawl space, and no previous method for interconnection existed.

EMERGENCY ESCAPE AND RESCUE OPENINGS - R310

Basements, habitable attics, and every sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency escape and rescue shall be required in each sleeping room. The following outlines the minimum dimensions for egress compliance:

- The bottom of the **clear** opening is not greater than 44 inches measured from the finished floor to the clear opening, ***and***
- The minimum net **clear** opening area of 5.7 square feet is provided, ***and***
  Exception: *Net clear opening space of 5 square feet is allowed for windows at grade level* (R310.2.1).
- The minimum net clear opening height of 24 inches is provided, ***and***
- Minimum net clear opening width of 20 inches is provided.

Please note that all four of the above elements are required for egress compliance. While some windows may appear to be compliant, considering the overall opening size, window style, and fixed window dimensions may render the open element to not comply. Casement windows without egress hinging may decrease the opening size as the window opens. All considerations must be given to egress window sizing.

Replacement windows, when installed, must meet egress requirements unless structural constraints prevent height or opening changes to accommodate openings.

GLAZING – R308

Glazing installed in windows and doors shall meet the hazardous locations requirements, as specified in CRC R308.4. Laminated, Tempered or other approved safety glazing is required in the following locations:

- **Glazing adjacent to doors R308.4.2:** Glazing in individual fixed or operable panels adjacent to a door where the bottom exposed edge of the glazing is less than 60 inches above the floor or walking surface and it meets either of the following conditions:
  - Where the glazing is within 24 inches of either side of the door in the plane of the door in a closed position.
  - Where the glazing is on a wall perpendicular to the plane of the door in a closed position and within 24 inches of the hinge side of an in-swinging door.
- **Glazing in windows R308.4.3:** Glazing in an individual fixed or operable panel when all of the following conditions apply:
  - The exposed area of an individual pane is larger than 9 square feet, ***and***
  - The bottom edge is less than 18” above the floor, ***and***
  - The top edge is more than 36 inches above the floor, ***and***

- One of more walking surfaces located within 36 inches measured horizontally and in a straight line of the glazing.

- Glazing adjacent to stairs and ramps where the bottom edge of the glazing is less than 36 inches above the plane of the adjacent walking surface of stairs, landings and ramps (R308.4.6).
- Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within 60 inches horizontally of the bottom tread.
- Glazing in walls, enclosures or fences facing hot tubs, spas, whirlpools, saunas steam rooms, bathtubs, showers and indoor/outdoor swimming pools where the bottom edge of the glazing is less than 60 inches measures vertically above the standing or walking surface. (R308.4.5)

OPERATIONAL CONSTRAINTS

- Emergency escape and rescue openings shall be maintained free of any obstructions other than those allowed by this section and shall be operational from the inside of the room without the use of keys, tools or special knowledge. (R310.1.1)

ADDITIONAL REQUIREMENTS

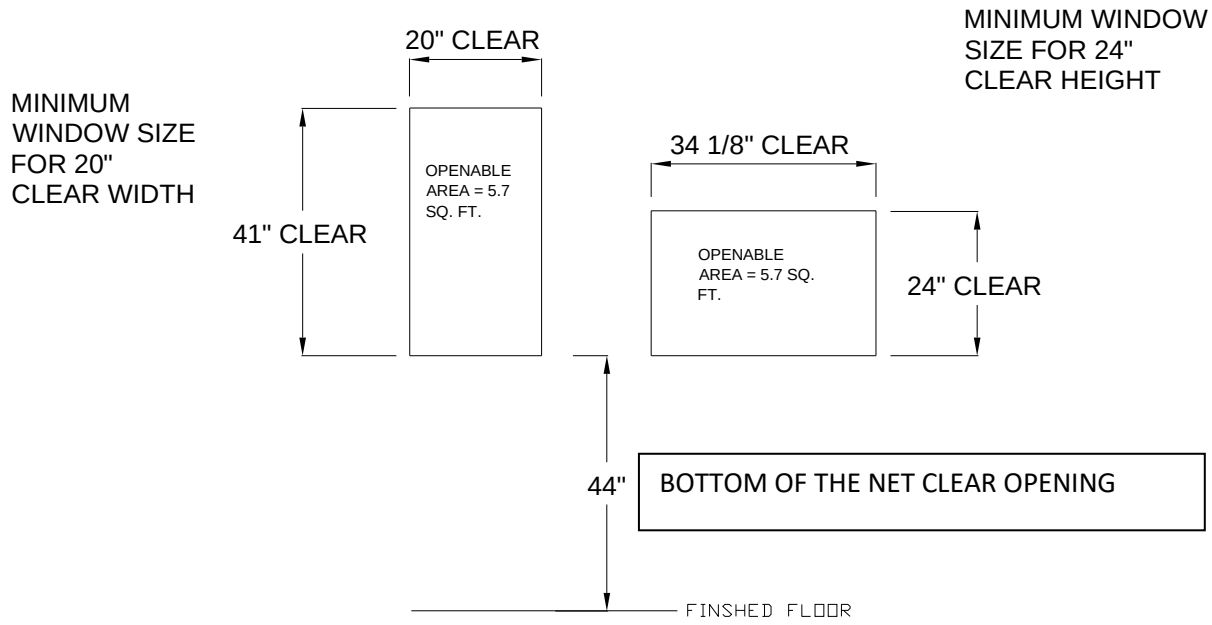
The following details the additional requirements that apply to windows:

- **Window wells:** 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.

  Exception: *The ladder or steps required by Section R310.2.3.1 shall be permitted to encroach a maximum of 6 inches into the required dimensions of the window well.*

- **Ladder and steps:** 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. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well. A minimum tread depth of 5 inches is to be provided.
- **Bulkhead enclosures:** Bulkhead enclosures shall provide direct access to the basement. The bulkhead enclosure with the door panels in the fully open position shall provide the minimum net clear opening. Bulkhead enclosures shall also comply with CRC 311.7.10.2.
- **Bars, grilles, covers and screens:** Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided the minimum net clear opening size complies with CRC R310.2 to R310.2.2, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening. The release mechanism shall be maintained operable at all times.
- Where the opening of the operable window is located more than 72” above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24” (36” for other R-occupancies per CBC 1015.8) above the finished floor surface of the room in which the window is located. Operable sections of windows shall not allow passage of a 4 inch diameter sphere where such openings are located within 24 inches of the finish floor (CRC R312.2.1).
- All habitable rooms shall have windows with their total areas equaling at least 8% of the room’s floor area and with their total opening area equaling at least 4% of the room’s floor area.
- All windows require a permanent California Energy Commission Certification label.
- Bay/oriel windows and similar assemblies require the manufacturer’s listed installation instructions for permit issuance (UL, ICC, or equivalent).

TYPICAL OPENABLE WINDOW DIAGRAM



EMERGENCY ESCAPE AND RESCUE WINDOW

EGRESS

SAMPLE WIDTH / HEIGHT REQUIREMENTS FOR EMERGENCY ESCAPE AND RESCUE

(Dimensions are inches)

WIDTH	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27
HEIGHT	41	40	39.1	38.2	37.3	36.5	35.7	34.9	34.2	33.5	32.8	32.2	31.6	31	30.4

WIDTH	27.5	28	28.5	29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5
HEIGHT	29.8	29.3	28.8	28.3	27.8	27.4	26.9	26.5	26.1	25.7	25.3	24.9	24.5	24.1	24

***Note**: Using both the minimum sizes for width and height will not obtain the required minimum area (5.7 sq. ft.) The above chart shows the minimum area for a given width or height. This area is larger than the minimum required for ventilation.*