Fire Protection Plan/Fuel Management Plan

For APN 124-351-51 TPM 21075

Monserate Place

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EXECUTIVE SUMMARY

The proposed project is APN 124-351-51 that will split a 10.33 acre lot into 4 parcels. The proposed lots will be used for single family residences. The project is located at the end of Monserate Hill Road on Monserate Place near the Community of Fallbrook. The project encompasses moderate to steep slope land covered with an Avocado Grove and non-native grassland. The project is located in a moderate fire severity zone and is in a Wildland Urban Interface area. The project is located within the State Responsibility Area and North County Fire Protection District. The surrounding property is rural in nature with developed land and groves. The nearest fire protection for this project is North County Fire Station No. 4 and is less than 7.11 minutes away. The project will access Monserate Place and has an excessive dead end road length of 1.3 miles. Topographical and Geographical issues do not allow a viable secondary connection. This Fire Protection Plan proposes mitigation for the excessive dead end road length. Project number TPM 21156 borders this project and has approval with an excessive dead end road length. This Fire Protection Plan is in response to a request from the North County Fire Protection District and the County of San Diego.

Chapter 1 INTRODUCTION

This Fire Protection Plan/Fuel Modification Plan (FPP) has been prepared for Monserate Place (DiMitri, Diffendale, & Kirk, LLC), with four new parcels. The purpose of the Fire Protection Plan is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment this plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions and fire history. The plan addresses water supply, access (including secondary/emergency access where applicable), structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one structure or at risk communities and essential infrastructures. The plan recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan. This plan has been developed to protect the residential structures from potential radiant heat from wildfire hazards to the maximum extent practical. This plan does not guarantee that the structures will not burn or that injury and death may occur, but greatly reduces that possibility. These are not shelter in place residences. A multitude of factors have been incorporated into the Fuel Modification Plan including wildfire history, prevailing wind patterns, existing vegetation /fuel loading, terrain and adjacent vegetation/land use.

In February 2010, the California State Board of Forestry and Fire Protection certified the current County Consolidated Fire Code and Building Code together as meeting or exceeding CCR Title 14 "SRA Fire Safe Regulations' and authorized the application of these codes in lieu of the referenced portion of Title 14 in SRA.

1.1 Project Location, Description and Environmental Setting

1.1.1Project Location

This project is located near the Community of Fallbrook and is in the North County Fire Protection District response area. The project is located at the intersection of Monserate Hill Road and Monserate Place. The Project is also located in State Response Area SRA and is in a moderate fire severity zone.

1.1.2Project Description

This project is within the North County Fire Protection District emergency response area. The project consists of approximately10.33 acres to be split into 4 parcels. The APN # is 124-351-51. The size of the new structures is undetermined at this time. The proposed use of the new parcels will be for single family residences. Parcel 1 and 2 will have a 70 foot_RBZ restricted building zone (no habitable structures allowed) on the pad at the north side. This will allow for There will be no off site improvement to the road (Monserate Place). The roads leading to the property (Monserate Place and Monserate Hill Road) are paved and in good condition. Monserate Hill Road is 25 feet to 27 feet in width and Monserate Place is 25 feet in width. Monserate Hill Road is less than 15 % of grade in all areas leading up to the project. The new unnamed Street A will be 24 feet in width and paved. The new road is 3% slope and roads and driveways will not exceed 15 % of grade. (See figure 1.1.2) The project is 1.3 miles from a point of egress in two directions which exceeds the 1,320 foot maximum allowed by the Consolidated Fire Code. Off site improvements will include fuel modification along Monserate Hill Road.

1.1.3Environmental Setting

The site was visited on November 24, 2009 by Lamont Landis

Topography
The project encompasses moderate to steep sloped hillsides, the elevations onsite range between approximately 600 to 685 feet above sea level.
Vegetation types are Avocado groves; there are some non-native grasses that will be removed. The groves will be maintained as per sec. 4707.3.2 of the San Diego County Consolidated Fire Code (November 13, 2009). Fuel loads on the property consists of non-native dry climate grasses approximately 12 inches in height; the estimated fuel load for this type of fuel will be approximately .74 tons per acre based on (RMRS-GTR-153 USDA Forest Service). The majority of the property consists of an Avocado Grove; the estimated fuel load for this type of fuel will be approximately 1.4 tons per acre for 1 hour fuels, 2.3 tons per acre for 10 hour fuels and 2.2 tons per acre for 100 hour fuels based on (RMRS-GTR-153 USDA Forest Service). Offsite vegetation consists of Avocado groves.

There is no recent fire history for the area.

Figure 1.1.2

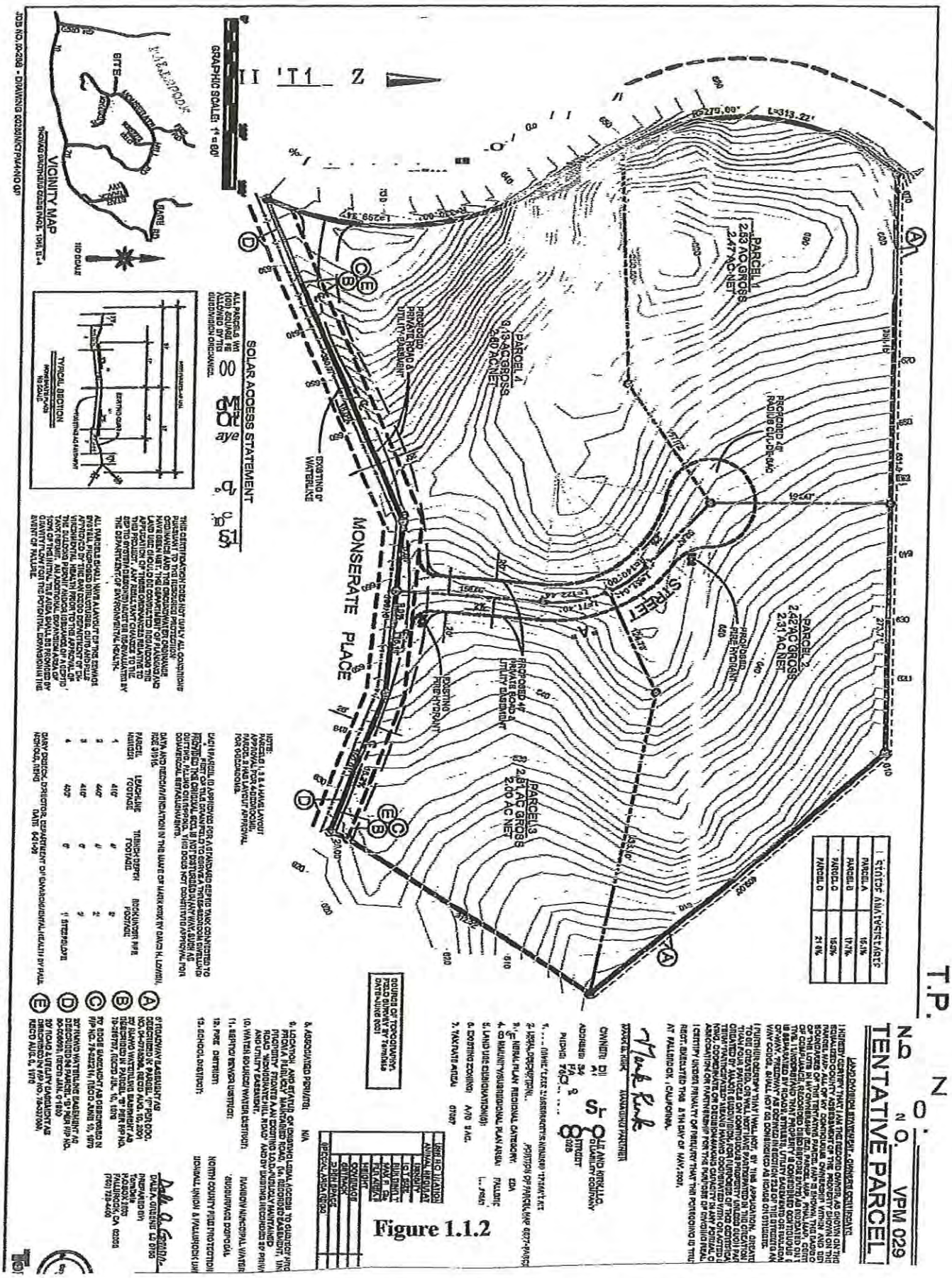

Figure 1.1.2

Figure 1.1.2

Climate

The property is located approximately 15 miles inland from the Pacific Ocean. The weather is influenced by maritime and interior air in a 24 hour period. Typical annual temperatures range from winter lows of 37 degrees to summer highs of 100 degrees.

The following scenarios are typical of the area and are to be considered worst case assumptions:

Summer

South, Southwest, Northwest and West wind condition can result in the following fuel moistures.

1-hour fuel moisture.....4%
10-hour fuel moisture.....6%
100-hour fuel moisture.....8%
Live woody fuel moisture.....80%

Fall Santa Ana back down late fire season

South, Southwest, Northwest and West wind condition can result in the following fuel moistures.

1-hour fuel moisture..... 2%
10-hour fuel moisture.....3%
100-hour fuel moisture.....5%
Live woody fuel moisture.....50%

Santa Ana Wind Condition Two to Four Times a Year.

1-hour fuel moisture 2%
10-hour fuel moisture.....3%
100- hour fuel moisture.....5%
Live woody fuel moisture.....50%

The ownership of the area is private with onsite vegetation that consists mostly of Avocado groves with light leaf litter, annual grasses and urban developed (rural in nature) (Not Modeled). The surrounding property is a mix of rural developed land; Avocado groves with light leaf litter, Diegan Coastal Sage Scrub with some Eucalyptus Trees, Willow Trees and some Fan Palms that will be removed.

Chapter 2 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent urbanized areas or where residences are intermixed with wildlands?

The project will not unnecessarily expose people or structures to the risk of loss, injury or death involving wildland fires due to the proposed 30 and 40 foot fuel modification along Monserate Hill Road, and the Avocado Groves that are adjacent to Monserate Hill Road along the egress route. None of the new structures will be adjacent to native vegetation.

The project is located next to Avocado Groves; however the new structures will be separated from the native vegetation up to 100 feet of modified fuel selected from the San Diego County Acceptable Plant List and by 50 feet from Avocado Groves. The new structures within the project will be a minimum of 70 feet from the property line and be a minimum of 46 times the flame length (1.5feet) from the Avocado Trees and the non-native grasses.

Would the project result in inadequate emergency access?

The access for the project will be on paved roads through developed lands and some Diegan Coastal Sage Scrub that will be modified to 40 feet from the edge of the road. The project will access off of Monserate Place to Monserate Hill Road to SR 76. Monserate Place to a point of egress in two directions will exceed the San Diego County threshold of 1,320 feet for parcels 1 acre to 4.99 acres, the project is approximately 1.3 miles from SR76. This project is requesting exception to the dead end road limits (see Chapter 4). The existing roads and proposed driveways will support fire apparatus for access. The project will result in adequate emergency access by modifications under Chapter 1 sec 104.8 (see Chapter 4).

Would the project result in substantial adverse physical impacts associated with new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios response times or other performance ratios, or other performance objectives for fire protection?

The project will not adversely affect the fire district by the creation of new lots.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The water supply with existing and additional fire hydrants that incorporate redundant gravity fed water mains will serve the project and meet the requirements of the North County Fire Protection District and the County of San Diego.

Chapter 3 ANTICIPATED FIRE BEHAVIORS IN THE VICINITY

The anticipated fire behavior onsite is not expected to be significant. Flames in the unmodified non-native grasses on site in the grove will be approximately 12.7 feet in height. The maintained Avocado groves are considered broad leaf type litter with the expected flame length of 1.5 feet. The offsite Diegan Coastal Sage Scrub near SR 76 is expected to be significant and will produce 47.3 foot flame length. The off site Monserate Road near SR76 will have 20 feet to be maintained by TPM 21156 plus an additional 20 feet by this project for a total of 40 feet of fuel modification on the east side of the road (The first 1,500 feet from SR 76 going on Monserate Road). The proper fuel modification along the new roads on the project site will be 30 feet except for the first 1,500 feet which is 40 feet.

Chapter 4 ANALYSIS OF PROJECT EFFECTS

The development of this area will help reduce the spread of a wildfire by reducing the fuel load, along with the existing water supply (fire hydrants for fire fighting). The clearing of the home sites will provide additional fuel breaks in the area; this will be a fuel break that will buffer and slow down a fire in the area. The new structures will be 50 feet from this down slope vegetation (Avocado groves) and mitigated by enhanced wildland urban interface construction as per Chapter 7A of the San Diego County Building Code.

The road Monserate Hill Road does not meet the dead end road however this plan does offer a modification to the code as allowed in appendix chapter 1 section 104.8 as shown in section 4.2.1. With the fuel modification along Monserate Hill Road and with fuel modification structures and the fact that the 1.5 foot flame length from a maintained grove, the project would not expose people and structures to a significant risk. This TPM will fall within the guidelines of the San Diego County General Plan for emergency response time objectives. The project with four structures will not result in a substantial impact on the NCFPD. The water supply for this proposed project will come from existing and proposed water mains from the Rainbow Municipal Water District. Domestic and fire flow systems will be designed to San Diego County DPLU and North County Fire Protection District requirements (2500 GPM @ 20 PSI residual from the system); this can be done from the existing water supplies and water mains.

4.1 Adequate Emergency Services

Initial Fire Department response is from North County Fire Station No. 4 which is located at 4375 Pala Mesa Road; this station is staffed by five firefighters. Apparatus include one type one engine, one type three engine and one medic ambulance. The station is located approximately 3.82 miles from the above property and is 7.11 minutes away by using the estimated timetable in NFPA 1142; this is within the county threshold of 10 minutes for parcels zoned 2 acres but less than 4 acres (the zoning in the area is 2 acres). North County Fire Station No. 5 is located at 31403 Old River Road and is 5.42 miles from the project; this fire station is staffed by three firefighters. Apparatus include one

type one and one type three engine. This fire station is 9.83 minutes away by the use of NFPA 1142. The first alarm response will include one Battalion Chief.

Note: The new Fire Station No. 5 will be located on the west side of Hwy. 76 on Olive Hill Road; the distance will be approximately 4.42 miles and will be less than 8.13 minutes. Miller Station Cal Fire is 6.08 miles away, and the response time is approximately 10.85 minutes by the use of NFPA 1142.

Additional Fire Department Responders
Red Mountain Station 7.91 miles away Response time approximately 14.08 minutes
Deer Springs Station 11 8.65 miles away Response time approximately 15.44 minutes

All response times are based on NFPA 1142.

The minimum staffing in the area is three per engine; this would place nine firefighters and three engines on the scene in approximately 10 minutes and five engines and sixteen firefighters in approximately 15 minutes. There are variables and the staffing could be more.

4.2 Fire Access

The proposed fire access road is designed to allow for egress for the public and fire fighting access for the Fire Department. The fuel modification on or adjacent to the road reduces the spread of the fire and is part of the overall Fuel Modification Plan. All existing roads shall have a minimum clearance of 30 feet on each side of the road and driveway. All new roads shall have 30 feet of fuel modification on each side of the road or driveway. Turnarounds shall comply with Appendix B and will have a minimum 36 foot unobstructed radius cul-de-sac. Angle of approach shall not exceed 7 Deg. The proposed onsite access road shall meet or exceed all San Diego County DPLU and North County Fire Protection District requirements. The new unnamed road will be must be named per DPLU Street Section procedures. The new to be named road will also be signed in accordance with DPW Design Standard DS-13. All driveways shall be a minimum of 16 feet in width. All access roads shall be a minimum of 24 feet in width paved on 28 feet graded and shall have a vertical clearance of 13 feet 6 inches. All roads and driveways shall be all-weather surface suitable for travel by a 75,000 lb. fire apparatus. All driveways or roads that exceed 15% of grade will be Portland Cement Concrete with a deep broom finish perpendicular to the direction of travel to enhance traction; no grade will exceed 20% of grade. The new unnamed road is a private road and will be placed into the CC&Rs; a road maintenance agreement where all lots will be required to participate. This agreement shall be conveyed with the land and cannot be dissolved and that such funding is guaranteed in perpetuity.

4.2.1 Second Access:

The following are special individual reasons that make the strict letter of the Fire Code impractical.

Monserate Hill Road is approximately 1.3 miles in total length and ends in a cul-de-sac. A second access has been explored and it has been determined that it would not be feasible. Not only would it exceed the maximum grade, it would have to be a switch back with extreme turns that would exceed the county standards. This access road would impact five existing residential lots and it would be difficult to obtain easements. Monserate Hill Road currently serves twenty-three (existing homes) plus approximately 20 large residential home sites that would egress on Monserate Hill Road. Being that a second access is not practicable this plan is proposing that the following modifications be applied in accordance with San Diego County Consolidated Fire Code Chapter 1 Section 104.8.

The following is a discussion of items that would support the health fire and life safety. but does not lesson the health, life and fire safety requirements. The following modifications are in compliance with the intent and purpose of the code.

Access for emergency wildland firefighting equipment.

The current road width is 25 feet which will allow firefighting operations as well as egress for residents.

The road and related drainage structures, signs, markers, striping if any and other work reasonably necessary to repair and preserve the easement for all weather road purposes will insured in perpetuity through a **private Road Maintenance Agreement.** Developers agree to include in there CC&R's a provision that requires each lot owner that is a part of TPM 21075 be required to pay his/her pro-rata share of the maintenance of this easement in perpetuity once this Road Maintenance Agreement has been established with the rest of the land owners on Monserate Hill Road.

The plan proposes a road maintenance agreement for the removal of roadside vegetation 20 feet beyond the 20 feet required by TPM 21156 on the lower section of Monserate Hill Road, for a total width of 40 ft for a distance of approximately 1,500 feet from SR 76 to the north. (As per the NCFPD)

Safe civilian evacuation.

Monserate Hill Road currently meets the minimum width (actual width is 25 to 27 feet) for a fire access road. Monserate Hill Road does exceed the maximum dead end length 1,320 feet however it is anticipated, based on the fire consultants training and expertise that the maintained groves and roadside vegetation maintenance will allow for safe egress. (A consensus is that properly maintained avocado groves will produce an 18 inch flame length based on BehavePlus 4.0). The risk of travel on this road is low because of low flame production and the additional clearing at the south end of Monserate Hill Road as described above.

Signing that avoids delays in emergency equipment response.

Monserate Hill Road has a street sign that complies with DS-13 of the County Code.

Monserate Hill Road will be marked "No Parking Fire Lane" to ensure the full use of the road.

There will be a sign as you enter onto Monserate Road that states "The Road Dead Ends" and that you should evacuate immediately at the earliest sign of a fire (as per North County Fire Protection District).

Available and accessible water to effectively attack wildfire or defend a structure from wildfire.

The area is serviced by the Rainbow Municipal Water District; existing fire hydrants are available.2500 GPM @ 20 psi residual

New fire hydrants (two) will be installed to serve the new structures. The water system is a redundant gravity fed system fed from more than one location.

E. Fuel modification sufficient for civilian and firefighter safety.

This plan proposes a 50 foot zone around the structure to be cleared of all native vegetation and groves, and be re-vegetated with plants off of the acceptable plant list from the County of San Diego (see Appendix "A"), and will comply with the following landscaping conditions required by the North County Fire Protection District.

1. The proposed structures will be required to meet North County Fire Protection Districts (NCFPD) set back from slope code and the landscape plans will have to be submitted to NCFPD prior to the framing of each residence. There will be additional requirements ~~will be a~~ on all non-fire resistive trees; including conifers, pepper trees eucalyptus trees and Acacia species shall be prohibited from being planted. All fire resistive tree species shall be planted and maintained at a minimum of 30 feet from the tree's drip line to any combustible structure. B. Limit planting of large unbroken masses especially trees and large shrubs. Groups should be two to three trees maximum, with mature foliage of any group separated horizontally by at least 10 feet, if planted on less than 20 percent slope and 20 feet if planted on greater than 20 percent slope. C. If shrubs are located underneath a trees drip line, the lowest branch should be at least 3 times as high as the understory shrubs or 10 feet, whichever is greater.

2. The remainder of the site to be maintained as per Section 4707 of the San Diego County Consolidated Fire Code to the property line or as per Zone 2 of this plan.

3. This project along with TPM 21156 will pay the NCFPD to annually inspect each property for compliance with all requirements of the Fire Protection Plan. This fee will be

included in the recorded CC&R's to fund this annual inspection and the CC&R's will contain language that this yearly fee will transfer with the land, that it cannot be dissolved and that such funding will be guaranteed in perpetuity.

4.3 Water
4.3.1 Public Water

The water supply for this proposed project will come from existing and proposed water mains from the Rainbow Municipal Water District. Domestic and fire flow systems will be designed to San Diego County and North County Fire Protection District requirements (2500 GPM @ 20 PSI residual from the system) for placement see attached see Appendix E. There will be two additional fire hydrants, see attached map.

4.4 Ignition Resistant Construction and Fire Protection Systems

All new structures shall be equipped with the following interface features:

1. All structures will comply with the wildland area structural requirements of the County Building Code Chapter 7A in affect at the time of a building permit application.
2. Auxiliary structures: Pavilions, Trellises, Arbors, Pergolas, Cabanas, Palapas and playground equipment shall be evaluated for a fire event and if the structure is more than 50% covered a class "A" non-combustible roof shall be required. The structures shall be a minimum of 30 feet from other combustible structures. All structures shall be a minimum of 30 feet from the property line.
3. Any auxiliary structure will also comply with the 50 foot Zone 1 requirements.
4. All exterior vents shall be an ember resistant type approved by the North County Fire Protection District.
5. All Exterior rain gutters will be provided with a means to reduce the accumulation of leaf litter and debris that contributes to roof edge ignition.
6. All residential structures shall be equipped with residential fire sprinklers including garages.

4.5 Fire Fuel Assessment

The site has the potential to experience a vegetation fire; this is based on the type of vegetation and its continuous nature, Santa Ana winds, high temperatures, low humidity and drought conditions. On site vegetation in all directions of the property is covered with Avocado Trees with light leaf litter which shall be maintained as per County Fire Code section 4707.3.2. The south section of Monserate Hill Road near the intersection of SR76 has vegetation that most resembles Diegan Coastal Sage Scrub to the east of the road with a 50 foot wide Fuel Modification Zone (as per NCFPD). The off site adjoining vegetation is Avocado groves with light leaf litter that will produce low flame length

approximately 18 inches when groves are maintained as per the San Diego County Fire Code.

4.6 Fire Behavior Modeling

BehavePlus Wildfire Modeling

The BehavePlus Fire Modeling System (Version 4.0.0) developed by the U.S. Forest Service Rocky Mountain Research Station is the generally accepted software for modeling large-scale wildfire behavior and characteristics. The BehavePlus System was designed to evaluate a variety of wildfire variables for large wildland fires including surface fire spread, safety zones, fire containment, spotting distance crown scorch and probability of ignition; two aspects of this program (surface fire spread and safety zone) have been utilized to assist in determining acceptable fuel modification requirements. The BehavePlus Program coupled with onsite and surrounding area vegetation, access, slope and weather conditions are the basis for the following.

The BehavePlus Fire System has been run for the following worst case scenarios:

60 MPH wind, 100-degree ambient air temperature, 2 % dead fuel moisture and 35% max slope. The model was run for three fuel model scenarios as the project contains varying types of fuels.

It should be noted that the BehavePlus Model does not and cannot include all variables associated with a specific site and regime, and adjacent mixed land uses can influence the results.

The BehavePlus Model run results are summarized in Table 1.

Table 1

BehavePlus Fire Model

Fuel Model 1 [Short Grass (s)] (within the groves)

Wind Speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	24.0 mph	665.6 Ch/h	1415 Btu/ft/s	12.7 ft.
	Up-slope spotting distance= 1.1 miles			

Fuel Model tl2 [low load broad leaf litter] (S) (182) (Leaves from the Avocado Trees)

Wind Speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	30.0 mph	4.7 Ch/h	16 Btu/ft/s	1.6 ft

Up-slope spotting distance= 0.1 miles

Fuel Model SCAL18 Buckwheat/Sage (Located at the entrance to Monserate Road)

Wind Speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	30.0 mph	312.3 Ch/h	24871 Btu/ft/s	47.3 ft

Up-slope spotting distance= 2.9 miles

The Behave Plus coupled with the expected offshore Santa Ana wind direction, anticipated down slope fire line aspect, and relatively low fuel vegetation within the urban wildland interface areas, and existing fuel modified areas serves as a basis for formulation of the recommended Fuel Modification Zone locations.

4.7 Defensible Space and Vegetation Management

The site and surrounding areas are covered with Avocado groves and non-native grasses. The flame length of non-native grasses is 12.7 feet. The flame length for broad leaf litter is 1.5 feet.

Fuel Management Zones:

Parcels All

As proposed the residential structure from the structure to a point 50 feet in all directions shall be maintained as Zone 1 and from a point 50 feet from the structure to the property line shall be maintained as Zone 2. Zones 1 and 2 shall be clearly and permanently marked for annual maintenance. All distances are on a horizontal plane regardless of the slope. The vegetation onsite is an Avocado Grove that will produce 1.5 foot flames in a maintained condition. The vegetation off site is also an Avocado Grove that will produce 1.5 foot flames. The 1.5 foot flame length is equal to a distance of thirty-three times the flame length from the first 50 feet to the structure.

Parcels 1 and 2 The Fuel Modification Zone 1 on the west side shall go from pad or structure out 50 feet. Zone 2 shall extend to the property line. The west side of Parcel 1 Zone 2 will include the 25 ft. Monserate Hill Road and the 40 feet of clearing on the northern property. This is 10 times the expected flame length of the non-native grasses.

Parcel 3 The first 50 feet of the Fuel Modification Zone 1 will be onsite; however Zone 2 will include the paved road and required roadside clearing on the south side of the parcels. This will total 100 feet or more or 9 times the flame length. Zone 2 on Parcel 3 will extend to the property line to the east making the entire parcel fuel modified. Parcel 4 Zone 2 will be extended to the property line to the west making the entire parcel fuel modified.

Note: It should be remembered the Fuel Modification Zones are currently marked from the edge of the pad. When a structure is being placed on the pad that distance for each zone will be taken from the structure moving Zone 1 and 2 farther onto the lot.

Note: All Fuel Modification Zones must be delineated with permanent markers until such times as they are no longer needed as determined by the North County Fire Marshal and the San Diego County DPLU Fire Marshal. The most reliable markers are metal fence posts with a baked on painted finish (Day Glow Orange on the top half).
+

If the groves are abandoned the grove shall be removed to the satisfaction of NCFPD and the County Fire Marshal with the approval of a new map or FPP.

Fuel Management Zone 1:

Zone 1 is the first 50 feet or as otherwise indicated. This is an area where native vegetation has been removed, irrigated and planted with drought-tolerant and fire resistant plant material. Plant selection shall be from Appendix A (The San Diego County Acceptable Plant List).

The purpose of Zone 1 (set back zone) is to provide a defensible space for fire suppression forces to protect structures from radiant heat. The following shall be part of fuel management of this zone:

1. No combustible construction, groves, firewood, propane tanks, fuel or combustible native or ornamental vegetation shall be allowed within the 50 foot set back Zone 1 or within 30 feet of the edge of slopes.
2. Mature trees (>18') to be limbed up or canopied 6' to 8' from ground level.
3. No tree limbs within 10' of chimney outlets or dead limbs overhanging structures.
4. Spacing between mature tree canopies must be as follows:
    A. Slopes 0-20 % ----10 feet.
    B. Slopes 21-40 % ----20 feet.
    C. Slopes > 41 % ----30 feet.

The minimum horizontal space between the edges of shrubs
A. Slopes 0-20%----2 times the height of the shrub.
B. Slopes 21-40%----4 times the height of the shrub.
C. Slopes > 40%----6 times the height of the shrub.

The minimum vertical space between the top of the shrub and the bottom of the lower tree braches is three times the height of the shrub.

(Gilmer, M. 1994 California Wildfire Landscaping, adapted by the State Board of Forestry and Fire Protection on February 8, 2006.)

Fuel Management Zone 2

This Fuel Management Zone will be the area between 50 feet to the property line from the structure. (The current vegetation is Avocado groves). The landscape plans shall include methods of erosion control to protect against slope failure. The following shall apply to Zone 2:

1. If the groves are removed and allowed to return to their native state 50% of the native combustible vegetation including all dead and dying shall be removed. This area must be modified so combustible vegetation does not occupy more than 50% of the total square footage. All vegetation in this zone shall be maintained to a height of no more than 18 inches. Trees may remain provided that the horizontal distance between crowns of the adjacent trees is not less than 10 feet.
2. Orchards, groves and vineyards shall be maintained as per sec. 4707.3.2 of the San Diego County Fire Code adopted November 13, 2009.
3. If planted fire resistive plant materials are also required in Zone 2 to control soil erosion and/or to reduce vegetation mass near the wildland interface.
4. Plant spacing will be the same as noted for Zone 1.
5. All plants used in Zone 1 and 2 shall comply with the San Diego County Acceptable Plant List, Appendix A.

Landscape Requirements/Restrictions

The landscaping within the Fuel Modification Zones must be approved by the North County Fire Protection District and shall include low fuel drought tolerant type vegetation from the list adopted by the County of San Diego (see Appendix A).

Fuel Modification Zone Maintenance Requirements

Fuel Modification Zones must be maintained in a manner that will fulfill the intent of the Fuel Modification Plan and meet the requirements of the North County Fire Protection District. Maintenance will include initial planting, weeding, irrigation installation, maintenance and plant pruning; the removal of dead and down vegetation and the replacement of plants as required.

The following will also apply to this project:

1. Each lot owner is personally responsible for all irrigation and landscaping of the Fuel Treatment Zones within their property boundaries.
2. The North County Fire Protection District will hold each lot owner accountable for enforcement of all wildland fire protection issues discussed in this plan.
3. Each lot owner shall not allow trash dumping or disposal of any yard trimmings in the Fuel Treatment Zones.
4. The North County Fire Protection District or its designated representative shall decide any disputes related to individual lot landscaping or fuel treatment, with

respect to interpretation of the Fire Protection Plan. Decisions shall be final and binding on the lot owner.

5. Should modifications to the Tentative Map Plans occur, any and/or all of the Fire Protection Plan may be revised at the discretion of the North County Fire Protection District and the County Fire Marshal. All exterior boundaries of Zones 1 and 2 shall be permanently marked on the ground for purposes of guiding annual fuel management maintenance and inspection operations. The most reliable markers are steel fence posts with a baked on painted finish; the upper half of the above ground portion of the fence post is then painted a bright "day glow" orange to improve visibility. These Fuel Treatment Zone markers must be spaced so that the markers on each side of an installed marker can be seen from that marker.
6. The fuel modification in this plan will be incorporated into the CC & R's for the four parcels in this map.

4.8 Cumulative Impact Analysis

This and other projects may have a cumulative impact on the ability to protect residences from wildfires. Over time with this project and other development in the area will cause the population in rural areas to increase, which may increase the chances of a wildfire and increase the number of people and structures exposed to the risk of loss, injury or death; however this area is mostly agriculture and will more likely than not remain agriculture. The agriculture and the fuel modification along the road should lessen the impact to less than significant.

Property taxes and other currently applicable fees generated by the project may not adequately fund fire services. This project will be committed to participate in fair-share funding mechanism such as CFD or Mello Roos if proposed by NCFPD

Chapter 5 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The fuel modification will reduce the threat to the structures from the vegetation onsite. The structures will be designed with enhanced fire resistive construction as per the County Building Code Chapter 7A. The driveway and access roads will have 30 feet of clearing (fuel modification) on both sides. The structures will have 100 feet of fuel modification including the offsite maintained groves, and the North County Fire Protection District requires that the trees in the first 50 feet must be removed. The existing and new fire hydrants, along with on site road improvements that will allow for fire fighting access. The following mitigation will be completed:

- Additional fuel modification will take place through a maintenance agreement along Monserate Hill Road; this will be an additional 20 feet beyond the 20 feet that is taken care of (by TPM 21156) as per NCFPD part of the condition of that map for the first 1,500 feet on Monserate Hill Road to the north of SR76 in cooperation with the property owners. The remainder of Monserate Hill Road shall have 30 feet of fuel modification on both sides of the road, however it shall

not be expected that this fuel modification go beyond private fences even if they are in the road easement.

- This plan and the owners (Dimitri, Diffendale & Kirk LLC) further agree to remove all of the Fan Palms at the bottom of parcel APN 124-351-54 in the event that this project proceeds with obtaining a building permit prior to TPM 21156 obtaining there building permits. DDK further agrees to remove additional Fan Palms along Monserate Hill Road with the exception of Fan Palms being removed by TPM 21156. In the event TPM 21075 proceeds with building permits prior to TPM 21156. DDK LLC or new owners will notify NCFPD of any property that refuses permission to remove said palms. A permission letter is included (Appendix I). This project further agrees to pay for 40 feet of fuel modification along the north side of Moserate Hill Road in the dead and down grove at 3510 Moserate Hill Road, for the life safety during evacuation in the event of a fire. This does not release the property owner at 3510 Monserate Hill Road from responsibility to modify the fuel or liability in the event of injuries. Any planting of vegetation in this area will be from the San Diego County Plant List (Appendix A). The project will agree to install CC&R's on the four lot subdivision that will force the future homeowners to an annual fee to cover the costs of a yearly fire inspection by NCFDP and to pay for the fire mitigation maintenance issues. The overwhelming majority of the Fan Palms, aside from the Karp tentative map, are located on the parcel addressed in the permission letter from DiMitri, Diffendale & Kirk, LLC. The NCFPD Fire Marshal Sid Morel has authorized his assistant to work with DiMitri, Diffendale and Kirk LLC in obtaining as many permissions as is possible when the time comes for Fan Palm removal.
- As per NCFPD a sign stating that Moserate Hill Road is a dead end road 1.3 miles ahead and that evacuation is recommended at the earliest sign of a fire or 911 reverse messaging; this will remain in place until the North County Fire Protection District Fire Marshal and the DPLU Fire Marshal decides that it is no longer needed.
- All of the items mentioned in mitigation including the cost to NCFPD for an inspection shall be incorporated in the CC & R's for this project. This fee will be included in the recorded CC&R's to fund this annual inspection and the CC&R's will contain language that this yearly fee will transfer with the land, that it cannot be dissolved and that such funding will be guaranteed in perpetuity.

- NCFPD is willing to assist Dimitri, Diffendale and Kirk LLC to gain the legal permission to complete offsite fuel modification. (See Appendix H)

All of the items mentioned will improve the safety of all residences in the area in the event of a wild fire.

Chapter 6 CONCLUSIONS

The development of this area will reduce the spread of a wildfire by reducing the fuel load and the addition of water supply (additional hydrants for fire fighting @ 2500

gallons per minute at 20 psi residual); improving of roads in the project and the clearing of home sites will provide additional fuel breaks in the area. There will be an additional 20 feet of fuel modification along Monserate Hill Road to allow safe egress from the area with a total of 40 feet of fuel modification. A two tiered Fuel Modification Zone system is proposed for the structures to create an adequate fire safety buffer along the proposed development areas and the access roads, which would be defensible space in case of a wildfire. The Fuel Modification Zone recommendations are based upon a combination of BehavePlus modeling data, onsite vegetation, access, surrounding area fuel conditions, slope and worst-case weather conditions. The Fuel Modification Zones have been designed to meet the requirements of the North County Fire Protection District and San Diego County DPLU. The proposed mitigation will reduce the significance to a "less than significant" status in accordance with guidelines.

Chapter 7 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Sid Morel - Division Chief /Fire Marshal North County Fire Protection District.
Lamont Landis Principal Author (is on the San Diego County List of Approved Consultants)

Chapter 8 REFERENCES

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11. Aids for Determining Fuel Models for Estimating Fire Behavior. By Hal E Anderson USDA Forest Service General Technical Report INT-122
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13. Structure Ignition Assessment Model (SIAM) Jack D. Cohen USDA Forest Service Gen. Tech. Report PSW-GTR-158. 1995

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Appendix A

San Diego County

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Acceptable Plants for a Defensible Space In Fire Prone Areas Number of pages 7

SUGGESTED PLANT LIST FOR A DEFENSIBLE SPACE

BOTANICAL NAME	COMMON NAME	Climate Zone
TREES		
Acer		
platanoides	Norway Maple	M
rubrum	Red Maple	M
saccharinum	Silver Maple	M
saccarum	Sugar Maple	M
macrophyllum	Big Leaf Maple	C/ (R)
Alnus rhombifolia	White Alder	C/I/M (R)
Arbutus		
unedo	Strawberry Tree	All zones
Archontophoenix		
cunninghamiana	King Palm	C
Arctostaphylos spp.**	Manzanita	C/I/D
Brahea		
armata	Blue Hesper Palm	C/D
edulis	Guadalupe Palm	C/D
Ceratonia siliqua	Carob	C/I/D
Cerdidium floridum	Blue Palo Verde	D
Cercis occidentalis**	Western Redbud	C/I/M
Cornus		
nuttallii	Mountain Dogwood	I/M
stolonifera	Redtwig Dogwood	I/M
Eriobotrya		C/I/D
japonica	Loquat	C
Erythrina caffra	Kaffirboom Coral Tree	I/M
Gingko biloba "Fairmount"	Fairmount Maidenhair Tree	I/D/M
Gleditisia triacanthos	Honey Locust	
Juglans		I
californica	California Walnut	C/I
hindsii	California Black Walnut	I/D/M
Lagerstroemia indica	Crape Myrtle	I
Ligustrum lucidum	Glossy Privet	C/I/M
Liquidambar styraciflua	Sweet Gum	I
Liriodendron tulipifera	Tulip Tree	
Lyonothamnus floribundus		C
ssp. Asplenifolius	Fernleaf Catalina Ironwood	C/I/D
Melaleuca spp.	Melaleuca	C/I
Parkinsonia aculeate	Mexican Palo Verde	
Pistacia	Chinese Pistache	
chinensis	Pistachio Nut	C/I/D

vera	Pistachio Nut	I
Pittosporum		
phillyraeoides	Willow Pittosporum	C/I/D
viridiflorum	Cape Pittosporum	C/I
Platanus		
acerifolia	London Plane Tree	All zones
racemosa**	California Sycamore	C/I/M
Populus		
alba	White Poplar	D/M
fremontii**	Western Cottonwood	I
trichocarpa	Black Cottonwood	I/M
Prunus		
xblireiana	Flowering Plum	M
caroliniana	Carolina Laurel Cherry	C
ilicifolia**	Hollyleaf Cherry	C
lyonii**	Catalina Cherry	C
serrulata 'Kwanzan'	Flowering Cherry	M
yedoensis 'Akebono'	Akebono Flowering Cherry	M
Quercus		
agrifolia**	Coast Live Oak	C/I
engelmannii	Engelmann Oak	I
** suber	Cork Oak	C/I/D
Rhus		
lancea**	African Sumac	C/I/D
Salix spp.**	Willow	All zones (R)
Tristania conferta	Brisbane Box	C/I
Ulmus		
parvifolia	Chinese Elm	I/D
pumila	Siberian Elm	C/M
Umbellularia californica**	California Bay Laurel	C/I

SHRUBS

Agave	Century Plant	D
americana	Century Plant	D
deserti	Shawis Century Plant	D
shawi**		
Amorpha fruticosa**	False Indigobush	I
Arbutus		
menziesii**	Madrone	C/I
Arctostaphylos spp.**	Manzanita	C/I/D
Atriplex**		
canescens	Hoary Saltbush	I
lentiformis	Quail Saltbush	D
Baccharis**		
glutinosa	Mule Fat	C/I
pilularis	Coyote Bush	C/I/D
Carissa grandiflora	Natal Plum	C/I
Ceanothus spp.**	California Lilac	C/I/M
Cistus spp.	Rockrose	C/I/D
Cneoridium dumosum**	Bushrue	C
Comarostaphylis**		
diversifolia	Summer Holly	C
Convolvulus cneorum	Bush Morning Glory	C/I/M
Dalea		
orcuttii	Orcutt's Delea	D
spinosa**	Smoke Tree	I/D
Elaeagnus		
pungens	Silverberry	C/I/M
Encelia**		
californica	Coast Sunflower	C/I
farinose	White Brittlebush	D/I
Eriobotrya		
deflexa	Bronze Loquat	C/I
Eriophyllum		
confertiflorum**	Golden Yarrow	C/I
staechadifolium	Lizard Tail	C
Escallonia spp.	Escallonia	C/I
Feijoa sellowiana	Pineapple Guava	C/I/D
Fouqueria splendens	Ocotillo	D
Fremontodendron**		
californicum	Flannelbush	I/M
mexicanum	Southern Flannelbush	I
Galvezia		
juncea	Baja Bush-Snapdragon	C
speciosa	Island Bush-Snapdragon	C
Garrya		
elliptica	Coast Silktassel	C/I
flavescens**	Ashy Silktassel	I/M

Heteromeles arbutifolia**	Ashy Silktassel	I/M
Lantana spp.	Toyon	C/I/M
Lotus scoparius	Lantana	C/I/D
Mahonia spp.	Deerweed	C/I
	Barberry	C/I/M
Malacothamnus		
clementinus		
	San Clemente Island Bush Mallow	C
fasciculatus**		
	Mesa Bushmallow	C/I
Melaleuca spp.		
Mimulus spp.**	Melaleuca	C/I/D
Nolina	Monkeyflower	C/I (R)
parryi		
parryi ssp. wolfii	Parry's Nolina	I
Photinia spp.	Wolf's Bear Grass	D
Pittosporum	Photinia	All Zones
crassifolium		
rhombifolium		CI/I
tobira 'Wheeleri'	Queensland Pittosporum	C/I
undulatum	Wheeler's Dwarf	C/I/D
viridiflorum	Victorian Box	C/I
Plumbago auriculata	Cape Pittosporum	C/I
Prunus	Cape Plumbago	C/I/D
caroliniana		
ilicifolia**	Carolina Laurel Cherry	C
lyonii**	Hollyleaf Cherry	C
Puncia granatum	Catalina Cherry	C
Pyracantha spp.	Pomegranate	C/I/D
Quercus	Firethorn	All Zones
dumosa**		
Rhamus	Scrub Oak	C/I
alaternus		
californica**	Italian Blackthorn	C/I
Rhaphiolepis spp.	Coffeeberry	C/I/M
Rhus	Rhaphiolepis	C/I/D
integrifolia**		
laurina	Lemonade Berry	C/I
lentii	Laurel Sumac	C/I
ovata**	Pink-Flowering Sumac	C/D
trilobata**	Sugarbush	I/M
Ribes	squawbush	I
viburnifolium		
speciosum**	Evergreen Currant	C/I
Romneya coulteri	Fuschia-Flowering Gooseberry	C/I/D
Rosa	Matilija Poppy	I
californica**		
minutifolia		

Salvia spp.**	California Wild Rose	C/I
Sambucus spp.**	Baja California Wild Rose	C/I
Symphoricarpos mollis**	Sage	All Zones
Syringa vulgaris	Elderberry	C/I/M
Tecomaria capensis	Creeping Snowberry	C/I
Teucrium fruticans	Lilac	M
Toxicodendron**	Cape Honeysuckle	C/I/D
diversilobum	Bush Germander	C/I
Verbena		
lilacina	Poison Oak	I/M
Xylosma congestum		
Yucca**	Lilac Verbena	C
schidigera	Shiny Xylosma	C/I
whipplei		
	Mojave Yucca	D
	Foothill Yucca	I

GROUNDCOVERS

Achillea**	Yarrow	All Zones
Aptenia cordifolia	Apteria	C
Arctostaphylos spp.**	Manzanita	C/I/D
Baccharis**		
pilularis	Coyote Bush	C/I/D
Ceanothus spp.**	California Lilac	C/I/M
Cerastium tomentosum	Snow-in-Summer	All Zones
Coprosma kirkii	Creeping Coprosma	C/I/D
Cotoneaster spp.	Redberry	All Zones
Drosanthemum hispidum	Rosea Ice Plant	C/I
Dudleya		
brittonii	Brittonis Chalk Dudleya	C
pulverulenta**	Chalk Dudleya	C/I
virens	Island Live Fore-ever	C
Eschscholzia californica**	California Poppy	All Zones
Euonymus fortunei		
'Carrierei'	Glossy Winter Creeper	M
'Coloratus'	Purple-Leaf Winter Creeper	M
Ferocactus viridescens**	Coast Barrel Cactus	C
Gaillardia grandiflora	Blanket Flower	All Zones
Gazania spp.	Gazania	C/I
Helianthemum spp.**	Sunrose	All Zones
Lantana spp.	Lantana	C/I/D
Lasthenia		
californica**	Common Goldfields	I
glabrata	Coastal Goldfields	C
Lupinus spp.**	Lupine	C/I/M
Myoporum spp.	Myoporum	C/I
Pyracantha spp.	Firethorn	All zones
Rosmarinus officinalis	Rosemary	C/I/D
Santolina		
chamaecyparissus	Lavender Cotton	All Zones
virens	Santolina	All Zones
Trifolium frageriferum	O'Connor's Legume	C/I
Verbena		
rigida	Verbena	All Zones
Viguiera laciniata**	San Diego Sunflower	C/I
Vinca		
minor	Dwarf Periwinkle	M

VINES

Antigonon leptopus	San Miguel Coral Vine	C/I
Distictis buccinatoria	Blood-Red Trumpet Vine	C/I/D
Keckiella cordifolia**	Heart-Leaved Penstemon	C/I
Lonicera		
japonica 'Halliana'	Hall's Honeysuckle	All Zones
subspicata**	Chaparral Honeysuckle	C/I
Solanum		
jasminoides	Potato Vine	C/I/D

PERENNIALS

Coreopsis		
gigantean	Giant Coreopsis	C
grandiflora	Coreopsis	All Zones
maritime	Sea Dahlia	C
verticillata	Coreopsis	C/I
Heuchera maxima	Island Coral Bells	C/I
Iris douglasiana**	Douglas Iris	C/M
Iva hayesiana**	Poverty Weed	C/I
Kniphofia uvaria	Red-Hot Poker	C/M
Lavandula spp.	Lavender	All Zones
Limonium californicum		
var. mexicanum	Coastal Statice	C
perezii	Sea Lavender	C/I
Oenothera spp.	Primrose	C/I/M
Penstemon spp.**	Penstemon	C/I/D
Satureja douglasii	Yerba Buena	C/I
Sisyrinchium		
bellum	Blue-Eyed Grass	C/I
californicum	Golden-Eyed Grass	C
Solanum		
xantii	Purple Nightshade	C/I
Zauschneria**		
californica	California Fuschia	C/I
cana	Hoary California Fuschia	C/I
'Catalina'	Catalina Fuschia	C/I

ANNUALS

Lupinus spp.**	Lupine	C/I/M

INVASIVE PLANT LIST

The following species are considered invasive (i.e., those capable of reproducing and spreading into native, non-irrigated areas and displacing those communities). Non-native plant species are prohibited in all areas adjacent to open space lands. Noxious weeds that have been introduced to San Diego County over the years tend to be more widespread and therefore more difficult to contain. The plants listed below have been identified as invasive and/or as noxious weeds and should not be planted or allowed to sprout in any transitional landscapes (landscapes planted with non-native species next to undeveloped areas).

BOTANICAL NAME	COMMON NAME
Ailanthus altissima	Tree of Heaven
*Anthemis cotula****	Mayweed, Stinking Chamolile
Arctotheca calendola	Cape Weed
Arundo donax	Giant Cane
Atriplex semibaccata	Australian Saltbush
*Brassica species****	Mustard
*Cardaria draba****	Hoary Cress, Perennial Peppergrass
Carpobrotus edulis	Ice Plant
Centaurea solstitialis	Yellow Starthistle
*Cirsium vulgare****	Wild Artichoke
Conium maculatum	Poison Hemlock
*Conyza Canadensis****	Horseweed
Cortaderia selloana	Pampas Grass
Cotoneaster lacteus	Cotoneaster
Cupressus macrocarpa	Monterey Cypress
*Cynara cardunculus****	Artichoke Thistle
Cytisus species	Scotch Broom, French Broom, etc
Elaeagnus angustifolia	Russian Olive
Eucalyptus globulus	Eucalyptus Blue Gum
*Gensita species****	Broom
Hedera helix	English Ivy
Hypericum perforatum	St. John's Wort
Ilex aquifolium	English Holly
*Lactuca serriola****	Prickly Lettuce
Lepidium latifolium	Perennial Pepperweed
Myoporum parvifolium	Trailing Myoporum
Nerium oleander	Oleander
Nicotiana species	Tree Tobacco
Olea europaea	Olive
Pennisetum setaceum	Fountain Grass
Ricinus communis	Castor Bean
Robinia pseudoacacia	Black Locust
*Salsola australis****	Russian Thistle, Tumbleweed
Schinus molle	California Pepper
Schinus terebinthifolius	Brazilian Pepper
*Silybum marianum****	Milk Thistle
Spartium junceum	Spanish Broom

Tamarix species	Tamarisk
*Ulex europea****	Gorse
Vinca major	Periwinkle

*** Introduced Weeds to San Diego County

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California Exotic Pest Plant Council. October, 1999. Exotic Pest Plants of Greatest Ecological Concern in California. Most Invasive Wildland Pest Plants. www.caleppc.org/info/99lista.html.

UNDESIRABLE PLANT LIST

The following species are highly flammable and should be avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding), may remain as long as the potential for spreading a fire has been reduced or eliminated.

BOTANICAL NAME	COMMON NAME
Abies species	Fir Trees
Acacia species	Acacia (trees, shrubs, groundcovers)
*Adenostoma sparsifolium***	Red Shanks
*Adenostoma fasciculatum***	Chamise
Agonis juniperina	Juniper Myrtle
Araucaria species	Monkey Puzzle, Norfolk Island Pine
*Artemesia californica***	California Sagebrush
Bambusa species	Bamboo
Cedrus species	Cedar
Chamaecyparis species	False Cypress
Coprosma pumila	Prostrate Coprosma
Cryptomeria japonica	Japanese Cryptomeria
Cupressocyparis leylandii	Leylandii Cypress
*Cupressus forbesii***	Tecate Cypress
Cupressus glabra	Arizona Cypress
Cupressus sempervirens	Italian Cypress
Dodonea viscosa	Hopseed Bush
*Eriogonum fasciculatum***	Common Buckwheat
Eucalyptus species	Eucalyptus
*Heterotheca grandiflora***	Telegraph Plant
Juniperus species	Junipers
Larix species	Larch
Lonicera japonica	Japanese Honeysuckle
Miscanthus species	Eulalia Grass
*Muehlenbergia species***	Deer Grass
Palmae species	Palms
Picea species	Spruce Trees
*Pickeringia Montana***	Chaparral Pea
Pinus species	Pines
Podocarpus species	Fern Pine
Pseudotsuga menziesii	Douglas Fir
Rosmarinus species	Rosemary
*Salvia mellifera***	Black Sage
Taxodium species	Cypress
Taxus species	Yew
Thuja species	Arborvitae
Tsuga species	Hemlock
*Urtica urens***	Burning Nettle

** San Diego County native species

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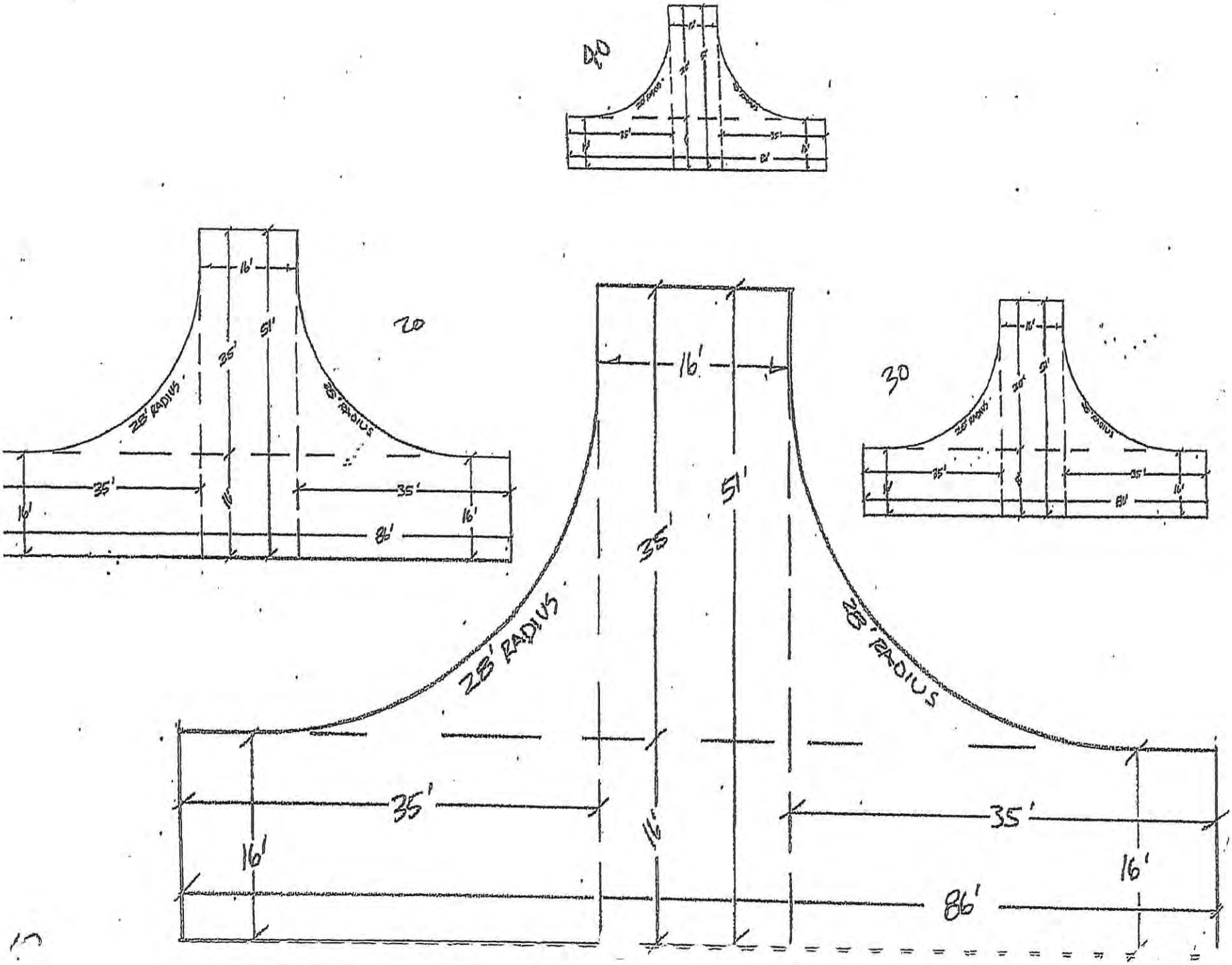
Appendix B

Fire Apparatus Turnaround Configurations

Number of pages 2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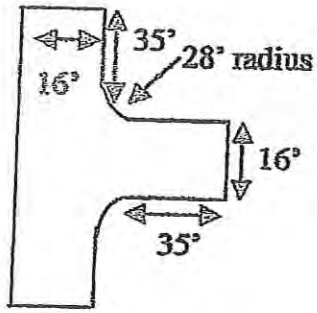

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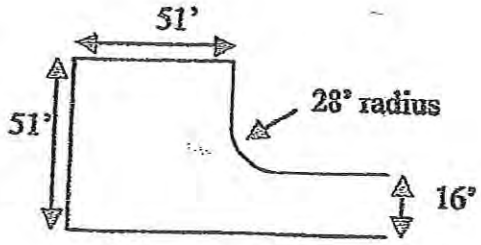

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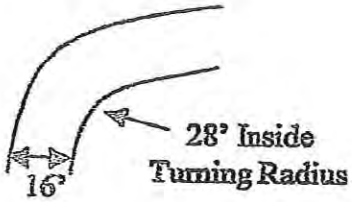
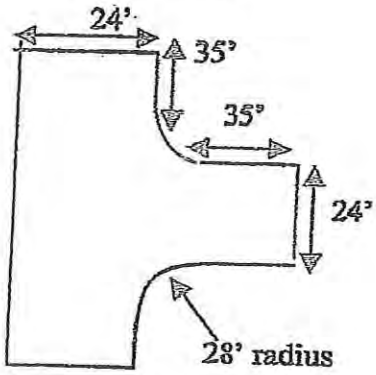
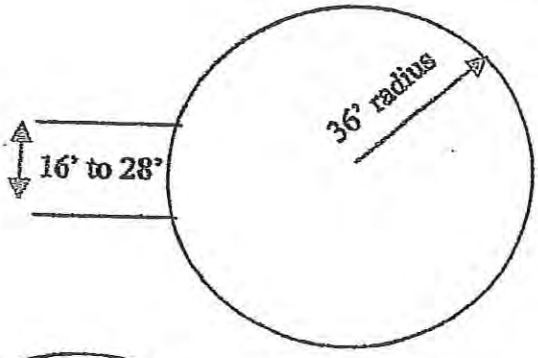
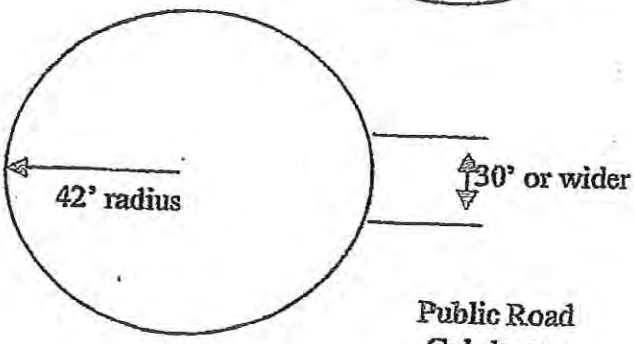




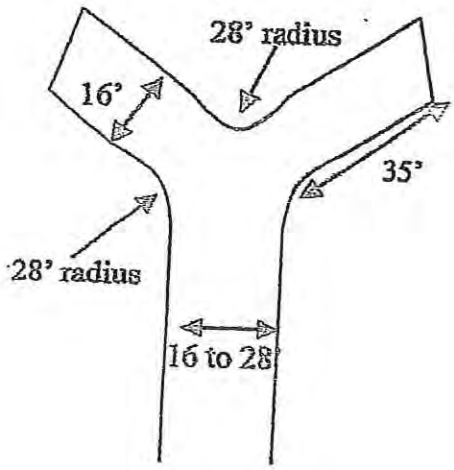
Private Road Hammerhead

Private Road or Driveway Cul-de-sac

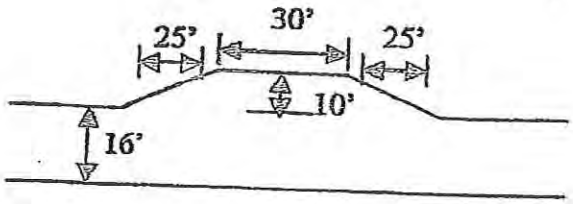




Public Road Cul-de-sac



Hammerhead Incorporating Radius



Turnout—Required for driveways In excess of 300-400'

NOT TO SCALE

(OVER)

Appendix C

Photos

Number of pages 4

Aerial photo

Aerial of SR 76 and Monserate Hill Road

Monserate Hill Road fuel modification area

East side of Monserate Hill Road near the bottom

West side of Monserate Hill Road near the bottom at SR76

East side of monserate Hill Road near the bottom at SR

East side of Monserate Hill Road near the bottom

Midway up the hill on
Monserate Hill Road

Near the top of the grade
on Monserate Hill Road

Monserate Hill Road at the
top of the grade

Appendix D

Behaveplus 4.0.0 Fire Model

Number of pages 12

Inputs: SURFACE, SPOT, IGNITE

Description		Monserate Hill
Fuel/Vegetation, Surface/Understory		
Fuel Model		1
Fuel/Vegetation, Overstory		
Canopy Height	ft	.9
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	
100-h Moisture	%	
Live Herbaceous Moisture	%	
Live Woody Moisture	%	
Weather		
20-ft Wind Speed (upslope)	mi/h	60
Wind Adjustment Factor		.4
Air Temperature	oF	100
Fuel Shading from the Sun	%	0
Terrain		
Slope Steepness	%	30
Ridge-to-Valley Elevation Difference	ft	100
Ridge-to-Valley Horizontal Distance	mi	.1
Spotting Source Location		vb

Run Option Notes

Maximum reliable effective wind speed limit is imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Heat per Unit Area (Btu/ft2) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

(continued on next page)

Input Worksheet (continued)

Midflame Wind Speed (upslope) (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Spot Dist from a Wind Driven Surface Fire (mi) [SPOT]

Probability of Ignition from a Firebrand (%) [IGNITE]

Notes

Monserate Hill

Surface Rate of Spread (maximum)	665.6	ch/h
Heat per Unit Area	116	Btu/ft2
Fireline Intensity	1415	Btu/ft/s
Flame Length	12.7	ft
Midflame Wind Speed (upslope)	24.0	mi/h
Wind Adjustment Factor	0.40	
Spot Dist from a Wind Driven Surface Fire	1.1	mi
Probability of Ignition from a Firebrand	100	%

Discrete Variable Codes Used
Monserate Hill

Fuel Model

1	Short grass (S)

Spotting Source Location

VB	Valley Bottom

Inputs: SURFACE, SPOT, IGNITE

Description		Monserate Hill
Fuel/Vegetation, Surface/Understory		
Fuel Model		tl2
Fuel/Vegetation, Overstory		
Canopy Height	ft	20
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	
Live Woody Moisture	%	
Weather		
20-ft Wind Speed (upslope)	mi/h	60
Wind Adjustment Factor		0.5
Air Temperature	oF	100
Fuel Shading from the Sun	%	100
Terrain		
Slope Steepness	%	30
Ridge-to-Valley Elevation Difference	ft	50
Ridge-to-Valley Horizontal Distance	mi	.1
Spotting Source Location		vb

Run Option Notes

Maximum reliable effective wind speed limit is imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Heat per Unit Area (Btu/ft2) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

(continued on next page)

Input Worksheet (continued)

Midflame Wind Speed (upslope) (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Effective Wind Speed (mi/h) [SURFACE]

Spot Dist from a Wind Driven Surface Fire (mi) [SPOT]

Probability of Ignition from a Firebrand (%) [IGNITE]

Notes

Monserate Hill

Surface Rate of Spread (maximum)	4.7	ch/h
Heat per Unit Area	190	Btu/ft2
Fireline Intensity	16	Btu/ft/s
Flame Length	1.6	ft
Midflame Wind Speed (upslope)	30.0	mi/h
Wind Adjustment Factor	0.50	
Effective Wind Speed	9.1	mi/h
Spot Dist from a Wind Driven Surface Fire	0.1	mi
Probability of Ignition from a Firebrand	99	%

Discrete Variable Codes Used
Monserate Hill

Fuel Model

tl2 Low load broadleaf litter (S) (182)

Spotting Source Location

VB Valley Bottom

Inputs: SURFACE, SPOT, IGNITE

Description		Monserate
Fuel/Vegetation, Surface/Understory		
Fuel Model		SCAL18
Fuel/Vegetation, Overstory		
Canopy Height	ft	4
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	40
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed (upslope)	mi/h	60
Wind Adjustment Factor		0.5
Air Temperature	oF	100
Fuel Shading from the Sun	%	70
Terrain		
Slope Steepness	%	30
Ridge-to-Valley Elevation Difference	ft	100
Ridge-to-Valley Horizontal Distance	mi	.1
Spotting Source Location		vb

Run Option Notes

Maximum reliable effective wind speed limit is imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Heat per Unit Area (Btu/ft2) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

(continued on next page)

Input Worksheet (continued)

Midflame Wind Speed (upslope) (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Spot Dist from a Wind Driven Surface Fire (mi) [SPOT]

Probability of Ignition from a Firebrand (%) [IGNITE]

Notes

Monserate

Surface Rate of Spread (maximum)	312.3	ch/h
Heat per Unit Area	4343	Btu/ft2
Fireline Intensity	24871	Btu/ft/s
Flame Length	47.3	ft
Midflame Wind Speed (upslope)	30.0	mi/h
Wind Adjustment Factor	0.50	
Spot Dist from a Wind Driven Surface Fire	2.9	mi
Probability of Ignition from a Firebrand	100	%

Discrete Variable Codes Used
Monserate

Fuel Model

SCAL18	Sage / Buckwheat

Spotting Source Location

VB	Valley Bottom

Appendix E

Project Facility Availability Water

Number of pages 2

COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
(858) 565-5981 • (858) 267-8770

PROJECT FACILITY AVAILABILITY FORM

WATER

Please type or use pen

Mark B. Kirk (760) 728-4619
Owner's Name Phone

349 E. Alvarado ST.
Owner's Mailing Address Street

Fallbrook, CA 92028
City State Zip

ORG _____
ACCT _____
ACT _____
TASK _____
DATE 10/05/06 AMT $ 30
DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A. [ ] Major Subdivision (TM) [ ] Specific Plan or Specific Plan Amendment
[X] Minor Subdivision (TPM) [ ] Certificate of Compliance: _____
[ ] Boundary Adjustment
[ ] Rezone (Reclassification) from _____ to _____ zone.
[ ] Major Use Permit (MUP), purpose: _____
[ ] Time Extension ... Case No. _____
[ ] Expired Map ... Case No. _____
[ ] Other _____

B. [X] Residential ..... Total number of dwelling units 4
[ ] Commercial ..... Gross floor area _____
[ ] Industrial ..... Gross floor area _____
[ ] Other ..... Gross floor area _____

C. Total Project acreage 10.38 Total number of lots 4

D. Is the project proposing the use of groundwater? [ ] Yes [X] No
Is the project proposing the use of reclaimed water? [ ] Yes [X] No

Assessor's Parcel Number(s)
(Add extra if necessary)

1	2	4	3	5	1	5	1

Thomas Bros. Page 1048 Grid E4

Project address Monserate Place
Street

Fallbrook, 92028
Community Planning Area/Subregion Zip

Owner/Applicant agrees to pay all necessary construction costs, dedicate all district required easements to extend service to the project and COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: [signature] Date: 9-11-2006

Address: PO BOX 2993, Fallbrook, CA 92088 Phone: (760) 728-4406

(On completion of above, present to the water district to establish facility availability. Section 2 below.)

SECTION 2. FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District name Rainbow Mun. Water District Service area FALLBROOK

A. [X] Project is in the district.
[ ] Project is not in the district but is within its Sphere of Influence boundary, owner must apply for annexation.
[ ] Project is not in the district and is not within its Sphere of Influence boundary.
[ ] The project is not located entirely within the district and a potential boundary issue exists with the _____ District.

B. [X] Facilities to serve the project [X] ARE [ ] ARE NOT reasonably expected to be available within the next 5 years based on the capital facility plans of the district. Explain in space below or on attached ___ (Number of sheets)
[ ] Project will not be served for the following reason(s): _____

C. [ ] **District conditions are attached. Number of sheets attached:** _____
[ ] **District has specific water reclamation conditions which are attached. Number of sheets attached:** _____
[ ] **District will submit conditions at a later date.**

D. [ ] **How far will the pipeline(s) have to be extended to serve the project?** _____

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Authorized signature: [signature] Print name: BRIAN LEE

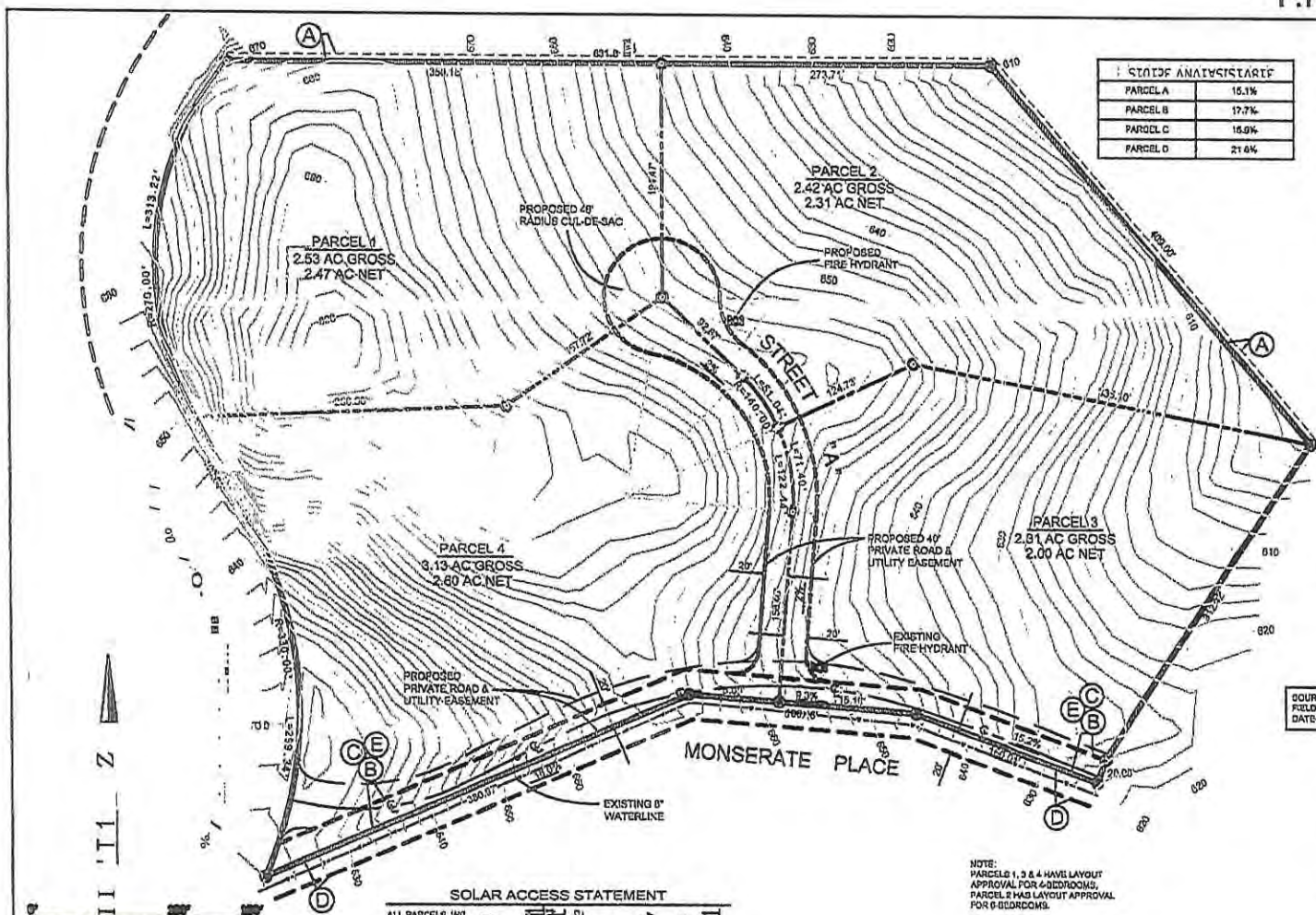
Print title: DISTRICT ENGINEER Phone: 760-728-1178 Date: 10/05/06

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT.
On completion of Section 2 by the district, applicant is to submit this form with application to the Zoning Counter at the Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123.

T.P. N O.

N.O N O. VPM 029

TENTATIVE PARCEL MAP



STOICHEIOMETRIC ANALYSIS	
PARCEL A	15.1%
PARCEL B	17.7%
PARCEL C	15.0%
PARCEL D	21.6%

LAND DIVISION STATEMENT - OWNER'S CERTIFICATE

I HEREBY CERTIFY THAT I AM THE RECORD OWNER, AS SHOWN ON THE LATEST EQUALIZED COUNTY ASSESSMENT OF THE PROPERTY SHOWN ON THIS TENTATIVE PARCEL MAP. ALL OF MY CONTIGUOUS OWNERSHIP WITHIN AND BEYOND THE BOUNDARIES OF THE TENTATIVE PARCEL MAP IS SHOWN. THE BASIS OF CREATION OF THE LOTS IN MY OWNERSHIP (E.G. PARCEL MAP, FINAL MAP, CERTIFICATE OF COMPLIANCE, RECORDED DEED BEFORE 2/4/72) AS INDICATED ON THE TENTATIVE. I UNDERSTAND THAT PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS OR RAILROAD RIGHTS-OF-WAY. "FREEWAY" AS DEFINED IN SECTION 23.5 OF THE STREETS AND HIGHWAY CODES, SHALL NOT BE CONSIDERED AS ROADS OR STREETS.

I FURTHER CERTIFY THAT I WILL NOT, BY THIS APPLICATION, CREATE OR CAUSE TO BE CREATED, OR WILL NOT HAVE PARTICIPATED IN THE CREATION OF MORE THAN FOUR PARCELS ON CONTIGUOUS PROPERTY UNLESS SUCH PARCELS WERE CREATED BY MAJOR SUBDIVISION. FOR PURPOSES OF THIS CERTIFICATION, THE TERM "PARTICIPATED" MEANS HAVING COOPERATED WITH OR ACTED IN A PLANNING, COORDINATE OR DECISION-MAKING CAPACITY IN ANY FORMAL OR INFORMAL ASSOCIATION OR PARTNERSHIP FOR THE PURPOSE OF DIVIDING REAL PROPERTY.

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT. EXECUTED THIS 5TH DAY OF MAY, 2007,

AT FALLBROOK, CALIFORNIA.

Mark Kirk

MARK D. KIRK MANAGING PARTNER

OWNER: DI A

ADDRESS: 34 FA

PHONE: 76

LE AND KIRK, LLC, D LIABILITY COMPANY

STREET 028

1. ... ENGINEERING ASSESSOR'S ENGINEERING TENTATIVE
2. LEGAL DESCRIPTION: PORTION OF PARCEL MAP 8077-PARCEL A B/C 00.0124
3. GENERAL PLAN REGIONAL CATEGORY: EDA
4. COMMUNITY/SUBREGIONAL PLAN AREA: FALLBROOK
5. LAND USE DESIGNATION(S): ... SINGLE RESIDENTIAL #17
6. EXISTING ZONING: A-70 2 AC.
7. TAX RATE AREA: 67067

USE REGULATIONS	A-70
ANIMAL REGULATIONS	L
DENSITY	C
LOT SIZE	2 AC.
BUILDING TYPE	C
MAX FLOOR AREA	-
FLR AREA RATIO	-
HEIGHT	G
COVERAGE	-
SETBACK	C
OPEN SPACE	-
SPECIAL AREA REGS	-

SOURCE OF TOPOGRAPHY: FIELD SURVEY BY TerraData DATE: JUNE 2001

8. ASSOCIATED PERMITS: N/A
9. LOCATION AND STATUS OF EXISTING LEGAL ACCESS TO SUBJECT PROPERTY FROM A PUBLICLY MAINTAINED ROAD, (i.e. RECORDED EASEMENT, UNRECORDED PROPERTY FRONTS A AN EXISTING L.O.D.-PUBLICLY MAINTAINED ROAD "MONSERATE HILL ROAD" AND BY EXISTING RECORDED 20' PRIVATE ROAD AND UTILITY EASEMENT.
10. WATER SOURCE/ WATER DISTRICT: RAINBOW MUNICIPAL WATER DISTRICT
11. SEPTIC/ SEWER DISTRICT: SUBSURFACE DISPOSAL
12. FIRE DISTRICT: NORTH COUNTY FIRE PROTECTION DISTRICT
13. SCHOOL DISTRICT: BONSALL UNION & FALLBROOK UNION HIGH

NOTE:
PARCELS 1, 3 & 4 HAVE LAYOUT APPROVAL FOR 4-BEDROOMS.
PARCEL 2 HAS LAYOUT APPROVAL FOR 6-BEDROOMS.

EACH PARCEL IS APPROVED FOR A STANDARD SEPTIC TANK CONNECTED TO ___ FEET OF TILE DRAIN FIELD TO SERVE A THREE-BEDROOM DWELLING PROVIDED THE ORIGINAL SOIL IS NOT DISTURBED IN ANY WAY, SUCH AS CUTTING, FILLING OR TOPPING. THIS DOES NOT CONSTITUTE APPROVAL FOR COMMERCIAL ESTABLISHMENTS.

DATA AND RECOMMENDATION IN THE NAME OF MARK KIRK BY DAVID H. LOWEN, RCE 31916.

PARCEL NUMBER	LEACHLINE FOOTAGE	TRENCH DEPTH FOOTAGE	ROCK UNDER PIPE FOOTAGE
1	410'	4'	2'
2	440'	4'	2'
3	410'	6'	3'
4	400'	6'	1' STEEPSLOPE

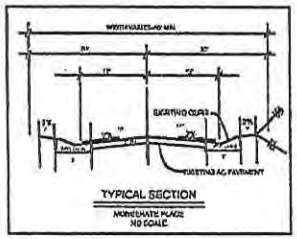
GARY DRECK, DIRECTOR, DEPARTMENT OF ENVIRONMENTAL HEALTH BY PAUL NICHOLS, REHS DATE 6-21-06

THIS CERTIFICATION DOES NOT IMPLY ALL CONDITIONS PURSUANT TO THE RESOURCE PROTECTION ORDINANCE AND THE GROUNDWATER ORDINANCE HAVE BEEN MET. THE DEPARTMENT OF PLANNING AND LAND USE SHOULD BE CONSULTED REGARDING THE APPLICATION OF THESE ORDINANCES RELATIVE TO THIS PROJECT. ANY RESULTANT CHANGES TO THE SEPTIC SYSTEM DESIGN(S) MUST BE RE-EVALUATED BY THE DEPARTMENT OF ENVIRONMENTAL HEALTH.

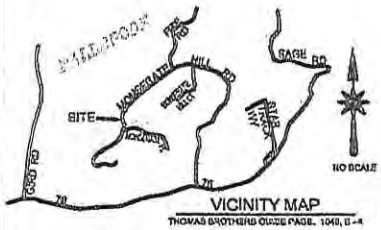
ALL PARCELS SHALL HAVE A LAYOUT OF THE SEWAGE SYSTEM, PROPOSED STRUCTURES, CUTS AND FILLS APPROVED BY THE SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH PRIOR TO THE APPROVAL OF THE BUILDING PERMIT AND/OR ISSUANCE OF A SEPTIC TANK PERMIT. AN ADDITIONAL EXPANSION AREA OF 100% OF THE INITIAL TILE AREA SHALL BE PROVIDED BY GRAVITY FLOW FOR THE POTENTIAL EXPANSION IN THE EVENT OF FAILURE.

SOLAR ACCESS STATEMENT

ALL PARCELS WI (100) SQUARE FE ALLOWED BY THI SUBDIVISION ORDINANCE.



TYPICAL SECTION
MONSERATE PLACE
NO SCALE



VICINITY MAP
THOMAS BROTHERS GUIDE PAGE 1049, B-4

(A) 8' ROADWAY EASEMENT AS DESCRIBED IN PARCEL "F" PER DOC. NO. 04-0788296, RECD AUG. 10, 2004

(B) 20' RAWD WATERLINE EASEMENT AS DESCRIBED IN PARCEL "B" PER F/P NO. 70-288757, RECD JUL. 10, 1979

(C) 20' SDGE EASEMENT AS DESCRIBED IN F/P NO. 79-253214, RECD JUNE 10, 1979

(D) 20' RAWD WATERLINE EASEMENT AS DESCRIBED IN PARCEL "B" PER F/P NO. 80-066098, RECD JAN. 9 1980

(E) 20' ROAD & UTILITY EASEMENT AS DESCRIBED IN F/P NO. 76-337088, RECD AUG. 6, 1979

Dale A. Greene

DALE A. GREENE LS 6765

PREPARED BY:
TerraData
P.O.BOX 2803
FALLBROOK, CA 92088
(760) 728-4400

TerraData

Monserate Place Project

JOB NO. 00-268 - DRAWING 00268MKTPM4-NO GP

T.P.M. NO.

Appendix F

Project Facility Availability Fire

Number of pages 2

COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
(858) 565-5981 • (858) 267-5770

PROJECT FACILITY AVAILABILITY FORM

FIRE

Please type or use pen

Mark B. Kirk (760) 728-4619
Owner's Name Phone

349 E. Alvarado Street
Owner's Mailing Address Street

Fallbrook, CA 92028
City State Zip

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____ AMT $ _____

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A.
- [ ] Major Subdivision (TM)
- [ ] Specific Plan or Specific Plan Amendment
- [x] Minor Subdivision (TPM)
- [ ] Certificate of Compliance: _____
- [ ] Boundary Adjustment
- [ ] Rezone (Reclassification) from _____ to _____ zone.
- [ ] Major Use Permit (MUP), purpose: _____
- [ ] Time Extension ... Case No. _____
- [ ] Expired Map ... Case No. _____
- [ ] Other _____

B.
- [x] Residential ..... Total number of dwelling units 4
- [ ] Commercial ..... Gross floor area _____
- [ ] Industrial ..... Gross floor area _____
- [ ] Other ..... Gross floor area _____

C. Total Project acreage 10.38 Total lots 4 Smallest proposed lot 2

Assessor's Parcel Number(s)
(Add extra if necessary)

1	2	4	3	5	1	.	5	1

Thomas Bros. Page 1048 Grid E4

Project address Monserate Place
Street

Fallbrook 92028
Community Planning Area/Subregion Zip

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: [signature] Date: 9-11-2006

Address: PO Box 2993, Fallbrook, CA 92088 Phone: (760) 728-4406

(On completion of above, present to the district that provides fire protection to complete Sections 2 and 3 below.)

SECTION 2. FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District name: North County Fire Protection District

Indicate the location and distance of the primary fire station that will serve the proposed project: 4375 Pala Mesa Drive, 3.5 miles

A.
- [x] Project is in the District and eligible for service.
- [ ] Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
- [ ] Project is not in the District and not within its Sphere of Influence boundary.
- [ ] Project is not located entirely within the District and a potential boundary issue exists with the _____ District.

B. [x] Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 5 minutes.
- [ ] Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.

C.
- [ ] District conditions are attached. Number of sheets attached: _____
- [x] District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

- [ ] Within the proposed project _____ feet of clearing will be required around all structures.
- [x] The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

[signature] Sid Morel / Fire Marshal 760-723-2015 9-27-06
Authorized signature *Print name and title* *Phone* *Date*

On completion of Sections 2 and 3 by the District, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123

00-288

NORTH COUNTY FIRE PROTECTION DISTRICT

315 East Ivy Street · Fallbrook, California 92028-2138 · (760) 723-2005 · Fax (760) 723-2004 · www.ncfire.org

BOARD OF DIRECTORS
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RICHARD A. OLSON
KATHLEEN THUNER

WILLIAM R. METCALF – Fire Chief/CEO
ROBERT H. JAMES – Counsel
LOREN A. STEPHEN-PORTER – Board Secretary

May 29, 2007

County of San Diego
Dept. of Planning & Land Use
5201 Ruffin Rd. Ste. B
San Diego, CA 92123-1666

Re: TPM 21075, APN 124-351-51 thru 54.

Please review the following comments pertaining to fire protection for this proposed development:

Access:

- Improve to be named access road to 24' AC surface width, with transitional curbing
- Provide a 36' AC radius cul de sac at terminus of to be named access road and residential cul-de-sac road..
- Driveways greater than 150' will require an approved fire dept. turnaround at terminus.
- All driveways to be 16' AC surface width.
- Provide road signs in accordance with DS #13.
- Maximum grade on all roads and driveways not to exceed 20%.
- Gates, if installed across roadways or driveways, to conform to NCFPD standards for electric gates.

Water Supply: Install three residential type fire hydrants, with drip caps and blue dot markers, to RMWD and NCFPD standards, capable of supplying 1500 GPM, in the following locations:

- Intersection of Monserate Hill and to be named access road.
- Prior to radius of cul-de-sac on to be named access road.
- Prior to radius of cul-de-sac on to be named residential cul-de-sac road.

Combustible Vegetation Clearance: A minimum of 100' of combustible vegetation clearance will be required around all structures. Open space easements shall not encroach upon the required 100' minimum vegetation clearance. Property line setbacks to be sufficient so as to maintain 100' combustible vegetation clearance without going off site.

Other: Road and hydrant improvements to be completed prior to issuance of building permits.

Should you have any questions, please contact me at (760) 723-2015.

Sincerely,

Sid Morel
Fire Marshal

Appendix G

North County Fire Protection District

Letter of Approval

Number of Pages 1

NORTH COUNTY FIRE PROTECTION DISTRICT

J S. Main Avenue • Fallbrook, California 92028 • (760) 723-2005 • Fax (760) 723-2004 • www.ncfire.org

BOARD OF DIRECTORS

RUTH HARRIS
WAYNE HOOPER
KENNETH E. MUNSON, President
PAUL SCHADEN
KATHLEEN THUNER, Vice President

WILLIAM R. METCALF – Fire Chief/CEO
ROBERT H. JAMES – Counsel
LOREN A. STEPHEN-PORTER – Board Secretary

April 23, 2010

County of San Diego
Department of Planning and Land Use
5201 Ruffin Rd., Suite "B"
San Diego, California 92123-1666

RE: APN 124-351-51

The applicant has requested an exception to the 2009 Consolidated Fire Code regarding maximum dead end road lengths. The project is in an area zoned two acre parcels, under which the maximum allowable dead-end distance is 1320 feet, absent secondary access. The dead-end road measures about 1.3 miles from the cul-de-sac to Highway 76. TPM 21156 which borders this development to the east has previously been approved with an excessive dead end road length.

The project is in-fill in nature on existing road located in a mix of residential and agricultural uses. In the immediate vicinity are avocado and citrus groves. Terrain is too steep to allow secondary access to the south, west or northeast. Access is not available to the north until future development takes place, which will necessitate secondary access to the northeast. The area is mapped as "moderate" fire hazard severity zone, the lowest non-urban category.

The project as currently designed will provide emergency wildland fire equipment access, safe civilian evacuation, signage to avoid emergency response delay, enhanced water supply for wildfire attack and structure defense, and sufficient fuel modification for civilian and fire fighter safety.

The North County Fire Protection District makes the following findings:

- This project provides more safety for the community built than left undeveloped. If left undeveloped the vegetation would increase in fuel loading and become a very high fire threat to the surrounding existing residential development. The projects connection with TPM 21156 that has extensive clearing and similar requirements provides a huge fire buffer for the rest of the surrounding homes.

- The access road is 25 feet. The developer has proposed to maintain an additional 30 feet of clearing along the access road as well as removing all Mexican Fan Palms. The developer will cooperate with TPM 21156 to develop a maintenance agreement of the access road clearing.

- The minimum initial setback zones have been increased typically from 30 feet to 50 feet, (this is the area immediately adjacent to the structure and is the most critical for a home's survival during a wildfire.) Fuel modification and annual inspections funded by the HOA shall enforce the fuel modification zones which include a 50 foot zone "A" and strict landscape plan. This plan creates defensible space that has been has been modified to provide 4 times the worst case scenario of unmaintained native on-site grasses.

- Building Construction Features are "enhanced requirements" of the County Building Code Chapter 7A, and shall apply the most restrictive requirements at the time permits are pulled. Additionally any auxiliary structure shall be non-combustible and located a minimum of 30 feet away from another combustible structure. Any auxiliary structure will have zone "A" requirements applied to any vegetation including avocados that surround the structure.

- The project is infill in nature and located between station 4 and 5. Station 4 is 3.82 miles from the site with an estimated response time of 7 minutes or less as the new station 5 will be located at 3.7 miles away. To consider a project for secondary access mitigation this agency feels they must have adequate response time and resources available in a timely manner. This project is infill and within 10 minutes could have 8 to 12 firefighters on scene and within 15 minutes as many as 25. There are two Cal Fire stations within the 10 to 12 minute response time.

- The project is in a municipal water district (Rainbow MWD) which has substantial storage capacity, and maintains all storage facilities, hydrants and waterlines, resulting in a high level of reliability of water supply for fire fighting.

The North County Fire Protection District finds that the topography and geography of the area does not allow for an appropriate connection of the dead end road length. These reasons make the strict letter of the code impracticable and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. These findings shall be entered into the files of the North County Fire Protection Districts Prevention Division:

- The project provides improved safety to the community if built.
- The proximity to multiple fire stations ensures firefighters will be able to respond in a timely manner and provide resources in the event of simultaneous incidents. This agency feels that proximity to a career fire department with multiple stations and resources available within NFPA 1710 standards is critical to approving a project without secondary access. NFPA 1710, sec. 5.7.6.2.1 requires the fire department to have enough firefighters to initiate a direct wildland attack within the first 10 minutes, as well as providing an incident commander and two firefighters on attack lines. As stated previously this project exceeds the minimal response standard with at least 4 career fire stations and a Battalion Chief.

- The access road is 25 to 27 feet wide allowing residents to evacuate while not impeding emergency vehicle access.
- The availability of Fire Hydrants will expedite water delivery to actively fight a wildfire. The fuel modification has been designed at 4 times the worst case scenario fire modeling which would be desirable for any project, with much less being accepted for infill. The Fire modeling does not take into account the project has another development with similar extensive fuel modeling and construction requirements next to it.
- The applicant and TPM 21156 are funding annual fire inspections that will ensure these modifications are met in perpetuity. The applicant and TPM 21156 are encouraged to persuade the 23 existing homes to participate in a "Firewise" type community by hosting an annual wildfire awareness meeting that the North County Fire Protection District will participate in.

For these reasons North County Fire Protection District approves this project as adequately mitigating for the excessive dead end road length. The Fire Protection Plan is approved.

Sid Morel, Fire Marshal
North County Fire Protection District

Appendix H

Vegetation Map

Number of Pages 2

VINCENT N. SCHEIDT
Biological Consultant

3158 Occidental Street • San Diego, CA • 92122-3205 • 858-457-3873 • 858-457-1650 fax • email: vince@san.rr.com

Memorandum

To: Mark Kirk

From: Vince Scheidt, Consulting Biologist

Date: December 10, 2009

RE: Biological Resources Evaluation – APN 124-351-51, Monserate Hill

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Per your request, I have completed a directed Biological Resources Evaluation of the APN 124-351-51 property located at Monserate Hill Road and Monserate Place in the Bonsall area of the San Diego County. In order to provide this evaluation, I completed a general biology reconnaissance inspection of the property on 13 January 2005. The intent of that survey was to identify all onsite habitats and make a determination as to whether or not the proposed development of this property could result in any direct or indirect impacts to significant biological resources. As a result of this reconnaissance, I have identified the following biological resources in association with this site:

Habitats

As can be clearly seen in the attached aerial photo, the subject property supports a single, discrete habitat-type: Orchards and Vineyards (Holland Code 18100). This vegetation is indicated by mature and rehabilitated Avocado (*Persea* sp.) trees over understory consisting of orchard weeds and grasses, including Ripgut Brome *(Bromus diandrus)*, Stork's-bill *(Erodium)*, Common Catchfly *(Silene gallica)*, and others. The biological resource value of this habitat is low.

Wetlands

Wetlands are not present on the subject site. The site does not support hydrophytes, hydric soils, or wetlands hydrology. Furthermore, I saw no drainages that support a discrete "bed-and-bank" or ordinary high water mark.

Sensitive Species

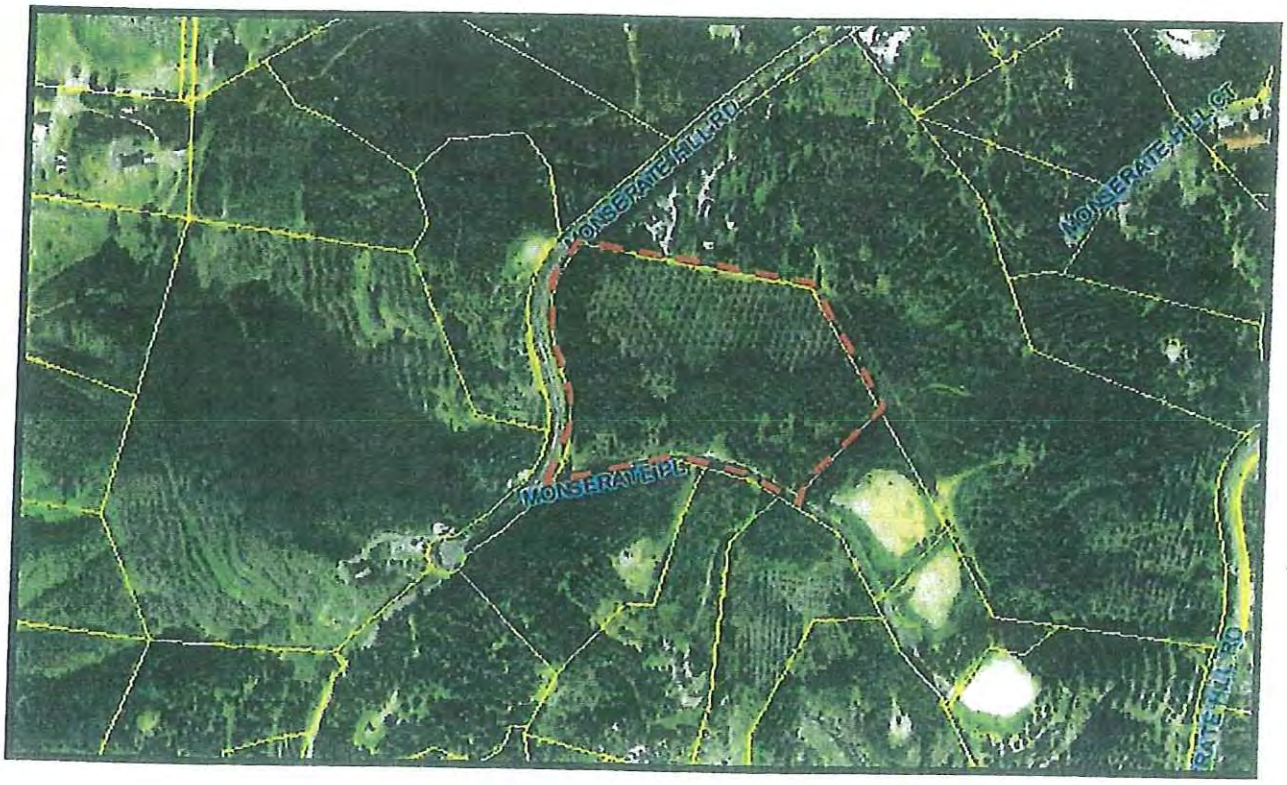
No sensitive plants or animals were observed on the property. Given the nature of the onsite habitat, the only sensitive species that could occur here would be wide-ranging raptors that might fly over the property on occasion.

Conclusions and Recommendations

As you know, the County may decide that the processing of development permits for this property will be subject to review under the California Environmental Quality Act (CEQA). This means that the County will require you to identify project-related impacts to native habitat and species, and provide mitigation (if

needed) to keep all impacts at a level that is not "significant". Because the site supports no native vegetation or sensitive biological resources, I would expect the County to require no further biological resources evaluations at this time. No mitigation would be warranted.

Thanks for the opportunity to provide this biological assessment. Please contact me if you have any questions.



Appendix I

Offsite Fuel Modification Letter

Number of pages 2

EAST BROTHERS
Grove Service, Co.

August 30, 2010

To Whom It May Concern:

DiMitri, Diffendale & Kirk, LLC has negotiated a price and we have reached an agreement to do weed abatement on a 20 foot wide by approximately 1500 feet long on the lower east side of Monserate Hill Road. Our services will begin when it is time to pull the house building permits that are a result of the development of TPM 21075. We have agreed to price out and perform other weed abatement services for DD&K as required by the Fire Department.

Sincerely,

Jon C. Martin
General Manager
EAST BROS GROVE SERVICE

JCM:pm

112 EAST AVIATION ROAD • FALLBROOK, CA 92028 • (760) 731-2013 • FAX (760) 728-9043

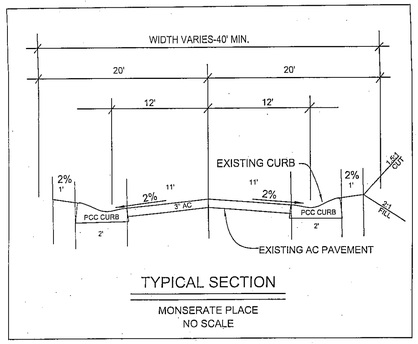
Appendix J

Fuel Modification Map

Number of Pages 1

PRELIMINARY GRADING PLAN

Fuel Modification Zone Map



Fuel Modification Zones=FMZ

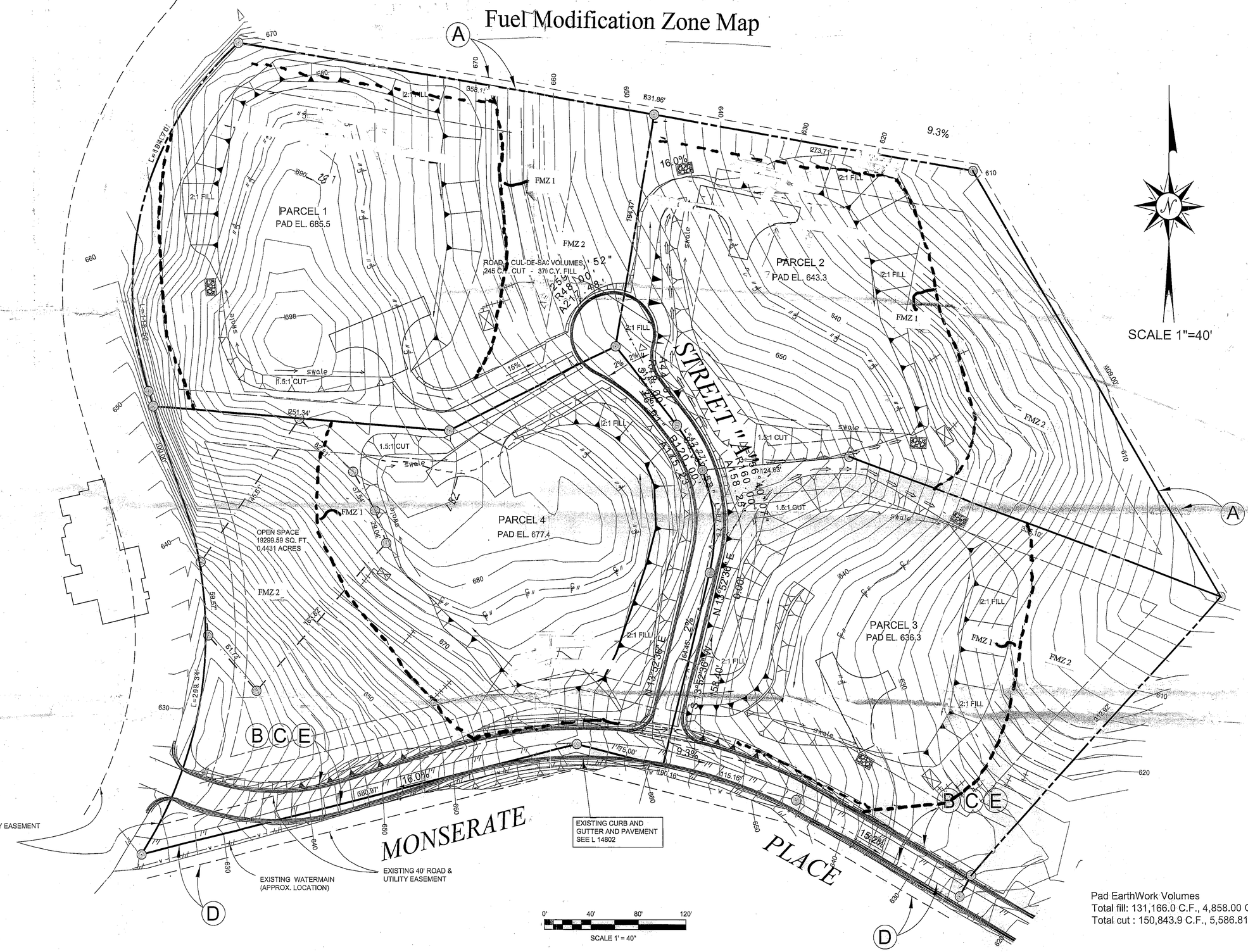
FMZ 1 = from the structure to a point 50 feet.
FMZ 2 = 50 feet from the structure to the property line.

EASEMENT LEGEND

- (A) 6' ROADWAY EASEMENT AS DESCRIBED IN PARCEL "F" PER DOC. NO. 04-0758296, REC'D AUG. 10, 2004
- (B) 20' RMWD WATERLINE EASEMENT AS DESCRIBED IN PARCEL "B" PER F/P NO. 79-288787, REC'D JUL. 10, 1979
- (C) 20' SDGE EASEMENT AS DESCRIBED IN F/P NO. 79-253214, REC'D JUNE 19, 1979
- (D) 20' RMWD WATERLINE EASEMENT AS DESCRIBED IN PARCEL "B" PER F/P NO. 80-008696, REC'D JAN. 9 1980
- (E) 20' ROAD & UTILITY EASEMENT AS DESCRIBED IN F/P NO. 78-337088, REC'D AUG. 9, 1978

LEGEND

ITEM	SYMBOL
CUT SLOPE:	
FILL SLOPE:	
① BROW DITCH: D-75	
② BERM:	B B
③ INDICATES ROCK/GRASS LINED CHANNEL	
④ INDICATES INFILTRATIVE VEGETATIVE SWALE PER SWMP	swale
⑤ DIRECTION OF DRAINAGE:	
⑥ ENERGY DISSIPATOR: D-40	



VICINITY MAP
NO SCALE, THOMAS BROTHERS GUIDE PAGE: 1048, E - 4

THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.

1. COMPLETE TAX ASSESSOR'S NUMBER: 124-351-51
2. LEGAL DESCRIPTION: PORTION OF PARCEL MAP 8677-PARCEL A B/C 90-0124
3. BASIS OF ELEVATIONS: COUNTY OF SAN DIEGO STATION 103WCCS1 ELEVATION=892.6

OWNERS NAME: DIMITRI, DIFFENDALE, AND KIRK, LLC
C/O MARK B. KIRK, INC.
ADDRESS: 349 E. ALVARADO
FALLBROOK, CA 92028
PHONE: 760-728-4619

SOURCE OF TOPOGRAPHY:
FIELD SURVEY BY TerraData
DATE: JUNE 2001

Pad EarthWork Volumes
Total fill: 131,166.0 C.F., 4,858.00 C.Y.
Total cut : 150,843.9 C.F., 5,586.81 C.Y.

DALE A. GREENE LS 5755
PREPARED BY:
TerraData, INC.
P.O.BOX 2993
FALLBROOK, CA 92088
(760) 728-4406
TerraData

PRELIMINARY GRADING PLAN

JOB NO. 00-288/MKTPM/00288PREMGRADEPLANR1.DWG