P20100287

RANCHO CUCAMONGA

FIRE PROTECTION DISTRICT

August 1, 2007

DEAR MARTINSON, STEVEN A:

The Rancho Cucamonga Fire District (hereafter referred to as District) is responsible for structure protection and related fire protection requirements in all the Rancho Hills Estates because the property is within the District. It also lies within the County and the State Responsibility Area (SRA).

We fully understand that for many years there has been considerable confusion and difficulty in obtaining permits when dealing with two or more governmental agencies.

The District has been working nearly non-stop for the past year attempting to streamline the process involving fire protection issues, condense the number of codes and regulations, remove significant requirements not critical for fire protection, and gain agreements with County Building and Planning in order to improve the processes for the property owner. Recent meetings with the County and property owners who are participating in the creation of the Homeowners' Association have moved this effort to the point where the District believes that development can proceed with everyone in agreement as to the expectations, procedures, and requirements.

Code Requirements

The building regulations currently include the following:

- 2001 California Building Code as adopted by San Bernardino County
- 2001 California Fire Code (adopted and amended by District Ordinance #39)
- Rancho Hills Estates Fire Protection Plan (developed by Jim Hunt and approved by the District)

Note: Once the State's fire hazard severity zone map is approved, development in the State Responsibility Area will be subject to the new Wildland Urban Interface building standards.

The County's FS-3 requirements apply throughout the un-incorporated areas; just last week we arrived at an agreement with County Building NOT to utilize FS-3 within the District (the California Fire Code and Rancho Hills Estates Fire Protection Plan together are more restrictive than the FS-3 requirements.)

The FS-3 "slope-density" requirements will no longer apply. Other County Planning requirements will be used to ensure parcels are "buildable" and "appropriate density" is maintained.

Plan Review

In order to ensure that adequate fire protection is designed into building construction and sub-divisions, the District will review plans and provide the County an "approval for permit" once District requirements are met.

In order to process plans, the District permit fees charged to other developments within the City will apply. These are cost recovery and provide for personnel/contract services in order to meet the development demand.

Required Information

Plans require information and details in order to clearly illustrate and demonstrate design meeting the District's code requirements. The District will review submitted plans and issue correction notices. All corrections must be addressed on the plans that are submitted and re-submitted. Once all corrections have been addressed and satisfied, the plans will be approved by a stamp bearing the signature of the Fire Marshal and the County advised of the approval.

At a minimum, plans submitted for approval must address compliance with all aspects of the Fire Protection Plan for Rancho Hills Estates, the construction and maintenance of the fire road adjacent to the parcel(s) in question, vegetation management given the proposed slopes, annexation into Community Facilities District 88-1 (please see the attachment), joining the Homeowners' Association, and the required recording of all pertinent documents.

Conditions pertaining to the above items can include the same language contained in the attached List of Requirements or can include the actual Fire Protection Measures, Access, and Maintenance Agreement (ver. 4-15-07). Please see the attachment.

The attached permit conditions were developed with the help of the HOA in order to clearly and concisely explain special and specific code requirements. Please see the attachment.

During plan review, the submitted plans will be evaluated for the specific code requirements and any deficiencies will be indicated to the applicant by way of a letter detailing required corrections.

Certain requirements will need to be recorded against the property to ensure ongoing participation and agreement.

Please refer to the following attachments:

- List of requirements specific to Rancho Hills Estates
- Fire Protection Measures, Access, and Maintenance Agreement
- Rancho Hills Estates Permit Conditions
- Resolution FD 07-028: Community Facilities District No. 88-1 for Fiscal Year 2007/08
- District Fee Schedule

Please contact Rob Ball, Fire Marshal, to assist you. Monday – Thursday, 7:00AM to 6:00PM. (909)477-2770 Ext. 3011 robert.ball@cityofrc.us

Sincerely,

Peter M. Bryan
Fire Chief

RANCHO CUCAMONGA FIRE PROTECTION DISTRICT

Rancho Hills Estates
Fire Protection Measures, Access, and Maintenance

List of Requirements

1. **Install Fire Road.** Owner agrees to construct, install and complete, or cause to be constructed, installed and completed, at the Owner's own expense, the Fire Road, which is adjacent to the Property, in accordance with plans and specifications approved in writing by the District, and in accordance with the County's requirements.

Owner shall obtain all necessary and required permits, encroachments, easements, and licenses for construction of the Fire Road as determined by the District and County.

Owner shall provide for and ensure that erosion control is included in the construction of the Fire Road, during and after construction, according to the requirements of the District and County.

The Fire Road shall be inspected by a Civil Engineer licensed in the State of California, and written certification shall be provided to the District prior to approval by the District. It is agreed that the District shall have the right to reject any or all of the work performed under this Agreement if such work does not conform to the requirements of this Agreement.

Unless otherwise agreed upon in writing, Owner shall complete the Fire Road prior to the issuance of a certificate of occupancy for the Property or, final recordation of a parcel map.

Upon completion of the Fire Road, Owner shall supply to the District, at no cost, one mylar (4 mil) set of "record" drawings. These drawings shall be certified by the Engineer of Record as being "record drawings" and shall reflect the Fire Road as actually constructed, with any and all changes to the Fire Road plans incorporated therein.

2. **Maintain Fire Road.** Owner agrees to maintain the Fire Road, or cause the Fire Road to be maintained, in good condition and repair at all times, until the HOA assumes responsibility for permanent maintenance in perpetuity.

If, at any time, Owner or HOA, fails to act promptly as required by this Agreement, or should the urgency arise that requires the repair or replacement of any portion of this Fire Road, the District may, but is not required to, proceed to complete repairs of the Fire Road, by contract or otherwise, and Owner, immediately upon demand, shall pay the fully burdened costs and charges related to said work.

3. **Responsibilities for Damage.** Any damage to the sewer system, utilities, concrete work, or street paving, or to any portion of adjacent properties, that occurs as a result of construction of the Fire Road shall be completely repaired by the Owner to the satisfaction of the District.

4. **Inspections – Payment of Fees.** The District is authorized to enter the Property for purposes of conducting inspections pursuant to this Agreement.

Owner agrees to pay the District fees for plans and specifications review, inspection, and re-inspection(s) of the fire protection measures required as part of the building permit or parcel map.

5. **Membership in Homeowner's Association.** Unless otherwise agreed upon, Owner agrees to participate as a regular member in any Homeowner's Association having the ability to enforce Covenants, Conditions and Restrictions ("CCR'S") with respect to the Property.

6. **Annexation to Community Facilities District ("CFD").** Owner agrees to annex, and complete annexation prior to the issuance of a certificate of occupancy for the Property or, final recordation of a parcel map, Property to the District's CFD 88-1 for the purpose of funding annual inspections of the fire protection measures which benefit the Owner and HOA.

When Recorded Mail To:

Secretary
RANCHO CUCAMONGA FIRE PROTECTION DISTRICT
PO Box 807
Rancho Cucamonga, Ca. 91729

Space Above This Line For Recorder's Use

FIRE PROTECTION MEASURES, ACCESS, AND MAINTENANCE AGREEMENT
(ver. 4-15-07)

THIS AGREEMENT is made this __ day of _____, 200_, by and between _____ ("Owner"), and the Rancho Cucamonga Fire Protection District, a California fire protection district ("District").

RECITALS

A. Owner is the owner of approximately _____ acres of real property located at _____ (APN _____), in the unincorporated area of San Bernardino County, California (County), and within the jurisdiction of the District, as more specifically described in **Exhibit A**, attached and incorporated herein by reference (the "Property").

B. Owner submitted an application for County approval to [subdivide the Property pursuant to Parcel Map No._____
_____
[or to build _____ on the Property]. The [parcel map] [permitted construction] is hereafter referred to as the "Project."

C. As part of the process to approve the Project, the District has evaluated fire protection measures and emergency access to the Property and has determined that fire protection measures including a road providing access to the Property by emergency fire vehicles is necessary in order to more fully protect the health and safety of persons occupying the Property. Based on that determination, the District requires the Owner to enter into this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the faithful performance of the terms and conditions set forth in this Agreement, it is agreed between the parties as follows:

1. **Purpose.** (a) require the Owner to provide a reasonable and appropriate level of fire protection, and (b) require the Owner to build or cause to be built the Fire Road described here in, and (c) guarantee participation by the Owner in the Rancho Hills Estates Homeowners Association ("HOA") in order to maintain fire protection measures. The recitals set forth above are hereby made a part of this Agreement.

2. **Fire Road as a Benefit.** Owner agrees that the fire access roadway(s) ("Fire Road") will materially benefit the Property and is necessary to fully provide for the public health and safety.

3. **Duty to Install Fire Road.** Owner agrees to construct, install and complete, or cause to be constructed, installed and completed, at the Owner's own expense, the Fire Road, which is adjacent to the Property, in accordance with plans and specifications approved in writing by the District, and in accordance with the County's requirements.

Owner shall obtain all necessary and required permits, encroachments, easements, and licenses for construction of the Fire Road as determined by the District and County.

Owner shall provide for and ensure that erosion control is included in the construction of the Fire Road, during and after construction, according to the requirements of the District and County.

The Fire Road shall be inspected by a Civil Engineer licensed in the State of California, and written certification shall be provided to the District prior to approval by the District. It is agreed that the District shall have the right to reject any or all of the work performed under this Agreement if such work does not conform to the requirements of this Agreement.

At least seven calendar days before the commencement of construction of the Fire Road, Owner shall notify the District in writing of the date Owner intends to commence construction in order for the District to schedule required inspections.

Unless otherwise agreed upon in writing, Owner shall complete the Fire Road prior to the issuance of a certificate of occupancy for the Property or, final recordation of a parcel map.

Upon completion of the Fire Road, Owner shall supply to the District, at no cost, one mylar (4 mil) set of "record" drawings. These drawings shall be certified by the Engineer of Record as being "record drawings" and shall reflect the Fire Road as actually constructed, with any and all changes to the Fire Road plans incorporated therein.

4. **Duty to Maintain Fire Road.** Owner agrees to maintain the Fire Road, or cause the Fire Road to be maintained, in good condition and repair at all times, until the HOA assumes responsibility for permanent maintenance in perpetuity.

If, at any time, Owner or HOA, fails to act promptly as required by this Agreement, or should the urgency arise that requires the repair or replacement of any portion of this Fire Road, the District may, but is not required to, proceed to complete repairs of the Fire Road, by contract or otherwise, and Owner, immediately upon demand, shall pay the fully burdened costs and charges related to said work.

5. **Responsibilities for Damage.** Any damage to the sewer system, utilities, concrete work, or street paving, or to any portion of adjacent properties, that occurs as a result of construction of the Fire Road shall be completely repaired by the Owner to the satisfaction of the District.

6. **Inspections – Payment of Fees.** The District is authorized to enter the Property for purposes of conducting inspections pursuant to this Agreement.

Owner agrees to pay the District fees for plans and specifications review, inspection, and re-inspection(s) of the fire protection measures required as part of the building permit or parcel map.

7. **Membership in Homeowner's Association.** Unless otherwise agreed upon, Owner agrees to participate as a regular member in any Homeowner's Association having the ability to enforce Convenants, Conditions and Restrictions ("CCR'S") with respect to the Property.

8. **Annexation to Community Facilities District ("CFD").** Owner agrees to annex, and complete annexation prior to the issuance of a certificate of occupancy for the Property or, final recordation of a parcel map, Property to the District's CFD 88-1 for the purpose of funding annual inspections of the fire protection measures which benefit the Owner and HOA.

9. **Agreement to Fire Protection Plan.** Owner agrees that the Fire Protection Plan approved by the District, and all adopted State and Local codes/requirements, are enforceable by the District in order to provide reasonable and appropriate fire protection.

10. **Indemnity and Hold Harmless.** Owner shall hold harmless, defend and indemnify the District, its officers, employees, and agents from and against any and all damage, injury, and/or death to persons and property, and any and all claims, demands, costs, losses, damages, injuries or liability, including attorneys' fees, howsoever caused, resulting directly or indirectly from the performance or nonperformance by Owner or anyone acting on Owner's behalf, of any work pursuant to this Agreement. Owner shall not be required to indemnify and hold harmless the District as set forth above for liability attributable to the sole fault of the District, provided such sole fault is determined by agreement between the parties or the findings of a court of competent jurisdiction.

11. **Change of Owner.** If the Owner ceases to have legal interest in the Property prior to completion of the Fire Road, then a notice to that effect shall be filed with the District. The notice shall include the name and address of the new owner and a written acknowledgement by the new owner of the terms of this Agreement. Unless a new Agreement between the District and any successor owner is entered into, upon the filing of the notice with the District, Owner shall be deemed to have assigned and transferred this Agreement to the successor owner, and the successive owner shall thereafter be responsible for compliance with the obligations of this Agreement in lieu and in place of Owner, and Owner shall thereafter have no further obligations to the District under this Agreement except for any liability, obligations, acts or omissions incurred prior to such transfer.

12. **Heirs, Successors and Assigns.** This Agreement shall be binding upon and inure to the benefit of the heirs, successors and assigns of the parties.

13. **Obligations Run With the Land – Recordation.** This Agreement pertains to and runs with the Property. This Agreement shall be recorded in the office of the County Recorder at the expense of the Owner and shall constitute notice to all successors and assigns of the title to the real property of the obligations set forth herein. This Agreement shall also constitute a lien on the Property, subject to foreclosure in the event of default in payment, in an amount sufficient to fully reimburse the District for any cost to the District of enforcing this Agreement, including interest from the date of the notice of any cost or expense until paid.

14. **Miscellaneous Terms and Provisions.**

If any provision of this Agreement is adjudged illegal, inoperative, or invalid, the remaining provisions of this Agreement, to the extent practicable, shall continue in full force and affect.

This Agreement contains a full, final and exclusive statement of the Agreement of the parties regarding the subject matter hereof. No representation or promise not set forth herein shall be binding as to either party.

Owner's obligations upon signing this Agreement terminate personally as to him when he conveys his interest in the Property, files for recording with the County Recorder a copy of assignment of this Agreement, and complies with paragraph 11.

This Agreement shall be administered, interpreted and enforced under the laws of the State of California and the County of San Bernardino. In case of dispute, venue shall reside in San Bernardino, California.

Owner warrants and represents that the person signing on behalf of Owner has the authority to execute this Agreement on behalf of Owner, and has the authority to bind the Owner and the Property to the terms and obligations set forth in this Agreement. Owner agrees that execution of this Agreement, and any instrument or agreement required hereunder, are within the Owner's powers, and have been duly authorized and delivered, and do not conflict with Owner's organizational powers.

Owner agrees that the required Fire Road construction is a reasonable, valid and binding obligation. Owner agrees that this Agreement is a valid, legal and binding Agreement, enforceable against Owner in accordance with its terms, and that any instrument or agreement required hereunder, when executed and delivered, will be similarly legal, valid, binding, and enforceable. Owner agrees that this Agreement does not conflict with any law, agreement, or obligations by which Owner is bound.

IN WITNESS WHEREOF, the parties have executed the Agreement on the day and year above written.

RANCHO CUCAMONGA FIRE PROTECTION DISTRICT,
a California fire protection district

OWNER,

By:_____

By:_____

RANCHO CUCAMONGA FIRE PROTECTION DISTRICT

Rancho Hills Estates Permit Conditions

Note: The April 21, 2004 Conceptual Fire Protection Plan for Rancho Hills Estates by Hunt Research Corporation (CFPP) shall be the prevailing and governing document/standard with regard to fire protection, building construction, vegetation management, fire district access, roadways, driveways, water supply, fire hydrants, fire flow, and enforcement.

Lot Split Condition

- The CFPP shall be recorded on each parcel.

Grading Permit Conditions

- If not already done, the CFPP shall be recorded on the parcel.
- Submittal shall include plans for the fire road adjacent to the parcel. Submitted plan must conform to the City of Rancho Cucamonga's design standard for roads and be engineered according to the Roadway and Drainage Improvements Plan for Snowdrop Road prepared by Associated Engineers.
- Submittal shall include a provision accepting responsibility to maintain the fire road. This provision must be in the form of a document, acceptable to the Fire District, that can be recorded on the parcel and which shall be recorded on the parcel prior to final approval of the building permit.
- Submittal shall include a site specific fire protection plan that conforms to the CFPP with regard to set backs, locations of structures, and vegetation management given the slopes on the parcel after the proposed grading.

Building Permit Conditions

- Fire road adjacent to the property must be completed, with the exception of the final lift, prior to combustible material arriving on the site.
- Submittal shall include a vegetation management plan that conforms to the standards of the CFPP.
- Submittal shall include all fire protection and life safety systems by reference. Plans for such systems can be submitted under separate cover for review and approval.
- Submittal shall include evidence of annexation into Community Facilities District (CFD) 88-1. Contact Janet Walker at 909-477-2770 ext. 3003 to complete the appropriate paperwork.
- Rough inspections of the fire and life safety systems shall occur and be approved prior to the installation of insulation.

Final Approval Conditions

- Fire road must be completed including the final lift, installation of blue reflectors, and installation of fire lane signs.
- The CFPP, site specific fire protection plan, the vegetation management plan, and the fire road maintenance agreement shall be recorded on the parcel. Evidence of recording shall be provided to the Fire District.
- Annexation into CFD 88-1 shall be completed.
- Agreement to participate in the Homeowners' Association.

RESOLUTION NO. FD 07-028

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE RANCHO CUCAMONGA FIRE PROTECTION DISTRICT, SAN BERNARDINO COUNTY, CALIFORNIA, ESTABLISHING THE ANNUAL SPECIAL TAX FOR COMMUNITY FACILITIES DISTRICT NO. 88-1 FOR FISCAL YEAR 2007/08

WHEREAS, the Board of Directors of the Rancho Cucamonga Fire Protection District, California, (formerly Foothill Fire Protection District, hereinafter referred to as the "legislative body"), has initiated proceedings, held a public hearing, conducted an election and received a favorable vote from the qualified electors relating to the levy of a special tax in a community facilities district, all as authorized pursuant to the terms and provisions of the "Mello-Roos Community Facilities Act of 1982," being Chapter 2.5, Part 1, Division 2, Title 5 of the Government Code of the State of California. This community facilities district shall hereinafter be referred to as COMMUNITY FACILITIES DISTRICT NO. 88-1 (hereinafter referred to as the "District"); and

WHEREAS, this legislative body, by ordinance, as authorized by Section 53340 of the Government Code of the State of California, has authorized the levy of a special tax to pay for costs and expenses related to said community facilities district, and this legislative body is desirous to establish the specific rate of the special tax to be collected for the next fiscal year and to adjust the maximum special tax authorization to be levied.

NOW, THEREFORE, the Board of Directors of the Rancho Cucamonga Fire Protection District does hereby resolve, determine and order as follows:

SECTION 1: That the above recitals are all true and correct.

SECTION 2: That the specific rate and amount of the special tax to be collected to pay for the costs and expenses for the next fiscal year (2007/08) for the referenced District is hereby determined and established as set forth in the attached, referenced and incorporated Exhibit "A".

SECTION 3: That the rate as set forth above does not exceed the amount as previously authorized by ordinance of this legislative body, and is not in excess of that as previously approved by the qualified electors of the District.

SECTION 4: That the proceeds of the special tax shall be used to pay, in whole or in part, the costs of the following, in the following order of priority:

A. Payment of principal and interest on any outstanding authorized bonded indebtedness, if any;

P20300287

Conceptual

Fire Protection Plan

for

Rancho Hills Estates

Rancho Cucamonga, Calif.

DECEMBER, 2003
Updated 4/21/04

submitted by
HUNT RESEARCH CORPORATION
P.O Box 291, Solvang, California 93464
805-688-4625
www.HuntResearch.com

12-10-03/ updated 4-21-04

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Conceptual Fire Protection Plan for Rancho Hills Estates.

The purpose of this Fire Protection Plan is to set forth Fire Protection Standards for future development on parcels accessed along Snowdrop/Santina Road, between Archibald and Haven, in the Rancho Cucamonga Fire District. This development is known as Rancho Hills Estates. This plan includes the proposed standards for access roads, fire hydrants, construction, fire flow and vegetation management. The standards are based on a total build out of 139 detached single family residential units on properties over 1 acre. They also assume 2 points of ingress egress (Archibald and Haven).

All of the recommendations in this plan shall be recorded as deed encumbrances so that future buyers of parcels are on notice as to the requirements they must abide by on their properties (per Rancho Cucamonga Fire District Fire Marshal).

1.Risk Assessment:

The properties in Rancho Hills Estates are in a Very High Fire Hazard area of the Rancho Cucamonga Fire District. The area is considered to be in Fire Safety Overlay District Review Area #3 (FS-3) by the County and the Fire District. FS-3 is more hazardous than FS-1 and 2 areas. This area is susceptible to catastrophic fire under wind driven "Santa Ana" conditions. Vegetation along Snow Drop/Santina road was modeled using the BEHAVE PLUS fire spread modeling system. Most of the vegetation is old class Chaparral, approximately 6' high. The fuel loading is about 12 to 15 tons of chaparral per acre. The heaviest fuels and steepest slopes are north of Snowdrop/Santina Road The results are as follows:

A. Areas with heavy chaparral on steep slopes:

- The fuel type is Fuel Model 4; Heavy, 6' high, chaparral.
- Down slope fire during the fall in Santa Ana (Fire weather) conditions, with a 20' wind speed of 70 MPH, low fuel moisture, and an air temperature of 80 degrees, can generate flame lengths of 99.9' and a rate of spread of 2242' per minute (25+ MPH). Firebrands can start spot fires 5.3 miles downwind.
- Upslope fire (summer-fall with onshore breeze). With a 20' wind speed of 20 MPH, air temperature of 100 degrees, and low fuel moisture, can generate flame lengths of 46.5' and a rate of spread of 423' per minute.
- Fuel modification zones around structures need to be 200'. Clearances on sides of driveways should be 100'

B.Vegetation on Archibald south of Snowdrop/Santina and vegetation along the power line easement:

- This fuel type is estimated to be a Fuel Model 6 (coastal sage scrub and grasses) at this time. This was due to a previous fire, prior to the Grand Prix fire. However, these lighter fuels can become heavy brush in 3 years or less, depending upon rainfall.
- The flame lengths during "Santa Ana" type fire weather, with low humidity, 20' winds of 70 MPH, and air temperature of 80 degrees f, are 20.1'. The rate of spread is 373' per minute.
- Fire can spot downwind 1.7 miles.
- Fire during the summer with an on shore wind, low fuel moisture, 20' winds of 20 MPH, air temperature 100 degrees f, would generate flame lengths of 9.7' and a rate of spread of 77' per minute.
- Additional modeling done for the power line easement was done to simulate a fire which occurred along the easement in 1999. Assuming a fire along the easement on less than a 10% slope with no wind, the flame lengths would be about 23'. The rate of spread would be 66' per minute. Burning embers could travel .1 mile and start other fires.
- As the type of vegetation can become heavy brush in future years, dependent upon rainfall, the fuel modification zones should be the same as for Fuel Model 4 (200' from structures and 100' each side of driveways). Properties abutting the power line easement may be able to have smaller zones if the power line easement is maintained.

Conclusion:

The area has experienced many major fires. The last major fire in the area was the Grand Prix fire in 2003. That fire resulted in total devastation to the watershed, and destroyed three residences, in the Rancho Hills Estates area.

The recommendations in this plan will assume that another major fire will occur in the area in the future and that the Fire Department may have minimal resources available for structural protection in the Rancho Hills Estates area. Therefore the parcels must have adequate fuel modification, structures must have adequate protection, and there must be an adequate water supply. There must also be adequate access for fire apparatus. It is the objective of this plan to provide intensified on site protection so as to reduce or eliminate the need for structural protection by firefighters and allow the property to stand alone and survive a major fire on it's own.

2.Recommended standards:

This section of the plan sets forth recommended Fire Protection standards for any new structures on any new parcels in Rancho Hills Estates. The objective of the standards is to mitigate the risks to a degree acceptable to the Rancho Cucamonga Fire District.

A.Fire Access, and egress:

1.Access Roads:

An access road is defined herein as a common road within Rancho Hills Estates which may be used by any owners, guests, delivery vehicles, contractors, Fire District vehicles, Law enforcement vehicles, utility companies, Water district, etc, to gain access to a private driveway, leave a driveway, or to otherwise facilitate ingress and egress.

A. Road width; 26' unobstructed by anything. Permanent all weather surface. Snow Drop/Santina Road shall be paved by the year 2008.

B. Snow Drop/Santina Road to provide ingress/egress.from Haven and Archibald.

C. Snow Drop/Santina Road to be gated to Fire District standards to keep out potential fire setters. If this becomes a public road, it cannot be gated.

D. Height of clearance; Clear to the sky (no overhanging vegetation/trees).

E. Clearance of flammable vegetation; 30' each side of road.

F. Road grade; 12% except Fire District may allow steeper grades for short distances with appropriate mitigation measures.

G. Radius and line of sight at corners to be such that oncoming vehicles can see each other for at least 100' and that fire apparatus can negotiate the curve.

H. Road to be posted "No Parking; Fire Lane.

I. In areas where it is impossible, from an engineering and soil stability standpoint, to provide 26' width on Snowdrop/Santina Road, 20' unobstructed width may be provided. In that case, Fire truck turnouts (12' by 30') shall be provided at every fire hydrant and elsewhere as required by the Fire District.

J. Any bridges shall comply with the State Fire Code and Rancho Cucamonga Fire District requirements.

K. Dead end roads shall not exceed 350'. Any road longer than 150' shall have an approved Fire Truck turnaround.

2. Driveways:

A driveway is defined herein as a vehicular ingress and egress route which leaves an access road and serves up to five residences. A driveway is not for common

use but only for use by those enroute to a particular address. All other routes are considered access roads.

A. Line of sight at driveways should be at least 100' (440' on Archibald and Haven), per City of Rancho Cucamonga, or other mitigations shall be provided such as mirrors and speed bumps. A speed limit should be posted on Snow Drop/Santina Road. The HOA shall consult with a traffic engineer and determine a safe speed limit to post both on straight sections with good visibility and on blind corners.

B. Paved or concrete driveways shall be provided when any portion of an exterior wall of a structure exceeds 150' from Snowdrop/Santina Road. Driveways to be paved, 12' wide; clear to the sky. Driveways exceeding 150' shall have an approved turnaround. Grade to not exceed 15%. The Fire District will allow a maximum of 20% provided appropriate mitigation is utilized. Where the grade area is steeper than 10%, flat areas for parking shall be provided at the structure. The transition from the driveway to the road will meet existing City and Fire District standards to assure Fire District vehicles do not "bottom out". Driveways exceeding 200', and less than 20' in width, shall have fire apparatus turnouts (12' by 30' long) every 200'.

C. 12' wide driveways shall not serve more than 2 residences. Driveways serving 3 to 4 residences shall be 16' unobstructed width and shall be posted " Fire Lane- No Parking". Driveways serving 5 residences shall be 20' unobstructed width and be posted " No Parking- Fire Lane". Six or more residences shall be served by a standard road with a 26' wide unobstructed width. House numbers for houses on driveways must be clearly posted on the house, and at the entrance to the driveway from Snowdrop/Santina.

D. Driveways shall have minimum 30' clearance from flammable vegetation on each side. More clearance may be needed in areas of heavy chaparral and steep slopes.

E. As a mitigation to any water supply deficiencies, provide 12' wide access to within 10' of any static water source including reservoirs and storage tanks. Access can be to a plumbed 2.5" gated outlet or directly to the source (FR-1 Overlay District requirement). This does not replace the requirement to install fire hydrants where mains can be extended and hydrants can be installed.

F. All new swimming pools shall have a 2.5" gated fire department pumper connection on the drain line system, or elsewhere on the pool. Such connection shall be located at a point accessible to a fire truck.

G. Provide non combustible, reflective, street signs with block numbers (designate the general addresses; to-from) along any access road.

H. Any bridges shall comply with the State Fire Code and Rancho Cucamonga Fire District requirements.

Corporation. Revised 4-21-04.

The sections of Snow Drop/Santina Road which are currently dirt, shall be made a temporary all weather driving surface to the width of the existing paving prior to any new construction of residences occurring.

These standards meet and exceed the requirements of California Fire Code Section 902 and Appendix 111-D. They also comply with the recommendations in the ICC Urban Wildland Interface Code Section 403, and NFPA 1144; "Protection of Life and Property from Wildfire". These standards also meet the objectives of the County Overlay District ordinance for FS-3.

B Fire hydrants and fire flow:

Fire hydrants and water supply shall be from the Cucamonga Valley Water District (CVWD)

1. Attempt to locate hydrants at every driveway of parcels 2.5+ acres; at time of new construction. Locations to be to Fire District approval.

2. Hydrants to be no more than 1000' apart and no closer than 500' apart along Snow Drop/Santina Rd.

3. Driveways more than 500' from Snowdrop/Santina Rd to have a fire hydrant at every 1000' starting at the first 500'. There shall also be one within 150' of the structure.

4. Flow to be at least 1000 GPM at 20 PSI from a single hydrant Water mains to be at least 6" diameter and looped. It is understood that the existing main on Snow Drop/Santina Rd is a 12".

5. Blue dot hydrant markers to be placed in road. They may be mounted on posts until road is paved.

6. Any 20' wide portions of the road shall have fire truck turnouts at the hydrants.
7. Hydrants to be standard 2.5 X 4" outlet hydrants. Hydrant and installation to be to Fire District/Water district standards (comply with CVWD and Fire District standards).

8. Hydrants to have a lateral shut off valve 10 to 25' from hydrant.

9. Hydrant lateral to be at least 6" diameter, and to Water District approval (comply with the CVWD and Fire District standard).

10. Hydrants to have 3' by 3' concrete pad at base to prevent weeds. If dry barrels are installed, the 3' by 3' base shall be gravel.

Corporation. Revised 4-21-04.

Actual flow test by Fire Department (Eric Noreen and Engine Company crew) in August 2003, on the 12" main on Snowdrop/Santina, indicated a single hydrant flow of 1085 GPM at 42 PSI from a 2.5" outlet of a single fire hydrant near the west end of Snowdrop/Santina Rd. The static pressure was 70 PSI. This flow calculates to about 1483 GPM at 20 PSI. A test was requested from the Water District, via letter, but no reply was received.

This water supply criteria meets the requirements of Appendix 111-A of the Fire Code. 1000 GPM is required for up to a 3600 sq ft house. Beyond that, requirements increase per Table A-111-A-1 apply. For an 11,300 sq ft house, the flow would be 2750 GPM. A 50% credit is allowed for sprinklers. Therefore, 1375 GPM would be adequate for a sprinklered 11,300 sq ft house. Approximately 1483 GPM is available. Thus, structures need to be limited to about 11,000 sq ft.

C.Internal Fire Sprinklers:

All new residential structures and any attached structures, as well as any structures undergoing a 50% or greater remodel, shall have internal fire sprinkler systems. Sprinkler coverage shall also be provided in garages and enclosed porches. Systems on higher lots may require listed fire pumps with emergency power or elevated storage tanks in order to provide needed pressure. Generally, at least 40 PSI static is needed. No FDC is needed on a SFD system. Residential systems should comply with NFPA 13-D. It is recommended, as an additional mitigation, that fire sprinkler coverage in attics be provided, if found to be feasible, subject to hydraulic demand and water supply, in order to attempt to extinguish any fire which enters an attic through vents.

D. Ignition Resistant Building Construction, Etc.

Provisions in this section apply to all enclosed structures that require a construction permit (120 sq ft per SB County and Rancho Cucamonga City requirements):

The following table includes the type of construction features and other safeguards required for the proposed development along Snowdrop/Santina Road, which is considered "Fire Safety Review Area #3 (FS-3)". The table also lists additional, intensified, safeguards recommended by the consultant based upon experience on other projects, and which exceed FS-3 requirements. These recommendations should be considered as mitigating factors in order to justify the 26' wide road and mitigate the fire problem to a reasonable level.

Corporation. Revised 4-21-04.

Matrix comparing the FS-3 requirements with the protection proposed for this development:

FS-3 Requirement	Plan complies with the FS-3 requirements?	Additional Mitigations
1.Firewood and flammable materials to be stored 30' from structure	Yes	If enclosed an ancillary structure over 200 sq ft, structure to have sprinklers.
2. 5' separation of wood or vinyl fences from structure. Fencing within the 5 to be non combustible or 1 hour construction	Yes	No wood fences. All fences to be solid block or steel. No plastic or vinyl fences or railings.
3. Fences on perimeter adjacent to wildland areas to be non combustible	Yes	Solid non pierced block or steel wall. No plastic or vinyl fences or railings
4. Class A roof No organic fibre (no wood). Tile tight fitting. Open ends capped to prevent birds nests or other combustible material from entering. Gutters and downspouts non combustible	Yes	No Wood. Roof to be Class A assembly.
5. Exterior walls non combustible or 1 hour. Interior side yards not less than 5'.	Yes	50' between exterior walls of buildings. Exterior walls to be 1 hour rated, non wood, from foundation to roof including under floor, cantilevered, or overhang areas. Stucco, masonry or approved cement fiber board. Wood doors to be solid core 1.75" thick. Metal garage doors.
6. Decks	No requirement listed for FS-3	Cantilevered or standard type decks to be minimum 1.5" thick wood decking and/or protected on underside with materials approved for 1 hour fire resistance and/or be of non combustible materials. No plastic or vinyl. No decks or overhangs over slopes unless fire resistive, non combustible, concrete, or masonry. No plastic, vinyl or non approved

Corporation. Revised 4-21-04:

		composite materials for decks or railings. Decks must support a Firefighter during fire conditions. Decks or overhangs attached to structure shall be 1 hour fire rated. All decks or overhangs to have ends enclosed with fire resistive materials. There shall be no vegetation under decks or overhangs.
FS-3 Requirement	**Plan complies with the FS-3 requirements?**	**Additional Mitigations**
7. Patio Covers	No requirements listed for FS-3	Patio covers with plastic, bamboo, straw, fiberglass, or wood lath lattic are prohibited. No canvas awnings or umbrellas
8. Eaves enclosed with 7/8 stucco or equivalent	Yes	No eaves unless properly boxed in with 1 hour construction. Space between rafters at exterior walls shall be solidly filled with tight fitting wood blocks at least 1.5" thick.
9. Exterior glazing; double pane or tempered	Yes	Tempered is alternative. Any glazing facing wildland should be minimized and be tempered where facing slopes over 15%. No wood window frames. Skylights to be tempered glass. Heavy metal screens.
10. Vinyl window assemblies shall be prohibited, except when : A. Frame and sash are vinyl materials with welded corners B. Metal reinforcement in interlock area C. Frame and sash profiles are certified in AAMA lineal service program (verified with either AAMA product label or certified products directory) D. Certified and labeled in	Yes	

accordance with American National Standards Institute (ANSI)/AAMA/ National Wood Window and Door Association (NWWDA) structural requirements		
FS-3 Requirement	**Complies with the FS-3 Requirements?**	**Additional Mitigations**
11. Exterior wood doors to be solid core. Glazing to be approved.	Yes	
12. Address numbers: Internally illuminated, non combustible address numbers legible from street	Yes	
13. Structure openings: Vents, louvers, ventilators, etc to be screened with approved materials having 1/8 mesh. Eave type ventilators and turbines vents not allowed. No attic vent to face foothills/wildland	Yes	No vents on roof or ridgelines. No vents in soffits, overhangs, between rafters at eaves, or in other overhanging areas. Vents are not to exceed 144 sq".
14. Paper faced insulation allowed in attic if paper not exposed to attic open space. Cellulose insulation to be fire retardant	Yes	No paper backed insulation
15. Exposed piping	No requirements for FS-3	Exposed piping, except for plumbing vents above roof, to be non combustible per Building Code. Also, Gutters and downspouts to be non combustible
16. Setback from National Forest to be 30'	Yes	
17. Chimneys: approved spark arrestors. 12 gauge minimum. ½" mesh. Visible from grade	Yes	
18. Fire Hydrants to be identified by a method specified by Fire Authority	Yes	Blue dots on posts until road paved. Then blue dot markers in pavement.
19. Fuel tanks: LPG: 10' from structure. Secured to ground	Yes	30' from structure
20. Water faucets: Minimum of two ¾" faucets with hose	Yes	

connections each served by ¾" waterline ; separated by at least 1/3 perimeter of structure. Faucets to be on side facing hazardous areas		
FS-3 Requirement	**Plan complies with the FS-3 requirements?**	**Additional Mitigations**
21. Access: 2 points of access unless development located exclusively on a cul-de-sac. Minimum 26' all weather. One may be emergency access route If Planning Agency makes finding that two points of access infeasible, and provisions made to maintain emergency access	Plan approved by RCFPD	Snowdrop/ Santina Rd to be 26' wide, unobstructed, all weather and posted " No Parking Fire Lane"
22. 12' wide vehicular access to within 10' of static water source or approved connection.	Yes	
23. Water mains: 6" or larger circulating loop, except cul-de-sacs. Hydrant placement and Fire Flow /duration per Fire District requirements	Yes	12" main on Snowdrop/ Santina Rd. Any new extensions to be 6"
24. Street signs: all public and private streets to have non combustible / reflective/ visible street signs.	Yes	
25. Structures within 200' of slopes greater than 30% and 30' in height to comply with following: A. Vegetation to be fuel modified area for entire slope or 100', or to property line, whichever is less. B. Where grading does not conform to natural slope, and graded area is adjacent to natural ungraded areas, greater than 30% and 30' in height, structures to be set back 30' from graded area adjacent to natural ungraded slopes	Plan approved by RCFPD	

Corporation. Revised 4-21-04.

FS-3 Requirement	Complies with FS-3 Requirements?	Additional Mitigations
26. Fuel Modification area: Minimum 100' around perimeter. To be based on a site specific plan	Yes	Yes. Exceeds minimum 100' based on risk
27. Private Driveways and access roadways not to exceed 150'	Plan approved by RCFPD	
28. Density on sloping hillsides: 1-4 dwelling units per gross acre on slopes less than 15%. 2 units per gross acre on slopes 15 to 29%. 1 unit per 3 gross acres on slopes 30% and over.	Plan approved by RCFPD	
29. Perimeter access to fuel modified and fire hazard areas: Provide 20' wide road with 14% or less grade along development perimeter exposed to wildland fire OR provide 12' wide access ways between development perimeter and proposed streets at intervals of not more than 350'.	Plan approved by RCFPD	
30. Cul-de-sacs shall not exceed 350' in length. May be up to 600' if serve less than 15 homes, have 40' wide road, or perimeter access road. Alternative hazard protection may be allowed.	Yes	
31. Fire Sprinklers	N/A	All structures over 200sq ft to have 13-D sprinkler system per this plan

This matrix demonstrates that the requirements set forth in this plan clearly meet and exceed the requirements for FS-3.

This type of ignition resistant construction, and additional safeguards, will meet all existing codes and standards, including the Fire Code, Overlay District requirements, ICC Urban Wildland Interface Code and NFPA 1144. This type of construction should make all structures reasonably defensible from fire and will greatly decrease the need for the Fire Department to dispatch large numbers of fire companies to protect structures, thus impacting ingress and egress. With proper fuel modification zones, and with internal fire sprinklers, occupants may be able to shelter in place rather than evacuate. The result is that road widths can be less than in urban settings or in areas where less built in protection is provided.

E. Vegetation Management (Fuel modification) Zones:

Vegetation Management (fuel modification) on individual parcels shall be determined at the time of development on that parcel. A detailed Fuel Modification Plan shall be submitted to the Fire District for review and approval prior to construction. For purposes of preliminary Fuel Modification Zone disclosure planning for private parcels at time of lot splits, and to eliminate the need for preliminary fuel modification plans to be submitted to the Fire District at time of lot splits, the following criteria is established:

The minimum size of a Vegetation Management Zone on any parcel shall be 100' in all directions from all structures. In general, Fuel Modification zones on parcels will need to be 200'. Actual zone sizes shall be determined based upon the type of vegetation, slope, and aspect. BEHAVE PLUS fire spread models shall be done to determine the potential flame lengths. Zones may need to be as large as 300' depending on the site specific risk, which includes fuel type, tonnage per acre, slope and aspect. The actual proposed prescription for the type, extent and configuration of vegetation modification necessary within the zone shall be submitted for Fire Department approval at time of construction when the location of the structure is known. Easements may be necessary in order to provide the required fuel modification zone width, if adequate space is not available on a parcel, unless alternative methods are approved.

The first 100' of any fuel modification zone around a structure is to be an irrigated wet zone. The objective of Fuel Modification is to prevent or slow down fire spread from natural, flammable, vegetation on or off a parcel, to a structure. The purpose is to also prevent ignition of vegetation close to structures, to prohibit flammable vegetation around structures, and to provide a defensible space for firefighters to attempt to protect a structure. An additional purpose is to prevent a structural fire from spreading to vegetation, and to prevent structure fires from spreading to other structures. The purpose of fuel modification zones on sides of roads and driveways is to attempt to maintain safe ingress and egress for occupants and firefighters.

In general, there should be no eucalyptus, conifers, cypress, juniper, acacia, manzanita, palm, pepper trees, olive trees, pampas grass, bottlebrush, red shank, dry grass, periwinkle (except dwarf periwinkle), camphor trees, chaparral, sage, salvia spp, artimesia, California buckwheat, chamise, in any vegetation management zone. Natural flammable vegetation must be reduced to a level acceptable to the Fire District. A single specimen of the above listed vegetation can be planted if approved by the Fire District and if properly spaced, limbed, pruned and maintained

General conceptual criteria for the size of Fuel Modification Zones, subject to site specific risk assessment and fuel modification plan at time of construction, should be as follows: (Actual needed zones may be more or less).

Type of Fuel	Est. tons per acre	Slope	Zone size
Chaparral	12+ tons/acre	All	200'
Sage scrub and grasses	6 tons acre	15%+	150'
Sage scrub and grasses	6 tons acre	<15%	100'
Grass; 3' +	3 tons acre	15%+	150'
Grass; 3'+	3 tons acre	<15%	100'
Grass/ light fuel; 2' high	Less than 3 tons acre	Any	100'
Vegetation in Power line easement	Less than 3 tons acre	Any	100'

Roadside clearances along Snowdrop/Santina, Archibald and Haven to be 30' each side; clear to the sky with no canopy. Clearances on sides of driveways to be minimum 30' and can range to 100' depending on vegetation.

Where practical, physical, difficulties prohibit providing the prescribed zone size, or 30' setbacks, then alternative methods such as walls, concrete decking, swimming pools, automatically activated fire irrigation systems, external sprinkler systems, automatic fire shutters on structures, adobe or block exterior walls on structures, increased size of vegetation management zones, and other methods may be proposed for Fire District approval. "Cost" or level of effort are not considered practical difficulties.

Power poles must have vegetation management around them, and under the wires to prevent poles from igniting and thereby shutting off the electrical power, and to prevent wires from dropping into flammable vegetation. Any new electrical service should be underground. Any new aboveground poles should be non combustible.

The Overlay District requirements specify a minimum of 100' fuel modification from structures. If structures are within 200' of slopes that are greater than 30%, and 30' high, the slope is to be a fuel modified area for entire slope, or 100', or to property line, whichever distance is less. The Fire Code requires 100' clearance from a structure, and 10' each side of the road. The ICC/ UWI code requires 100' clearance from a structure.

F. Ongoing enforcement of standards:

1. Deed encumbrances.

   As previously stated, all of the recommendations in this plan shall be recorded as deed encumbrances so that future buyers of parcels are on notice as to the requirements they must abide by on their property.

2. This plan shall be made a part of the C.C and R's for any new parcels and transfers of ownership of existing parcels or structures in Rancho Hills Estates, per the Rancho Cucamonga Fire District Fire Marshal.

Each property owner shall submit a detailed Fuel Modification Plan to the Fire District prior to construction on the parcel. The Fuel modification zone conceptual criteria set forth in this plan shall serve as the Preliminary Fuel Modification Plan and shall serve as disclosure to any current owners and potential buyers regarding the requirements for Fuel Modification Zones on each parcel. Actual Fuel Modification Plans shall be based on a site specific risk assessment. Fuel Modification Plans must consider prevention of erosion and maintenance of slope stability.

6. Annual Fuel Modification compliance:

   The Fire District shall assure compliance with the Fuel Modification requirements for all parcels and for roadside clearances on an annual basis. Parcels not in compliance may be cited. Parcels may then have Fuel Modification done by the District and the cost billed to the parcel's tax bill.

3. Summary:

The recommended standards in this plan provide reasonable fire protection and justify the proposed 26' unobstructed road width for Snow Drop road. They also provide a guideline regarding all applicable codes, standards and Fire District requirements which must be complied with. It is understood that all official requirements and approvals must come from the Fire District. It is also understood that owners may submit requests for approval of alternative methods or materials for review of the Fire District, when strict compliance with the requirements and recommendations in this plan is not feasible.

As vegetation fires can be dynamic and unpredictable, there can be no guarantees that a fire wont occur or that property wont be damaged, or that injury or death will not occur.

Submitted by Jim Hunt for Hunt Research Corporation.