



North County Fire Protection District

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Web Site: www.ncfire.org

Fire Chief
William R. Metcalf

FIRE PLAN CHECK CORRECTION

List for Single Family Residences, Duplexes, and Garages

Date: _____

Project Name: _____ Address: _____

Corrections circled 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 North County Fire Protection District Fire Code, County Ordinances, or State law. The following list does not necessarily include all errors and omissions.

To facilitate rechecking, please identify, next to each circled item, the sheet of the plans upon which the correction has been made.

RETURN THIS CORRECTION LIST WITH THE CORRECTED PLANS

Note: If new plans are provided when resubmitting, return at least one copy of the original stamped and checked set.

A. PLAN REQUIREMENTS

1. **Two sets of County Red stamped original building plans** and a completed County mitigation form.
2. Due to the number and/or complexity of corrections, before Fire sign-off will be given, corrections should be made on the originals and run new prints.
3. Corrections cannot be made on stamped plans. **NO RED Ink** or clouding is allowed.
4. Identify rooms and specify use.
5. Define all symbols and shaded areas etc. used on the plans.
6. See notes/remarks made on one set of plans. Return marked set with new/revised sets after you have complied with the requirements on the marked set of plans. Red marks on plans are part of this comments list.
7. The Fire District will require the following conditions be placed on the project: Detailed information regarding Fire District Ordinances can be found on the District’s web site at www.ncfire.org, under *Fire Prevention*.

B. PLOT PLAN & SITE REQUIREMENTS

1. **SITE INSPECTION** may reveal conditions that have changed since plan review. When such discrepancies arise, field inspection shall take precedence.
2. **SHOW FIRE HYDRANT LOCATIONS ON PLOT PLAN (Consolidated Fire Code §903.4.2.2)** Fire Hydrants shall be installed as required by the Chief, using the following criteria and taking into consideration departmental operational needs. Hydrants shall be located at intersections, at the beginning radius of cul-de-sacs and at intervals identified in the following table and criteria. Hydrants located across heavily traveled roadways shall be not considered as serving the subject property.

TABLE 903.4.2-B

Single Family Dwellings with Automatic Fire Sprinklers

Parcels 2-1/2 acres and larger:	Every 1,300 feet
Parcels 1/2 to 2 1/2 acres:	Every 850 feet
Parcels less than 1/2 acre:	Every 650 feet

- 3. INDIVIDUAL DRIVEWAY DIMENSIONS (Consolidated Fire Code §902.2.2. §902.2.2.1 Dimensions) (NOTE THE FOLLOWING ON THE PLOT PLAN)** Fire apparatus access roads shall have an unobstructed improved width of not less than 24 feet, except for single-family dwellings, shall have a minimum of 16 feet of unobstructed improved width. All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches. Vertical clearances or width shall be increased when, in the opinion of the Chief, vertical clearances or widths are not adequate to provide fire apparatus access.

FOR EXISTING ROADS FOR REMODELS, ADDITIONS, OR RELOCATED SINGLE FAMILY DWELLINGS PHASING POLICY

The fire access roadway requirement for widening existing improved fire apparatus roadway shall be per “**TABLE 1 – PHASING POLICY - Fire Apparatus Access**” and will extend from the property out to the nearest public road. (2006 International Wildland Code §403.3)

TABLE 1 - PHASING POLICY- Fire Apparatus Access – Single Family Dwellings

Number of Parcels	Unobstructed Road Width	Roadways Over 600 foot Long	Extend to Nearest Public Road
1-2	16-foot, paved	Turnouts every 400-feet	Yes
3-8	20-foot, paved	Turn-outs every 400-feet	Yes
9 or more	24-foot, paved	Not required	Yes

Auxiliary structures (non-habitable) and residential additions/remodels less than 500 square feet – The access roadway will not be required to be improved if the access roadway has already been improved to a minimum width of 20 feet. If the roadway is not 20 feet, then the roadway shall be widened per “**TABLE 1 – PHASING POLICY - Fire Apparatus Access**”, but not greater than 20 feet. The preceding addition/remodel exception is limited to one permit (addition or remodel) per three-year period from the date of the last permit approval.

- 4. GATES (NOTE THE FOLLOWING ON THE PLOT PLAN) (Consolidated Fire Code §902.2.4.3)** All gates or other structures or devices which could obstruct fire access roadways or otherwise hinder emergency operations are prohibited unless they meet standards approved by the Chief and receive Specific Plan approval. Gates shall have a 50-foot setback from main road.
- 5. KEY BOXES & SWITCHES (NOTE THE FOLLOWING ON THE PLOT PLAN) (Consolidated Fire Code §902.4.1)** When access to or within a structure or an area is unduly difficult because of secured openings or where immediate access is necessary for life saving or firefighting purposes, the Chief is authorized to require a key box to be installed in an accessible location. (Knox key switch/box application is available at the Fire Prevention office).
- 6. THE ANGLE OF DEPARTURE AND ANGLE OF APPROACH (Consolidated Fire Code §902.2.2.6)** of a fire access roadway shall not exceed 7 degrees or 12% or as approved by the Chief.
- 7. TURNING RADIUS (California Fire Code §503.2.4)** the turning radius of a fire apparatus access road shall be 28 feet or as approved by the Chief.

8. **GRADE (SHOW ON PLOT PLAN) (Consolidated Fire Code §902.2.2.6)** the gradient for a fire apparatus access roadway shall not exceed 20.0%. Grades exceeding 15.0% (incline or decline) shall not be permitted without mitigation. Minimal mitigation shall be the installation of a surface of Portland cement concrete (PCC), with an approved rough finish, perpendicular to the direction of travel to enhance traction.
9. **SURFACE (NOTE THE FOLLOWING ON THE PLOT PLAN) (Consolidated Fire Code §902.2.2)**
Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus (not less than 50,000 lbs.) and shall be provided with an approved paved surface so as to provide all-weather driving capabilities.
10. **STREET NUMBERS (NOTE THE FOLLOWING ON THE PLOT PLAN) (Fire Code §505.1)** Approved numbers and/or addresses shall be placed on all new and existing buildings and at appropriate additional locations as to be plainly visible and legible from the street or roadway fronting the property from either direction of approach. Said numbers shall contrast with their background, and shall meet the following minimum standards as to size: 4" high with a post at roadway, minimum width of .5 inch.
11. **STRUCTURE SET BACK FROM SLOPE (WUI §504.1.4)** a single story structure shall be setback a minimum 15 feet (4,572 mm) horizontally from top of slope to the farthest projection from a roof. A single story structure shall be less than 12 feet above grade. A two-story structure shall be setback a minimum of 30 feet (9,144 mm) measured horizontally from top of slope to the farthest projection from a roof. Structures greater than two stories may require greater setback, which is based upon a 2-to1 slope.
12. **FIRE APPARATUS ACCESS ROADS (Consolidated Fire Code §902.1.2)** including private residential driveways, shall be required for every building hereafter constructed when any portion of an exterior wall of the first story is located more than 150 feet from the closest point of fire department vehicle access.
13. **FIRE APPARATUS ACCESS (Consolidated Fire Code §901.2.2.1 through §902.5)** Plans for fire apparatus access roads or for their modification shall be submitted to the fire department for review and approval prior to construction or modification.
14. **FUEL MODIFICATION (WUI §603.2)** Maintain an effective fuel modification zone by removing, clearing away or modifying combustible vegetation and other flammable materials from areas within 100 feet from such buildings or structures. Fuel modification zones shall not extend beyond the property line. The fuel modification zone is divided into two zones: While these standards will provide a high level of protection to structures built in the wildland/urban interface zone, **there is no guarantee or assurance that compliance with these standards will prevent damage or destruction of structures by fire in all cases.**

NOTE THE FOLLOWING ON THE PLOT PLAN

- A) The first zone includes the area from the building to a point 50 feet away. This zone must be modified and planted with fire resistive plants. Grass and other vegetation located more than 50 feet from buildings or structures and less than 6 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion. Irrigation required.
 - B) The second zone is the area between 50 to 100 feet from the building. In this zone the native vegetation may remain but it must be thinned by 50% and all dead and dying vegetation must be removed. Irrigation is optional.
15. **ROADWAY DESIGN FEATURES (Consolidated Fire Code §902.2.2.7)** Obstruction of Roadway design features (speed bumps, speed humps, speed control dips, etc.), which may interfere with emergency apparatus responses, shall not be installed on fire access roadways, unless they meet design criteria approved by the Chief.
 16. **BRIDGES (NOTE THE FOLLOWING ON THE PLOT PLAN) (Consolidated Fire Code §503.2.6)** When a bridge is required to be used as part of a fire apparatus access road, it shall be constructed and maintained in accordance with nationally recognized standards (AASHTO HB 17).

- 17. DEAD ENDS (Consolidated Fire Code §902.2.2.4)** all dead-end fire access roads in access of 150 feet in length shall be provided with an approved provision for the turning around of emergency apparatus. A cul-de-sac shall be provided in residential areas where the access roadway serves more than 2 structures. Minimum unobstructed paved radius width for a cul-de-sac shall be 36 feet in residential areas. The Chief shall establish a policy identifying acceptable turnarounds for various project types.
- 18. MARKING, FIRE APPARATUS ROADS (Consolidated Fire Code §901.4.2)** When required, approved signs or other approved notices shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof or both. All new public roads, all private roads within major subdivisions, and all private road easements serving four or more parcels shall be named. Road name signs shall comply with County of San Diego Department of Public Works Design Standard #DS-13. The Chief may require the posting of a fire access roadway where parking has obstructed or could obstruct the required width.
- 19. RESPONSE MAP UPDATES (Consolidated Fire Code §902.5)** Any new development, which necessitates updating of emergency response maps by virtue of new structures, hydrants, roadways or similar features, shall be required to provide map updates in a format (PDF and/or CAD format as approved by the FAHJ) or compatible with current department mapping services, and shall be charged a reasonable fee for updating all response maps.
- 20. LOCATION OF LPG TANK, ABOVE GROUND STORAGE (NOTE THE FOLLOWING ON THE PLOT PLAN) (Fire Code Table 3804.3)** Minimum separation between containers and buildings, public ways, or lines of adjoining property that can be built upon is: 10 feet for containers 125 gallons to 500 gallons; 25 feet for containers 501 to 2,000 gallons.
- 21. FIRE SPRINKLERS (Consolidated Fire Code §903.2) (NOTE THE FOLLOWING ON THE PLOT PLAN)** “Structures shall have an automatic fire sprinkler system installed per NFPA 13-D standards and Fire Protection District Standards. Fire Sprinkler plans shall be submitted and approved by the Fire Protection District prior to framing inspection.”

Section 1003.2 Table 10A – All occupancies built or moved into the District

Commercial	Residential (R1)(R3)	Additions	Remodels
All	All	50% increase or exceeding fire flow as defined in Appendix “B” or ISO grading Schedule	See Section Exception #3

EXCEPTIONS:

- (1) **Residential automatic fire sprinkler system for dwellings:** The chief may require an automatic fire sprinkler system to be installed in dwellings and other structures (including accessory buildings), where no water main exists to provide the required fire flow or where a special hazard exists such as: poor access roads, grade and canyon rims, hazardous brush, and response times greater than 10 minutes by a fire department or fire suppression company recognized as a signatory of the County of San Diego Fire Mutual Aid System.
- (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 fire sprinkler requirements unless physically connected to other structures.
- (3) **Remodels:** If the scope of work does not include additional square footage or significant modification to the interior or roof of the existing portions of the structure, or both, or when the cost of the installation of an automatic fire sprinkler system in the existing portion of the structure is greater than 15% of the construction costs of the remodel, a fire sprinkler system retrofit will not be required. The Chief may require that other protective measures be taken based on existing conditions and/or potential hazards.

C. BUILDING CONSTRUCTION AND FEATURES

- 1. ROOFING COVERING (NOTE ON PLAN) (WUI §505.2)** Roofs shall comply with the Building Code and have a minimum Class A roof covering. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave shall be fire stopped to precluded entry of flames or embers.
- 2. VENT REQUIREMENTS (WUI §504.10)** Attic ventilation openings foundation or under-floor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed ¼ each (6.4mm), or shall be designed and approved to prevent flame or ember penetration into the structure.

Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Under floor ventilation openings shall be located as close to grade as practical.

VENTING ON ROOFS AND VERTICAL WALLS (WUI §504.10.2) Roofs vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with ¼-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall be equipped to allow, one-way direction rotation only; they shall not free spin in both directions.

- 3. SPARK ARRESTERS (Consolidated Fire Code §2802)** All structures having any chimney, flue, or stovepipe attached to any fireplace, stove, barbecue, or other solid or liquid fuel burning equipment and devices, shall have such chimney, flue, or stovepipe equipped with an approved spark arrester. The fireplace chimney design shall provide access for maintenance or repair of spark arresters.
- 4. GLAZING MATERIALS (WUI §504.8) (Chapter 7A California Building Code requires one pane to be tempered of the two)** Glass or other transparent, translucent or opaque glazing which face a fire hazard area shall be tempered glass, multi layered glass panels or other assemblies approved by North County Fire Protection District.
- 5. VINYL WINDOWS (WUI §504.8)** must meet the following characteristics:
 - a. Frame and sash are comprised of vinyl material with welded corners
 - b. Metal reinforcement in the interlock area
 - c. Glazed with insulating glass, annealed or tempered
- 6. SKYLIGHTS (WUI §504.8.1) SHALL BE DUAL-GLAZED** or tempered glass and solar-tubes shall be rated for a class A roof assembly.
- 7. EXTERIOR WALL SURFACING MATERIALS (WUI §505.5)**The exterior wall surface materials, other than non combustible materials, must have an under-layment of ½-inch fire-rated gypsum sheathing, that is tightly butted or taped and mudded, under 3/8-inch plywood or 3/4-inch drop siding or an approved alternate. *(May not be allowed per County Code)*
- 8. EXTERIOR DOORS (WUI §505.9)** Exterior Doors shall be approved noncombustible construction, solid core wood not less than 1 3/4 inches thick (45mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with §505.8.
- 9. WOOD SHINGLE AND SHAKE WALL (WUI §505.5)** covering shall be prohibited except for repair or replacement.
- 10. FENCES AND OTHER ATTACHMENTS TO STRUCTURES (WUI §505.7.1)** shall have the first 5 feet of fences and other items attached to a structure shall be constructed of non-combustible material or meet the same ignition-resistant standards as the exterior walls of the structure.
- 11. SMOKE DETECTORS (NOTE THE FOLLOWING ON THE PLAN) (Consolidated Fire Code §1007.1) GENERAL**
Dwelling units, congregate residences and hotel or lodging guest rooms that are used for sleeping purposes shall

be provided with smoke detectors. Detectors shall be installed in accordance with the approved manufacturer's instructions.

12. ADDITIONS, ALTERATIONS OR REPAIRS TO GROUP R OCCUPANCIES (Consolidated Fire Code §1007.2) (Single Family Dwelling) When the valuation of an addition, alteration or repair to a Group R Occupancy exceeds \$1,000 and a permit is required, or when one or more sleeping rooms are added or created in existing Group R Occupancies smoke detectors shall be installed in accordance with Subsections 3, 4 and 5 of this section.

13. SHOW PERMANENTLY WIRED SMOKE DETECTORS (Consolidated Fire Code §1007.3) In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. The detector shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than those required for over-current protection. Smoke detectors may be solely battery operated when installed in existing buildings; or in buildings without commercial power; or in buildings, which undergo alterations, repairs or addition.

14. ENHANCED IGNITION-RESISTIVE CONSTRUCTION REQUIRED IN THE STATE RESPONSIBILITY AREAS OF THE FIRE DISTRICT

All details shall comply with the County Building Code and International Urban-Wildland Interface Code for ignition-resistant construction and as noted below:

- a) California Building Code, County of San Diego
- b) Ignition-resistant eave Construction Guidance Document (DPLU #198)
- c) Wildland/Urban Interface Development Standard Guidelines
- d) International Wildland-Urban Interface Code (NCFPD Ordinance 2008-001)

Plan checked by: _____ Date: _____ Phone: (760) 723-2010

Comments: _____

For additional information regarding the above information, please refer to the following websites:

North County Fire Protection District
www.ncfire.org

Fallbrook Fire Safe Council
<http://www.fallbrookfiresafecouncil.org/>

San Diego County Fire Code
<http://www.sdcounty.ca.gov/dplu/docs/firecode.pdf>

Recommended Landscaping
http://www.ncfireprotectiondistrict.org/pdf/bureau/Recommended_Landscaping.pdf

Suggested Plant List for a Defensible Space
<http://www.ncfireprotectiondistrict.org/pdf/bureau/SuggestedPlants.pdf>

Undesirable Plant List
http://www.ncfireprotectiondistrict.org/pdf/bureau/Undesirable_Plant_List.pdf

Wildland/Urban Interface Hazard Reduction
http://www.ncfireprotectiondistrict.org/pdf/bureau/LE_38_Resident_Info_Sheet.pdf