Fire Protection Plan

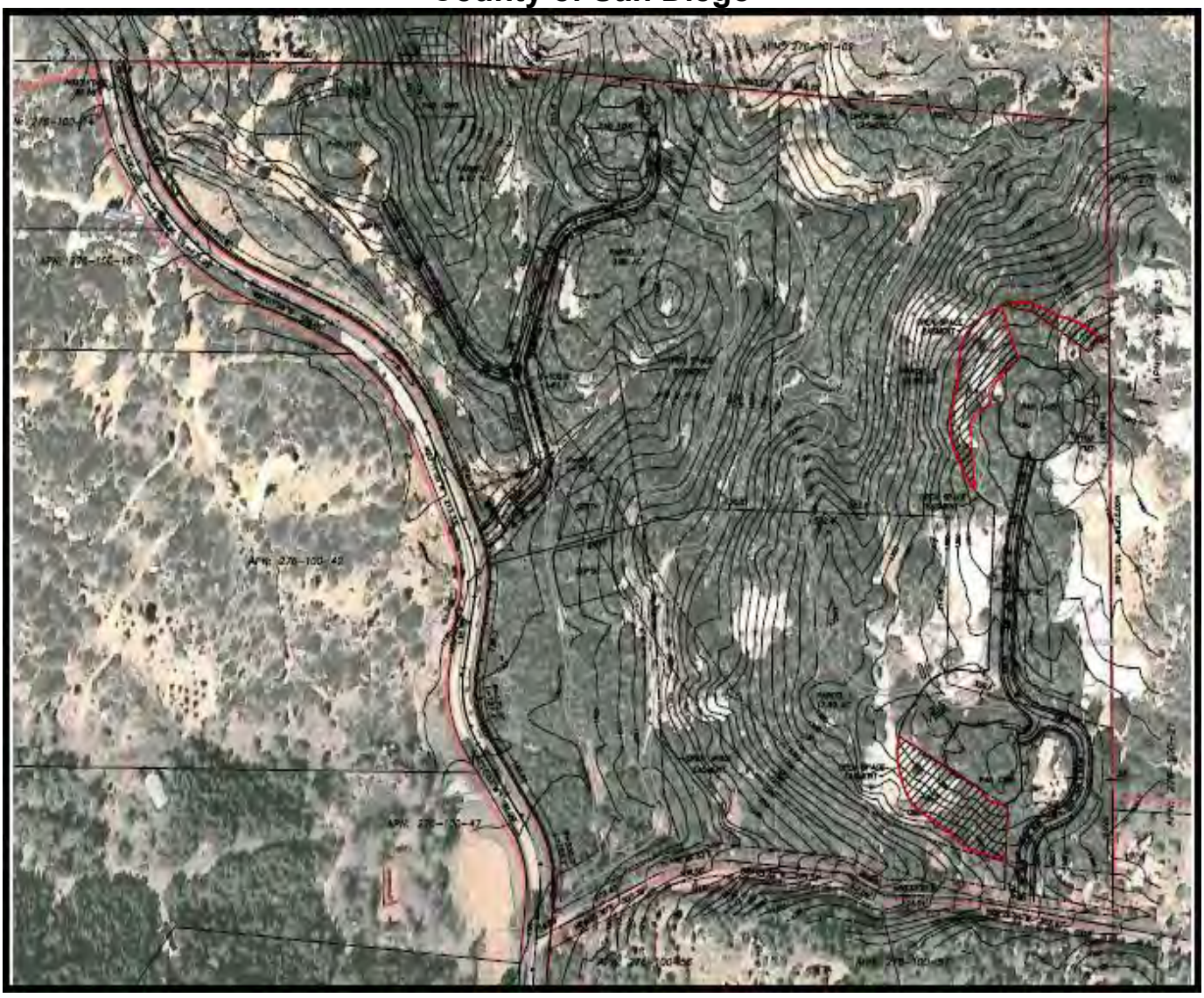
GILDRED PROJECT HIGHLAND VALLEY ROAD

TM 21176 Environmental Log # 3910-10-09-003

Ramona Fire Department

Ramona, CA

County of San Diego



Amended to Comments 1 Dec, 2010

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Gildred - TM 21176
FIRE PROTECTION PLAN

September 17, 2010

Executive Summary

This Fire Protection Plan (FPP) evaluates the proposed Gildred development to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions and fire history. It considers water supply, access, structure ignitability and ignition resistive building materials, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management.

The project was analyzed to identify potential adverse impacts and to identify adequate measures for impacts resulting from wildland fire hazards. The Ramona Fire Department has indicated that the nearest fire services are available at the Dye Road Station 6.5 miles from the site. Travel time to the site has been determined to be 12.4 minutes. Participation in a future Community Facilities District will ensure the adequate fire services coverage in perpetuity. CAL FIRE (under the State Responsibility Area Agreement) as well as other fire departments and fire protection districts, can be requested under a Mutual Aid agreement to respond should there be a wildfire event in the area of the development. San Diego County Fire Code requires residential fire sprinklers.

In addition, this FPP lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury or death from wildland fires. Zone 1 will be an irrigated landscaped zone and is commonly called the defensible space zone for fire suppression forces and protects structures from radiant and convective heat. This landscaped zone is permanently irrigated and consists of fire resistant maintained plantings. Zone 2 is the area beyond Zone 1, including manufactured slopes and excludes all prohibited highly combustible native vegetation, but permits plantings with very specific criteria. Individual Home Owners will be responsible for the annual completion of all designated Fuel Modification Treatments in common areas prior to May 15th or when fuels become cured. Maintenance will also be performed on an as needed basis.

Finally, this plan and its requirements will be incorporated by reference into the final project „Conditions of Approval" to ensure compliance with codes/regulations and significance standards.

TM 21176--Gildred
FIRE PROTECTION PLAN

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9.0 APPENDICES

Gildred - TM 21176
FIRE PROTECTION PLAN

1.0 - INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the Gildred development. The purpose of the FPP 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, the 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 ignition 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 or more 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.

The plan will be submitted to and approved by Ramona Fire Department and the San Diego County Department of Land Use and Planning (SDCDPLU) and is based upon requirements of San Diego County regarding Wildland Fire Protection Plans, including the Wildland-Urban Interface (WUI) Development Standard Guidelines and requirements under the authority of the Consolidated San Diego County Adopted November 2009.

2.0 PROJECT LOCATION, DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 Project Location

The proposed Gildred project (APN 276-100-40) is located in a rural area of San Diego County in the community of Ramona east of Highland Valley Road at the intersection of Highland Trails Drive (see Photo # 1). The primary access will be from Highland Valley Road and Highland Trails Drive.

2.2 Project Description

The proposed Gildred project consists of developing four (4) parcels from the current 53.11 acre parcel.

PARCEL NUMBER	GROSS LOT SIZE (AC)	NET LOT SIZE (AC)	PRVT RD ESMT (AC)	PAD AREA (SF)
1	17.39	15.85	1.53	18,840
2	14.97	14.97	--	24,652
3	9.65	9.47	0.18	18,148
4	9.72	9.55	0.17	21,388
R/W DED.	1.38	--	--	--
TOTAL	53.11	49.85	1.88	--

Additionally a 26,375 sq. ft. pad will be built on parcel 4 with no improvements.
Actual home locations have not been sited as of the date of this report.
Photo 2 depicts the proposed pads. Photo 3 depicts the areas adjacent to the site.

Photo 2 Topographic Image with Overlay

The project site supports an approximate 35.6-acre avocado grove located on the lower portion of the site east of Highland Valley Road north of Highland Trail Drive extending up slope. The remainder of the site consists of various native plant communities. It is surrounded by a mix of developed „estate" parcels, open space and undeveloped land (see Photo #3 Aerial Image).

Photo 3 Image Prior to Witch Creek Fire, note large amount of boulder formations

Red line indicates approx site area. Dark green on image depicts agricultural development on and around the site. Note visible locations of developed properties to the west and south of site.

Photo 4 View east from Highland Valley Road.

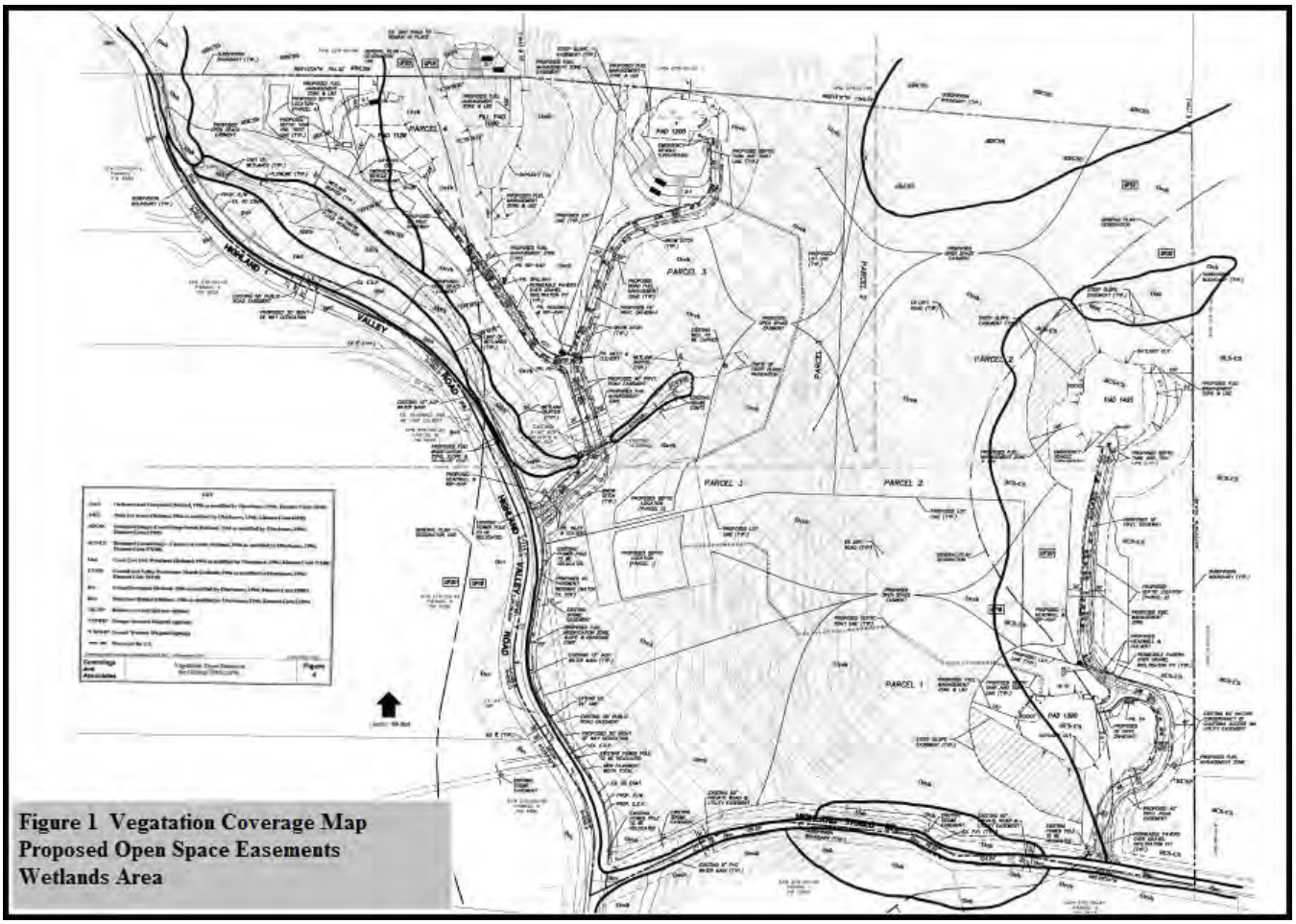

Figure 1 Steep Slope areas surrounding Parcels 1 and 2 indicated by diagonal lines. See Appendix 'I' Enlarged Exhibit

2.3 Environmental Setting

2.3.1 Dates of Site Inspections/Visits Conducted – Three (3) site visits were conducted, as well as several telephone calls to determine pertinent information.

Site Visit & Purpose	Date
1. Initial field visit and site assessment	June 15, 2010
2. Site Survey Evaluate lot layout and primary and secondary access road locations	July 27, 2010
3. Field visit Evaluate vegetation, road conditions and fire access	August 5, 2010

2.3.2 Topography - The project site is presently undeveloped and located in hilly terrain in a very high fire hazard severity zone approximately three (3) miles northwest of the Ramona Airport. Slopes on and adjacent to the site range between near level to 70%. On site elevation changes between Highland Valley Road at 1,244 feet and Parcel 2 at 1,550 feet (near eastern parcel line) are approximately 300 feet.

2.3.3 Climate - The climate within the project area is characterized as a Mediterranean type climate with generally mild, wet (14 -16 inches per year) winters, with the bulk of the annual precipitation falling between January and March. Long, hot and very dry summer seasons frequently occur with occasional, multi-year droughts.

The most critical wind pattern to the project area is an off-shore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (< 15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content.

The typical prevailing summer time wind pattern is out of the south or southwest and normally is of a much lower velocity (5-15 MPH with occasional gusts to 30-MPH) and is associated with higher relative humidity readings (> 30% and frequently more than 60%) due to a moist air on-shore flow from the ocean.

All other (northwest, south, west) wind directions may be occasionally strong and gusty: however, they are generally associated with cooler moist air and have higher relative humidity (> 40%). They are considered a serious wildland fire weather condition when wind speeds reach > 20-MPH.

The following chart represents the typical summer, Santa Ana and peak fire weather (climate conditions) elements for this Fire Protection Plan:

Period	Temperature	Relative Humidity	Sustained Wind
Summer	90-109 F	10-14 %	19 mph
Santa Ana	90-109 F	5-9%	24 mph
Peak/Gust	90-109 F	5-9%	56mph

2.3.4 Onsite Vegetation – The avocado grove encompass the majority of the site. The project site also contains remnant patches of native plant communities, of which Diegan Coastal Sage Scrub is predominant. Species found in the area include Ceanothus, Chamise, California sage, Mission Manzanita, California Buckwheat, and native-non-native grasses and invasive plant species (see Photo #4 and 5). These plant communities are prevalent in the offsite area to the east of parcels 1, 2 and continuing around to the north side of the property. Normally, if left undisturbed the natural vegetation in the project area on the north and east facing slopes could become a combined Fuel Model [SH7 – Chaparral with 1 hour fuels of 5 tons/acre and 10 hour fuels of 4 tons/acre and SCAL 18 – Sage/Buckwheat with 1 hour fuels of 5.5 tons/ac and 10 hour fuels of .8 tons/acre]. The biological report also indicates communities of Coast Live Oak, and various riparian plant species (see Figure1).

Photo 5 depicts vegetation regrowth since the 2007 Witch Creek Fire. The fuel bed is typical of area(s) due east of site to the northern boundary. Note rocky outcroppings and slab rock features.

Photo 6 View south from east end of property. Note rocky slabs and valley floor.

Photo 7 The southern boundary of the project site is along Highland Trail Dr. Onsite vegetation includes an avocado grove bordered by an oak woodland on the steeper slope. Offsite are more orchard and oak trees (annual maintenance had been done along roadway at time of site visit). The area on the right side of the photo is where the open space will abut the road. This area will receive fuel treatment.

Photo 8 Depicts typical view of current grove condition, west-facing slope from Highland Valley Road. Fuel treatment requirements will remove vegetation from in and around avocado trees.

Photo 9 View of vegetation offsite east-facing slope west of Highland Valley Road. Note fuel treatment on slope residence top of hill.

The most notable wildland fire threat to this proposed development is from firebrands/burning embers from both offsite and onsite highly flammable native and non-native vegetation, particularly from the northern and eastern boundary areas.

2.3.5 Fire History - The available data suggest that in the second half of the 20th Century the frequency of small fires increased in southern California while their average size decreased. In San Diego County, this has resulted in an increased rate of burning in low elevation coastal scrubland, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 fires in the foothills and mountains from 1910-1999. Recently, however, several years of drought have contributed to major fires (in excess of 50,000 acres) that have swept through San Diego County resulting in large losses of property and damaged watershed.

The most recent fire in the surrounding area was the Witch Creek Fire (shown in pink on Figure 2). It burned 197,000 acres around the project area, resulting in the loss of over 1,125 structures.

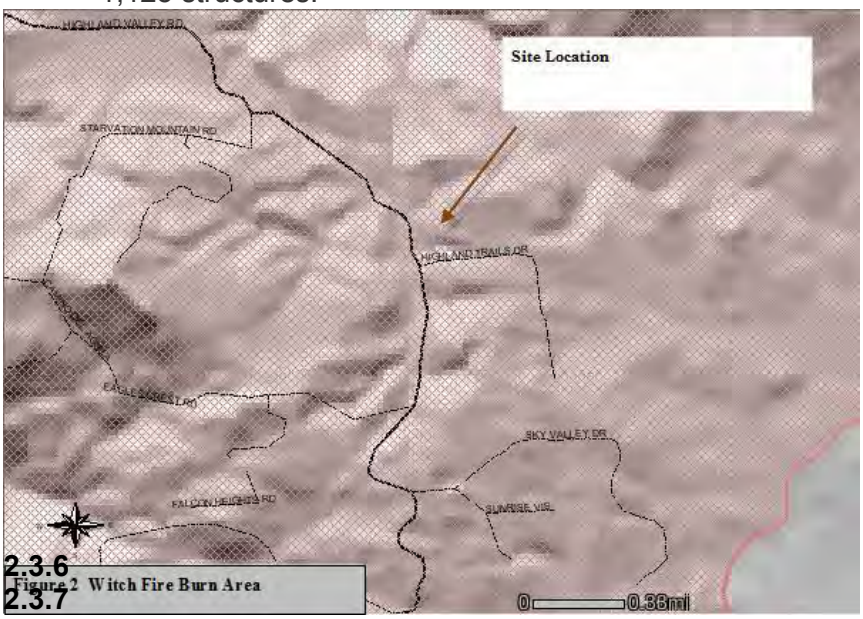

Figure 2 Witch Fire Burn Area

Based on the above information the fuel modeling in this report reflects the worst-case scenarios that could be expected in the future.

2.3.6
2.3.7

2.3.6 Onsite and Offsite Land Uses - The majority of the parcel proposed for development is an avocado grove with remnant native habitat areas. The surrounding land is either developed land or undeveloped open space.

2.3.7 Public and Private Ownership of Land in the Vicinity - The applicant owns all property within TM 21176. All other properties in the vicinity are existing developed or undeveloped private parcels. Portions to the east of the site are set aside as open space.

3.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

A Fire Protection Plan evaluates the potential adverse environmental effects that the Gildred residential development may have from wildland fire and proposes appropriate mitigation for any adverse impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard wildland fire. The following guidelines for the determination of significance are used:

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

2. Would the project result in inadequate emergency access?

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

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

4.0 ANALYSIS OF PROJECT EFFECTS

The project demonstrates compliance within the requirements of the current San Diego County Consolidated Fire Code Ordinance 10013, approved November 13, 2009. The comprehensive Fire Protection Plan and the project design are consistent with the San Diego County DPLU recommendations including fuel modification.

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan.

4.1 Adequate Emergency Services

The project site is located within the jurisdiction of the Ramona Fire Department. Ramona Fire Department provides fire suppression, fire prevention, and medical aid to the residents. The closest fire station is located at 3410 Dye Road approximately 6.9 miles away. Ramona Station 82 meets the response requirements for Estate Lots. NFPA 1142 response table results are 12.4 minutes at 35 mph. The Fire Availability Form states in Section „C", that services are not available at this time. The development will therefore be required to participate in a future Community Facilities District. This future Community Facilities District will provide the additional resources needed for this and other nearby sites.

4.2 Access Roads and Gates

The proposed main access to Parcels 3 and 4 is from Highland Valley Road, which runs north and south. Access to Parcels 1 and 2 is from Highland Trails Drive, which intersects (east to west) with Highland Valley Road. Highland Trails Drive will be improved to 24 feet where practical. Area is identified on the Fuel Treatment Exhibit. Highland Valley Road meets the minimum 24 foot requirement.

All interior roadways shall comply with San Diego County Private Road Standards. All private subdivision interior access roads shall be a minimum of 24 feet of unobstructed improved width with an unobstructed vertical clearance of not less than 13 feet and 6 inches. Single-family residential driveways shall have a minimum of 16 feet of improved width. Hammerhead turn around shall be provided on each parcel pad. No parking will be allowed on the access roads to the individual parcels driveways.

All roads within the development and the access roads shall be all-weather paved surfaces capable of supporting fire apparatus weighing up to 75,000 pounds. No roadways within the subdivision will exceed a 20% grade. Those sections of a roadway that are over 15% grade shall meet the additional requirements listed in the County Consolidated Fire Codes (CFC) for roads over 15% (Portland cement concrete [PCC] surface and have a deep broom finish perpendicular to the direction of travel to enhance traction).

All dead end roadways exceeding 150 feet in length shall be provided with approved means for the turning around of emergency apparatus. All roads and streets shall meet the minimum 28-foot turning radius measured from the inside edge of the improvement width. Parcels 1 thru 4 provide for apparatus turnarounds in the Hammerhead T configuration, each turnaround will comply with Ramona Fire Department or the County's approved design criteria.

4.3 Water Supply

The project will obtain its water supply from the Ramona Municipal Water District. An extension of the public water system on to the project site with new pipelines, and hydrants will be built to serve the development.

The required fire flow for the project is 2500 gpm per Section 96.1.508.3 of the San Diego Consolidated Fire Code requirements, at pressures required to supply fire sprinklers and provide 20 PSI residual at hydrants during periods of maximum peak domestic demand. Ramona Municipal Water District is currently doing a study for the development to determine actual available flow rates and pressures from Highland Valley Road.

Fire hydrants shall be located at the intersection of the private roadway and private driveways or as located and approved by the Fire Marshal. Appendix G and H details the proposed locations.

4.4 Ignition Resistant Construction and Fire Protection Systems

All structures shall meet the standards set in the San Diego County Building Code, as outlined in Section 92.1.704A thru Section 92.1.707A. Components shall meet the Standards of Quality as provided for in Section 703A**.** A synopsis of construction standards can be found in APPENDIX „E". Suitable products for decks and patios can be found in APPENDIX „D". All residential structures will have automatic fire sprinklers. The fire sprinkler system shall meet National Fire Protection Standard-NFPA 13D.

4.5 Defensible Space and Vegetation Management

4.5.1 Offsite Fire Hazard and Risk Assessment – The proposed developed area is located in a very high fire hazard severity zone approximately 3.5 miles northwest of the Ramona Airport. The proposed subdivision is bordered by undeveloped private land on the east to northerly boundary and partially developed to the south and west. All parcels are „estate sized", and/or large acre parcels. A notable wildland fire threat will come from a wildfire burning in the offsite highly flammable native and non-native vegetation north and east of this proposed subdivision. This is mostly undeveloped land and the greatest threat to this development will be firebrands carried a long distance (one mile or more) by fire drafts or strong winds. An additional wildfire threat is possible from the west under typical or extreme prevailing southwest wind conditions.

4.5.2 Onsite Fire Hazard and Risk Assessment - As of the date of this plan, all of the vegetation on and surrounding the project area burned in the 2007 Witch Creek Fire. The area has revegetated and if left undisturbed by natural events or without any fire hazard abatement practices the project area"s remnant native vegetation would again become a mature Diegan Coastal Sage Scrub community. Open space will remain, west of Lot 1 and 2 on the project site. The remaining 35 acres of avocado grove once maintained will provide a safe treated area for the lower portions of the project. The low slope area west of parcel 4 will be retained as a wetlands area.

Patches of mixed chaparral, characterized as a Fuel Model SCAL 18 – Sage/Buckwheat,

will be of the most concern for the project area during a worst case scenario northeastern wind pattern (Santa Ana) with hot dry wind speeds that could reach 70 MPH. These conditions would be similar to what was experienced for the recent Witch Creek Fire. In this vegetation type, a high percentage of the vegetation would have an abundance of dead material. This is especially true of the sage and sumac plants. This is due to the effects of the local Mediterranean climate where warm wet winters promote new growth, and long, hot and very dry summer seasons sometimes occur. Occasionally, multi-year droughts cause significant parts of these plants to die back. All of these plants are adapted to the intense wildfires that they need for species regeneration. However, when fire occurs at too frequent intervals, the coastal sage scrub plant community reverts to a more flammable, less desirable community of short-lived annual grasses with little wildlife value and poor ability to protect the soil. The onsite wildland fire threat from this native vegetation can be mitigated within the development with the required fuel modification and utilization of "*firewise*" landscaping criteria.

In summary, any wind or topography driven wildfire burning under a northeast (*Santa Ana*) wind pattern creates a very high wildland fire hazard, especially for wildland fires starting northeast of the development. Also, a typical fire day with a southwest wind will create a high wildland wildfire hazard. However, the proposed fuel modification treatments, "*firewise*" landscaping, and the use of ignition resistive building construction standards, which include the use of Class „A" roof and non-combustible ignition resistive exterior wall materials, will mitigate the potential loss of structures to less than significant levels due to direct fire impingement, wind driven embers or radiant heat around the perimeter of the houses.

4.6 **Vegetative Fuel Assessment.** The minute-by-minute movement of a wildland fire will probably never be totally predictable–certainly not from weather conditions forecast many hours before the fire. Nevertheless, practice and experienced judgment in assessing the fire environment coupled with a systematic method of calculating fire behavior, yields surprisingly good results (Rothermel 1983).

The BehavePlus Fire Modeling System has been used to predict the wildland fire behavior (rate-of-spread, fireline intensity and flame length) for the northeastern and southwestern boundary vegetative fuels. The BEHAVE: Fire Behavior Prediction and Fuel Modeling System–Burn Subsystem, Part 1 by Patricia L. Andrews, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE fire behavior computer modeling system was developed by USDA–Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts nationwide. Since the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations is the dead fuel less than one-fourth inch in diameter; these are the fine fuels that carry the fire. Fuels larger than three (3") inches in diameter are not included in the calculations at all (Andrews 1986)".

BehavePlus, Version 4, is an updated and enhanced form of the BEHAVE System. The BEHAVE fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six (6") feet of the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in fire protection planning purposes.

The ***FIREWISE*** **2000, Inc.** evaluation team used the computer based BEHAVE Plus Version 4 Fire Behavior Prediction Model to make the fire behavior assessments and projections for the hazardous vegetative fuels on the areas in proximity to the proposed

residential building lots 1 thru 4 (see APPENDIX „C" for actual calculations). The projections are based on scenarios that are "worst case" San Diego County fire assumptions. It should be noted that these analyses assume the entire site is native vegetation, when in fact much of site is an avocado grove. Therefore, these analyses establish a conservative fire protection approach for the property in an attempt to better mitigate fire danger on the site.

Four (4) different fire scenarios are presented based on "worst case" fire weather assumptions for the project area, and one (1) fire scenarios based on "typical" fire weather projections for comparison. Each fire scenario displays the expected „Rate of Fire Spread" (expressed in feet per minute), „Fireline Intensity" (expressed in British Thermal Units per foot per second) and „Flame Length" (expressed in feet) for two (2) separate BEHAVE Plus predications: one for the untreated fuels, and one for the treated fuels following the completion of the required fuel modification work. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel levels typically observed during the local fire season.

Table 4.6.1 ***Fire Scenario # 1*** **(Late Fire Season With 70 MPH North, Northeast And East Wind Conditions)**	
Fire Behavior Calculation Input Data • **13 % slope to fuel treatment** • **28mph Midflame wind speed** • **45° aspect from north** • **45° wind direction from north**	**Anticipated Fuel Moistures** *** 1-Hour Fine Fuel Moisture of ……..…2%** *** 10-Hour Fuel Moisture of……..……3%** *** 100-Hour Fuel Moisture of ……..…….5%** *** Live Herbaceous Fuel Moisture of…...30%** *** Live Woody Fuel Moisture of…….....60%**
Expected Fire Behavior Untreated **Combined Fuel Model [sh7 – Dry Climate Shrub 40% and SCAL 18 - Sage/Buckwheat 60%]**	
Rate of Spread - 393.3 feet/minute	
Fireline Intensity - 21942 BTU's/ft2	
Flame Length - 56.5 feet in length	
Expected Fire Behavior in Treated Fuels **Combined Fuel Model[tl9 – Very High Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]**	
Rate of Spread - 82.4 feet/minute	
Fireline Intensity - 4,379 BTU's/foot/second	
Flame Length - 26.9 feet in length	

Table 4.6.2 Fire Scenario #2 (Late Fire Season With Above Average 30 MPH South, West and Southwest Wind Conditions)	
Fire Behavior Calculation Input Data • 11 percent slope • 12 mph Midflame wind speed • 90° aspect from north • 225° wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of ……..…..2% * 10-Hour Fuel Moisture of...……..……3% * 100-Hour Fuel Moisture of ……..……5% * Live Herbaceous Fuel Moisture of…...30% * Live Woody Fuel Moisture of…….....60%
Expected Fire Behavior Combined Fuel Model [sh7 – Dry Climate Shrub 40% and SCAL 18 - Sage/Buckwheat 60%]	
Rate of Spread - 162.2 feet/minute	
Fireline Intensity - 8,116 BTU's/ft2	
Flame Length - 35.8 feet in length	
Expected Fire Behavior in Treated Fuels Combined Fuel Model - [tl9 – Very High Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]	
Rate of Spread - 30 feet/minute	
Fireline Intensity - 1344 BTU's/foot/second	
Flame Length - 15.6 feet in length	

Table 4.6.3 Fire Scenario # 3 (Typical 12 MPH South, West and Southwest Wind Conditions)	
Fire Behavior Calculation Input Data • 11 percent slope • 4.8 mph Midflame wind speed • 90° aspect from north • 225° wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of ……..…..4% * 10-Hour Fuel Moisture of...……..……6% * 100-Hour Fuel Moisture of ……..……8% * Live Herbaceous Fuel Moisture of…...50% * Live Woody Fuel Moisture of…….....60%
Expected Fire Behavior Combined Fuel Model [sh7 – Dry Climate Shrub 40% and SCAL 18 - Sage/Buckwheat 60%]	
Rate of Spread - 64.2 feet/minute	
Fireline Intensity - 1735 BTU's/foot/second	
Flame Length - 17.6 feet in length	
Expected Fire Behavior in Treated Fuels Combined Fuel Model - [tl9 – Very High Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]	
Rate of Spread - 13.7 feet/minute	
Fireline Intensity - 152 BTU's/foot/second	
Flame Length - 5.7 feet in length	

Table 4.6.4 Fire Scenario # 4 Avacado Grove Area With Maintenance (Typical 12 MPH South, West and Southwest Wind Conditions)	
Fire Behavior Calculation Input Data • 21 percent slope • 4.8 mph Midflame wind speed • 90° aspect from north • 225° wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of …..……4% * 10-Hour Fuel Moisture of.....……6% * 100-Hour Fuel Moisture of ……..……8% * Live Herbaceous Fuel Moisture of…...50% * Live Woody Fuel Moisture of…….....60%
Expected Fire Behavior **TL 9 Hardwood with litter 75%** **GR1 understory grass 25%**	
Rate of Spread - 13.3 feet/minute	
Fireline Intensity - 3829 BTU's/foot/second	
Flame Length - 8.8 feet in length	

In summary, the tables below show the change in fire rate of spread, intensity and flame length for the two worst case scenarios following the completion of the required fuel modification as compared to pre-treatment fire behavior.

TABLE 4.7A (Fire Scenario #1 – 70 mph Northeast Wind)

Prior to Fuel Treatment			After Fuel Treatment Non-Irrigated	
Rate of Spread	393.3 ft/min		Rate of Spread	82.4 ft/min
Fireline Instensity	21,942 BTU/ft/sec	VS.	Fireline Instensity	4,379 BTU/ft/sec
Flame Length	**56.5 Feet**		Flame Length	**26.9 Feet**

TABLE 4.7B – (Fire Scenario #2 – 30 mph Southwest Wind)

Prior to Fuel Treatment			After Fuel Treatment Non-Irrigated	
Rate of Spread	162.2 ft/min		Rate of Spread	30 ft/min
Fireline Instensity	8,116 BTU/ft/sec	VS.	Fireline Instensity	1344 BTU/ft/sec
Flame Length	**35.8 Feet**		Flame Length	**15.6 Feet**

4.7 Required Fuel Modification Zones for Buildings, Structures and Access Roads

Projects located in Hazardous Fire Areas shall include Fuel Management Zones (FMZ) surrounding all structures. San Diego County Code stipulates that the FMZ is a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified, **except for:**

- Single specimens of trees or other vegetation which are well-pruned and maintained.
- Grass and other vegetation located more than 50 feet from the structure and less than 18 inches in height above the ground.
- All ornamental landscaping that is consistent with County Wildland Interface plant list (See APPENDIX „A").

Below are the detailed defintions and required treatments for the Fuel Modification Zones. There are two (2) fuel modification zones required for the development: an irrigated zone 50 feet in width and a thinning zone 50 – 100 feet in width. This results in a total of 100 feet of fuel treatment, plus the setback distance on the buildable pad. Each structure envelope will be a minimum of 130 ft. from the open space native fuels. In addition, the edge of roadways and driveways must be treated to prevent ignition starts and to provide safe ingress and egrees should a wildfire occur. Each of these zones is described below in greater detail.

All distances in this report are measured horizontally. These distances are depicted on the Fuel Treatment Map, included herein as **APPENDIX 'H'**. *Prior to construction on any building site, all roads (primary and secondary) for this development shall be accepted by the Ramona Fire Department and San Diego County Fire Marshal. Per current County Fire Code all fuel treatment measures must be in place.*

The responsibility for the fuel modification maintainence defined below shall remain with the current owners and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to the property will be responsible for such maintenance. Fuel Modification Zones will be the responsibility of each individual homeowner. However, since actual house locations have not been sited as of the date of this FPP, Fuel Modification Zones are shown as beginning at the edge of the pad. The entire buildable pad will be maintained to Zone 1 Standards.

4.7.1 Buildable Pad Area (Parcel Owner-Maintained) - *Shown as no-color on the Fuel Treatment Exhibit*

Defined

Zone 1 (Buildable Pad Area) comprises the setback area around a structure (front, back and side yards) and is commonly called the defensible space zone. It is an irrigated zone and shall be free of all combustible construction and materials.

Setback

Structures shall be setback a minimum of 30 feet from property lines and open space easements unless the County Zoning Ordinance requires a greater minimum. When the property line abuts a roadway the setback shall be measured from the centerline of the roadway. Single-story structures shall be setback a minimum 15 feet horizontally from top of slope to the farthest projection from a roof. A single-story structure shall be less than 12 feet above grade. A two-story structure shall be setback a minimum of 30 feet horizontally from top of slope to the farthest projection from a roof.

Required Landscaping

The area will be cleared of all existing native vegetation and replanted with drought tolerant and irrigated fire resistant lawns, ground covers and shrubs. Landscaping shall be irrigated and primarily consists of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. However, this zone may contain occasional fire-resistant trees and single well-spaced ornamental shrubs up to 48 inches in height, intermixed with ground covers and lawn. Shrubs and ground covers may be located no closer than 5 feet from the structure provided these plants will not carry fire to the structure. Non-flammable concrete patios, driveways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity on the pad area.

Plants in this zone need to be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content

are the most „fire resistant". Refer to APPENDIX „A" County of San Diego"s Desirable Plant List and APPENDIX „B" for Prohibited Plants for plant selection.

Trees must be planted so that when they reach maturity the tips of their branches are at least 10 feet away from any structure. They must have a minimum of 6 feet of vertical separation from low growing irrigated vegetation beneath the canopy of the tree.

Required Maintenance

The pad area surrounding the house shall be maintained year round by the individual property owner(s) within their property boundary (lot lines) as required by this FPP. The parcel owner of record shall maintain all fuel modication zones beyond the edge of the pad which includes manufactured slopes. Shrubs and trees are to be annually maintained free of dead material. Trees will be maintained so that their crown cover will be more than ten (10) feet from any structure. All tree crowns will be separated by twenty (20) feet and maintained to keep a separation of six (6) feet between the ground fuels (shrubs and ground covers) and the lower limbs. All trees must be maintained to the current ANSI A300 standards (*Tree, Shrub, and Other Woody Plant Maintenance — Standard Practices {Pruning)*. Also, see www.ansi.com.

4.7.2 Fuel Modification Zone 1 (Parcel Owner-Maintained) - *Shown as Green on the Fuel Treatment Exhibit*

Defined

Zone 1 comprises the first 50 feet around a structure (front, back and side yards) and is commonly called the defensible space zone. It is an irrigated zone and shall be free of all combustible construction and materials. Zone 1 as shown on the Fuel Treatment Map begins at the edge of the pad. This, combined with the buildable pad area, will result in an excess of 50 feet of irrigated managed space.

Required Landscaping

Zone 1 will be cleared of all existing native vegetation and replanted with drought tolerant and irrigated fire resistant lawns, ground covers and shrubs. Landscaping shall be irrigated and primarily consists of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. However, this zone may contain occasional fire resistant trees and single well spaced ornamental shrubs up to 48 inches in height, intermixed with ground covers and lawn. Shrubs and ground covers may be located no closer than 5 feet from the structure provided these plants will not carry fire to the structure. Non-flammable concrete patios, driveways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1.

Plants in this zone need to be fire resistant and should not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most "fire resistant". Refer to APPENDIX „A" County of San Diego"s Desirable Plant List and APPENDIX „B" for Prohibited Plants for plant selection.

Trees must be planted so that when they reach maturity the tips of their branches are at least 10 feet away from any structure. They must have a minimum of 6 feet of vertical separation from low growing irrigated vegetation beneath the canopy of the tree. Oak trees that area retained shall be limbed up, native ground fuel removed, irrigation directly under the drip line of the tree shall be avoided

Required Maintenance

The pad area surrounding the house shall be maintained year round by the individual property owner(s) within their property boundary (lot lines) as required by this FPP. The parcel owner of record shall maintain all fuel modication zones beyond the edge of the

pad which includes manufactured slopes. Shrubs and trees are to be annually maintained free of dead material. Trees will be maintained so that their crown cover will be more than ten (10) feet from any structure. All tree crowns will be separated by twenty (20) feet and maintained to keep a separation of six (6) feet between the ground fuels (shrubs and ground covers) and the lower limbs. All trees must be maintained to the current ANSI A300 standards (*Tree, Shrub, and Other Woody Plant Maintenance — Standard Practices {Pruning}).* See www.ansi.com.

4.7.3 Fuel Modification Zone 2 (Parcel Owner-Maintained), *shown as DARK BROWN on the Fuel Treatment Exhibit.*

Defined Natural Slope Thinning Zone

Beginning at the outer edge of Zone 1, Zone 2 is the area between 50 and 100 feet from the edge of the buildable pad. It is permanently irrigated, partially irrigated, or non-irrigated, depending upon the plant species selected, and includes all natural and manufactured slopes. Irrigation shall not be required for natural slopes when there is a danger of slope failure.

Required Landscaping Natural Slope Thinning Zone @ 50% to Cover

All flammable native plants (see San Diego County Prohibited Plant List in APPENDIX „B") shall be removed within the 50 to 100 feet of treated area. It may be replanted with low growing (maximum 18 inches in height) and low fuel volume "ground cover" vegetation or native grasses and occasional well spaced (separated by a minimum of twenty {20} feet), low growing fire resistant shrubs (see APPENDIX „A"). Oak trees that area retained shall be limbed up and native ground fuel removed from the area beneath the drip line of the tree.

Additionally, the following native species will be totally removed from natural slope fuel modification areas: Chamise (*Adenostoma faeiculatum*); California sagebrush (*Artemisia californica*); flat-topped buckwheat (*Eriogonum fasciculatum*) and, black sage (*Salvia mellifera*).

Required Plantings and Maintenance

Low growing plants and ground covers are to be maintained to a height of 18 inches or less. Retained native shrubs will be trimmed and maintained to 48 inches, with occasional interior thinning. It is most important that planting are thinned and maintained in a mosaic. Maintenance will be on-going throughout the year as needed. Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to four (4) inches or less in height. This usually occurs prior to May 1st of each year.

4.7.4 Grove Area Standards and Maintenance

Irrigated avocado groves protect structures from the effects of fast moving wildland fires. Fuel moisture remains high through irrigation, while general maintenance practices limit the amount of ground fuel available to burn.

The existing avocado grove in each parcel will remain. Property owners of each individual parcel must continue irrigation and maintenance as required by this plan. Irrigation of non-managed areas causes annual grasses and invasive plants to flourish. *Should the grove area be abandoned, removal of dead material, trees and non-native understory will be required.*

General grove maintenance shall conform to best management principles. The current condition requires removal of ground fuel, removal of dead trees and in some cases

limbing up of low hanging branches. No trimmings will be left in the grove area; however they may be chipped and spread in layers not to exceed 4 inches. Leaf litter is acceptable. The existing grove areas are depicted in Figure 1 and Appendix I of the biological exhibit.

4.7.5 Fill Pad East of Lot 4

Ancillary structures are prohibited. The entire pad area shall meet the Zone 1 requirements. Approved uses may include pool, tennis court, etc. Any shade structures that may be built will be noncombustible.

4.8 Streets and Roadways Road Side Maintenance--Parcel Owner Maintained

Site access roads (interior) will receive Fuel Modification to a total of 30 feet, each parcel owner will be responsible for as needed maintenance or annual maintenance. **APPENDIX 'H'** depicts required 20 foot roadside maintenance areas along existing Highland Valley Road and Highland Valley Trail. Maintenance requirements shall be the same as Zone 2 Thinning. Oak Trees within the treatment area along Highland Valley Trail may be retained, if limbed up and understory cleared. Any existing Riparian Area maintenance requirements will comply with the San Diego County Resource Protection Ordnance.

Portions may be irrigated. Maintenance will be as required for a Zone 1 area.

Maintenance: Criteria established for Zone 1 and Zone 2 will be required on all access roadways.

4.9 Cumulative Impact Analysis

The combination of San Diego County"s weather, fuel, and terrain has often contributed to intense, uncontrolled wildland fires. This was clearly evident in the devastating Cedar, Paradise and Otay fires of October 2003, and the more recent Witch Creek Fire of November 2007.

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with wildlands. As the population of San Diego County increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. Increased vehicular access for this residential subdivision by way of improving an existing road and building a new access road will increase human activities in the immediate area and therefore increase the risk of property loss, injury or death within the interface with wildlands.

The approval of this proposal, the already approved developments in the area, dedicated open space, and future development proposals will increase the concern of wildland wildfire as the area becomes more urbanized. At present, the density of development in this area of San Diego County is relatively low and includes properties compliant with the fuel modification and weed abatement requirements of the County of San Diego.

Ramona Fire has stated in the Project Facility Availability Form-Fire that services are not anticipated to be adequate in the next five years, the development will participate in a Community Facilities District to assist in providing additional protection resources for the Community.

5.0 - MITIGATION MEASURES AND DESIGN CONSIDERATIONS

- Structures will be built to Ignition resistant standards per current Consolidated Fire Code and Building Code, see building requirements (APPENDIX „E"), which shall includes the installation of automatic fire sprinkler systems (National Fire Protection Association – NFPA Standard 13D).

- A minimum of 100 feet of fuel treatment, plus structure setback shall be placed around all structures that abut flammable native vegetation. The first 50 feet from the structure (80 feet with the setback) must be landscaped and irrigated, plus an additional 50 feet of fuel treatment (thinning zones) beginning at the edge of the irrigated zone.

- This report and its recommendations shall be incorporated by reference into the final project conditions of approval to ensure compliance with codes/regulations and significance standards. This plan also sets forth a requirement to manage and control invasives (exotics) in open space easements.

5.1 Parcel Owner Responsibilities and Requirements

1. Each lot owner is personally responsible for all fuel treatment measures within their property lot(s). Where these zones extend onto an adjoining lot within the development, the lot owner benefiting from the fuel treatment shall be allowed to perform the work on the adjacent property.

2. All roadside fuel treatment within the subdivision is the maintenance responsibility of the individual lot(s) owners.

3. *Trash dumping or disposal of yard trimmings in the Fuel Treatment Zones shall not be allowed.*

4. The Fuel Treatment Zones, as depicted on the Fuel Treatment Map, shall be recorded against all lots

5. All individual yard landscaping plans, including additional structures, shall be approved by the Fire Marshal, Ramona Fire Protection District, and will comply with the Fire Protection Plan. There will be a fee to check these plans.

6. Trees shall be placed and maintained so that their crown cover at maturity will be more than ten (10) feet from any structure.

7. All plants will be in accordance with the San Diego County Recommended Plant List (See APPENDIX „A"), or as approved by the San Diego County Fire Marshal.

8. Upon the sale of a lot to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.

5.2 Additional Requirements

- Brush removal shall be completed prior to commencing any flammable construction. During construction at least 50 feet of clearance around the structures shall be kept free

of all flammable vegetation as an interim fuel modification zone during construction of structures.

- Debris and trimmings produced by thinning and pruning will be removed from the site, or, if left, shall be converted into mulch and evenly dispersed to a maximum depth of four inches. Such trimmings will not be within 50 feet of structures.
- Any damaged or replacement window, siding, roof coverings, and specific non-combustible wall will meet or exceed the original intent of the fire protection discussed in this plan.
- This plan and its requirements shall be incorporated by reference into the final project Conditions of Approval.

5.3 FUEL TREATMENT MAP

A pocket folder containing **APPENDIX 'H'** - FUEL TREATMENT MAP can be found following this FPP depicting the location of all proposed fuel modification treatment locations and other mitigation measures.

6.0 - CONCLUSIONS

This FPP evaluated the adverse environmental effects that a proposed residential development may have from wildland fire and to properly mitigate those impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death involving wildland fires.

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. The Buildable Pad Setback Area and Zone 1 criteria provide the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will be a landscaped zone that is permanently irrigated and consists of fire resistant and maintained plantings, it may incorporate natural rocky out croppings and hardscape. Zone 2 is the next 50 - 100 feet and includes all manufactured slopes and provides removal of 50 percent of the native vegetation at a minimum, including all prohibited highly combustible native vegetation, but permits plantings with very specific criteria.

- The development will have adequate emergency access in terms of access and construction standards for roadways and streets. Ramona Fire Department, CAL FIRE, and/or mutual aid, will provide fire protection services. Response times and the proximity of the development to the Wildland Urban Interface (WUI), necessitates residential sprinkles with attic and garage protection, this in conjunction with the 2009 changes to the San Diego County Fire Code will mitigate for the longer response times.

- Water supplies via pipelines, storage tanks, and related requirements will provide adequate water for fire protection.

7.0 - LIST OF PREPARERS, PERSONS AND ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this Fire Protection Plan is David C. Bacon, President of ***FIREWISE* 2000, Inc.**, a San Diego County DPLU certified wildland fire consultant. Other ***FIREWISE* 2000, Inc.** members contributed to this plan with comments and peer review. These members include Monty Kalin, Wildland Fire Associate.

7.2 List of Persons Contacted During the Course of this Project

1. Conor McGee, *Project Manager*-J. Whalen Associates
2. Kevin Gaynor-Landmark Consulting
3. Jeremy Davis-Ramona Fire Department

8.0 REFERENCES

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5. How to Predict the Spread and Intensity of Forest and Range Fires. General Technical Report INT-143. June 1983. Richard C. Rothermel. United States Department of Agriculture - Forest Service, Intermountain Station, Ogden, Utah 84401.

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11. California Government Code, sections 51175 through 51189; the 2007 Fire Code portion of the CBSC, including appendices to Chapters 1 & 4 and APPENDICES „B‟, „F‟ & „H‟, the 2006 International Fire Code (IFC).

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13. County of San Diego. Standards for Private Roads. Department of Public Works, Adopted June 30, 1999.

14. County of San Diego. Fire, Defensible Space and You, August 1998.

15. County of San Diego. Plant List and Acceptable Plants for a Defensible Space in Fire Prone Areas. Department of Planning and Land Use, December, 1998.

16. Western Fire Center, Inc. Report on the Fire Testing of "Tedlar" Membrane Roofing Samples in Accordance with ASTM 108-04: Standard Test Methods for Fire Tests for Roof Coverings. Class "A" Burning Brand Tests (4). Report Issued: August 9, 2006.

17. County of San Diego. Guidelines for Determining Significance and Report Format and Content Requirements Wildland Fire and Fire Protection Land Use and Environment Group Department of Planning and Land Use, Department of Public Works, March 19, 2007.

18. Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel‟s Surface Fire Spread Model, General Technical Report. RMRS-GTR 153, June 2005 United States Department of Agriculture - Forest Service.

19. The Local Amendments to the 2007 California Fire Code; Chapter 7A-California Building Code.

20. The California State and Local Responsibility Area Fire Hazard Severity Zone Map – Fire and Resource Assessment Program of CAL FIRE.

9.0 TECHNICAL APPENDICES

The following technical appendices have been attached to this document:

Recommended Plant List	**APPENDIX 'A'**
Prohibited/Invasive Plant List	**APPENDIX 'B'**

APPENDIX „A“

Acceptable Plant List

COUNTY OF SAN DIEGO
ACCEPTABLE PLANTS FOR DEFENSIBLE SPACE IN FIRE PRONE AREAS

ALL NATIVE PLANTS ON THE FOLLOWING LIST are considered to be drought-tolerant in the particular climate zone they are found. Those that grow best in riparian areas, as indicated by the "R", are generally the least drought-tolerant plants on the list.

SPECIAL NOTE: When planting, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. This watering should continue for at least three years to allow the plants to naturalize. More water should be provided in summer and less (if any) in the winter. These plants should be weaned off the supplemental irrigation and become less dependent on it over the establishment period.

No plant is totally fire resistant. The plants listed were chosen to due to their high water content, minimum amount of flammable resins and/or low fuel volume.

Definitions:

Defensible Space: The area around a structure, where material capable of causing fire has been cleared, reduced or changed, to act as a barrier between an advancing fire and the structure.

Drought-Tolerant Plant Materials: Trees, shrubs, groundcovers, and other vegetation capable of sustained growth and reproduction with only natural moisture. Occasional supplemental irrigation is necessary only in extreme drought situations.

Establishment Period: The time it takes for a plant to become drought-resistant. This is usually a period of three years and is the time when supplemental irrigation is necessary.

Native or Naturalizing Plant Species: Plant species native to the region or introduced which, once established, are capable of sustaining growth and reproduction under local climatic conditions without supplemental irrigation.

***FIREWISE* 2000, Inc. Note:** The plant list which follows was developed using the plants found on the San Diego County approved plant list. This list was then compared to those plants which are suitable for the climatic zone in which the project is located. Only those plants suitable for the project area listed below. The list is therefore shorter than that provided by the County. By providing this custom list, plants that are likely to be killed or seriously damaged by frost or will not perform in hot dry conditions have been eliminated. ***FIREWISE* 2000, Inc.** believes that the planting of species suited to the site is essential to fire management goals and is aN environmentally sound practice.

San Diego County
Customized Acceptable Plant List
For The Gildred-Highland Project

No.	Type	Genus	Species	Common Name
1	Tree	Acer	macrophyllum	Big Leaf Maple
2	Tree	Acer	saccarum	Sugar Maple
3	Tree	Acer	saccharinum	Silver Maple
4	Groundcover	Achillea	millefolium	Yarrow
5	Shrub	Agave	americana	Desert Century Plant
6	Shrub	Agave	Amorpha fruticosa	False Indigobush
7	Shrub	Agave	deserti	Shaw's Century Plant
8	Shrub	Agave	shawii	NCN
9	Shrub	Agave		Century Plant
10	Tree	Alnus	rhombifolia	White Alder "R"
11	Vine	Antigonon	leptopus	San Miguel Coral Vine
12	Tree	Arbutus	unedo	Strawberry Tree
13	Groundcover	Arctostaphylos spp.		Manzanita
14	Shrub	Arctostaphylos spp.		Manzanita
15	Shrub	Atriplex	canescens	Hoary Saltbush
16	Shrub	Baccharis	pilularis	Coyote Bush
17	Shrub	Baccharis	salicifolia	Mule Fat "R"
18	Tree	Brahea	armata	Blue Mexican Palm
19	Tree	Brahea	edulis	Guadalupe Palm
20	Shrub	Carissa	macrocarpa	Natal Plum
21	Shrub	Ceanothus spp.		California Lilac
22	Groundcover	Cerastium	tomentosum	Snow-in-Summer
23	Tree	Ceratonia	siliqua	Carob
24	Tree	Cercis	occidentalis	Western Redbud
25	Tree	Cerdidium	floridum	Blue Palo Verde
26	Shrub	Cistus spp.		Rockrose
27	Shrub	Cneoridium	dumosum	Bush rue
28	Shrub	Comarostaphylis	diversifolia	Summer Holly
29	Shrub	Convolvulus	cneorum	Bush Morning Glory
30	Groundcover	Coprosma	kirkii	Creeping Coprosma
31	Perennial	Coreopsis	gigantea	Giant Coreopsis
32	Perennial	Coreopsis	grandiflora	Coreopsis
33	Perennial	Coreopsis	maritima	Sea Dahlia
34	Perennial	Coreopsis	verticillata	Coreopsis
35	Tree	Cornus	nuttallii	Mountain Dogwood

36	Tree	Cornus	stolonifera	Redtwig Dogwood
37	Groundcover	Cotoneaster spp.		Redberry
38	Shrub	Dalea	attenuata v orcuttii	Orcutt's Delea
39	Vine	Distictis	buccinatoria	Blood-Red Trumpet Vine
40	Groundcover	Drosanthemum	hispidum	Rosea Ice Plant
41	Groundcover	Dudleya	pulverulenta	Chalk Dudleya
42	Groundcover	Dudleya	virens	Island Live-Forever
43	Shrub	Elaeagnus	pungens	Silverberry
44	Shrub	Encelia	californica	Coast Sunflower
45	Shrub	Encelia	farinosa	White Brittlebush
46	Shrub	Eriobotrya	deflexa	Bronze Loquat
47	Tree	Eriobotrya	japonica	Loquat
48	Shrub	Eriophyllum	confertiflorum	Golden Yarrow
49	Shrub	Escallonia spp.		Escallonia
50	Groundcover	Eschscholzia	californica	California Poppy
51	Shrub	Feijoa	sellowiana	Pineapple Guava
52	Groundcover	Ferocactus	viridescens	Coast Barrel Cactus
53	Shrub	Fouqueria	splendens	Ocotillo
54	Shrub	Fremontodendron	californicum	Flannelbush
55	Shrub	Fremontodendron	mexicanum	Southern Flannelbush
56	Groundcover	Gaillardia	grandiflora	Blanket Flower
57	Shrub	Galvezia	juncea	Baja Bush-Snapdragon
58	Shrub	Galvezia	speciosa	Island Bush-Snapdragon
59	Shrub	Garrya	elliptica	Coast Silktassel
60	Shrub	Garrya	flavescens	Ashy Silktassel
61	Groundcover	Gazania spp.		Gazania
62	Tree	Gingko	biloba "Fairmount"	Fairmount Maidenhair Tree
63	Tree	Gleditisia	triacanthos	Honey Locust
64	Groundcover	Helianthemum spp.		Sunrose
65	Shrub	Heteromeles	arbutifolia	Toyon
66	Perennial	Heuchera	maxima	Island Coral Bells
67	Perennial	Iris	douglasiana	Douglas Iris
68	Tree	Juglans	californica	California Walnut
69	Tree	Juglans	hindsii	California Black Walnut
70	Vine	Keckiella	cordifolia	Heart-Leaved Penstemon
71	Perennial	Kniphofia	uvaria	Red-Hot Poker
72	Tree	Lagerstroemia	indica	Crape Myrtle
73	Groundcover	Lantana spp.		Lantana
74	Shrub	Lantana spp.		Lantana
75	Groundcover	Lasthenia	californica	Common Goldfields
76	Groundcover	Lasthenia	glabrata	Coastal Goldfields
77	Perennial	Lavandula spp.		Lavender
78	Tree	Ligustrum	lucidum	Glossy Privet
79	Perennial	Limonium	californicum perezii	Coastal Statice
80	Tree	Liquidambar	styraciflua	Sweet Gum
81	Tree	Liriodendron	tulipifera	Tulip Tree
82	Vine	Lonicera	japonica 'Halliana'	Hall's Honeysuckle
83	Vine	Lonicera	subspicata	Chaparral Honeysuckle
84	Shrub	Lotus	scoparius	Deerweed
84	Annual	Lupinus spp.	nanus	Lupine
85	Groundcover	Lupinus spp.		Lupine
86	Tree	Lyonothamnus	floribundus ssp. Asplenifolius	Fernleaf Catalina Ironwood

87	Shrub	Mahonia spp.		Barberry
88	Shrub	Malacothamnus	clementinus	San Clemente Island Bush Mallow
89	Shrub	Malacothamnus	fasciculatus	Mesa Bushmallow
90	Shrub	Melaleuca spp.		Melaleuca
91	Tree	Melaleuca spp.		Melaleuca
92	Shrub	Mimulus spp.		Monkeyflower
93	Groundcover	Myoporum spp.		Myoporum
94	Tree	Myoporum spp.		Myoporum
95	Tree	Nerium	oleander	Oleander
96	Shrub	Nolina	parryi	Parry's Nolina
97	Perennial	Oenothera spp.		Primrose
98	Tree	Parkinsonia	aculeata	Mexican Palo Verde
99	Perennial	Penstemon spp.		Penstemon
100	Shrub	Photinia spp.		Photinia
101	Tree	Pistacia	chinensis	Chinese Pistache
102	Tree	Pistacia	vera	Pistachio Nut
103	Shrub	Pittosporum	crassifolium	NCN
104	Tree	Pittosporum	phillyreoides	Willow Pittosporum
105	Shrub	Pittosporum	rhombifolium	Queensland Pittosporum
106	Shrub	Pittosporum	tobira 'Wheeleri'	Wheeler's Dwarf
107	Shrub	Pittosporum	viridiflorum	Cape Pittosporum
108	Tree	Pittosporum	viridiflorum	Cape Pittosporum
109	Tree	Platanus	acerifolia	London Plane Tree
110	Tree	Platanus	racemosa	California Sycamore "R"
111	Shrub	Plumbago	auriculata	Cape Plumbago
112	Tree	Populus	alba	White Poplar
113	Tree	Populus	fremontii	Western Cottonwood "R"
114	Tree	Populus	trichocarpa	Black Cottonwood "R"
115	Shrub	Prunus	caroliniana	Carolina Laurel Cherry
116	Tree	Prunus	caroliniana	Carolina Laurel Cherry
117	Tree	Prunus	cersifera 'Newport'	Newport Purple-Leaf Plum
118	Shrub	Prunus	ilicifolia	Hollyleaf Cherry
119	Tree	Prunus	ilicifolia	Hollyleaf Cherry
120	Shrub	Prunus	lyonii	Catalina Cherry
121	Tree	Prunus	lyonii	Catalina Cherry
122	Tree	Prunus	serrulata 'Kwanzan'	Flowering Cherry
123	Tree	Prunus	xblireiana	Flowering Plum
124	Tree	Prunus	yedoensis 'Akebono'	Akebono Flowering Cherry
125	Shrub	Puncia	granatum	Pomegranate
126	Groundcover	Pyracantha spp.		Firethorn
127	Shrub	Pyracantha spp.		Firethorn
128	Tree	Quercus	agrifolia	Coast Live Oak
129	Tree	Quercus	engelmannii	Engelmann Oak
130	Tree	Quercus	suber	Cork Oak
131	Shrub	Rhamus	alaternus	Italian Buckthorn
132	Shrub	Rhamus	californica	Coffeeberry
133	Shrub	Rhaphiolepis spp.		Rhaphiolepis
134	Shrub	Rhus	continus	Smoke Tree
135	Shrub	Rhus	integrifolia	Lemonade Berry
136	Tree	Rhus	lancea	African Sumac
137	Shrub	Rhus	laurina	Laurel Sumac
138	Shrub	Rhus	ovata	Sugarbush

139	Shrub	Rhus	trilobata	Squawbush
140	Shrub	Romneya	coulteri	Matilija Poppy
141	Shrub	Rosa	californica	California Wild Rose
142	Shrub	Rosa	minutifolia	Baja California Wild Rose
143	Groundcover	Rosmarinus	officinalis	Rosemary
144	Tree	Salix spp.		Willow "R"
145	Shrub	Salvia spp.		Sage
146	Shrub	Sambucus spp.		Elderberry
147	Groundcover	Santolina	chamaecyparissus	Lavender Cotton
148	Groundcover	Santolina	virens	Santolina
149	Perennial	Satureja	douglasii	Yerba Buena
150	Perennial	Sisyrinchium	bellum	Blue-Eyed Grass
151	Perennial	Sisyrinchium	californicum	Golden-Eyed Grass
152	Vine	Solanum	jasminoides	Potato Vine
153	Perennial	Solanum	xantii	Purple Nightshade
154	Shrub	Symphoricarpos	mollis	Creeping Snowberry
155	Shrub	Syringa	vulgaris	Lilac
156	Shrub	Tecomaria	capensis	Cape Honeysuckle
157	Shrub	Teucrium	fruticans	Bush Germander
158	Groundcover	Trifolium	frageriferum	O'Connor's Legume
159	Tree	Tristania	conferta	Brisbane Box
160	Tree	Ulmus	parvifolia	Chinese Elm
161	Tree	Ulmus	pumila	Siberian Elm
162	Tree	Umbellularia	californica	California Bay Laurel "R"
163	Shrub	Verbena	lilacina	Lilac Verbena
164	Groundcover	Verbena	rigida	Verbena
165	Groundcover	Viguiera	laciniata	San Diego Sunflower
166	Groundcover	Vinca	major	Periwinkle
167	Groundcover	Vinca	minor	Dwarf Periwinkle
168	Shrub	Xylosma	congestum	Shiny Xylosma
169	Shrub	Yucca	schidigera	Mojave Yucca
170	Shrub	Yucca	whipplei	Foothill Yucca
171	Perennial	Zauschneria	'Catalina' ?	Catalina Fuschia
172	Perennial	Zauschneria	californica	California Fuschia
173	Perennial	Zauschneria	cana	Hoary California Fuschia

APPENDIX „B“

Undesirable Plant List

APPENDIX „B"

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

References:

Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

Willis, E. 1997. San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards

City of Oceanside, California. 1995. Vegetation Management. Landscape Development Manual. Community Services Department, Engineering Division.

City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

www.bewaterwise.com. 2004. Fire-resistant California Friendly Plants.

www.ucfpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

County of Los Angeles Fire Department. 1998. Fuel Modification Plan Guidelines. Appendix I, Undesirable Plant List, and Appendix II, Undesirable Plant List.

APPENDIX „C“

Behave Plus Version 4.0.0
Fire Behavior Calculations

BehavePlus 4.0.0 (Build 276)

Table 4.6.1 Northeast Wind Event

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	40
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	28
Wind Direction (from north)	deg	45
Terrain		
Slope Steepness	%	13
Aspect	deg	90

Run Option Notes

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	393.3	ft/min
Fireline Intensity	21942	Btu/ft/min
Flame Length	56.5	ft
Direction of Maximum Spread (from north)	225	deg

BehavePlus 4.0.0 (Build 276)

Table 4.6.1 Northeast Wind Event Treated

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl9
Second Fuel Model		gr1
First Fuel Model Coverage	%	50
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	28
Wind Direction (from north)	deg	45
Terrain		
Slope Steepness	%	13
Aspect	deg	90
Notes		

Run Option Notes

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	82.4	ft/min
Fireline Intensity	437998	Btu/ft/min
Flame Length	26.9	ft

BehavePlus 4.0.0 (Build 276)

Table 4.6.2 Southwest Wind Event Un Treated

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	40
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	12
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	11
Aspect	deg	90
Notes		

Run Option Notes

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	162.2	ft/min
Fireline Intensity	811625	Btu/ft/min
Flame Length	35.8	ft
Direction of Maximum Spread (from north)	45	deg

BehavePlus 4.0.0 (Build 276)

Table 4.6.2 Southwest Wind Event Treated

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl9
Second Fuel Model		gr1
First Fuel Model Coverage	%	50
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	12
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	11
Aspect	deg	90

Run Option Notes

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	30.0	ft/min
Fireline Intensity	134421	Btu/ft/min
Flame Length	15.6	ft
Direction of Maximum Spread (from north)	45	deg

BehavePlus 4.0.0 (Build 276)

Southwest Typical Daily Wind Untreated

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	40
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	4.8
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	11
Aspect	deg	90
Notes		

Output Variable	Value	Units
Surface Rate of Spread (maximum)	64.2	ft/min
Fireline Intensity	173503	Btu/ft/min
Flame Length	17.6	ft
Direction of Maximum Spread (from north)	44	deg

BehavePlus 4.0.0 (Build 276)

Southwest Typical Daily Wind Treated

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl9
Second Fuel Model		gr1
First Fuel Model Coverage	%	50
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	4.8
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	11
Aspect	deg	90

Output Variable	Value	Units
Surface Rate of Spread (maximum)	13.7	ft/min
Fireline Intensity	15242	Btu/ft/min
Flame Length	5.7	ft
Direction of Maximum Spread (from north)	44	deg

BehavePlus 4.0.0 (Build 276)

Avocado Grove Treated

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl9
Second Fuel Model		gr1
First Fuel Model Coverage	%	75
Fuel Model Type		S
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
Midflame Wind Speed	mi/h	4.8
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	21
Aspect	deg	90

Output Variable	Value	Units
Surface Rate of Spread (maximum)	13.3	ft/min
Fireline Intensity	38293	Btu/ft/min
Flame Length	8.8	ft
Direction of Maximum Spread (from north)	41	deg

APPENDIX „D“

Non-Combustible & Fire Resistant Building Materials For Balconies, Carports, Decks, Patio Covers and Floors

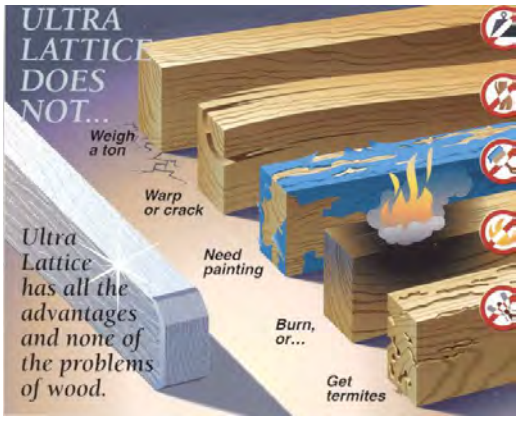
Examples of non-combustible & fire resistant building materials for balconies, carports decks, patio covers and floors are as follow:

I. **NON-COMBUSTIBLE HEAVY GAGE ALUMINUM MATERIALS** - *Metals USA Building Products Group - Ultra-Lattice*

Ultra-Lattice Stand Alone Patio Cover

Ultra-Lattice Attached Patio Cover

Ultra-Lattice Solid Patio Cover



Ultra-Lattice Vs. Wood

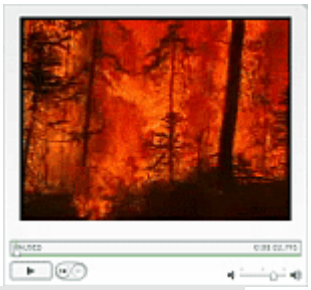
II. FRX Exterior Fire-Retardant Treated Wood

Exterior Fire Retardant Treated (FRT) Wood

FRX® fire retardant treated wood may be used in exterior applications permitted by the codes where: public safety is critical, other materials would transfer heat or allow fires to spread, sprinkler systems cannot easily be installed, corrosive atmospheres necessitate excessive maintenance of other materials, or fire protection is inadequate or not readily available. The International Building, Residential and Urban-Wildland Interface Codes and regulations permit the use of fire retardant treated wood in specific instances. See below for typical exterior uses and typical residential uses.

Typical Exterior Uses

- Balconies
- Decks



Homeowners and Residential Architects: See this 2-minute video and the diagram below.

For information on fire retardant treated wood for exterior uses, visit www.frxwood.com.

Decking (SFM Standard 12-7A-4)

III. TREX COMPANY, INC –"Trex Accents ®: Fire Defense ™ " wood and polyethylene composite deck board, nominal 5/4" thick x 5-1/2" width, nominal density of 0.036 lb/in^3.

Trex Accents®: Fire Defense™

The perfect blend of beauty and brawn.

Trex's #1 selling platform, Trex Accents®, exceeds the strict fire regulations set by the State of California and San Diego County.

- Offers superior safety performance:
  - Exceeds ASTM E84 Class B Flame Spread.
  - Exceeds 12-7A-4 Part A (underflame) and Part B (Burning Brand).
- Self-extinguishing even under extreme fire exposure.
- Approved for use by the California State Fire Marshal's Office and San Diego County. Read the California Department of Forestry and Fire Protection, Office of the State Fire Marshal WILDLAND URBAN INTERFACE (WUI)PRODUCTS Report. (PDF)

IV. SOLID "WOOD" DECKING (refer to San Diego County Building Division for specific building materials)

APPENDIX „E“

Ignition Resistant Construction Requirements

APPENDIX „E“

As of the date of this FPP, September 17, 2010, the following are the San Diego County requirements for ignition resistive construction requirements for new construction (which include requirements under the San Diego County Building Code effective January 30, 2008 as amended July 22, 2009 as Ordinance No. 4997 and amended October 14, 2009 as Ordinance No. 10014, and the San Diego Consolidated Fire Code of 2009):

1. All structures will be built with a Class A Roof Assembly, including a Class A roof covering, and attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with 1/4-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection. Attic ventilation shall also comply with the requirements of the California Building Standards Code, as referenced in the County Consolidated Code 2009. Ventilation louvers and openings may be incorporated as part of access assemblies.

2. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fire stopped with approved materials or have one layer of No. 72 ASTM cap sheet installed over the combustible decking.

3. When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.

4. Paper-faced insulation shall be prohibited in attics or ventilated spaces.

5. All chimney, flue or stovepipe openings will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thicknesses or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.

6. All residential structures will have automatic interior fie sprinklers installed according to the National Fire Protection Association (NFPA) 13D - *Standard for the Installation of Sprinkler Systems in One and Two-family Homes and Manufactured Homes* .

7. All glass or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass.

8. The exterior walls surface materials shall be non-combustible or an approve alternate. In all construction, exterior walls are required to be protected with 2-inch nominal solid blocking between rafters at all roof overhangs.

9. All eaves, fascias and soffits will be enclosed (boxed) with non-combustible materials. This shall apply to the entire perimeter of each structure.

10. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.

11. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris that contribute to roof edge ignition.

12. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustible material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.

13. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

14. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.

15. Exterior doors shall be approved non-combustible construction, solid core wood and shall conform to the performance requirements of standard SFM 12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 1⅜ inches thick with interior field panel thickness no less than 1¼ inches thick, or shall have a fire-resistance rating of not less than 20 minutes when tested according to ASTM E2074.

16. Vinyl window assemblies are deemed acceptable if the windows have the following characteristics:

- Frame and sash are comprised of vinyl material with welded corners
- Metal reinforcements in the interlock area
- Glazed with insulating glass, annealed or tempered (one layer of which must be tempered glass).
- Frame and sash profiles are certified in AAMA Lineal Certification Program
- Certified and labeled to ANSI/AAMA/NWWDA 101/LS2-97 for Structural Requirements

17. All windows shall be provided with 1/8 inch mesh metal or similar non-combustible screens to prevent embers from entering the structure during high wind conditions

18. Roof vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with 1/4-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall be equipped to allow one-way direction rotation only; they shall not freely spin in both directions.

19. Combustible eaves, fascias and soffits shall be enclosed. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.

APPENDIX „F“

Project Facility Availability Form
DPLU #399-F for Fire

APPENDIX „G“

Project Facility Availability Form
Water

APPENDIX „H“

Fuel Treatment Exhibit

APPENDIX „F“

Biological Exhibit

ADDENDUM TO FIRE PROTECTION PLAN

GILDRED PROJECT HIGHLAND VALLEY ROAD
TM 21176 Environmental Log # 3910-10-09-003
Ramona Fire Department
Ramona, CA
County of San Diego

and

County of San Diego
Planning & Development Services

Project Proponent:

The Gildred Companies
550 W. 'C' Street, Suite 1820
San Diego, CA 92101

Prepared By:

FIREWISE 2000, Inc.
Ron Woychak
1320 Scenic Drive
Escondido, Ca 92039
760-745-3947

Dated:
30 May 2017

Executive Summary

The Gildred Fire Protection Plan - TM 21176 was approved in March 2011. A site visit was completed on 4 June 2016, for the preparation of this addendum, it was noted that substantially less vegetation was on site in comparison to the 2010 site analysis found in the plan. It appears the producing Avocado grove has a smaller footprint, and the property's overall use remains agricultural. All other site features remain the same.
The Plan was reviewed for accuracy, and it was determined that there are no significant changes in relationship to the site plan.

A review of the Fire Behavior Analysis and Fuel Treatment measures found no significant changes and are valid and useable. It is noted the site conditions are somewhat different in that there is less fuel available to burn should there be a fire, which in turn provides for diminished flame lengths and rates of spread, both on and off site. Since on site fuel will either be removed or modified during the grading process, there will be no significant impacts to the models in the initial plans. Off-site fuel will continue to re-populate becoming those modeled in the future.

Appendix "A" provides updates to Project Facilities Availability for Fire and Water.

The Plan requires global changes to the Fire Code references. The current version of the County of San Diego Consolidate Code dated 14 April 2017, The 2016 version of the California Building Code, Chapter 7A, 2016 California Residential Code, 19.29.050 Section R337. At the time of construction the most current code will be used.

The Fuel Treatment Exhibit was revised to include the changes to Lot 3 and the Legend references to code requirements. It can be found in Appendix "D"

In addition a replacement Appendix "E" which includes references to CRC section R337 is included as Appendix "B".

Appendix "C", provides current site photos from June 2016.

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APPENDIX 'A'

Project Facility Availability Form Fire and Water

County of San Diego, Planning & Development Services
PROJECT FACILITY AVAILABILITY - FIRE
ZONING DIVISION

Please type or use pen

Gildred Building Companies (619) 232-6361
Owner's Name Phone

550 West "C" Street, Suite 1820
Owner's Mailing Address Street

San Diego, CA 92101
City State Zip

ORG_____
ACCT_____
ACT_____
TASK_____
DATE_____ AMT $_____

F

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A.
- ☐ Major Subdivision (TM)
- ☐ Specific Plan or Specific Plan Amendment
- ☒ 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.
- ☐ Residential ..... Total number of dwelling units _____
- ☐ Commercial ..... Gross floor area _____
- ☐ Industrial ..... Gross floor area _____
- ☐ Other ..... Gross floor area _____

C. Total Project acreage 53.1 Total lots 4 Smallest proposed lot 9.58 ac.

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

276-100-40-00	

Thomas Guide Page 1150 Grid F4

Highland Valley Road and Highland Trails Drive
Project address Street

Ramona, 92065
Community Planning Area/Subregion Zip

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

Applicant's Signature: Ryan Harley Date: 9/14/17

Address: 1660 Hotel Circle North, Suite 725, San Diego, CA 92108 Phone: (619) 683-5544

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

SECTION 2: FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District Name: Ramona Fire Department

Indicate the location and distance of the primary fire station that will serve the proposed project:
FS 82, 3410 Dye Rd., 6.7 miles

A.
- ☒ 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. ☒ 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 12.11 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: _____
- ☒ 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 Planning & Development Services.

- ☒ Within the proposed project 100 feet of clearing will be required around all structures.
- ☐ 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.

Authorized Signature	*Print Name and Title*	*Phone*	*Date*
	James Pine, Asst. FM	858.495.5434	9/15/17

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Planning & Development Services – Zoning Counter, 5510 Overland Ave, Suite 110, San Diego, CA 92123

RAMONA MUNICIPAL WATER DISTRICT
In cooperation with the
CALIFORNIA DEPARTMENT OF FORESTRY
And FIRE PROTECTION

105 Earlham Street
Ramona, California 92065-1599

Telephone:
1-760-788-2244

RAMONA FIRE PREVENTION BUREAU

County of San Diego Planning and Development Services
5510 Overland Avenue
San Diego, Ca. 92123

October 26, 2015

RE: TPM 21176 - Gilred / APN: 276-100-40-00

The Ramona Fire Department has reviewed the project, and have the following conditions. This letter supersedes, the previous letters written on January 19, 2011 and March 3, 2011.

1. The Ramona Municipal Water District (RMWD) / Ramona Fire Department require as an condition of their committing to serve Gilred (TPM 21176), that prior to recordation of the final map, Gilred will if in place join the existing Community Facility District (CFD).

2. Fire Hydrants shall be located at 500 ft spacing along Highland Valley Rd and Highland Trails Dr. Fire Flow required is a minimum of 1500 Gallons per minute.

Sincerely,

Steve Foster
Battalion Chief-Fire Marshal
CAL FIRE
San Diego Unit/Ramona Fire Department
105 Earlham Street Ramona, Ca 92065
Office:(760)788-2244

County of San Diego, Planning & Development Services

PROJECT FACILITY AVAILABILITY - WATER

ZONING DIVISION

Please type or use pen

Gildred Building Companies (619) 232-6361
Owner's Name Phone

550 West "C" Street, Suite 1820
Owner's Mailing Address Street

San Diego, CA 92101
City State Zip

ORG_____
ACCT_____
ACT_____
TASK_____
DATE_____ AMT $_____

W

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A. ☐ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☒ 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. ☒ Residential . . . . . Total number of dwelling units 4
☐ Commercial. . . . . Gross floor area_____
☐ Industrial . . . . . Gross floor area_____
☐ Other . . . . . Gross floor area_____

C. ☒ Total Project acreage 53.1 Total number of lots 4

D. Is the project proposing the use of groundwater? ☐ Yes ☐ No
Is the project proposing the use of reclaimed water? ☐ Yes ☐ No

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

276-100-40-00	

Thomas Guide Page 1150 Grid F4

Highland Valley Road and Highland Trails Drive
Project address Street

Ramona 92065
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: Ryan Hawley Date: 08/24/2017

Address: 1660 Hotel Circle North, Suite 725, San Diego, CA 92108 Phone: (619) 683-5544

(On completion of above, present to the district that provides water protection to complete Section 2 below.)

SECTION 2: FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District Name: RAMONA MUNICIPAL WATER DISTRICT Service area_____

A. ☒ 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. ☒ Facilities to serve the project ☒ 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 1 . (Number of sheets)

☐ Project will not be served for the following reason(s):_____
Based on Water System Evaluation (See Conditions Attached)

C. ☒ **District conditions are attached. Number of sheets attached:** 1
☐ **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?** TBD Based on Water System Evaluation

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. **Expires 8/25/18**

Authorized Signature: _____ Print Name M. Moore

Print Title Eng. Tech Phone 760.789.1330 Date 08/25/17

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT
On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Planning & Development Services – Zoning Counter, 5510 Overland Ave, Suite 110, San Diego, CA 92123

Conditions for Water Availability Letter (In District)

a. Water facilities are reasonably expected to become available within five (5) years, if the following conditions are met:

   A water commitment agreement is signed by the owner/developer and approved by the District that the owner/developer will assure the district that all actual costs of the facilities required by the project, including, but not limited to, administrative costs, design costs, and construction costs will be paid solely by the owner/developer in a timely fashion. The agreement shall state that the facilities required by the project will need to be completed before any connections shall be made.

b. Re-allocation and/or purchase of water EDUs and easements may be required for new parcels.

c. Developer shall make a deposit (minimum of $2,000) with the District to cover all costs for any planning and system evaluation required by the District for addressing the facilities needed to serve this project. The amount of the deposit may vary depending on the project scope and additional deposit may be needed depending on actual costs. System evaluations typically require 4 to 6 weeks to complete. ***The Water System Evaluation shall be completed and a Water Service Agreement or Pre-Annexation Agreement executed before the Draft California Environmental Quality Act (CEQA) documents are prepared and before the District will sign a "Project Facility Commitment Form."***

d. Water availability and commitment letters are based on current ordinances, resolutions, rules, regulations, specifications, and guidelines of the District. **Should these ordinances, resolutions, rules, regulations, specification, guidelines, and system conditions change from time to time, the applicant shall be subject to the requirements in effect at the time of applying for water service.**

PRELIMINARY GRADING PLAN FOR GILDRED TENTATIVE PARCEL MAP NO. 21176 COUNTY OF SAN DIEGO

LEGEND

DESCRIPTION	SYMBOL
SLOPES (2:1 SLOPE, UNLESS SHOWN OTHERWISE)	CUT / FILL
PROJECT BOUNDARY	
PROPOSED LOT LINE	
EXISTING LOT LINE	
PROPOSED EASEMENT	
EXISTING EASEMENT	
CUT/FILL DAYLIGHT LINE	F / C
EXISTING CONTOUR	153
PROPOSED CONTOUR	153
EXISTING OVERHEAD POWER/TELEPHONE LINE	OH
PROPOSED WATER MAIN	W
FIRE HYDRANT PROPOSED	
EXISTING STORM DRAIN	
STORM DRAIN	
STORM DRAIN HEADWALL/RIPRAP	
STORM DRAIN CATCH BASIN	
EX. WATERCOURSE FLOWLINE	
EX. LIMITS OF WETLANDS	
PROP. CONC. DITCH	
EXISTING POWER POLE	
PROPOSED FIRE HYDRANT	
PR. STEEP SLOPE EASEMENT	
PR. AG OPEN SPACE EASEMENT	
PR. BIO OPEN SPACE EASEMENT	
100 YR FLOOD INUNDATION	
GENERAL PLAN DESIGNATION	GP18
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PROPOSED SEPTIC TIGHT LINE	
PR. BIO-FILTRATION BASIN (BMP)	
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PR. CONCRETE CROSS GUTTER	

PRELIMINARY GRADING PLAN NOTES:

1. THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL 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.
2. ONCE THE PROJECT IS COMPLETED RAMONA WATER DISTRICT WILL BE SERVICING ALL OF THE LOTS.

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BENCHMARK:

BENCHMARK DISC STAMPED "RA 0119" IN CONCRETE MONUMENT WITH STEEL POST MARKER, ON HIGHLAND VALLEY DIRT ROAD, 6.7 MILES EAST OF INTERSECTION WITH POMERADO ROAD WHERE ROAD RUNS THROUGH OAK GROVE IN CANYON 21 FEET EAST OF ROAD IN A ROCKY DRAW 15 FEET WEST OF 18 INCH OAK TREE.

RECORD FROM COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS

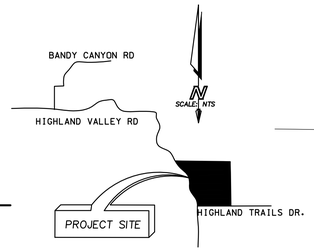
ELEVATION 1284.041
DATUM M.S.L.

GRADING SUMMARY

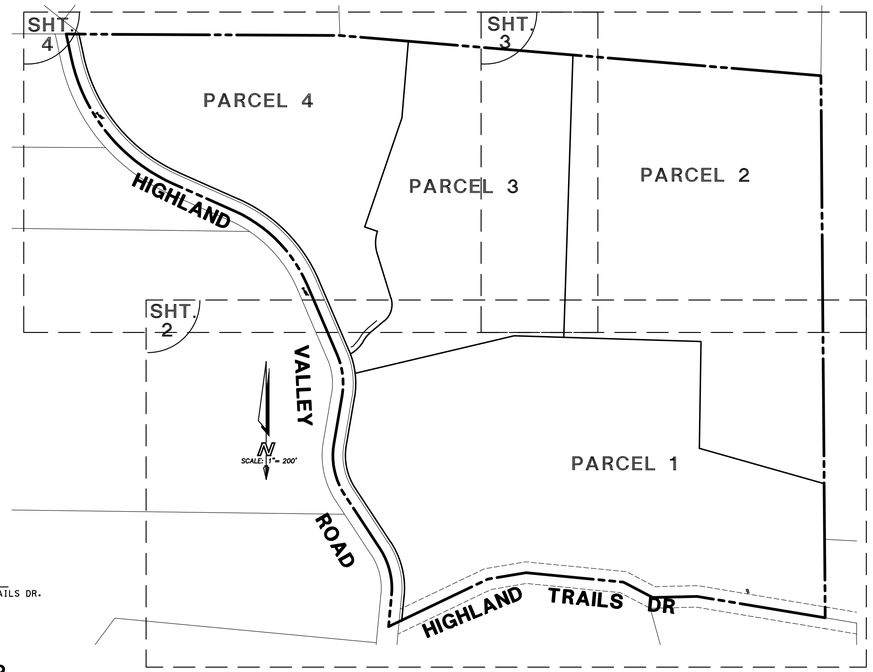
EXCAVATION	(1.5:1 MAX)	30,000	C.Y.
FILL	(2:1 MAX)	30,000	C.Y.
IMPORT/EXPORT		0	C.Y.
SLOPE HEIGHTS			
EXCAVATION		25' MAX	
FILL SLOPES		40' MAX	

PREPARED BY:

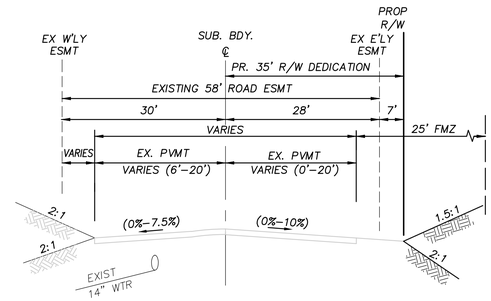
LANDMARK CONSULTING
Planning Engineering Surveying
9555 Genesee Avenue, Suite 200
San Diego, CA 92121, (858) 587-8070



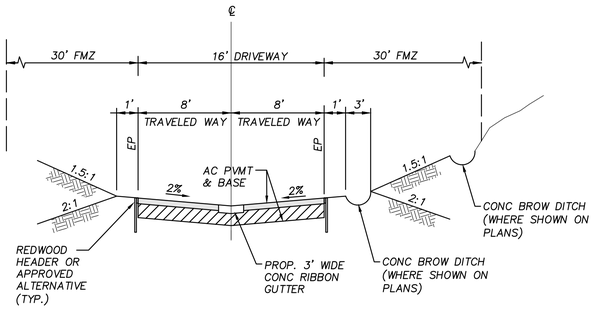
VICINITY MAP
NOT TO SCALE



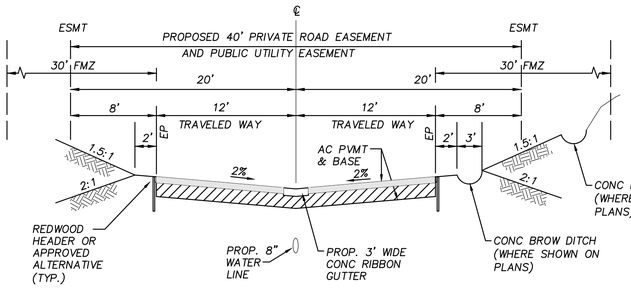
KEY MAP
NOT TO SCALE



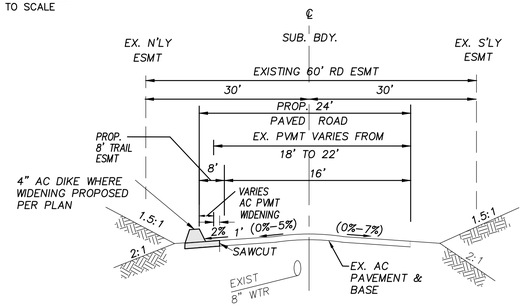
TYPICAL SECTION
EXISTING HIGHLAND VALLEY RD. (PUB)
NO SCALE



TYPICAL SECTION - DRIVEWAY SECTION (PVT)
NO SCALE



TYPICAL SECTION - 40' PRVT. RD.
(UNLESS OTHERWISE SHOWN)
NO SCALE



TYPICAL SECTION
EXISTING HIGHLAND TRAILS DR. (PVT)
NO SCALE

ABBREVIATIONS

AC	ASPHALT CONCRETE	ESMT	EASEMENT	MIN.	MINIMUM	S.F.	SQUARE FEET
AC.	ACRE	EXP.	EXPIRATION	P	PAD	ST.	STREET
APN	ASSESSOR PARCEL MAP	F.H.	FIRE HYDRANT	PCL	PARCEL	SVC	SERVICE
BDY	BOUNDARY	FG	FINISHED GRADE	℄	PROPERTY LINE	SWR	SEWER
BLDG.	BUILDING	FMZ	FUEL MANAGEMENT ZONE	PI	POINT OF INSTERSECTION	S/W(SDWK)	SIDEWALK
BVC	BEGIN VERTICAL CURVE	FS	FINISHED SURFACE	PM	PARCEL MAP	TPM	TENTATIVE PARCEL MAP
C&G	CURB AND GUTTER	GEN.	GENERAL	PR./PROP.	PROPOSED	T.I.	TRAFFIC INDEX
CMP	CORREGATED METAL PIPE	GP	GENERAL PLAN	PUB.	PUBLIC	TYP.	TYPICAL
CONC.	CONCRETE	H/HT.	HEIGHT	PVT.	PRIVATE	VC	VERTICAL CURVE
CT.	COURT	HP	HIGH POINT	RD.	ROAD	WTR	WATER
℄	CENTERLINE	IE	INVERT ELEVATION	R/W	RIGHT OF WAY	W/	WITH
DR	DRIVE	INV.	INVERT	SD	STORM DRAIN		
DWG	DRAWING	LBZ	LIMITED BUILDING ZONE				
EX./EXIST./(E)	EXISTING	OH	OVERHEAD				
EVC	END VERTICAL CURVE	MAX.	MAXIMUM				
EOP	EDGE OF PAVEMENT						

ASSESSOR'S PARCEL NO:

276-100-40

OWNER:

SITE ADDRESS
HIGHLAND VALLEY RD
RAMONA, CA. 92065

OWNER'S ADDRESS
GILDRED BUILDING CO.
550 WEST C STREET
SAN DIEGO, CA. 92101
(619)-232-6433

GREGG HAGGART DATE

ENGINEER OF WORK:

LANDMARK CONSULTING
9555 GENESEE AVENUE, SUITE 200
SAN DIEGO, CA 92121
PHONE: (858) 587-8070
FAX: (858) 587-8750

REGISTERED PROFESSIONAL ENGINEER
MARK A. BRENCICK
NO. 48153
EXP. 6/30/18
CIVIL
STATE OF CALIFORNIA

MARK A BRENCICK RCE 48153 DATE
EXP. 6/30/18

PRELIMINARY GRADING PLAN FOR
GILDRED TPM NO. 21176
County of San Diego, California

NO.	REVISIONS	DATE	BY
1	SUBMITTAL	5/2/10	JLR
2	CORRECTIONS	9/1/10	LMCO
3	CORRECTIONS	1/3/11	LMCO
4	CORRECTIONS	11/22/11	LMCO
5	CORRECTIONS	6/19/15	LMCO
6	CORRECTIONS	1/25/17	LMCO

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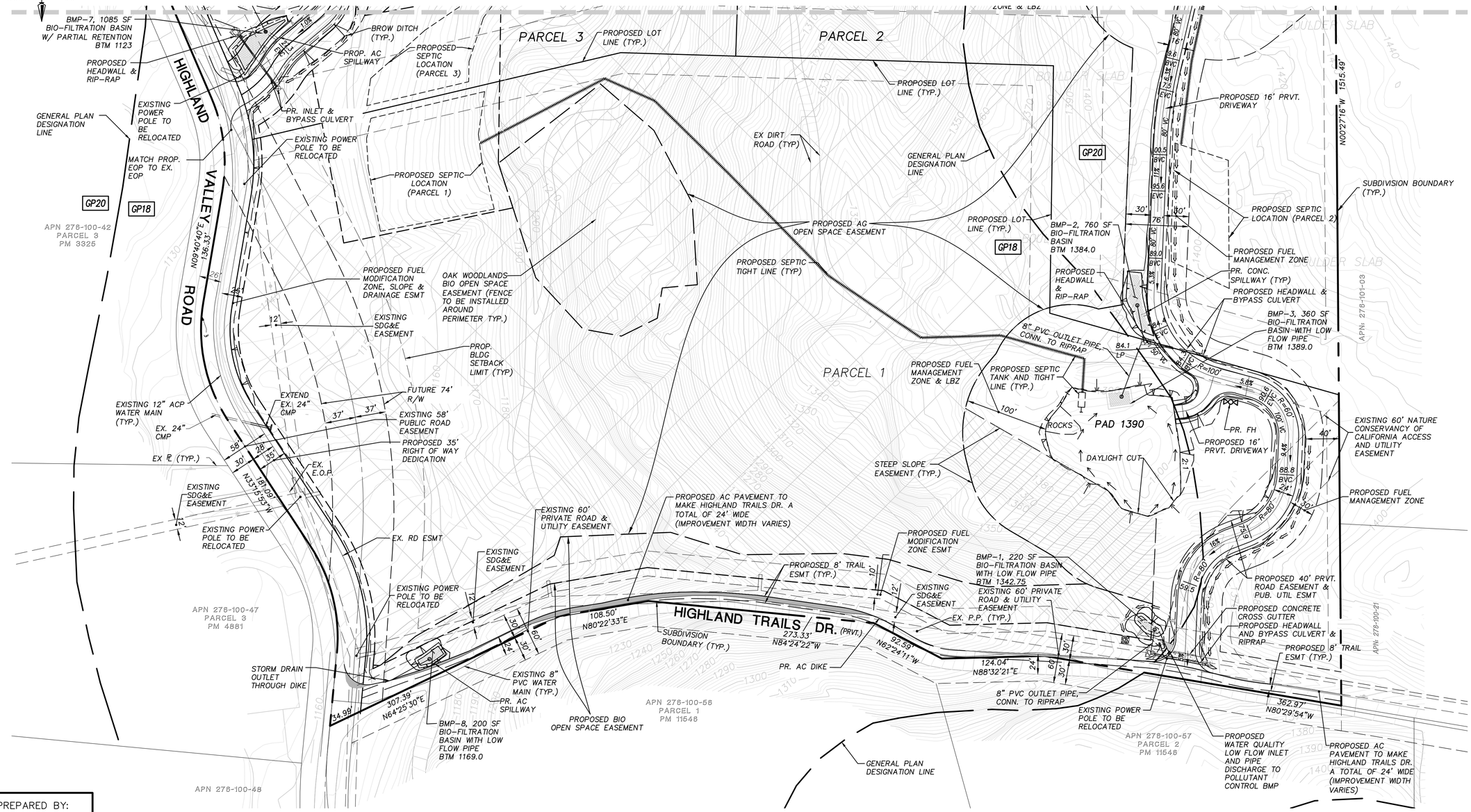
COUNTY OF SAN DIEGO PRELIMINARY GRADING PLAN FOR GILDRED TENTATIVE PARCEL MAP NO. 21176



PREPARED BY:

LANDMARK CONSULTING
Planning Engineering Surveying
9555 Genesee Avenue, Suite 200
San Diego, CA 92121, (858) 587-8070

0 15 30 45 60 120 180 240 300

SCALE: 1" = 60'

NOTES

1. SEE TPM NO. 21176 FOR FULL DESCRIPTION OF EXISTING EASEMENTS DEPICTED HEREON..

PRELIMINARY GRADING PLAN FOR
GILDRED TPM NO. 21176
County of San Diego, California

NO.	REVISIONS	DATE	BY
1	SUBMITTAL	5/2/10	JLR
2	CORRECTIONS	9/1/10	LMCO
3	CORRECTIONS	1/3/11	LMCO
4	CORRECTIONS	11/22/11	LMCO
5	CORRECTIONS	6/19/15	LMCO
6	CORRECTIONS	1/25/17	LMCO

SHEET 2 OF 4

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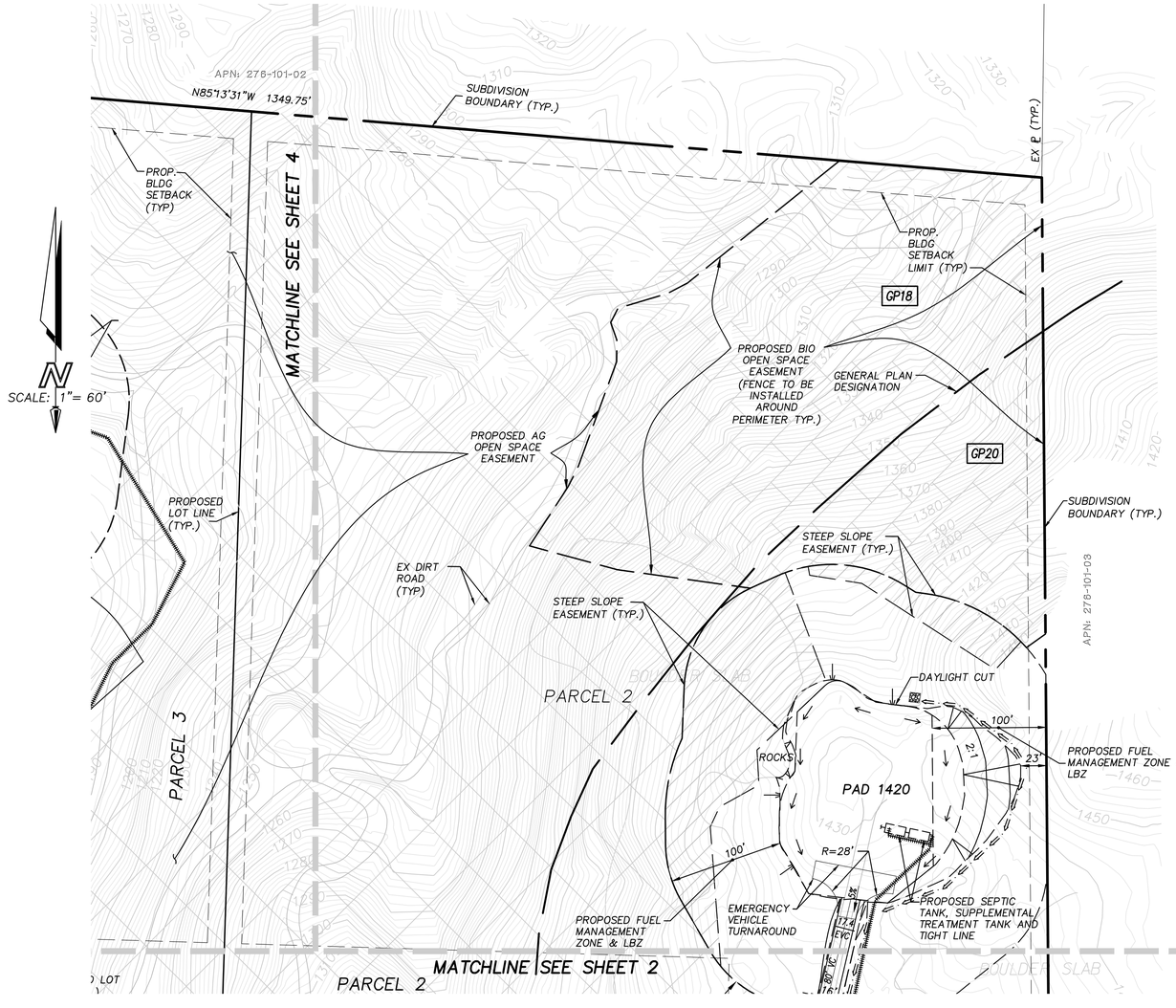
COUNTY OF SAN DIEGO PRELIMINARY GRADING PLAN FOR GILDRED TENTATIVE PARCEL MAP NO. 21176



NOTES

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PREPARED BY:

LANDMARK CONSULTING
Planning Engineering Surveying
9555 Genesee Avenue, Suite 200
San Diego, CA 92121, (858) 587-9070

0 15 30 45 60 120 180 240 300

SCALE: 1" = 60'

PRELIMINARY GRADING PLAN FOR
GILDRED TPM NO. 21176
County of San Diego, California

NO.	REVISIONS	DATE	BY
1	SUBMITTAL	5/2/10	JLR
2	CORRECTIONS	9/1/10	LMCO
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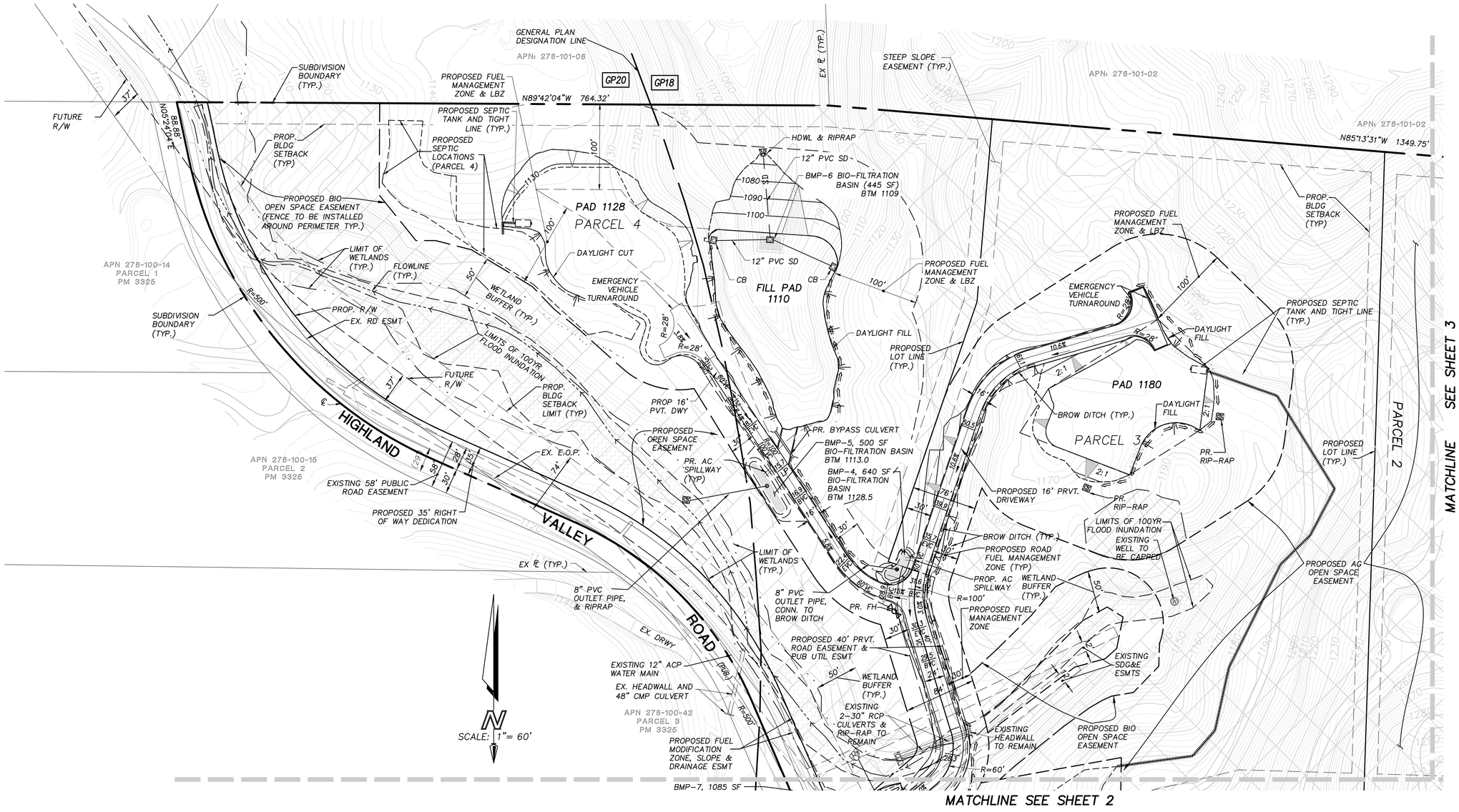
4	CORRECTIONS	11/22/11	LMCO
5	CORRECTIONS	6/19/15	LMCO
6	CORRECTIONS	1/25/17	LMCO

SHEET 3 OF 4

Y:\167-1\PGP.DWG PLOT'D 5/25/2017 1:05 PM

COUNTY OF SAN DIEGO PRELIMINARY GRADING PLAN FOR GILDRED TENTATIVE PARCEL MAP NO. 21176



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LANDMARK
CONSULTING
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9555 Genesee Avenue, Suite 200
San Diego, CA 92121, (858) 587-9070

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SCALE: 1" = 60'

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PRELIMINARY GRADING PLAN FOR
GILDRED TPM NO. 21176
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5	CORRECTIONS	6/19/15	LMCO
6	CORRECTIONS	1/06/17	LMCO

SHEET 4 OF 4

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County of San Diego, Planning & Development Services

PROJECT FACILITY AVAILABILITY - WATER

ZONING DIVISION

Please type or use pen

The Gildred Companies — 619-232-6361
Owner's Name — Phone

550 West C Street, Suite 1820
Owner's Mailing Address — Street

San Diego — CA — 92101
City — State — Zip

ORG_____ **W**
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
☒ 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. ☐ Residential . . . . . Total number of dwelling units_____
☐ Commercial. . . . . Gross floor area_____
☐ Industrial . . . . . Gross floor area_____
☐ Other . . . . . Gross floor area_____

C. ☐ Total Project acreage 53.1 Total number of lots 4

D. Is the project proposing the use of groundwater? ☐ Yes ☒ No
Is the project proposing the use of reclaimed water? ☐ Yes ☒ No

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

2761004000	

Thomas Guide Page 1150 Grid F4

Highland Valley and Highland Trails Drive
Project address — Street

Ramona — 92065
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: Rebecca Ferguson Date: 10/12/2015

Address: 9555 Genesee Avenue, Suite 200 92121 Phone: 858-587-8070

(On completion of above, present to the district that provides water protection to complete Section 2 below.)

SECTION 2: FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District Name: RAMONA MUNICIPAL WATER DISTRICT Service area_____

A. ☒ Project is in the district.
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Based on Water System Evaluation (See Conditions Attached)

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Authorized Signature:_____ Print Name M. Moore

Print Title Eng. Tech Phone 760.789.1330 Date 10/12/15

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PDS-399W (Rev. 09/21/2012)

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STORM DRAIN	
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PROPOSED FIRE HYDRANT	
PR. STEEP SLOPE EASEMENT	
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100 YR FLOOD INUNDATION	
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ELEVATION 1284.041
DATUM M.S.L.

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IMPORT/EXPORT		0	C.Y.
SLOPE HEIGHTS			
EXCAVATION		25' MAX	
FILL SLOPES		40' MAX	

PREPARED BY:

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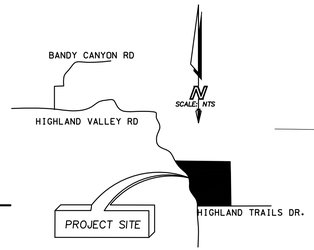
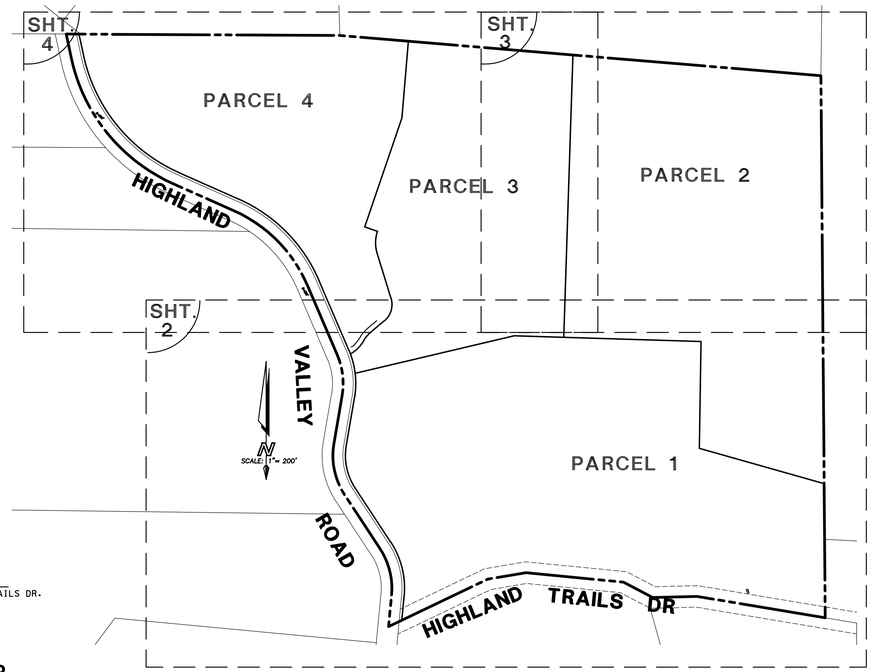
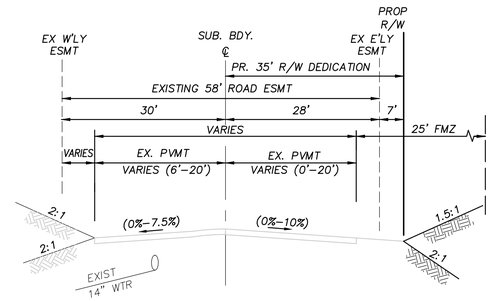


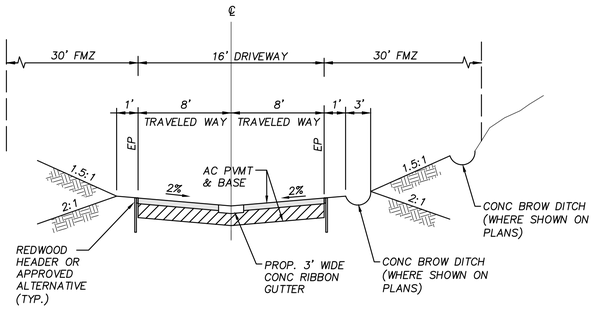
VICINITY MAP
NOT TO SCALE



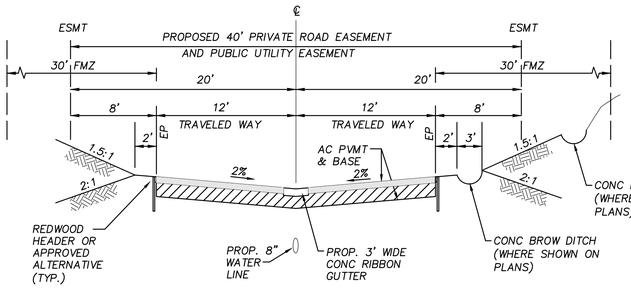
KEY MAP
NOT TO SCALE



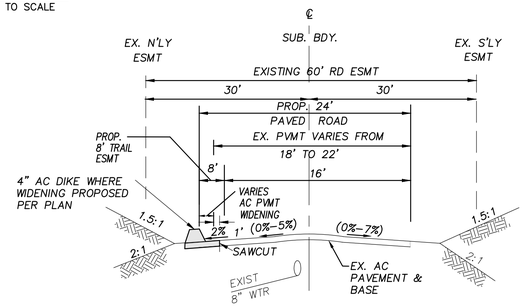
TYPICAL SECTION
EXISTING HIGHLAND VALLEY RD. (PUB)
NO SCALE



TYPICAL SECTION - DRIVEWAY SECTION (PVT)
NO SCALE



TYPICAL SECTION - 40' PRVT. RD.
(UNLESS OTHERWISE SHOWN)
NO SCALE



TYPICAL SECTION
EXISTING HIGHLAND TRAILS DR. (PVT)
NO SCALE

ABBREVIATIONS

AC	ASPHALT CONCRETE	ESMT	EASEMENT	MIN.	MINIMUM	S.F.	SQUARE FEET
AC.	ACRE	EXP.	EXPIRATION	P	PAD	ST.	STREET
APN	ASSESSOR PARCEL MAP	F.H.	FIRE HYDRANT	PCL	PARCEL	SVC	SERVICE
BDY	BOUNDARY	FG	FINISHED GRADE	℄	PROPERTY LINE	SWR	SEWER
BLDG.	BUILDING	FMZ	FUEL MANAGEMENT ZONE	PI	POINT OF INSTERSECTION	S/W(SDWK)	SIDEWALK
BVC	BEGIN VERTICAL CURVE	FS	FINISHED SURFACE	PM	PARCEL MAP	TPM	TENTATIVE PARCEL MAP
C&G	CURB AND GUTTER	GEN.	GENERAL	PR./PROP.	PROPOSED	T.I.	TRAFFIC INDEX
CMP	CORREGATED METAL PIPE	GP	GENERAL PLAN	PUB.	PUBLIC	TYP.	TYPICAL
CONC.	CONCRETE	H/HT.	HEIGHT	PVT.	PRIVATE	VC	VERTICAL CURVE
CT.	COURT	HP	HIGH POINT	RD.	ROAD	WTR	WATER
℄	CENTERLINE	IE	INVERT ELEVATION	R/W	RIGHT OF WAY	W/	WITH
DR	DRIVE	INV.	INVERT	SD	STORM DRAIN		
DWG	DRAWING	LBZ	LIMITED BUILDING ZONE				
EX./EXIST./(E)	EXISTING	OH	OVERHEAD				
EVC	END VERTICAL CURVE	MAX.	MAXIMUM				
EOP	EDGE OF PAVEMENT						

ASSESSOR'S PARCEL NO:

276-100-40

OWNER:

SITE ADDRESS
HIGHLAND VALLEY RD
RAMONA, CA. 92065

OWNER'S ADDRESS
GILDRED BUILDING CO.
550 WEST C STREET
SAN DIEGO, CA. 92101
(619)-232-6433

GREGG HAGGART DATE

ENGINEER OF WORK:

LANDMARK CONSULTING
9555 GENESEE AVENUE, SUITE 200
SAN DIEGO, CA 92121
PHONE: (858) 587-8070
FAX: (858) 587-8750

REGISTERED PROFESSIONAL ENGINEER
MARK A. BRENCICK
NO. 48153
EXP. 6/30/18
CIVIL
STATE OF CALIFORNIA

MARK A BRENCICK RCE 48153 DATE
EXP. 6/30/18

PRELIMINARY GRADING PLAN FOR
GILDRED TPM NO. 21176
County of San Diego, California

NO.	REVISIONS	DATE	BY
1	SUBMITTAL	5/2/10	JLR
2	CORRECTIONS	9/1/10	LMCO
3	CORRECTIONS	1/3/11	LMCO
4	CORRECTIONS	11/22/11	LMCO
5	CORRECTIONS	6/19/15	LMCO
6	CORRECTIONS	1/25/17	LMCO

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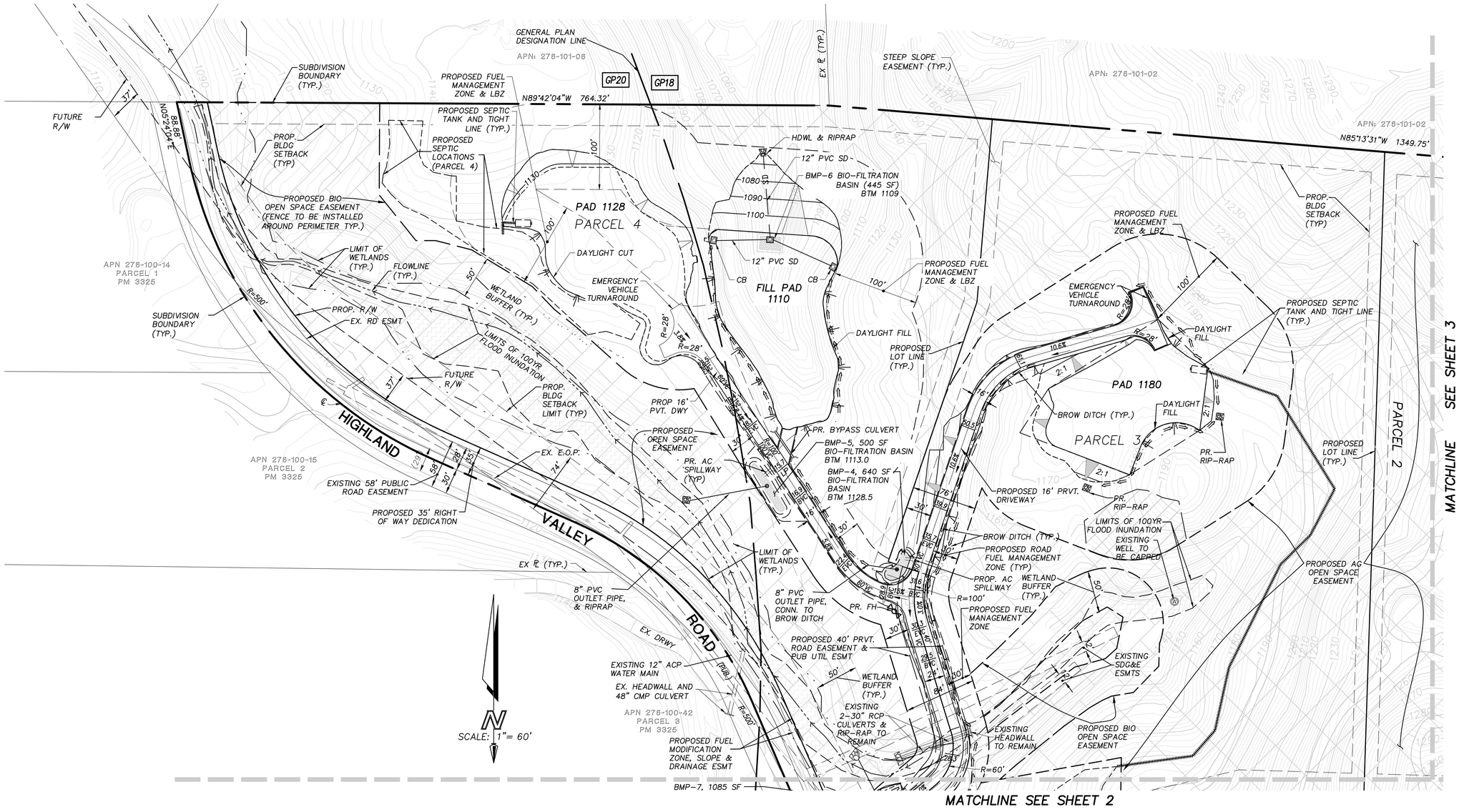
COUNTY OF SAN DIEGO PRELIMINARY GRADING PLAN FOR GILDRED TENTATIVE PARCEL MAP NO. 21176



PREPARED BY:

LANDMARK
CONSULTING
Planning Engineering Surveying
9555 Genesee Avenue, Suite 200
San Diego, CA 92121, (858) 587-9070

0 15 30 45 60 120 180 240 300
SCALE: 1" = 60'

NOTES

1. SEE TPM NO. 21176 FOR FULL DESCRIPTION OF EXISTING EASEMENTS DEPICTED HEREON..

PRELIMINARY GRADING PLAN FOR
GILDRED TPM NO. 21176
County of San Diego, California

NO.	REVISIONS	DATE	BY
1	SUBMITTAL	5/2/10	JLR
2	CORRECTIONS	9/1/10	LMCO
3	CORRECTIONS	1/3/11	LMCO
4	CORRECTIONS	11/22/11	LMCO
5	CORRECTIONS	6/19/15	LMCO
6	CORRECTIONS	1/06/17	LMCO

SHEET 4 OF 4

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APPENDIX 'B'

Very High Fire Severity Zone Construction Standards as defined in Chapter 7A of the California Building Code (CBC) and the 2016 Edition of the California Residential Code (CRC) section R337 and those amendments by San Diego County Consolidated Fire Code Ordinance 10466, approved 14 April 2017 shall apply to all the buildable lots for TM-21176.

This Fire Protection Plan and its requirements are based on current state and local code adoptions, actual construction requirements shall be based on the most current code requirements, with local amendments, at the time of plan check submittal for proposed construction.

1. All structures will be built with a non-combustible Class A Roof Assembly, including a Class A roof covering. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

2. Where the roof profile allows a space between the roof covering and roof decking, the roof area will have one layer of minimum 72 pound (32.4 kg) mineral-surfaced, non-perforated cap sheet complying with ASTM D 3909 installed over the combustible decking. Openings on barrel tiles or similar roof coverings shall be constructed to prevent the intrusion of flames and embers, and be fire stopped with approved materials to prevent the accumulation of debris, bird nests, etc. between the tiles and decking material.

3. When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.

4. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other non-combustible material to prevent wildfire ignition along eave assemblies.

5. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris that contribute to roof edge ignition.

6. All chimney, flue or stovepipe openings will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thicknesses or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.

7. The exterior walls surface materials shall be non-combustible or ignition resistant. In all construction, exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure. Architectural foam may be applied only after the exterior wall surface meets the requirements of CBC Chapter 7A/CRC section R327. A finish and color coat may than be applied.

8. All eaves, fascias and soffits will be enclosed (boxed) with non-combustible materials. Eaves of heavy timber construction are permissible. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. This shall apply to the entire perimeter of each structure. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter tails and 2x decking.

9. Paper-faced insulation shall be prohibited in attics or ventilated spaces.

10. Automatic interior fire sprinklers shall be installed according to the National Fire Protection Association (NFPA) 13D 2013 edition - Standard for the Installation of Sprinkler Systems in One and Two-family Homes and Manufactured Homes.

11. Roof vents, dormer vents, gable vents,or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with 1/8" inch mesh corrosion-resistant metal screen or other approved material that offers equivalent protection. All attic ventilation shall comply with the requirements list in the California Building Code (CBC). Ventilation louvers and openings may be incorporated as part of access assemblies. Turbine attic vents shall not be allowed.

12. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

13. All fences and gate assemblies (fences, gate and gate posts) shall be of non-combustible material.

14. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures shall be of non-combustible material, orone-hour fire resistive construction, in accordance with CBC Chapter 7A and CRC section R327.All building material shall be ignition resistant, and may be heavy timber, or approved pressure-treated exterior fire-retardant wood.If such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain the same fire-resistant standards as the exterior walls of the structure.

15. Attached and detached accessory structures shall be in built accordance with the CBC Chapter 7A and CRC section R327.

16. CBC Chapter 7A and CRC Section R327 Exterior doors. Exterior doors shall comply with one of the following, and must be self-closing, self-latching
    1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material.
    2. Shall be constructed of solid core wood that comply with the following requirements:
        - Stiles and rails shall not be less than 1-3/8 inches thick
        - Raised panels shall not be less than 1-1/4 inches thick, except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8 inch thick.
    3. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252.
    4. Shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

17. Exterior glazed door assemblies shall comply with the following:
    1. Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing.
    2. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257.
    3. Be tested to meet the performance requirements of SFM 12-7A-2.

18. All glass or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass.

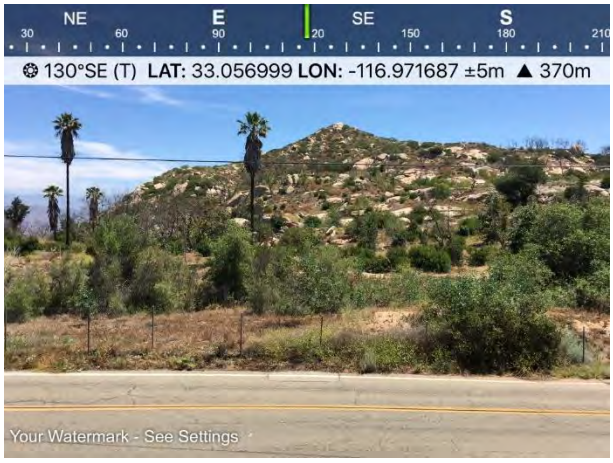
19. Garage doors shall be fitted with a sweep seal and/or weather stripping on all sides suitable for preventing the intrusion of embers, if fitted with windows they shall meet the requirements listed above in 18. Additionally it is recommended that garage doors be of the type that have a self-closing security feature.

20. Vinyl window assemblies are deemed acceptable if the windows have the following characteristics:
- Frame and sash are comprised of vinyl material with welded corners
- Metal reinforcements in the interlock area
- Glazed with insulating glass, annealed or tempered (one layer of which must be tempered glass).
- Frame and sash profiles are certified in AAMA Lineal Certification Program
- Certified and labeled to ANSI/AAMA/NWWDA 101/LS2-97 for Structural Requirements

21. All operable windows shall be provided with metal mesh bugs screens or similar non-combustible screens over the operable opening to replace traditional vinyl bug screens to prevent embers from entering the structure during high wind conditions when windows may be inadvertently left open.

APPENDIX ‘C’
Site Photos


W NW N NE
240 270 300 330 0 30
338°NW (T) LAT: 33.057125 LON: -116.971924 ±5m ▲ 377m
Your Watermark - See Settings


NE E SE S
30 60 90 120 150 180
130°SE (T) LAT: 33.056999 LON: -116.971687 ±5m ▲ 370m
Your Watermark - See Settings


N NE E SE S
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105°E (T) LAT: 33.054806 LON: -116.970703 ±5m ▲ 383m
Your Watermark - See Settings


NE E SE S
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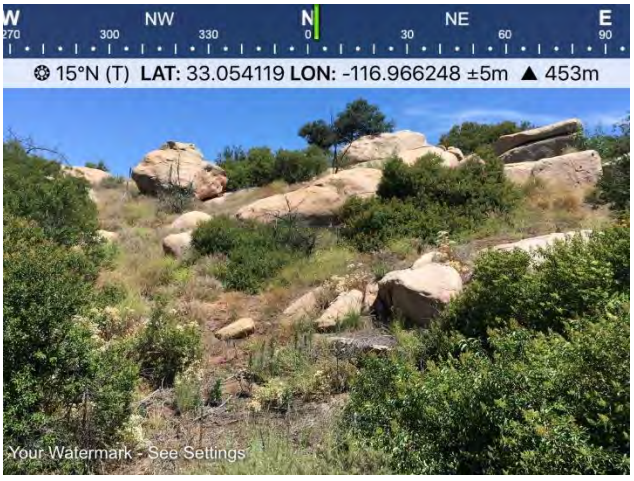
113°SE (T) LAT: 33.057106 LON: -116.971924 ±5m ▲ 378


W NW N NE E
270 300 330 0 30 60 90
15°N (T) LAT: 33.054119 LON: -116.966248 ±5m ▲ 453m
Your Watermark - See Settings


NW N E E SE
330 0 30 60 90 120
56°NE (T) LAT: 33.054283 LON: -116.966797 ±5m ▲ 449m
Your Watermark - See Settings


S
SW
W
NW
50
180
210
240
270
300
330
256°W (T) LAT: 33.054485 LON: -116.969398 ±5m ▲ 408m
Your Watermark - See Settings


N
NE
E
SE
0
30
60
90
120
150
87°E (T) LAT: 33.054478 LON: -116.969345 ±5m ▲ 407m
Your Watermark - See Settings

APPENDIX ‘D’
Fuel Treatment Exhibit

FUEL TREATMENT EXHIBIT

GILDRED TPM 21176 COUNTY OF SAN DIEGO

ENVIRONMENTAL LOG NUMBER 3910-10-09-003 (ER)

LEGEND

BUILDABLE PAD SPECIAL FIRE PROTECTION FEATURES LOTS 1 THRU 4. Chapter 7A of the California Building Code, and CRC 337 per the most current version of the required setback 30 feet. Landscaping to Zone 1 Standards Hardscape and existing rocky outcroppings are considered acceptable.

Zone 1 IRRIGATED AND LANDSCAPED, HOME OWNER MAINTAINED. From the buildable pad extending out 50 feet. Cross hatch indicates where Zone 1 intrudes onto the buildable pad, will be considered a limited building zone.

Zone 2 THINNING, HOME OWNER MAINTAINED. From 50 to 100 feet extending outward, thinning zone requirements remove 70% of fuel load. May include grouping of retained native shrubs not to exceed 100 sqft. and 48 inches in height. Area to require maintenance on an as needed basis. Interior road thinning and maintenance 30ft.

TURN AROUND LOCATION ON PAD, LOTS 1 THRU 4. Outlined in red, at reference point A. Refer to the Fire Protection Plan for information on types of permissible paintings and specifics treatment requirements.

R=28'

LIMITED BUILDING ZONE

STEEP SLOPE EASEMENT

AG OPEN SPACE

BIO OPEN SPACE

EX. WATERCOURSE FLOWLINE

EX. LIMITS OF WETLANDS

SUBDIVISION BOUNDARY

PROP. PARCEL LINE

EX. LOT LINE

EXISTING CONTOUR 1450

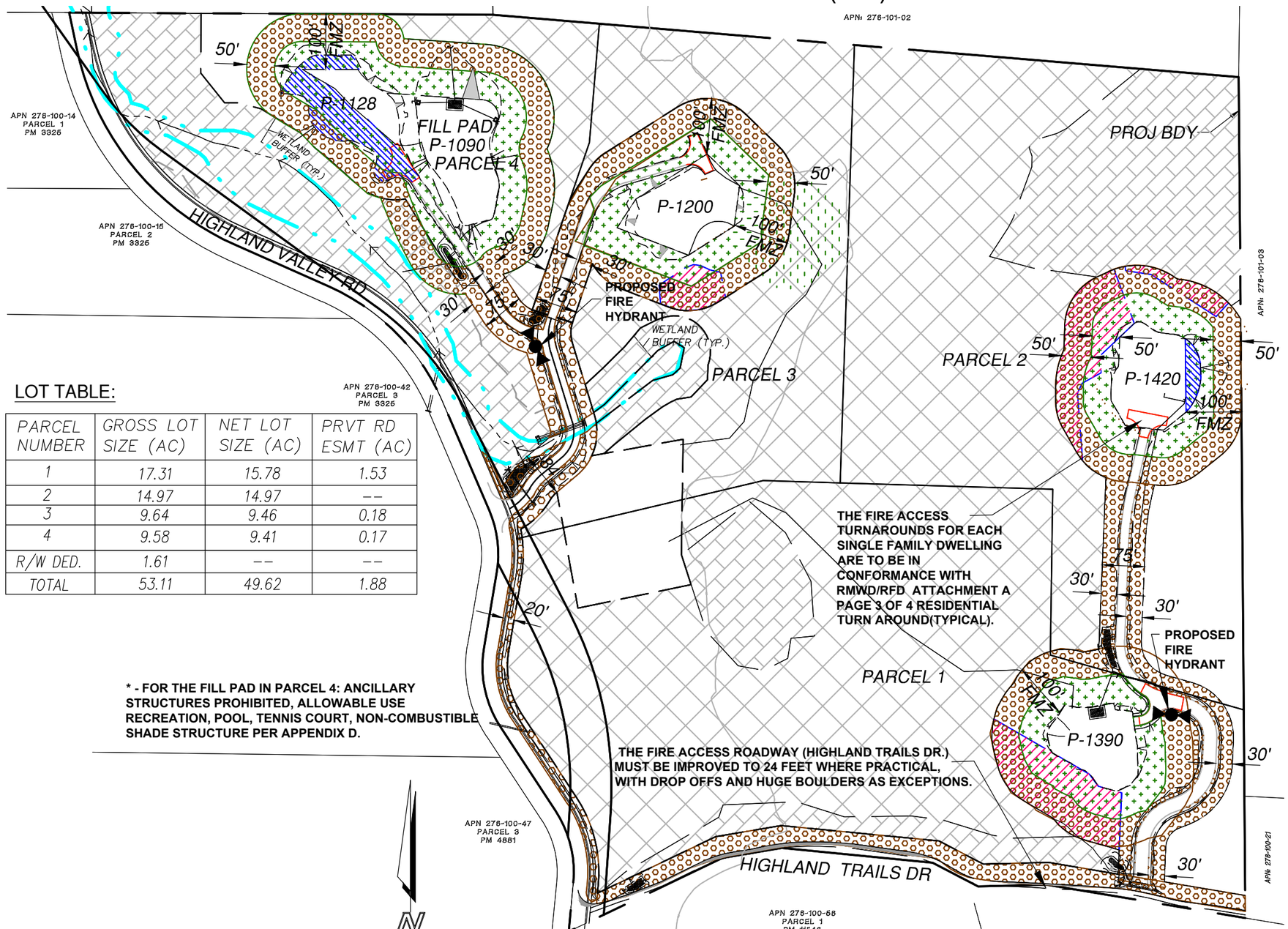
FUEL MANAGEMENT ZONE FMZ

PAD ELEVATION P-1200

EASEMENT ESMT

LOT TABLE:

PARCEL NUMBER	GROSS LOT SIZE (AC)	NET LOT SIZE (AC)	PRVT RD ESMT (AC)
1	17.31	15.78	1.53
2	14.97	14.97	--
3	9.64	9.46	0.18
4	9.58	9.41	0.17
R/W DED.	1.61	--	--
TOTAL	53.11	49.62	1.88



*** - FOR THE FILL PAD IN PARCEL 4: ANCILLARY STRUCTURES PROHIBITED, ALLOWABLE USE RECREATION, POOL, TENNIS COURT, NON-COMBUSTIBLE SHADE STRUCTURE PER APPENDIX D.**

Certified By: _____

Ron Woychak
FIREWISE 2000, Inc.
1320 Scenic Drive
Escondido, CA 92029
(760)745-3947
Telephone: 760-745-3947
Email: firewise2000@sbcglobal.net

This Exhibit is found to be compliant with the Fire Protection Plan

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