KERN COUNTY
PUBLIC WORKS

2025 Significant Code Changes

January 9, 2026

Goal & Objectives



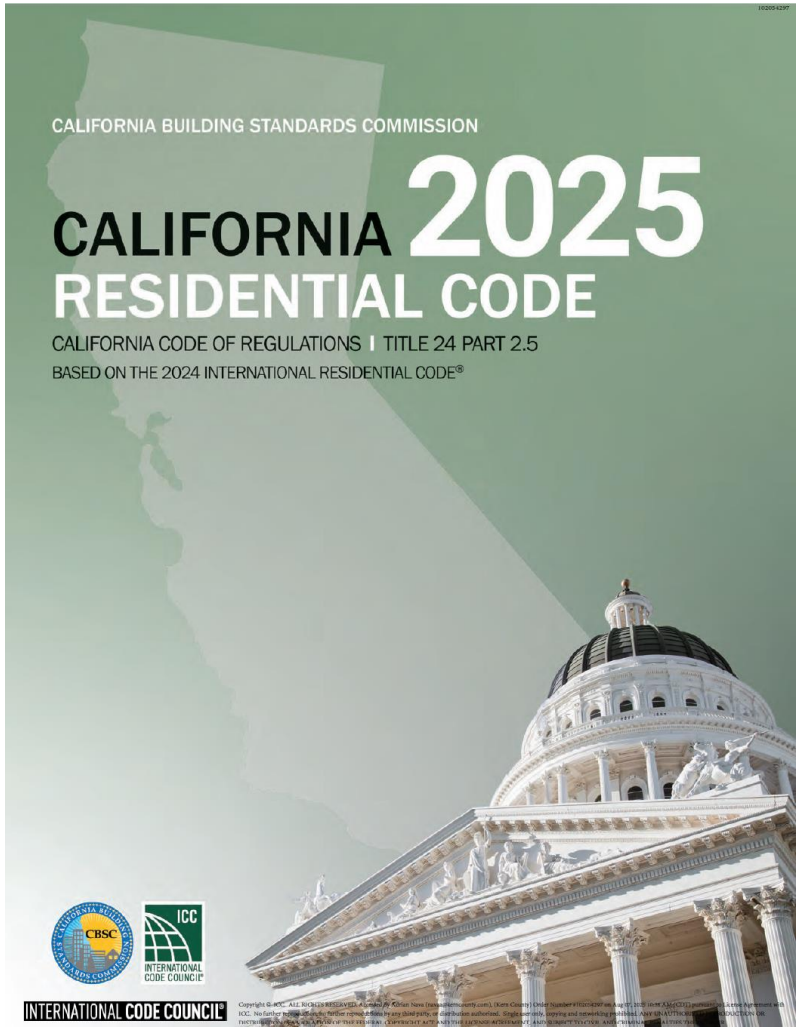
- Understanding significant changes from the 2022 to the 2025 CBC
- Identify differences between selected provisions of the 2025 CBC and the 2022 edition
- Determine if the change is an addition, deletion, modification or clarification
- Explain intent and application of changes

Why does this matter?



- Technical modifications, clarifications and additions to each new edition of the CBC recognize the most current thinking regarding:
  - Fire and life-safety design
  - Structural design
  - Construction method performance
  - Technological advances
  - New products.

California Residential Code



CRC Significant Changes Parts 1 & 2

KERN COUNTY PUBLIC WORKS

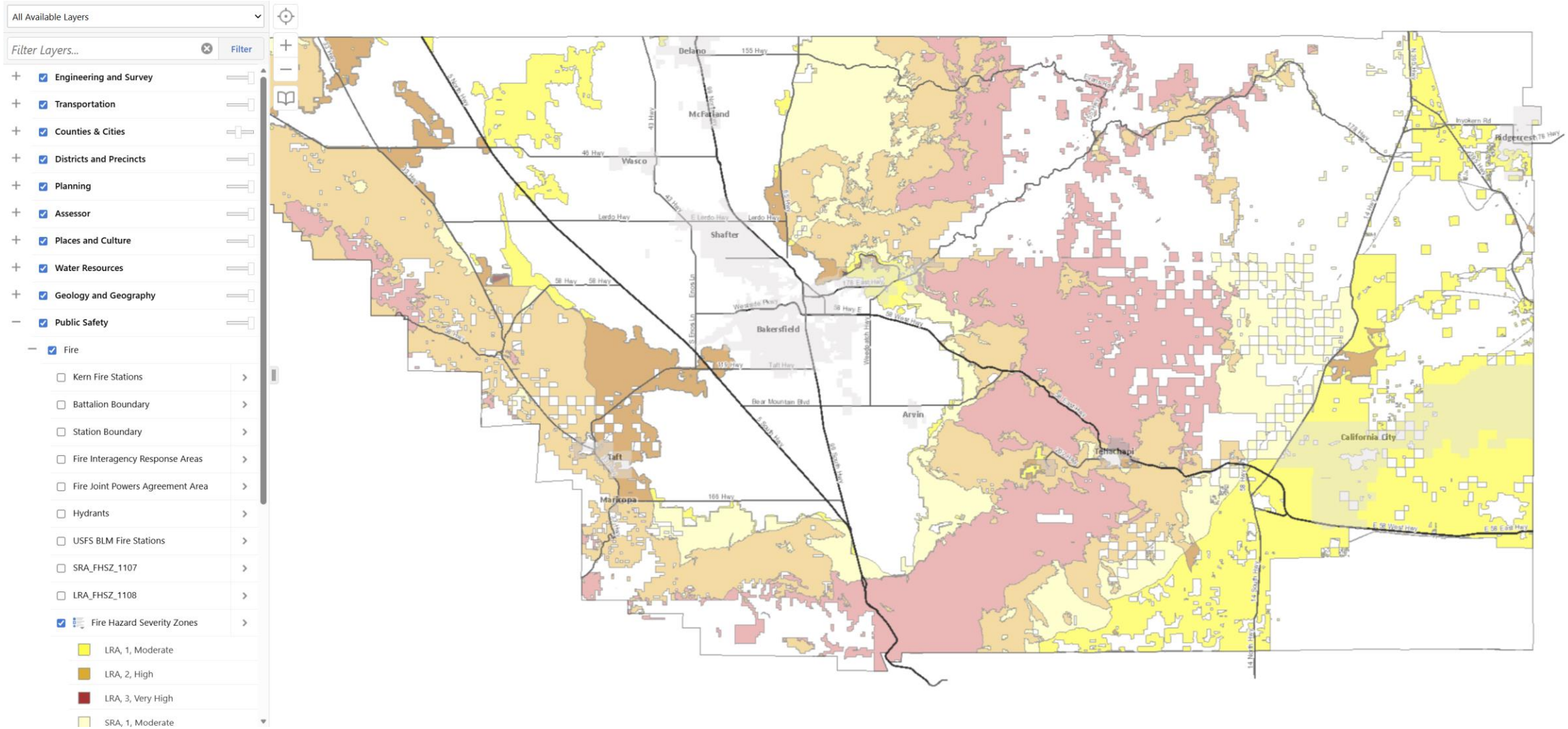
Significant Changes Parts 1 and 2

- ❑ R102.7 Wildland Urban Interface
- ❑ R104 Building Official Duties and Powers
- ❑ R111 Water Service
- ❑ R202 Definitions of Energy Storage Systems
- ❑ Chapter 3 Reorganization
- ❑ R301.2.1 Components and Cladding
- ❑ R301.2.11 Wind Maps
- ❑ R301.2.2 Buildings Required to Meet Seismic Provisions
- ❑ R301.2.2.10 Seismic Restraint
- ❑ R301.2.3 Snow Loads
- ❑ R302.1 Exterior Walls
- ❑ R302.3 Two-Family Dwellings
- ❑ R302.3.5 Vertically Stacked Dwelling Units
- ❑ R302.3.6 Shared Accessory Rooms
- ❑ R302.13 Floor Protections
- ❑ R303 Foam Plastic
- ❑ R306.2 Flood Hazard Areas
- ❑ R310 Smoke Alarms
- ❑ R315 Sleeping Lofts
- ❑ R317 Garages and Carports
- ❑ R318.7.6 Stairway Landings
- ❑ R318.8 Ramps
- ❑ R320 Handrails
- ❑ R323 Elevators and Hoistways
- ❑ R325 Light, Ventilation and Heating
- ❑ R329 Solar Energy Systems
- ❑ R330.4 Energy Storage System Locations
- ❑ R337 Materials and Construction Methods for Exterior Wildfire Exposure

R102.7 Wildland-Urban Interface

Change Type: Addition

- Section language added to address the provisions of Part 7 and the creation of the California Wildland-Urban Interface Code.
  - Local and State Fire Hazard Severity Zones changed.
  - Kern County GIS has the map: Kern County GIS
  - After entering Kern County GIS, turn on “All Available Layers” then got to Public Safety – Fire – Fire Hazard Severity Zones


All Available Layers
Filter Layers...
Filter
Engineering and Survey
Transportation
Counties & Cities
Districts and Precincts
Planning
Assessor
Places and Culture
Water Resources
Geology and Geography
Public Safety
Fire
Kern Fire Stations
Battalion Boundary
Station Boundary
Fire Interagency Response Areas
Fire Joint Powers Agreement Area
Hydrants
USFS BLM Fire Stations
SRA_FHSZ_1107
LRA_FHSZ_1108
Fire Hazard Severity Zones
LRA, 1, Moderate
LRA, 2, High
LRA, 3, Very High
SRA, 1, Moderate
Delano
McFarland
Wasco
Shafter
Bakersfield
Arvin
Taft
Maricopa
Tehachapi
California City
Ridgecrest

Wildland-Urban Interface – Part 7

- CWUIC applies to new buildings and any addition and alteration (only the scope of work of the addition or alteration) located in any of the following:
- SRA – Very High Fire Hazard Severity Zones
- SRA – High Fire Hazard Severity Zones
- SRA – Moderate Fire Hazard Severity Zones
- LRA – Very High Fire Hazard Severity Zone
- LRA – High Fire Hazard Severity Zone
- LRA – Moderate Fire Hazard Severity Zone IF designated by the local agency

Wildland-Urban Interface – Part 7

Responsibility Area	Fire Hazard Severity Zone	Construction Requirements (Chapter 5)	Defensible Space Requirements (Chapter 6)
State (SRA)	Very High	Applicable	Applicable
	High	Applicable	Applicable
	Moderate	Applicable	Applicable
Local (LRA)	Very High	Applicable	Applicable
	High	Applicable	Not Applicable
	Moderate	Not Applicable	Not Applicable

Wildland-Urban Interface – Part 7

- 101.3.1 Application. New buildings located in any Fire Hazard Severity Zone or Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this code. This shall include all new buildings with residential, commercial, educational or institutional or similar occupancy type use
  - Exceptions:
    - Group U occupancy accessory/agricultural buildings of any size at least 50 feet from applicable building on the same lot
    - Group C occupancy (organized camps) special buildings conforming to the limitations specified in CBC Section 450.4.1
    - New accessory buildings and miscellaneous structures specified in Section 504.11 shall comply only with the requirements of that section.

  - An Accessory Dwelling Unit is NOT an accessory building

Wildland-Urban Interface – Part 7

- 503.1 Additions, alterations and buildings/structures relocated into or within wildland-urban interface areas shall meet the construction requirements in accordance with Chapter 5

Wildland-Urban Interface – Part 7

- 507.1 Replacement or repair of roof coverings
  - The roof covering on buildings or structures in existence prior to the adoption of this code that are replaced or have 50% or more replaced in a 12-month period shall be replaced with a roof covering required for new construction in accordance with Sections 504.2 and 504.2.1
  - All portions of a roof coving applied during an addition, alteration or repair to an existing structure shall meet at least a Class A fire classification.

IECC vs California Energy Code

TABLE R702.7.3—IECC VS. CALIFORNIA ENERGY CODE CLIMATE ZONE COMPARISON		
IECC[a]	**CALIFORNIA ENERGY CODE**	**DESCRIPTION[b]**
6	16	Includes Alpine, Mono Counties
5	11, 12, 16	Includes Siskiyou, Modoc, Lassen, Plumas, Sierra, Nevada Counties
4 (marine)	1, 2, 16	Includes Del Norte and Humboldt Counties
4	2, 12, 13, 16	Includes Inyo, Trinity, Lake, El Dorado, Amador,Calaveras, Tuolumne, Mariposa Counties
3	8, 9, 10,11,12, 13, 14, 15, 16	Includes Shasta, Tehama, Butte, Glenn, Colusa, Yuba, Contra Costa, Sutter, Yolo, Sacramento, Placer, San Joaquin, Solano, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern, Ventura, Los Angeles, Orange, San Bernardino, River-side Counties
3 (marine)	1, 2, 3, 4, 5, 6, 9, 12, 16	Includes Mendocino, Sonoma, Marin, San Francisco, San Mateo, Alameda, Santa Cruz, Monterey, San Benito, San Luis Obispo, Santa Barbara, Ventura, San Diego Counties
2	14, 16	Includes Imperial County

a. IECC Climate Zones 1, 7 and 8 do not occur in California, nor do any IECC moist climate zones.
b. IECC boundaries are defined by county political boundary lines. California Energy Code boundaries are based on metes and bounds specifications aligned with climate-affecting geographic features, which often do not coincide with county lines.

R104 Powers and Duties

Change Type: Clarification

- R104.1 General
- R104.2 Determination of compliance
  - R104.2.1 Listed compliance
  - R104.2.2 Alternative materials, design and methods of construction and equipment
    - R104.2.2.1 Approval authority
    - R104.2.2.2 Application and disposition
    - R104.2.2.3 Compliance with code intent
    - R104.2.2.4 Equivalency criteria
    - R104.2.2.5 Tests
    - R104.2.2.6 Reports
      - R104.2.2.6.1 Evaluations reports
      - R104.2.2.6.2 Other reports
  - R104.2.3 Modifications
    - R104.2.3.1 Flood hazard areas
- R104.3 Applications and permits
- R104.4 Right of entry
  - R104.4.1 Warrant
- R104.5 Identification
- R104.6 Notices and orders

R104
Powers and Duties

- R104.7 Official records
  - R104.7.1 Approvals
  - R104.7.2 Inspections
  - R104.7.3 Code alternatives and modifications
  - R104.7.4 Tests
  - R104.7.5 Fees
- R104.8 Liability
  - R104.8.1 Legal defense
- R104.9 Approved materials Equipment
  - R104.9.1 Materials and equipment reuse

R104.2.1 Listed compliance

- Where this code or a referenced standard requires equipment, materials, products or services to be listed and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria.
- Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the building official.

R104.2.2.1
Alternative materials: Approval Authority

- An alternative material, design or method of construction shall be approved where the building official finds that the proposed alternative is satisfactory and complies with Sections 104.2.2 through 104.2.2.6, as applicable.

R104.2.2.4
Alternative materials: Equivalency criteria

- An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:
  - Quality
  - Strength
  - Effectiveness
  - Durability
  - Safety, other than fire safety
  - Fire safety

R104.2.2.5
Alternative materials: Tests

- Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Such tests shall be performed by a party acceptable to the building official.

R111
Service Utilities

Change Type: Clarification

- R111.1 Connection of service utilities. A person shall not make connections from a utility, a source of energy, fuel, power, or water system or sewer system to any building or system that is regulated by this code for which a permit is required, until approved by the building official.

R202
Energy Storage Systems

Change Type: Modification

- Energy Storage Systems (ESS). One device or multiple devices, assembled together, capable of storing electrical energy to be supplied at a future time.

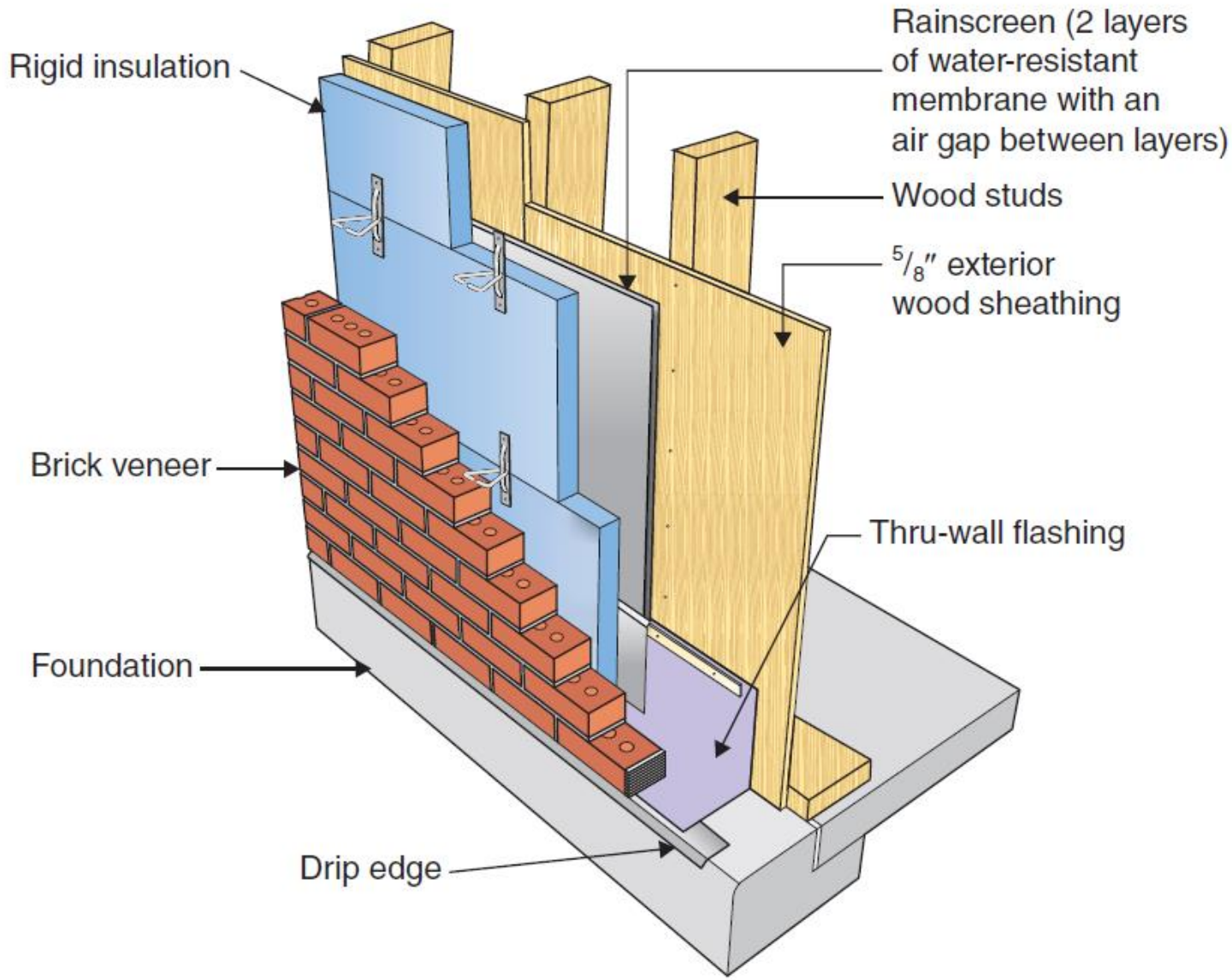


R202 Rainscreen System

Change Type: Addition

- Rainscreen. An assembly applied to the exterior side of an exterior wall which consists of, at minimum, an outer layer, an inner layer and a cavity between them sufficient for the passive removal of liquid water and water vapor.

- This definition clarifies the difference between a rainscreen system and having an airspace behind cladding.



A rainscreen includes materials and an airgap designed to allow water vapor and water to flow out of cladding and away from exterior walls.

Chapter 3 Reorganization

Change Type: Modification

- R301-R307 Design/Construction
- R308-R311 Active Fire Resistance
- R312-317 Rooms and spaces
- R318-R321 Means of egress
- R324-R328 Home Safety
- R329-R332 Solar/ESS/Energy
- R334-339 CA Specific Codes

	Topic	2025 CRC Section	2022 CRC Section
Construction	Design Criteria	R301	R301
	Fire-Resistant Construction	R302	R302
	Foam Plastic	R303	R316
	Protection of Wood and Wood-Based Products Against Decay	R304	R317
	Protection Against Subterranean Termites	R305	R318
	Flood-Resistant Construction	R306	R322
	Storm Shelters	R307	R323
Fire	Site Address	R308	R319
	Automatic Sprinkler Systems	R309	R313
	Smoke Alarms	R310	R314
	Carbon Monoxide Alarms	R311	R315
Rooms & Spaces	Minimum Room Areas	R312	R304
	Ceiling Height	R313	R305
	Mezzanines	R314	R325
	Sleeping Lofts	R315	-
	Habitable Attics	R316	R326
	Garages and Carports	R317	R309

	Topic	2025 CRC Section	2022 CRC Section
Means of Egress	Means of Egress	R318	R311
	Emergency Escape and Rescue Openings	R319	R310
	Handrails	R320	R311
	Guards and Window Fall Protection	R321	R312
Home Safety	Glazing	R324	R308
	Light, Ventilation and Heating	R325	R303
	Sanitation	R326	R306
	Toilet, Bath and Shower Spaces	R327	R307
	Swimming Pools, Spas and Hot Tubs	R328	R327
Solar / ESS / "Energy"	Solar Energy Systems	R329	R324
	Energy Storage Systems	R330	R328
	Stationary Engine Generators	R331	R329
	Stationary Fuel Cell Power Systems	R332	R330

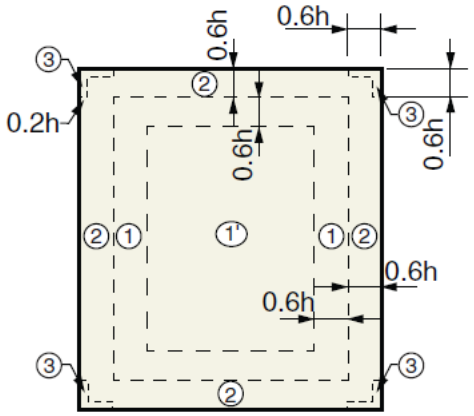
California Specific

Topic	2025 CRC Section	2022 CRC Section
Reserved	R333	-
Construction Waste Reduction	R334	R334
R-3.1	R335	R335
Large Family Day-Care Homes	R336	R336
Materials and Construction Methods for Exterior Wildfire Exposure	R337	R337
Electric Vehicle	R338	R338
Reserved	R339	-

R301.2.1 Components and Cladding

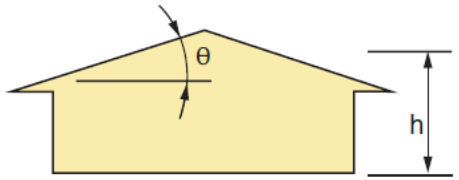
Change Type: Modification

- Component and cladding pressure zones



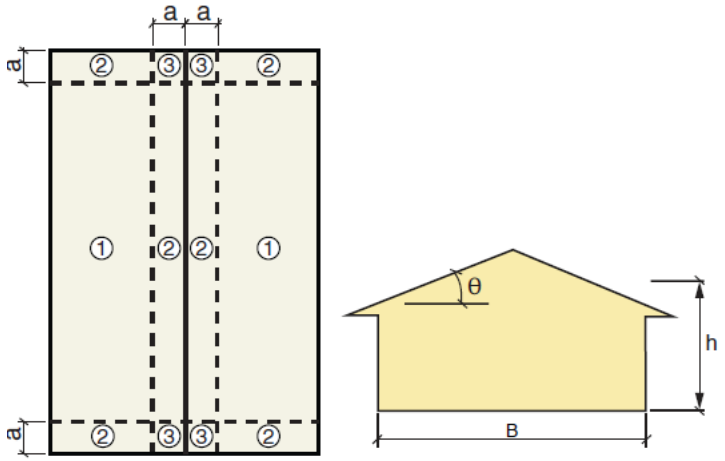
PLAN

Gable and flat roofs θ ≤ 7°



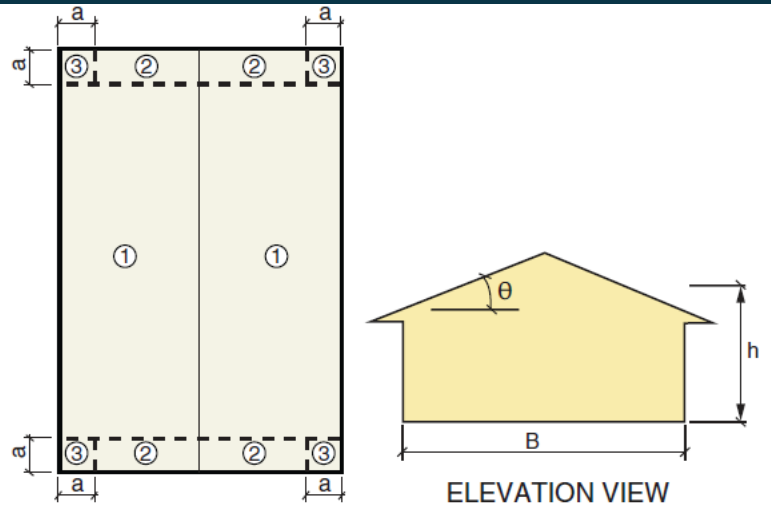
ELEVATION

R301.2.1
Components and Cladding – cont.



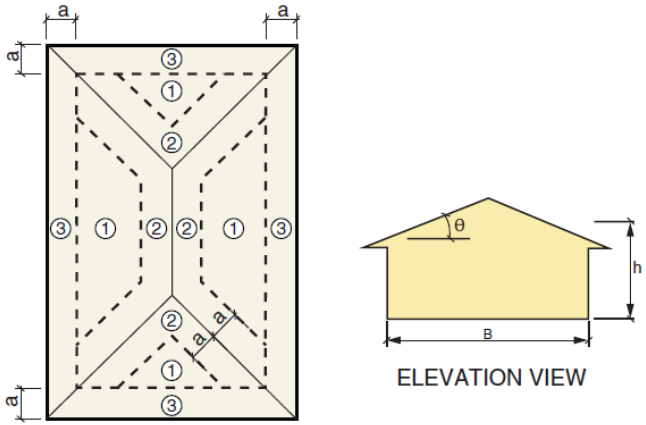
PLAN VIEW ELEVATION VIEW

Gable roofs 7° < θ ≤ 45°



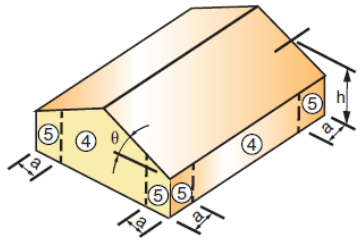
ELEVATION VIEW

Gable roofs 27° < θ ≤ 45°



PLAN VIEW ELEVATION VIEW

Hip roofs 7° < θ ≤ 45°



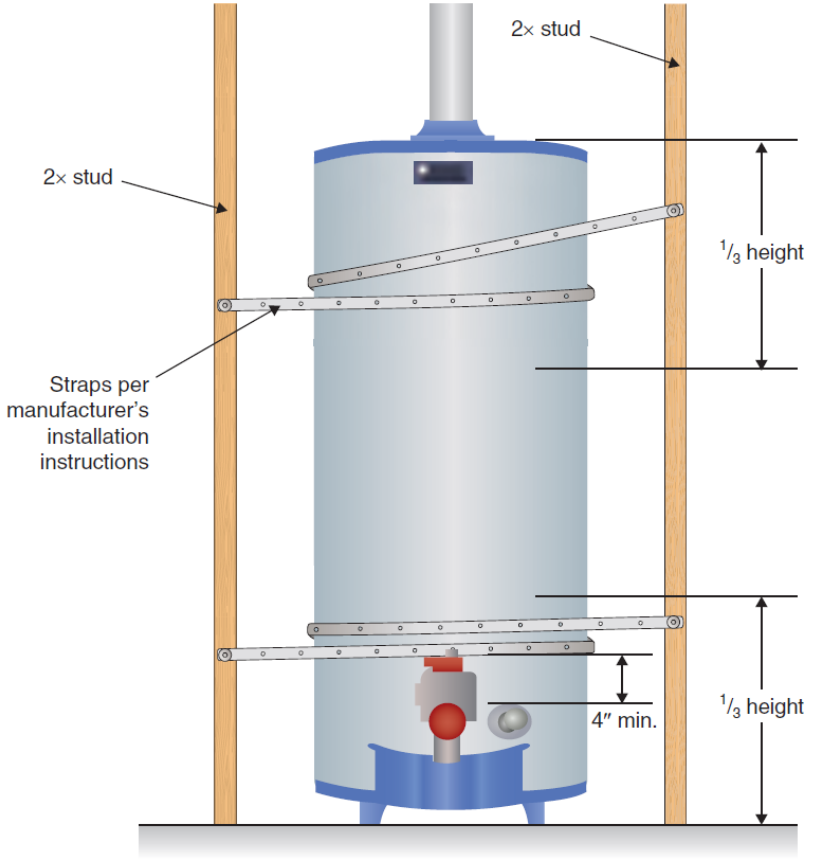
ELEVATION
Walls

R301.2.2.10 Seismic Restraint

Change Type: Modification

- Anchorage requirements are expanded to include seismic restraint for ALL APPLIANCES needing seismic restraint – not solely water heaters and thermal storage units.
  - In SDC D_0, D_1, and D_2

  Exceptions:
  - Suspended mechanical ducts, electrical conduit, automatic sprinkler and plumbing systems
  - Where the appliance or equipment is bearing on an elevated floor or roof and the housing height is not greater than 1.5 times the width of the housing base
  - Where weight of the appliance or equipment is 50 pounds or less.

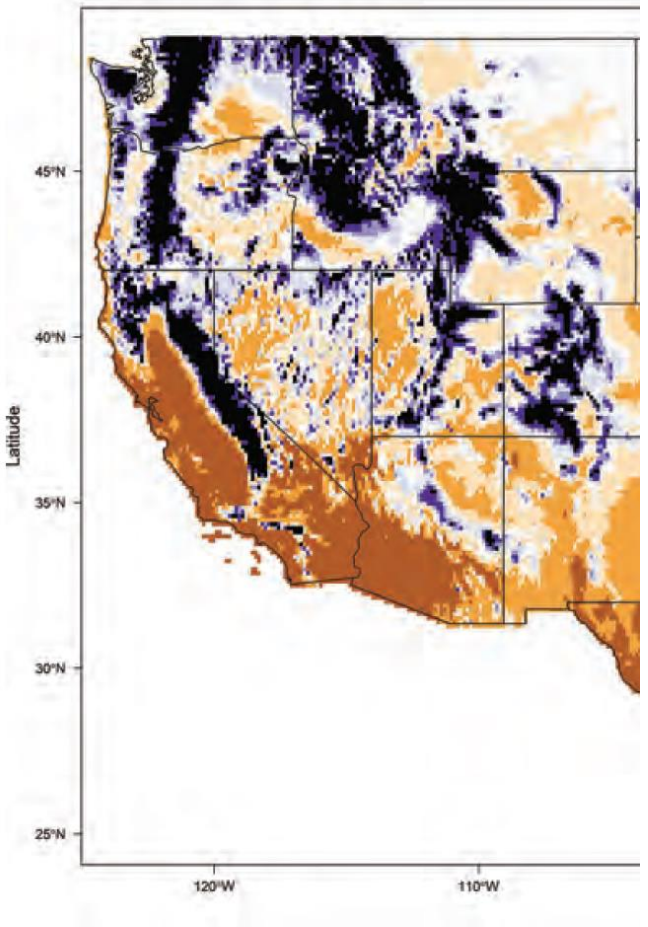


Seismic anchorage of appliances.

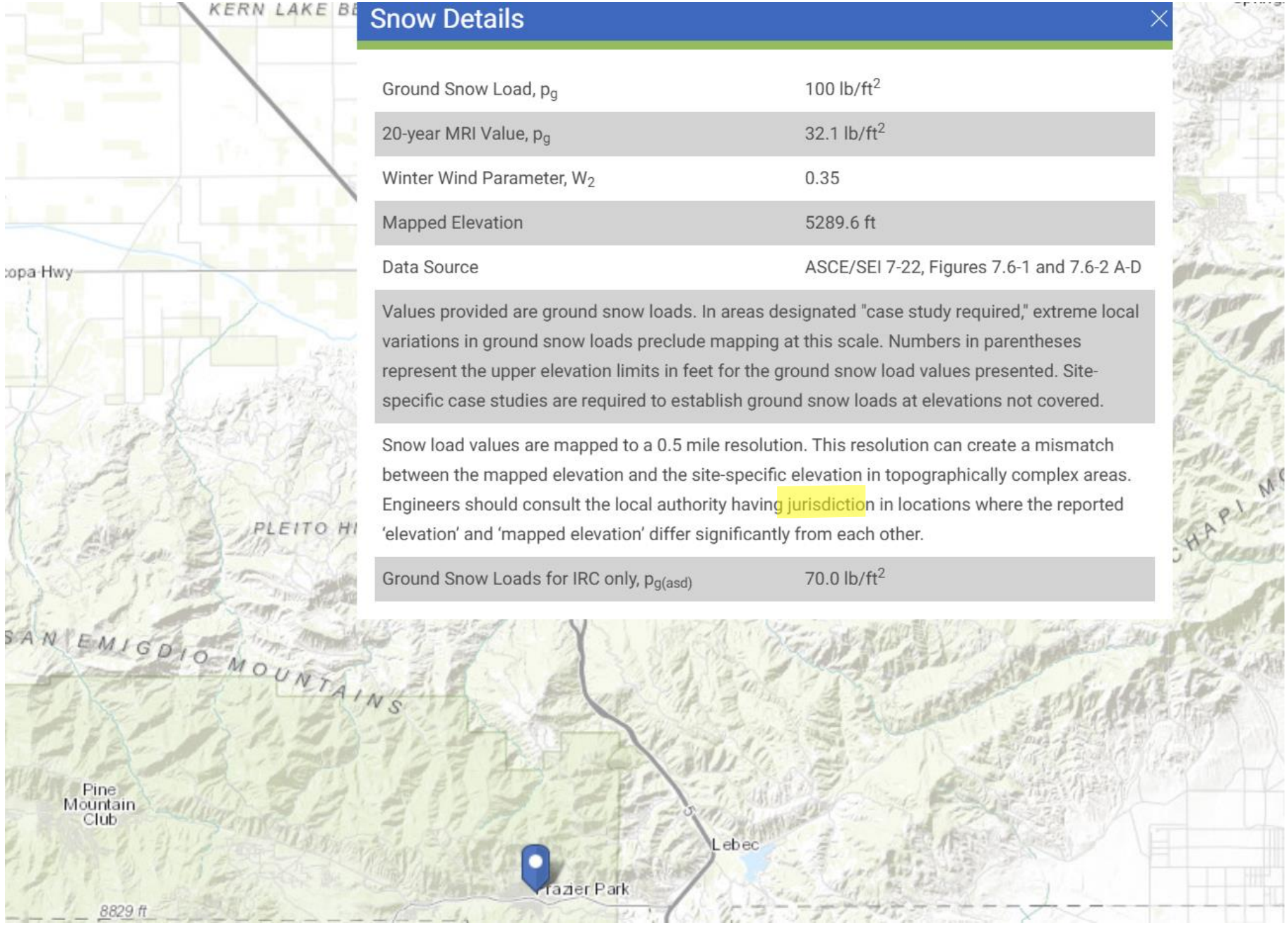
R301.2.3 Snow Loads

Change Type: Modification

- The snow load map is updated
- Use ASCE Hazard Tool
  - ASCE 7-22
  - Risk Category II
  - Must use allowable stress design (ASD) ground snow load, p_{gASD}



New ground snow loads by 20-pound increments.



Snow Details

Ground Snow Load, p_g	100 lb/ft^2
20-year MRI Value, p_g	32.1 lb/ft^2
Winter Wind Parameter, W_2	0.35
Mapped Elevation	5289.6 ft
Data Source	ASCE/SEI 7-22, Figures 7.6-1 and 7.6-2 A-D

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Numbers in parentheses represent the upper elevation limits in feet for the ground snow load values presented. Site-specific case studies are required to establish ground snow loads at elevations not covered.

Snow load values are mapped to a 0.5 mile resolution. This resolution can create a mismatch between the mapped elevation and the site-specific elevation in topographically complex areas. Engineers should consult the local authority having jurisdiction in locations where the reported 'elevation' and 'mapped elevation' differ significantly from each other.

Ground Snow Loads for IRC only, $p_{g(asd)}$	70.0 lb/ft^2

KERN COUNTY PUBLIC WORKS

R315 Sleeping Lofts

Change Type: Addition

- Maximum area requirements add for sleeping lofts along with a definition
- Considered portion of story below



R315, R202 Sleeping Lofts

Change Type: Addition

- Qualify as a sleeping loft if:
  - Area <70 ft^2
  - Ceiling height for < one-half of floor area max. 7 ft tall
  - Ceiling height min. 3 ft tall
  - Permanent means of egress
  - Floor below min. 7 ft ceiling height



R315.1
Exception – Small Sleeping Lofts

- Need not comply with Section R315 if all are true:
  - Max depth <3 ft
  - Floor area < 35 ft^2
  - Not provided with a permanent means of egress



R318.7.6 Stairway Landings

Change Type: Modification

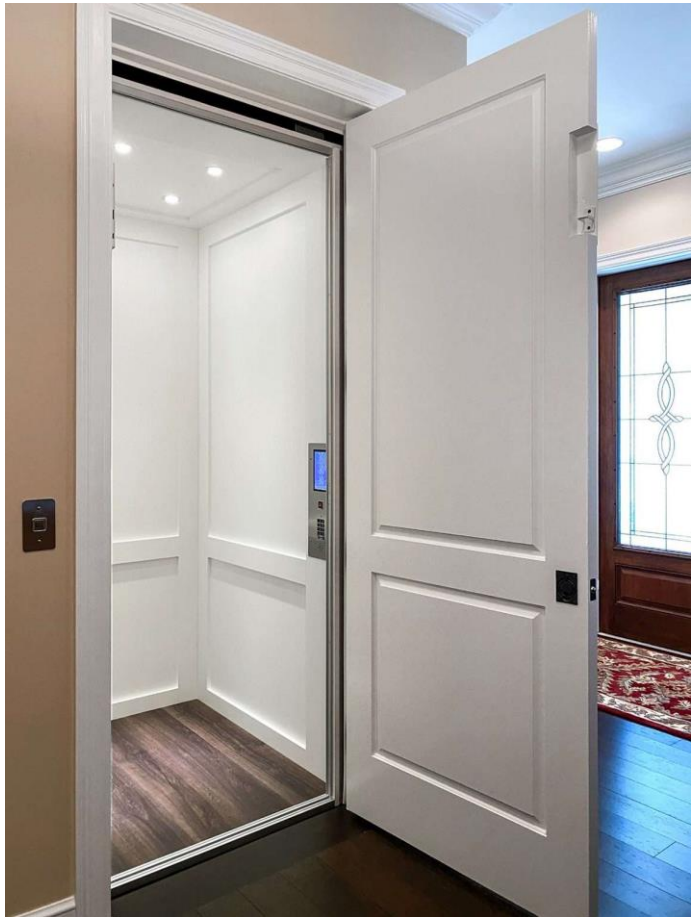
- New term “flight of stairs”



R323
Elevators and Hoistways

Change Type: Addition

- Hoistways added to elevator and platform lift section
- Private residence elevators to conform to ASME A17.1/CSA B44, Section 5.3
- Hoistway enclosures and opening protection to meet ASME A17.1 Sections 5.3.1.1 and 5.3.1.8



R325
Light, Ventilation and Heating

Change Type: Addition

- Light and ventilation are separated into their own sections.



R329.6.4 BIPV Systems

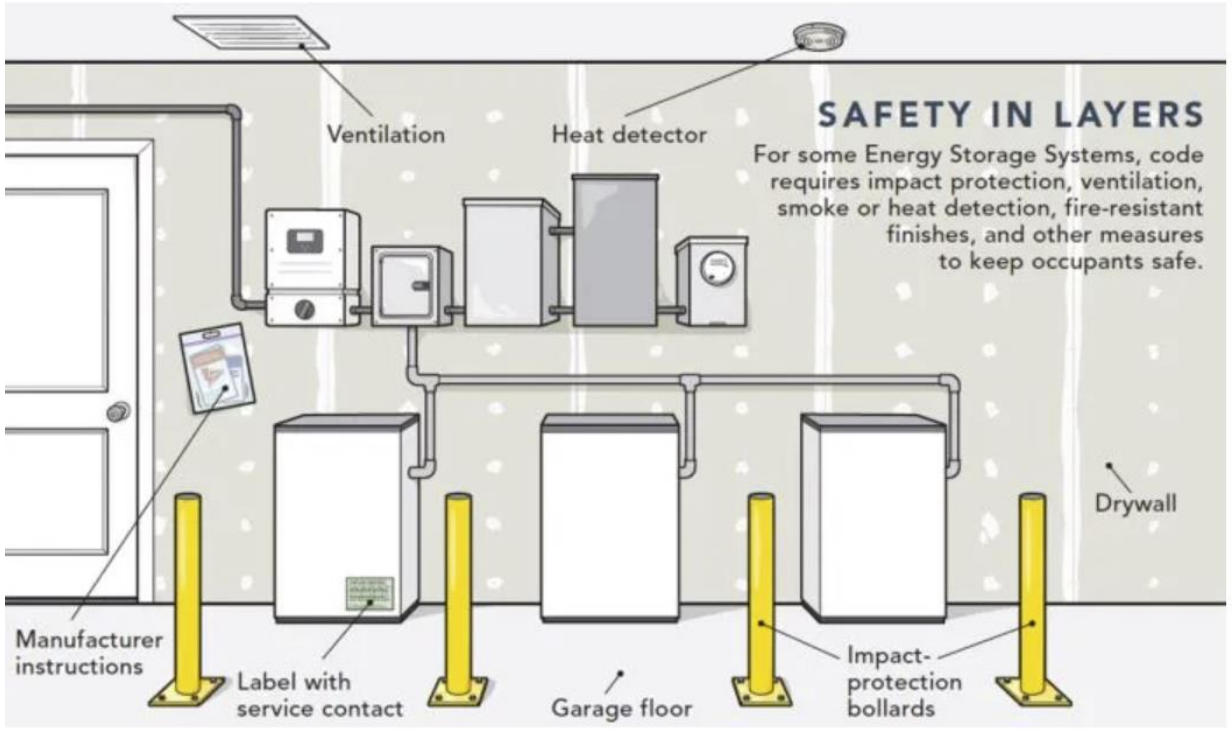
Change Type: Modification

- Building-integrated photovoltaic (BIPV) systems should be marked from below to identify hazardous areas for emergency responders.



R330.4 Energy Storage System Locations Change Type: Modification

- Openings and penetrations in ESS storage spaces shall be protected similar to garages



CRC Significant Changes Part 3

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Significant Changes Part 3

KERN COUNTY PUBLIC WORKS

- ❑ R401.4 Soils Tests
- ❑ Figure R403.1(1) Concrete Stem walls
- ❑ R403.1.2 Continuous Footings in SDC D
- ❑ R502.11 Guard Post Attachment to Floor Framing
- ❑ R506.2 Post-Tensioded Slabs
- ❑ R506.3.3 Vapor Retarder
- ❑ R507.5 Deck Beams
- ❑ R507.5.1, R507.5.2 Deck Bearing and Connections
- ❑ R507.9.1.3 Ledger to Band Joist Details
- ❑ R507.9.1.5-R507.9.1.8 Ledger Flashing and Water-Resistive Barriers
- ❑ Table R602.3(1) Roof Framing Lumber Specific Gravity
- ❑ R602.10.2.2 Braced Wall Panel Placement
- ❑ R602.10.3 Wall Height
- ❑ Table R602.10.5 Contributing Length of Braced Wall Panels
- ❑ R602.10.6 Length of Portal Frame
- ❑ R703.2 Water-Resistive Barrier
- ❑ R703.3.1, R703.3.4 Exterior Wall Covering
- ❑ R703.4 Flashing
- ❑ R703.6.1 Furring Over WRBs for Wood Shakes and Shingles
- ❑ R703.7.3 Water-Resistive Barriers for Stucco
- ❑ R703.11,R703.14 Vinyl and Polypropylene Siding
- ❑ R703.18 Fiber-Mat Reinforced Cementitious Backer Units
- ❑ R704 Exterior Soffits and Fascia
- ❑ R902.1 Roof Assemblies
- ❑ R905.7, R905.8 Wood Shakes and Shingles
- ❑ R905.12,R905.13.4,R905.14.4 Single-Ply, Liquid-Applied and Sprayed Roofing
- ❑ R905.15,R905.16 BIPV Roofs
- ❑ R908.3 Roof Replacement
- ❑ R909 Roof Coatings

R502.11
Floor framing supporting guards

Change Type: Addition

- Added details for bracing floor when attaching guard
  - Blocking for joists perpendicular to the floor edge
  - Blocking for joists parallel to the floor edge
  - Blocking added between floor joists

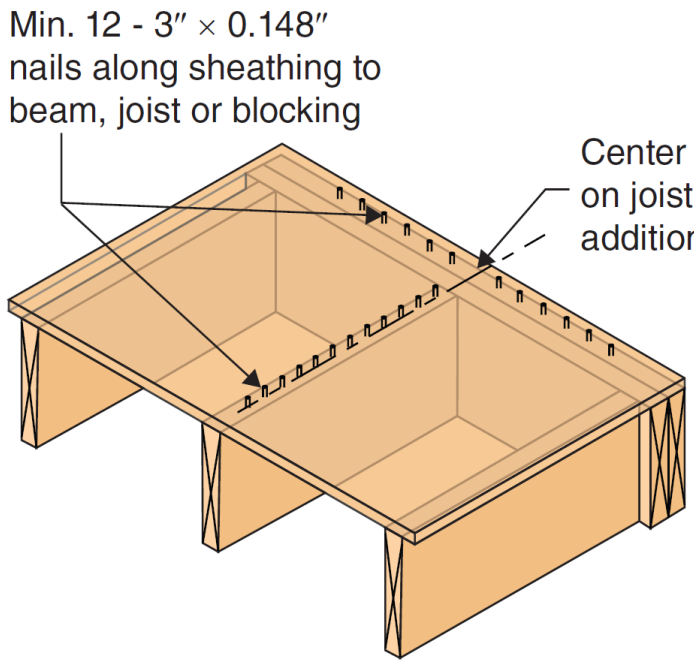


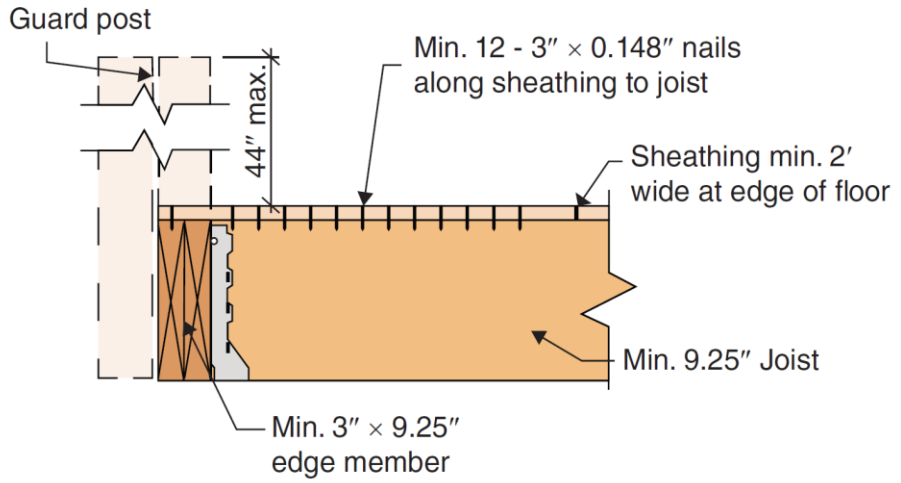
Guardrail at open floor must have bracing within the floor

R502.11.1 Conventional edge framing

Change Type: Addition

- Applies when a **roll brace** is aligned with **each guard post**
- Edge-of-floor framing shall be:
  - Solid lumber, or
  - Built-up lumber, or
  - Structural glued-laminated timber (glulam), or
  - Structural composite lumber (SCL)
- Minimum dimensions required:
  - Net width: **3 inches** (76 mm)
  - Net depth: **9¼ inches** (235 mm)
- Must be braced to resist rotation using **roll bracing** per Section R502.11.3



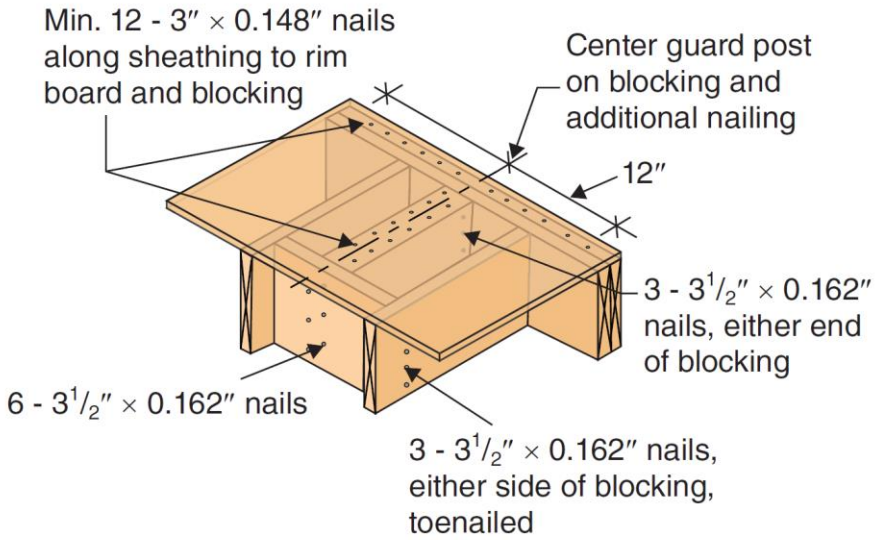


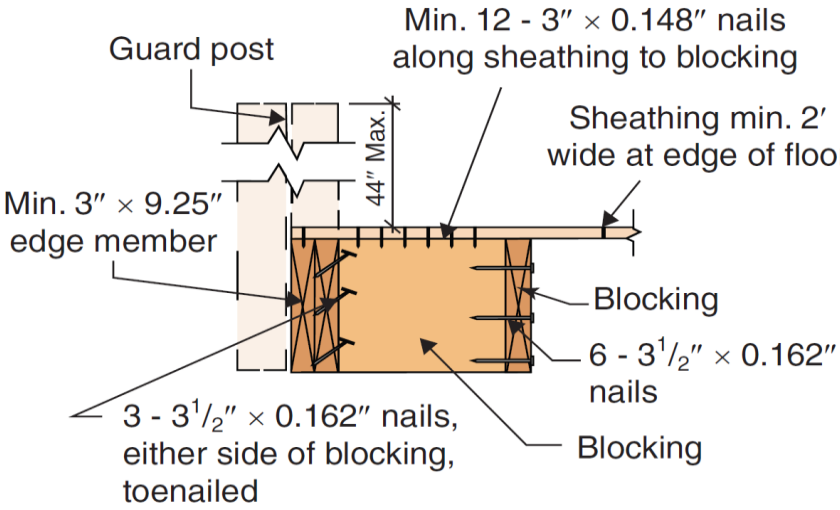
Guard posts aligned with joists perpendicular to the floor edge.

R502.11.2 Timber edge framing

Change Type: Addition

- Applies when a **roll brace is NOT aligned** with each guard post
- Edge-of-floor framing shall be one of the following:
  - Minimum **6-inch × 10-inch** sawn timber, **or**
  - Minimum **5⅛-inch × 9¼-inch** (130 mm × 235 mm) structural glued-laminated timber
- Must be braced to resist rotation using **roll bracing** per Section R502.11.3
- Maximum spacing of roll bracing: **48 inches** (1219 mm) or less



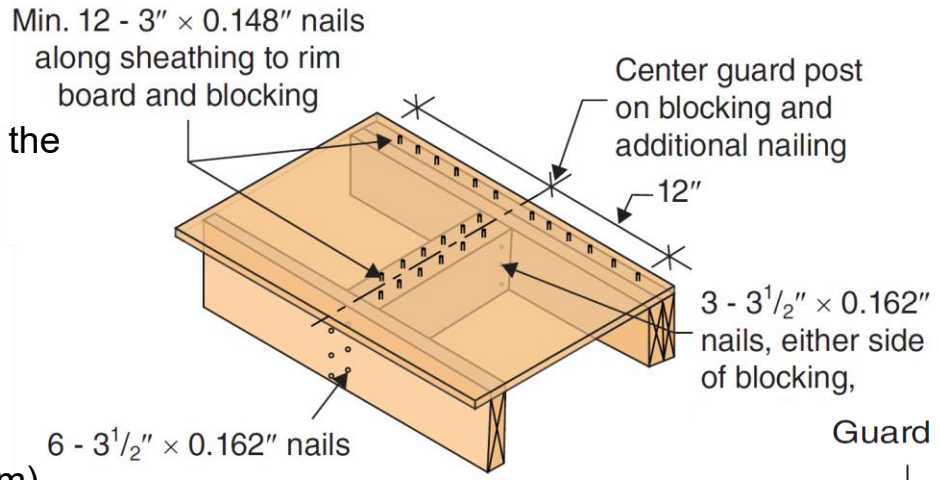


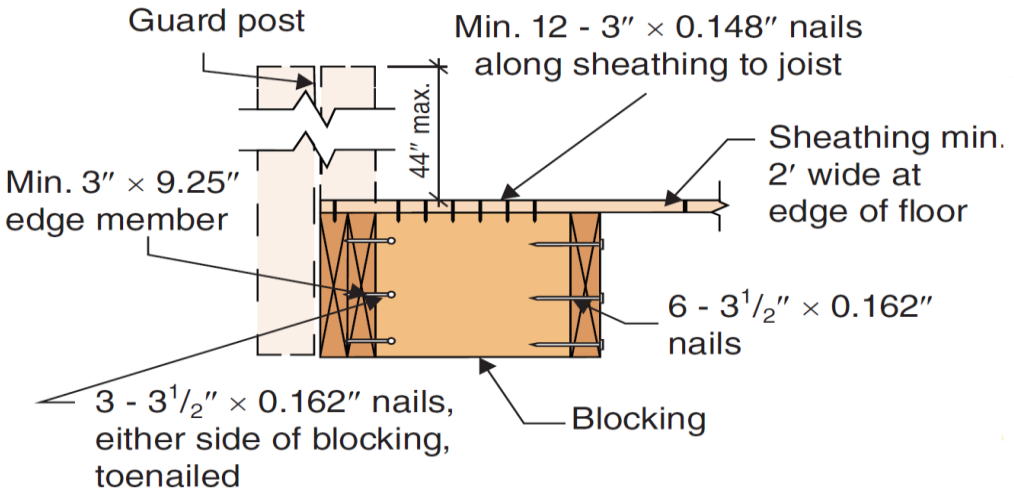
Roll bracing for guard posts not aligned with joists.

R502.11.3 Roll bracing

Change Type: Addition

- Each roll brace consists of:
  - A joist **or** blocking matching the depth of the edge member
  - Extends **perpendicular** from the edge member ≥ **16 inches** (406 mm)
- Blocking end connections:
  - Minimum **six 16d common nails**
- Floor sheathing requirements:
  - Must be continuous ≥ **24 inches** (610 mm) from the edge
  - Fastened to **each roll brace** with ≥ **twelve 10d common nails**
  - Fastened to the **edge member** with ≥ **twelve 10d common nails** within **12 inches** (305 mm) of the roll brace





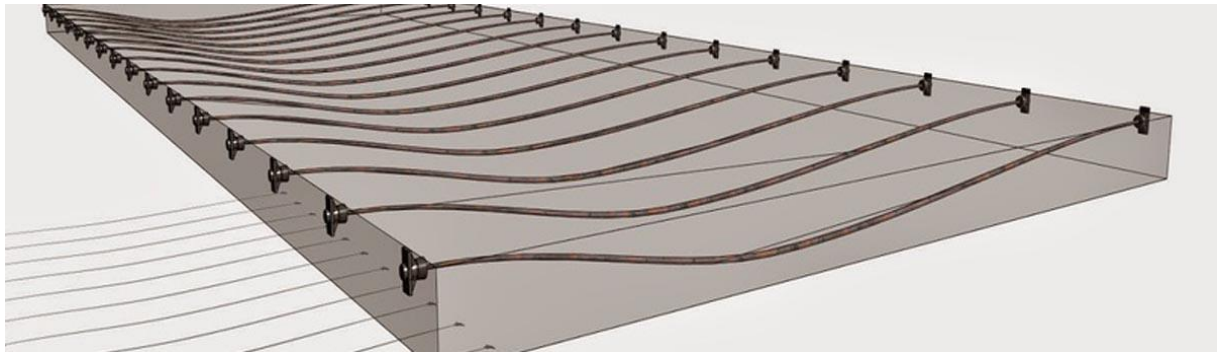
Roll bracing for joists parallel to the floor edge.

R506.2 Post-Tensioned Slabs

Change Type: Addition

Added referenced standard for post tensioned slabs on ground

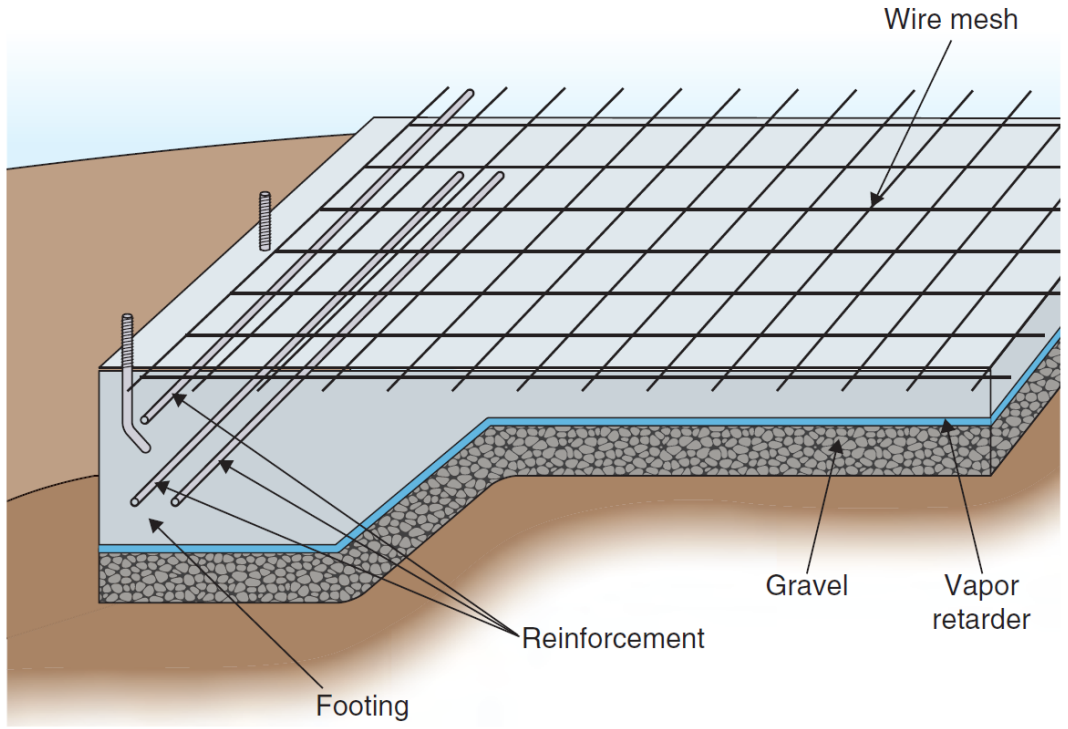
- PTI DC 10.5



R506.3.3 Vapor Retarder

Change Type: Modification

- Minimum thickness of vapor retarders is changed back to 6 mil.

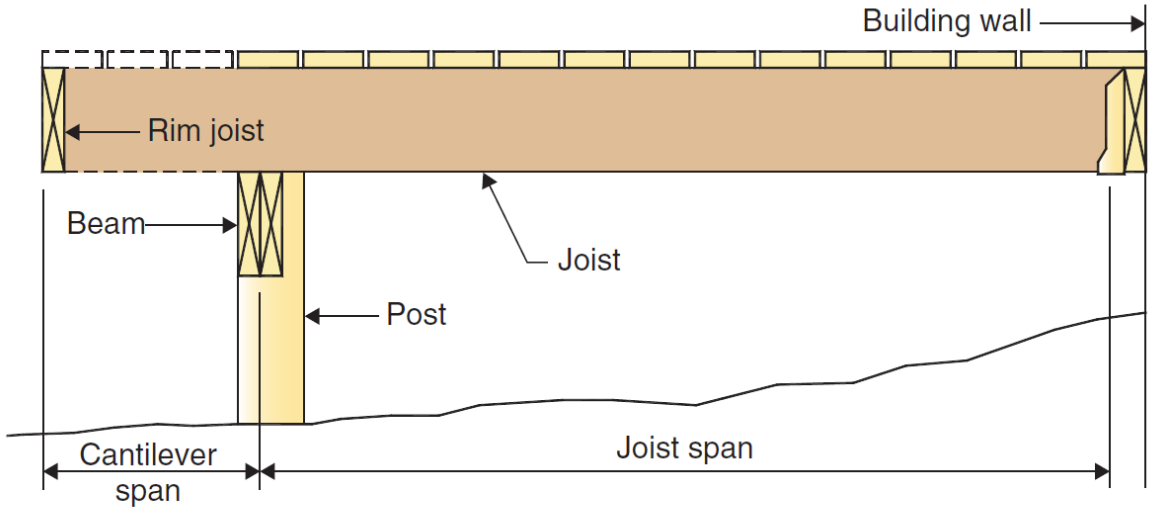


Vapor retarder placed between subgrade and concrete.

R507.5 Deck Beams

Change Type: Modification

- The deck beam span table is updated by adding options for deck joist spans and cantilevers



Deck joist span versus cantilever span.

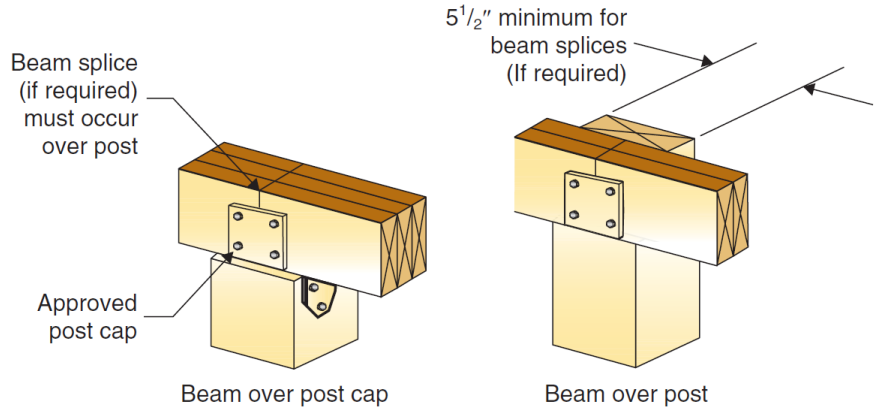
TABLE R507.5(1) Maximum Deck Beam Span—40 psf Live Load[c] (excerpt)

Joist Span	~~Effective Deck~~ Joist Span Length and Joist Cantilever Length[a, i, j] (feet & feet)					
6	6 & 0	6 & 1.5	—	—	—	—
8	—	8 & 0	8 & 1	8 & 2	—	—
10	—	—	10 & 0	10 & 1	10 & 2.5	—
12	—	—	—	12 & 0	12 & 1	12 & 2
14	—	—	—	—	14 & 0	14 & 1
16	—	—	—	—	—	16 & 0
18	—	—	—	—	—	—
Beam Species[d]	**Beam Size[e]**	**Maximum Deck Beam Span Length[a, b, f] (feet-inches)**				
Southern pine	1 – 2 × 6	4-10	4-7	4-3	4-0	3-7
	1 – 2 × 8	6-4	5-11	5-6	5-1	4-7
	1 – 2 × 10	7-6	7-0	6-6	6-0	5-5
	1 – 2 × 12	8-8	8-3	7-8	7-1	6-4
	2 – 2 × 6	7-4	6-11	6-5	5-11	5-4
	2 – 2 × 8	9-4	8-9	8-2	7-7	6-9
	2 – 2 × 10	11-0	10-4	9-8	9-0	8-0
	2 – 2 × 12	13-0	12-2	11-4	10-7	9-5
	3 – 2 × 6	9-0	8-6	7-11	7-5	6-8
	3 – 2 × 8	11-7	10-11	10-3	9-6	8-6
	3 – 2 × 10	13-11	13-0	12-1	11-2	10-0
	3 – 2 × 12	16-3	15-3	14-3	13-3	11-10

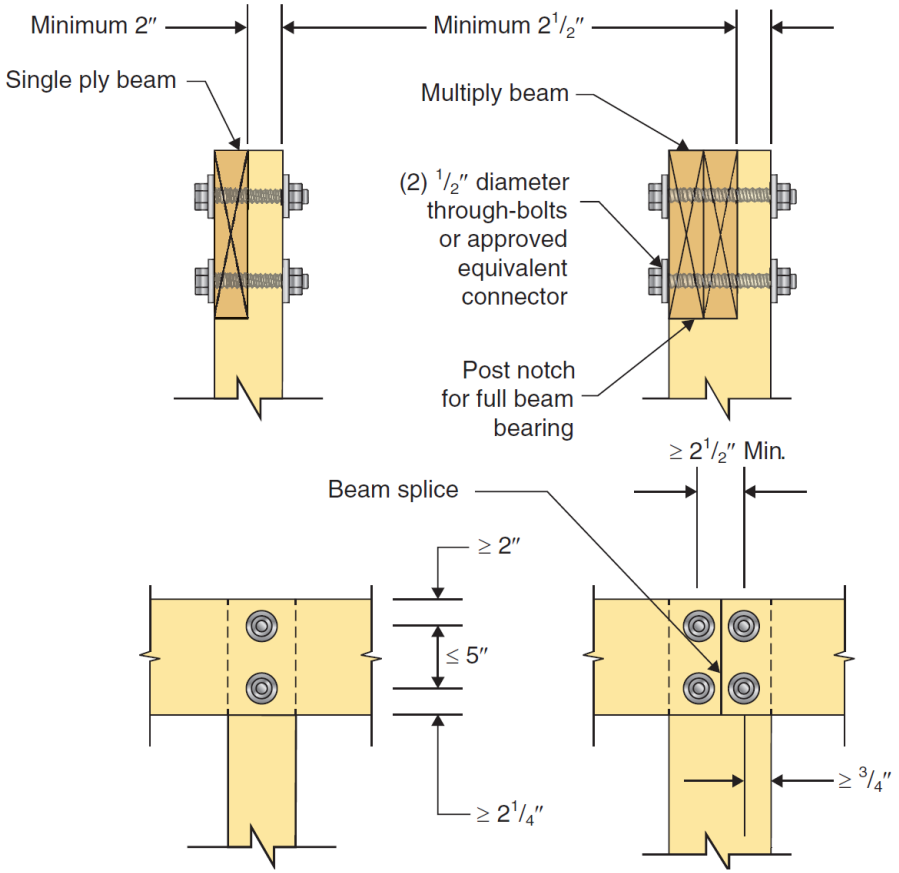
R507.5.1-2
Deck Beam Bearing and Connection

Change Type: Clarification

- All beam plies must bear fully on the post or wall.
- Cantilever rules moved to R507.5.1; max cantilever = ¼ of beam span.
- Splices must be located directly over posts or walls.
- Updated figures show approved post caps and beam-over-post bearing details
- Connections must resist vertical + horizontal loads; bolts require washers.



Deck beam connection.



Beam splice fastener spacing.

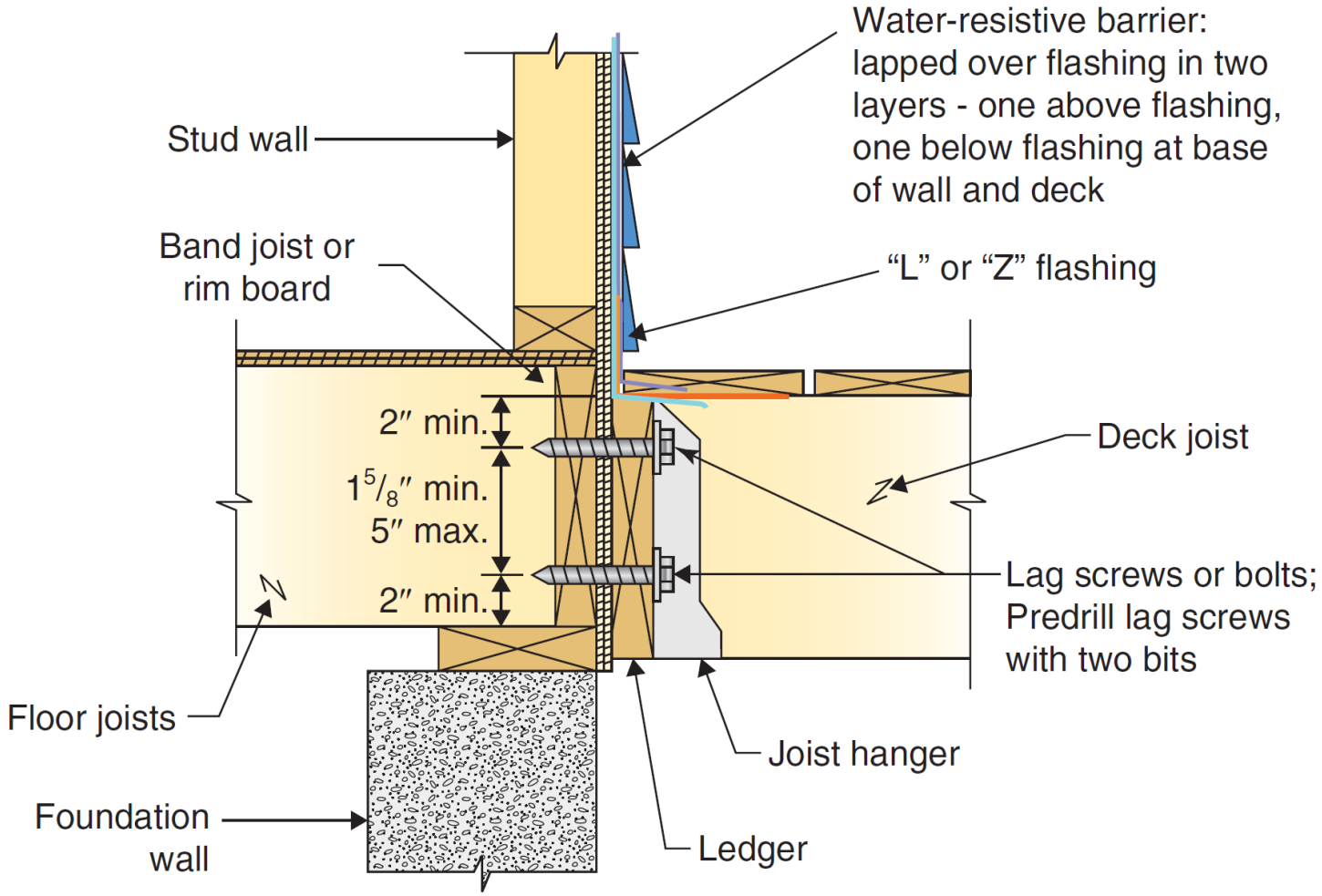
R507.9.1.3 Ledger to band joist details

Change Type: Modification

New clarification: lag screw predrilling

For ½-inch diameter lag screws:

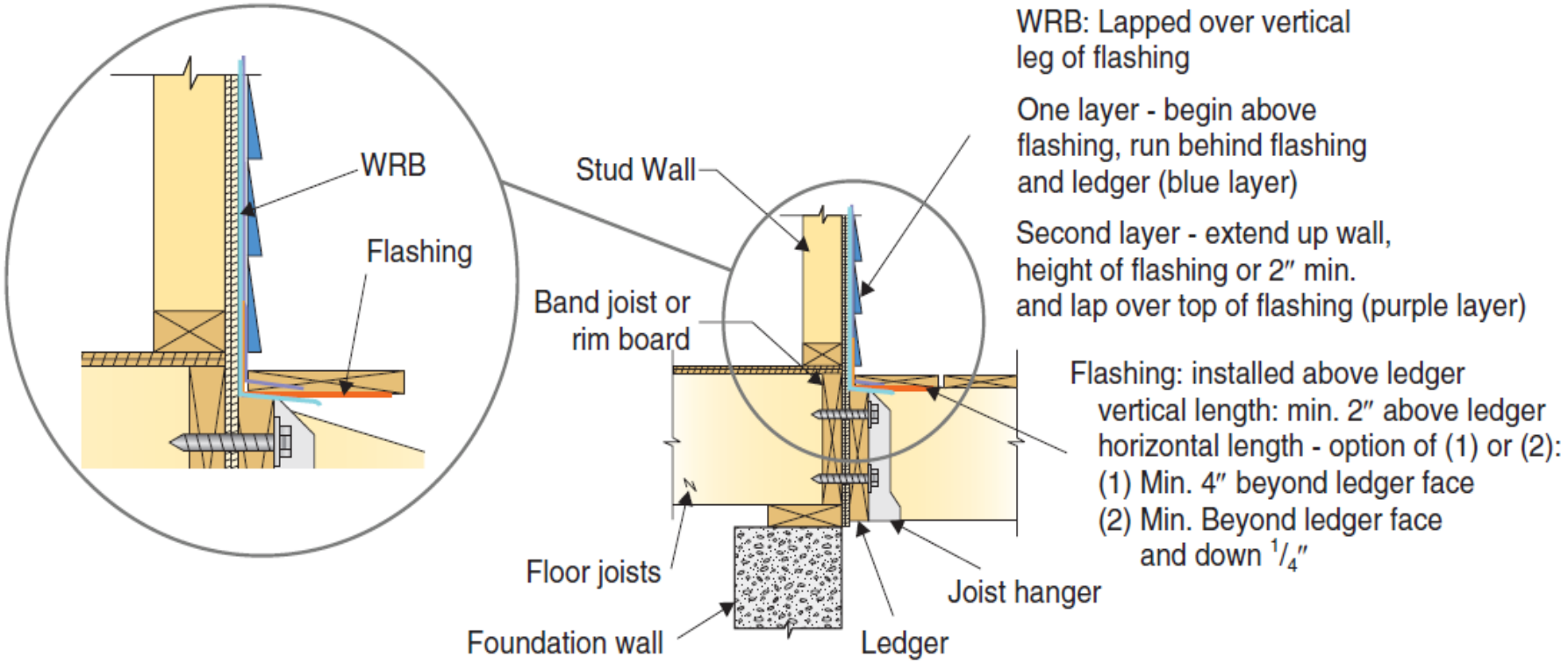
- Ledger & sheathing hole
  - Drill ½-inch diameter hole
- Band joist pilot hole
  - Drill 5⁄16" to 3⁄8" diameter hole
  - Ensures proper withdrawal and reduces splitting



Ledger connection to band joist.

R507.9.1.5 - R507.9.1.5.8 Ledger flashing and WRB

Change Type: Addition



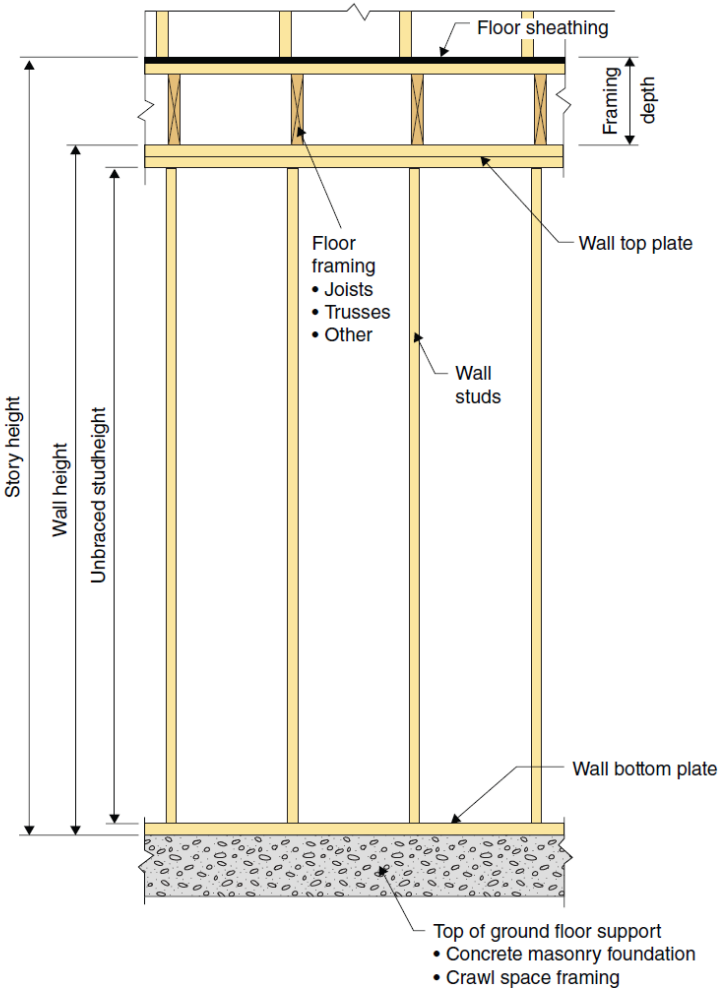
Minimum length and width of flashing and WRB.

- Specific requirements for flashing detailing at deck ledgers are added to the deck section

R602.10.3 Wall Height

Change Type: Addition

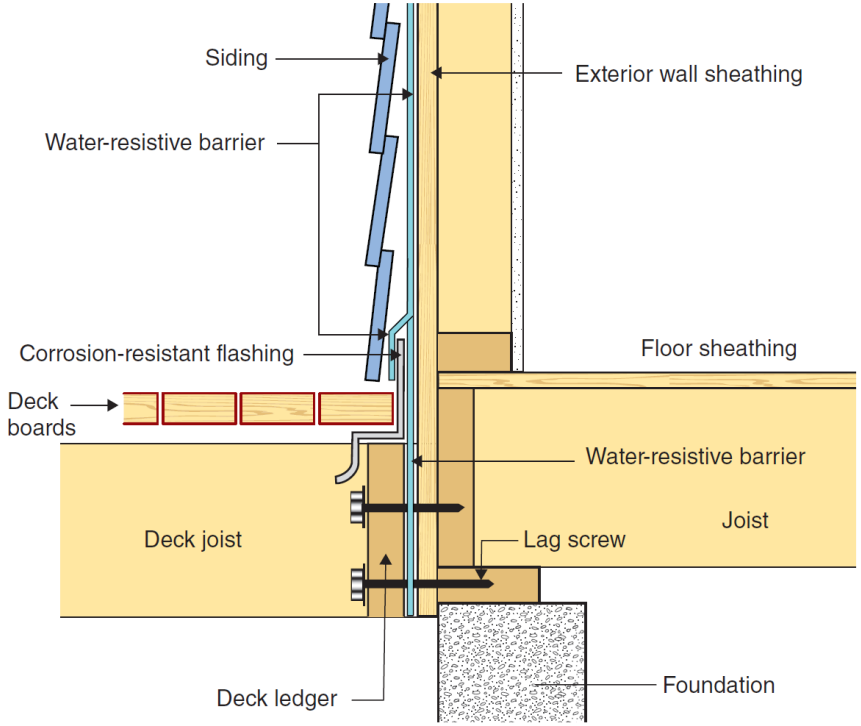
- Terminology for wall height is clearly defined and updated in the bracing tables with a new figure added for clarity



R703.2 Water-resistive Barrier

Change Type: Modification

- WRB required on all exterior walls; must be continuous and lapped with flashing.
- WRB must run **behind deck ledgers,** not stop at the top of the ledger.
- WRB may act as an air barrier if compliant with **N1102.5.1.1.**
- Exception: Not required for **unconditioned detached accessory structures** with open stud walls.

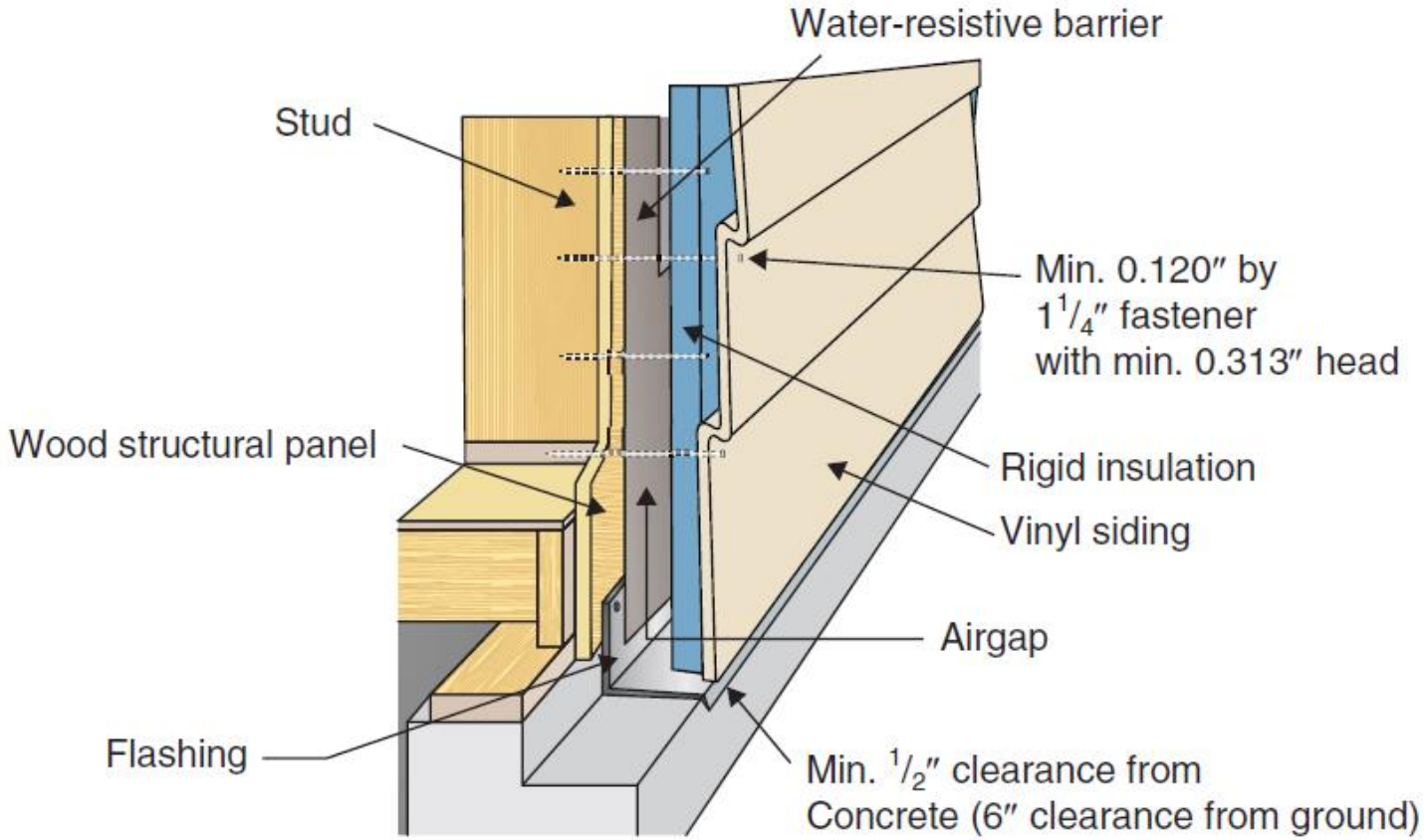


Water-resistive barrier runs behind the siding and deck ledger.

R703.3.1 & R703.3.4
Exterior Wall Coverings

Change Type: Modification

- Vinyl siding minimum fastening is clarified while the minimum clearance to wall framing is added



Exterior wall with vinyl siding.

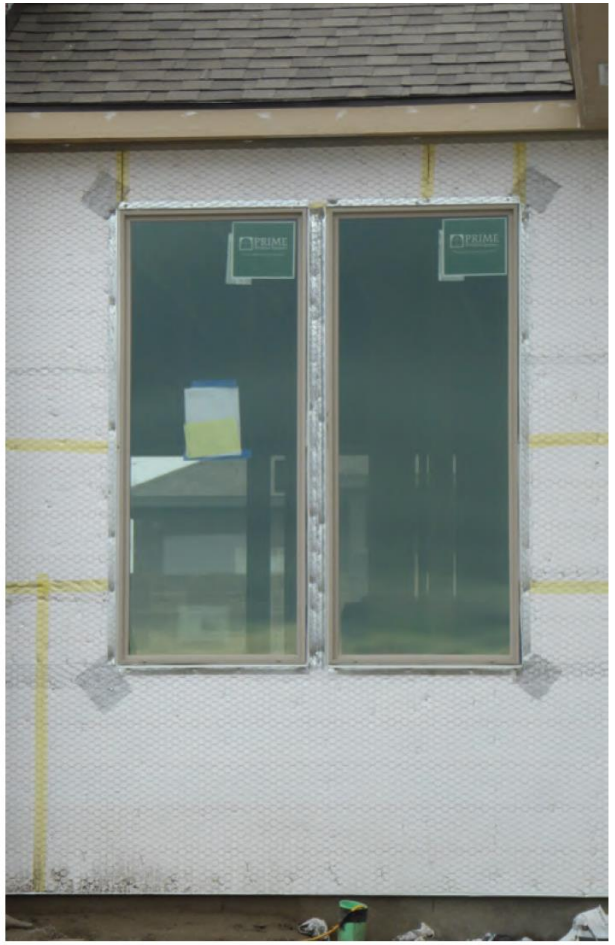
R703.4 Flashing

Change Type: Clarification

- This change clarifies that whenever flashing overlaps, it must be layered shingle-style and integrated with the WRB so water is always directed outward.



Flashing around windows over WRB.



Metal flashing over rigid insulation.

R703.18
Fiber-mat Reinforced Cementitious Backer Units

Change Type: Addition

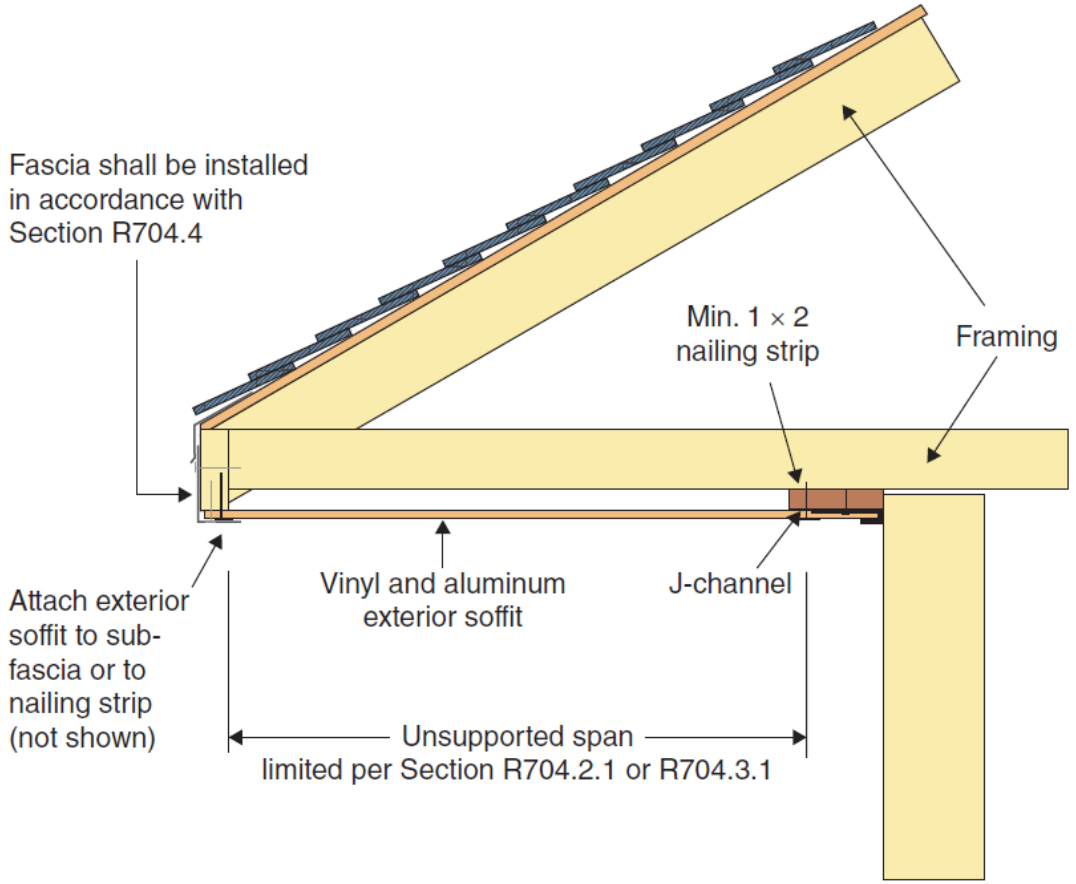
- Cementitious backer board may be used in exterior wall applications.



R704
Exterior Soffits and Fascia

Change Type: Modification

- Aluminum soffits addressed In Section R704
- Requirements for fascia are added in Section R704.4 mirroring soffit requirements
- Extra finish nail for high wind areas



R908.3 Roof Replacement

Change Type: Modification

- Self-adhering underlayment may be left on when reroofing, if the underlayment meets certain requirements.
  - Sheathing not water soaked or deteriorated
  - Permitted by manufacturer
  - Second layer applied



R909 Roof Coatings

Change Type: Addition

TABLE R909.2 Roof Coating Material Standards

Coating Material	Standard
Acrylic coating	ASTM D6083
Asphaltic emulsion coating	ASTM D1227
Asphalt coating	ASTM D2823
Asphalt roof coating	ASTM D4479
Aluminum-pigmented asphalt coating	ASTM D2824
Silicone coating	ASTM D6694
Moisture-cured polyurethane coating	ASTM D6947

- A new section lists ASTM standards applicable to each roof coating referenced in the California Residential Code (CRC).

CRC Significant Changes Parts 4 & 5

KERN COUNTY PUBLIC WORKS

CRC Significant Changes Part 4&5

- ❑ Appendix CI: Swimming Pool Safety
- ❑ Appendices: Reorganization
- ❑ Code Changes

Appendix CI
Swimming Pool Safety Act

Change Type: Modification



Swimming Pool Safety Section. (Photo courtesy of CALBO 2025)

- AB 2866: Pool Safety at Child Daycare Facilities
  - Focuses on licensed child daycare facilities and homes.
  - Must have at leas two safety measures (including an enclosure/cover).
- AB 552: Drought Planning and Water Shortage Preparedness
  - Amends and clarifies the existing Swimming Pool Safety Act for SFR when a building permit is issued for new construction or remodeling.
  - Reinforces the existing requirement for a pool or spa to have at least 2 safety features.
  - Prohibits certain combinations that do not provide sufficient layers of safety. To encourage the use of isolation fencing as the most effective.

Appendix CT
Swimming Pool Safety Act



Swimming Pool Covers. (Photo courtesy of CalPool)

Safety Pool Cover

- Clarification to include the components of previous definition.
- Power Operated Cover complying with ASTM International F1346-23, Standard Specification for Zinc-5% Aluminum-Mishmetal Alloy-Coated Seal Chain-Link Fence Fabric.

Appendix CI
Swimming Pool Safety Act

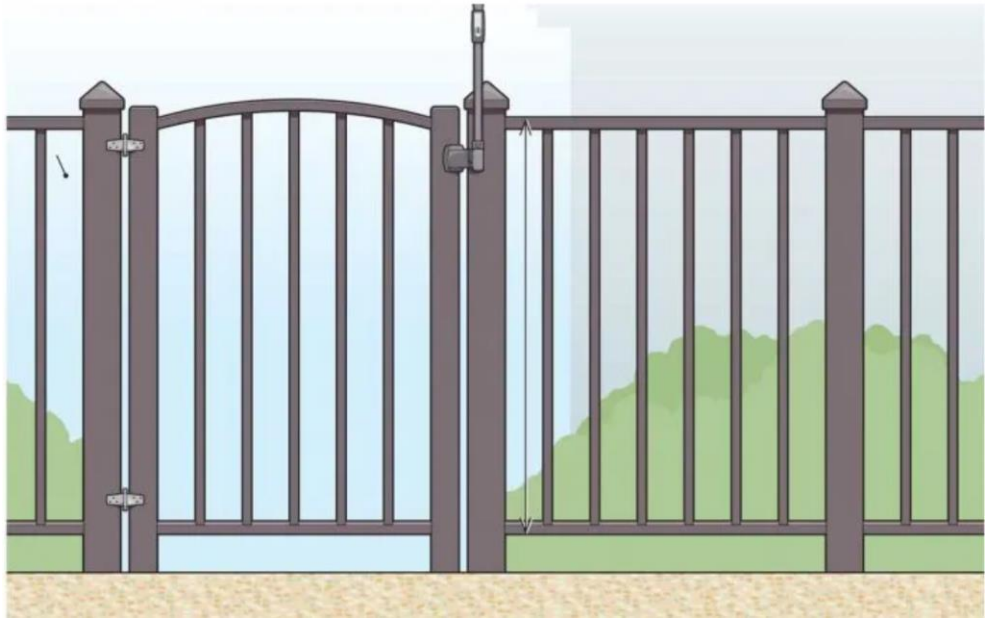


Pool Entry Gate Alarm. (Photo courtesy of LOWES)

Exit Alarms

- Previously required on all doors that provided direct access to the swimming pool.
- HSC modified to include any operable windows and doors that provide access to the swimming pool or spa.
- Clarification that door and window alarms are required when an intervening enclosure, like a fence surrounding the pool, has not been installed.

Appendix CI
Swimming Pool Safety Act



Swimming Pool Barrier. (Photo courtesy of Fine Homebuilding)

Property Transfer

- Upon property transfer, any of the 7- specified drowning prevention safety measures features to be rated.
- Rating: Good repair/operable.
- Noted in home inspection report.

- Reason: to prohibit specific combinations of authorized drowning prevention safety features that fail to meet the minimum of two.

Appendices Reorganization

Appendix Designation		Appendix Title
2025 CRC	2022 CRC	
Administrative Appendices		
AA	AV	Board of Appeals
AB	AL	Permit Fees
Building Appendices*		
BA	AE	Reserved
BB*	AQ	Tiny Houses
BE	AF	Radon Control Methods
BF*	AH	Patio Covers
BG	AK	Sound Transmission
BH	AO	Automatic Vehicular Gates
BI	AR	Light Straw-Clay Construction
BJ*	AS	Strawbale Construction
BK	AU	Cob Construction (Monolithic Adobe)
BL	—	Hemp-Lime (Hempcrete) Construction
BM	AW	3D-Printed Building Construction
BN	—	Extended Plate Wall Construction
BO	AJ	Existing Buildings and Structures
PMG Appendices*		
CG	—	Nonsewered Sanitation Systems
CH	AI	Private Sewage Disposal
CI*	AX	Swimming Pool Safety Act
CJ*	AZ	Emergency Housing
CK	AY	Areas Protected by the Facilities of the Central Valley Flood Protection Plan

Appendix designations marked with an asterisk (*) are adopted in California.

California Residential Code (CRC) Code Changes

CRC Code Changes

Section or Table	Topic	Code Change
Part 1—Administration: Chapters 1 and 2		
R102.7	Wildland-Urban Interface	SFM-FET-1-4
R103	Code Compliance Agency	RB10-22 AS
R104	Building Official Duties and Powers	ADM13-22 Part II AM, RB15-22 AS, RB16-22 AS
R111	Water Service	RB126-22 AS
R202	Definitions of Energy Storage Systems and Photovoltaic	HCD-FET-#2
R202	Definition of Rainscreen System	RB28-22 AS

Key to Code Change Number Prefixes
ADM = Administrative Code
RB = CRC—Building
G = CBC—General
S = CBC—Structural
RM = CRC—Mechanical
M = Mechanical Code
RP = CRC—Plumbing
P = Plumbing Code
CCC = Code Correlating Committee
NEC = National Electric Code
CE = IECC—Commercial
RE = IECC—Residential

Key to Disposition of Code Changes
AS = Approved as Submitted
AM = Approved as Modified at the Committee Action Hearing
AMPC = Approved as Modified by Public Comment

California Residential Code (CRC) Code Changes

Part 2—Building Planning: Chapter 3		
Chapter 3	Reorganization	RB32-22 AS
R301.2.1	Components and Cladding	RB35-22 AS
R301.2.1.1	Wind Maps	RB35-22 AS
R301.2.2	Buildings Required to Meet Seismic Provisions	RB37-22 AS, RB38-22 AS, RB164-22 AM
R301.2.2.10	Seismic Restraint	RB39-22 AMPC1
R301.2.3	Snow Loads	RB34-22 AS
R302.1	Exterior Walls	RB48-22 AMPC1
R302.3	Two-Family Dwellings	RB14-22 AS, RB61-22 AMPC1, RB63-22 AMPC3, CCC IRC12-22
R302.3.5	Vertically Stacked Dwelling Units	RB61-22 AMPC1
R302.3.6	Shared Accessory Rooms	RB64-22 AMPC1, 2
R302.13	Floor Protection	RB75-22 AS
R303	Foam Plastic	RB32-22 AS, RB127-22 AS
R306.3	Coastal High-Hazard Areas	RB15-22 AS, RB137-22 AS, RB139-22 AS
R310	Smoke Alarms	RB14-22 AS; RB121-22 AS; RB122-22 AMPC1; RB153-22 AMPC1, 2, 3
R315	Sleeping Lofts	RB32-22 AS; RB153-22 AMPC1, 2, 3
R317	Garages and Carports	RB87-22 AMPC1, RB88-22 AS
R318.7.6	Stairways Landings	RB100 AMPC1, RB107-22 AS, RB108-22 AS
R318.8	Ramps	RB100 AMPC1, RB107-22 AS, RB108-22 AS
R320	Handrails	RB110-22 AS, RB111-22 AM, RB112-22 AM, RB114-22 AM
R323	Elevators and Hoistways	RB32-22 AS, RB135-22 AS
R324.6.5	Screens Not Required	RB84-22 AM
R325	Light, Ventilation and Heating	RB76-22 AM
R329	Solar Energy Systems	RB149-22 AS, RB150-22 AMPC1
R330.4	Energy Storage System Locations	RB155-22 AS, RB157-22 AM
R337	Materials and Construction Methods for Exterior Wildfire Exposure	HCD-FET-#5

California Residential Code (CRC) Code Changes

Part 3—Building Construction: Chapters 4 through 10		
R401.4	Soil Tests	RB164-22 AM
Figure R403.1(1)	Concrete Stem Walls	RB167-22 AS
R403.1.2	Continuous Footings in SDC D	RB169-22 AMPC1
R502.11	Guard Post Attachment to Floor Framing	RB173-22 AMPC1
R506.2	Post-Tensioned Slabs	RB174-22 AS
R506.3.3	Vapor Retarder	RB175-22 AS
R507.5	Deck Beams	RB182-22 AS, RB183-22 AS, RB184-22 AS
R507.5.1, R507.5.2	Deck Bearing and Connections	RB184-22 AS
R507.9.1.3	Ledger to Band Joist Details	RB176-22 AMPC1, RB178-22 AMPC2, RB187-22 AS, RB189-22 AS
R507.9.1.5–R507.9.1.8	Ledger Flashing and Water-Resistive Barriers	RB190-22 AMPC1
Table R602.3(1)	Roof Framing Lumber Specific Gravity	RB192-22 AS, RB193-22 AMPC1, RB195-22 AMPC1
R602.10.2.2	Braced Wall Panel Placement	RB199-22 AM, RB200-22 AM
R602.10.3	Wall Height	RB201-22 AM
Table R602.10.5	Contributing Length of Braced Wall Panels	RB200-22 AM
R602.10.6	Length of Portal Frame	RB200-22 AM, RB202-22 AM, RB203-22 AS, RB204-22 AS
R702.7	Responsive Vapor Retarders	RB208-22 AM, RB209-22 AM, RB210-22 AS
R703.2	Water-Resistive Barrier	RB190-22 AMPC1, RB212-22 AS, RB213-22 AS, RB214-22 AS
R703.3.1, R703.3.4	Exterior Wall Coverings	RB216-22 AMPC1, RB217-22 AS, RB236-22 AMPC1, RB238-22 AS
R703.4	Flashing	RB190-22 AMPC1, RB218-22 AS, RB219-22 AS
R703.6.1	Furring Over WRBs for Wood Shakes and Shingles	RB220-22 AS, RB221-22 AS, RB222-22 AS
R703.7.3	Water-Resistive Barriers for Stucco	S241-22 Part II AM
R703.11, R703.14	Vinyl and Polypropylene Siding	RB228-22 AS, RB229-22 AM, RB230-22 AM, RB232-22 AM, RB236-22 AMPC1
R703.18	Fiber-Mat Reinforced Cementitious Backer Units	RB235-22 AS
R704	Exterior Soffits and Fascia	RB236-22 AMPC1, RB237-22 AS, RB238-22 AS
R902.1	Roof Assemblies	RB251-22 AS, RB252-22 AS, RB254-22 AS
R905.3.6, R905.5.6, R905.6.5	Wind Resistance—Clay, Concrete and Slate Roofs	RB266-22 AM
R905.7, R905.8	Wood Shakes and Shingles	RB266-22 AM, RB270-22 AS
R905.9.4, R905.10.5, R905.11.4	Wind Resistance—Built-Up, Metal and Bitumen Roofing	RB266-22 AM
R905.12, R905.13.4, R905.14.4	Single-Ply, Liquid-Applied and Sprayed Roofing	RB266-22 AM, RB274-22 AS
R905.15, R905.16	BIPV Roofs	RB254-22 AS, RB261-22 AS, RB266-22 AM, S35-22 Part II AS
R908.3	Roof Replacement	RB281-22 AM
R909	Roof Coatings	RB280-22 AS
Part 4—Appendices: Appendix AA through NL		
Appendix CI	Swimming Pool Safety Act	HCD 45-1

California Building Code



CBC Significant Changes Parts 1 & 2

KERN COUNTY PUBLIC WORKS

CBC Significant Changes Part 1 - Administration

- ❑ 1.10 Health Care Access and Information (HCAI)
- ❑ 1.10.6 Chemical Dependency Recovery Hospital Responsibilities
- ❑ 101.4.8, Chapter 7A Wildland-Urban Interface
- ❑ 104 Building Official Duties and Powers
- ❑ 105.2, Item 2 Fences Not Exempt from Permit
- ❑ 202 Definition of Freestanding Building or Structure
- ❑ 202 Definition of Limited Verbal or Physical Assistance
- ❑ 202 Definition of Multi-Bedroom Housing Unit

CBC Significant Changes Part 2 - Building Planning

- ❑ 304.1 Group B Occupancy Classification
- ❑ 306 Group F Occupancy Classification
- ❑ 307.1.1, 414.1 Group H Occupancy Exemptions
- ❑ 310 Group R Occupancy Classification
- ❑ 311 Group S Occupancy Classification 33
- ❑ 403.5.3 High-Rise Building Stairway Door Operation
- ❑ 404.6 Enclosure of Atriums
- ❑ 408.16, 508.2.4 Sallyport Fire Barrier Separation
- ❑ 411 Puzzle Rooms
- ❑ 411.3 Special Amusement Area Alarms
- ❑ 422.7 Domestic Cooking in Ambulatory Care Facilities
- ❑ 423.4.1, 423.5.1 Storm Shelter Design Occupant Capacity
- ❑ 503.1.4.1 Occupiable Roof Enclosures
- ❑ Table 509.1 Incidental Uses
- ❑ 510.2 Horizontal Building Separations
- ❑ 602.4.2 Exposed Mass Timber in Type IV-B Construction
- ❑ 602.4.4.3 Concealed Spaces in Type IV-HT Buildings
- ❑ 603.1 Vapor Retarders in Types I and II Construction

1.10.6 — Chemical Dependency Recovery Hospital Responsibilities

Change Type: Addition

1.10.6 OSHPD 6. Specific scope of application of the agency responsible for enforcement, enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated

Application - Chemical dependency recovery hospital not within on acute care hospital building or on acute psychiatric facility.

Enforcing agency - Local building department.

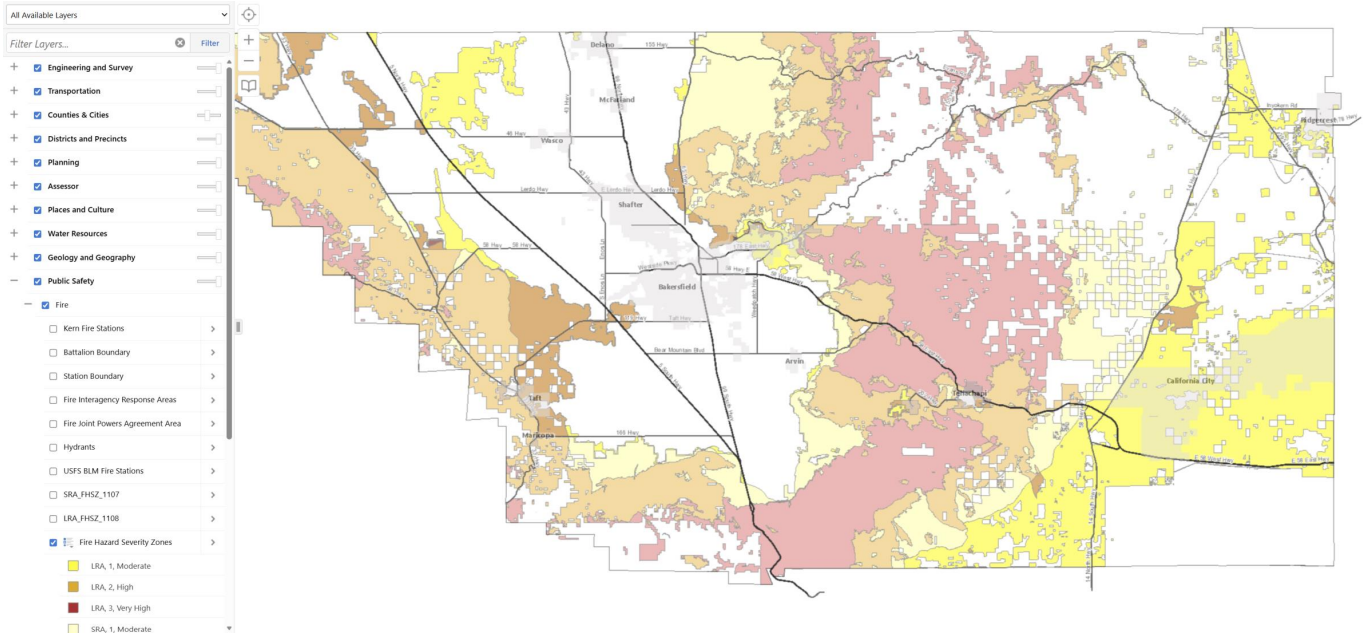


OSHPD facility. *(Photo courtesy of David Sacks/The Image Bank via Getty Images)*

101.4.8 Chapter 7A - Wildland-Urban Interface

Change Type: Modification

101.4.8 Wildland-Urban Interface. The provisions of Part 7, the California Wildland- Urban Interface Code, shall apply to the buildings and structures built in the Wildland-Urbon Interface [WUI] or o Fire Hazard Severity Zone.





Wildland-urban interface zone. *(Photo courtesy of f00sion/E+ via Getty Images)*

104 Building Official Duties and Powers

Change Type: Clarification

- Provisions of Section 104 have been reformatted for consistency with other I-Codes
- In addition, approach for reviewing for code compliance significantly updated to reflect current manner that alternate materials, methods and designs are evaluated
- Four methods identified for determination of compliance:
  - Listed compliance
  - Technical assistance
  - Alternate materials, design and methods
  - Modifications
- For listed compliance, listing to be based on specified standard
  - Where listing standard is not specified, listing to be based on an approved listing criteria
- Technical assistance to be used to determine compliance where required by building official, with technical opinion and report prepared by a qualified individual, laboratory or organization
- Performance-based alternatives acceptable when complying with ICC Performance Code
  - Not applicable to alternative structural materials or alternative structural designs

105.2, Item 2 - Fences Not Exempt from Permit

Change Type: Modification

- Fences up to 7 feet in height no longer exempt from permit requirements where utilized as a swimming pool barrier
- Recognizes life safety protection provided by minimum fence height, limitation on size of any openings, lack of climbability, and controlled gate access
- Permit requirement provides mechanism for ensuring fence and its installation go through the plan review and inspection process



Fence as barrier surrounding swimming pool. *(Photo courtesy of pastorscott/E+ via Getty Images)*

202 – Definition of Limited Verbal or Physical Assistance

Change Type: Clarification

- Applicable to Group I-1 and R-4 occupancies, more clarity is provided for determining if Condition 2 designation is appropriate for group homes, assisted living facilities and other custodial care uses
- Category includes persons who may not independently recognize, respond or evacuate without limited verbal or physical assistance during an emergency situation.



Staff providing limited physical assistance. *(Photo courtesy of DMP/E+ via Getty Images)*

202 — Definition of Limited Verbal or Physical Assistance (Continuation)

Change Type: Clarification

- Limited verbal assistance includes prompting, giving and repeating instructions
- Limited physical assistance includes help with transfer to walking aids or mobility devices and assistance with egress

202 - Definition of Multi-Bedroom Housing Unit

Change Type: Modification

- Definition was amended to remove toilet and bathing rooms and instead replaces the term with bathrooms as proposed by DSA for consistency and clarity since bathroom is used in both the California Building Code and Fair Housing Act.



An example of a bathroom in a multi-bedroom housing unit. *(Photo courtesy of Dan Reynolds Photography/Moment via Getty Images)*

304.1 Group B Occupancy Classification — Change Type: Clarification

- Electronic data processing has been modified to electronic data entry
  - Data entry is considered an activity performed in an office environment
  - Data processing is essentially automated work occurring in facilities typically accessed solely by maintenance personnel
    - More appropriately classified as Group F



Lithium-ion battery research facility. *(Photo courtesy of Monty Rakusen/DigitalVision via Getty Images)*

304.1 Group B Occupancy Classification (Continuation)

Change Type: Clarification

- Lithium-ion and lithium metal battery testing, research and development activities newly addressed specifically and identified as Group B
  - Moderate-hazard classification is appropriate due to extensive protection features as established in CFC 1207, including:
    - Detection
    - Suppression
    - Explosion control

306 Group F Occupancy Classification

Change Type: Modification

- Distilleries and similar alcohol beverage alcoholic beverage manufacturing facilities now considered as Group F-1 occupancies where alcohol content exceeds 20 percent
  - Previous threshold for Group F-1 classification was 16 percent
  - Group F-2 classification now applicable where alcohol content is 20 percent or less



Alcohol content of wine determines occupancy classification of facility. *(Photo courtesy of Morsa Images/DigitalVision via Getty Images)*

306 Group F Occupancy Classification (Continuation)

Change Type: Modification

- Provides consistency with recognition that
  - Beverages with alcohol content greater than 20 percent is considered an ignitable liquid requiring further regulation
  - Where alcohol content does not exceed 20 percent, beverages in glass or ceramic containers considered as Class I commodities
- Group F-1 occupancy classification also now includes
  - Energy storage systems (ESS) and equipment containing lithium-ion or lithium metal batteries
  - Manufacture of lithium-ion batteries
  - Manufacture and assembly of vehicles powered by lithium-ion or lithium metal batteries

306 Group F Occupancy Classification (Continuation)

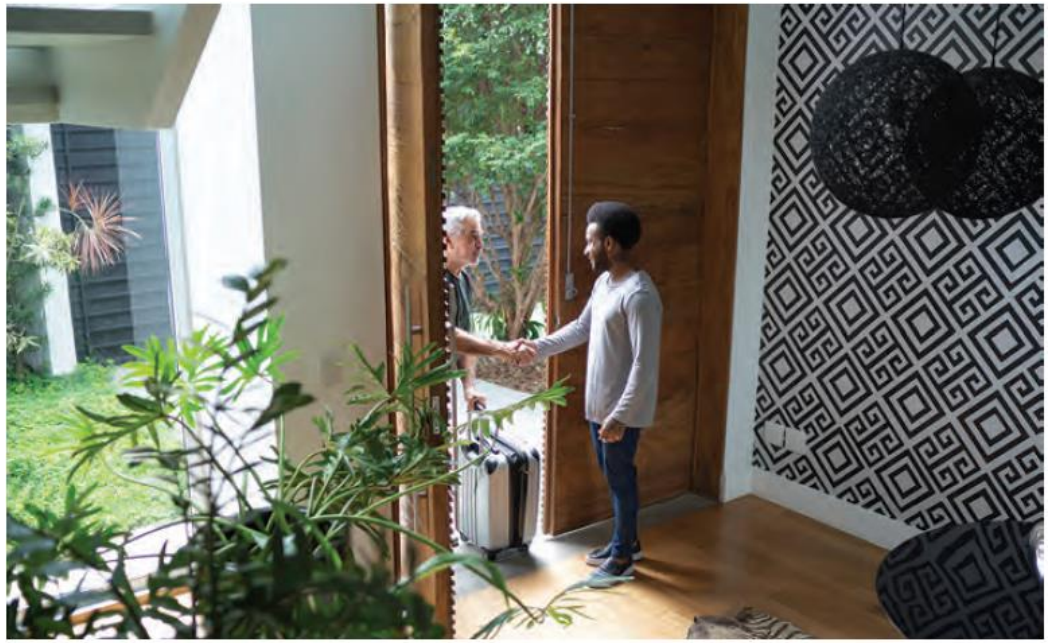
Change Type: Modification

- Recognition as Group F-1 based on moderate degree of hazard due to large part to safeguards mandated in CFC

310.4 Group R Occupancy Classification

Change Type: Modification

- In addition to several clarifications of various residential uses, the lodging house provisions have been revised
  - Emergency services living quarters introduced as congregate living facilities
- Scoping provisions for bed and breakfast establishments and similar lodging houses classified as a Group R-3 occupancy no longer mandate a maximum of 10 occupants



Welcome at owner-occupied bed-and-breakfast. *(Photo courtesy of FG Trade/E+ via Getty Images)*

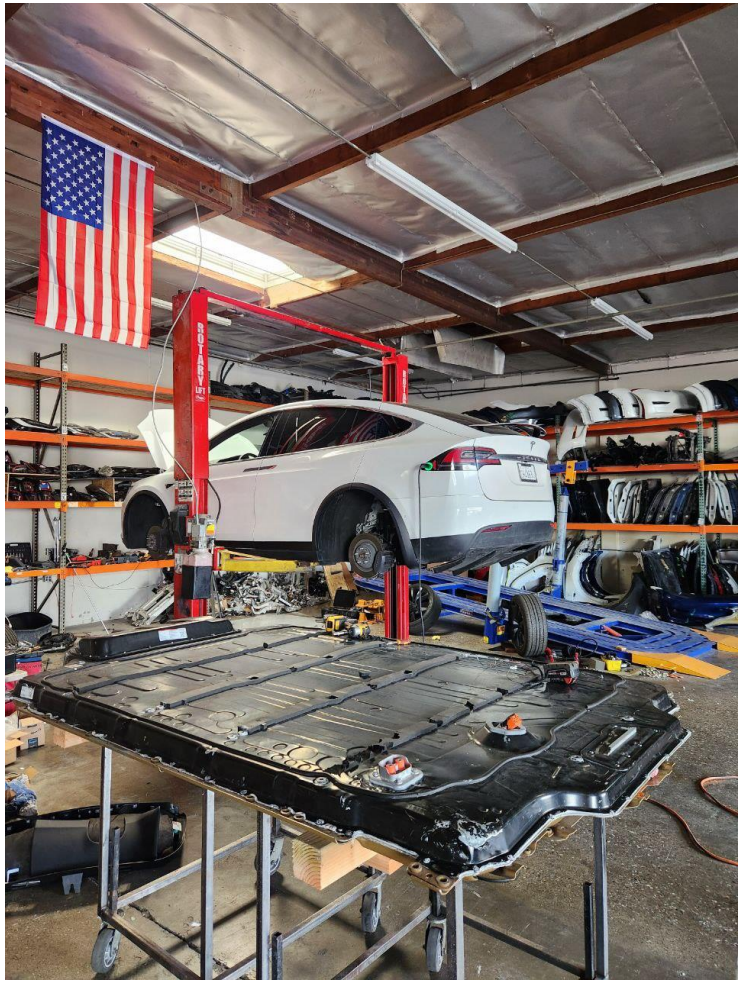
310.4 Group R Occupancy Classification (Continuation)

Change Type: Modification

- In addition, there is no longer an occupant load limit required for construction of an owner-occupied lodging house under the California Residential Code
- Threshold of five guest rooms remains as sole factor for lodging house classification

311.2 Group S Occupancy Classification Change Type: Modification

- Group S-1 classification for storage of lithium-ion and lithium metal batteries, consistent with Group F-1 manufacturing classification for similar materials and activities
- Also includes repair garages for vehicles powered by lithium-ion or lithium metal batteries
- In addition, storage of aerosol cooking spray and plastic aerosol 3 products to be considered Group S-1 occupancies



311.2 Group S Occupancy Classification (Continuation)

Change Type: Modification

- Classification as Group S-1 and S-2 facilities where alcohol beverages are stored consistent with Group F-1 and F-2 manufacturing designations based on threshold of 20 percent alcohol content



Wine storage room. *(Photo courtesy of Vostok/Moment via Getty Images)*

404.6 Enclosure of Atriums

Change Type: Modification

- In Group I-1, Condition 2 and Group I-2 occupancies, the permissible omission of the fire barrier between an atrium and adjoining areas for up to three stories is now only acceptable where three conditions are met:
  - Not applicable where adjoining areas include care recipient sleeping or treatment rooms
  - Permissible adjoining areas accounted for in design of smoke control system



Atrium in healthcare facility. *(Photo courtesy of Hero Images Inc.)*

404.6 Enclosure of Atriums (Continuation)

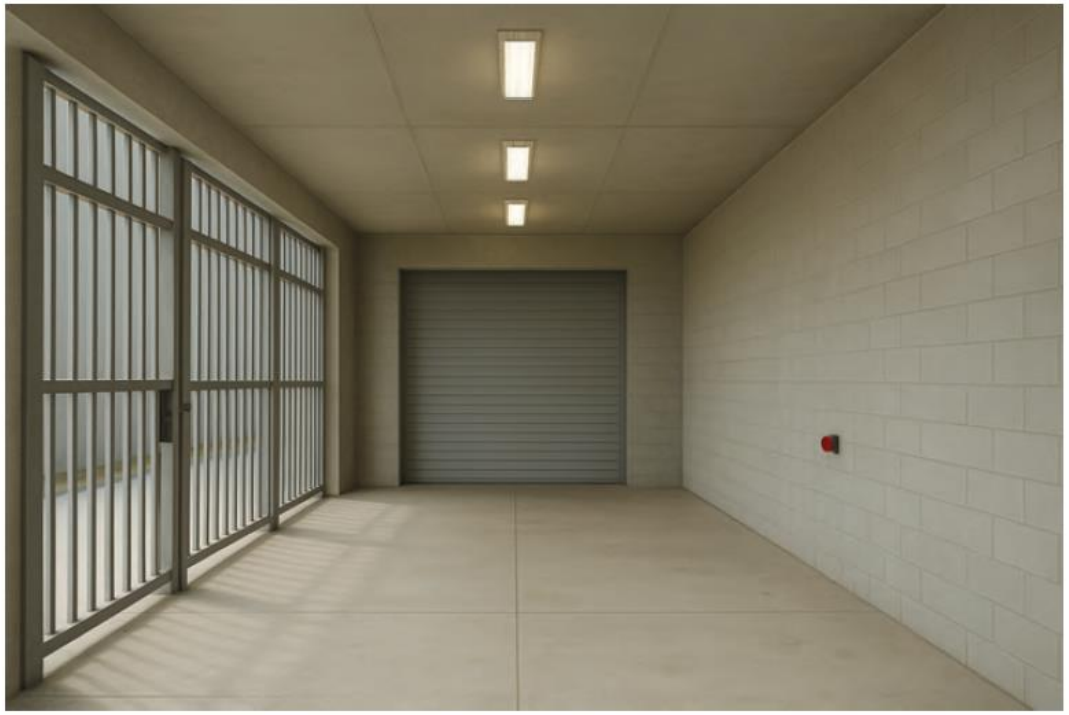
Change Type: Modification

  - Access to care recipient sleeping or treatment rooms not provided through other spaces open to the atrium
- Intended to supersede Exception 3 which allows for three floors without fire barrier separation where adjoining spaces addressed in design of smoke control system
- Modification provides equivalency between CBC and federal guidelines for certification of health care facilities

408.16, 508.2.4 Sallyport Fire Barrier Separation

Change Type: Modification

408. 16 Vehicle Sallyports. A 2-hour fire barrier separation is required at vehicle sallyports. Where a sallyport roof is more than 50 percent open to the sky, no fire barrier separation is required. Solid roofs in sallyports shall be sprinklered complying with Section 903.2.6. 2



Vehicle sallyport.

411.1 Puzzle Rooms

Change Type: Modification

- Puzzle rooms no longer required to comply with Section 411 regulating special amusement areas where means of egress meets fundamental requirements of Chapter 10
  - Unlocked
  - Readily available
  - Always available



Puzzle room. *(Photo courtesy of Best View Stock)*

411.1 Puzzle Rooms (Continuation) Change Type: Modification

- Previously, puzzle room exiting had to comply with one of three options, plus comply with all applicable provisions of Section 411
  - Compliance with Chapter 10
  - Alternative design approved by building official
  - Exit system open and readily available upon activation by automatic fire alarm system, automatic sprinkler system, and a manual control at a constantly attended location

411.3 Special Amusement Area Alarms Change Type: Clarification

- Requirements addressing the detection and notification of fire conditions in special amusement areas have been clarified and correlated with CFC provisions
- An automatic smoke detection system to be provided "throughout" buildings containing special amusement areas, along with an emergency voice/alarm communication (EVAC) system

- Provisions established for
  - Alarm pre-signal
  - Alarm activation
  - EVAC system



House of mirrors amusement attraction. *(Photo courtesy of Busà Photography/Moment via Getty Images)*

422.7 Domestic Cooking in Ambulatory Care Facilities

Change Type: Modification

- In fully sprinklered buildings...
  6. The area containing the domestic cooking appliances shall be separated from all other areas by fire partitions constructed complying with Section 708.
- (I-3 Occupancies again requires separation between cooking area and all other areas.)



Domestic cooking facility. *(Photo courtesy of Crispin la valiente/Moment via Getty Images)*

Table 509.1 Incidental Uses

Change Type: Modification

- Sprinkler protection is now mandated in the following incidental use areas in ambulatory care facilities
  - Storage rooms greater than 50 square feet
  - Waste and linen collection rooms with an aggregate volume of 8.67 cubic feet or greater
- Such rooms now require both the previously mandated 1-hour fire barrier/horizontal assembly separations as well as the new mandate for sprinkler protection
- Additional changes include lowering the following thresholds for inclusion as an incidental use for consistency with CMS federal standard :
  - Waste/linen collection rooms' Reduction from ; 10 cf to 8.67 cf
  - Storage rooms: Reduction from < 100 sf to < 50 sf

Table 509.1 Incidental Uses (Continuation)

Change Type: Modification

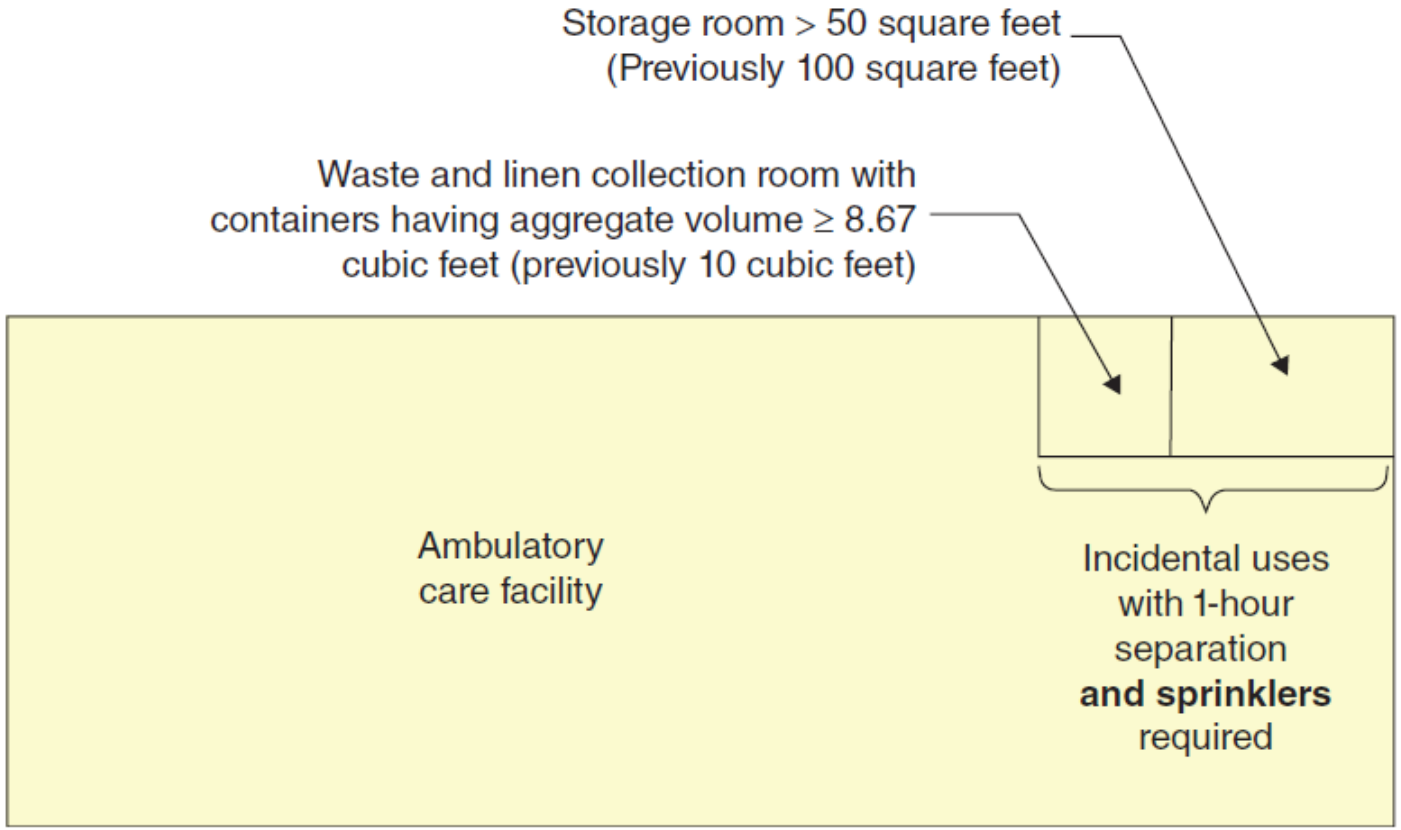
Room or Area	Separation and/or Protection
In Group I-2 ~~*and I-2.1*~~ occupancies, laboratories not classified as Group H	1 hour and provide automatic sprinkler system
In ambulatory care facilities, laboratories not classified as Group H	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
In Group I-2 ~~*and I-2.1*~~, laundry rooms over 100 square feet	1 hour and provide automatic sprinkler system[a]
Group I-3 cells and Group I-2 ~~*and I-2.1*~~ patient rooms equipped with padded surfaces	1 hour and provide automatic sprinkler system[a]
In Group I-2 ~~*and I-2.1*~~, physical plant maintenance shops	1 hour and provide automatic sprinkler system[a]
In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of ~~10~~ 8.67 cubic feet or greater	1 hour and provide automatic sprinkler system[a]
In other than ambulatory care facilities and Group I-2 ~~*and I-2.1*~~ occupancies, waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In ambulatory care facilities or Group I-2 ~~*and I-2.1*~~ occupancies, storage rooms greater than ~~100~~ 50 square feet	1 hour and provide automatic sprinkler system[a]
Electrical installations and transformers	See Sections 110.26 through 110.34 and Sections 450.8 through 450.48 of *California Electrical Code* for protection and separation requirements.

For SI: 1 square foot = 0.0929 m^2, 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L, 1 cubic foot = 0.0283 m^3.

a. ***[SFM]*** *Fire barrier protection and automatic sprinkler protection required throughout the fire area in I-2 ~~and I-2.1~~ occupancies as indicated.*

Table 509.1 Incidental Uses (Continuation)

Change Type: Modification



Incidental uses in ambulatory care facilities.

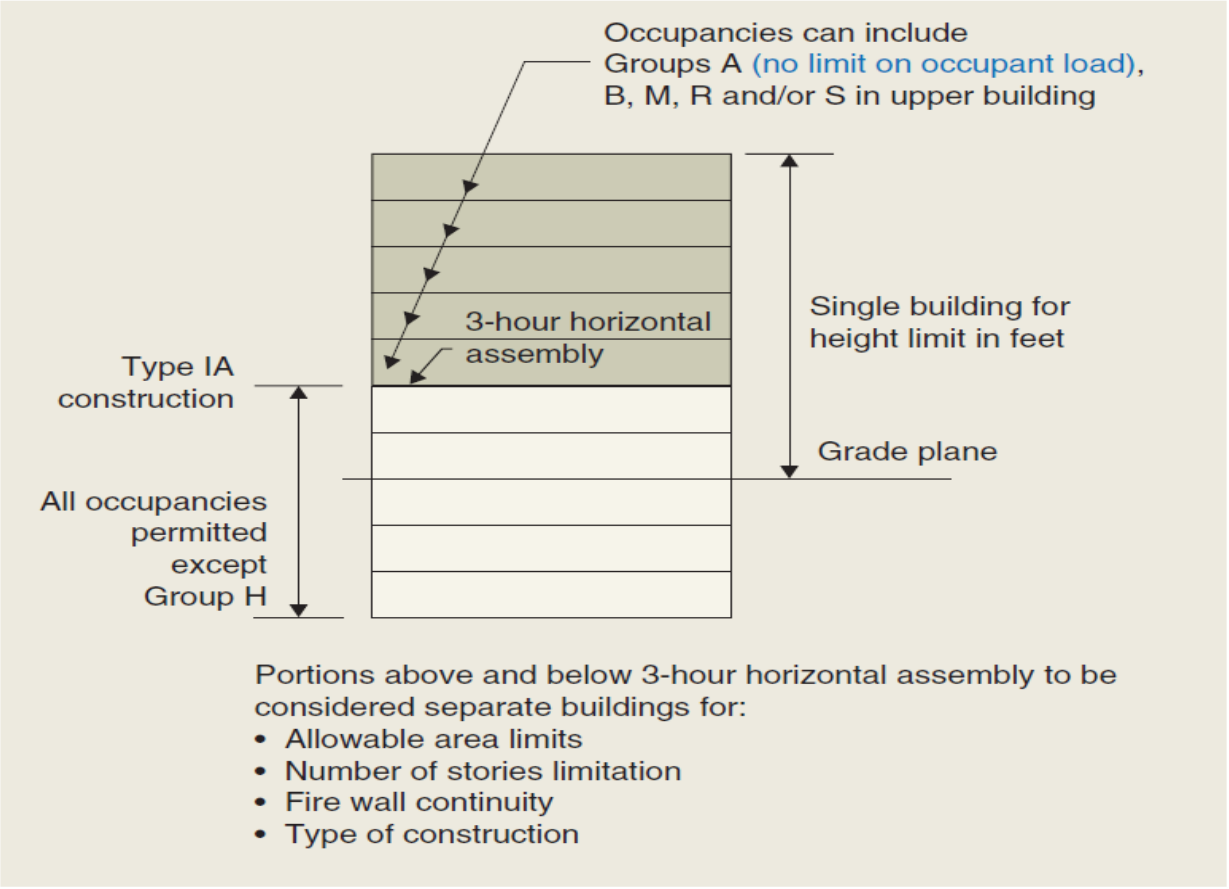
510.2 Horizontal Building Separation

Change Type: Modification

- Where the horizontal building separation allowance (podium buildings) of Section 510 is applied, the restriction on occupant loads for the upper building has been eliminated
- Previously, the only Group A occupancies permitted above the podium level were those with an occupant load of less than 300
- In addition. where vertical offsets occur in the horizontal separation required between the upper and lower buildings, the offsets shall be constructed as for fire barriers

510.2 Horizontal Building Separation

Change Type: Modification



Assembly uses above horizontal building separation.

603.1 Vapor Retarders in Type I and II Construction

Change Type: Modification

- Combustible vapor retarders, as required by Section 1404.3 based on climate zone, are now specifically permitted in buildings of Type I and II construction
  - Level of combustibles, along with their control, do not adversely impact fire severity potential
- In addition, the permissible use of combustible plumbing fixtures in Type I and II buildings is now specifically identified
  - Use of plastic fixtures deemed acceptable as standards regulating such fixtures require testing for ignitability

603.1 Vapor Retarders in Type I and II Construction

Change Type: Modification

Vapor Retarders

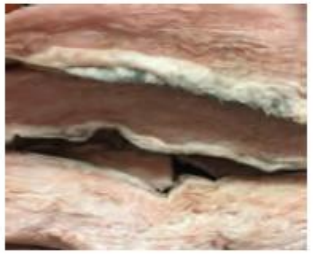
Class I



- VR < 0.1 perm
- Impermeable
- Foil and polyethylene sheets

Class II





- 0.1 perm < VR < 1 perm
- Semi-impermeable
- Extruded polystyrene and Kraft fiberglass batts

Class III





- 1 perm < VR
- Semi-impermeable
- Latex paint, 30# felt and plywood

Vapor retarders.

CBC Significant Changes Parts 3 & 4

KERN COUNTY PUBLIC WORKS

CBC Significant Changes Part 3 & 4

- ❑ 704.2, 702.3 Protection of Structural Members
- ❑ 705.6, 705.7, 705.12.1 Fire-Resistance-Rated Exterior Wall Continuity
- ❑ 705.7.1 Exterior Wall/Floor Intersections in Type III Construction
- ❑ 706.1.2, 706.2 Fire Walls—Deemed to Comply
- ❑ 707.6, 707.7 Openings in Shaft Enclosures
- ❑ 707.8 Fire Barrier Joints
- ❑ 707.9, 715.2, 715.6 Continuity Head-of-Wall Systems
- ❑ 708.4.1, 709.4.2, 710.4.1 Walls Enclosing Elevator Lobbies
- ❑ 710.4 Continuity of Smoke Partitions in Group I-2
- ❑ 713.13.4 Chute Discharge Room Opening Protection
- ❑ 714.5.1, 714.5.1.2 Through Penetration Firestop Systems in Parking Garages
- ❑ 715.4, 715.5 Exterior Curtain Wall and Floor Intersections
- ❑ 716.2.6.1 Fire Door Closing for Storm Shelters
- ❑ 717.2.4, 717.2.4.1 Controls in Air Duct Systems
- ❑ 717.6.1 Through Penetrations for Group I-2 and I-3
- ❑ 718.2.1 Fireblocking Materials
- ❑ Table 721.1(2) Rated Fire-Resistance Periods for Various Walls and Partitions
- ❑ Table 721.1(3) Minimum Protection for Floor and Roof Systems
- ❑ Chapter 7A Wildland-Urban Interface
- ❑ 903.2, 903.3.1.1.3 Sprinkler Protection for Batteries
- ❑ 903.2 Sprinklers Based on Occupancy—Batteries
- ❑ 903.3.1.1.1 Sprinkler System Exempt Locations
- ❑ 903.3.1.2 NFPA 13R Sprinkler Systems
- ❑ 903.4 Sprinkler System Supervision and Alarms
- ❑ 905.3, 905.4 Standpipe Installations
- ❑ 905.3.4, 905.5.1 Standpipes for Stages
- ❑ 907.2.1 Group A Fire Alarms
- ❑ 907.2 Fire Alarm and Detection Systems
- ❑ 907.2.11 Smoke Alarms Near Cooking Appliances
- ❑ 907.5.2.1.3 Audible Alarm Signal Frequency

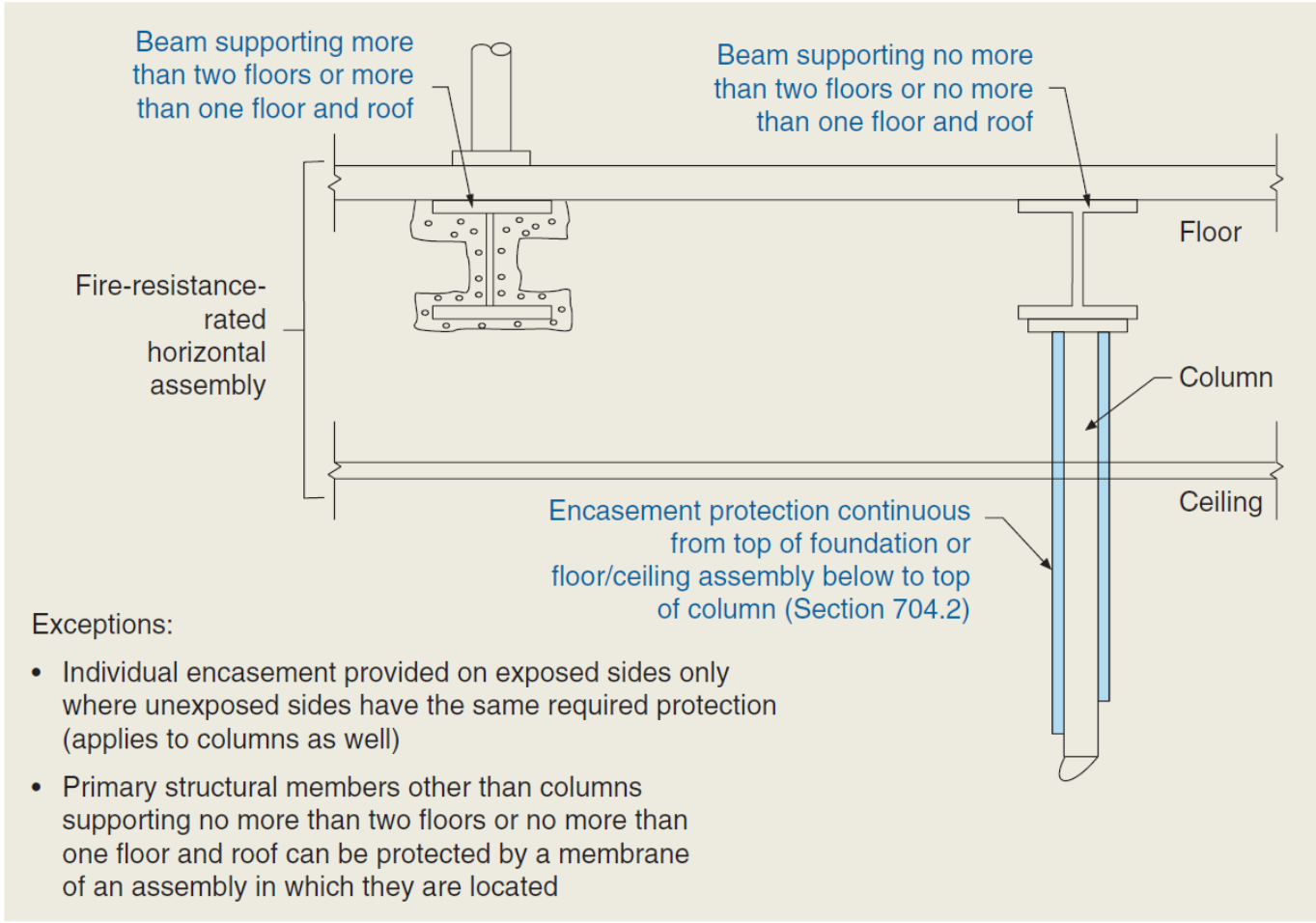
CBC Significant Changes Part 3 & 4

- ❑ 915 Carbon Monoxide Detection
- ❑ 915.6.1 Carbon Monoxide and Nitrogen Dioxide Detector Maintenance
- ❑ 1006.3 Egress from Stories or Occupiable Roofs
- ❑ 1008 Means of Egress Illumination
- ❑ 1009.2.1 Elevator Required for Accessible Means of Egress
- ❑ 1009.2.2 Maneuvering Clearances at Doors
- ❑ 1010.1.1, 1010.4 Size of Doors
- ❑ 1010.2.4, 1010.2.5 Locks and Latches
- ❑ 1010.2.6 Unlocking of Stairway Doors
- ❑ 1010.2.9 Access Control Door Locking Systems
- ❑ 1010.2.14, 3006.4 Elevator Lobby Exit Access Doors
- ❑ 1011.5.5.1, 1011.5.5.2 Nosing Projection Size and Uniformity
- ❑ 1013.5.1 Photoluminescent Exit Signs
- ❑ 1014.3 Lateral Location of Handrails
- ❑ 1014.7, 1014.8 Handrail Extensions and Clearance
- ❑ 1015.3 Guard Height Within Dwelling Units
- ❑ 1015.8 Window Openings in Group R-2 and R-3 Buildings
- ❑ 1016.2 Egress through Intervening Spaces
- ❑ 1017.2.3 Group H-5 Exit Access Travel Distance Increase
- ❑ 1023.7 Interior Exit Stairway Exterior Wall and Roof Protection
- ❑ 1026.6 Two-Way Communication
- ❑ 1029.3 Wall and Opening Protection at Egress Courts
- ❑ 1030.9.5 Dead-End Aisles in Assembly Spaces

704.2, 704.3 Protection of Primary and Secondary Structural Members

Change Type: Clarification

- For clarity purposes, provisions addressing primary and secondary structural members have been reformatted in two sections
  1. Section 704.2 now covers protection of primary structural frame members including columns
     - New exception recognizes that individual encasement is permitted on exposed sides of columns provided unexposed sides have same required protection
  2. Section 704.3 now addresses secondary structural members

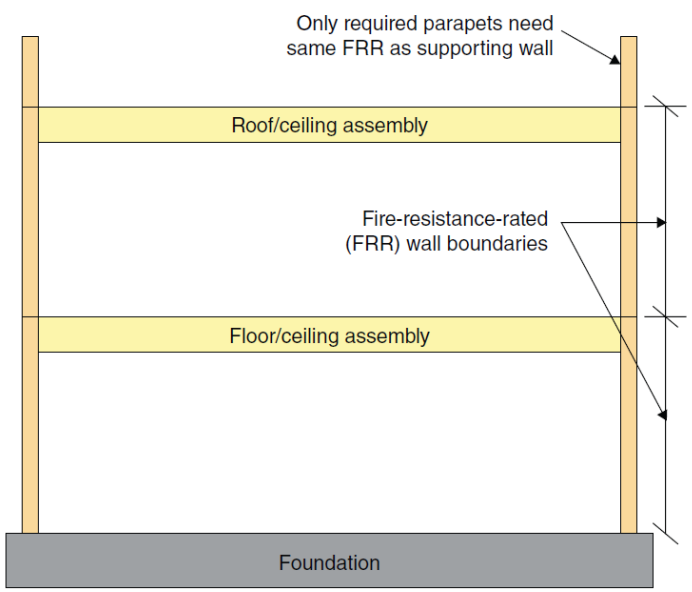


Protection of primary structural frame members.

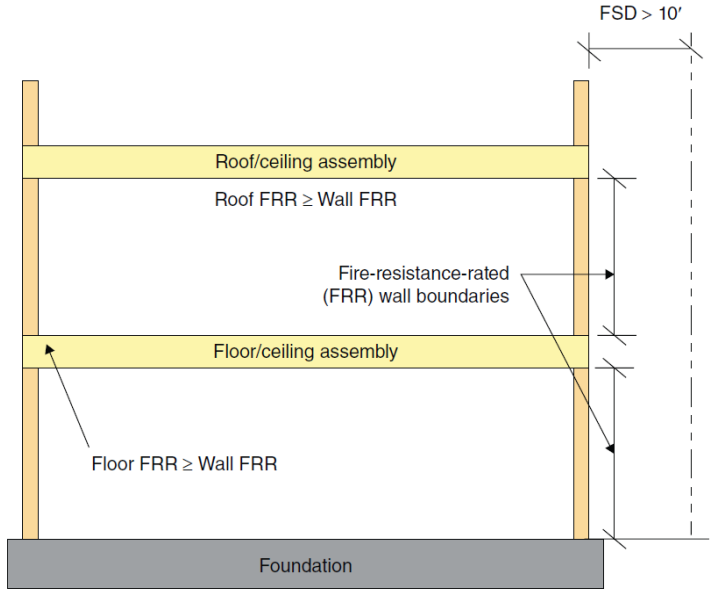
705.6 Exterior Wall Fire Rating Continuity

Change Type: Modification

- Continuity requirements for the fire-resistance rating of exterior walls now identify two complying conditions in new Section 705.6
- Required rating shall extend from top of the foundation or floor/ceiling below to one of the following
  - Underside of floor or roof sheathing, deck or slab above, or
  - Underside of floor/ceiling or roof/ceiling assembly having a fire-resistance rating ≥ the exterior wall, and the fire separation distance > 10 feet



Item 1 of Section 705.6 for fire-resistance-rated exterior wall continuity.



Item 2 of Section 705.6 for fire-resistance-rated exterior wall continuity.

705.7.1 Exterior Wall/Floor Intersections in Type III Construction

Change Type: Addition

- New provisions for load-bearing exterior walls in Type III construction clarify detailing where floors intersect the exterior wall in typical "platform" framing
- Type III Construction - construction in which the exterior walls are of noncombustible materials and the interior building elements are of any material permitted by this code. Fire-retardant-treated wood framing and sheathing complying with Section 2303.2 shall be permitted within exterior wall assemblies of a 2-hour rating or less

705.7.1 Exterior Wall/Floor Intersections in Type III Construction

Change Type: Addition

- Fire-resistance rating of portion of floor assembly that supports exterior wall to be ≥ than rating required for exterior wall per Table 601
  - Rating provided by the portion of the floor assembly supporting and within the exterior wall plane permitted to include contribution of the ceiling membrane when considering exposure from fire to the inside

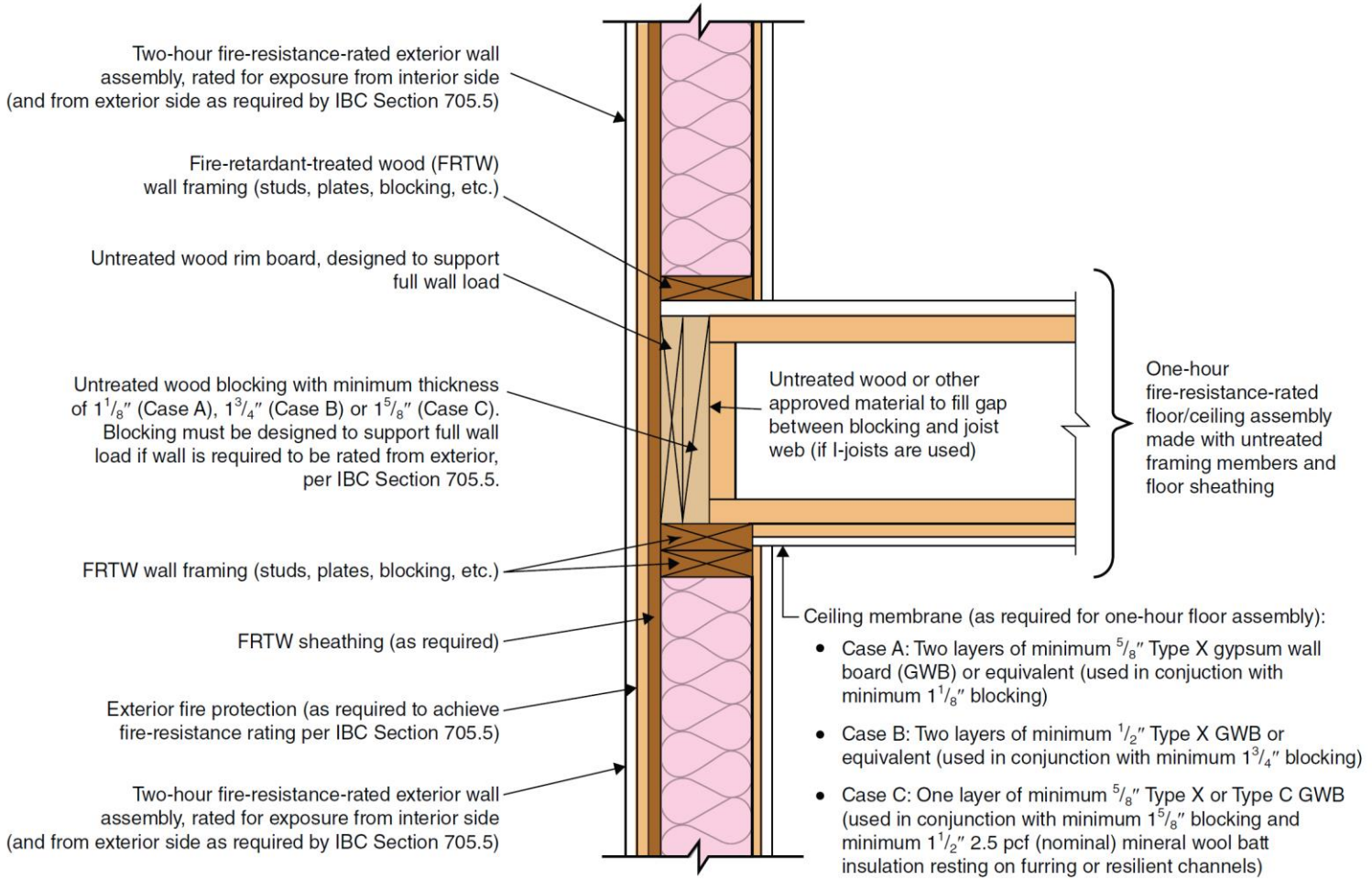
TABLE 601—FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a,b]	2[a,b,c]	1[b,c]	0[c]	1[b,c]	0	3[a]	2[a]	2[a]	HT	1[b,c]	0
Bearing walls												
Exterior[e,f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1½[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	1½	1	1	HT	1[b,c]	0

705.7.1 Exterior Wall/Floor Intersections in Type III Construction

Change Type: Addition

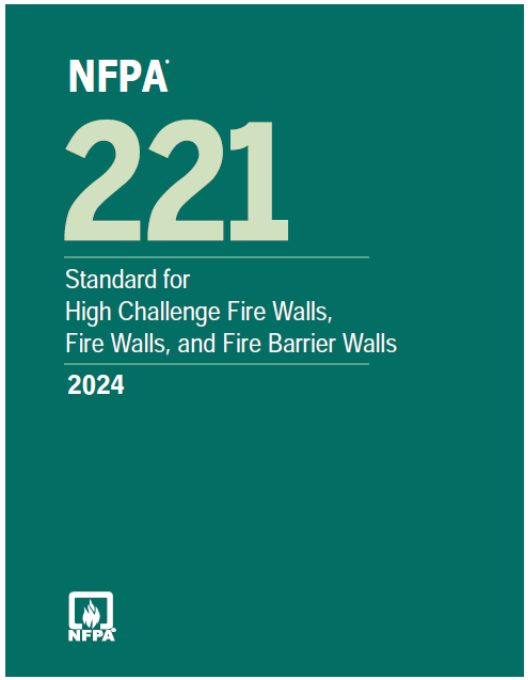
- Where wall is load-bearing, floor construction within plane of the exterior wall to be in accordance with requirements for interior building elements of Type III construction
  - includes rim joists, rim boards and blocking



706.1.2, 706.2
Fire Walls-Deemed to Comply

Change Type: Modification

- NFPA 221 Standard for High Challenge Fire Walls. Fire Walls and Fire Barrier Walls was previously recognized as acceptable for dealing with IBC structural stability requirements
- Fire walls now may be fully designed and constructed in accordance with NFPA 221
  - Except where CBC addresses similar issues



NFPA 221 allows fire walls, including double fire walls, to be designed. *(Courtesy of National Fire Protection Association)*

707.6 Openings in Shaft Enclosures

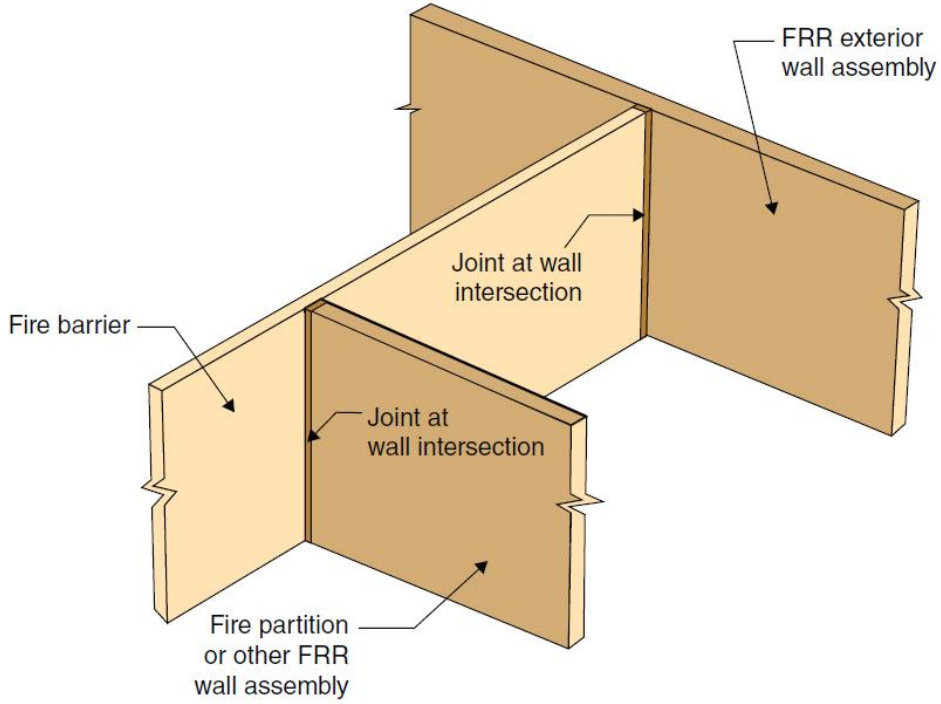
Change Type: Modification

- Additional exceptions addressing limitations on openings and penetrations in shaft enclosures now provided
- Limits on opening surface areas and/or aggregate opening width/length of wall
- Percentages no longer applicable at these new exceptions
  - 6. Shaft openings providing entrance to an elevator car
  - 7. Shaft enclosures per Section 713
  - 8. Openings serving chute access rooms or chute discharge rooms
- Limitations on length of openings not practical based upon use of various shafts, while opening percentage limits at elevator hoistway doors regulated by ASME A17.1

707.8 Fire Barrier Joints

Change Type: Clarification

- Joints must now be protected at intersections of fire barriers and all other fire-resistance-rated wall assemblies per 715
  - Previously, the only wall-to-wall joint conditions where Joint protection was specifically required were at fire barrier-to fire barrier and fire barrier-to-exterior wall intersections
- Now fire barrier intersections with smoke barriers, fire walls, and other fire resistance-rated wall assemblies will be regulated



Joint requirements apply at intersection of fire barriers and other fire-resistance-rated wall assemblies.

718.2.1 Fireblocking Materials

Change Type: Addition

- Addition complying material for achieving fireblocking in combustible construction now provided
- One thickness of 19/32-inch fire retardant-treated wood structural panel now acceptable
  - Considered by CBC Table 722.6.2(1) as equivalent as ½-inch gypsum board for fire resistance rating
  - Also consistent with ½-inch gypsum board in regard to flame spread rating of 25 or less
- Recognizes common use of FRT wood particularly in Type III construction



Fire-retardant-treated wood structural panel. *(Photo courtesy of American Wood Council, Leesburg, VA)*

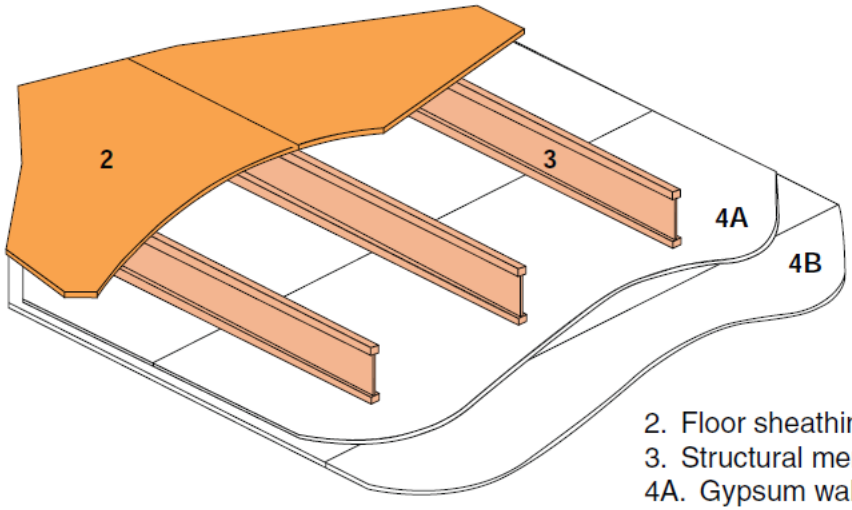
Table 721.1(3) Minimum Protection for Floor and Roof Systems

Change Type: Addition

- Additional listing in Table 721.1(3) providing compliant prescriptive floor and roof assemblies
- New Item 31-1.1 for wood-frame horizontal assembly based on successful testing per ASTM E119
  - Acceptable for 1-hour fire-resistance rating
  - Wood I-joists @ 24 inches o.c
  - Two layers 1/2-inch Type C gypsum wallboard on ceiling side

WIJ-1.5 One-Hour Fire-Resistance-Rated Ceiling Assembly

Floor/ceiling—100% design load—1-hour rating—ASTM E119/NFPA 251



2. Floor sheathing
3. Structural members
4A. Gypsum wallboard base layer
4B. Gypsum wallboard face layer

One-hour fire-resistance-rated floor or roof assembly with wood I-joists at 24″ o.c.
(Courtesy of American Wood Council, Leesburg, VA)

Chapter 7A
Wildland-Urban Interface

Change Type: Modification

- Chapter 7A regulations have been relocated to the new California Wildland Urban Interface Code. Title 24. Part 7



Wildland-urban interface zone. *(Photo courtesy of f00sion/E+ via Getty Images)*

1008 Means of Egress Illumination

Change Type: Modification

- No longer required in self-storage units where units are
  - ≤ 400 sf floor area, and
  - Accessed directly from building exterior
- Recognizes
  - Lack of electrical power/lighting reduces hazards and discourage use for non-storage purposes
  - Size does not exceed typical 2-vehicle garage
  - Opening directly to exterior provides for familiar means of egress
- Section 1008 reorganized to separate
  - General means of egress illumination
  - Emergency or back-up illumination

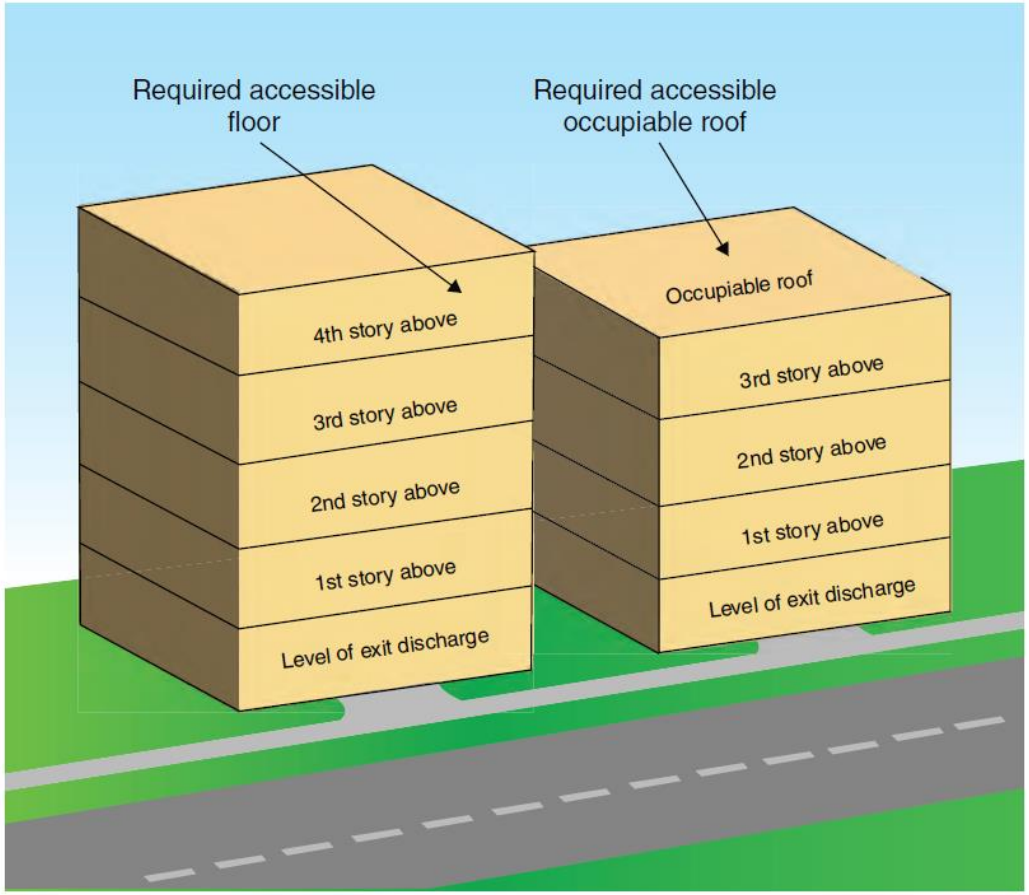


Self-service storage units. *(Photo courtesy of NoDerog/E+ via Getty Images)*

1009.2.1 Elevator Required for Accessible Means of Egress

Change Type: Clarification

- Scoping provisions clarified for accessible means of egress for an occupiable roof
- Required accessible means of egress to include a complying elevator where an accessible occupiable roof is located above a story higher than 3 stories above level of exit discharge
  - Consistent with consideration of occupiable roof as a floor level for accessible means of egress purposes



Accessible means of egress determination.

1010.2.9 Access Control Door Locking Systems

Change Type: Clarification

- Where door has an access control system (ingress control), provisions now indicate
- Such systems are permitted, and
- Must comply with either special locking arrangements set forth below or follow general egress rules and be readily operable from egress side
  - Hardware release of electrically locked egress doors
  - Sensor release of electrically locked egress doors
  - Delayed egress
  - Controlled egress doors In Groups I-1 and I-2
  - Elevator lobby exit access doors
  - Locking arrangements in buildings with correctional facilities

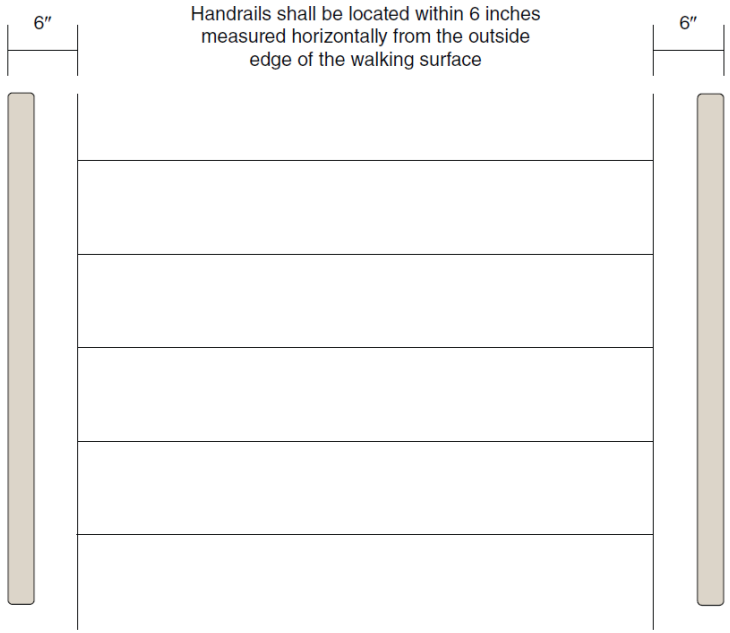


Access control card reader. *(Photo courtesy of Thanit Weerawan/Moment via Getty Images)*

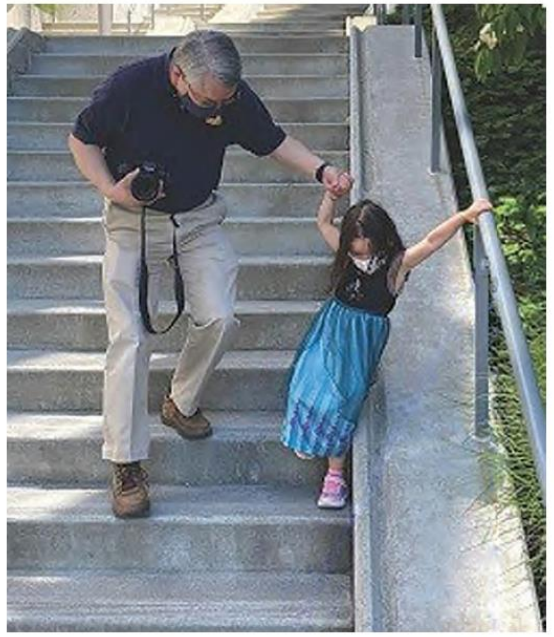
1014.3 Lateral Location of Handrails

Change Type: Modification

- Handrails to be located 6 inches or less horizontally from edge of walking surface of stairways, ramps, stepped aisles and ramped aisles
  - Location limitation will increase reach access for various-sized users as well as increase support and usability of rail



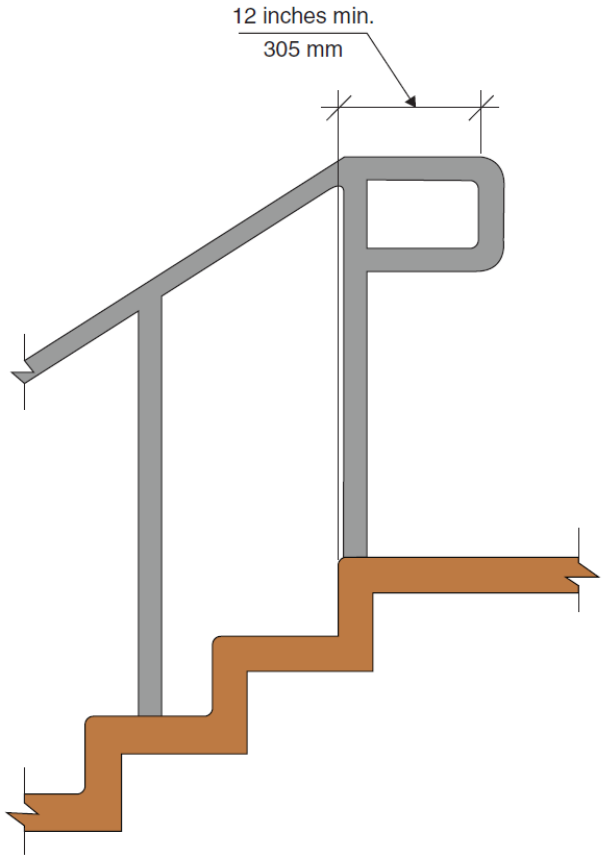
Handrail location at an egress stair.



1014.7. 1014.8
Handrail Extensions and Clearance

Change Type: Clarification

- Clarifications to measurement methods for handrail extension length at
  - Top landing nosing rather than at top riser
  - Bottom tread nosing rather than at bottom riser
- Required minimum length before change in direction or decrease in required clearance also clarified

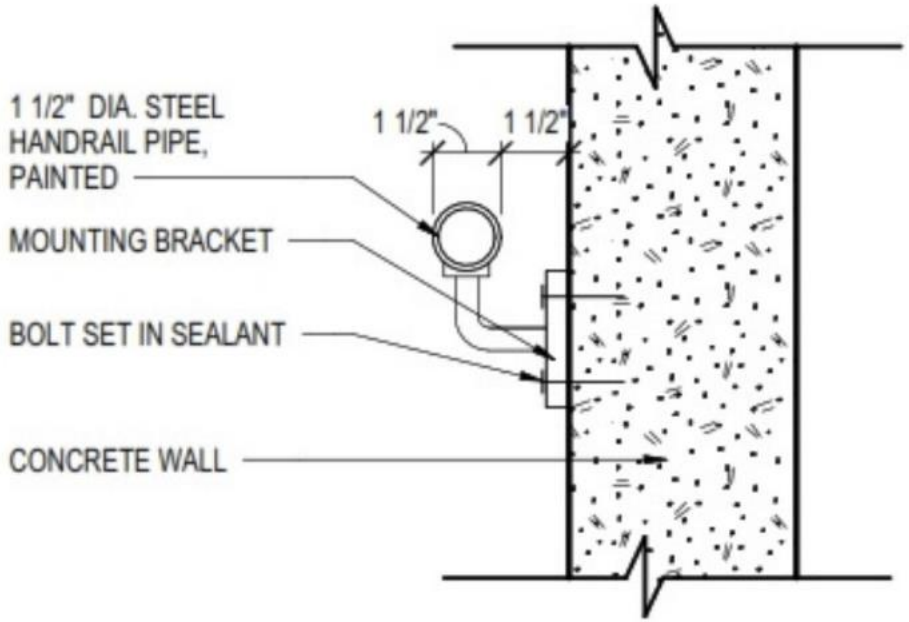


Handrail extension at top of stairway.

1014.7. 1014.8
Handrail Extensions and Clearance

Change Type: Clarification

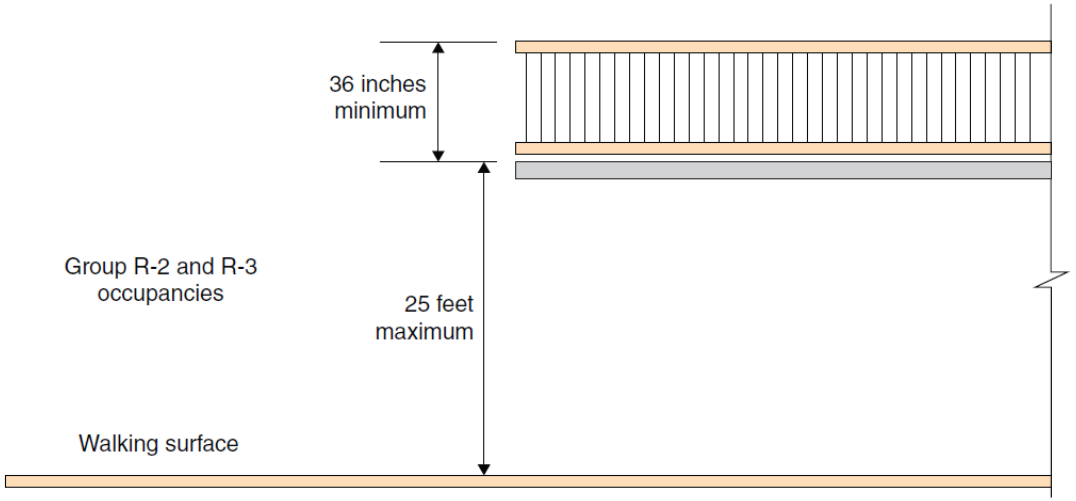
- Two new exceptions to requirement of required 1½-inch clearance between handrail and wall reflects current practice and allows for
  - Decreased clearance due to curvature or angle of handrail return
  - Maximum ½-inch-thick mounting flanges at ends of handrails



1015.3 Guard Height Within Dwelling Units

Change Type: Modification

- Minimum guard height in Group R-2 and R-3 occupancies now permitted to be reduced to 36 inches under specified conditions
  - Open-side of walking surface not more that 25 feet above floor or walking surface below
  - Limited to areas within interior conditioned space of individual dwelling units
- Allowance available to buildings of any height



Minimum guard height.

1015.8
Window Openings in Group R-2 and R-3 Buildings

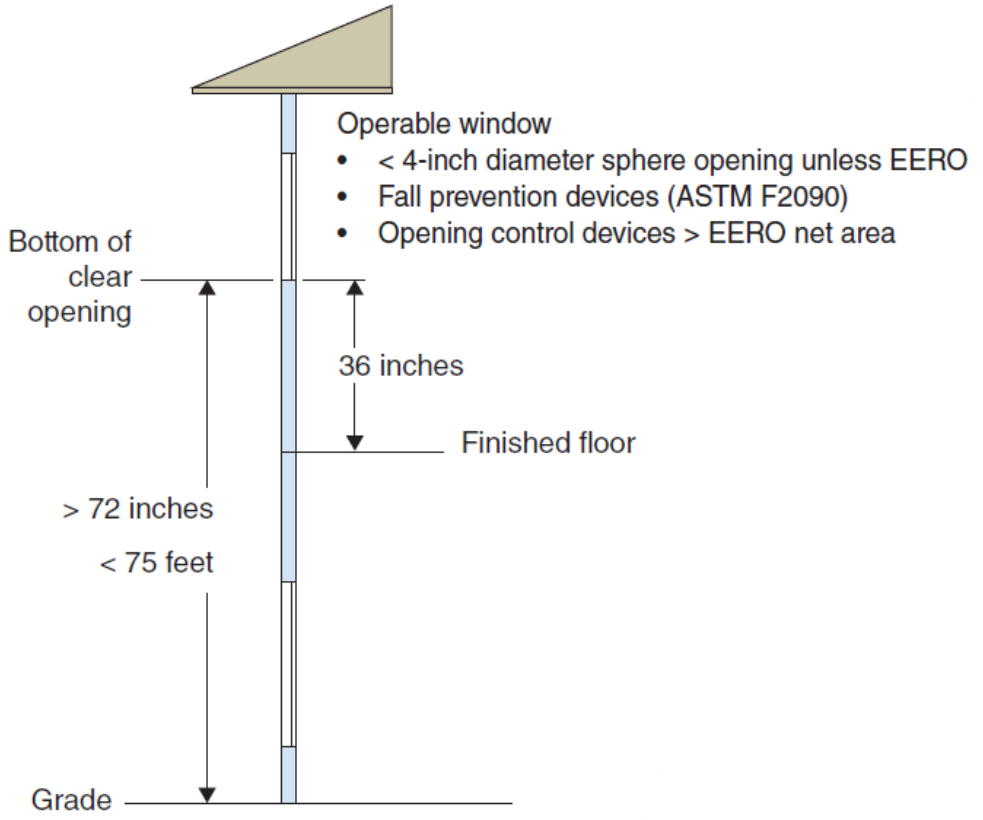
Change Type: Clarification

- Scope of Section 1015.8 is windows in Group R-2 and R-3 buildings including dwelling units where
  - Bottom of clear opening of operable window located less than 36 inches above finished floor and more than 72 inches above finished grade or other surface below on exterior of building
- Provisions reorganized to regulate two conditions

1015.8
Window Openings in Group R-2 and R-3 Buildings

Change Type: Clarification

- Condition 1
  - Windows located more than 72 inches (6 feet) but less than 75 feet above exterior grade or surface below

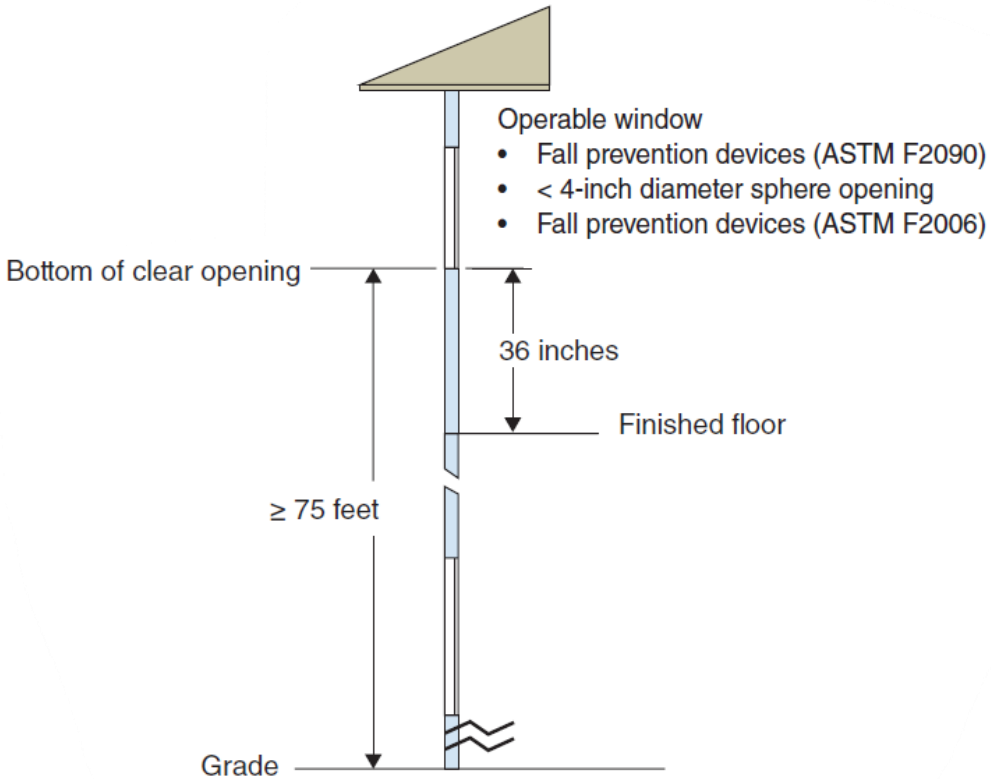


Window opening criteria.

1015.8
Window Openings in Group R-2 and R-3 Buildings

Change Type: Clarification

- Condition 2
  - Window openings located 75 feet or more above exterior grade or surface below



CBC Significant Changes Parts 6 & 7

KERN COUNTY PUBLIC WORKS

CBC Significant Changes Part 6&7

- ❑ 1202.3 Unvented Attic and Unvented Enclosed Rafter Assemblies
- ❑ 1208 Dwelling Unit Size
- ❑ 1211.1 UV Germicidal Irradiation Systems
- ❑ 1228.44, 1229 Chemical Dependency Recovery Hospital-Supplemental Service
- ❑ 1402.8 Vertical and Lateral Flame Propagation Compliance Methods
- ❑ 1403.13, 1403.14, 1404.19 Exterior Wall Materials and Installation
- ❑ 1404.3 Vapor Retarders
- ❑ 1409 Insulated Metal Panel
- ❑ 1502.3 Roof Drainage Scuppers
- ❑ 1504.8 Wind Resistance of Aggregate-Surfaced Roofs
- ❑ 1507.8.1, 1507.9.1 Roof Deck Requirements for Wood Shingles and Shakes
- ❑ 1512.1, 1512.2 Reroofing
- ❑ 1604.4 Flexible Versus Rigid Diaphragms
- ❑ 1604.5 Risk Category-PV Systems, Parking Garages and Multiple Occupancies
- ❑ Table 1604.5 Risk Categories for I-2 and I-3 and Public Utilities
- ❑ 1607.8.2 Fire Truck and Emergency Vehicles
- ❑ 1607.9 Loads on Handrails and Guards
- ❑ 1608 Snow Loads
- ❑ 1609 Wind Loads
- ❑ 1609.7, 1612.2, 1613.5, 3001 Elevator Loads
- ❑ 1611 Rain Loads
- ❑ 1613 Earthquake Loads
- ❑ 1613.6 Seismic Loads for Sprinklers
- ❑ 1705.2.6 Special Inspection of Metal Building Systems
- ❑ Table 1705.3 Special Inspection of Reinforcing Bar Welding
- ❑ 1803.5.4 Groundwater
- ❑ 1807.2.5 Guards on Retaining Walls
- ❑ 1809.14, 1810.3.12 Grade Beams
- ❑ 1810.3.2.8 Justification of Higher Allowable Stresses
- ❑ 1901.2.1 Structural Concrete with GFRP Reinforcement

CBC Significant Changes Part 6&7

- ❑ 1905 Seismic Requirements for Structural Concrete
- ❑ Chapter 21 Masonry
- ❑ 2103.2.4 Mortar for Adhered Masonry Veneer
- ❑ 2109 Empirical Design of Adobe Masonry
- ❑ Chapter 22 Steel
- ❑ 2210 Metal Building Systems
- ❑ 2211 Industrial Boltless Steel Shelving
- ❑ 2212 Industrial Steel Work Platforms
- ❑ 2213 Stairs, Ladders and Guarding for Steel Storage Racks
- ❑ 2303.2 Fire-Retardant-Treated Wood
- ❑ 2303.2.6.3 FRT Strength Adjustments for LVL
- ❑ Table 2304.6.1 Wood Structural Panel Wall Sheathing
- ❑ 2304.10.1 Fire Protection of Connections
- ❑ 2305.1 Wood Shear Walls and Diaphragms
- ❑ Table 2306.1, 2307.1 ASD and LRFD for Wood
- ❑ 2308.2.7 Hillside Light-Frame Wood Construction
- ❑ 2309.1 Wood Frame Construction Manual
- ❑ 2406.1 Multipane Glazed Assemblies
- ❑ 2406.4.3 Glazing in Windows
- ❑ 2407.1.1 Loads on Glass Guards and Handrails
- ❑ 3001.2 Elevator Emergency Communication Systems
- ❑ 3006.2, 3006.3 Elevator Hoistway Door Protection
- ❑ 3007.6 Fire Service Access Elevator Lobbies
- ❑ 3103 Temporary Structures
- ❑ 3109.2 Swimming Pool Safety Act Amendment

1208 Dwelling Unit Size

Change Type: Modification

- Minimum 70 sf established for sleeping units
  - Previously unaddressed.
  - Now consistent with minimum size required for habitable rooms of a dwelling unit.
- Dwelling units now require minimum 190 sf habitable space.
  - Provides consistency with minimum size required for efficiency dwelling units



Efficiency dwelling unit. *(Photo courtesy of Paul Vinten)*

1403.13, 1403.14, 1404.19
Exterior Wall Materials and Installation

Change Type: Addition

- Two additional types of materials now approved for exterior wall construction when meeting Section 1403.

#1

- Fiber-mat reinforced cementitious backer units.
  - Permitted as an exterior substrate for application of exterior finish materials per ASTM C1325.
  - Installation regulated by new Section 1404.19 (manufacturer's installation instructions & corrosion-resistant fasteners)

TABLE 1404.2 Minimum Thickness of Weather Coverings

Covering Type	Minimum Thickness (inches)
Fiber-mat reinforced cementitious backer units	0.5

(Portions of table not shown remain unchanged.)



Fiber-mat reinforced cementitious backer units. *(Photo courtesy of Michael Holley)*

Continue ....

#2

- Insulated vinyl siding.
  - Permitted as siding material per ASTM D7793“
  - Newly defined as: Continuous insulation cladding product, with manufacturer-installed foam plastic insulating material as an integral part of cladding product with thermal resistance not less than R-2

1404.3 Vapor Retarders

Change Type: Modification

- Several revisions made to vapor retarder provisions for consistency with CEC and CRC.
- Changes provide for additional options and better guidance for allowable types and locations of permitted vapor retarders.
  - In Climate Zones 4 through 8, vapor retarder not required on interior side of frame walls where assembly complies with Table 1404.3(5)

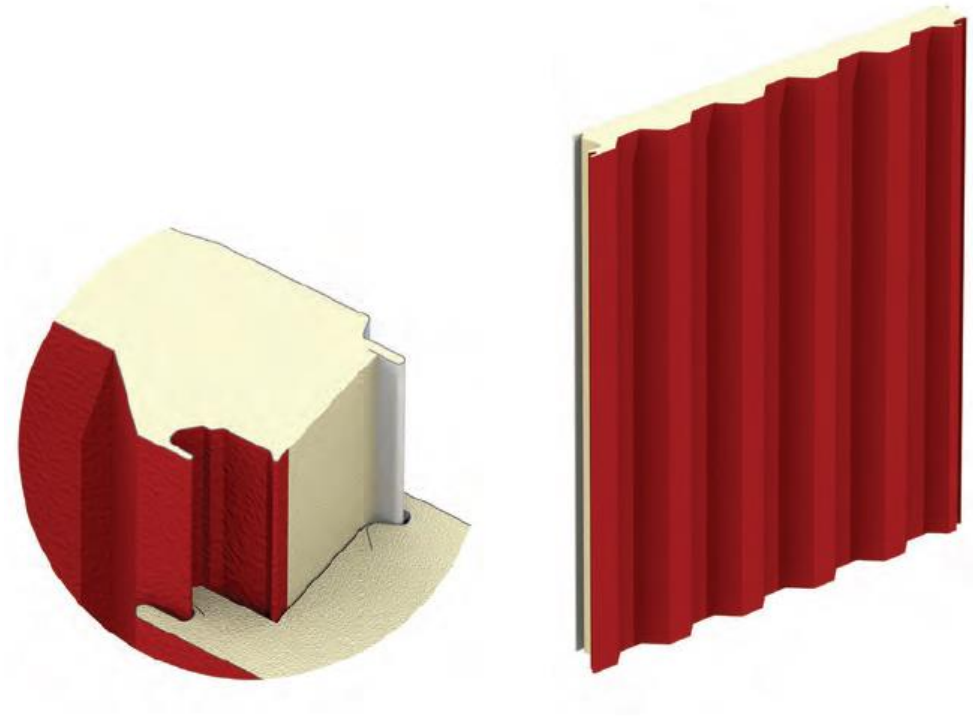
TABLE 1404.3(5) Continuous Insulation on Walls Without a Class I, II or III Interior Vapor Retarder[a]

Climate Zone	Permitted Conditions[b,c]
4	Continuous insulation with *R*-value ≥ 4.5
5	Continuous insulation with *R*-value ≥ 6.5
6	Continuous insulation with *R*-value ≥ 8.5
7	Continuous insulation with *R*-value ≥ 11.5
8	Continuous insulation with *R*-value ≥ 14

1409
Insulated Metal Panels (IMP)

Change Type: Addition

- New provisions now regulate materials, construction and quality of insulated wall panels (IMP) used as exterior walls and exterior wall coverings.
- IMP newly defined as: a factory manufactured panel consisting of metal facings and an insulation core intended for use as a system forming an exterior wall, an exterior wall covering, a roof covering or roof assembly of a building.

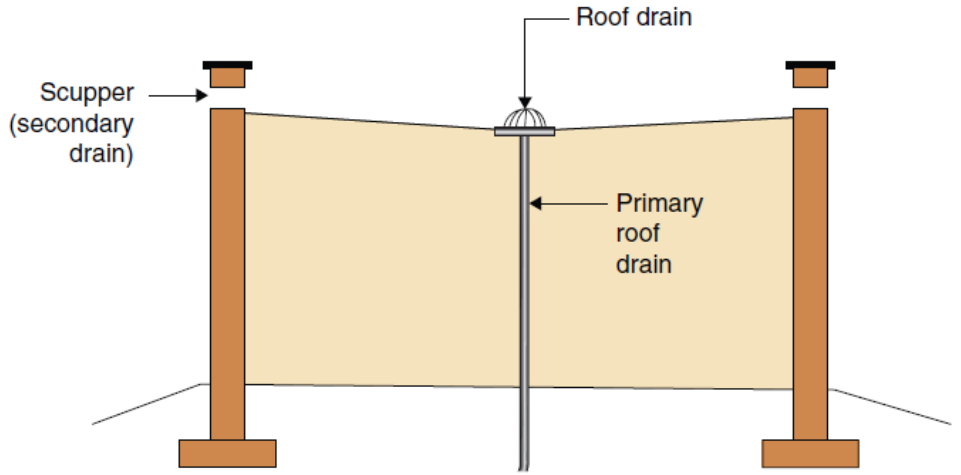


Insulated metal panels. *(Courtesy of Metlspan/Nucor)*

1502.3 Roof Drainage Scuppers

Change Type: Deletion

- Scupper requirements for secondary roof drainage removed from CBC.
  - Addressed in full by CPC.
  - Previously, CBC did not contain all applicable provisions in CPC.
- Retention of Section 1502.2 maintains requirement for secondary roof drains or scuppers where applicable



Secondary drainage using scuppers.

Table 1604.5 Risk Categories - Power Stations

Change Type: Modification

- No definition for "power generating stations".
- 75 MW_{AC} threshold established for Risk Category

TABLE 1604.5 Risk Category of Buildings and Other Structures (excerpt)

(See the 2025 CBC for the entire table.)

Risk Category	Nature of Occupancy
III	Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to: · Any other occupancy with an occupant load greater than 5,000.[a] · Power-generating stations with individual power units rated 75 MW_{AC} (megawatts, alternating current) or greater, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.

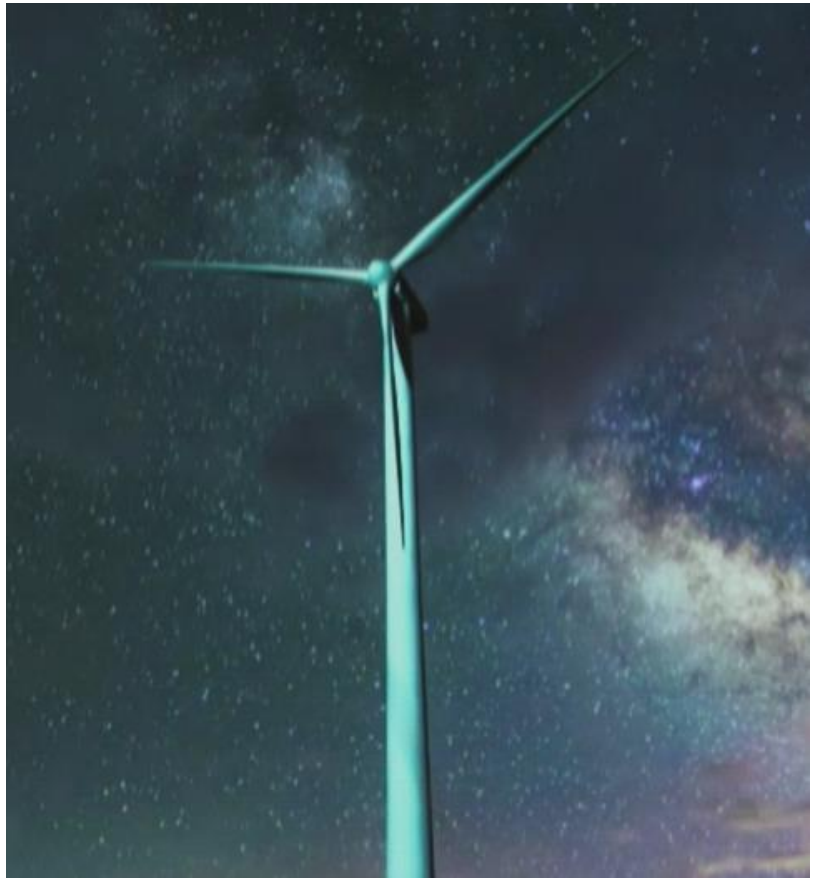


Table 1604.5
Risk Categories

Change Type: Modification

RC IV.

- Essential facilities. Buildings where loss of function represents a substantial hazard to occupants or users
- Public utility facilities providing power generation, potable water treatment, or wastewater treatment



Credit: www.greshamsmith.com
Public Domain - Wikimedia

202 Definitions - PV Systems

- Photovoltaic (PV) systems
- Ground-mounted.
  - Independent system without useable space underneath
  - Installed directly on the ground
- Elevated.
  - Independent support structure designed with useable space beneath
    - Minimum clear height 7.5 feet.
- Intended for secondary use
  - e.g. vehicle shade or parking



An elevated PV system. *(Photo courtesy of Reed Kaestner/Corbis via Getty Images)*

1604.5.2 Photovoltaic (PV) Panel Systems

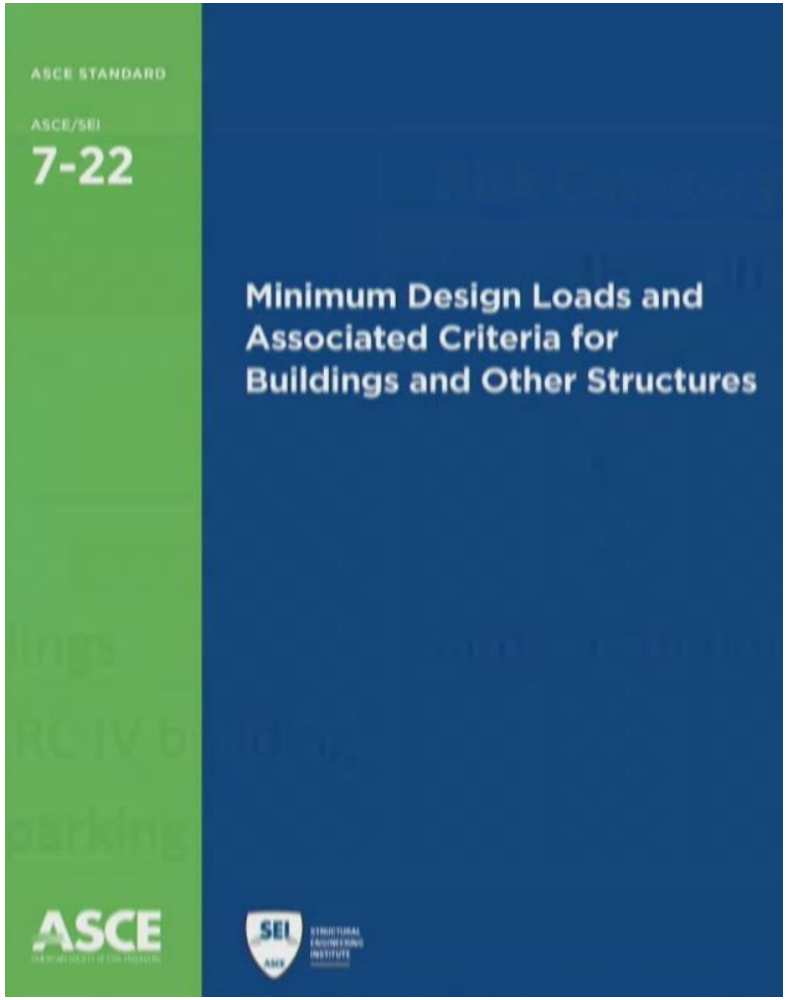
Change Type: Modification

PV Systems & Elevated PV Support		Risk Category (RC)			
		I	II	III	IV
1	Ground mounted for Group R-3 only	x			
2	Ground mounted other than 1 & 5		x		
3	Elevated other than 4, 5 & 6		x		
4	Rooftop and elevated PV on top of buildings	Same as building RC			
5	Paired with ESS & dedicated backup for RC IV building				x
6	Elevated & used for emergency vehicle parking				x

Chapter 16 Structural Design Loads

Change Type: Modification

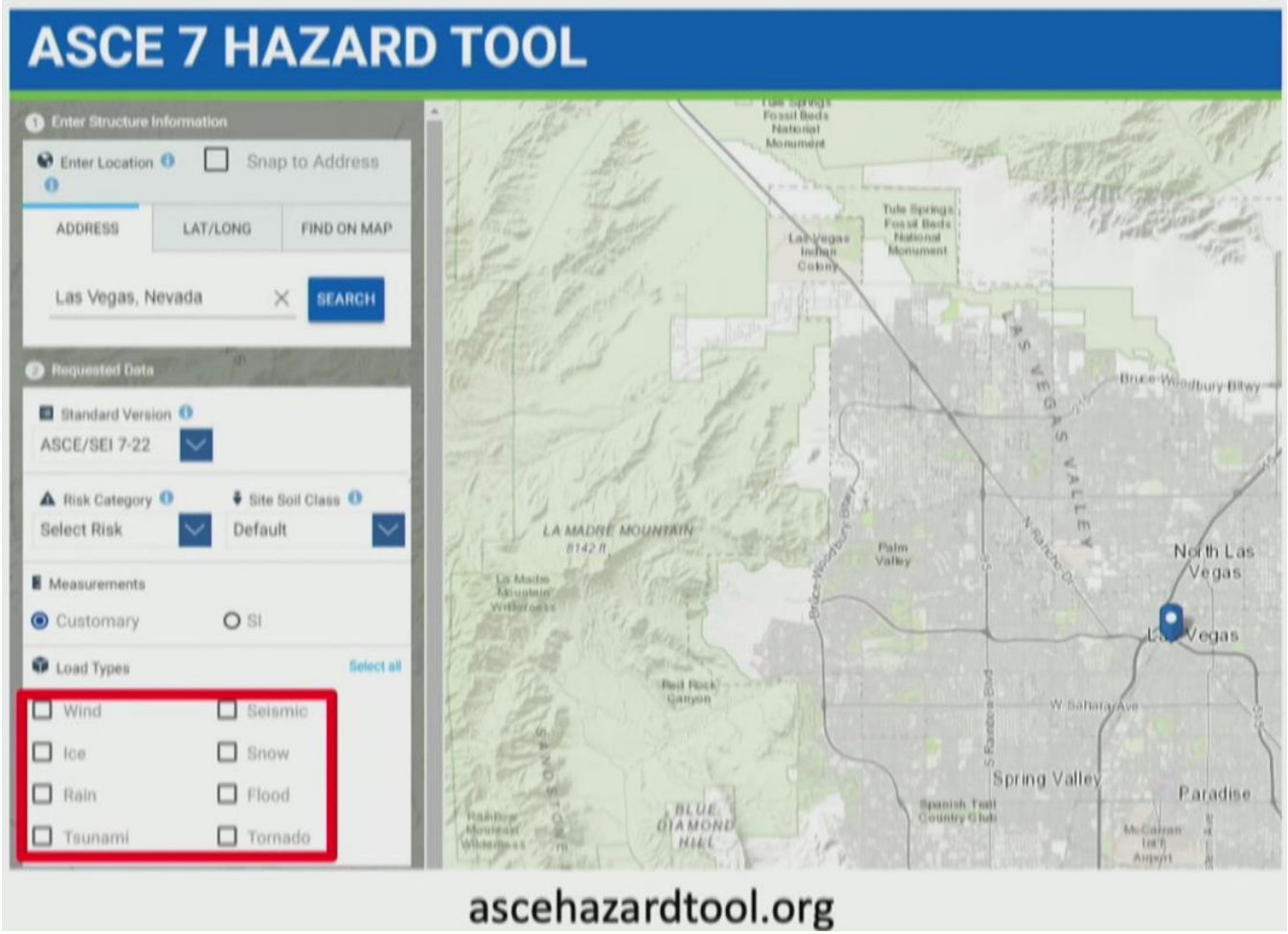
- Updated environmental loads -all now based on building risk category
  - Snow
  - Wind
  - Rain
  - Seismic



1608 - 1609 Environmental Loads

Change Type: Modification

- Free resource
- Geo coordinates
- ASCE 7-10, 7-16, 7-22
- Risk Category
  - All environmental loads now based on risk category



1608.2 Ground Snow Loads

Change Type: Modification

- New maps based on risk category
- Based on 30-years of new data
- ASCE Hazard tool also provides ground snow load values.
  - Based on risk category.
  - Free resource
  - ascehazardtool.org

1608.2 Ground Snow Loads

The ground snow *loads* to be used in determining the design snow *loads* for roofs shall be determined in accordance with the reliability-targeted (strength based) ground snow load values in Chapter 7 of ASCE 7 or Figures 1608.2(1) ~~and 1608.2(2)~~ through 1608.2(4) for the contiguous United States and Table 1608.2 for Alaska. Site-specific case studies shall be determined in accordance with Chapter 7 of ASCE 7 and shall be *approved* by the *building official*. ~~made in areas designated "CS" in Figures 1608.2(1) and 1608.2(2). Ground snow *loads* for sites at elevations above the limits indicated in Figures 1608.2(1) and 1608.2(2) and for all sites within the CS areas shall be *approved*. Ground snow *load* determination for such sites shall be based on an extreme value statistical analysis of data available in the vicinity of the site using a value with a 2-percent annual probability of being exceeded (50-year mean recurrence interval).~~ Snow loads are zero for Hawaii, except in mountainous regions as *approved* by the *building official*.

Continue ....

- ASCE 7-16 ASD

1. D
2. $D + L$
3. $D + (L_r \text{ or } S \text{ or } R)$
4. $D + 0.75L + 0.75(L_r \text{ or } S \text{ or } R)$
5. $D + (0.6W)$
6. $D + 0.75L + 0.75(0.6W) + 0.75(L_r \text{ or } S \text{ or } R)$
7. $0.6D + 0.6W$

- ASCE 7-22 ASD

1a. D
2a. $D + L$
3a. $D + (L_r \text{ or } 0.7S \text{ or } R)$
4a. $D + 0.75L + 0.75(L_r \text{ or } 0.7S \text{ or } R)$
5a. $D + 0.6(W \text{ or } W_T)$
6a. $D + 0.75L + 0.75(0.6(W \text{ or } W_T)) + 0.75(L_r \text{ or } 0.7S \text{ or } R)$
7a. $0.6D + 0.6(W \text{ or } W_T)$

- 0.7 factor is intended to provide roughly equivalent strength when design follows ASD. For some materials, the ratio between design strength given by LRFD procedures and by ASD procedures is 1.5. The inverse of 1.5 was rounded to 0.7.

Continue ....

- ASCE 7-16 Strength

1. $1.4D$
2. $1.2D + 1.6L + 0.5(L_r \text{ or } S \text{ or } R)$
3. $1.2D + 1.6(L_r \text{ or } S \text{ or } R) + (L \text{ or } 0.5W)$
4. $1.2D + 1.0W + L + 0.5(L_r \text{ or } S \text{ or } R)$
5. $0.9D + 1.0W$

- ASCE 7-22 Strength

1a. $1.4D$
2a. $1.2D + 1.6L + (0.5L_r \text{ or } 0.3S \text{ or } 0.5R)$
3a. $1.2D + (1.6L_r \text{ or } 1.0S \text{ or } 1.6R) + (L \text{ or } 0.5W)$
4a. $1.2D + 1.0(W \text{ or } W_T) + L + (0.5L_r \text{ or } 0.3S \text{ or } 0.5R)$
5a. $0.9D + 1.0(W \text{ or } W_T)$

- With the move to reliability-targeted values, the load factor on snow loads has also been revised from 1.6 to 1.0 to appropriately represent the reliability basis of the values.
- Other S Load Factors reduced by 1.0/1.6 = 0.625 as well

Continue ....

- Adjust provisions which included Is
- Section 7.3 –removing Is from equations for Pf and Pm.
- Pm now selected from proposed new table per Risk Category
- Where Pg is equal to or less than the value of the minimum snow load upper limit, Pm,max, shown in Table 7.3-4: Pm= Pg
- Where Pg is greater than the value of the minimum snow load upper limit, Pm,max, shown in Table 7.3-4: Pm= Pm,max

Table 7.3-4 – Minimum Snow Loads for Low-Slope Roofs

Risk Category	$p_{m,max}$
I	24 lb/ft^2 (1.15 kN/m^2)
II	30 lb/ft^2 (1.44 kN/m^2)
III	33 lb/ft^2 (1.58 kN/m^2)
IV	36 lb/ft^2 (1.73 kN/m^2)

Continue ....

- Adjust Section 12.7.2, Effective Seismic Weight, W
  - Where the flat roof snow load, pf >~~45~~30psf, add 15 ~~20~~% thereof to W
- Load Combination for Strength Design
  - 1.2D + Ev + Eh + L + ~~0.20~~.15S

Continue ....

17.06.140 Section R301.2.3 amended – Snow loads.

Section R301.2.3 is amended by adding the following:

If no statistical analysis of data is available, ground snow loads, based on site elevations, may be assumed as follows:

Elevation (feet)	Ground Snow Load *$p_{g(asd)}$ (psf)
0 - 3500	0
3500 - 4000	20
4000 - 5000	30
5000 - 6000	40
6000 - 7000	60
7000 - 8000	80

*Values are ground snow load (Pg, ASD); risk category/importance factor is not included—when using ASCE 7-22 do not apply an additional 0.7 reduction, use full Pg with proper roof snow load conversions.

1609
Wind Loads

Change Type: Modification

ASCE 7-22 Wind Load Provisions

- Wind Speed Maps / ASCE 7 Hazard Tool
- Velocity Pressure / Directionality Factor
- Removal of Tabular Procedures MWFRS & C&C
- Procedures Elevated Buildings
- Roof Pressure with Load Cases
- Simplified Roof Pressure Coefficients
- Tornado Loads for Risk Category III & IV Structures

Continue ....

ASCE 7-22 Wind Directionality Factor

- ASCE 7 16 Velocity Pressure Equation
  - qz = 0.00256 Kz K zt Kd Ke V2
- ASCE 7-22 Velocity Pressure Equation
  - qz = 0.00256 Kz Kzt Ke V2
- Kd moved to pressure equations
  - p = q Kd GCp - qi Kd GCpi

Continue ....

ASCE 7-22 Tabular Procedures Removed

ASCE 7 Procedures	
ASCE 7 – 16	ASCE 7 - 22
MWFRS: Chapter 27 Part 1 (All-Heights)	MWFRS: Chapter 27 (All-Heights)
MWFRS: Chapter 27 Part 2 (Simplified)	
MWFRS: Chapter 28 Part 1 (Low-Rise)	MWFRS: Chapter 28 (Low-Rise)
MWFRS: Chapter 28 Part 2 (Simplified)	
C&C: Chapter 30 Part 1 (Low-Rise)	C&C: Chapter 30 Part 1 (Low-Rise)
C&C: Chapter 30 Part 2 (Simplified)	
C&C: Chapter 30 Part 3 (Bldg h > 60')	C&C: Chapter 30 Part 2 (Bldg h > 60')
C&C: Chapter 30 Part 4 (Bldg 60'> h ≤ 160')	
C&C: Chapter 30 Part 5 (Open Bldg's)	C&C: Chapter 30 Part 3 (Open Bldg's)

Continue ....

ASCE 7-22 Elevated Buildings

- Section 27.3.1.1 Elevated Buildings
  - “The MWFRS loads for rigid or flexible elevated buildings meeting both of the following geometric limitations, for any principal wind direction, shall be determined in accordance with this section for that principal direction.”

Continue ....

ASCE 7-22 Elevated Buildings

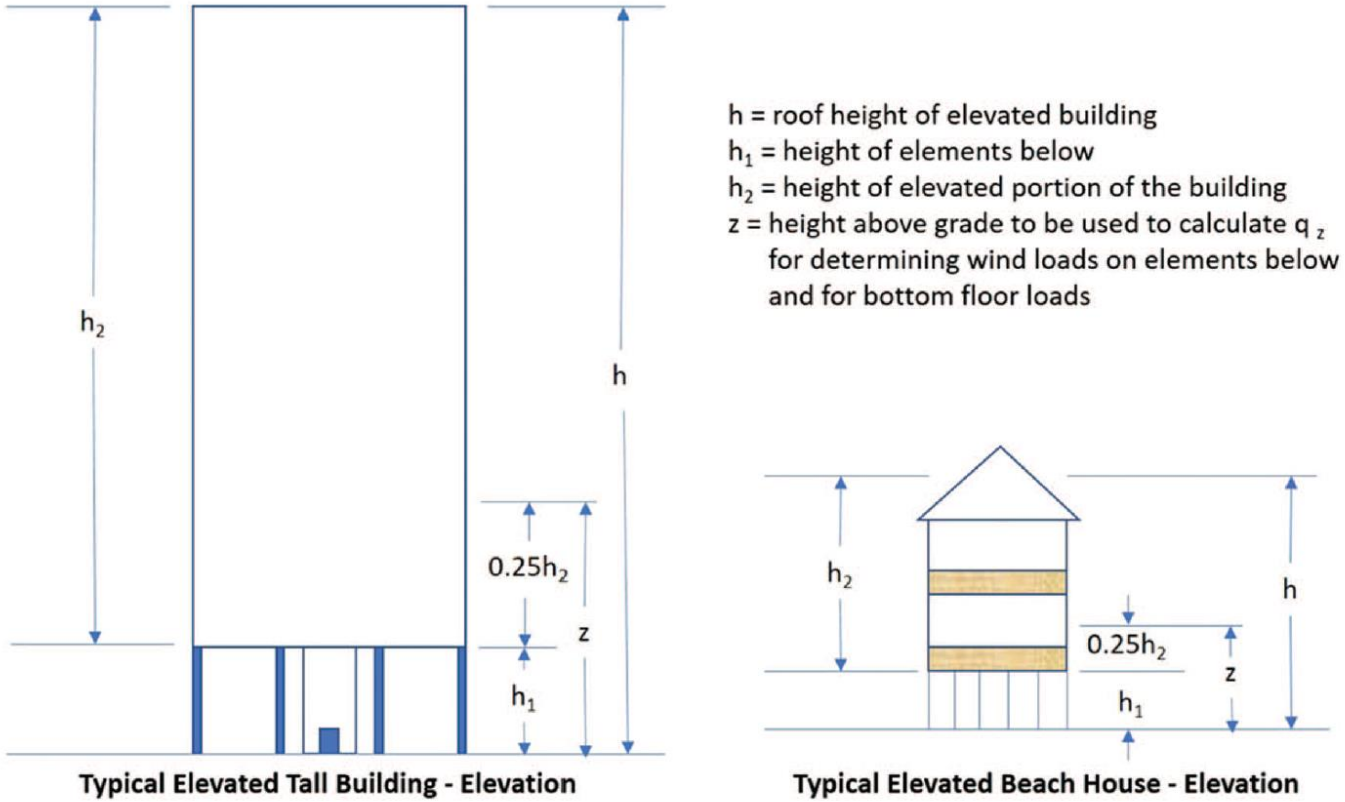
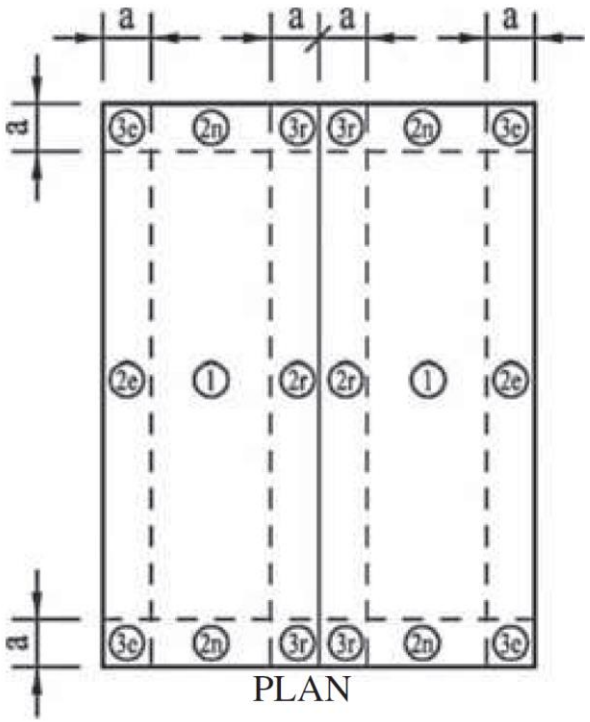


Figure C27.3-1. High-rise and low-rise examples of dimensions and heights used in Section 27.3.1.1.

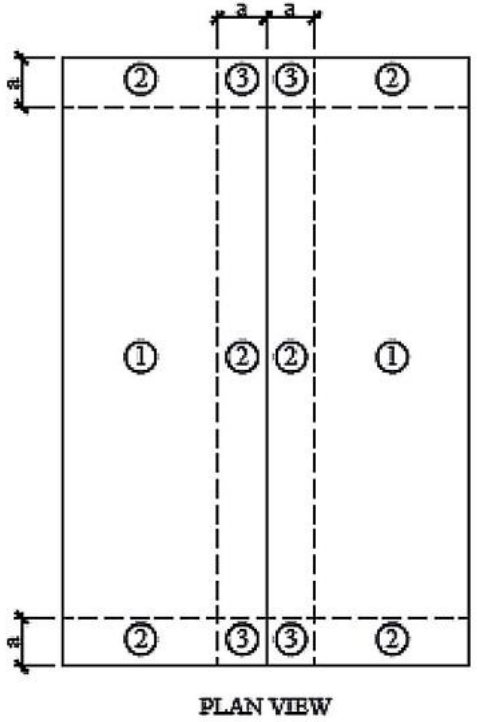
Continue ....

Simplified Roof Pressure Coefficients



PLAN

ASCE 7-16



PLAN VIEW

ASCE 7-22

1611 Rain Loads

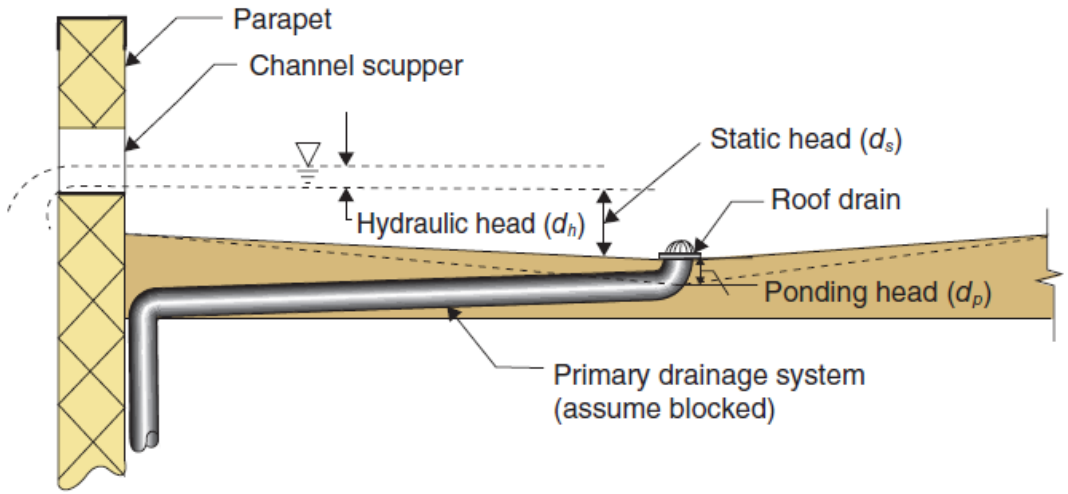
Change Type: Modification

- The design storm return period for determination of hydraulic head is now to be based on risk category. Other ponding provisions are updated to be consistent with ASCE 7.
- Ponding head, *dp*, is equal to the depth of water due to the deflections of the roof subjected to the unfactored rain load, *R*, and the unfactored dead load.

$$R = 5.2\,(d_s + d_h + d_p) \qquad \textbf{(Equation 16-}\sout{\textbf{19}}\textbf{20)}$$

For SI: $R = 0.0098(d_s + d_h + d_p)$

where:

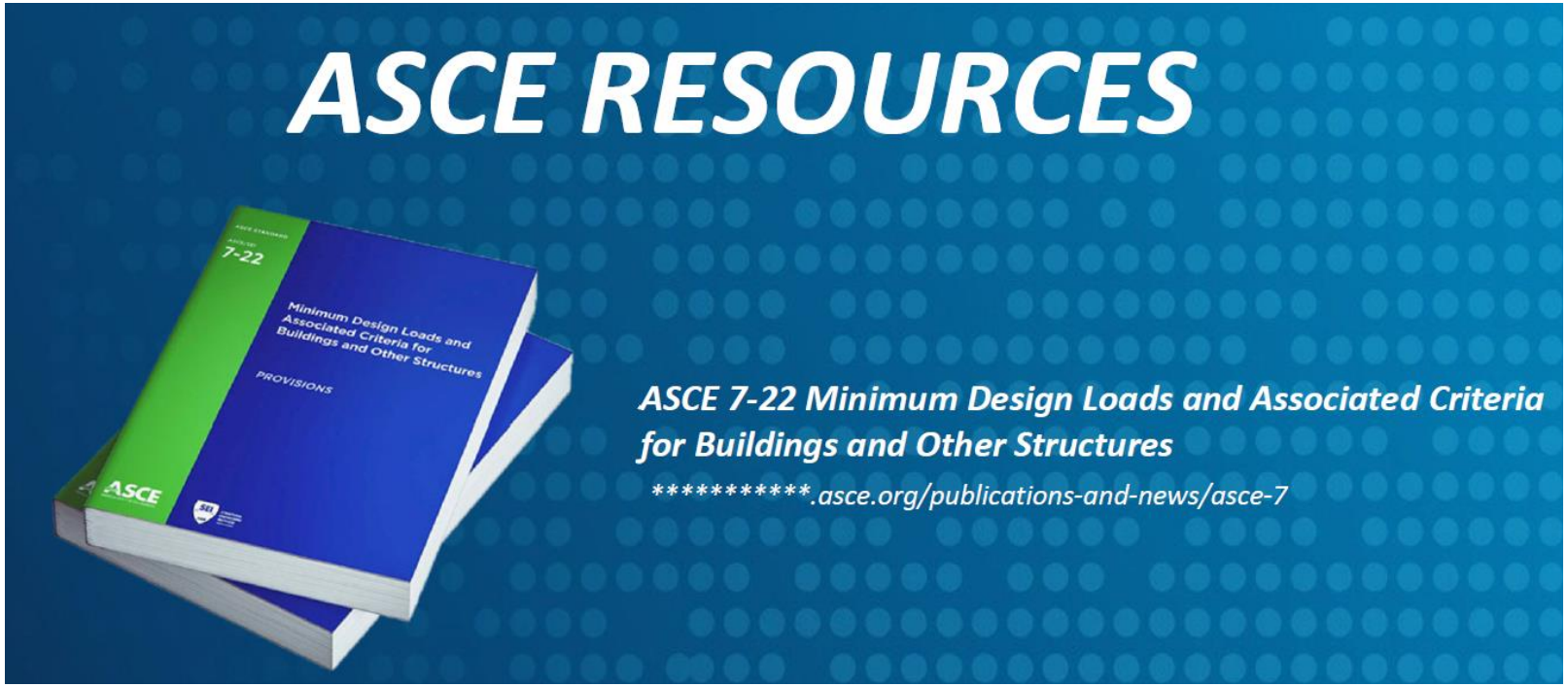


Secondary drainage design assumptions.

1613 Earthquake Loads

Change Type: Modification

- ASCE 7-22 Chapters 11 thru 23 – Seismic Loads
- Significant changes in Chapters 11, 12, 13, 20 & 21



Continue ....

Significant Changes for Chapter 12

- New Seismic Force-Resisting Systems
- Updated provisions for two-stage analysis procedures
- Updated provisions for calculating torsional irregularities
- Updated direction of loading provisions
- Updated redundancy provisions
- Updated analysis procedure selection provisions
- New ELF method introduced
- Updated displacement and drift provisions
- New provisions for Rigid Wall, Flexible Diaphragm buildings

Continue ....

New Seismic Force-Resisting Systems

Steel and Concrete Coupled Composite Plate Shear Walls (SpeedCore)

- R = 8





Continue ....

Reinforced Concrete Ductile Coupled Walls (ACI 318-19 18.10.9)

- R = 8
- Height > 60 ft





Continue ....

Cross-laminated Timber (CLT) Shear Walls (AWC SDPWS)

- R = 3
- R = 4 (high-aspect-ratio panel – 4:1)

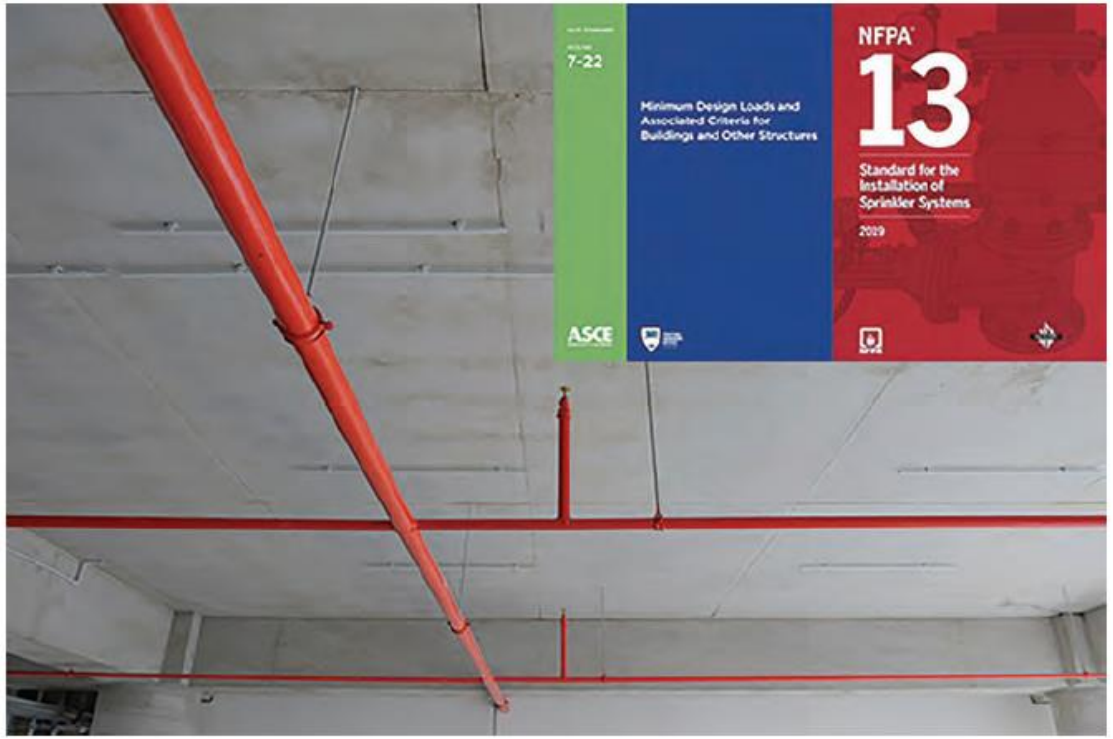




1613.6 Seismic Loads for Sprinklers

Change Type: Addition

- ASCE 7 seismic design provisions must be satisfied in addition to those of NFPA 13 for automatic fire sprinkler systems.
- Section 13.2.4.1 – Clearances
- Provide 3 in minimum clearance around sprinkler drops/sprigs from:
  - Equipment and supports
  - Other distribution systems and supports
- Exception: Flexible sprinkler hose is exempt from this requirement.



Seismic design of automatic fire sprinkler systems per ASCE 7 and NFPA 13. *(Photo courtesy of SB-BNIHAT/E+ via Getty Images, ASCE and NFPA)*

1705.2.6
Special Inspection of Metal Building Systems

Change Type: Addition

- New special inspection requirements complement new provisions found in CBC Section 2210.
  - Metal building systems typically heavily dependent on bracing components to function per design
  - Special inspection of completed installation of these critical components was previously often overlooked·
  - Individual components often covered by fabricator special inspections and tests·
  - Metal building systems often unique
- Approved agency to perform inspections of erected metal building system
  - Verify compliance with approved construction documents



Continue ....

TABLE 1705.2.6 Special Inspections of Metal Building Systems

Type	Continuous Special Inspection	Periodic Special Inspection
1. Installation of rafter/beam flange braces and column flange braces.	—	X
2. Installation of purlins and girts, including specified lapping.	—	X
3. Purlin and girt restraint/bridging/ bracing.	—	X
4. Installation of X-bracing, tightened to remove any sag.	—	X

Table 1705.3
Special Inspection of Reinforcing Bar Welding

Change Type: Modification

- Continuous special inspection provisions for reinforcing steel welding in concrete construction coordinated with ACI 318
- Reinforcement
- Special moment frames
  - Boundary elements of special structural walls
  - Coupling beams
  - Reinforcement splices
- Primary tension reinforcement in corbels



Reinforcing bar welding. *(Photo courtesy of Stockbyte/Stockbyte via Getty Images)*

Continue ....

TABLE 1705.3 **Required Special Inspections and Tests of Concrete Construction (excerpt)**

Type		Continuous Special Inspection	Periodic Special Inspection	Referenced Standard[a]	*CBC* Reference
2. Reinforcing bar welding:					
a.	Verify weldability of reinforcing bars other than ASTM A706.	—	X	AWS D1.4 ACI 318: ~~26.6.4~~ 26.13.1.4	
b.	Inspect welding of reinforcement for special moment frames, boundary elements of special structural walls and coupling beams.	X	—	AWS D1.4 ACI 318: 26.13.3	
c.	Inspect welded reinforcement splices.	X	—	—	—
d.	Inspect welding of primary tension reinforcement in corbels.	X	—	—	
~~b.~~ e.	Inspect single-pass fillet welds, maximum $^{5}/_{16}$".	—	X	AWS D1.4 ACI 318: 26.13.3	
~~c.~~ f.	Inspect all other welds.	~~X~~ —	X	AWS D1.4 ACI 318: 26.13.3	

1807.2.5 Guards on Retaining Walls

Change Type: Addition

- Guards to be provided at retaining walls where hazardous conditions exist
  - Similar to Section 1015
  - Exception: guards not required at retaining walls not accessible to public
- Provisions address
  - Where required
  - Minimum height and opening limitations per Section 1015



Continue ....

2025 CODE TEXT: **1807.2.5 Guards.** Guards shall be provided at retaining walls in accordance with Sections 1807.2.5.1 through 1807.2.5.3.

Exception: Guards are not required at retaining walls not accessible to the public.

1807.2.5.1 Where required. At retaining walls located within 36 inches (914 mm) of walking surfaces, a guard shall be required between the walking surface and the open side of the retaining wall where the walking surface is located more than 30 inches (762 mm) measured vertically to the surface or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Guards shall comply with Section 1607.9.

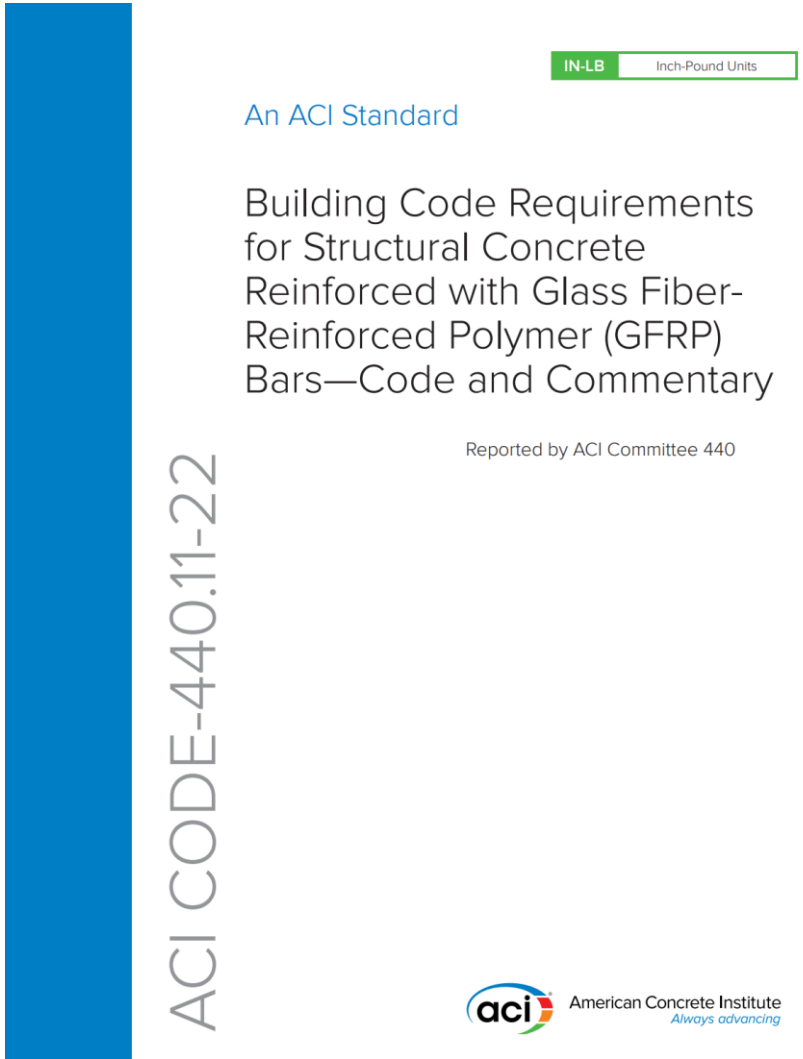
1807.2.5.2 Height. Required guards at retaining walls shall comply with the height requirements of Section 1015.3.

1807.2.5.3 Opening limitations. Required guards shall comply with the opening limitations of Section 1015.4.

1901.2.1 Structural Concrete with GFRP Reinforcement

Change Type: Addition

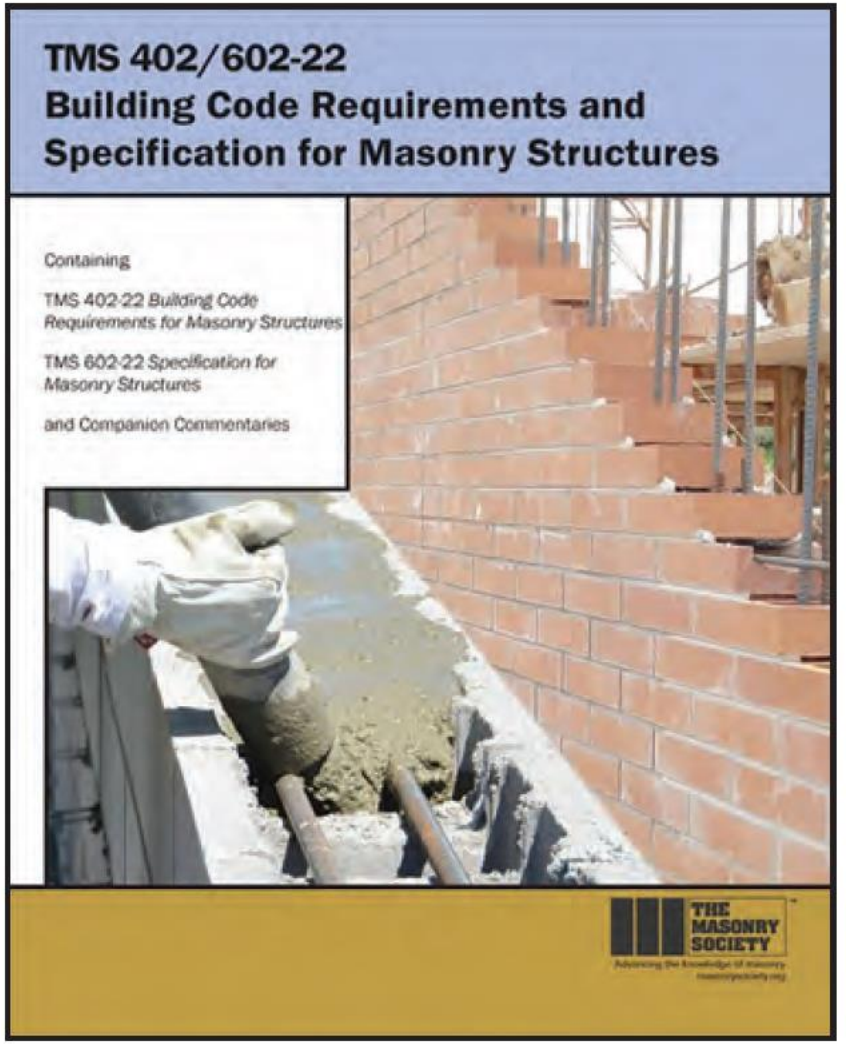
- Glass fiber-reinforced polymer(GFRP)
- ACI 440.11-22 for design
- ASTM D7957 for manufacture.
- SDC A only
- Uses include.
  - Near MRI equipment.
  - Highly corrosive environments
    - Bridge decks
    - Parking garages
    - Marine structures



Chapter 21 Masonry

Change Type: Modification

- New masonry standards
- New Appendix D - GFRP Reinforced Masonry
  - Limited to SDC A - C for elements not part of seismic-force-resisting system
- Removal of TMS 402 Appendix A: Empirical Design
  - Empirical design via reference to TMS 402-16
  - Applicable to Adobe Masonry in southwestern states



Continue ....

Summary of Changes to TMS 402/602—22

TMS 402, *Building Code Requirements for Masonry Structures*, (Chapter/Appendix)	Type and Magnitude of Changes to 2022 Edition from 2016 Edition
1—General Requirements	Little or No Major Changes
2—Notation and Definitions	Little or No Major Changes
3—Quality and Construction	Minor Changes & New Requirements
4—General Analysis and Design Considerations	Minor Changes & New Requirements
5—Structural Members	Minor Changes & New Requirements
6—Reinforcement, Metal Accessories, and Anchor Bolts	Major Changes & New Requirements
7—Seismic Design Requirements	Moderate Changes & New Requirements
8—Allowable Stress Design of Masonry	Moderate Changes & New Requirements
9—Strength Design of Masonry	Major Changes & New Requirements
10—Prestressed Masonry	Moderate Changes & New Requirements
11—Strength Design of AAC Masonry	Little or No Major Changes
12—Design of Masonry Infills	Formerly Appendix B
13—Veneer	Formerly Chapter 12—Rewritten
14—Glass Unit Masonry	Formerly Chapter 13
15—Masonry Partition Walls	Formerly Chapter 14
A—Empirical Design	Deleted

Summary of Changes to TMS 402/602-22—continued

B—Design of Masonry Infills	Moved to New Chapter 12
C—Limit Design Method	Minor Changes & New Requirements
D—GFRP Reinforced Masonry	New Appendix
TMS 602, *Specification for Masonry Structures*, (Part)	**Type and Magnitude of Changes to 2022 Edition from 2016 Edition**
1—General	Moderate Changes & New Requirements
2—Products	Moderate Changes & New Requirements
3—Execution	Moderate Changes & New Requirements

Chapter 22 Steel

Change Type: Modification

2024 IBC Section	Summary of Section and Content Changes
2201 General	Content moved to 2201.2 Identification, 2201.3 Protection, 2201.4 Connections, and 2201.5 Anchor Rods
2202 Structural Steel and Composite Structural Steel and Concrete Structures	Renumbered from 2205 and renamed to capture composite structural steel and concrete
2203 Structural Stainless Steel	New section
2204 Cold-Formed Steel	Renumbered from 2210
2205 Cold-Formed Stainless Steel	New section
2206 Cold-Formed Steel Light-Frame Construction	Renumbered from 2211
2207 Steel Joists	No section number change
2208 Steel Deck	New section with content moved from 2210
2209 Steel Storage Racks	No section number change
2210 Metal Building Systems	New section
2211 Industrial Boltless Steel Shelving	New section
2212 Industrial Steel Work Platforms	New section
2213 Stairs, Ladders and Guarding for Steel Storage Racks and Industrial Steel Work Platforms	New section
2214 Steel Cable Structures	Renumbered from 2208

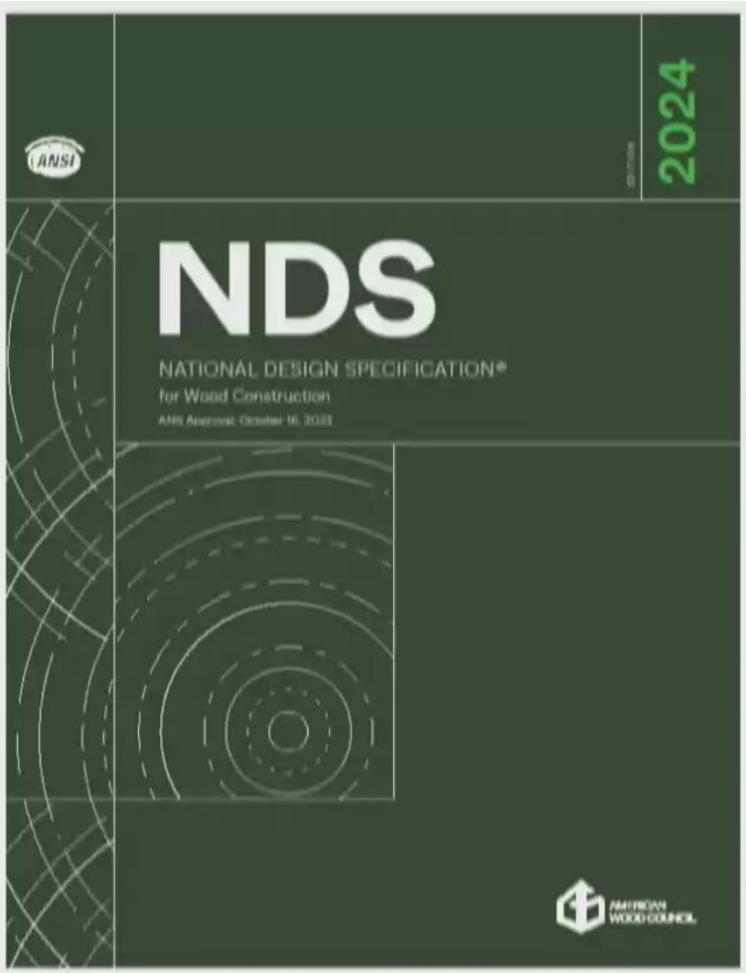
Continue ....

Summary of Revised Section Numbers and Content in 2025 CBC Chapter 22

2022 CBC Section	Summary of Section and Content Changes
2201 GENERAL	Content added from other sections
2202 IDENTIFICATION OF STEEL FOR STRUCTURAL PURPOSES	Content deleted and comparable language added to 2201.2
2203 PROTECTION OF STEEL FOR STRUCTURAL PURPOSES	Content deleted and comparable language added to 2201.3
2204 CONNECTIONS	Content deleted and comparable language added to 2201.4
2205 STRUCTURAL STEEL	Renumbered as 2202 and renamed to capture composite structural steel and concrete
2206 COMPOSITE STRUCTURAL STEEL AND CONCRETE STRUCTURES	Content deleted and enabling language added to section 2202
	New Section 2203 STRUCTURAL STAINLESS STEEL created
	New Section 2205 COLD-FORMED STAINLESS STEEL created
2207 STEEL JOISTS	No section number change
2208 STEEL CABLE STRUCTURES	Renumbered as 2214
2209 STEEL STORAGE RACKS	No section number change
2210 COLD-FORMED STEEL	Renumbered as 2204 and new Section 2208 STEEL DECK created
2211 COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION	Renumbered as 2206
	New Section 2210 METAL BUILDING SYSTEMS created
	New Section 2211 INDUSTRIAL BOLTLESS STEEL SHELVING created
	New Section 2212 INDUSTRIAL STEEL WORK PLATFORMS created
	New Section 2213 STAIRS, LADDERS AND GUARDING FOR STEEL STORAGE RACKS AND INDUSTRIAL STEEL WORK PLATFORMS created

Chapter 22
Wood

Change Type: Modification





2406.1 Multipane Glazed Assemblies

Change Type: Clarification

- Every pane in multi-pane glass assemblies to be safety glazing.
  - Where located in hazardous locations as identified in Section 2406.4.
  - Clarifies that center panes in a multi-pane assembly must also comply as safety glazing

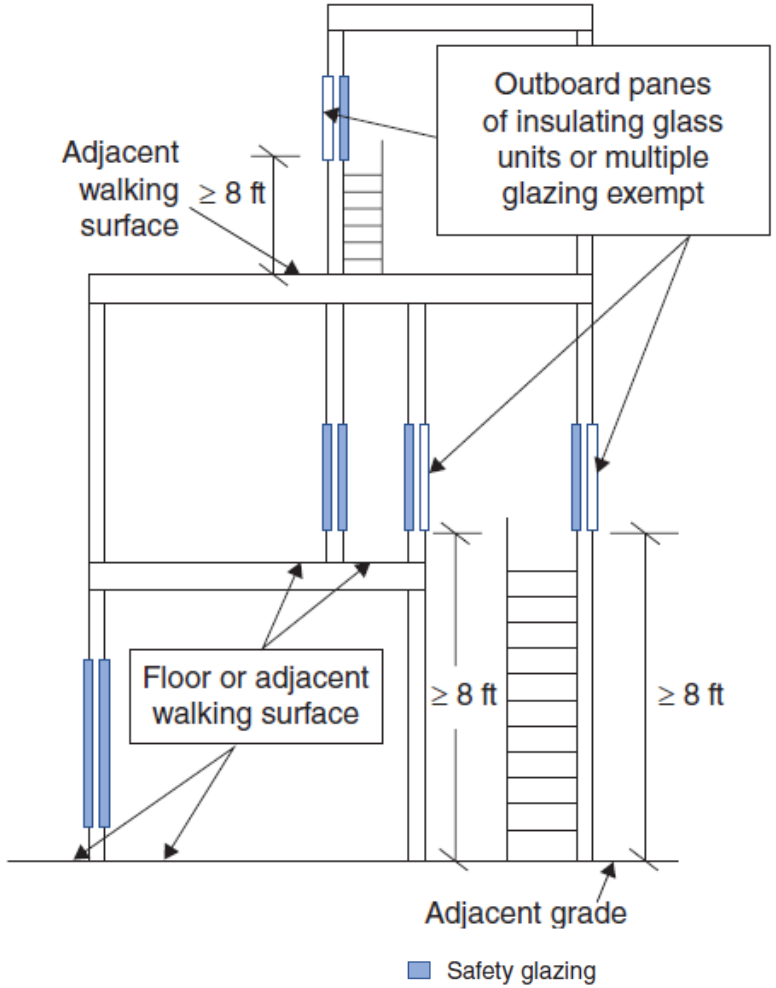


Multipane glazing in door and windows. *(Photo courtesy of Thinkstock Images/Stockbyte via Getty Images)*

2406.4.3 Glazing in Windows

Change Type: Modification

- Window safety glazing required where person could fall through a window.
  - Out of a building
  - Inside the building
  - Into the building
- Exception 3 revised to exempt outboard panes in insulating glass units or multiple glazing where bottom exposed edge is ~~25~~ 8 feet or more above any grade or walking surface adjacent to glass exterior



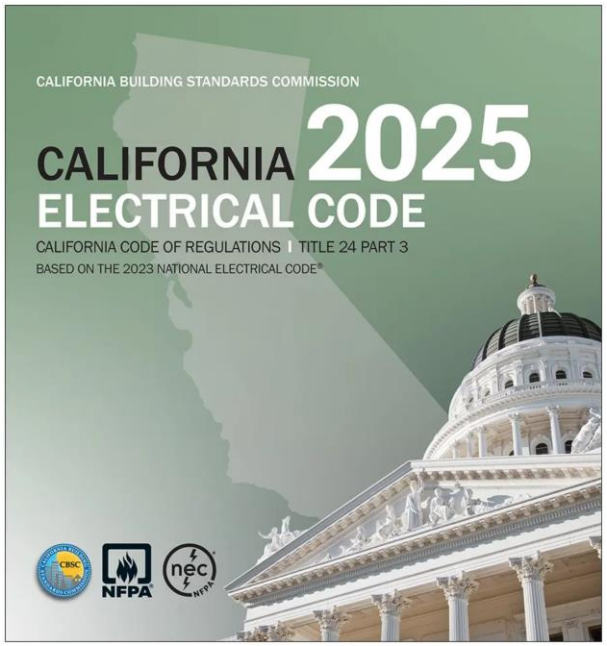
2407.1.1 Loads on Glass Guards and Handrails Glass

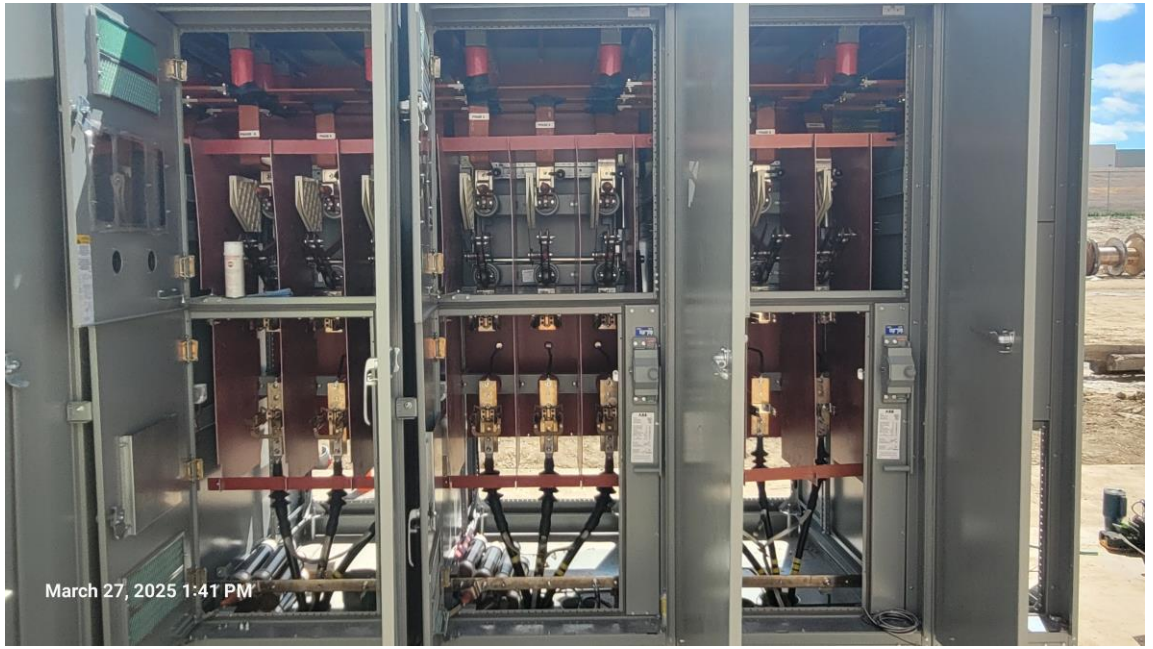
Change Type: Modification

2407.1.1 Loads on Glass Guards/Handrails

Glass handrails and guards and their support systems shall be designed to withstand the loads specified in Section 1607.9. ~~Glass handrails and guards shall be designed using a factor of safety of four.~~ Calculated stresses for the loads specified in Section 1607.9 shall be less than or equal to 3,000 pounds per square inch for heat-strengthened glass and less than or equal to 6,000 pounds per square inch for fully tempered glass.

- Calculated stresses (50 plf uniform & 200 lb concentrated) ≤
  - 3,000 psi for heat-strengthened glass
  - 6,000 psi for fully tempered glass





California Electrical Code

KERN COUNTY PUBLIC WORKS

SIGNIFICANT CHANGES TO CA ELECTRICAL CODE EFFECTIVE JAN 1, 2026

New Articles

- ARTICLE 235 – BRANCH CIRCUITS, FEEDERS, AND SERVICES OVER 1000VAC OR 1500VDC, NOMINAL
- ARTICLE 245 – OVERCURRENT PROTECTION FOR SYSTEMS RATED OVER 1000VAC OR 1500VDC
- ARTICLE 305 – OVER 1000 VAC OR 1500 VDC GENERAL REQ'S FOR WIRING METHODS AND MATERIALS
- ARTICLE 335 – INSTRUMENTATION TRAY CABLE: TYPE ITC
- ARTICLE 369 – INSULATED BUS PIPE / TUBULAR COVER CONDUCTOR SYSTEMS
- ARTICLE 371 – FLEXIBLE BUS SYSTEMS
- ARTICLE 722 – CABLES FOR POWER-LIMITED & FAULT MANAGED CIRCUITS…
- ARTICLE 724 – CLASS 1 POWER-LIMITED CIRCUITS…
- ARTICLE 726 – CLASS 4 FAULT-MANAGED POWER SYSTEMS
- ARTICLE 728 – FIRE RESISTIVE CABLE SYSTEMS

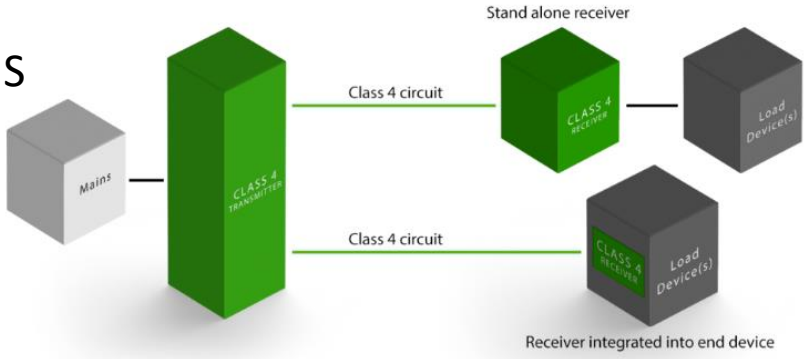


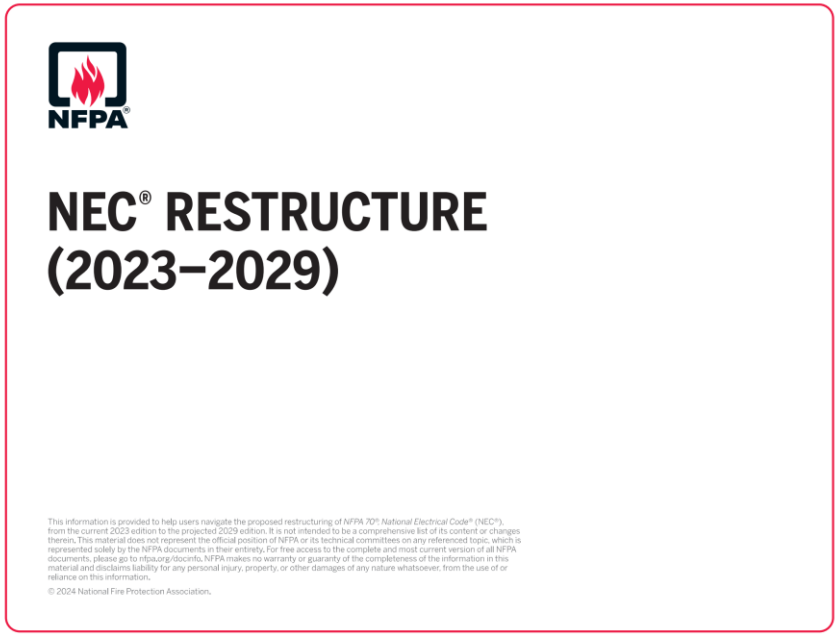
Image courtesy of Voltserver

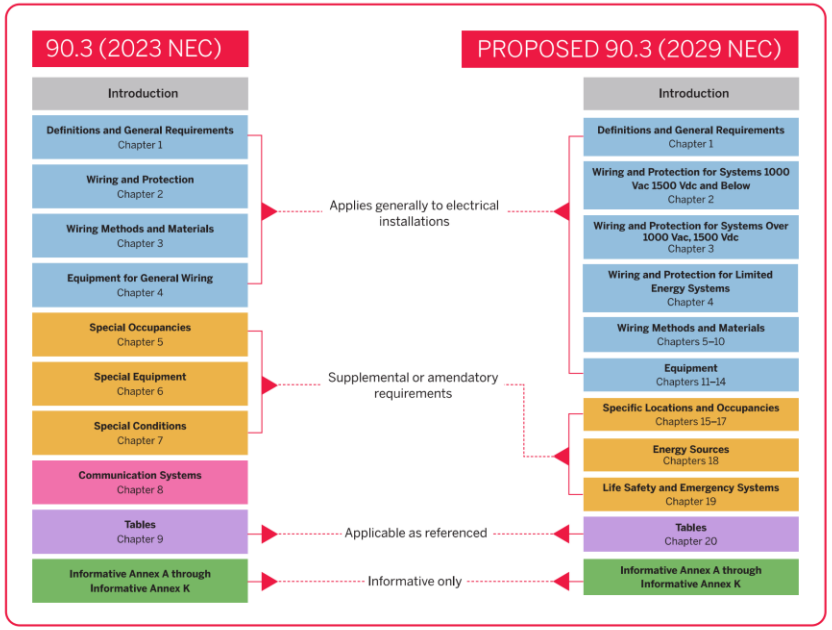
Renumbering Articles

ARTICLE 311 → 315: MEDIUM VOLTAGE CONDUCTORS, CABLE, CABLE JOINTS, AND CABLE TERMINATIONS

ARTICLE 399 → 395: OUTDOOR OVERHEAD CONDUCTORS OVER 1000 VOLTS

ARTICLE 490 → 495: EQUIPMENT OVER 1000 VOLTS AC OR 1500 VOLTS DC, NOMINAL

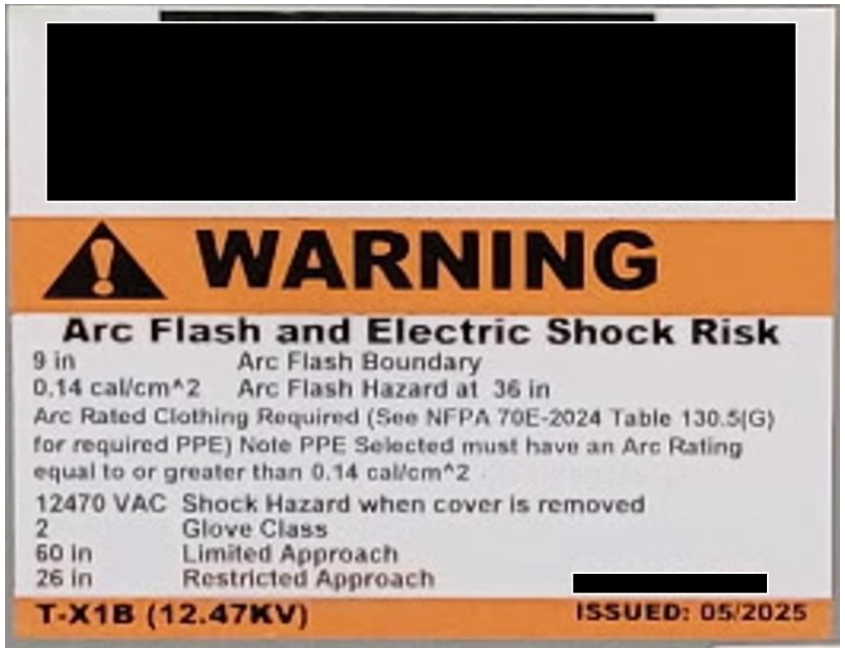




ARTICLE 110: GENERAL REQUIREMENTS

KERN COUNTY PUBLIC WORKS

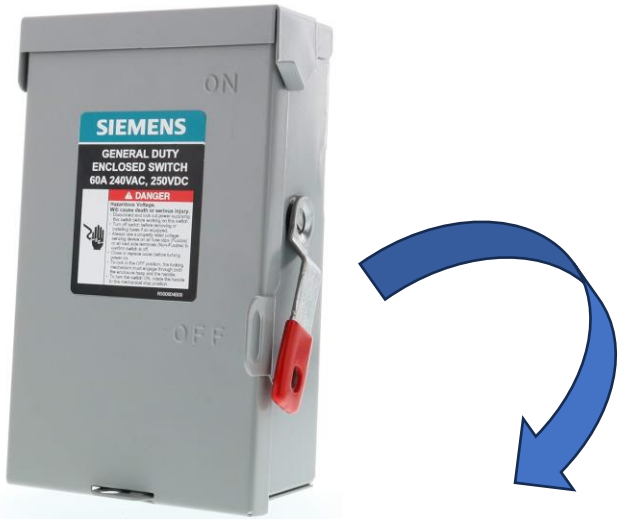
- CEC 110.16.(B) Arc Flash hazard warning to be provided for equipment 1000 amps and greater.
- Label to conform to ANSI Z535.4-2011(R2017) to include arc fault current, arc-flash boundaries, incident energy levels, and minimum required PPE per NFPA 70E.
- Cannot be handwritten
- Expanded labeling requirements by lowering threshold from 1200 to 1000 amps.



ARTICLE 110: GENERAL REQUIREMENTS

KERN COUNTY PUBLIC WORKS

- CEC 110.22(A) – Disconnects
- In other than one- and two-family dwelling units,
- Marking shall include the identification and location of the circuit source that supplies the disconnecting means,
- Marking shall be sufficient durability to withstand the environment involved.



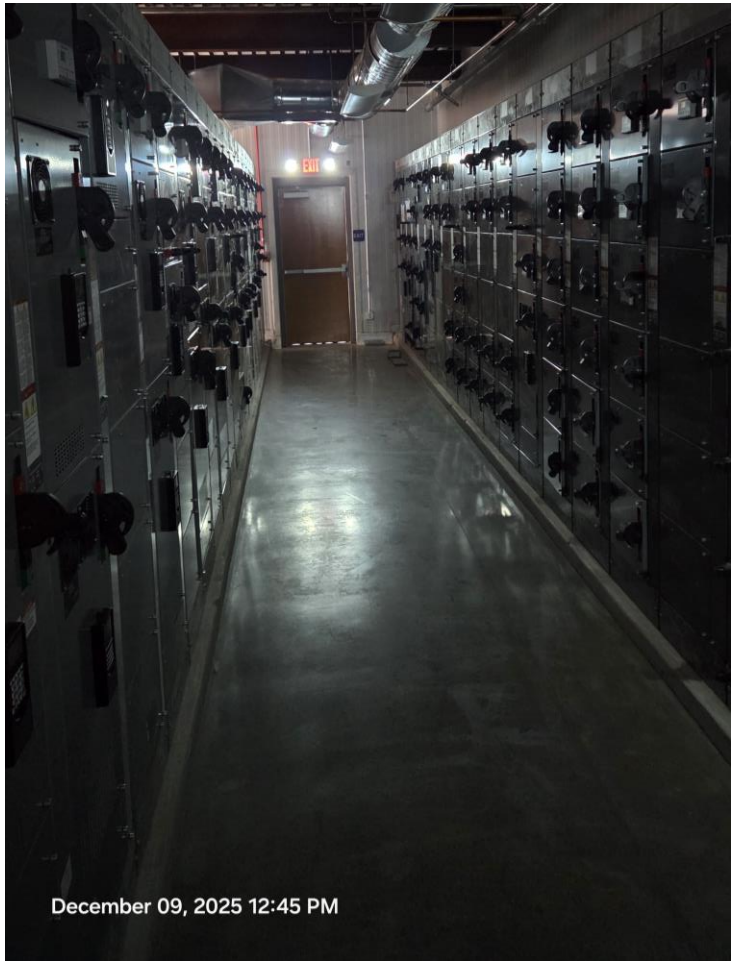
RTU-1 DISCONNECT
FED FROM PNL-A, CKT 30,32,34
LOCATED IN NORTHEAST ELE RM

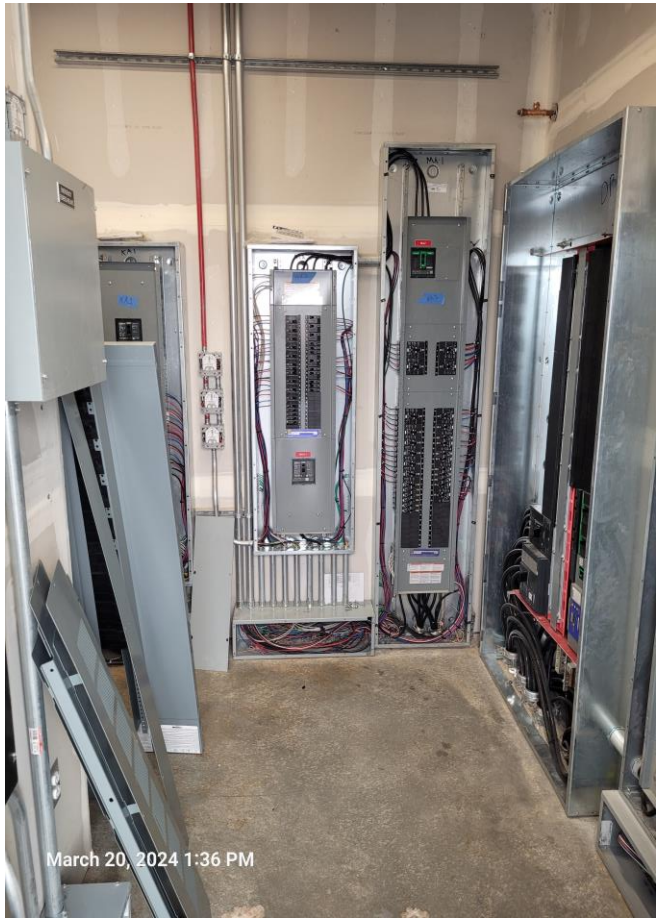
ARTICLE 110: GENERAL REQUIREMENTS

KERN COUNTY PUBLIC WORKS

- CEC 110.26 Working space, and access to and egress from working space, shall be provided and maintained… Open equipment doors shall not impede access to and egress from the working space. Access to egress is impeded if one or more simultaneously opened equipment doors restrict working space access to be less than 24inches and 6.5 feet high.
- Added requirements for working space platform to be level.

CEC 110.26 Working Clearance

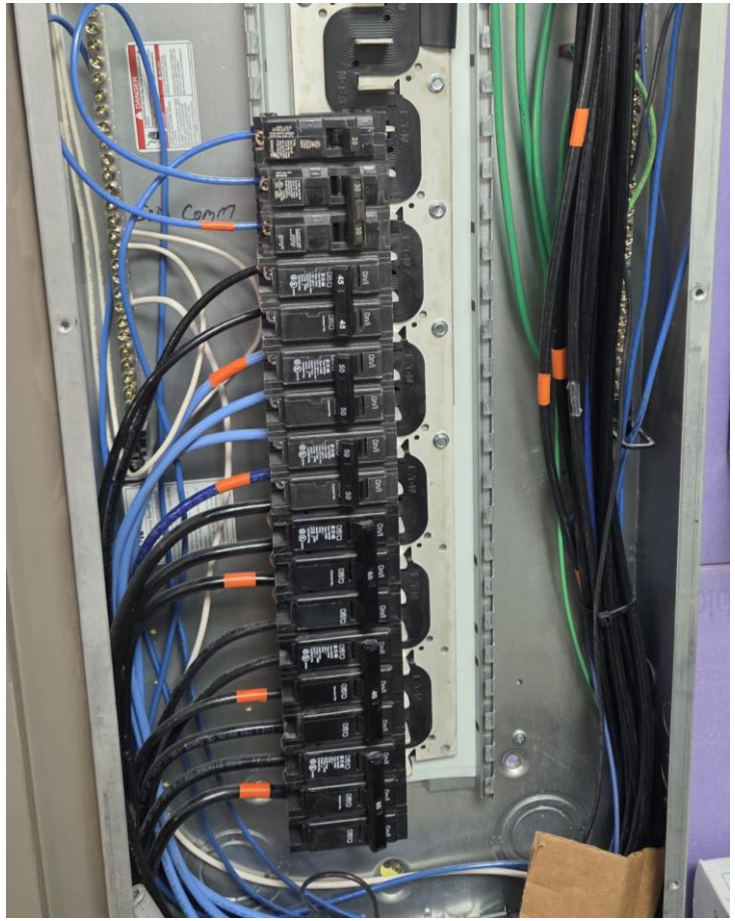




ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

- CEC 210.4(A) “Branch circuits recognized by this article shall be permitted as multiwire circuits. A multiwire circuit shall be permitted to be considered as multiple circuits. Except as permitted by 300.3(B)(4), all conductors of a multiwire branch circuit shall originate from the equipment containing the branch circuit overcurrent protective device or protective devices.”

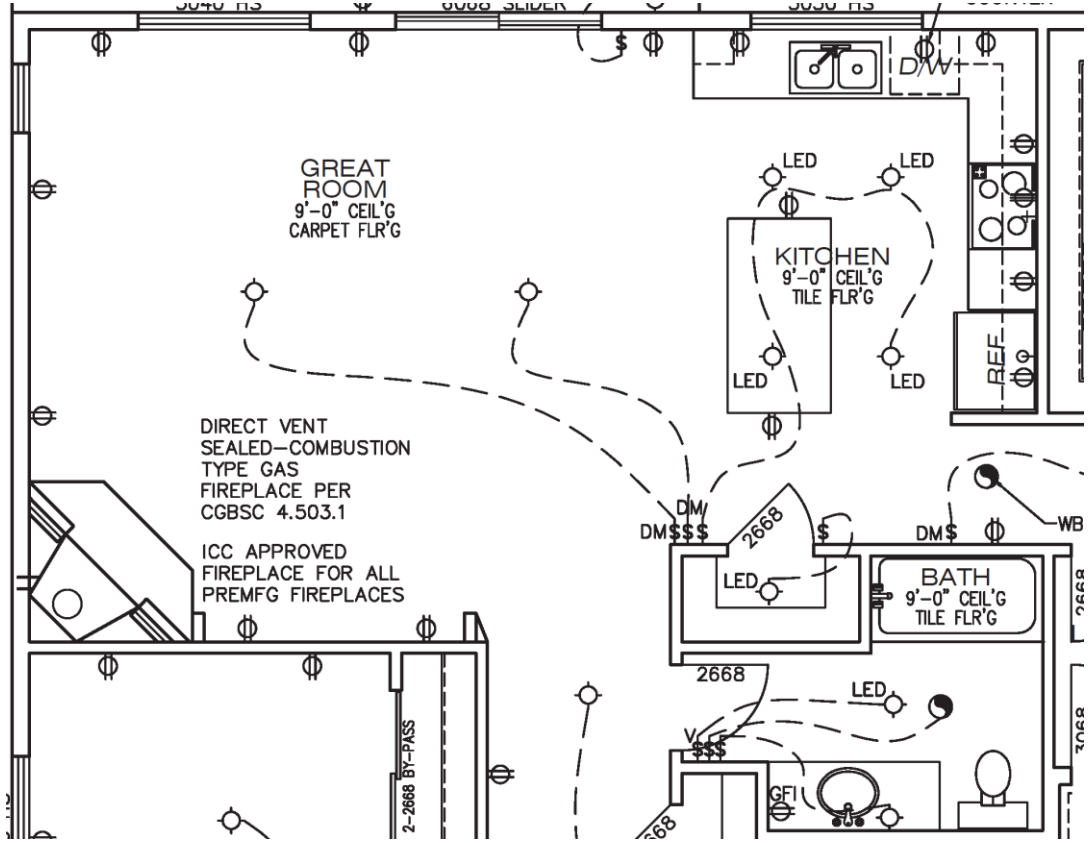


ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

CEC 210.8(A) GFCI Protection – Dwelling Units

- All receptacles in kitchens to be protected
- Also, all receptacles in areas with sinks and permanent provisions for food preparation or cooking
- Except listed weight supporting ceiling receptacles.



ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

210.8(B) GFCI - Other than Dwellings Units

- … (7) Sinks where receptacles or stationary cord-and-plug appliances are installed within 6 feet from the top inside edge of the bowl of the sink.
- …(13) Aquariums, bait wells, and similar open aquatic vessels or containers such as tanks, etc., where receptacles are within 6’ of inside edge of container/rim OR conductive support framing.

ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

210.8(D) GFCI - Specific Appliances

- A list of appliances were added for convenience,
- Applies to residential and nonresidential.
- GFCI protection to be provided for outlets supplied from circuits rated 150v or less to ground and 60 amperes or less, single or three phase.

1. Automotive Vacuum Machines
2. Drinking coolers and bottle filling stations
3. High pressure spray washing machines
4. Tire inflation machines
5. Vending machines
6. Sump pumps
7. Dishwashers
8. Electric ranges
9. Wall-mounted ovens
10. Counter-mounted cooking units
11. Clothes dryers
12. Microwave ovens

ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

210.8(F) GFCI – Outdoor Outlets

- For dwellings
- All outdoor outlets supplied by single phase 150v to ground or less and 50 amperes or less shall be provided with GFCI protection.
- Lists garages with floors at or below grade, accessory buildings, and boathouses
- If equipment supplied by such branch circuits is replaced, the outlet shall be supplied with GFCI.
- Exceptions:
  - Outdoor lighting other than crawl space lighting
  - Listed HVAC equipment – This exception expires September 1, 2026.



Photo courtesy of Siemens

ARTICLE 210: Branch Circuits not over 1000 vac

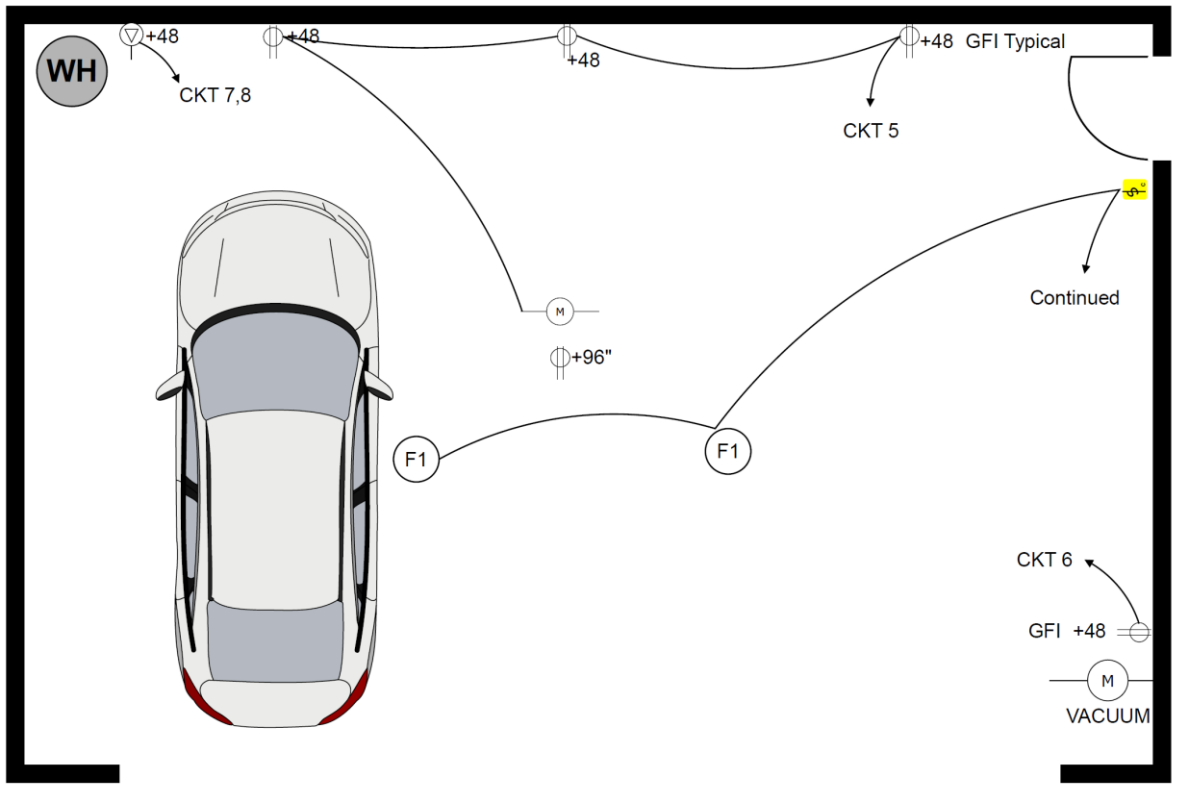
KERN COUNTY PUBLIC WORKS

CEC 210.11(C)(4) Dwelling Unit Garage Branch Circuits

- Additional branch circuits rated 15 amperes or greater shall be permitted to serve receptacle outlets other than those required by 210.52(G)(1)
- Exception – Where the 20 ampere circuit supplies a single vehicle bay garage, outlets for other equipment within the same garage shall be permitted to be supplied in accordance with 210.23(B)(1) & (2).

Commentary: For larger garages with large amounts of fixed-in-place equipment or equipment on individual branch circuits, additional circuits of 15 amp or larger are permitted so long as they comply with sizing of 210.23(B)(1) and (B)(2).

CEC 210.11(C)(4)



Example condition of this section:

1. GFI receptacles at +48 and ceiling for garage door opener on circuit (CKT) 5 are on 12 awg 20amp, 1 per vehicle space as required per CEC 210.52(G)(1). Cord connected fixed in-place equipment load not to exceed those stipulated in CEC 210.23(B)(2).
2. Circuit 6 is a 14 awg 15amp circuit that supplies a fixed in-place central vac unit. This is permitted to be on 15amp 14 awg conductor circuit with use of the new code language, provided the load does not exceed circuit rating.
3. The added exception to 210.11(C)(4) allows all outlets to be on the single circuit provided the load does not exceed those stipulated in CEC 210.23(B)(1)&(2).

ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

CEC 210.12 Arc-Fault Circuit Interruption

- Other occupancies added AFCI in sleeping quarters such as Nursing homes, limited-care facilities, firehouses, ambulance stations, rescue squads, police departments, ranger stations, similar locations

ARTICLE 210: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

CEC 210.52(C)(2)&(3)

If receptacles are installed to service island/peninsular countertop/work surfaces, it shall be installed in one or more of the following locations:

1. On or above, but not more than 20" above a countertop,
2. In a countertop using a receptacle outlet assemblies listed for use in countertops
3. In a work surface using receptacle outlet assemblies listed for use in work surfaces or listed for use in countertops

If no receptacles are installed, provisions shall be provided to permit future installation of countertop receptacle, such as junction boxes and raceways.



Commentary: Location allowing installation below countertop has been removed.

ARTICLE 210: Branch Circuits not over 1000 vac

KERN COUNTY PUBLIC WORKS

CEC 210.62 Show Windows

- "At least one 125v single-phase 15-, or 20-ampere-rated receptacle outlet shall be installed within 18" of the top of each show window. No point along the top of the window shall be farther than 6 feet from a receptacle outlet."

Commentary: Receptacle spacing to be similar to dwelling unit wall receptacle spacing requirements.

ARTICLE 210: Branch Circuits not over 1000 vac

KERN COUNTY PUBLIC WORKS

CEC 210.70 Required Lighting Outlets

- 210.70(A)(1) Dwelling unit habitable rooms, kitchens, laundry areas, and bathrooms: “at least one lighting outlet controlled by a listed wall-mounted control device shall be installed in every habitable room, kitchen, laundry area, and bathroom”

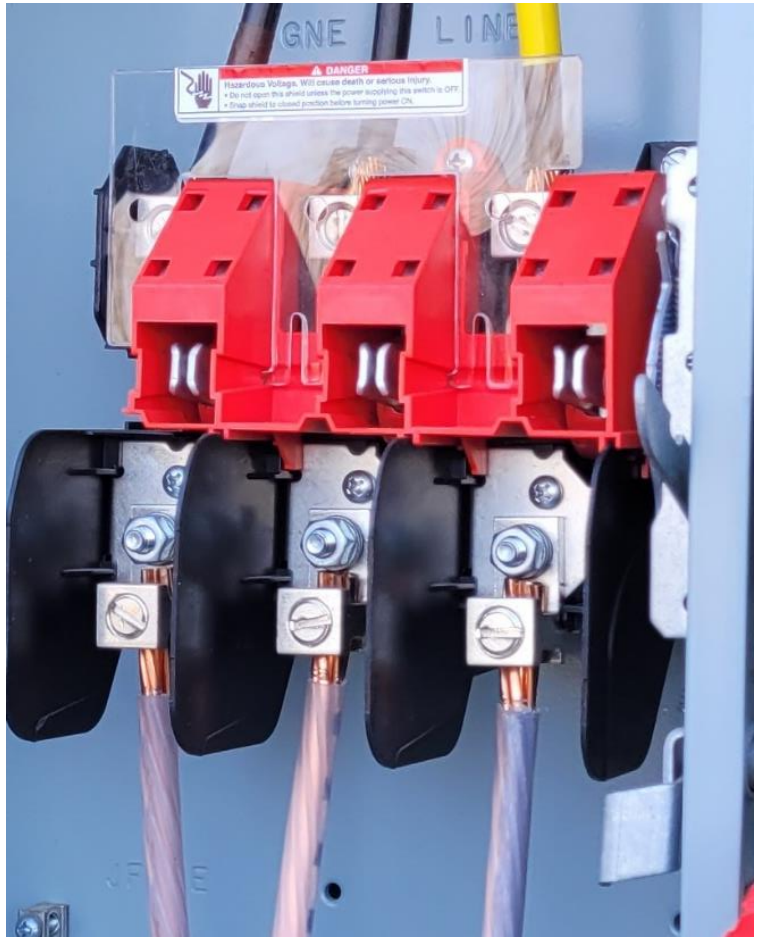
Commentary: Added Laundry Room to list of rooms requiring permanent illumination, requires a listed wall mounted control device.

ARTICLE 215: Feeders

KERN COUNTY PUBLIC WORKS

215.15 FEEDERS – BARRIERS

- Barriers shall be placed such that no energized [parts] are exposed to inadvertent contact by persons while serving load terminations in panelboard, switchboards, switchgear, or motor control centers supplied by feeder taps in 240.21(B) or Transformer secondaries in 240.21(C) when disconnecting device is in open position.



ARTICLE 220: BRANCH-CIRCUIT FEEDER AND SERVICE LOAD CALCULATIONS

ARTICLE 225: OUTSIDE BRANCH CIRCUITS AND FEEDERS

California Electrical Code



KERN COUNTY PUBLIC WORKS

ARTICLE 220: Branch Circuits not over 1000vac

KERN COUNTY PUBLIC WORKS

CEC 220.5(C) Floor area

- "The floor area for each floor shall be calculated from the outside dimension of the building, dwelling unit, or other area involved. For dwelling units, the calculated floor area shall not include open porches, or unfinished areas not adaptable for future use as a habitable room or occupiable space."

Removes floor area exceptions for garages and unfinished areas of the dwelling adaptable for future use.

ARTICLE 220: Feeder / Service Load Calculations

KERN COUNTY PUBLIC WORKS

CEC 220.14(J) Dwelling unit minimum unit load factor is now 220.41.

CEC 220.53 Dwelling unit Appliance load demand factor

- 75% demand factor applies to four or more appliances rated over 500 watts
- Does not include
  - Electric cooking equipment fastend in place
  - Clothes dryer
  - Space heating equipment
  - Air condition equipment
  - Electric vehicle supply equipment

NEW

CEC 220.57 ELECTRIC VEHICLE SUPPLY EQUIPMENT LOAD

- New section added to specify min 7200 VA or nameplate rating of equipment, whichever is larger.



Photo courtesy of Chargepoint

ARTICLE 225: Outside Branch Circuits and Feeders

KERN COUNTY PUBLIC WORKS

CEC 225.41 & 230.85 Emergency Disconnects – one and two family dwelling units only…

- Readily accessible disconnect install outdoors on or within-sight of the dwelling unit(s).
- Rating equal or greater than max fault current
- Grouped with all other disconnects if more than one.
- Clearly marked on outside of disconnect enclosure white text on red background “Emergency Disconnect.” Marking to include locations of other disconnecting means, such as solar.
- REPLACEMENT – Where service equipment is replaced, this requirement shall apply.

Comments: for services and was not repeated here for outside feeders. This expands the requirement to resolve issues with remote service disconnects.



California Electrical Code

KERN COUNTY PUBLIC WORKS

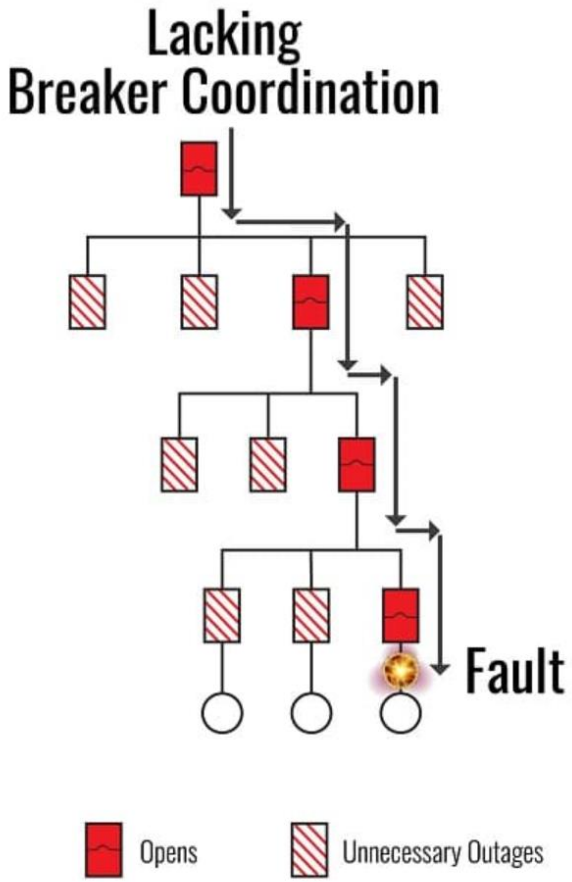
ARTICLE 240: OVERCURRENT PROTECTION

ARTICLE 240: Overcurrent Protection

KERN COUNTY PUBLIC WORKS

240.11 Selective Coordination

-When a feeder OCD is selectively coordinated with a service OCD, then all feeder OCDs fed by the service will need to be selectively coordinated.



ARTICLE 240: Overcurrent Protection

KERN COUNTY PUBLIC WORKS

240.7 Listing Requirements

- Branch-Circuit Overcurrent Devices
- Relays and GFPE Circuit Breakers
- Ground-Fault Circuit Interrupters

Also, when over current devices (OCDs) are replaced on a circuit requiring GFPE protection, Ground Fault Protective devices for Equipment (GFPE) shall be installed.

ARTICLE 240: Overcurrent Protection

KERN COUNTY PUBLIC WORKS

240.24(E): Location on/in Premises

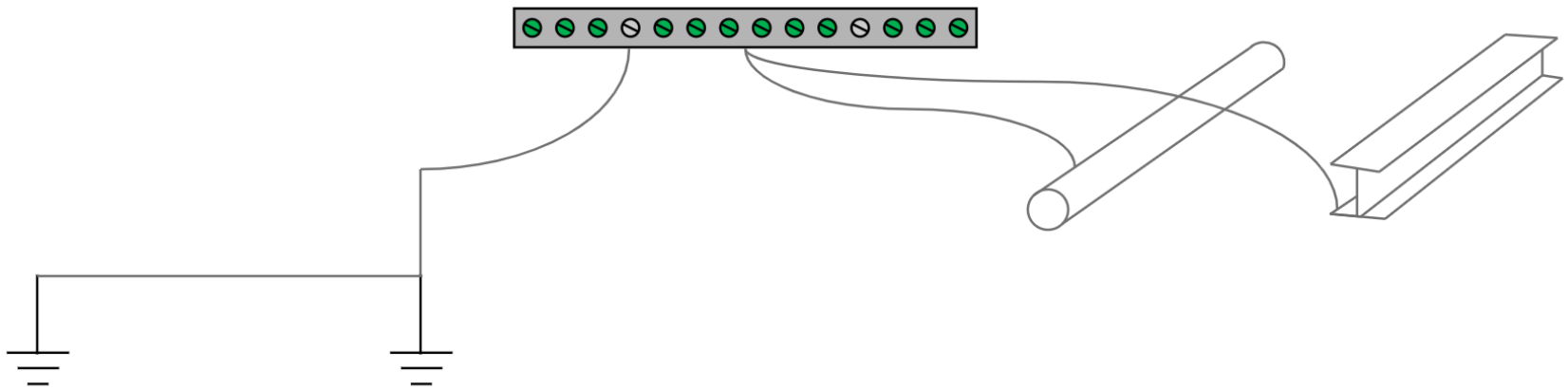
- Overcurrent Protective Devices (OCDs) are no longer permitted in bathrooms of any occupancy.

Commentary: Expanded prohibition from dwelling unit bathrooms to any bathroom, showering facilities, or locker rooms with showering facilities.

- Adding new branch circuit OCDs to existing subpanels in bathrooms will be considered a violation of this section.



Note: this photo includes several electrical code violations.



California Electrical Code

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ARTICLE 250: GROUNDING AND BONDING

ARTICLE 250: Grounding and Bonding

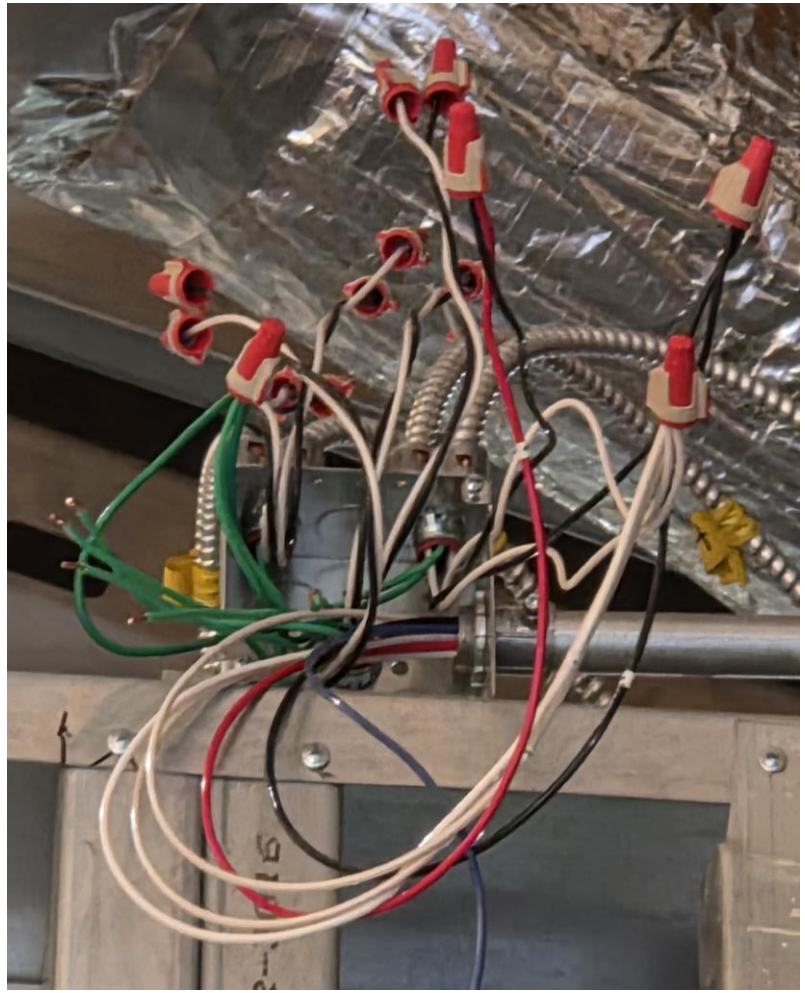
KERN COUNTY PUBLIC WORKS

CEC 250.64 GEC Installation – Enclosures with Ventilation Openings

- Grounding Electrode Conductors (GEC) shall not be installed through a ventilation opening of an enclosure.



CEC 250.148 & 150.122



CEC 250.148 Continuity of EGC and Attach't to Boxes

- All equipment grounding conductors that are spliced or terminated within the box shall be connected together.
- Equipment bonding conductor for metal box specified to be sized in accordance with 250.122.

- Commentary: Typically inspected and enforced during field installations.



KERN COUNTY PUBLIC WORKS

ARTICLE 352: RIDGID PVC CONDUIT

ARTICLE 352: Rigid PVC Conduit

KERN COUNTY PUBLIC WORKS

CEC 352.44 Expansion Fittings Required

- 352.44(A) Thermal expansion and contraction – expansion fittings to be used if anticipated change in length is ¼" or more between boxes/equipment/etc.
- 352.44(B) Earth movement – expansion fittings for underground runs of PVC where emerging from grade shall be provided above grade where required to compensate for settling, movement, or frost heave.
- Note 1: 352.6: … fittings to be listed, some sizes are not listed.
- Note 2: Part A is clearly objective. Part B is not so objective and will likely be a requirement on most installations.



Photo courtesy of Cantex

Article 352: Rigid PVC

Δ Table 352.44(A) Expansion Characteristics of PVC Rigid Nonmetallic Conduit Coefficient of Thermal Expansion = 6.084×10^{-5} mm/mm/°C (3.38×10^{-5} in./in./°F)

Temperature Change (°C)	Length Change of PVC Conduit (mm/m)	Temperature Change (°F)	Length Change of PVC Conduit (in./100 ft)	Temperature Change (°F)	Length Change of PVC Conduit (in./100 ft)
5	0.30	5	0.20	105	4.26
10	0.61	10	0.41	110	4.46
15	0.91	15	0.61	115	4.66
20	1.22	20	0.81	120	4.87
25	1.52	25	1.01	125	5.07
30	1.83	30	1.22	130	5.27
35	2.13	35	1.42	135	5.48
40	2.43	40	1.62	140	5.68
45	2.74	45	1.83	145	5.88
50	3.04	50	2.03	150	6.08
55	3.35	55	2.23	155	6.29
60	3.65	60	2.43	160	6.49
65	3.95	65	2.64	165	6.69
70	4.26	70	2.84	170	6.90
75	4.56	75	3.04	175	7.10
80	4.87	80	3.24	180	7.30
85	5.17	85	3.45	185	7.50
90	5.48	90	3.65	190	7.71
95	5.78	95	3.85	195	7.91
100	6.08	100	4.06	200	8.11

California Electrical Code

KERN COUNTY PUBLIC WORKS

ARTICLE 404 and 406: Switches and Receptacles

ARTICLE 404: Swtiches

KERN COUNTY PUBLIC WORKS

404.14 (D)Rating and Use of Switches – Snap Switch Terminations (and Receptacles)

- #3: Switches using screwless terminals shall only be used on 14 awg copper conductors maximum 15 amp circuit.

UL standard WJQR permits only 14 awg solid copper to be used in push-in connections.



Photo courtesy of Leviton

ARTICLE 406: Receptacles

KERN COUNTY PUBLIC WORKS

CEC 406.4(G) Protection of Floor Receptacles

- Physical protection of receptacles to allow use of floor cleaning equipment without damage to the receptacles
- GFCI protection required in food courts and waiting spaces of transportation facilities where food and drink are served.

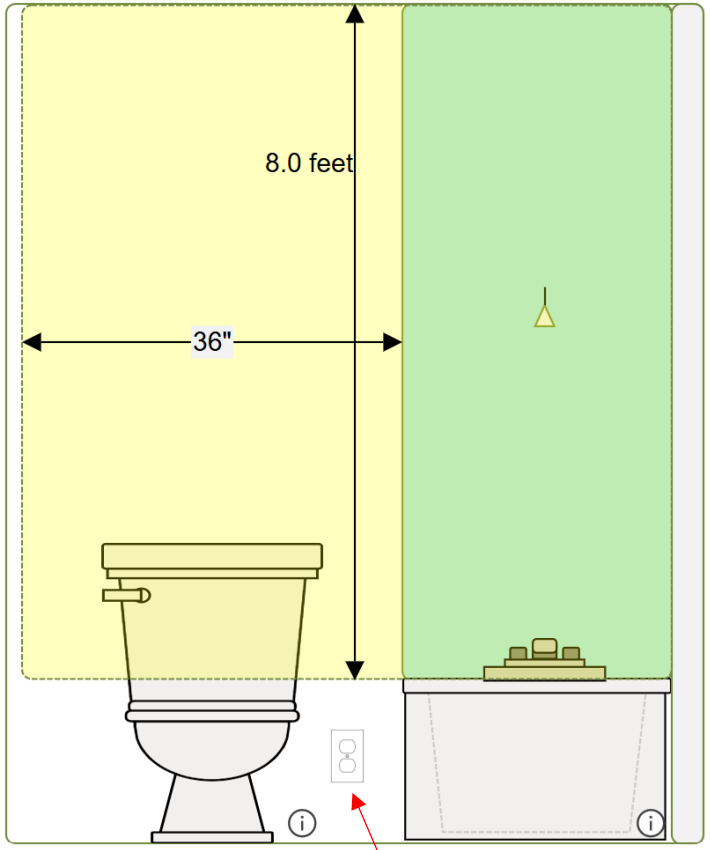
ARTICLE 406: Receptacles

KERN COUNTY PUBLIC WORKS

406.9(C): Receptacles in Damp/Wet Locations

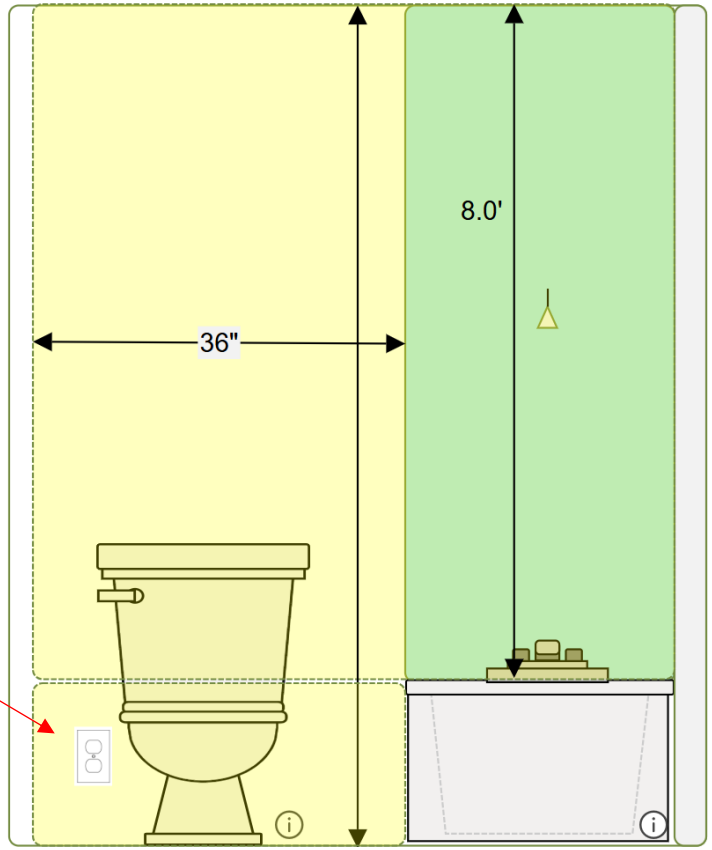
- Tub and Shower space expanded and now includes the space down to floor below tub rim.
- Exceptions added to allow receptacles for hydromassage tubs and electronic bidets, but receptacle for electronic bidet must be placed opposite the tub at the toilet – not between toilet and tub.

Article 406: Tub and Shower Space



Old dimensions allowed receptacles below tub rim.

Now, tub and shower space extends down to floor. Where within tub and shower space, receptacles only permitted on opposite side of toilet from bathtub/shower, if to serve electronic bidet.



ARTICLE 406: Receptacles

KERN COUNTY PUBLIC WORKS

406.12 Tamper Resistant Receptacles

- Now an all-inclusive list, expanded.

1. All dwelling units and boathouses, including their attached and detached garages, accessory buildings, and common areas.
2. Guest rooms and guest suites of hotels, motels, and their common areas
3. Child care facilities
4. Preschools and education facilities
5. Within clinics, medical and dental offices, and outpatient facilities, the following spaces:
    1. Business offices accessible to the general public.
    2. Lobbies, and waiting spaces.
    3. Spaces of nursing homes and limited care facilities covered in 517.10(B)(2).
6. Places of awaiting transportation, gymnasiums, skating rinks, fitness centers, and auditoriums.
7. Dormitory units.
8. Residential care/assisted living facilities, social and substance abuse rehabilitation facilities, and group homes.
9. Foster care facilities, nursing homes, and psychiatric hospitals.
10. Areas of agricultural buildings accessible to the general public and any common areas.

ARTICLE 408: Switchboards, Switchgear, Panelboards

KERN COUNTY PUBLIC WORKS

408.4 Descriptions Required

Every circuit and circuit modification shall be provided with a legible and permanent description that complies with all of the following conditions as applicable:

1. Located at each switch or circuit breaker in a switchboard or switchgear
2. Included in a circuit directory that is located on the face of, inside of, or in an approved location adjacent to the panel door in the case of a panelboard
3. Clear, evident, and specific to the purpose or use of each circuit including spare positions with an unused overcurrent device
4. Described with a degree of detail and clarity that is unlikely to result in confusion between circuits
5. Not dependent on transient conditions of occupancy
6. Clear in explaining abbreviations and symbols when used

Commentary: will likely require diligence in plan review stage regarding degree of detail in panel schedule circuit description and wiring plan, with follow up enforcement in the field based on wiring installation.

ARTICLE 440: Airconditioning and Refrigeration

KERN COUNTY PUBLIC WORKS

440.8: Location

- An air-conditioning or refrigerating system shall be considered to be a single machine under the provisions of 430.87, Exception No. 1, and 430.112, Exception. The motors shall be permitted to be located remotely from each other. Air-conditioning and refrigeration equipment shall not be installed within a zone measured 900 mm (3 ft) horizontally and 2.5 m (8 ft) vertically from the top of a bathtub rim or shower stall threshold. The zone shall be all-encompassing and include the space directly over the tub or shower stall.

ARTICLE 440: Airconditioning and Refrigeration

KERN COUNTY PUBLIC WORKS

440.11

- Disconnecting means shall be capable of disconnecting air-conditioning and refrigerating equipment, including motor-compressors and controllers, from the circuit conductors. If the disconnecting means is readily accessible to unqualified persons, any enclosure door or hinged cover of a disconnecting means that exposes energized parts when open shall require a tool to open or be capable of being locked.

Commentary: this is a rule now copied over from existing requirements in other articles of the electrical code, such as 690.13 PV disconnects.

If the device does not have manufacturer provided protection of live parts when the switch is open, then external lock shall be installed.

ARTICLE 680: Swimming Pools

KERN COUNTY PUBLIC WORKS

680.5: GFCI and SPGFCI Protection

- Electrical outlets 150 volts or less to ground and 60 amps or less shall be provided with Class A GFCI
- Electrical Outlets above 150 volts to ground, not exceeding 480 phase to phase, to be provided with special purpose ground fault circuit interruption not to exceed 20-mA trip.



Photo courtesy of Littelfuse

ARTICLE 680: Swimming Pools

KERN COUNTY PUBLIC WORKS

680.5: GFCI and SPGFCI Protection

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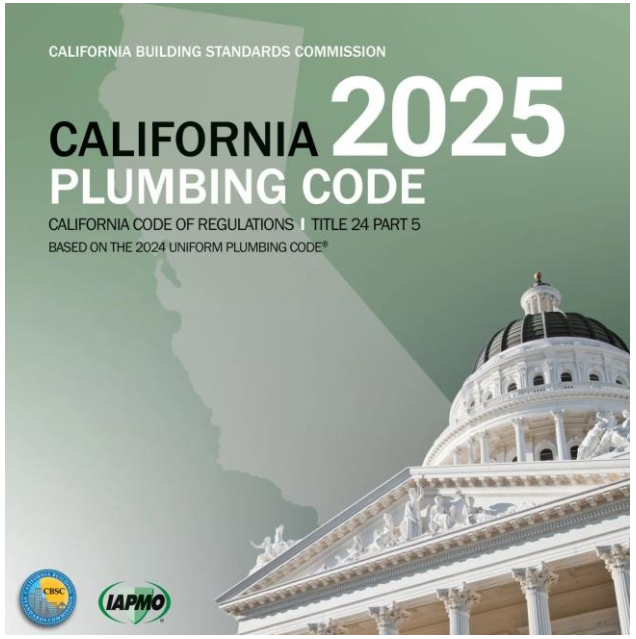
- Pool Pumps 680.21(C)
- Pool pump replacements 680.21(D)
- Lighting and equipment 680.22
- 680.44 Spas and Spa equipment
- Fountains
- Outlets within 20’ of fountain 680.58.
- 680.57 Signs

ARTICLE 680: Swimming Pools

KERN COUNTY PUBLIC WORKS

680.50: Fountains

- 680.50(A) & 680.54(C)
- References - Equipotential bonding now includes splash pads to requirements of 680.26.

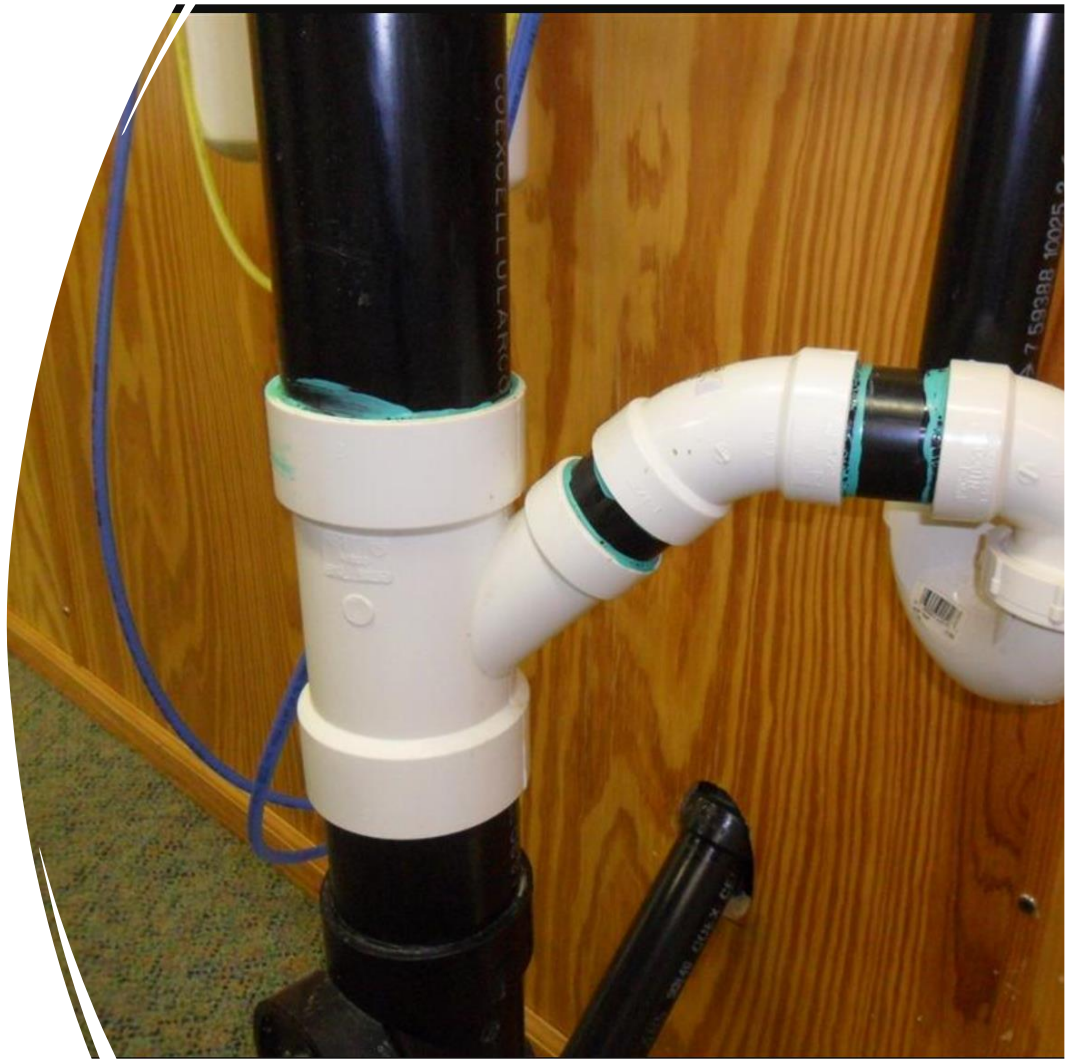


Significant Changes California Plumbing Code 2025

Section 310.10

KERN COUNTY PUBLIC WORKS

- **<u>310.10 ABS and PVC Transition Joints.</u>** Except as provided in Section 705.9.4, PVC and ABS pipe and fittings shall not be solvent welded to dissimilar material.
- This section was added to the general requirements. As noted, in section 705.9.4 transition glue is to be used for a single transition at the building sewer and building drain.
- Transition solvent cement is not to used anywhere inside a building.

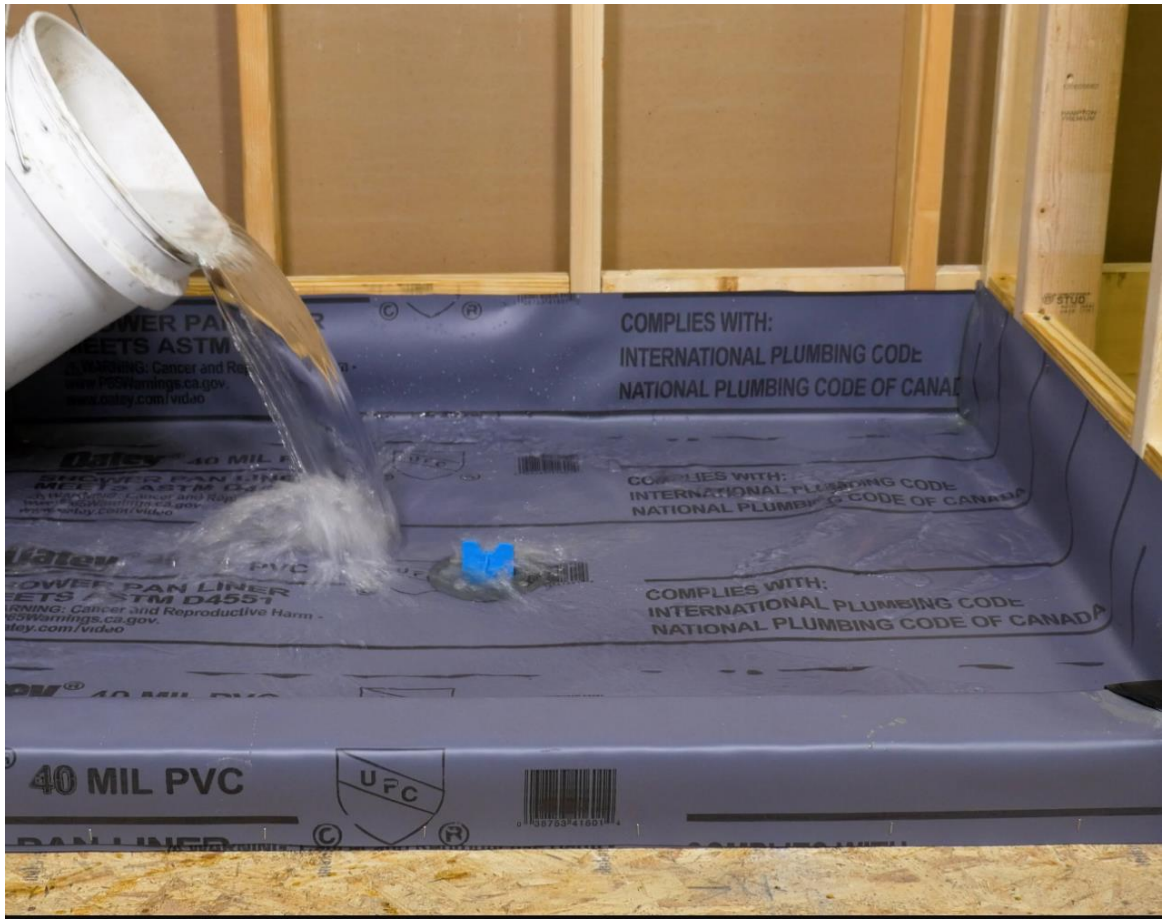


Section 408.8.5

KERN COUNTY PUBLIC WORKS

408.7.5 408.8.5 Tests for Shower Receptors.
Shower receptors shall be tested for watertightness by filling with water to the level of the rough threshold a depth of not less than 2 inches (51mm) for not less than 15 minutes. Where no threshold is present, a 2-inch (51 mm) barrier shall be temporarily constructed for testing. The test plug shall be so placed that both upper and under sides of the sub pan shall be subjected to the test at the point where it is clamped to the drain.

This adds a minimum depth and time requirements for testing the installation of a watertight shower receptor.



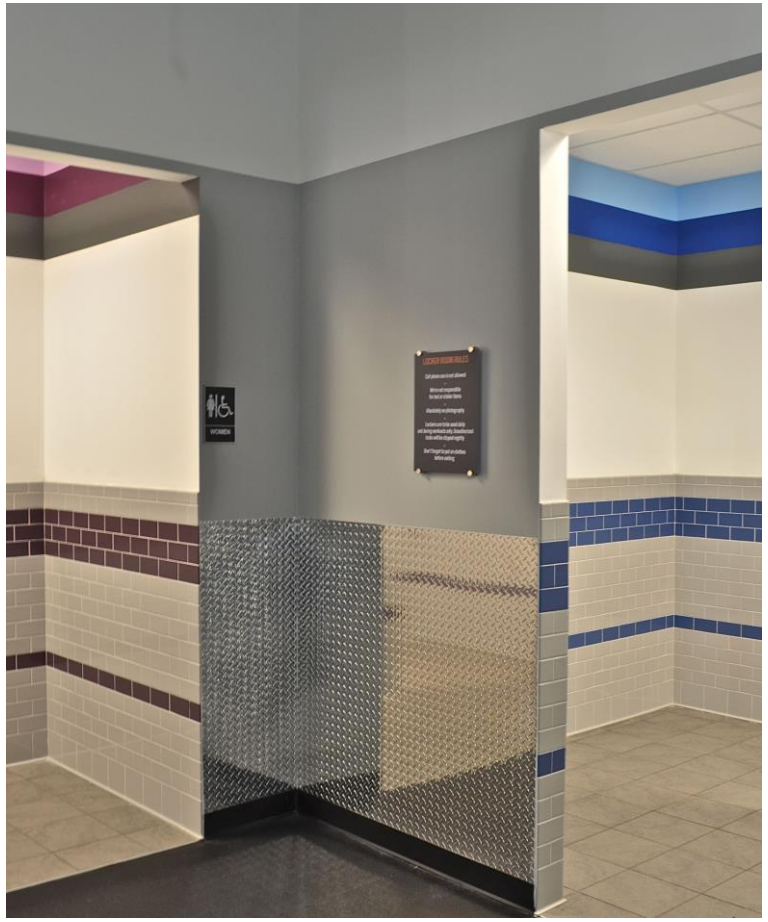
Section 422.2

KERN COUNTY PUBLIC WORKS

422.2 Separate Facilities. Separate toilet facilities shall be provided for each sex.

Exceptions:

1. Residential installations.
2. In occupancies with a total occupant load of 10 or less, including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.
3. In business and mercantile occupancies with a total occupant load of 50 or less including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.
4. Separate facilities shall not be required where rooms have fixtures designed for use by both sexes and the water closets are installed in privacy compartments. Urinals shall be located in a privacy compartment.



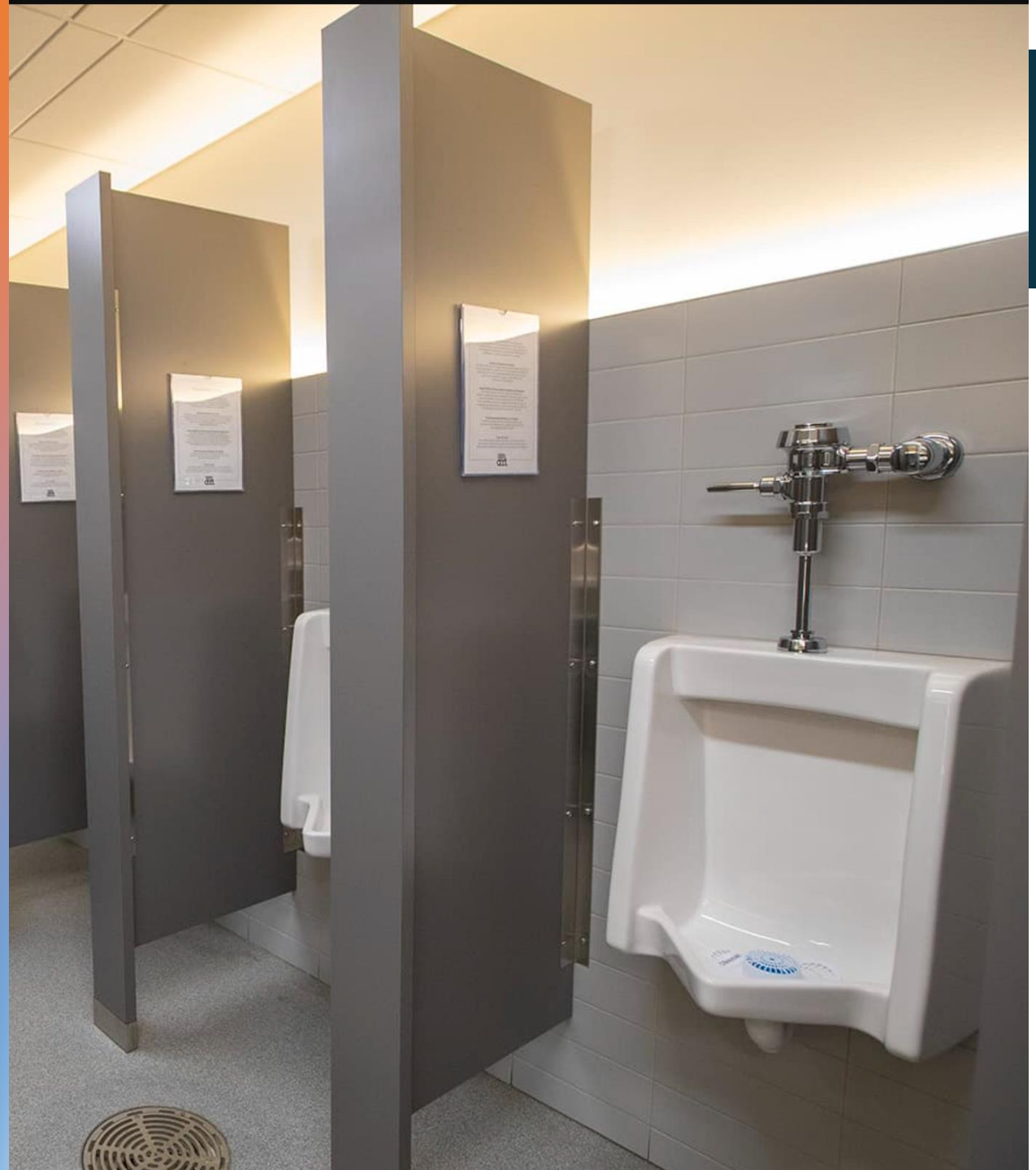


Section 422.6

KERN COUNTY PUBLIC WORKS

- **422.6 Water Closet Compartment.**
- Public water closets shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy. Partitions for water closets located in separate gender toilet or bathrooms shall comply with the Type B security requirements of IAPMO Z124.10. Partitions for water closets located in all gender toilet or bathrooms shall comply with the Type A security requirements of IAPMO Z124.10.
- **Exceptions:**

1. Water closet compartments shall not be required in a single occupant toilet room having a lockable door.
2. Toilet rooms in day care facilities having more than one water closets shall be permitted to have one water closet without an enclosing compartment.



Section 422.6

KERN COUNTY PUBLIC WORKS

- **422.7 Urinal Partitions.**
- Each urinal shall be separated with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall comply with Section 402.5. Partitions for urinals shall comply with the Type C security requirements of IAPMO Z124.10. Walls or partitions shall extend from not less than 12 inches (305 mm) above the finished floor to not less than 60 inches (1524 mm) above the finished floor. Walls shall extend outward from the wall surface not less than 18 inches (457 mm). Urinals located in all gender toilet rooms shall be visually separated from the remainder of the room or each urinal shall be installed in a privacy compartment complying with Type A security requirements of IAPMO Z124.10.
- **Exception:** Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.

The Building Code added an allowance for all gender toilet rooms in the 2021 edition. This change provides a correlation with the Building Code. The water closets and urinals are located in privacy compartments while the lavatories are located in the open. All gender
toilet rooms can reduce discrimination based on gender identity.

Section 507.5

KERN COUNTY PUBLIC WORKS

- **507.5 Drainage Pan.**
- Where a water heater is located in an attic, in or on an attic ceiling assembly, floor-ceiling assembly, floor-subfloor assembly or where damage results from a leaking water heater, a watertight pan of corrosion resistant materials shall be installed beneath the water heater in accordance with the following:

1. The drainage pan shall be provided with not less than 3/4 of an inch (20 mm) diameter drain to an approved location. The terminating end of the drainpipe shall be readily visible.
2. ~~Such~~ The drainage pan shall be not less than 1 1/2 inches (38 mm) in depth.
3. Where a drainage pan pipe is installed, the material of the piping shall be rated for the temperature rating of the water heater and shall be approved for use with the liquid being discharged.
4. Discharge from a relief valve into a drainage pan shall be prohibited.



Add requirements to code section, as well as add the prohibition of T&P valve to discharge into the pan that is in section 608.5(7)

Section 703.2

KERN COUNTY PUBLIC WORKS

[Autodesk Drive]

Table 703.2 (Table 703.2)

TABLE 703.2
MAXIMUM UNIT LOADING AND MAXIMUM LENGTH OF DRAINAGE AND VENT PIPING

SIZE OF PIPE (inches)	1¼	1½	2	3	4	5	6	8	10	12
Maximum Units										
Drainage Piping[1]										
Vertical	1	2[2,7]	16[3]	48[4]	256	600	1380	3600	5600	8400
Horizontal	1	1[7]	8[3]	35[4]	216[5]	428[5]	720[5]	2640[5]	4680[5]	8200[5]
Maximum Length										
Drainage Piping										
Vertical, (feet)	45	65	85	212	300	390	510	750	–	–
Horizontal (unlimited)										
Vent Piping										
Horizontal and Vertical[6]										
Maximum Units	1	8[3]	24	84	256	600	1380	3600	–	–
Maximum Lengths, (feet)	45	60	120	212	300	390	510	750		

For SI units: 1 inch = 25 mm, 1 foot = 304.8 mm

Notes:

1. Excluding trap arm.
2. Except for sinks, urinals, and dishwashers – exceeding 1 fixture unit.
3. Except for six-unit traps or water closets.
4. Not to exceed ~~five~~ six water closets or ~~five~~ six-unit traps.
5. Based on 1⁄4 inch per foot (20.8 mm/m) slope. For 1⁄8 of an inch per foot (10.4 mm/m) slope, multiply horizontal fixture units by a factor of 0.8.
6. The diameter of an individual vent shall be not less than 11⁄4 inches (32 mm) nor less than one-half the diameter of the drain to which it is connected. Fixture unit load values for drainage and vent piping shall be computed from Table 702.1 and Table 702.2. Not to exceed one-third of the total permitted length of a vent shall be permitted to be installed in a horizontal position. Where vents are increased one pipe size for their entire length, the maximum length limitations specified in this table do not apply. This table is in accordance with the requirements of Section 901.3.
7. Up to 8 public lavatories are permitted to be installed on a 11⁄2 inch (40 mm) vertical branch or horizontal sanitary branch sloped at 1⁄4 inch per foot (20.8 mm/m).

Section 715.3

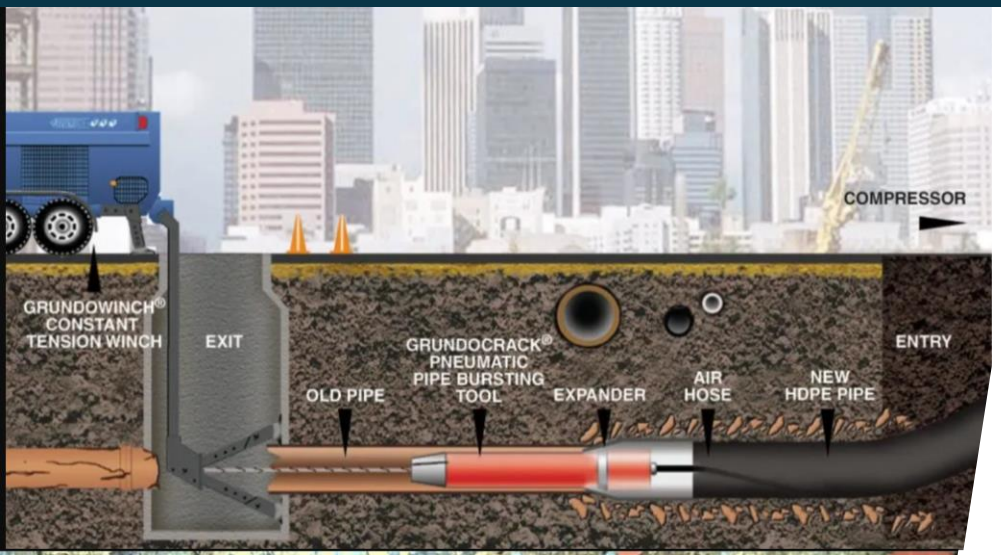
KERN COUNTY PUBLIC WORKS

- **715.3 Existing Sewers.**
- ~~Replacement of existing building sewer and building storm sewers using trenchless methodology and materials shall be installed in accordance with ASTM F1216, ASTMF2561, ASTM F2599, or ASTM F3240. Where permitted by the Authority Having Jurisdiction ,trenchless methods of rehabilitation of existing building sewer and building storm sewers shall be installed in accordance with Section 715.3.1 or Section 715.3.2.~~
- **715.3.1 Sewer Pipe Lining.** For trenchless installation of resin impregnated flexible tubing to line existing building sewers and building storm sewers installation shall be in accordance with ASTM F1216, ASTM F2561, ASTM F2599, or ASTM F3240.



Section 715.3.2

KERN COUNTY PUBLIC WORKS





- 715.3.2 (N/A) 715.3.2 Sewer Pipe Replacement. For trenchless installation of polyethylene (PE) pipe using the pipe bursting method to replace existing building sewers and building storm sewers materials shall be in accordance with ASTM F714.

The modification adds the necessary standards for the specific application regarding rehabilitation of trenchless methods of rehabilitation of existing building sewer and building storm sewers.

Section 814.4

KERN COUNTY PUBLIC WORKS

- **814.4 Appliance Condensate Drains.**
- Condensate drain lines from individual condensing appliances shall be sized as required by the manufacturer's instructions. Condensate drain lines serving more than one appliance ~~shall be approved by the Authority Having Jurisdiction prior to installation~~ connecting to a common indirect waste pipe shall have the connections to the indirect waste pipe protected by a sanitary waste valve complying with ASME A112.18.8, condensate trap complying with IAPMO IGC 196, or trap with a trap primer.

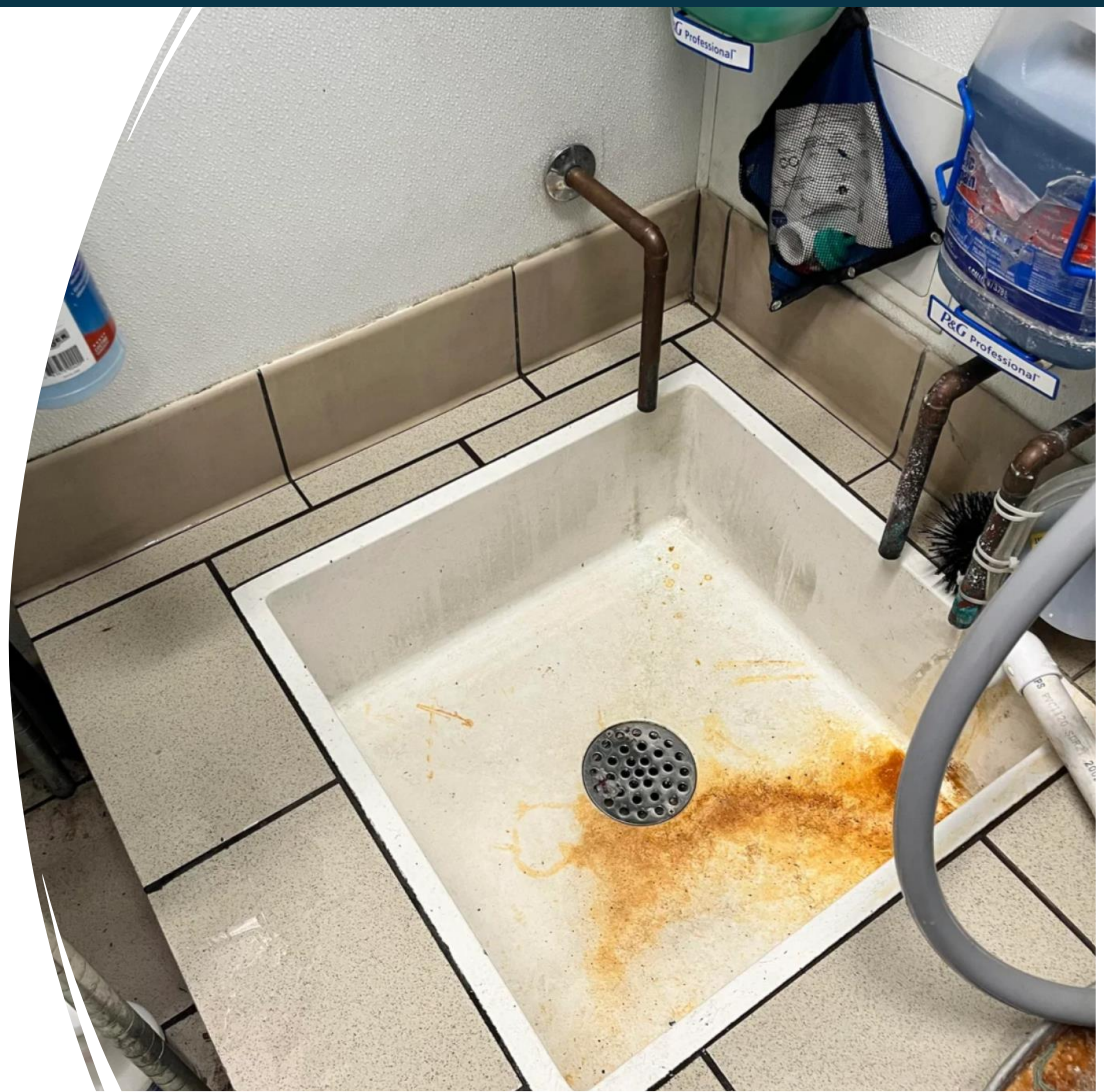




Section 814.5

KERN COUNTY PUBLIC WORKS

814.5 Point of Discharge.
Air-conditioning condensate waste pipes shall connect indirectly, ~~except where permitted in Section 814.6~~, to the drainage system through an air gap or air break to trapped and vented receptors, dry wells, mop sinks, leach pits, or the tailpiece of plumbing fixtures. ~~A~~ An individual condensate drain shall be trapped in accordance with the appliance manufacturer's instructions or ~~as approved.~~ in accordance with Section 814.4.



Section 814.4 continued

KERN COUNTY PUBLIC WORKS

- The primary concern with the connection to indirect waste pipe from multiple condensate drains is the free passage of air between spaces. Without a means of preventing the movement of air in the indirect was pipe, biohazardous airborne materials can easily migrate between building spaces. Each condensate drain connecting to a common indirect waste pipe must be protected in one of the three ways mentioned, namely with a sanitary waste valve, a condensate trap, or a trap with a trap primer. These methods would prevent the movement of contaminated air between different spaces in a building. Two devices that would provide the isolation of air movement through an indirect waste pipe are sanitary waste valves and condensate traps and are regulated by ASME A112.18.8 and IAPMO IGC 196 respectively. Both devices will isolate the air movement. To a lesser degree, a water seal trap could provide isolation of air movement. The problem with a trap is that if the trap loses the water seal, the trap provides no protection against air movement. Condensate drains may not operate for months, thus leaving the trap with no source of water for refilling due to evaporation. For that reason, a water trap seal must have a trap seal primer valve.

Section 1002.2 Table

KERN COUNTY PUBLIC WORKS

1. Maintain 1⁄4 inch per foot slope (20.8 mm/m).
2.The developed length between the trap of a water closet or similar fixture(measured from the face of the closet flange to the inner edge of the vent)and its vent shall not exceed 6 feet (1829 mm).
3.Horizontally wet vented bathtubs, showers and similar fixtures shall be limited to a maximum of 6 feet (1829 mm) for 1½ inch (40 mm) fixture drains and 8 feet (2438 mm) for 2-inch (50 mm) fixture drains, maintaining¼ inch per foot slope (20.8 mm/m).

TABLE 1002.2
HORIZONTAL LENGTHS OF TRAP ARMS
(EXCEPT FOR WATER CLOSETS AND SIMILAR FIXTURES)[1, 2, 3]

TRAP ARM PIPE DIAMETER (inches)	DISTANCE TRAP TO VENT MINIMUM (inches)	LENGTH MAXIMUM (inches)
1¼	2½	30
1½	3	42
2	4	60
3	6	72
4	8	120
Exceeding 4	2 x Diameter	120

For SI units: 1 inch = 25.4 mm

So, the UPC further investigated horizontal wet vent systems to verify performance for the inclusion into plumbing codes. While maintaining within the required ±1 inch of water column pressure differential at the fixture trap to mitigate self siphonage conditions. It was allowable to increase the length of the trap arm.

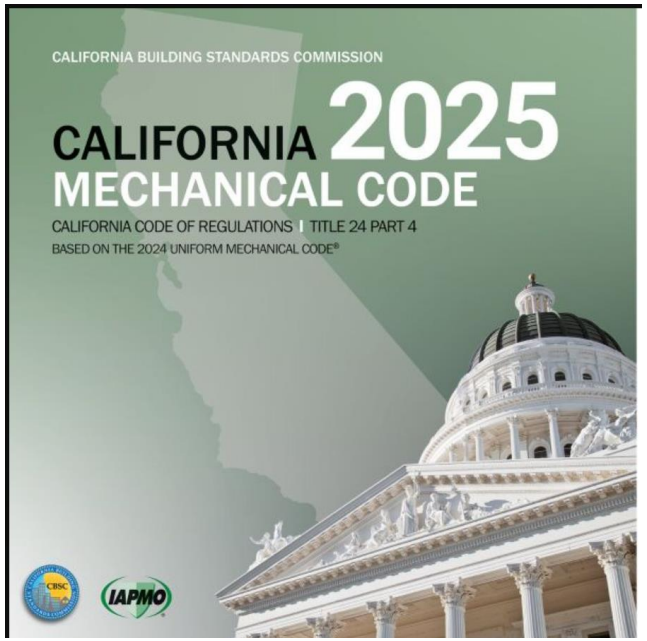
Section 1210.3.5.3

KERN COUNTY PUBLIC WORKS

- 1210.3.5.3
- Piping on Roofs.
- Gas piping shall be elevated not less than 3-1/2 inches above the roof surface.

Added a height requirement of 3-1/2 inches verse prior code, which had no height requirement.



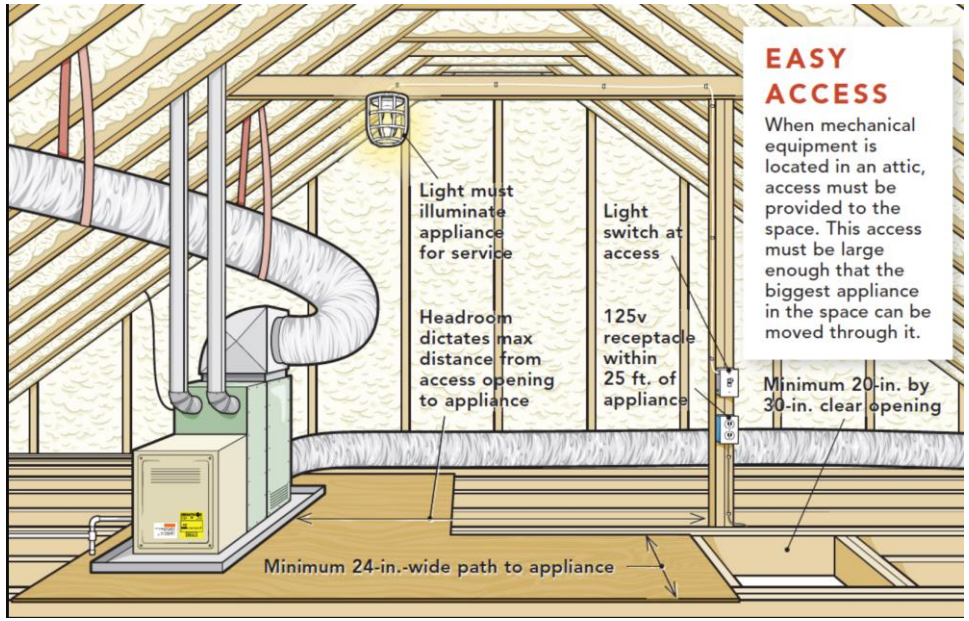


Significant Changes California Mechanical Code 2025

Section 304.4.1

KERN COUNTY PUBLIC WORKS

- 304.4.1
- Length of passageway.
- Where the height of the passageway is 6 feet (1829 mm) or more, the distance from the passageway access to the appliance shall not exceed 50 feet (15 240 mm) measured along the centerline of the passageway.



Now there is a length limit for spaces over 6ft.

Section 310.2

KERN COUNTY PUBLIC WORKS

310.2 Condensate Control. Where any equipment or appliance is installed in a space where damage is capable of resulting from condensate overflow, a drain line shall be provided and shall be drained in accordance with Section 310.1. An additional protection method for condensate overflow shall be provided in accordance with one of the following:

(1) A water level detecting device that will shut off the equipment or appliance in the event the primary drain is blocked. Such detecting device shall be in accordance with the manufacturer's installation instructions.

(2) An additional watertight pan of corrosion-resistant material, with a separate drain line, installed beneath the cooling coil, unit, or the appliance to catch the overflow condensate due to a clogged primary condensate drain.

(3) An additional separate drain line at a level that is higher than the primary drain line connection of the drain pan.

(4) An additional watertight pan of corrosion-resistant material with a water level detection device installed beneath the cooling coil, unit, or the appliance to catch the overflow condensate due to a clogged primary condensate drain and to shut off the equipment. The additional pan or the additional drain line connection shall be provided with a drainpipe of not less than 3/4 of an inch (20 mm) nominal pipe size, discharging at a point that is readily observed.





Section 310.2

KERN COUNTY PUBLIC WORKS

- Language added to item (3) will clarify that the directions and guidance for such detecting devises are found in the manufacturer's installation instructions. Additionally, there may be devices that are not installed directly inside the pan. The recommended change will assist in identifying whether the condensate waste is coming from the primary or secondary drain. If there is condensate coming from the secondary line, it must be investigated. The addition of "separate" is to ensure that the primary and secondary drain are not combined.

Section 402.4

KERN COUNTY PUBLIC WORKS

- **402.4 Outdoor Air Intake Protection.** Required outdoor air intakes shall be covered with a corrosion-
- resistant screen having not less than 1⁄4 of an inch (6.4 mm) openings, and shall have not
- more than 1⁄2 of an inch (12.7 mm) openings.
- **N/A** (402.4.1) **402.4.1 Weather Protection.** Outdoor air intakes that are part of the mechanical ventilation system
- shall be designed to manage rain entrainment, to prevent rain intrusion, and manage water from snow
- in accordance with ASHRAE 62.1.

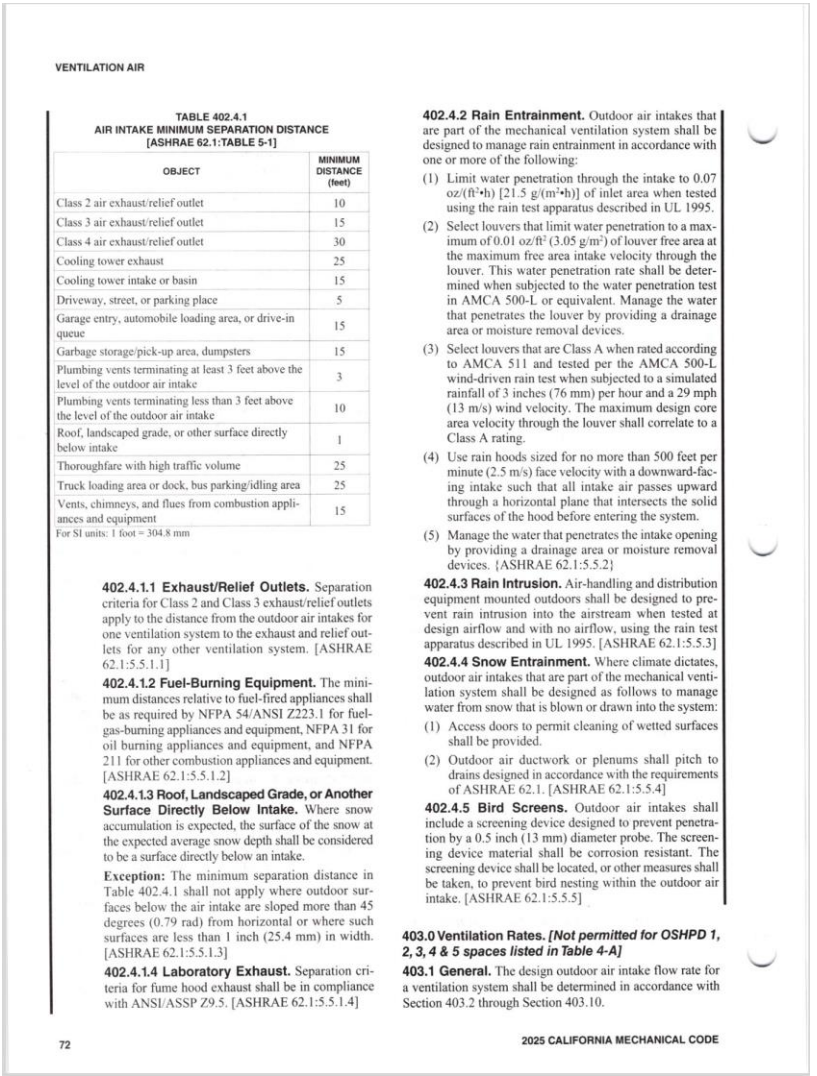
Section 402.4 cont.

KERN COUNTY PUBLIC WORKS

402.4 Outdoor Air Intakes. Ventilation system outdoor air intakes shall be designed in accordance with Section 402.4.1 through Section 402.4.5. [ASHRAE 62.1:5.5]

402.4.1 (N/A) **402.4.1 Location.** Outdoor air intakes (including openings that are required as part of a natural ventilation system) shall be located such that the shortest distance from the intake to any specific potential outdoor contaminant source listed in Table 402.4.1 shall be equal to or greater than the following:
(1) The separation distance in Table 402.4.1 or
(2) The calculation methods in ASHRAE 62.1 Normative Appendix B and shall comply with all
other requirements of this section. [ASHRAE .162.1:5.5.1]

402.4.1.1 (N/A) **402.4.1.1 Exhaust/Relief Outlets.** Separation criteria for Class 2 and Class 3 exhaust/relief outlets
apply to the distance from the outdoor air intakes for one ventilation system to the exhaust and relief
outlets for any other ventilation system. [ASHRAE 62.1:5.5.1.1]



VENTILATION AIR

TABLE 402.4.1
AIR INTAKE MINIMUM SEPARATION DISTANCE
[ASHRAE 62.1:TABLE 5-1]

OBJECT	MINIMUM DISTANCE (feet)
Class 2 air exhaust/relief outlet	10
Class 3 air exhaust/relief outlet	15
Class 4 air exhaust/relief outlet	30
Cooling tower exhaust	25
Cooling tower intake or basin	15
Driveway, street, or parking place	5
Garage entry, automobile loading area, or drive-in queue	15
Garbage storage/pick-up area, dumpsters	15
Plumbing vents terminating at least 3 feet above the level of the outdoor air intake	3
Plumbing vents terminating less than 3 feet above the level of the outdoor air intake	10
Roof, landscaped grade, or other surface directly below intake	1
Thoroughfare with high traffic volume	25
Truck loading area or dock, bus parking/idling area	25
Vents, chimneys, and flues from combustion appliances and equipment	15

For SI units: 1 foot = 304.8 mm

402.4.1.1 Exhaust/Relief Outlets. Separation criteria for Class 2 and Class 3 exhaust/relief outlets apply to the distance from the outdoor air intakes for one ventilation system to the exhaust and relief outlets for any other ventilation system. [ASHRAE 62.1:5.5.1.1]

402.4.1.2 Fuel-Burning Equipment. The minimum distances relative to fuel-fired appliances shall be as required by NFPA 54/ANSI Z223.1 for fuel-gas-burning appliances and equipment, NFPA 31 for oil burning appliances and equipment, and NFPA 211 for other combustion appliances and equipment. [ASHRAE 62.1:5.5.1.2]

402.4.1.3 Roof, Landscaped Grade, or Another Surface Directly Below Intake. Where snow accumulation is expected, the surface of the snow at the expected average snow depth shall be considered to be a surface directly below an intake.

Exception: The minimum separation distance in Table 402.4.1 shall not apply where outdoor surfaces below the air intake are sloped more than 45 degrees (0.79 rad) from horizontal or where such surfaces are less than 1 inch (25.4 mm) in width. [ASHRAE 62.1:5.5.1.3]

402.4.1.4 Laboratory Exhaust. Separation criteria for fume hood exhaust shall be in compliance with ANSI/ASSP Z9.5. [ASHRAE 62.1:5.5.1.4]

402.4.2 Rain Entrainment. Outdoor air intakes that are part of the mechanical ventilation system shall be designed to manage rain entrainment in accordance with one or more of the following:

(1) Limit water penetration through the intake to 0.07 oz/(ft²•h) [21.5 g/(m²•h)] of inlet area when tested using the rain test apparatus described in UL 1995.

(2) Select louvers that limit water penetration to a maximum of 0.01 oz/ft² (3.05 g/m²) of louver free area at the maximum free area intake velocity through the louver. This water penetration rate shall be determined when subjected to the water penetration test in AMCA 500-L or equivalent. Manage the water that penetrates the louver by providing a drainage area or moisture removal devices.

(3) Select louvers that are Class A when rated according to AMCA 511 and tested per the AMCA 500-L wind-driven rain test when subjected to a simulated rainfall of 3 inches (76 mm) per hour and a 29 mph (13 m/s) wind velocity. The maximum design core area velocity through the louver shall correlate to a Class A rating.

(4) Use rain hoods sized for no more than 500 feet per minute (2.5 m/s) face velocity with a downward-facing intake such that all intake air passes upward through a horizontal plane that intersects the solid surfaces of the hood before entering the system.

(5) Manage the water that penetrates the intake opening by providing a drainage area or moisture removal devices. {ASHRAE 62.1:5.5.2}

402.4.3 Rain Intrusion. Air-handling and distribution equipment mounted outdoors shall be designed to prevent rain intrusion into the airstream when tested at design airflow and with no airflow, using the rain test apparatus described in UL 1995. [ASHRAE 62.1:5.5.3]

402.4.4 Snow Entrainment. Where climate dictates, outdoor air intakes that are part of the mechanical ventilation system shall be designed as follows to manage water from snow that is blown or drawn into the system:

(1) Access doors to permit cleaning of wetted surfaces shall be provided.

(2) Outdoor air ductwork or plenums shall pitch to drains designed in accordance with the requirements of ASHRAE 62.1. [ASHRAE 62.1:5.5.4]

402.4.5 Bird Screens. Outdoor air intakes shall include a screening device designed to prevent penetration by a 0.5 inch (13 mm) diameter probe. The screening device material shall be corrosion resistant. The screening device shall be located, or other measures shall be taken, to prevent bird nesting within the outdoor air intake. [ASHRAE 62.1:5.5.5]

403.0 Ventilation Rates. ***[Not permitted for OSHPD 1, 2, 3, 4 & 5 spaces listed in Table 4-A]***

403.1 General. The design outdoor air intake flow rate for a ventilation system shall be determined in accordance with Section 403.2 through Section 403.10.

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- **402.4.1.2 Fuel-Burning Equipment.** The minimum distances relative to fuel-fired appliances
- shall be as required by ANSI Z223.1/NFPA 54 for fuel gas-burning appliances and equipment, NFPA 31 for oil burning appliances and equipment, and NFPA 211 for other combustion appliances and equipment.[ASHRAE 62.1:5.5.1.2]
- **402.4.1.3 (N/A) 402.4.1.3 Roof, Landscaped Grade, or Another Surface Directly Below Intake.** Where snow accumulation is expected, the surface of the snow at the expected average snow depth shall be considered to be a surface directly below an intake. [ASHRAE 62.1:5.5.1.3]

- **Exception:** The minimum separation distance in Table 402.4.1 shall not apply where outdoor surfaces below the air intake are sloped more than 45 degrees from horizontal or where such surfaces are less than 1 inch (30 mm) in width.
- **402.4.1.4 (N/A) 402.4.1.4 Laboratory Exhaust.** Separation criteria for fume hood exhaust shall be in compliance with ANSI/ASSP Z9.5. [ASHRAE 62.1:5.5.1.4]

Section 402.4 cont.

KERN COUNTY PUBLIC WORKS

- **402.4.2 Rain Entrainment.** Outdoor air intakes that are part of the mechanical ventilation system shall be designed to manage rain entrainment in accordance with one or more of the following:
- (1) Limit water penetration through the intake to 0.07 oz/ft2·h (21.5 g/m2·h) of inlet area when tested using the rain test apparatus described in UL 1995.
- (2) Select louvers that limit water penetration to a maximum of 0.01 oz/ft2 (3 g/m2) of louver free area at the maximum free area intake velocity through the louver. This water penetration rate shall be determined when subjected to the water penetration test in AMCA 500-L or equivalent. Manage the water that penetrates the louver by providing a drainage area or moisture removal devices.
- (3) Select louvers that are Class A when rated according to AMCA 511 and tested per the AMCA 500-L wind-driven rain test when subjected to a simulated rainfall of 3 inches (75 mm) per hour and a 29 mph (13 m/s) wind velocity. The maximum design core area velocity through the louver shall correlate to a Class A rating.
- (4) Use rain hoods sized for no more than 500 fpm (2.5 m/s) face velocity with a downward-facing intake such that all intake air passes upward through a horizontal plane that intersects the solid surfaces of the hood before entering the system.
- (5) Manage the water that penetrates the intake opening by providing a drainage area or moisture removal devices. {ASHRAE 62.1:5.5.2}

Section 402.4 cont

- **402.4.3 Rain Intrusion.** Air-handling and distribution equipment mounted outdoors shall be designed to prevent rain intrusion into the airstream when tested at design airflow and with no airflow, using the rain test apparatus described in UL 1995. [ASHRAE 62.1:5.5.3]
- 402.4.4 (N/A) **402.4.4 Snow Entrainment.** Where climate dictates, outdoor air intakes that are part of the mechanical ventilation system shall be designed as follows to manage water from snow that is blown or drawn into the system:
- (1) Access doors to permit cleaning of wetted surfaces shall be provided.
- (2) Outdoor air ductwork or plenums shall pitch to drains designed in accordance with the requirements of ASHRAE 62.1. [ASHRAE 62.1:5.5.4]
- 402.4.5 (N/A) **402.4.5 Bird Screens.** Outdoor air intakes shall include a screening device designed to prevent penetration by a 0.5-inch (13 mm) diameter probe. The screening device material shall be corrosion resistant. The screening device shall be located, or other measures shall be taken, to prevent bird nesting within the outdoor air intake. [ASHRAE 62.1:5.5.5]

Updates to existing code segments for outdoor air intake protection have been made in accordance with ASHRAE 62. This new language provides clear direction by adding segments such as location, exhaust relief outlets and other design-oriented requirements for ventilation
air.

Section 405.4

- **405.4 Kitchen Exhaust.** A mechanical exhaust system that discharges directly to the outdoors shall be provided in each kitchen. The fan shall run intermittently (on demand) or continuously. A readily accessible manual control designed to be operated as needed or an automatic control shall be provided for intermittent operations.

- **Exception:** Recirculating systems installed in accordance with Section 516.0 and the manufacturer's installation instructions.

- **405.4.1** (405.4.1) **405.4.1 Exhaust Rate.** For intermittent-controlled operations, the exhaust rate shall be not less than 100 ft3/min (47.2 L/s) for rangehoods or 300 ft3/min (142 L/s) for mechanical exhaust fans including downdraft appliances. For continuous operated ventilation, the exhaust rate shall be not less than ~~5 air changes per hour based on kitchen volume for enclosed kitchens~~ 50 ft3/min (23.6 L/s).

The code currently allows recirculation systems to be used for kitchen exhaust in Section 516.0. The added exception clarifies that a mechanical exhaust system that discharges directly to the outdoors is not required when there is a recirculation system in accordance with Section 516.0. Additional modifications to exhaust rates have been included to reflect an update to Table 403.7 for minimum exhaust rates.

Section 504.3

- **504.3 Domestic ~~Range~~ Cooking Exhaust Equipment.** ~~Ducts used for domestic kitchen range or cooktop ventilation shall be of metal and shall have smooth interior surfaces.~~ Domestic cooking exhaust equipment shall comply with the following requirements, as applicable:
- (1) The fan for overhead range hoods and downdraft exhaust equipment not integral with the cooking appliance shall comply with UL 507.
- (2) Overhead range hoods and downdraft exhaust equipment with integral fans shall comply with UL 507.
- (3) Domestic cooking appliances with integral downdraft exhaust equipment shall comply with UL 858 or CSA/ANSI Z21.1/CSA 1.1.
- (4) Microwave ovens with integral exhaust for installation over the cooking surface shall comply with UL 923.
- (5) All domestic kitchen exhaust ducts used in conjunction with domestic range or cooktop hoods shall be constructed of metal and shall have smooth interior surfaces, fastened and sealed with duct mastic or metal tapes that meet the requirements of UL 181A.
- **Exception:** Ducts for domestic kitchen downdraft grill-range ventilation installed under a concrete slab floor shall be permitted to be of approved Schedule 40 PVC provided the following conditions are met:
- (1) The under-floor trench in which the duct is installed shall be completely backfilled with sand or gravel.
- (2) Not more than 1 inch (25.4 mm) of 6 inch diameter (150 mm) PVC coupling shall be permitted to protrude above the concrete floor surface.
- (3) PVC pipe joints shall be solvent cemented to provide an air and grease tight duct.
- (4) The duct shall terminate above grade outside the building and shall be equipped with a backdraft damper.
- (6) Range hoods shall discharge to the outdoors through a single wall duct and shall not terminate in an attic or crawl space.


Thank You