



# Rancho Santa Fe Fire Protection District

P.O. Box 410 • 18027 Calle Ambiente • Rancho Santa Fe • California 92067-0410  
 Tel. (858) 756-5971 • Fax (858) 756-4799

**Board of Directors**  
*James Ashcraft, President*  
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*Nancy Hillgren*  
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*Tucker Stine*

**Fire Chief**  
*Dave McQuead*

## FIRE PLAN CHECK CORRECTION

<b>Date:</b>	
<b>Project Name:</b>	
<b>RSF Plan Check #:</b>	
<b>SD County Permit #:</b>	
<b>APN:</b>	
<b>Project Address:</b>	
<b>Project Type:</b>	
<b>Applicant:</b>	

Corrections checked are to be made on the plans before Fire Approval will be issued. The approval of plans and specifications does not permit the violation of any section of the Rancho Santa Fe Protection District Fire Code, County Ordinances, or State law. The following list does not necessarily include all errors and omissions. For detailed information regarding Fire District Ordinances, please visit our website at: <https://www.rsf-fire.org/ordinances/>.

### Plan Requirements

1. In order to expedite the review process, please add all applicable notes as requested by Fire and include a response sheet with where they are specifically located on the plans. Failure to do so will result in an automatic failure and mandatory resubmittal.
  - The applicant did not provide us with where required notes were located on plans.
2. Three sets of plans are required at time of submittal:
  - Two sets of APPROVED Red County Stamped plans.
  - One additional photo copied Red County stamped plans for District to keep.
  - County Mitigation Form.
3. Due to the number and or complexity of corrections:
  - Please make corrections on new pages and slip sheet new pages into Red County stamped building plans prior to Fire District review.
  - Please make corrections on new pages and get County Building Division approval prior to Fire District review.
4.  Corrections CANNOT be made on stamped plans and **Red ink** is not allowed.
5.  Please provide a response sheet indicating how corrections were addressed by applicant.
6.  Please clearly identify the scope of work.
7.  Please identify all rooms and specify each use.
8.  Please define all symbols and shaded area, etc. on the plans.
9. Unless a specific code is given; all codes referenced by Sections are from the County of San Diego's 2023 Consolidated Fire Code and Rancho Santa Fe Fire Protection District Ordinance 2023-01.

## Fire Department Access and Water Supply Requirements

- CFC Sec. 501.4-Timing of Installation (Note on plot plan):** Where fire apparatus access roads or a water supply for fire protection are required to be installed, such protection shall be installed and made serviceable prior to and during the time of the construction except where approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection where construction of new roadways allows passage by vehicles in accordance with Section 505.2.
  
- CFC Sec. 507.5.1-Required Fire Hydrant System (Note and show fire hydrant location on plot plan):** Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a fire hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.  
  
Exception: For Group R-3 and Group U occupancies, equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, the distance requirement shall be not more than 600 feet (183 m).
  - The fire hydrant distance shall be measured along the path of travel of the fire engine and not as the crow flies.
  
- Sec. 507.2.1-Private Fire Hydrants (Note and show fire hydrant location on plot plan):** Private fire service mains and appurtenances shall be installed in accordance with NFPA 24 as referenced in Chapter 80 of CFC.
  
- Sec. 507.3-Required Fire Flow (Note on plot plan and conduct a fire flow analysis):** Fire flow requirements shall be based on Appendix B of the California Fire Code, or the standard published by the Insurance Services Office, "Guide for Determination of Required Fire Flow." Consideration should be given to increasing the gallons per minute to protect buildings and structures of extremely large square footage and for such reasons as: poor access roads, grade and canyon rims, hazardous brush and response times greater than five minutes by a recognized fire department or fire suppression company. In hazardous fire areas the main capacity for new subdivisions shall not be less than 2,500 – 3,000 gallons per minute, unless otherwise approved by the fire code official. If fire flow increases are not feasible, the fire code official may require alternative design standards such as: alternative types of construction that provides a higher level of fire resistance, fuel break requirements, which may include required irrigation, modified access road requirements, specified setback distances for building sites addressing canyon rim developments and hazardous brush areas, and other requirements as authorized by this chapter and as required by the fire code official.
  - Please conduct a fire flow analysis of the indicated fire hydrant and return the results to the Fire District.
  
- Sec. 507.2.2-Water Tanks (Note and show water tank location on plot plan):** Water tanks for private residential fire protection, when authorized by the fire code official, shall comply with Table 507.2.2 and be installed in accordance with the NFPA 22 edition referenced in Chapter 80 of CFC. Water tanks for commercial fire protection, when authorized by the fire code official, shall be installed in accordance with the NFPA 22 edition referenced in Chapter 80 of CFC. Water tanks are only allowed if a letter from the applicable water district is provided stating that extending the water line and adding a hydrant is unserviceable.
  - Water tanks shall be a deferred submittal.
  
- Sec. 503.1.1-Hose Pull (Note and show hose pull path around all structures):** Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720mm) of all portions of the facility and all portions of exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.
  - Please clearly show 4' wide path around all structures for hose pull purposes. Please make sure this path goes around walls, thru gates, etc. as someone would walk around the house.

**Sec. 503.2.1-Dimensions (Note and show road/driveway width on plot plan):** The dimensions of fire apparatus access roads shall be in accordance with the following:

- (a) Fire apparatus access roads shall have an unobstructed improved width of not less than 24 feet, except as provided in section 503.2.1.1 for single-family residential driveways serving no more than two residential parcels, which shall have a minimum of 16 feet of unobstructed improved width. Any of the following, which have separated lanes of one-way traffic: gated entrances with card readers, guard stations or center medians, are allowed, provided that each lane is not less than 14 feet wide.
- (b) Fire apparatus access roads that are public or private roads which are provided or improved as a result of a Tentative Map, Tentative Parcel Map or a Major/Minor Use Permit shall have the dimensions as set forth by the County of San Diego Standards for Public and Private Roads.
- (c) All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches.
- (d) Vertical clearances or road widths shall be increased when the fire code official determines that vertical clearances or road widths are not adequate to provide fire apparatus access.
- (e) Vertical clearances or road width may be reduced when the fire code official determines the reduction does not impair access by fire apparatus. In cases where the vertical clearance has been reduced, approved signs shall be installed and maintained indicating the amount of vertical clearance.
- (f) Driveways exceeding 150 feet in length, but less than 600 feet in length, shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds 600 feet, turnouts shall be provided no more than 400 feet apart.
- (g) For buildings that are more than 35 feet in height, a 35-foot unobstructed fire lane shall be provided. Unless otherwise approved by the fire code official. Fire apparatus access roads shall have an unobstructed improved width of not less than 35 feet when within laddering distance of buildings exceeding 35 feet in height. The access road shall be setback from buildings exceeding two stories in height such that the centerline of the fire access road shall be equal to ¼ the difference in elevation from the fire access road to the roof. The building curbside access roads serving buildings over two stories in height but less than 44 feet in height shall be permitted to be up to 10 feet away from the building.

**Sec. 503.2.1-Road Phasing Requirement for Single Family Dwellings on Existing Legal Parcels (Note and show road improvements on plot plan):**

- (a) The fire apparatus access road requirement for widening an existing, improved and paved fire apparatus access roadway shall be as provided in Table 503.2.1. The fire apparatus access road shall be constructed to extend from the property line to the nearest public road.

**TABLE 503.2.1 -PHASING REQUIREMENT  
Fire Apparatus Access Roadway – Single Family Dwellings**

<b>Number of Parcels Served</b>	<b>Unobstructed Road Width</b>	<b>Roadways Over 600 foot Long</b>
1-2	16-foot, paved	Turnouts every 400 feet
3-8	20-foot, paved	Turnouts every 400 feet
9 or more	24-foot, paved	Not required

- (b) The fire apparatus access road shall not be required to be improved for a non-habitable accessory structure or a residential addition or remodel less than 500 square feet if the fire apparatus access road has already been improved and paved to a minimum width of 20 feet. If the road is less than 20 feet wide, the roadway shall be

widened to 20 feet. The preceding addition or remodel exception is limited to one permit per three-year period from the date of the last permit approval.

Exception: Vertical clearances or road width may be reduced when the fire code official determines the reduction does not impair access by fire apparatus. In cases where the vertical clearance has been reduced, approved signs shall be installed and maintained indicating the amount of vertical clearance.

- Sec. 503.2.3-Surface (Note and show surface material on plot plan):** Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus (not less than 75,000 lbs. unless authorized by the FAHJ) and shall be provided with an approved paved surface so as to provide all weather driving capabilities. The paving and sub-base shall be installed to the standards specified in the County of San Diego Parking Design Manual. A residential driveway constructed of 3½" Portland cement concrete may be installed on any slope up to 20% provided that slopes over 15% have a deep broom finish perpendicular to the direction of travel or other approved surface to enhance traction.
  - Please submit a fire department access plan to our third party Soils Engineer for review and approval before Fire District approval ([Engineering Design Group](#))
  
- Sec. 503.2.4-Roadway Radius (Note and show radius on plot plan):** The horizontal inside radius of a fire apparatus access road shall comply with the County of San Diego Public and Private Road Standards approved by the Board of Supervisors. The horizontal inside radius of any public or private driveway shall be a minimum of 28 feet, as measured on the inside edge of the improvement width or as approved by the fire code official. The length of vertical curves of fire apparatus access roads shall not be less than 100 feet, or as approved by the fire code official.
  
- Sec. 503.2.5.1-Dead Ends (Note and show turnarounds on plot plan):** Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved area for turning around emergency apparatus. A cul-de-sac or other approved turn-around shall be provided in residential areas where the fire apparatus access roads serve 3 or more parcels. The minimum unobstructed radius width for a cul-de-sac in a residential area shall be 36 feet paved, 40 feet graded, or as approved by the fire code official. The fire code official shall establish a policy identifying acceptable turnarounds for various project types.
  
- Sec. 503.2.7-Grade (Note and show grade on plot plan):** The gradient for a fire apparatus access roadway shall not exceed 15.0%. The fire code official may allow roadway grades up to 20.0% provided that the roadway surface conforms to section 503.2.3. The fire code official may require additional mitigation measures.
  
- Sec. 503.2.7.1-Cross-Slope (Note and show cross slope on plot plan):** The standard cross-slope shall be 2 percent; minimum cross-slope shall be 1 percent; maximum cross-slope shall be 5 percent.
  
- Sec. 503.2.8-Angles of Approach and Departure (Note and show angle of approach and departure on plot plan):** The angles of approach and departure for fire apparatus access roads shall not exceed 7 degrees (12 %) for the first 30' or as approved by the fire code official and shall not allow for transitions between grades that exceed 6% elevation change along any 10-foot section.
  
- Sec. 503.6-Security Gates (Note and show gate location on plot plan):** No person shall install a security gate or security device across a fire apparatus access road without the fire code official's approval.
  1. An automatic gate across a fire access road or driveway shall be equipped with an approved emergency key-operated switch overriding all command functions and opening the gate.
  2. A gate accessing more than four residences or residential lots or a gate accessing hazardous, institutional, educational or assembly occupancy group structure, shall also be equipped with an approved emergency traffic control- activating strobe light sensor or other device approved by the fire code official, which will activate the gate on the approach of emergency apparatus.
  3. An automatic gate shall be provided with a battery back-up or manual mechanical disconnect in case of power failure with "fail open" and "fail secure" options enabled to prevent entrapment.

4. An automatic gate shall meet fire department policies deemed necessary by the fire code official for rapid, reliable access.
5. When required by the fire code official, an automatic gate in existence at the time of adoption of this chapter is required to install an approved emergency key-operated switch or other mechanism approved by the fire code official, at an approved location, which overrides all command functions and opens the gate. A property owner shall comply with this requirement within 90 days of receiving written notice to comply.
6. Where this section requires an approved key-operated switch, it may be dual-keyed or equipped with dual switches provided to facilitate access by law enforcement personnel.
7. All gates providing access from a road to a driveway shall be located a minimum of 30 feet from the nearest edge of the roadway and shall be at least two feet wider than the width of the traffic lane(s) serving the gate.
8. Electric gate openers, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

Gates setback less than 30' from the road can be mitigated by installing an Opticom strobe sensor.

- Sec. 503.2.6-Bridges and Elevated Surfaces (Note on plot plan):** Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits *and clearance limitations* shall be posted at both entrances to bridges where required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained where required by the fire code official.
- Sec. 503.2.6.1-Bridges with One Traffic Lane (Note on plot plan):** When approved by the fire code official, private bridges providing access to not more than two residential dwellings may have one 12-foot-wide travel lane and it shall provide for unobstructed visibility from one end to the other, and turnouts shall be provided at both ends.
- Sec. 503.4.1-Traffic Calming Devices (Note on plot plan):** Traffic calming devices (including, but not limited to, speed bumps, speed humps, speed control dips, etc.) shall be prohibited unless approved by the fire code official.

### **Building Identification Requirements**

- Sec. 505.1 Address Identification (Note and show address location on plot plan):** New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) high with a minimum stroke width of ½-inch (12.7 mm) for residential buildings, 8 inches high with a 1-inch stroke for commercial and multi-family residential buildings, and 12 inches high with a 1-inch stroke for industrial buildings. Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.
- If your property has more than one address (Main House & ADU), please make sure each building is addressed and that the address monument has both addresses as well.
- Sec. 505.3-Easement Address Signs (Note and show address location on plot plan):** A road easement which is not named differently from the roadway from which it originates shall have an address sign installed and maintained listing all street numbers occurring on that easement. The sign shall be located where the easement intersects the named roadway. The numbers on the sign shall contrast with the background and have a minimum height of 4 inches and a minimum stroke of ½-inch.
- If your property has more than one address (Main House & ADU), please make sure each building is addressed and that the address monument has both addresses as well.

- Sec. 505.5-Response Map Updates (Note on plot plan):** Any new development which necessitates updating emergency

response maps due to new structures, hydrants, roadways or similar features shall be required to provide map updates in a format compatible with current department mapping services and shall be charged a reasonable fee for updating all response maps.

- Please submit a GIS shape file for your project.

### **Building Setback Requirements**

- Sec. 4907.4.1-General Fire Setbacks (Note and show all setbacks from property lines on plot plan):** Buildings and structures shall be setback a minimum of 30 feet from property lines and biological open space easements unless existing permitted buildings and structures are located within 30 feet of the property line or the County Zoning Ordinance requires a greater minimum. When the property line abuts a roadway, the setback shall be measured from the centerline of the roadway.

Exception: When both the building official and the FAHJ determine that the hazard from a wildland fire is not significant or when the terrain, parcel size or other constraints on the parcel make the required setback infeasible.

- If you are proposing a structure that encroaches into the 30' property line setback, please schedule a site inspection to determine if the reduction can be granted.

- Sec. 4907.4.2-Fire Setbacks Adjacent Protected Areas (Note and show setback on plot plan):** Buildings and structures shall be setback a minimum of 100 feet from any property line adjacent to a national forest, state park or open space preserve. This setback may be reduced when existing permitted buildings and structures are located within 100 feet of the property line or additional mitigation measures are employed that are satisfactory to both the FAHJ and the building official.

- Sec. 4907.4.3-Building and Structure Setback from Slope (Note and show top of slope setback on plot plan):** Single-story buildings or structures shall be setback a minimum 15 feet horizontally from top of slope to the farthest projection from the structure. A single-story building or structure shall be less than 12 feet above grade, measured from plate height. A two-story building or structure shall be setback a minimum of 30 feet horizontally from top of slope to the farthest projection from the structure. A two-story building or structure shall be greater than a 12-foot plate height but shall not exceed 35 feet in total height. Buildings and structures greater than two stories may require a greater setback as determined by the fire code official. See Annex C for "Illustration of Slope".

### **Vegetation Management & Landscaping Requirements**

- Sec. 4906.3-Landscape Plans (Note on plot plan):** Landscape plans shall be provided to the FAHJ or a designated third party for any new construction and or addition for residential and commercial buildings or accessory thereof. Plans shall be submitted and approved prior to any framing inspection. In addition, plans shall be provided when modifications occur to any previously approved landscape plan or to the Home Ignition Zones.

- Sec. 4906.3.2-Landscaping Installation (Note on plot plan):** All landscaping shall be installed per the approved plan prior to final inspection for issuance of certificate of occupancy.

- Sec. 4907.5-Fuel Modification (Note and show fuel modification zones on plot plan):** A fuel modification zone shall be required around every building that is designed primarily for human habitation or a building designed specifically to house farm animals. Decks, sheds, gazebos, freestanding open-sided shade covers and similar accessory structures less than 250 square feet and more than 50 from a dwelling, are not considered structures for the establishment of a fuel modification zone. A fuel modification zone shall comply with the following:

- (a) A person owning a building or structure shall maintain a 100' fuel modification zone. See Sec. 4907.9 "Home Ignition Zones" See Annex D for "Fuel Modification".

- (b) The fire code official may increase the fuel modification zone to more than a 100', depending on fuel or topography.
- (c) The fuel modification zone shall be located entirely on the subject property unless approved by the FAHJ.
- (d) When the subject property contains an area designated to protect biological or other sensitive habitat, no building or structure requiring a fuel modification zone shall extend the fuel modification zone into a protected area.
- (e) Improved Property: Property owners shall be permitted to clear all combustible vegetation within one hundred 100' feet of all buildings and structures using methods to maintain the stability of the soil.

- Sec. 4907.6-Fuel Modification of Combustible Vegetation from Sides of Roadways (Note and show fuel modification zones on plot plan):** The FAHJ may require a property owner to modify combustible vegetation in the area within 20 feet from each side of the driveway or a public or private road adjacent to the property to establish a fuel modification zone. The FAHJ has the right to enter private property to ensure the fuel modification zone requirements are met.

Exception: The FAHJ may reduce the width of the fuel modification zone if it will not impair access.

- Sec. 4907.9.1-Zone 0 "Immediate Zone" 0-5' (Note and show home ignition zones on plot plan):** Meaning from exterior wall surface or patio, deck or attachment to building or structure extending 5 feet on a horizontal plane. This zone shall be constructed of continuous hardscape or non-combustible materials. Removal of combustible materials surrounding the exterior wall area and maintaining area free and clear of combustible materials. The use of mulch and other combustible materials shall be prohibited.
- Sec. 4907.9.2-Zone 1 "Intermediate Zone" from Zone 0 to 50' (Note and show home ignition zones on plot plan):** Means from the immediate edge of Zone 0 extending out in a horizontal plane. This zone shall consist of planting of low growth, drought tolerant and fire resistive plant species. The height of the plants in this zone starts at 6" adjacent to Zone 0 and extending in a linear fashion up to a maximum of 18" at intersection with Zone 2. Vegetation in this zone shall be irrigated and not exceed 6' in height and shall be moderate in nature as per Sec. 4907.6.4.1. Firewood inside this zone shall be piled minimum of 30' away from all buildings and structures. Cords of firewood shall also be maintained at least 10' from property lines and not stacked under tree canopies drip lines.
- Sec. 4907.9.3-Zone 2 "Extended Zone" from Zone 1 to 100' (Note and show home ignition zones on plot plan):** Means from the immediate edge of Zone 1 extending out in a horizontal plane for 50'. This zone consists of planting of drought tolerant and fire resistive plant species of moderate height. Brush and plants shall be limbed up off the ground, so the lowest branches are 1/3 height of bush/tree/plant or up to 6' off the ground on mature trees. This area would be considered selective clearing of natural vegetation and dense chaparral by removing a minimum 50% of the square footage of this area.
- CFC Sec. 6104.3-Location of Above Ground LPG Storage Tanks (Note and show tank location on plot plan):** The minimum separation between containers and buildings, public ways or lines of adjoining property that can be built upon is: 5 feet for containers less than 125 gallons; 10 feet for containers 125 gallons to 500 gallons; and 25 feet for containers between 500 gallons to 2,000 gallons.
- CFC Sec. 6107.3-Clearance to Combustibles (Note on plot plan):** Weeds, grass, brush, trash and other combustible materials shall be kept not less than 10 feet (3048 mm) from LP-gas tanks or containers.

## Fire Sprinkler Requirements

- Sec. 903.2-Where Required (Note on plot plan):** Approved automatic sprinkler systems shall be installed in all new buildings. For the purpose of automatic sprinkler systems, buildings separated by less than 10 feet from adjacent buildings shall be considered one building. Fire barriers and partitions, regardless of rating, shall not be considered as creating separate buildings for purposes of determining automatic sprinkler system requirements. Mezzanines shall be included in the total square footage calculation. All new buildings constructed shall have an approved NFPA 13, NFPA 13R or NFPA 13D automatic sprinkler



system installed as per 903.3.1.1, 903.3.1.2 or 903.3.1.3. The Fire Code Official has the final decision of which NFPA 13 standard to apply, NFPA 13R or NFPA 13D as required due to access, water supply and travel time. R-3 Occupancies over 6000 square feet shall be designed and installed to NFPA 13R most recent edition referenced in Chapter 80 CFC

Exceptions:

1. Group U occupancies not greater than 500 square feet, when the building is 20 feet or more from an adjacent building and 30 feet from property line measured from the farthest projection from the building.
2. Agricultural buildings constructed of wood or metal frames over which fabric or similar material is stretched, which are specifically used as green houses are exempt from the automatic sprinkler system requirements unless physically connected to other buildings.

The fire sprinkler system shall be a deferred submittal.

- Sec. 903.2 (a)-Additions (Note on plot plan):** An automatic sprinkler system shall be required to be installed throughout the building when the addition is more than 50% of the existing building or when the altered building will exceed a fire flow as calculated pursuant to section 507.3. The fire code official may require an automatic sprinkler system to be installed in buildings where no water main exists to provide the required fire flow or where a special hazard exists, such as poor access roads, steep grades and canyon rims, hazardous brush and response times greater than 5 minutes by a fire department. The fire code official may require that other protective measures be taken based on existing conditions and/or potential hazards. The preceding addition or remodel exception is limited to one permit per three-year period from the date of the last permit approval.

The fire sprinkler system shall be a deferred submittal.

- Sec. 903.2 (b)-Remodels or Reconstructions (Note on plot plan):** The fire code official may require an automatic sprinkler system to be installed throughout buildings if a remodel or reconstruction includes significant modification to the interior or roof of the building. The fire code official may require that other protective measures be taken based on existing conditions and/or potential hazards. The preceding addition or remodel exception is limited to one permit per three-year period from the date of the last permit approval.

The fire sprinkler system shall be a deferred submittal.

- Sec. 903.2 (c)-Group U Occupancies (Note on plot plan):** For Group U Occupancies greater than 500 square feet, an approved automatic sprinkler system shall be installed as per NFPA 13D edition referenced in Chapter 80 CFC, or as approved by the FAHJ.

- Sec. 903.4-Monitoring and Alarms (Note on plot plan):** Automatic sprinkler systems with more than 100 fire sprinklers protecting one- family and two-family dwellings and Group U occupancies.

## Smoke & Carbon Monoxide Alarm Requirements

- CFC Sec. 907.2.11.2-Smoke Alarms (Note and show locations on electrical sheets):** Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-2.1, R-2.2, R-3, R-3.1, and R-4 regardless of occupant load at all of the following locations:

- (a) On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
- (b) In each room used for sleeping purposes.
- (c) In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics.
- (d) In a group R-3.1 occupancies, in addition to the above, smoke alarms shall be provided throughout the habitable areas of dwelling unit except kitchens.



- CFC Sec. 907.2.11.5-Interconnection (Note on electrical sheets):** Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R occupancies, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.
  
- CFC Sec. 907.2.11.6-Power Source (Note on electrical sheets):** In new construction and in newly classified Group R-3.1 occupancies, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.
  
- CFC Sec. 907.2.11.8-Specific Locations (Note and show locations on electrical sheets):** The installation of smoke alarms and smoke detectors shall comply with the following requirements.
  1. Smoke alarms and smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
  2. Smoke alarms and smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F (4°C) or exceed 100°F (38°C).
  3. Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, smoke alarms and smoke detectors shall be mounted on an inside wall.
  4. Smoke alarms and smoke detectors shall not be installed within an area of exclusion determined by a 10-foot (3.0 m) radial distance along a horizontal flow path from a stationary or fixed cooking appliance, unless listed for installation in close proximity to cooking appliances. Smoke alarms and smoke detectors installed between 10 feet (3.0 m) and 20 feet (6.1 m) along a horizontal flow path from a stationary or fixed appliance shall be equipped with an alarm-silencing means or use photoelectric detection.
  5. Smoke alarms or smoke detectors that use photoelectric detection shall be permitted for installation at a radial distance greater than 6 feet (1.8 m) from any stationary or fixed cooking appliance when both of the following conditions are met:
    - a. The kitchen or cooking area and adjacent spaces have no clear partitions or headers.
    - b. The 10-foot (3.0 m) area of exclusion would prohibit the placement of a smoke alarm or smoke detector required by other sections of this code.
  6. Effective January 1, 2022, smoke alarms and smoke detectors installed between 6 feet (1.8 m) and 20 feet (6.1 m) along a horizontal flow path from a stationary or fixed cooking appliance shall be listed for resistance to common nuisance sources from cooking.
  7. Smoke alarms and smoke detectors shall not be installed within a 36-inch (910 mm) horizontal path from a door to a bathroom containing a shower or tub unless listed for installation in close proximity to such locations.
  8. Smoke alarms and smoke detectors shall not be installed within a 36-inch (910 mm) horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
  9. Smoke alarms and smoke detectors shall not be installed within a 36-inch (910 mm) horizontal path from the tip of the blade of a ceiling suspended (paddle) fan unless the room configuration restricts meeting this requirement.
  10. Where stairs lead to other occupied levels, a smoke alarm or smoke detector shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction.
  11. For stairways leading up from a basement, smoke alarms or smoke detectors shall be located on the basement ceiling near the entry to the stairs.
  12. For tray-shaped ceilings (coffered ceilings), smoke alarms and smoke detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 inches (300 mm) vertically down from the highest point.
  13. Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of Section 17.7.3.2.4 of NFPA 72.
  14. Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of Section 17.6.3 of NFPA 72.
  
- NFPA 72 Sec. 17.7.4.2.4.2-Smoke Detector Special Requirements (Note and show locations on electrical sheets):** For level ceilings, the following shall apply:

1. For ceilings with beam depths of less than 10 percent of the ceiling height (0.1 H), the following shall apply:
  - (a) Smooth ceiling spacing shall be permitted.
  - (b) Spot-type smoke detectors shall be permitted to be located on ceilings or on the bottom of beams.
2. For ceilings with beam depths equal to or greater than 10 percent of the ceiling height (0.1 H), the following shall apply:
  - (a) Where beam spacing is equal to or greater than 40 percent of the ceiling height (0.4 H), spot-type detectors shall be located on the ceiling in each beam pocket.
  - (b) Where beam spacing is less than 40 percent of the ceiling height (0.4 H), the following shall be permitted for spot detectors:
    - i. Smooth ceiling spacing in the direction parallel to the beams and at one-half smooth ceiling spacing in the direction perpendicular to the beams.
    - ii. Location of detectors either on the ceiling or on the bottom of the beams.
3. For beam pockets formed by intersecting beams, including waffle or pan-type ceilings, the following shall apply:
  - (a) For beam depths less than 10 percent of the ceiling height (0.1 H), spacing shall be in accordance with 17.7.4.2.4.2(1).
  - (b) For beam depths greater than or equal to 10 percent of the ceiling height (0.1 H), spacing shall be in accordance with 17.7.4.2.4.2(2).
4. For corridors 15 ft (4.6 m) in width or less having ceiling beams or solid joists perpendicular to the corridor length, the following shall apply:
  - (a) Smooth ceiling spacing shall be permitted.
  - (b) Location of spot-type smoke detectors shall be permitted on ceilings, sidewalls, or the bottom of beams or solid joists.
5. For rooms of 900 ft<sup>2</sup> (84 m<sup>2</sup>) or less, the following shall apply:
  - (a) Use of smooth ceiling spacing shall be permitted.
  - (b) Location of spot-type smoke detectors shall be permitted on ceilings or on the bottom of beams.

**CFC Sec. 915.2.1-Carbon monoxide Alarms (Note and show locations on electrical sheets):** Carbon monoxide detection shall be installed in dwelling units in the following locations:

1. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
2. On every occupiable level of a dwelling unit, including basements.
3. Where a fuel burning appliance is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

## **Building Construction Requirements**

**CBC Sec. 703A.3-Standards of Quality for Wildland Urban Interface (Note on Plot Plan):** The State Fire Marshal standards listed below and as referenced in this chapter are located in the 2022 California Referenced Standards Code, Part 12 and Chapter 35 of the County Building Code.

SFM 12-7A-1: Exterior Wall Siding and Sheathing

SFM 12-7A-2: Exterior Windows.

SFM 12-7A-3: Horizontal Projection Underside.

SFM 12-7A-4: Decking.

**CBC Sec. 703A.4-Surface Treatment Protection (Note on Plot Plan):** The use of paints, coatings, stains or other surface treatments are not an approved method of protection as required in this chapter.

**CBC Sec. 705A.1-Genereral Roofing Requirements (Note and call out specific roofing material on roof plan):** Roof assemblies in the Fire Hazard Severity Zones shall be Class A rating.

- Please provide the manufacturer's specifications of the roofing material, the ICC Report, and or UL report.
- CBC Sec. 705A.2-Roof Coverings & Bird Stops (Note and show eave detail with bird stops on roof plan):** Where the roof profile allows a space between the roof covering and combustible roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fire stopped with approved materials or have one layer of 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D 3909 installed over the combustible decking.
- CBC Sec. 705A.3-Roof Valleys (Note on roof plan):** When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.
- CBC Sec. 705A.4-Roof Gutters (Note and show gutter detail on roof plan):** Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter by utilizing a non-combustible gutter screen.
- Sec. 605.3.1-Spark Arresters (Note on roof plan):** All buildings and structures having a chimney, flue or stovepipe attached to a fireplace, stove, barbecue or other solid or liquid fuel burning equipment or device shall have the chimney, flue or stovepipe equipped with an approved spark arrester. An approved spark arrester is a device intended to prevent sparks from escaping into the atmosphere, constructed of welded or woven wire mesh, 12-gauge thickness or larger, with openings no greater than ½" inch, or other alternative material the FAHJ determines provides equal or better protection.
- CBC Sec. 706A.1-General Venting Requirements (Note and call out specific venting material on roof plan):** When provided, ALL vents shall resist the intrusion of flame and embers into the structure. Brandguard, Vulcan, Ember's Out, & O'Hagin Fire & Ice line are acceptable flame and ember resistant vents.
  - Please call out the make and model of flame and ember resistant vents being used.
  - The use of 1/8" mesh only is no longer acceptable.
  - Where an addition, alteration, or roof modification takes place, noncompliant vents shall be upgraded and/or retrofitted to flame and ember resistant vents.
- CBC Sec. 706A.3-Eave Protection (Note on roof plan):** Eaves and soffits shall meet the requirements of SFM 12-7A- 3 or shall be protected by ignition resistant materials or noncombustible construction on the exposed underside. The use of eave or cornice vents is prohibited.
  - Please show one of the San Diego County Building Divisions approved Eave details for a Wildland Urban Interface.
- CBC Sec. 707A.1-Exterior Walls (Note and call out exterior wall material on elevation plan):** Any exterior wall covering, or exterior wall assembly shall comply with one of the following: Noncombustible material, Ignition-resistant material, or Log wall construction.
- CBC Sec. 707A.1.1-Stucco and Cement Plaster (Note and call out exterior wall material on elevation plan):** Stucco and cement plaster used as an exterior wall covering shall be minimum 7/8 inch thick.
- CBC Sec. 707A.1.2-Exterior Wood Siding (Note and call out exterior wall material on elevation plan):** Noncombustible or fire-retardant-treated wood shake used as an exterior wall covering shall have an underlayment of minimum 1/2-inch fire-rated gypsum sheathing that is tightly butted, or taped and mudded, or an underlayment of other ignition resistant material approved by the building official.
  - Exterior wood siding can be used if it is treated by [Chemco Wood Products](#) or [Hoover Exterior Fire-X](#). Please note that the Fire District will require a purchase order or proof that the correct product was used.
- CBC Sec. 707A.2-Extent of Exterior Wall Coverings (Note on elevation plan):** Exterior wall coverings shall extend from the top of the foundation to the underside of the roof sheathing, or in the case of enclosed eaves, terminate at the enclosure.

- CBC Sec. 708A.2.I-Exterior Windows and Exterior Glazed Door Assembly Requirements (Note on window and door schedule plan):** Exterior windows and exterior glazed door assemblies shall comply with one of the following requirements:
  1. Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing.
  2. Be constructed of glass block units.
  3. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257.
  4. Be tested to meet the performance requirements of SFM Standard 12-7A-2.
    - Please provide a window and door schedule calling out dual pane with a minimum single pane tempered glazing next to each exterior window and door.
    - Please call out dual pane with a minimum single pane tempered glazing next to each garage roll up door.
  
- CBC Sec 708A.2.1-Vinyl Windows (Note on window and door schedule plan):** Glazing frames made of vinyl materials shall have welded comers, metal reinforcement in the interlock area, and be certified to AAMA/WDMA/CSA 101/I.S.2/A440 or equivalent structural requirements.
  
- CBC Sec. 705A.5-Skylights (Note on window and door schedule plan):** Skylights shall have a non-combustible frame and shall be dual pane with a minimum single pane tempered glazing.
  
- CBC Sec. 708A.2.2-Operable Skylights (Note on window and door schedule plan):** Shall be protected by a non-combustible mesh screen where the dimensions of the openings in the screen shall not exceed 1/8" (3.2 mm).
  
- CBC Sec. 708A.3-Exterior Doors (Note on window and door schedule plan):** Exterior doors shall comply with one of the following:
  1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material.
  2. Shall be constructed of solid core wood that complies with the following requirements.
    - 2.1. Stiles and rails shall not be less than 1-3/8 inches thick.
    - 2.2. Raised panels shall not be less than 1-1/4 inches thick, except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8 inch thick.
  3. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252.
  4. Shall be tested to meet the performance requirements of SFM Standard 12-7A-1.
    - Exterior louvered doors shall be backed by a flame and ember resistant vent, or equipped with 1/8" to 1/16" non-combustible mesh.
  
- CBC Sec. 708A.4-Garage Door Weather Stripping (Note on window and door schedule plan):** Exterior garage doors shall be provided with weather stripping to resist the intrusion of embers from entering through gaps between doors and door openings when visible gaps exceed 1/8 inch. Weather stripping or seals shall be installed on the bottom, sides, and tops of doors to reduce gaps between doors and door openings to 1/8-inch or less.
  
- CBC Sec. 709A.1.3-Decking Surfaces. (Note on plot plan and call out specific decking material used):** Decking surfaces, stair treads, risers and landings of decks, porches and balconies shall be constructed of one of the following:
  1. Noncombustible material.
  2. Exterior fire-retardant treated wood by Chemco wood products or Hoover Exterior Fire-X.
  3. One-hour fire-resistant material.

4. Alternative decking material passing performance testing requirements of section 709A.1.4.
- Please see the attached list of acceptable decking materials by the County of San Diego Building Division and RSFFPD.
  - CBC Sec. 709A.1.4-Testing of Alternative Decking Materials (Note on Plot Plan):** Alternative decking materials may be approved when tested to demonstrate the materials have passed the performance requirements of this section. The decking surface shall pass both the under-deck flame test described in Part A of State Fire Marshal standard 12-7A-4 and the burning brand exposure test described in section 709A.1.4. I.
    - Please provide the testing report from the manufacturer of the alternative decking material proposed.
  - CBC Sec. 710A.3-Accessory Buildings (Note on Plot Plan):** Miscellaneous structures that require a permit, and accessory buildings of any size, when separated from an applicable building on the same lot by a distance of less than 3 feet (914 mm), shall comply with Section 710A.3.1. Accessory buildings that are greater than 120 square feet (11.15 m<sup>2</sup>), when separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall comply with Section 710A.3.2. When required by the enforcing agency, miscellaneous structures that require a permit, and accessory buildings that are 120 square feet (11.15 m<sup>2</sup>) or less, when separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm), shall comply with either Section 710A.3.4 or Section 710A.3.3, respectively. No requirements shall apply to accessory buildings or miscellaneous structures when located 50 feet (15 240 mm) or more from an applicable building on the same lot.
  - CBC Sec. 710A.3.1-Accessory Buildings Within 3 Feet (914 mm) (Note on Plot Plan and call out exterior wall construction on elevation plan):** Miscellaneous structures that require a permit, and accessory buildings, attached to or separated from an applicable building on the same lot by a distance of less than 3 feet (914 mm), shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.
  - CBC Sec. 710A.3.2 Accessory Buildings Greater Than 120 Square Feet (11.15 M2), Located 3 Feet (914 mm) or More but Less Than 50 Feet (15 240 mm) (Note on Plot Plan and call out exterior wall construction on elevation plan):** Accessory buildings that are greater than 120 square feet (11.15 m<sup>2</sup>) in size and separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.
  - CBC Sec. 710A.3.3-Accessory Buildings 120 Square Feet (11.15 M2) or Less, Located 3 Feet (914 mm) or More but Less Than 50 Feet (15 240 mm) (Note on Plot Plan and call out exterior wall construction on elevation plan):** When required by the enforcing agency, accessory buildings 120 square feet (11.15 m<sup>2</sup>) or less and separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.
  - CBC Sec. 710A.3.4 Miscellaneous Structures Located 3 Feet (914 mm) or More but Less Than 50 Feet (15 240 mm) (Note on Plot Plan and call out exterior wall construction on elevation plan):** When required by the enforcing agency, miscellaneous structures that require a permit and are separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2.
  - CBC Sec. 710A.4-Roof Construction of Accessory Buildings (Note on Roof Plan and call out roofing material on roof plan):** Roofs of accessory buildings required to be constructed entirely of noncombustible materials or of ignition-resistant materials shall comply with the requirements of Chapter 7A and Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions. Roof assemblies in Fire Hazard Severity Zones shall comply with a Class A rating when tested in accordance with ASTM E108 or UL 790.

- CBC Sec. 712A-Fences and Other Structures Less Than Five Feet from A Building (Note on Plot Plan):** Any portion of a fence or other structure less than five feet from any building shall be constructed of noncombustible material, pressure-treated exterior fire-retardant wood or material that meets the same fire-resistant standards as the exterior walls of the structure.

## Photovoltaic and Energy Storage System Requirements

- CFC Sec. 1205.2.1.1-Pathways to Ridge (Note and show setbacks on roof plan):** Not fewer than two 36-inch-wide (914 mm) pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. Not fewer than one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, not fewer than one 36-inch-wide (914 mm) pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane or straddling the same and adjacent roof planes.
- CFC Sec. 1205.2.1.2-Setbacks at Ridge (Note and show setbacks on roof plan):** For photovoltaic arrays occupying 33 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, a setback of not less than 36 inches (457 mm) wide is required on both sides of a horizontal ridge.
- CFC Sec. 1205.2.1.3-Alternative Setbacks at Ridge (Note and show setbacks on roof plan):** Where an automatic sprinkler system is installed within the dwelling in accordance with Section 903.3.1.3, setbacks at the ridge shall conform to one of the following:
  1. For photovoltaic arrays occupying 66 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge.
  2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.
- CFC Sec. 1207.1.5-Large-Scale Fire Test for ESS (Note on plan and provide UL 9540A Large Scale Fire Test):** Where required elsewhere in Section 1207, large-scale fire testing shall be conducted on a representative ESS in accordance with UL 9540A. The testing shall be conducted or witnessed and reported by an approved testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas and walk-in units will be contained within the room, enclosed area or walk-in unit for a duration equal to the fire-resistance rating of the room separation specified in Section 1207.7.4. The test report shall be provided to the fire code official for review and approval in accordance with Section 104.8.2.
  - Please provide us with a copy of the UL 9540A Large Scale Fire Test.
- CFC Sec. 1207.11-ESS in Group R-3 and R-4 Occupancies (Note on roof plan):** ESS in Group R-3 and R-4 occupancies shall be installed and maintained in accordance with Sections 1207.11.1 through 1207.11.9. The temporary use of an owner or occupant's electric-powered vehicle as an ESS shall be in accordance with Section 1207.11.10.
  - A deferred submittal is required for all Energy Storage Systems.
- CFC Sec. 1207.11.1-Equipment Listings for ESS (Note on plan and provide UL 9540 Certificate):** ESS shall be listed and labeled in accordance with UL 9540. ESS listed and labeled solely for utility or commercial use shall not be used for residential applications.

Exception: Where approved, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached dedicated cabinets located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.



- Please provide us with a copy of the UL 9540 Certificate.
  
- CFC Sec. 1207.11.2-Installation (Note on plan and provide manufacturer's instructions for installation):** ESS shall be installed in accordance with the manufacturer's instructions and their listing.
  - Please provide us with a copy of the manufacturer's instructions for installation.
  
- CFC Sec. 1207.11.2.1-Spacing (Note on plan and show separation):** Individual units shall be separated from each other by at least 3 feet (914 mm) of spacing unless smaller separation distances are documented to be adequate based on large-scale fire testing complying with Section 1207.1.5.
  
- CFC Sec. 1207.11.3-Location (Note on plan and show location of installation):** ESS shall not be installed in sleeping rooms, closets, spaces opening directly into sleeping rooms or in habitable spaces of dwelling units. ESS shall be installed only in the following locations:
  1. Detached garages and detached accessory structures.
  2. Attached garages separated from the dwelling unit living space and sleeping units in accordance with Section R302.6.
  3. Outdoors or on the exterior side of the exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.
  4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch (15.9 mm) Type X gypsum wallboard.
  
- CFC Sec. 1207.11.4-Energy Ratings (Note on plan):** ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1207.1 through 1207.9 of the California Fire Code. Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating structure shall not exceed:
  1. 40 kWh within utility closets and storage or utility spaces.
  2. 80 kWh in attached or detached garages and detached accessory structures.
  3. 80 kWh on exterior walls.
  4. 80 kWh outdoors on the ground.
  
- CFC Sec. 1207.11.5-Electrical Installation (Note on plan):** ESS shall be installed in accordance with the California Electrical Code. Inverters shall be listed and labeled in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters listed for utility interaction.
  
- 1207.11.6-Fire Detection (Note on plan and show location of device):** ESS installed in Group R-3 and R-4 occupancies shall comply with the following:
  1. Rooms and areas within dwellings units, sleeping units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section 907.2.11.
  2. A listed heat alarm interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing.
  
- CFC Sec. 1207.11.7-Protection from Impact (Note on plan and show impact protection):** ESS installed in a location subject to vehicle damage in accordance with Section 1207.11.7.1 or 1207.11.7.2 shall be provided with impact protection in accordance with Section 1207.11.7.3.
  
- CFC Sec. 1207.11.7.1-Garages (Note on plan and show impact protection):** Where an ESS is installed in the normal driving path of vehicle travel within a garage, impact protection complying with Section 1207.11.7.3 shall be provided. The normal driving



path is a space between the garage vehicle opening and the interior face of the back wall to a height of 48 inches (1219 mm) above the finished floor. The width of the normal driving path shall be equal to the width of the garage door opening. Impact protection shall also be provided for ESS installed at either of the following locations (See Figure 1207.11.7.1):

1. On the interior face of the back wall and located within 36 inches (914 mm) to the left or to the right of the normal driving path.
2. On the interior face of a side wall and located within 24 inches (609 mm) (from the back wall and within 36 inches (914 mm) of the normal driving path.

Exception: Where the clear height of the vehicle garage opening is 7 feet 6 inches (2286 mm) or less, ESS installed not less than 36 inches (914 mm) above finished floor are not subject to vehicle impact protection requirements.

**CFC Sec. 1207.11.7.2-Other Locations Subject to Vehicle Impact (Note on plan and show impact protection):** Where an ESS is installed in a location other than as defined in Section 1207.11.7.1, and is subject to vehicle damage, impact protection shall be provided in accordance with Section 1207.11.7.3.

**CFC Sec. 1207.11.7.3-Impact Protection Options (Note on plan and show impact protection):** Where ESS is required to be protected from impact in accordance with Section 1207.11.7.1 or 1207.11.7.2, such protection shall comply with one of the following:

1. Bollards constructed in accordance with one of the following:
  - 1.1. Minimum 48 inches (1219 mm) in length by 3 inches (76 mm) in diameter Schedule 80 steel pipe embedded in a concrete pier not less than 12 inches (304 mm) deep and 6 inches (152 mm) in diameter, with at least 36 inches (914 mm) of pipe exposed, filled with concrete and spaced at a maximum interval of 5 feet (1524 mm). Each bollard shall be located not less than 6 inches (152 mm) from an ESS.
  - 1.2. Minimum 36 inches (914 mm) in height by 3 inches (76 mm) in diameter Schedule 80 steel pipe fully welded to a minimum 8-inch (203 mm) by 1/4-inch (6.4 mm) thick steel plate and bolted to a concrete floor by means of 41/2-inch (13 mm) concrete anchors with 3-inch (76 mm) minimum embedment. Spacing shall not be greater than 60 inches (1524 mm), and each bollard shall be located not less than 6 inches (152 mm) from the ESS.
  - 1.3. Pre-manufactured steel pipe bollards shall be filled with concrete and anchored in accordance with the manufacturer's installation instructions, with spacing not greater than 60 inches (1524 mm), and each bollard shall be located not less than 6 inches (152 mm) from the ESS.
2. Wheel barriers constructed in accordance with one of the following:
  - 2.1. Four inches (102 mm) in height by 5 inches (127 mm) in width by 70 inches (1778 mm) in length wheel barrier made of concrete or polymer, anchored to the concrete floor not less than every 36 inches (914 mm) and located not less than 54 inches (1372 mm) from the ESS. Minimum 31/2-inch (89 mm) diameter concrete anchors with a 3-inch (76 mm) embedment per barrier shall be used. Spacing between barriers shall be no greater than 36 inches (914 mm).
  - 2.2. Pre-manufactured wheel barriers shall be anchored in accordance with the manufacturer's installation instructions.
3. Approved method designed to resist a 2,000-pound (8899 Newtons) impact in the direction of travel at 24 inches (608 mm) above grade.

**CFC Sec. 1207.11.8-Ventilation (Note on plan):** Indoor installations of ESS that include batteries that produce hydrogen or other flammable gases during charging shall be provided with exhaust ventilation in accordance with Section 1207.6.1.

**CFC Sec. 1207.11.9-Toxic and Highly Toxic Gas (Note on plan):** ESS that have the potential to release toxic or highly toxic gas during charging, discharging and normal use conditions shall not be installed within Group R-3 or R-4 occupancies.

## Additional Corrections

### Plan Checker:

- Please make necessary corrections and resubmit them for review.
- Please email [scheduling@rsf-fire.org](mailto:scheduling@rsf-fire.org) to arrange for a recheck appointment.