

APPENDIX A
Ramirez Canyon Park
Focused Fire Protection Plan

APPENDIX A

RAMIREZ CANYON PARK

FOCUSED FIRE PROTECTION PLAN

Modified Redesign Alternative



Prepared for:

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**Ramirez Canyon Park
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Modified Redesign Alternative**

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1.0 INTRODUCTION

This Fire Protection Plan (FPP) has been prepared as an evaluation of the adverse environmental effects that the proposed Malibu Parks Public Access Enhancement Plan – Public Works Plan improvement project, Modified Redesign Alternative at Ramirez Canyon Park (RCP) may have from wildland fire. It further evaluates methods to reduce those effects to ensure that the above referenced project does not unnecessarily expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

This FPP utilizes a "systems approach" for specifying fire protection measures. The measures consist of the components of fuel modification, structural protection, water supply, fire protection systems, access (ingress/egress), and emergency response. The "Master" FPP provides additional details regarding wildfire risk assessment, fire history, fire behavior modeling, and construction and fire protection features that will be provided at this park site.

2.0 PROJECT DESCRIPTION

The Modified Redesign Alternative includes upgrades and improvements to various park facilities as illustrated in Figure 1. The Modified Redesign Alternative project includes two phases, components of which include:

Phase 1:

- Retrofit Ranger/maintenance supervisor residence as on-site shelter
- Ignition resistance (ember protection) improvements to other existing structures, if required by the appropriate fire agency
- Ramirez Canyon Road and bridge improvements, if required by the appropriate fire agency
- Retrofit all structures with interior sprinklers
- Fire hydrants
- Usage as described in the Modified Redesign Alternative Project Description (FEIR – Volume 4, Appendix 3, Sheets 4-8)
- Continuation of existing small events (e.g., public outreach, meetings, etc.).
 - Public Outreach Programs (Phase 1)
 - Year-Round, Permitted 2 Days/Week
 - Maximum 40 Participants (with an additional 20 staff on-site)
 - 8:00 AM – Dusk

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- Minimum 10 Outreach Events Conducted Per Month at Ramirez Canyon Park, Escondido Canyon Park or Corral Canyon Park, with no more than 8 outreach events conducted at Ramirez Canyon Park (except when precluded by public safety concerns)
- Conservancy/MRCA Employee Training and Workshops (Phase 1)
 - Year-Round, Permitted twice per month.
 - Maximum 60 persons on-site.
 - 8:00 AM – Dusk

Phase 2:

- Retrofit “Peach House” as on-site shelter
- Secondary Access – Via Acero Improvements, if required by the appropriate fire agency
- Two campsites, one at the site of the existing tennis courts (to be demolished) and the other at a previously disturbed location (both considered “Phase Two”, refer to the project FEIR for more details).
- New parking improvements
- Day use areas and restrooms
- Usage as described in the Modified Redesign Alternative Project Description (FEIR – Volume 4, Appendix 3 Sheets 6-8-Phase 2)
 - Public Outreach, Events, Gatherings, Tours, And Workshops
 - Public Outreach Programs (Phase 2)
 - Year-Round, Permitted 7 Days/Week
 - Maximum 40 Participants (with an additional 20 staff on site)
 - 8:00 AM – Dusk
 - Minimum 10 Outreach Events Conducted Per Month at Ramirez Canyon Park, Escondido Canyon Park or Corral Canyon Park, 5 of which shall be conducted at Ramirez Canyon park (except when precluded by public safety concerns)
 - Tours and/or Small Gatherings (Phase 2)
 - Year-Round, 12 Tours or Gatherings Permitted/Month
 - Maximum 40 Participants (with an additional 20 staff on site)
 - 8:00 AM – Dusk

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- Special Events (gatherings of participants/ guests numbering more than 40) (Phase 2)
 - March – October, 16 Events Permitted/Year, 1 Event Permitted/Week
 - Maximum 200 Participants (April 1 through July 31) (with additional 50 staff and employees of service providers)
 - Maximum 150 Participants (March 1 through March 31 and August 1 through October 31) (with additional 50 staff and employees of service providers)
 - 8:00 AM – 9:00 PM Sunday-Thursday, and 8:00 AM to 10:00 PM Friday and Saturday, One Additional Hour is Allotted for Personnel Clean-Up and Securing the Facility.

Specific details regarding the RCP Modified Redesign Alternative improvements can be found in the Modified Redesign Alternative Environmental Impact Report Project Description (FEIR – Volume 4). Select RCP photographs are provided in Attachment 1. The following sections provide summaries of the site's environmental setting, wildfire risk, and provided risk reducing features.

3.0 ENVIRONMENTAL SETTING

3.1 Location

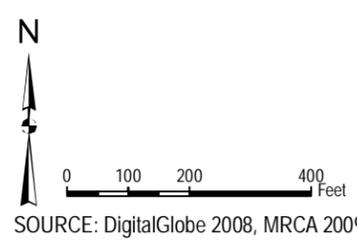
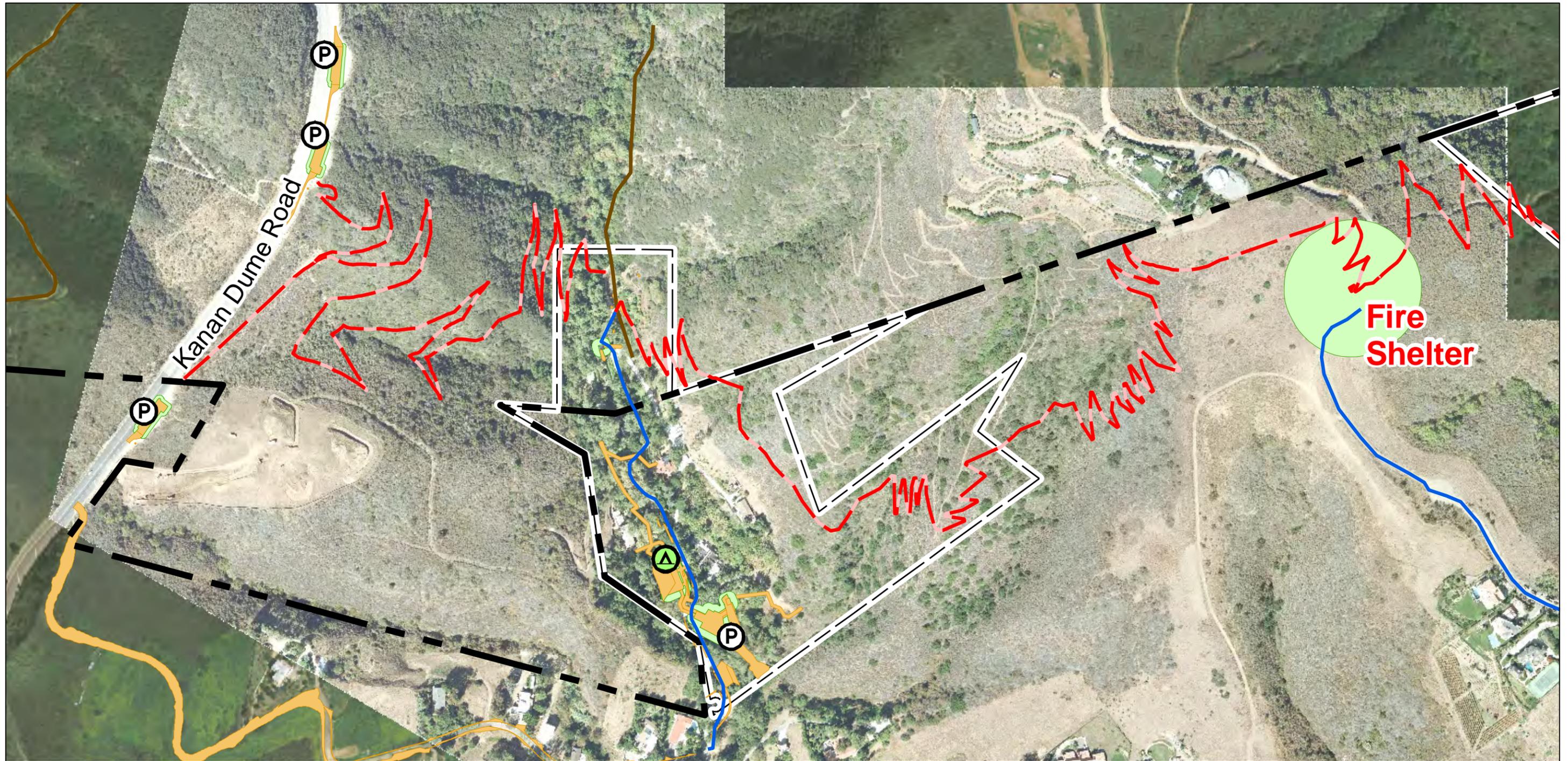
The proposed project is located within RCP in the City of Malibu and Unincorporated Los Angeles County at 5810 Ramirez Canyon Road. The park is located within a north-south trending canyon with relatively steep slopes to the east and west. The project site is a former estate residence with several existing structures that are now used for park and recreational purposes, and related facilities. The surrounding land uses include residential development, public parkland (National Park Service), and private undeveloped land.

3.2 Access

Access to the RCP property is provided by paved roads from Pacific Coast Highway via Ramirez Canyon Road or via West Winding Way and Delaplaine, and then through a gated entrance at the terminus of Ramirez Canyon Road. The park currently contains 54 parking spaces; however, public access to the park property is currently by appointment only and limited to special outreach and education programs. The project will provide additional parking and road improvements, if required by the appropriate fire agency designed to aid overall vehicular

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circulation to and within the park. Ramirez Canyon Road, Delaplane Road, and Park interior road improvements would occur with Phase 1, if required by the appropriate fire agency.



- ▲ Proposed Camping Area
 - P Proposed Parking Area
 - Proposed Facilities
 - Fuel Modification Zones
 - - - Malibu City Limits
 - Park Boundaries
-
- Trail Corridors**
- ~ Primary Trail (see P&S Project Plans)
 - ~ Primary Trail (Existing)
 - ~ Connector Trail (Existing)
 - ~ Backbone Trail
 - ~ Other Existing Trail

FIGURE 1
Ramirez Canyon Park

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Ramirez Canyon Park Focused Fire Protection Plan Modified Redesign Alternative

3.3 Topography

The project site is located within the deeply incised Ramirez Canyon. Elevations range from roughly 175 feet above mean sea level (amsl) to nearly 1,000 feet amsl and are inclined at overall gradients up to 1.25:1 (horizontal to vertical). Local sections are inclined at 1:1 or steeper. The relatively flat project site slopes gradually from roughly 175 feet amsl at the primary entrance gate in the southern portion of the project to 225 feet amsl in the northern, up-canyon portion project area.

3.4 Flammable Vegetation

Figure 1 provides RCP and surrounding area vegetation mapping results. The most dominant vegetation type on site is Sycamore woodland associated with Ramirez Canyon Creek. Ramirez Canyon Creek traverses the park within the west and southernmost portions of the property. The Creek is a blueline stream with intermittent water flow which is conveyed to the Pacific Ocean at Paradise Cove. The slopes to the north, east, and west of the park contain extensive stands of native coastal sage scrub habitat along the canyon walls and northern portion of the property, which is adjacent to National Park Service land. Given the occurrence of Ramirez Canyon Creek and those areas vegetated with native coastal sage scrub habitat outside of the developed areas of the park, the majority of the park property is mapped as an Environmentally Sensitive Habitat Area in the County of Los Angeles Malibu Coastal Program Land Use Plan (County LUP) for the Malibu and Santa Monica Mountains area, and the Ramirez Canyon Creek corridor within Los Angeles County is mapped as an Environmentally Sensitive Habitat Area in the certified County LUP.

3.5 Climate

The project area includes a Mediterranean-like climate; that is, warm with dry summers and wetter winters. Precipitation typically occurs between December and March. The prevailing wind is from the west with fall Santa Ana winds from the northeast that may gust to 60 mph or higher. The project area's climate, as with most of southern California, has a large influence on the fire risk as drying vegetation (fuel moisture for 1-hour fuels of single digits is possible) during the summer months becomes fuel available to advancing flames should an ignition be realized. A notable weather/wind related phenomenon for Ramirez Canyon and the other north-south trending canyons is that typical Santa Ana winds do not have the same direct effect on rate of spread as they do in other southern California locations. A northeast Santa Ana typically results in a fire that burns down the steep slopes in a slower manner. A wind out of the north, however, could result in very fast moving wildfire as the winds funnel and accelerate through the canyon alignments.

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4.0 RISK ASSESSMENT

4.1 Fire Behavior Modeling

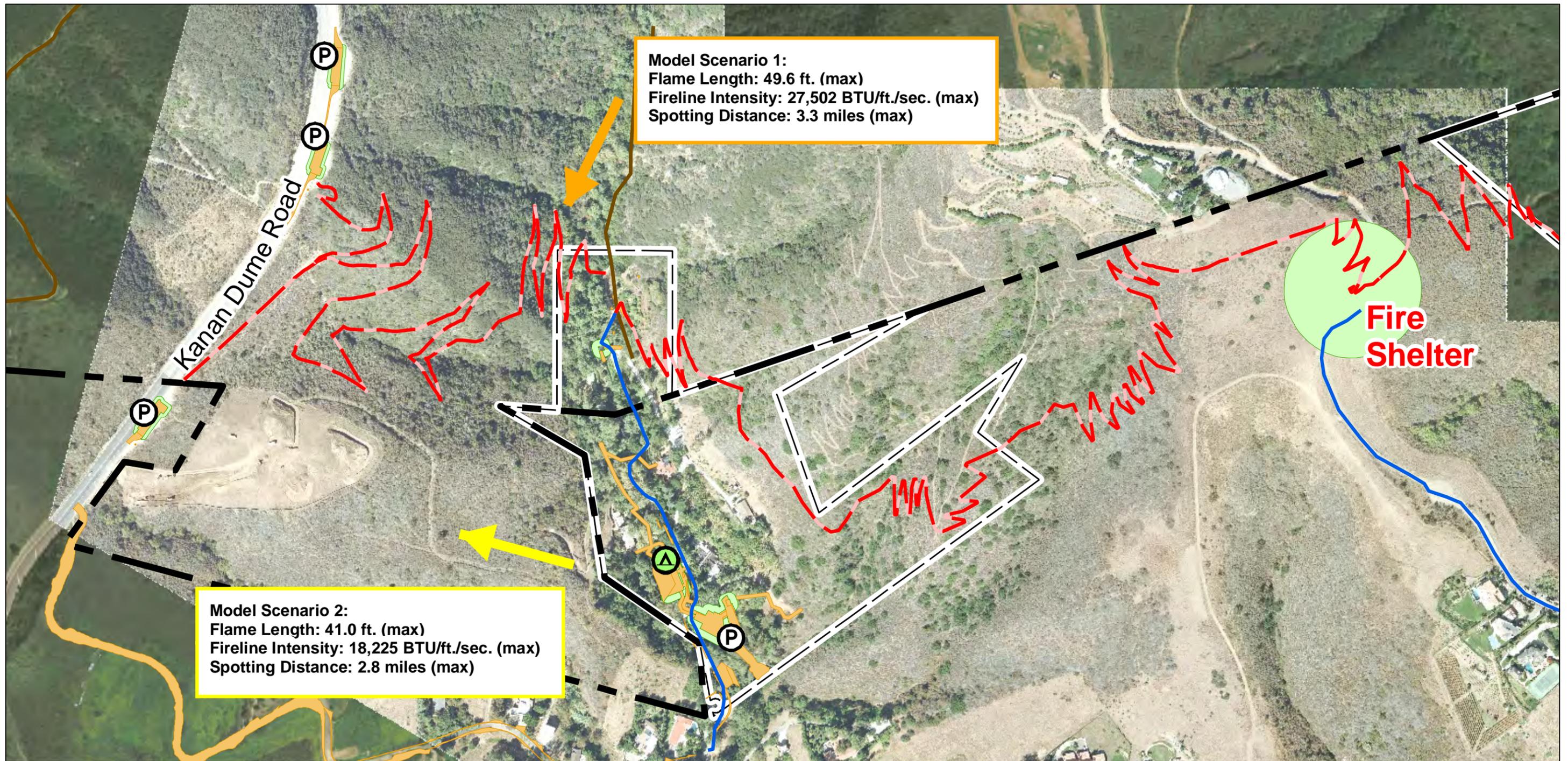
FlamMap fire behavior modeling was conducted for the Plan area and surrounding Malibu/Santa Monica Mountains region and is summarized in the project's Master FPP. More focused fire behavior modeling utilizing BehavePlus 4.0.0 was conducted for this site. A general discussion of the BehavePlus analysis, including weather input variables, is presented in the project's Master FPP (Section 3.3). Fuel model typing was conducted in the field for RCP concurrent with site hazard evaluations. Based on field analysis, two different fire scenarios were evaluated for the RCP site:

- **Scenario 1:** Fire burning down-canyon toward proposed camp facilities
- **Scenario 2:** Fire originating near southern-most campground and burning westward toward Kanan Dune Road.

The unique terrain and fuel models used for BehavePlus modeling in RCP are presented in Table 1, and the results of modeling efforts are provided in Table 2. Locations of BehavePlus model runs are presented graphically in Figure 2. Based on the BehavePlus analysis conducted for RCP, expected flame lengths for Scenario 1 reach 49.6 feet during 97th percentile weather conditions with wind speeds of 69 mph (documented maximum gust speed observed in the region during the 2007 Canyon Fire), with fireline intensities reaching 27,502 BTU/feet/sec. and spotting up to 3.3 miles. A fire originating at the southern-most campground and burning westward toward Kanan Road (Scenario 2) presents flame lengths reaching 41.0 feet and fireline intensities reaching 18,225 BTU/feet/second during 97th percentile weather conditions and the same wind speed values. Spotting distance for this scenario reaches 2.8 miles during fall, Santa Ana weather conditions. The results from all BehavePlus fire behavior modeling scenarios are presented in Table 2.

Table 1
Fire Behavior Model Variables

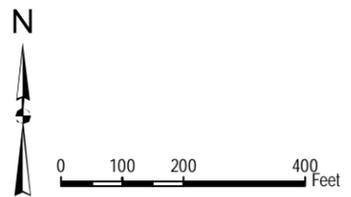
Scenario	Fuel Model	Slope	Aspect
1	SCAL 18, Coastal Sage Scrub	20%	East
2	SCAL 16, Ceanothus	35%	West



Model Scenario 1:
 Flame Length: 49.6 ft. (max)
 Fireline Intensity: 27,502 BTU/ft./sec. (max)
 Spotting Distance: 3.3 miles (max)

Model Scenario 2:
 Flame Length: 41.0 ft. (max)
 Fireline Intensity: 18,225 BTU/ft./sec. (max)
 Spotting Distance: 2.8 miles (max)

Fire Shelter



SOURCE: DigitalGlobe 2008, MRCA 2009

- | | |
|---|--|
| <ul style="list-style-type: none"> Proposed Camping Area Proposed Parking Area Proposed Facilities Fuel Modification Zones Malibu City Limits Park Boundaries | <p>Trail Corridors</p> <ul style="list-style-type: none"> Primary Trail (see P&S Project Plans) Primary Trail (Existing) Connector Trail (Existing) Backbone Trail Other Existing Trail |
|---|--|

FIGURE 2
 BehavePlus Analysis Map

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**Table 2
BehavePlus Fire Behavior Model Results**

Scenario	Flame Length (feet)	Fireline Intensity (BTU/feet/second)	Spotting Distance (miles)
<i>Scenario 1: Coastal scrub on east-facing, 20% slope</i>			
On-shore (50th Percentile)	16.2	2,423	0.4
Santa Ana (97th percentile with 69 mph gusts)	49.6	27,502	3.3
<i>Scenario 2: Ceanothus on west-facing, 35% slope</i>			
On-shore (50th Percentile)	12.7	1,431	0.4
Santa Ana (97th percentile with 69mph gusts)	41.0	18,225	2.8

NOTE: The results presented in Table 2 depict values based on inputs to the BehavePlus software. Changes in slope, weather, or pockets of different fuel types are not accounted for in this analysis. Model results should be used as a basis for planning only, as actual fire behavior for a given location will be affected by many factors, including unique weather patterns, small-scale topographic variations, or changing vegetation patterns.

4.2 Result – Exposure to Wildland Fire

Given the climatic, vegetation, wildland-urban interface location, and topography characteristics along with the fire history, ignition sources and fire behavior modeling results previously discussed in this FPP, the project site is determined to be potentially vulnerable to wildfire burning onto or spotting onto the site, especially from up-canyon fires driven by north winds. Based on this information and the recorded history of fires in the area, along with the persistence of naturally vegetated open space surrounding the park, it is expected that wind driven wildfires could occur near and/or on this site in the future.

Under the most severe fall weather conditions, fire can move rapidly through the canyon fuels. The most common type of fire anticipated in the vicinity of the project area is a fire burning from the north or from the east into Ramirez Canyon and approaching RCP. Worst-case flame lengths were calculated at approximately 49.6 feet in the coastal sage scrub vegetation types, with spotting distances reaching up to 3.3 miles. Worst case flame lengths in the west facing ceanothus dominated slope are anticipated to reach approximately 41.0 feet tall.

5.0 PROJECT EMERGENCY RESPONSE, INFRASTRUCTURE AND FIRE PROTECTION FEATURES

The Malibu region experiences periodic wildfire and the Plan area has burned, including the 2007 Canyon, Corral, and Malibu Fires and the 2008 Bluff Fire (refer to Figure 4 of the Master FPP). As such, this FPP provides a summary of existing and proposed infrastructure and special measures to provide fire protection.

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5.1 Emergency Response

The Project Site is located within the City of Malibu and unincorporated Los Angeles County, which receive fire protection and emergency services from the Los Angeles County Fire Department (LACoFD). LACoFD is under contract to Cal Fire for State Responsibility Area (SRA) fire protection. LACoFD provides initial response to SRA fires, and Cal Fire provides response when necessary based on size and type of fire. Regionally, the LACoFD provides fire, emergency medical, and rescue services from 22 battalions and 170 stations. The Department serves over 4 million residents throughout 58 cities and all unincorporated portions of Los Angeles County. The Project Site lies within the jurisdiction of Battalion 5, which consists of 12 stations. While portions of the proposed trail system and parking improvements within and adjacent to RCP are located in Los Angeles County, the majority of the park facility improvements and new uses would be located within the City of Malibu. The City of Malibu is served directly by four LACoFD fire stations (Stations 70, 71, 88, and 99); however, additional stations within the LACoFD are available to service the City, if necessary. Additionally, the Ventura County Fire Department and the National Park Service are available indirectly to provide fire services to the City if needed.

LACoFD Station No. 71 located at 28722 Pacific Coast Highway is the closest fire station at 2 miles from the park. The response time of arrival is expected to be within 5 minutes, roughly the same as the average 4.8-minute response time for urban areas achieved by the LACoFD, based on 2006 statistics (County of Los Angeles 2008). Fire Station No. 88, located at 23720 Malibu Road, is approximately 6.7 miles from the Project Site entrance and estimated response time is expected to be less than 10 minutes. Additionally, Fire Station 99 at 32550 Pacific Coast Highway is roughly 7.1 miles from the entrance; Fire Station 70 is roughly 9.1 miles from the site. Typical brush-fire response at RCP would include the following:

- 5 Engines, 1 Dozer, 3 Copters/ 2 Flycrews, 4 Camp Crews, 3 Superintendents, 2 Battalion Chiefs, 1 Patrol
 - The flycrews land on the incident with a Division Superintendent and attack the active flank, advancing to the head of the fire.
 - Ground crews arrive on scene and are designated to anchor the fire at the point of origin and improve the fire line from the flycrews scratch line, to an impassible fire break. Hazards are addressed, snags relieved, possible rolling material trenched, and dog legs widened.
 - Battalion Chiefs assume Incident Commander responsibilities, in accordance with the Helicopter Coordinator (HELCO) and previous on-scene commanders.

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It is expected that the initial arriving BC would evaluate the need for additional resources based on several factors.

In addition to the LACoFD and neighboring National Park Service, Los Angeles City Fire Department, and Ventura fire fighting capabilities, the Santa Monica Mountains Conservancy (Conservancy) and Mountains Recreation and Conservation Authority (MRCA) assist local fire departments in fighting wildland fires in protecting the array of resources on and off its own properties. The response time for initial attack is anticipated to be within a few minutes of fire observation and as such, the MRCA will likely be the first responder to wildfire starts on or near their properties. The MRCA:

- Maintains open communication and mutual aid agreements with the LACoFD, the Los Angeles City Fire Department, the Ventura County Fire Department, California State Parks and the National Park Service, to promote cooperative efforts to prevent and defend against wildfire.
- Conducts a formal Fire Academy, certifying MRCA wildland fire fighting personnel to Federal and State standards. This program also trains state and regional firefighters, including the Local Fire departments and resource agencies. The MRCA academy provides continuing education, including; advanced training in wildland fire behavior, emergency medical services (EMS), and urban interface fire fighting.
- Deploys its own fire fighting equipment one four-wheel drive Type II fire engine, one Type I Class A foam engine, one four-wheel drive Type III engine with Compressed Air Foam System, two Type III engines, one water tender, two mobile command units, 40+ chainsaws, two four-wheel drive Type IV engines equipped with Compressed Air Foam System and a minimum of 300 gallons of water and eight four-wheel drive Type IV engines equipped with a minimum of 200 gallons of water. In addition, RCP stores water and portable high pressure firefighting pumps for fire fighting purposes. In addition, MRCA provides helicopter-landing zones on its properties for Ventura County Fire Department, Los Angeles County Fire Department, and Los Angeles City Fire Department helicopters.

Based on the available fire fighting resources on site and in the vicinity of the site, adequate resources are available to respond to typical wildfire emergencies for suppression and life safety activities anticipated in the vicinity of this site. This is especially the case because, as described in detail in later sections of this FPP, during the periods where the probability of extreme or catastrophic wildfire occurring would be highest (Red Flag Warning Periods), activities at RCP would be suspended, negating the potential incremental increase in wildfire risks (refer to Master FPP risk analysis) associated with the proposed park uses and human presence on the site.

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5.2 Water Supply

RCP includes a 4,500- and a 10,000-gallon water tank. These tanks will remain in place and will serve proposed Park improvements at their respective locations. Water lines connecting to the existing main in Ramirez Canyon Road would be extended to connect three hydrants in the project's Phase 1. The primary water supply will be provided by Los Angeles County Water Works. In addition to the Los Angeles County Water Works supported water system, the secondary water supply maintained on site will exceed 40,250 gallons in the combined 14,500-gallon water tanks, a 25,000-gallon swimming pool (with pump), engine, and additional dip tanks, enough on-site stored water to fill 40 Type I engines.

5.3 Fire Access Roads

Phase 1 of the Modified Redesign Plan includes uses consistent with pre-project, existing uses. The maximum number of visitors on site and vehicle trips on Ramirez Canyon Road would be consistent with current levels. However, Phase 1 will improve and widen Ramirez Canyon Road and Deleplane Road (or provide other similar alternative measures required by LACoFD consistent with Fire Code allowances) to provide for emergency fire ingress and egress, if required by the appropriate fire agency. Additionally during Phase 2, emergency secondary access from Ramirez Canyon Road to Kanan Dume Road along Via Acero is planned, if required by the appropriate fire agency, subject to securing easements or by eminent domain, and anticipated improvements to the roadway have been incorporated into the Modified Redesign Plan.

An Emergency Access and Emergency On-Site Parking Plan for RCP, prepared by a licensed civil engineer and approved by the appropriate Fire Agency as compliant with applicable State and County fire and life safety regulations, will be maintained for RCP (Attachment 2). Special events held during the fire season will retain all guest vans, shuttles, and drivers continuously on site during the event such that persons can be quickly relocated from the park by readily available on-site transportation. Additional vehicles shall be provided, as needed, on site at RCP so that there would be enough vehicular capacity to relocate all persons on site for any event in one trip out.

All RCP uses, including administrative uses, public outreach, events, gatherings, tours, and workshops, etc. will be limited in size, duration, and occurrence to comply with the proposed maximum of 40 round trips per day on Ramirez Canyon Road. This measure will ensure that vehicle trips associated with park uses on Ramirez Canyon Road are closely managed (in addition to park closures on Red Flag and Flash Flood/Flood Warnings or Urban/Small Stream Advisory when no trips would be generated on Ramirez Canyon Road for park uses), and thus

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will maintain ample capacity on Ramirez Canyon Road at all times for responding firefighter access and adjacent property owner relocation in the event of emergency.

In addition, the proposed Plan requires the use of vans and shuttles for Public Outreach Programs, Events, Gatherings, Tours, and Workshops at RCP to minimize traffic trips on Ramirez Canyon Road, and requires that such vehicles travel with maximum passenger capability and in convoys, whenever feasible. Transportation to/from RCP for these pre-arranged group activities generally requires use of 10- to 15-passenger vans, except for Public Outreach Programs that may utilize 22-passenger vans, 24-foot-long mini-coaches or small buses limited to a maximum of 30 feet in length. These measures further serve to limit vehicle trips and maintain ample capacity on Ramirez Canyon Road at all times for responding firefighter access and adjacent property owner relocation in the event of emergency.

Primary Fire Access is gained from Ramirez Canyon Road with the following segment lengths:

- Approximately 1,500 linear feet from the RCP entrance to the intersection with Via Acero
- Approximately 3,500 feet from Via Acero to its intersection with Delaplane Road.
- The length of Ramirez Canyon Road from the intersection with Delaplane Road to the tunnel underneath Pacific Coast Highway is an additional 1,200 feet in length.

Dead Ends

No additional dead end access roads will be constructed. Ramirez Canyon Road is a dead end road from its intersection with Winding Way. Improvements to Via Acero, as required, would reduce the dead end segment of Ramirez Canyon Road to roughly 1,000 feet. The project would improve the current road system through Phase 1 improvements and widening (or other similar alternative measures required by the LACoFD consistent with Fire Code allowances) Ramirez Canyon Road and Delaplane, along their entirety including road width of 20 feet unobstructed (26 feet at existing fire hydrant locations), if required by the appropriate fire agency, and providing secondary emergency access along Via Acero (Phase 2), subject to easement acquisition or eminent domain and if required by the appropriate fire agency. Turnouts and turnarounds are provided throughout the park.

Width

Current Road widths are:

- **On-site roadways/driveways:** 12 to 18 feet

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- **Ramirez Canyon Road:** Currently includes sections that are constrained below 16 feet;
- **Via Acero Street:** 18 feet wide in paved sections, 8 feet wide in western dirt sections. Secondary access for Ramirez Canyon Park would be provided by Via Acero Road off Kanan Dume Road subject to securing easements or by eminent domain.
- **Kanan Dume Way:** 32 to 46 feet wide, two travel lanes.
- **Delaplane Road:** 18 to 20 feet wide;
- **Winding Way:** 22 to 28 feet wide;

Grade

Ramirez Canyon Road and Via Acero Road grade would comply with the Fire Code

- Within RCP, existing driveways on the eastern portion of the park slightly exceed 15% grade.

Bridges

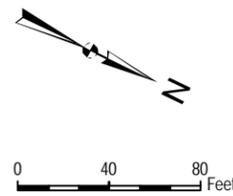
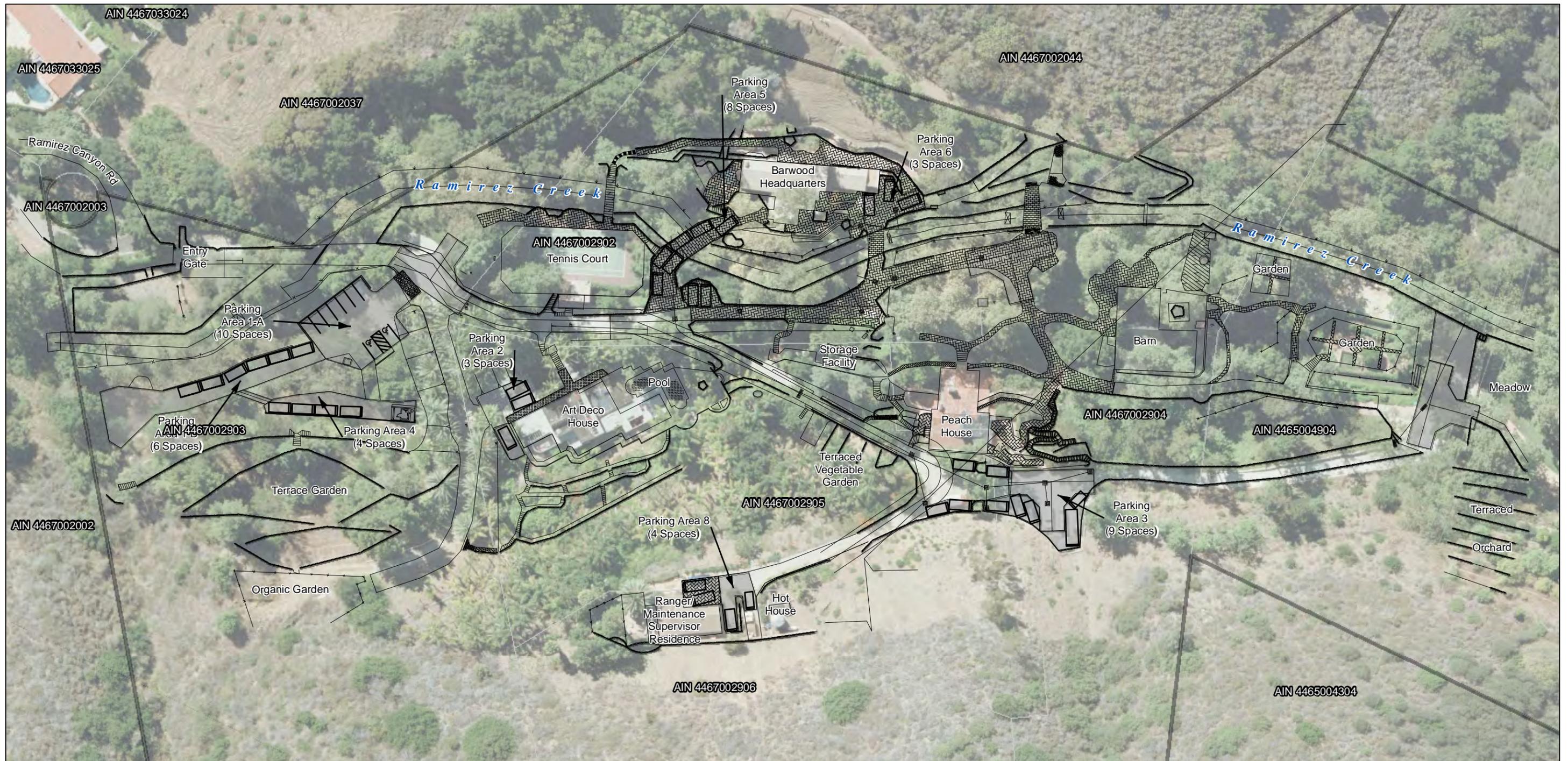
- With proposed Phase 1 Ramirez Canyon Road improvements, if required, the project also includes replacement of the wooden bridge over Ramirez Canyon Creek near the RCP entrance to provide a 20-foot road width at this location (or similar alternative measures required by the LACoFD consistent with Fire Code allowances). The Wooden Bridge Reinforcement Plan, developed and implemented to provide for reinforcement of the wood bridge over Ramirez Canyon Creek next to RCP, shall be maintained to ensure that the bridge will safely support 75,000-pound fire apparatus and thereby accommodate emergency access. The wood bridge shall be maintained in sound condition to ensure safe and adequate emergency access to the park.

Surface

Phase 2 road improvements will include road and driveway surfaces (with the exception of existing turnarounds that utilize an alternative surface - grasscrete), of asphalt concrete pavement. Both surfaces are capable of supporting travel by minimum 75,000-pound apparatus.

5.4 Building Construction

There are no new structures planned for RCP other than a restroom facility which will be of non-combustible construction.



-  Ramirez Canyon Park Boundary
-  Parcel Boundary

SOURCE: Penfield&Smith 2009; County of Los Angeles

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Existing RCP structures will be retrofitted for ignition resistance/ember penetration including vulnerable openings: vents, windows and doors with implementation of Phase I of the Modified Redesign Alternative, if required by the appropriate fire agency. Two of the existing structures, Peach House and Ranger/maintenance supervisor residence have been identified as on-site fire shelters for last resort refuge. Phase I of the Modified Redesign Alternative would include retrofitting the Ranger/maintenance supervisor residence to the 2007 California Building and Fire codes which are specifically designed to minimize ember penetration into structures, a leading cause of structure loss in wildland fires and include requirements for roofs, eaves, vents, windows, and appendages, amongst others, as defined in more detail in the Master FPP. The maximum number of people on site under Phase I of the project is 60 including visitors and staff. The Ranger/maintenance supervisor residence can accommodate the maximum number of persons for a temporary period. Retrofit of the Peach House would occur with Phase 2 of the Modified Redesign Alternative. The Peach House and Ranger/maintenance supervisor residence would be able to accommodate the maximum number of people on-site under Phase II, which is 250. The location of the existing structures are provided in Figure 3.

5.5 Fire Protection Systems

All existing structures will be retrofitted for monitored interior sprinklers.

Information provided by the Los Angeles County Water Works regarding fire flow available from the hydrants near Ramirez Canyon Park indicate that existing flow of 2,500 gallons per minute (gpm) just outside the RCP gate is achieved. The achievable flow within RCP is expected to be at least 1,500 gpm at 20 psi residual and the duration of at least 2 hours is based on the 500,000-gallon reservoir serving the area, minus domestic use. This is considered adequate given that the structures at RCP will be fitted with interior sprinklers.

5.6 Defensible Space

The park currently includes fuel modification on the canyon slopes to the north and south of the property, to 200 feet wide in some areas (Figure 1, Attachment 1). Maintenance of this fuel modification area will continue, as will strict compliance with fuel reduction and maintenance around site structures. At a minimum, the following practices will continue to occur:

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Fuel Modification Zones

Zone A – Irrigated Zone

The setback Zone A encompasses all areas of the project site extending 20 feet beyond the edge of combustible structures, attached accessory structures, or appendages and projections. Zone A shall be planted and maintained according to this FPP and based on LACoFD requirements.

Specific Requirements – Zone A

- Irrigation by automatic or manual systems shall be provided to landscaping to maintain healthy vegetation with high moisture content.
- Landscaping and vegetation in this zone shall consist primarily of ground covers, and adequately spaced shrubs and trees. The overall characteristics of the landscape shall provide adequate defensible space in a fire environment. Such defensible space shall be to the design standards, and maintenance requirements of the FAHJ.
- Plants in this zone shall be highly fire resistant and included on the updated LACoFD Desirable Plant List (Appendix E of Master FPP). Other species may be utilized subject to approval of fuel modification plans.
- Target tree species (including, but not limited to eucalyptus, pine, juniper, cypress, cedar, Canary Island date palm, California fan palm, Mexican fan palm, and bougainvillea) shall not be allowed within 10 feet of combustible structures.
- Complete removal of undesirable plant species (chamise, redshank, California sagebrush, buckwheat, sage, pampas grass, cypress, eucalyptus, juniper, and pine) is required.

Zone B – Extended Irrigated Zone

The irrigated Zone B extends from the outermost edge of Zone A up to 100 feet from structures and is very similar to Zone A with regards to plant types, densities, and maintenance requirements.

Specific Requirements – Zone B

- Irrigation by automatic or manual systems shall be provided to landscaping to maintain healthy vegetation with high moisture content.
- Fine fuels (grasses) shall not exceed 3 inches in height.
- Plants in Zone B shall be fire resistant and spaced appropriately. Species selection should be made referencing the updated LACoFD Plant List included in Appendix E of the Master FPP. Other species may be utilized subject to approval of fuel modification plans.

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- Plant spacing in this zone shall be in accordance with LACoFD standards.
- Complete removal of undesirable plant species (chamise, redshank, California sagebrush, buckwheat, sage, pampas grass, cypress, eucalyptus, juniper, and pine) is required.

Zones C and D – Thinning Zones

The thinning Zone C and interface thinning Zone D extend from the outermost edge of Zone B, up to 200 feet from structures.

Specific Requirements – Zone C/D

- Irrigation systems are not required for this zone.
- Removal of the majority of undesirable plant species (chamise, redshank, California sagebrush, buckwheat, sage, pampas grass, cypress, eucalyptus, juniper, and pine) is required.
- Removal of dead/dying vegetation is required.
- Fine fuels (grasses) shall not exceed 3 inches in height.
- Landscaping and vegetation in this zone may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. There may also be replacement landscape planting with ornamental or less flammable native species to meet minimum slope coverage requirements. In all cases, the overall characteristics of the landscape shall provide adequate defensible space in a fire environment.

Fuel loading shall be reduced by pruning/trimming retained shrubs and trees without reducing overall canopy cover or removal of root systems.

- Natural vegetation shall be thinned by reduced amounts as the zone moves away from structures.
- Plants in Zone C and D shall be spaced appropriately. Species selection should be made by referencing the updated LACoFD Plant List included in Appendix E of the Master FPP. Other species may be utilized subject to approval of fuel modification plans.

Other Fuel Modification Requirements

Campsites, Parking,

As indicated in Figure 1, a total of 20 feet of fuel modification in one zone will be provided. The fuel modification area adjacent to all sides of these improvements will consist of thinning zones where existing vegetation is removed to represent a 75% thinning (from existing conditions) for

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the extent of the 20-foot-wide zone. Thinning will include removal of highly flammable plant species, dead and dying plant material, creating horizontal and vertical spacing, mowing grasses and understory plants to 3-inch height, and creating a highly interrupted, non-continuous fuel zone. Plant species and maintenance requirements will be consistent with those in LACoFD's Zone A and B as described above, with the exception of irrigation.

Fire Access Road Zone

This zone extends 20 feet (twice code requirements) from the edge of any proposed public or private roadway (excluding driveways) that may be used as access for firefighting apparatus or resources.

Specific Requirements – Fire Access Road Zone:

- Clear and remove flammable growth for a minimum of 20 feet on each side of Fire Access Roads (Fire Code Section 317.10) or to property or easement line, or other similar alternative measures required by LACoFD consistent with Fire Code allowances;
- Fire access roads, driveways, and turnarounds shall be maintained in accordance with Fire Code. Fire Access Roads shall have unobstructed vertical clearance (Fire Code Section 503.2.1) of a minimum of 13 feet 6 inches.
- Landscaping and native plants within the 20-foot Fire Access Road Zone shall be appropriately spaced and maintained to provide safe egress in wildland fire environments, including the removal of high Btu producing elements.

5.7 Vegetation Management

An annual vegetation management plan for RCP encompassing the developed portion of the park and proposed park improvement areas will be prepared and implemented prior to the annual fire season. All Fuel Modification Zone maintenance will be completed at least annually by May 15 of each year and more often as needed for fire safety, as determined by the appropriate fire agency. MRCA will provide on-going/as-needed fuel modification zone maintenance that will include:

- Pruning of foliage to reduce fuel load, vertical continuity, and removal of plant litter and dead wood.
- Removal or thinning of undesirable combustible vegetation and replacement of dead or dying landscaping.
- Chipping removed material to at least 4 inches diameter and distributing on site in fuel modification areas around campsites to reduce likelihood of weed growth.

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- Pruning lower branches of trees and tree-form shrubs to one-third of their height (or 6 feet from the lowest hanging branches) to help prevent fire from spreading upward into the crown.
- Maintaining ground cover at a height not to exceed 18 inches. Annual grasses and weeds shall be maintained at a height not to exceed 3 inches.
- Removing accumulated plant litter and dead wood. Debris and trimmings produced by thinning and pruning should be removed from the site or chipped and evenly dispersed in the same area to a maximum depth of 5 inches.
- Maintaining manual and automatic irrigation systems for operational integrity and programming. Effectiveness should be regularly evaluated to avoid over or under-watering.
- Complying with these FPP requirements on a year-round basis. Annual inspections are conducted following the natural drying of grasses and fine fuels, between the months of April and June, depending on precipitation during the winter and spring months.
- Preparation of Plan area-specific fuel modification plans will commence and be completed prior to site preparation work. The fuel modification plans will be prepared by a qualified fire protection planner and will include CAD-generated drawings of the improvements and specific fuel modification requirements for each improvement. Cal Fire, through the State Fire Marshall's office, will have final review and approval of the fuel modification plans, except where LACoFD has jurisdiction.

It is encouraged that neighboring property owners provide defensible space around their structures similar to that provided by Conservancy/MRCA and required by LACoFD and state law (Public Resources Code, Section 4291). The combined efforts will improve the overall situation within Ramirez Canyon and along Ramirez Canyon Road.

Construction period vegetation management will be consistent with requirement of LACoFD and the Master FPP, Section 5.2.1.

6.0 SITE-SPECIFIC FIRE PROTECTION MEASURES

The following customized measures have been developed based on the proposed park enhancements, the assessed wildfire risk, and the need for site-specific fire prevention, suppression, pre-planning, and relocation planning.

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1. Notification and enforcement of all standard park rules and regulations per existing policies of the Conservancy/MRCA will continue to occur. Most notably pertaining to fire safety are:
 - a. RCP will be closed sunrise to sunset; except in designated camp areas
 - b. No smoking or fires.
 - c. No alcoholic beverages.
 - d. No littering or dumping.
 - e. No unauthorized vehicle use.
 - f. Possession of firearms, bow and arrow prohibited.
 - g. Violations subject to \$1,000 fine and/or 6 months in County jail.
2. No person shall make or maintain, nor aid and abet others in making or maintaining, a campfire or any other open fire in RCP. The only cooking apparatus permitted shall be on provided flameless surfaces (hot plates) at designated cook stations, described below, when permitted. Additionally, only battery or solar powered lanterns shall be permitted.
3. Campers shall be required to utilize designated, flameless cook stations (hospitality stations) provided at each approved campsite, which shall be designed of nonflammable materials and capable of being enclosed vertically on three sides. Cold-camping apparatus such as flame-less cook-stoves and lanterns shall be required. Prospective campers shall be informed of the No Campfire/Cold Camp Policy upon reserving and/or registering for use of camp facilities and will be offered the opportunity to check out a dual burner electrical hot plate for cooking purposes during their stay. Small electric cooking appliances may be brought with campers, subject to inspection and approval by MRCA rangers, camp host or staff. To facilitate the use of flameless cook surfaces, each approved camp site will be provided an all-weather electric outlet. Further, campers will be put on notice that unauthorized use of fire-related camping and cooking apparatus specifically prohibited by the No Campfire/Cold Camp Policy (including liquid fuel: alcohol, kerosene, unleaded gasoline, white gas, mentholated Spirit, etc.; canister fuel (propane, butane, etc.; wood, wax or any other type of combustible material, etc.) will be cause for confiscation of such devices and/or expulsion of visitors from camp facilities. Signs shall be posted and camp areas will be routinely patrolled to enforce the No Campfire/Cold Camp Policy and notification provided that violation of the No Campfire/Cold Camp Policy may be punishable by fines up to \$1,000.00. In addition, campers would be notified that use of the cook station electrical outlet(s) for space heaters, lighting sources, hair curling and flattening devices, blow dryers, stereos or other devices emitting audible noise would be cause for confiscation of such devices and/or

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expulsion of visitors from camp facilities. Fire protection equipment and apparatus shall be provided and maintained at all camp facilities and shall include, at a minimum:

- a. Water storage capacity or water delivery system designed, located, and maintained to provide a dependable water supply for fire protection at each proposed camp area at all times to ensure adequate water supply for fire protection of new camp facilities.
 - b. A portable and air-powered quick attack firefighting system to be provided at each camp facility for ready deployment by trained Camp Host, Ranger, or park personnel in the event of a fire.
 - c. Portable self-contained fire extinguisher units to be provided for each cluster or group of campsites.
 - d. Designated last resort, temporary shelters (Peach House and caretaker's residence) will be retrofitted for ignition resistance and will be available during a wildfire emergency when relocation is not possible.
 - e. Self-contained restrooms will be constructed of non-combustible materials.
4. RCP shall be closed to all recreational use, events, tours, camping reservations or other special functions during any Red Flag Warning day/period, Flash Flood/Flood Warnings or Urban/Small Stream Advisory as declared for the Santa Monica Mountains area by the National Weather Service, a division of the National Oceanic Atmospheric Administration (NOAA). Signs shall be posted and park areas shall be patrolled to notify park users and to enforce restrictions on park use and notification provided that violation of the Red Flag Warning day closure policy may be punishable by fines up to \$1,000.00. Written warnings of the park closure and use cancellation policy shall be provided to potential campers and prospective program and event sponsors prior to contracting for park use.
5. Wildland fire-trained employees(s) and/or camp host(s) shall be on site at each park property during the times when camping is permitted. When camping is not permitted, rangers will make regular patrols. See Patrols text (DEIR, Chapter 2.0). Every camp host shall be a public officer designated pursuant to the MRCA Park Ordinance as authorized by the Public Resources Code. To ensure adequate staffing and to meet this condition, year-round park oversight and management is provided from existing on-site Ranger/maintenance supervisor residence utilized by MRCA staff charged with security, site management, and public safety duties.
6. Campsites will be located within existing public use areas to ensure easy access for purposes of maintenance and patrol, and in case of emergency.

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7. Emergency power generators and fuel supply at RCP necessary to maintain emergency lighting for at least 12 hours shall be maintained on site. Diesel fuel storage shall be provided in a ConVault type above ground, protected tank.

6.1 Relocation Planning

Wildfire emergency response procedures at RCP will vary depending on the type of wildfire and the available time in which decision makers from MRCA can assess the situation and determine the best course of action. The project's pre-plan, camp restrictions, adherence to "Ready, Set, Go," for early off-site relocation, and restrictions that prohibit visitors during weather that is most likely to facilitate ignition and spread of fire, are considered priority components of this FPP. The Barwood building at RCP currently serves as the Western Sector Emergency Operations Center for the MRCA, with full computer and radio dispatch capabilities in the event of an emergency. Trained dispatch personnel would be on-site at the Barwood building during a wildfire emergency. This on-site resource provides an additional layer of support for the Plan area relocation strategy by offering heightened access to important wildfire information for determining which relocation option to employ. Among the Barwood building communications and information support capabilities:

- VHF Base radio – high powered stationary radio with a fixed repeater in Upper Ramirez Canyon
- Satellite phone
- VHF Hand held radios (numerous)
- GIS mapping center
- Phone System
- Inforad Emergency Paging system

6.1.1 Wildfire Emergency Pre-Plan

The MRCA has pre-planned for wildfire emergencies and will continue to update the relocation component of that pre-plan. Subject areas that are addressed in this FPP and that shall be included in the emergency preparedness planning for RCP include:

- Staff training (by MRCA, LACoFD)
- Building and facility protection (as defined in this FPP)
- Grounds protection (fuel modification zones)

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- Fire prevention during Red Flag Warning periods
- Emergency supplies (fire extinguishers, First-aid and AED kits, etc.)
- Telephones/communications
- Web based communication tactics – text messages, e-tools for information, education, and critical notifications
- Command list
- MRCA Emergency Operations Plan
- Annual review and update
- Emergency notification procedures
- Advisement of potential fire danger
- Emergency Relocation/Relocation Plan.
- Temporary on-site sheltering in Peach House and the Ranger/maintenance supervisor residence and the on-site shelter for temporary refuge located near the adjacent Murphy way Road trail 2a6.

6.1.2 Relocation Alternative Scenario

The following relocation scenarios are provided for illustration of decision-making alternatives. The term "relocation" is used instead of "evacuation" as the term indicates an orderly, pre-planned process where people are relocated from one area to a fire shelter or to an off-site area. Orderly movement of people is the result of planning, training, education, and awareness, all of which will be proactively implemented by MRCA.

The preferred and highest priority is early relocation from the park to off-site areas away from wildland fuels. This is evidenced by, and will be aided by the fact that on declared Red Flag Warning days/periods, the park will be closed to visitors and other activities, including camping. This closure removes visitors from the Plan area corresponding with the periods that have historically produced the largest and most dangerous wildfires. However, because southern California's fire season is now considered to be a nearly year-round event, wildfire may occur when persons are at the site, on non-Red Flag Warning days. Fires in the absence of high winds and low humidity during these periods would be expected to have much less aggressive behavior, and be more easily contained, but still requires provisions for early relocation and for contingency, "last resort," temporary on-site sheltering, should relocation from campsites or the developed portions of the park be determined more dangerous than remaining on site. The

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following sections discuss emergency response decision making and the off-site relocation and temporary on-site sheltering alternatives available for RCP staff and visitors.

Relocation of the site's staff and visitors in the event of a wildfire would depend on the fire's location and behavior. Relocation can be achieved via the following optional routes:

- **Southward and Easterly relocation:** Ramirez Canyon Road to Delaplane Road to Pacific Coast Highway; or Ramirez Canyon Road to Delaplane Road to Winding Way to Pacific Coast Highway; or Ramirez Canyon Road to tunnel, then east or west on Pacific Coast Highway. Once on Pacific Coast Highway vehicles can travel east or west.
- **Westward relocation:** Ramirez Canyon Road to Via Acero Street to Kanan Dume Road (assuming this secondary emergency ingress/egress route is secured). Once on Kanan Dume Road, vehicles can travel north or south.

As identified in this FPP, in case of wildfire, the preferred plan is early relocation when that option would not expose people to dangerous conditions. Early notification of the MRCA Command and administrators and subsequently of staff and visitors is critical to the timely and safe relocation to designated off-site relocation areas. As indicated in numerous recent wildfires in southern California, including the 2009 Jesusita wildfire in Santa Barbara and the 2007 San Diego County wildfires, early notification combined with an organized relocation strategy and implementation is an effective means of moving people out of harm's way.

On at least an annual basis, RCP will conduct fire relocation drills to train staff on efficient and effective relocation of this area during a wildfire emergency. MRCA fire fighters will observe and participate in this annual drill and will have the authority to revise the procedure as necessary to provide the most efficient and safest relocation process.

If relocation of RCP staff and visitors is required, the following procedures would be followed. (NOTE: Relocation of the RCP staff and visitors, at maximum usage with Phase 1 (anticipated to be up to 60 persons, including visitors and staff) may require up to 30 minutes or more, based on the typical time from notification of a fire to leaving the area. Relocation of the RCP staff and visitors, at maximum usage with Phase 2 (anticipated to be up to 250 persons, including visitors and staff) during the non-fire season, may require in excess of 1 hour, based on the typical time from notification of a fire to leaving the area). Alternatively, if adequate time is not possible, the decision to relocate to one of the designated temporary on-site shelters will be made, by the appropriate MRCA Ranger, and off-site relocations will cease.

Relocation of RCP staff and visitors will typically occur during large, distant wildfire events that, due to weather patterns, could threaten RCP. Under this scenario, MRCA fire fighters and

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administrators would evaluate the wildfire event through communication with fire officials and/or the Incident Command established for each fire and determine at which point relocation would occur, with a conservative Management Action Point (trigger) threshold, i.e., the focus will be to avoid a last minute movement of people from the park. People will be relocated well before fire threatens the area or will remain on site in designated shelters.

Relocation would occur in scenarios that include considerable time to relocate staff and visitors from the site without impacting local residents' evacuation. With regard to staff and visitors, relocations can be completed relatively quickly due to the lack of large volumes of personal property and pets to be gathered, packed and transported. Ramirez Canyon Road residents likely have prepared formal or informal “evacuation plans” and may be equipped for fast evacuation, but it is common for residents to require a longer timeframe to gather personal property and pets, close residence windows and doors, and secure their property. Relocation of all but essential fire staff at RCP under this scenario would typically occur before resident relocation by virtue of the pre-planned relocation process.

Relocation of RCP visitors would occur quickly as well. As mentioned, on declared Red Flag Warning days/periods, when wildfire potential is high and fire behavior is unpredictable, RCP will be closed to visitors. On non-Red Flag Warning days/periods, when wildfire potential is lower and wildfire behavior is more predictable and controllable, visitors will be allowed. On a non-Red Flag Warning day, should a wildfire occur that allowed time to relocate, visitors would be quickly relocated off-site with the assistance of MRCA's internal pre-plan which includes Ranger delivered warnings, visitor gathering, and disbursement without the need for local law enforcement assistance, as described below.

In the event of a notification of wildfire and the decision to relocate off site:

- Staff will conduct a sweep of the facility and of the trail system within the vicinity of the park to notify hikers/pedestrians of the relocation decision. Hikers will be briefed at check in and by signage regarding wildfire danger and responses. MRCA Rangers will broadcast an alarm/siren so hikers on trails beyond the immediate vicinity of the park are alerted and return to their vehicle or the main park for further instruction. Communication with registered campers will be via a vehicle mounted or portable siren/warning signal (public address system), cell phone (cell phone numbers will be collected at check in and may be utilized for tracking individuals' locations via GPS in an emergency) and may include the use of e-tools to support critical notification such as text messages, twitter alerts, or other e-alerts, and/or when possible, trail sweeps by MRCA Rangers. To retain camper privacy, all camper personal cell phone and text information will be purged from the MRCA digital and/or hard copy file within one week following camper departure.

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This information will not be used for any other purpose than emergency or camping-related contacts. In addition, another resource available for notification that has been used in the past, MRCA's Interagency Pre-Plan includes coordination with LA County Sheriff's Office for helicopter assistance with notification and/or rescue of remote trail users during emergency situations.

- Staff and visitors will be directed to their vehicles. Visitors without vehicle transportation will carpool with staff. Visitors with special needs will be provided assistance by MRCA rangers, as necessary, so that relocation occurs in a safe and efficient manner.
- Vehicles will exit the site via the primary site access, Ramirez Canyon Road.
- The vehicles will drive south on Ramirez Canyon Road and depending on guidance from MRCA rangers/fire personnel, will continue to Delaplane Road or Via Acero Street or, if necessary, directly to Pacific Coast Highway. Staff and visitors will be directed by law enforcement as to the designated safe areas.

MRCA will hold regular relocation drills with timed facility sweeps for visitor "round up" At RCP. The sweeps are estimated to take a maximum 15 to 20 minutes and include all facilities and campsites (excluding remote trails). Audible alarm/sirens (vehicle mounted or portable public address system) will be broadcast from several locations as a first attempt at communication. Remote trail hiker's cell phones (registered campers) will be called and texted while e-alerts (when possible) would be sent as a secondary communication attempt to alert remote trail hikers of the need to return to the park as quickly as possible. Lastly, remote trails will be swept by MRCA Rangers and/or LA County Sheriff helicopter if adequate time is available. Continued property sweep training will be included in the overall MRCA fire safety training program.

During declared Red Flag Warning days/periods, general visitation and special events will not be allowed at RCP. Likewise, during special events involving 150 visitors or more on non-Red Flag Warning days (Phase 2) within the high fire season, shuttle buses shall transport visitors in and will remain on site, providing adequate capacity to relocate visitors in one trip out of RCP. The traffic impact from this scenario is anticipated to be minimal. In no case will events exceeding 150 guests occur during the high fire season. No busses greater than 30 feet long will be used on Ramirez Canyon Road.

Should a wildfire threaten during a non-Red Flag Warning day Special Event, the following procedures would be followed:

- At least two designated shuttle buses, or more if required for capacity purposes so that all visitors can be relocated off site in one trip, will be on site during all special events,

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regardless of event size, to reduce traffic on Ramirez Canyon Road. These buses would be mobilized and loaded with visitors and staff.

- The vehicles will exit the site via the primary site access, Ramirez Canyon Road to Delaplane and Pacific Coast Highway.
- The vehicles would convoy to available safe destinations, as directed by MRCA Rangers and/or law enforcement.
- Phase 1 would include a maximum number of 60 persons on site. Phase 2 would include a maximum number of 250 persons on site, except during high fire season when no more than 150 persons are allowed on site (November and December maximum on-site population is 40 persons + 20 staff). A condition of the project requires that shuttle buses and personal vehicles remain on site and be capable of relocating all visitors in one relocation trip. As such, Phase 1 and Phase 2 during November and December would require up to 30 minutes or more for relocation, Phase 2 during high fire season (except November and December) would require 45 minutes or more for relocation and Phase 2 outside high fire season could require approximately 1 hour or more (up to 45 minutes from notification of a fire to busses loaded, then roughly 15 minutes of travel southward to designated off-site areas).

6.2 Temporary On-Site Sheltering – Contingency Option

Wildfire scenarios that would not allow enough time to safely relocate staff and visitors off site, such as fires igniting very close to the park and driven by a wind from the north, may trigger MRCA Rangers to opt for relocating staff and visitors to the designated on-site shelters. There is a high probability that wildfire in Ramirez Canyon will be spotted and reported by RCP personnel first, based on the fact that its staff members are in Ramirez Canyon, on the RCP grounds every day and at least one resides on site. Once a fire is spotted or reported, the pre-planned emergency response would be initiated. The temporary on-site sheltering decision will include analysis of the options, communication with fire officials, when possible, and when the results indicate that a higher risk to people exists on the roads than in the designated on-site shelters the temporary on-site sheltering plan will be initiated.

On-site fire fighting capabilities include an engine designated for foam application. As part of MRCA's existing fire action plan, Engine 12 has been stationed at Ramirez Canyon Park full time. The engine has been modified specifically to produce high volumes of class A foam or Fire gel. The engine can be used to pre-treat, then reapply, a thick blanket of foam on all of the structures within the park boundaries in advance of a wildland urban interface fire. The engine is completely mobile in the Park and has the capacity to carry four hundred fifty gallons of foam concentrate and fire gel on board; according to MRCA fire personnel, that coupled with the

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nearly 40,000 gallons of stored water that is available on-site, would be more than sufficient to pre-treat, then apply, a thick blanket of foam to each of Ramirez Canyon park structures, including the on-site shelter(s).

MRCA fire fighters would notify staff and visitors as indicated previously and direct them to the designated shelter structures and as an extra precaution, would proceed to foam the outside of these structures prior to the fire, assuming enough time to allow this process to occur safely. As noted by the office of the state Fire Marshal, a building will be exposed to the main flame front of a wildfire for a relatively short period of time, 5 to 10 minutes on average (Ramsey and Rudolph 2003). This exposure time will be shorter and less intense with proper fuel modification zones in place. Buildings are subject to pre- and post-fire for a longer period of time, which may include wind, flying embers and spot fires. The on-site MRCA fire fighters are trained and equipped to operate during the pre- and post- fire passage periods. Hot spots will be extinguished and the area secured before relocation of staff and visitors out of the park is initiated.

The structures will provide a safer temporary environment than remaining outdoors, exposed to the wildfire. Buildings will be "linked" via intercom, radios or other communication systems such that staff can contact each other from any building to stay apprised of the situation and of the safety of visitors. As detailed in this FPP, the combined system, including site-specific, maintained fuel modification zones, retrofitted ignition-resistive features, infrastructural improvements, and foam application, is designed to provide safer areas for temporary sheltering during a wildfire.

The planned 2007 California Building Code (CBC) retrofitted buildings have been identified as buildings that will be used for temporary on-site sheltering. The buildings are the Ranger/maintenance supervisor residence (Phase I) and the Peach House (Phase 2). These structures offer approximately 1,346 and 4,507 square feet of interior space, respectively. The structures would be retrofitted in coordination with the project's phasing so that the maximum number of people on site at any one time can be accommodated. As such, the Ranger/maintenance supervisor residence would be retrofitted coinciding with Phase I, when the on-site maximum population of 60 persons would not exceed the calculated capacity and the Peach House would be retrofitted in Phase 2, when the on-site maximum population of 250 persons would not exceed the combined capacity of the two structures. Combined, these structures could accommodate a calculated 389 people for a temporary period of 30 to 60 minutes. The Ranger/maintenance supervisor residence and Peach House have been calculated to accommodate up to 89 and 300 persons, respectively, applying the CBC (2007) and a 15-square-foot per-person factor.

Additional amenities provided these structures to maintain communication and situation awareness for those temporarily sheltering include:

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- Large-panel television monitors on multiple walls for tracking newscasts during a wildfire event
- Large computer monitors for tracking fire incident status
- Several computer terminals available for communicating via e-mail
- Back-up power – battery banks that are "float" maintained and/or supported by solar panels
- Second utility source or U.L.-rated diesel generator with fuel stored in an above ground ConVault type tank or similar or a below ground storage tank.
- Outside environmental monitoring equipment including outside air temperature and carbon monoxide level indicators.

On declared Red Flag Warning days/periods, if a wildfire occurs within Ramirez Canyon, and it is determined that immediate shelter is necessary and relocation is unsafe, staff would move (no visitors would be on site during Red Flag Warning days/periods) into the designated structures. Staff could presumably be located throughout the 22-acre site and therefore would be notified by (1) site wide siren/warning system (vehicle mounted or portable public address system), (2) handheld radios, (3) structural intercom systems, (4) cell phone/text message/e-alert, and 5) LA County Sheriff's helicopter. All staff would be current on appropriate emergency response procedures during a wildfire event. Staff would be tallied once in the structure(s) to ensure that all on-duty staff members were accounted for. Staff would stay in communication with law enforcement and fire agencies for authorization to relocate from the RCP site after the fire threat has been controlled or the fire has passed.

On the occurrence that a wildfire threatened Ramirez Canyon on a non-Red Flag Warning day, when visitors may be on the park site, staff, visitors, and all personnel would be guided to the designated structures via communication systems mentioned above and supplemented by well-trained staff who are proficient at sweeping the facilities and site. Staff and the number of visitors in the park would be tallied so that all have been accounted. If there are unaccounted visitors, MRCA rangers would attempt to locate or alert them to the situation via the audible alarm/siren (vehicle mounted or portable public address system). MRCA staff would stay in communication with law enforcement and fire agencies and would relocate visitors from the site, after the fire threat has been controlled or the fire has passed.

This FPP stresses that on-site sheltering is a "last-resort" with early relocation off-site as the preferred priority.

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7.0 CONCLUSION

This Focused FPP has been prepared as an evaluation of the adverse environmental effects that the proposed Malibu Parks Public Access Enhancement Plan - Public Works Plan improvement project, Modified Redesign Alternative at RCP may have from wildland fire. It further evaluates methods for addressing those effects to ensure that the above referenced project does not unnecessarily expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

This FPP utilizes a "systems approach" for specifying fire protection measures. The measures consist of the components of fuel modification, structural protection, water supply, fire protection systems, access (ingress/egress), emergency on-site shelters and well-planned emergency response and early evacuation of staff and visitors. In addition, the plan memorializes the MRCA's existing pre-planning and fire action plans as well as the recommended and required actions that will be enforced on RCP as part of the area wide fire reduction efforts. This FPP provides details regarding the general fire protection features as well as the site specific, restrictive policies that will govern RCP with regards to fire protection.

The requirements and recommendations provided in this FPP have been designed specifically for the proposed improvements adjacent or within the wildland urban interface zone at RCP. Because this project proposes primarily recreation improvements with minimal structural additions, the requirements for fire safety are customized for these uses and, in most cases, are not specifically covered under existing Fire or Building codes. Where possible, the codes are applied or used as guidance. Where infeasible or not applicable, alternative measures are provided that will reduce the likelihood of ignitions, such as prohibitions on camp fires, provision of non-flammable, flameless cook stations at campsites, park closures on Red Flag Warning days, and designated on-site shelters, amongst others. An important additional consideration, fuel modification zones, will continue to be diligently provided on RCP and will be maintained on an on-going basis and inspected annually, maintaining the plants at very high levels of ignition resistance and removing all dead and dying materials and maintaining appropriate horizontal and vertical spacing within the zone. In addition, plants that establish or are introduced to the fuel modification zones that are not on the approved plant list will be removed.

Ultimately, it is the intent of this FPP to guide the fire protection efforts for RCP in a comprehensive manner. Implementation of the measures detailed in this FPP will reduce the risk of wildfire at this site, will improve the ability to safely relocate people from the area during wildfire events or temporarily shelter them under emergency conditions, and will improve the

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ability to fight fires on the properties and protect park property and neighboring resources irrespective of the cause or location of ignition.

It must be noted that during extreme fire conditions, there are no guarantees that a given structure will not burn. Precautions and minimizing actions identified in this report are designed to reduce the likelihood that fire will impinge upon RCP assets or threaten its staff or visitors or that vegetation ignitions result from Park activities. There are no guarantees that fire will not occur in the area or that fire will not damage property or cause harm to persons or their property. Implementation of the required enhanced construction features provided by the applicable codes and the fuel modification requirements provided in this FPP will reduce the site's vulnerability to wildfire. It will also help accomplish the goal of this FPP to assist firefighters in their efforts to defend existing structures and reduce the risk to park visitors.

8.0 MAINTENANCE AND LIMITATIONS

In order to ensure that the proposed park improvements and uses minimize risks associated with wildfire, all components of the fire protection system must be maintained and in place. This FPP, when approved, provides the direction and nexus for that maintenance to occur. Specifically, the MRCA will conduct at least annual inspections of the fuel modification areas, construction features, fire protection systems, and infrastructure to ensure that they meet the requirements specified in this FPP.

**Ramirez Canyon Park
Focused Fire Protection Plan
Modified Redesign Alternative**

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ATTACHMENT 1
Select Project Area Photographs



Photograph 1. View of primary access road, Ramirez Canyon Road prior to road widening that will occur with the project.



Photograph 2. View of Ramirez Canyon Park gated entrance.



Photograph 3. View of a Ramirez Canyon Park structure that includes overgrowth of vegetation on vulnerable structure.



Photograph 4. View of existing tennis facility that will be removed and replaced with accessible campsites.



Photograph 5. View of meadow area beneath sycamore canopy that will be the site of additional campsites.



Photograph 6. View of pre-fabricated window coverings that would, if time is available, be placed in the windows of various buildings on site to mitigate vulnerable glazing from wildfire.



Photograph 7. View of fuel modification on adjacent western slopes to 200 feet. This maintenance will continue and be enhanced with the proposed project.



Photograph 8. View of coastal sage scrub dominated slopes to the northwest. These slopes would provide fuel to a wind driven fire from the north to the south in Ramirez Canyon.



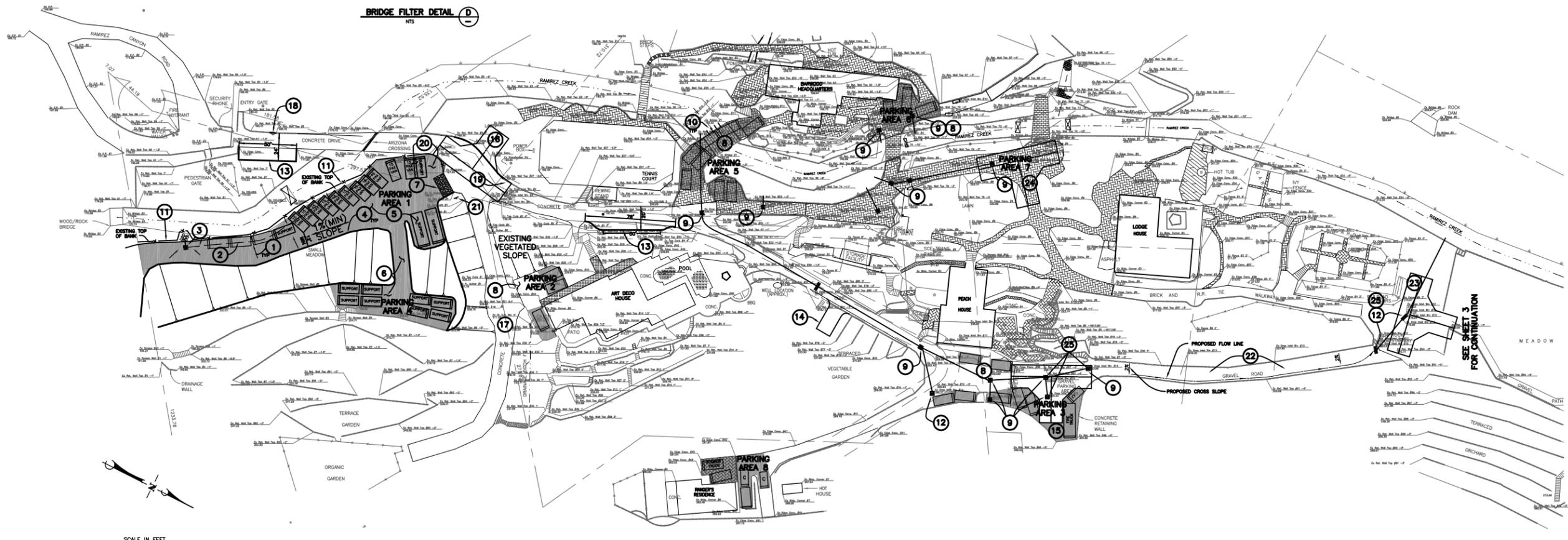
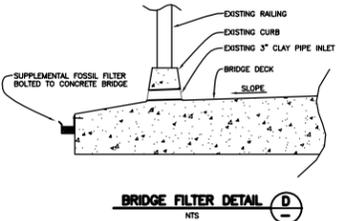
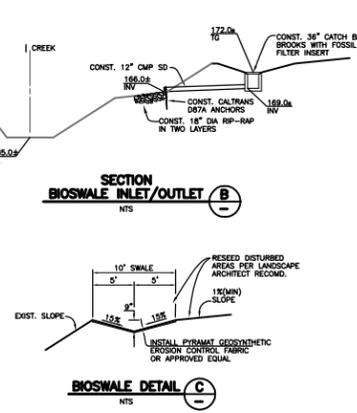
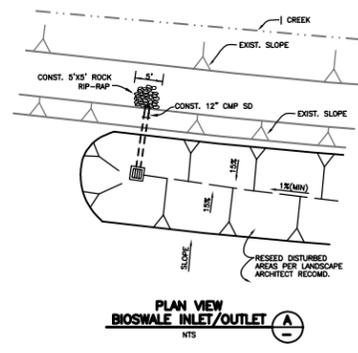
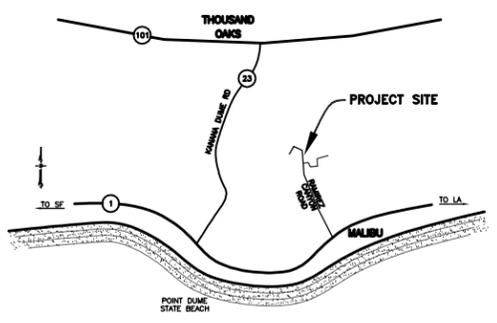
Photograph 9. View of fuel modification on the eastern slope. The fuel modification work will continue with the project and forms an effective fire intensity reduction against most wildfire scenarios on this site.



Photograph 10. View of fire engine located on the Ramirez Canyon Park site during the high fire season. It is capable of delivering 125 gallons of Class A foam to structures or as needed.

ATTACHMENT 2

*Proposed Improvements for Emergency Access,
On-Site Parking, Access Path, and Best
Management Practices Plan*



LEGEND:

- UTILITY POLE
- DIRT INLET/CATCH BASIN
- ▨ DECOMPOSE BRICK PAVEMENT
- ▨ BRICK PAVEMENT
- ▨ COBBLE STONE PAVEMENT
- ▨ WOODEN DECKING
- ▨ GRABONS
- ▨ GRASS PAVING
- ▨ PROPOSED PARKING AREAS
- ▨ GRAVEL OR ROCK RIP-RAP
- ① CONSTRUCTION NOTE
- UNPROVED BANK (TOP)
- COLLAR FENCE
- CHAIN LINK FENCE
- FLOWLINE (CREEK)
- CONCRETE GARDEN/RETAINING WALL
- ROCK GARDEN/RETAINING WALL

CONSTRUCTION NOTES

- 1 THE EXISTING DIRT PARKING AREA SHALL BE GRADED TOWARD PROPOSED BIOSWALE AT 1% (MINIMUM). THE GRADING SHALL BE LIMITED TO THE LOWER PARKING LOT AREA ADJACENT TO THE CREEK.
- 2 CONSTRUCT BIOSWALE PER DETAIL "C". THE EXISTING TOP OF THE CREEK BANK SHALL NOT BE LOWERED.
- 3 CONSTRUCT CATCH BASIN AND CATCH PIPE PER DETAILS "A" AND "B". ADJUSTMENTS OF GRADE AND PRECISE LOCATION OF THE CATCH BASIN AND PIPING SHALL BE MADE ON SITE TO BEST FIT THE FIELD CONDITIONS. CONSTRUCT ROCK RIP-RAP AT OUTLET.
- 4 MATCH EXISTING GRADE AT THE TOE OF SLOPE.
- 5 DISTURBED AREAS SHALL BE SEEDED PER THE LANDSCAPE ARCHITECT'S RECOMMENDATIONS.
- 6 EXISTING DIRT PARKING AREA AND ACCESS RAMP TO REMAIN.
- 7 PLACE 8-INCHES OF CRUSHED ROCK OVER FILTER FABRIC AT THE ENTRANCE TO DIRT PARKING AREA 1. ROCK SHALL EXTEND INTO PARKING AREA FOR 10-FEET.
- 8 PARKING AREA TO REMAIN AS IS. CLEAN SEDIMENT AND DEBRIS OUT CATCH BASINS AND FLUSH STORM DRAIN LINE TILL CLEAN.
- 9 INSTALL FOSSIL FILTER INSERTS INTO EXISTING CATCH BASIN.
- 10 CONSTRUCT SUPPLEMENTAL FOSSIL FILTER AT EDGE OF BRIDGE PER DETAIL "D".
- 11 INSTALL SILT FENCE PER DETAIL ON SHEET 3.
- 12 CLEAN SEDIMENT AND DEBRIS OUT CATCH BASINS AND FLUSH STORM DRAIN LINE TILL CLEAN.
- 13 CONSTRUCT CONCRETE PAVEMENT TO WIDEN ROAD TO DIMENSIONS SHOWN ON PLAN. 100-FOOT WIDE MINIMUM BY 50-FOOT LONG MINIMUM FOR VEHICLE TURNOUT. SEE DETAIL "A" & "C", SHEET 2 FOR NO-PARKING SIGNS AT TURN-OUTS.
- 14 CONSTRUCT VEHICLE TURNOUT. SEE DETAIL "F", SHEET 2.
- 15 CONSTRUCT AREA FOR PARKING AND EMERGENCY VEHICLE TURN-AROUND. SEE DETAIL "G", SHEET 2.

- 16 CONSTRUCT AREA FOR EMERGENCY VEHICLE TURN-AROUND. SEE DETAIL "H", SHEET 2.
- 17 THE VEHICLE ACCESS AREA AROUND THE ART DECO HOUSE WAS PREVIOUSLY APPROVED AS BEING ADEQUATE FOR EMERGENCY VEHICLE TURN-AROUND BY FIRE CAPTAIN JIM JORDAN DURING THE DECEMBER 15, 1999 SITE VISIT.
- 18 REMOVE DEAD TREE STUMP AND ROCK TREE WELL. REPAID MUD WALL MATCHING EXISTING CONSTRUCTION. PATCH PAVEMENT TO MATCH EXISTING STRUCTURAL SECTION AND GRADES.
- 19 TRIM BUSHES BACK TO ALLOW FOR GREATER SIGHT DISTANCE ALONG ROADWAY.
- 20 TRIM BUSHES BACK TO ALLOW FOR VEHICLE PARKING.
- 21 CONSTRUCT SIGN AT ENTRY INTO PARKING AREA 1 WITH 2" HIGH WHITE LETTERING ON DARK BACKGROUND STATING "VAN SHUTTLE PARKING MUST USE THIS LOT".
- 22 RE-CONSTRUCT EXISTING GRAVEL ROAD PER DETAIL "X", SHEET 2. RE-LEVEL ROAD TO SLOPE AWAY FROM THE TOP OF SLOPE.
- 23 CONSTRUCT AREA FOR EMERGENCY VEHICLE TURN-AROUND. SEE DETAIL "C", SHEET 2.
- 24 CONSTRUCT AREA FOR EMERGENCY VEHICLE TURN-AROUND. SEE DETAIL "D", SHEET 2.
- 25 RAISE THE CATCH BASIN TO MATCH THE PROPOSED GRADE AND SURFACING.

LEGEND

AC	ASPHALT CONCRETE
CONC	CONCRETE
E	EAST
EC	EDGE CONCRETE
FS	FRESH SURFACE
EX	EXISTING
EXH	EXISTING
EXH	EXISTING
EXH	EXISTING
FL	FLOW LINE
FNC	FENCE
GND	GROUND
N	NORTH
ST. GD.	STRAIGHT GRADE
TC	TOP CURB
TF	TOP FOOTING
TW	TOP WALL
□	CATCH BASIN
○	STORM DRAIN PIPE
---	EDGE OF A.C. OR CHIP SEAL PAVEMENT



GENERAL INFORMATION

OWNER: SANTA MONICA MOUNTAIN CONSERVANCY
2600 FRANKLIN CANYON DR.
BEVERLY HILLS, CALIF. 90210
(310) 858-7272 x105
CONTACT: RHETT ROBB

SITE: RAMIREZ CANYON PARK
5810 RAMIREZ CANYON ROAD
MALIBU, CA 90265
(310) 589-3230

ENGINEER: PENFIELD & SMITH ENGINEERS
151 EAST VICTORIA STREET
SANTA BARBARA, CA 93101
PHONE: (805) 843-8532
FAX: (805) 843-8532
CONTACT: HADY IZADPANAH, P.E.
BRET FOSTER, P.E.

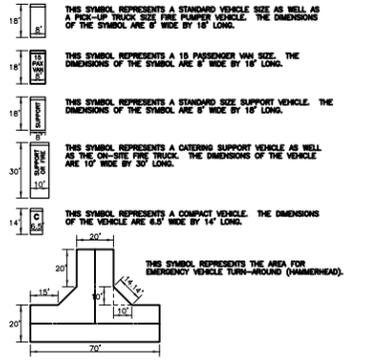
PARKING AREA AND BMP IMPROVEMENTS

AREA	DESCRIPTION	NUMBER OF STANDARD SPACES
1	NEAR ENTRANCE	11 VAN SPACES 2 LARGE SUPPORT SPACES 2 STANDARD SUPPORT SPACES 3 STANDARD SPACES
2	ART DECO HOUSE	3 STANDARD SPACES
3	NORTHERLY OF PEACH HOUSE	7 STANDARD SPACES 1 COMPACT SPACE 1 FIRE TRUCK SPACE
4	WEST OF AREA 1	8 STANDARD SUPPORT SPACES
5	EAST OF BARWOOD	8 STANDARD SPACES
6	NORTH OF BARWOOD	3 HANDICAP SPACES (2 VAN ACCESSIBLE)
7	COURTYARD AT LODGE	0 SPACES
8	RANGER RESIDENCE	2 STANDARD SPACES 1 FLAMPER TRUCK SPACE

UNDERGROUND SERVICE ALERT (U.S.A.)

TELEPHONE UNDERGROUND SERVICE ALERT AT 1-800-422-4133 FORTY-EIGHT (48) HOURS PRIOR TO START OF CONSTRUCTION.

VEHICLE PARKING SYMBOLS AND DIMENSIONS



PROPOSED IMPROVEMENTS FOR EMERGENCY ACCESS, ON-SITE PARKING, ACCESS PATH AND BEST MANAGEMENT PRACTICES PLAN

REFERENCES:
DRAWING FILE: 13A38NC1.DWG
DATA FILE:
PROJECT FILE:
VIEW NAME:
XREF NAME(S):
DATE: March 2, 2000

NO.	DATE	REVISIONS	APPR.

Penfield & Smith
ENGINEERS & SURVEYORS
101 E. VICTORIA ST. SANTA BARBARA, CALIF. 93101
MAILING ADDRESS: P.O. BOX 98 (93102) R.C.E. 45,832

DESIGN: HJ/BEF
DRAWN: BEF
DATE: 12/31/99
PROJECT ENGINEER: HADY IZADPANAH
R.C.E. 45,832
EXP. 12/31/02

COUNTY OF LOS ANGELES, CALIFORNIA

REVIEWED BY: _____ DATE: _____

RAMIREZ CANYON PARK
SANTA MONICA MOUNTAIN CONSERVANCY
MALIBU, CALIFORNIA

WORK ORDER: 13A38.02
SHEET: 1 of 3

