TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

***Impacts determined not to be significant are addressed in this EIR under **Section VII, Impacts Determined to be Insignificant**, and have been omitted from the Impact Section of this report.

TABLE OF CONTENTS (Continued)

Section

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

This section addresses the potential impacts of the proposed Mountaingate project on Fire Protection services in the City of Los Angeles. Where potentially significant impacts are identified, mitigation measures are recommended to reduce such impacts to acceptable levels. Sources utilized in the preparation of this section include the following: Interviews and correspondence with personnel at the Construction Services Unit of the City of Los Angeles Fire Department (LAFD), City of Los Angeles Fire Protection and Prevention Plan (FPPP), previous technical studies in the project area, and the City of Los Angeles Internet Website.

ENVIRONMENTAL SETTING

Site Conditions

The project site is located in a designated Mountain Fire District of the City of Los Angeles.[1] The project site meets the definition of High Fire Hazard Areas, based on its natural vegetation types, steep topography, and limited access. In general, High Fire Hazard Areas contain plant species that have adapted to periodic wildland fire conditions, and which maintain a healthy ecosystem in the region. These plant communities pose the greatest fire threat in High Fire Hazard Areas due to high combustibility and dense biomass. In addition to combustible vegetation, topography is a key factor in fire protection and suppression in High Fire Hazard Areas because steep slopes may not be accessible to fire fighting vehicles and steep canyons can create updraft conditions (much like a chimney), spreading fire rapidly into adjacent areas. Steep canyons that are densely covered with combustible vegetation are especially hazardous.

Vegetation on the project site consists of approximately 11 plant communities, which are categorized as: non-native grasslands, non-native grasslands / disturbed coastal sage scrub, Venturan coastal sage scrub, disturbed coastal sage scrub, coastal sage-chaparral scrub, mixed chaparral, California walnut woodland, mixed chaparral / California walnut woodland, southern mixed riparian woodland, mixed woodland, and ornamental. These plant communities are discussed in detail in **Section IV.D, Plant Life**, of this Draft EIR.

1 Los Angeles City Fire Department, Map 101, Mountain Fire Districts and Buffer Zones, May 1981.

In addition to exhibiting the characteristics of a High Fire Hazard Area (i.e., the natural vegetation types, steep topography, and limited access), the project area is subject to high velocity winds that are created by high pressure ridging over the Great Basin (Nevada, Utah) and a low pressure system south of San Diego. The local term for these high velocity winds is "Santa Ana" wind. Santa Ana winds may occur during any month of the year, but the usual pattern is from late September through December, with the month of November having the highest number of episodes and days of duration.

Due to the proposed project's location within a High Fire Hazard Area, it is required to meet the building construction requirements specified in the City's Fire Code, including its fire-flow requirements for fire suppression purposes. No water mains exist on the project site. Water mains in the immediate project area range from eight inches on Stoney Hill Drive to 20 inches on Mountaingate Road and Hill Road has a static water pressure of 102 pounds per square inch (psi) and a residual water pressure of 50 psi. In addition, an existing Los Angeles Department of Water and Power (DWP) 10-inch water main in Sepulveda Boulevard provides fire-flow for developments in the project area. A 3.3-million-gallon water tank, Mountaingate Tank, exists immediately adjacent to the proposed development area. See **Section IV.Q.3, Utilities, Water Distribution**, for further discussion of existing water improvements and pressure zones in the project area.

Fire History in the Project Area: Large Scale Fires

No adequate fire maps exist for the project area prior to 1919. However, with the establishment of the Los Angeles County Forestry Department in 1919 (now referred to as the Los Angeles County Fire Department), permanent records of all fires over 100 acres within its jurisdiction are kept in the form of fire maps. From these maps, it is known that the area stretching from Sepulveda Pass through the Mandeville-Sullivan drainages and towards the ocean has historically been subject to large-scale fires.

The last major fire in the project area was the "Mandeville" fire in 1978. Prior to the Mandeville fire, the Bel Air fire of 1961 jumped the I-405 (San Diego Freeway) and touched the southern portion of the project site. That same day (November 6, 1961), a second fire was ignited at Santa Marie Road and Mulholland Highway above Santa Ynez/Topanga Canyons and burned to the western ridge of Mandeville Canyon. The proposed project area was also threatened in the 1944 Woodland Hills fire.

Fire Prevention/Protection Efforts by Regulatory Agencies

Fire protection in the project area is provided by the City of Los Angeles Fire Department (LAFD). These services are provided as directed by the Fire Protection and Prevention Plan (FPPP), an element

of the *General Plan* of the City of Los Angeles. The FPPP is intended to provide guidance to various City departments and government agencies that operate fire protection facilities within the City. The FPPP also establishes standards for the distribution, design, construction, and location of fire protection facilities, including systems incorporated into private developments. These standards specify fire flow criteria, minimum distances to fire stations, public and private specifications, and the location criteria and access provisions for fire fighting vehicles and personnel.

The LAFD operates three stations within the general vicinity of the project site. These three stations would provide initial response to service calls from the project site.[2] The station addresses, manpower and equipment, and distances from the project site are as follows:

- Fire Station No. 88
  5101 N. Sepulveda Boulevard
  Sherman Oaks, CA 91403
  Task Force Truck and Engine Company
  Paramedic Rescue Ambulance
  Division 3 Headquarters
  Staffing – 20
  Distance to project site – 3.5 miles

- Fire Station No. 99
  14145 Mulholland Drive
  Beverly Hills, CA 90210
  Single Engine Company
  Staffing – 4
  Distance to project site – 3.6

- Fire Station No. 109
  16500 Mulholland Drive
  Los Angeles, CA 90049
  Single Engine Company
  Staffing – 12
  Distance to project site – 2.6

According to the LAFD's Bureau of Fire Prevention and Public Safety, the adequacy of fire protection in a given area is based on required fire-flow, response distances from existing fire stations, and the department's judgement for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard. Fire prevention measures in High Fire Hazard Areas generally include prescribed burns, vegetation thinning/removal, and creation of fuel modification zones, whereas fire suppression measures involve controlling fires once they have started, through the

2 Richard A. Wanford, Assistant Fire Marshal, Bureau of Fire Prevention and Public Safety, City of Los Angeles Fire Department, Letter to the City Planning Department in response to the project NOP, October 26, 2000.

use of fuel breaks, fire fighting equipment, water drops, and other techniques. For urban development in and adjacent to wildland fire hazard areas, fire prevention measures typically focus on restricting the types of building materials used, building design, and incorporating setbacks or fuel modification zones.[3]

In 1985, the LAFD, the County of Los Angeles Fire Department, and the DWP entered into an agreement to utilize prescribed burning, crushing, multi-cutting,[4] and pile burning to reduce fuel buildup and to slow the spread of fires in chaparral communities in order to create a "defensible space" for the responding fire agencies. Defensible space gives fire fighting personnel time to respond to fast-burning chaparral wildfires, and nearby residents time to evacuate the area, if necessary.

The National Park Service, California Department of Parks and Recreation, and California Department of Forestry and Fire Protection (CDF&FP) also promulgate fire protection and suppression measures for managing chaparral by utilizing prescribed burning to reduce the fire risk and to generate new chaparral to sustain wildlife. The CDF&FP has made funds available to manage chaparral under the State of California Vegetation Management Program.

Environmental Impact Analysis

Thresholds of Significance

The L.A. CEQA *Thresholds Guide* indicates that a project would normally have a significant impact on fire protection if it requires the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service.[5] According to the City of Los Angeles Fire Department, the adequacy of fire protection for a given area is based on required fire flow, response distance from existing fire stations, and the Department's judgment for needs in the area. Additionally, development within or adjacent to a Mountain Fire District / High Fire Hazard Area would contribute to the level of impacts with respect to fire protection. Therefore, for the purposes of this impact analysis, this project would have a significant impact on fire services if it creates:

- A potential for inadequate fire flow to the project site;
- Response distances in excess of Fire Department standards;

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3 O'Connell, Terrence, Fire Inspector, Los Angeles Fire Department, Telephone Conversation with Impact Sciences, July 20, 2000.

4 The multi-cutting technique entails selective thinning of understory fuels while enhancing the growth of less fire-prone shrubs.

5 L.A. CEQA *Thresholds Guide*, City of Los Angeles, Environmental Affairs Department, May 14, 1998, p. J.2.-3.

- Development within or adjacent to a Very Hazardous Fire District; and/or
- Addition of a new fire station or the expansion, consolidation or relocation of an existing facility.

Proposed Conceptual Fire Protection/Vegetation Management Plan

Wildfires can move from wildland areas into developed areas through a combination of circumstances:

- wood roofing or siding igniting from sparks or direct flame impingement;
- open doors and windows or vents acting as receptacles for sparks;
- ornamental vegetation, primarily exotic shallow rooted shrubs and trees, such as pine, juniper, cypress, acacia, eucalyptus, palm, and pampas grass, all continuous and adjacent to structures; and
- wood fencing, light wood patio covers and railings, decking, gazebos, and cabanas.

As part of the proposed project, a Fire Protection/Vegetation Management Plan would be prepared and implemented. There are two components to the Conceptual Fire Protection/Vegetation Management Plan: the Vegetation Management Plan and the Infrastructure and Structural Fire Protection Plan, each of which is discussed below. The combination of the two plans would provide a systematic approach to mitigating structural and wildland-urban interface fires, free up City of Los Angeles Fire Department resources that could otherwise be made available for fire suppression and rescue, and allow residents to shelter-in-place during an area wildland fire. Both plans must be approved by the City of Los Angeles Fire Department prior to implementation.

Vegetation Management Plan

For a wildfire safe community in a High Fire Hazard Area, not only must the adjacent wildland be maintained in a fire safe manner, as required by the Los Angeles City Fire Code, but the area within the first 200 feet or more of a structure (referred to as the fire management zone) must also be maintained on an annual basis. Therefore, the Vegetation Management Plan addresses fuel separation, irrigation, and tree/shrub selection within and immediately surrounding the proposed development area by dictating the types of vegetation that would be permitted within the proposed development area, within a fuel modification zone along the perimeter of the development area, and along roadways and within their medians. The specific requirements of the Vegetation Management Plan are identified below in this section under Mitigation Measures.

With implementation of the proposed Vegetation Management Plan, the proposed project would completely buffer all development north of the project site from fires moving from south of the site to the north. Specifically, through vegetation management (i.e., fuel separation, irrigation, and tree/shrub selection), the fuel bed in the proposed development area and immediately surrounding area may be modified to reduce potential on-site wildland fire hazards.

Infrastructure and Structural Fire Protection Plan

While the Vegetation Management Plan addresses fuel separation, irrigation, and tree/shrub selection within and immediately surrounding the proposed development area, the Infrastructure and Structural Fire Protection Plan addresses the following issues:

- Roads and Driveways (Access),
- Road and Building Identification,
- Fire Protection Water System,
- Building Construction,
- Fire Alarms,
- Utility Lines,
- Fences, and
- Combustible Storage.

According to Hunt Research Corporation, which authored the Fire Protection Plan, the recommendations contained in the Plan (and incorporated in this EIR section as mitigation measures) are based upon requirements of the State Fire Code, National Fire Protection Association (NFPA) Standard 299 "Protection of Life and Property from Wildfire," the International Urban Wildland Interface Code, and City of Los Angeles Fire Department requirements.

Circulation patterns and road designs are critical in wildland-urban interface areas. The project proposes two primary ingress and egress routes to the tract via Mountaingate Road: Canyonback and Stoney Hill Roads. These roads and all on-site through streets are proposed to be approximately 40 feet wide.

In addition to the extension of Canyonback Drive and Stoney Hill Road, an emergency ingress/egress road to the site is proposed from the terminus of Stoney Hill Road. This emergency access would lead from Stoney Hill Road and connect to an existing dirt road on top of Mission Canyon 8 Landfill. As part of the project as described in **Section II, Project Description**, this roadway would be widened and

improved according to the LAFD's emergency roadway access requirements of 20 feet minimum roadway width and 15 percent grade. This roadway currently leads down the mountain and connects to Sepulveda Boulevard. As part of the project, this roadway connection would remain the same.

As previously mentioned, the existing water mains in the project area range from eight inches on Stoney Hill Drive to 20 inches on Mountaingate Road and 24 inches on Canyonback Road. The system has an existing static psi of 102 and a residual pressure of 50 psi. The proposed on-site system for fire protection would be a looped system with mains having a minimum 8-inch diameter, and sized to deliver the required fire-flow to all portions of the project at adequate residual pressures and velocities for service to fire sprinklers and hydrants during periods of peak domestic demand.[6] Laterals to hydrants will be the same size as the street mains (i.e., eight inches), and a gate valve will be provided on connection between the mains and each hydrant. The LAFD has set the fire-flow requirements for the proposed project at 4,000 gpm with a residual pressure of 20 psi.[7] The proposed project water system would provide adequate fire-flow capacity to meet LAFD fire-flow requirements.[8] Hunt Research Corporation also recommends that all structures on the project site be equipped with internal fire sprinklers. Please refer to **Section IV.Q.3, Utilities, Water Distribution**, for further discussion on the proposed on-site water system.

In addition to the aforementioned access and water system improvements, the golf course adjoining the project site will be utilized as a safety zone and helipad area. A safety zone is typically a paved or unpaved area within a fuel managed area on relatively flat ground. The purpose of the safety zone would be to provide an area of safe refuge, if needed, and to provide an area for refilling helicopters during a fire. In addition to the safety zone, a 250-foot by 250-foot paved or unpaved helipad with a nearby fire hydrant would be provided within the golf course.

Enforcement of the Conceptual Fire Protection/Vegetation Management Plan

Proper design, installation and maintenance of the Conceptual Fire Protection / Vegetation Management Plan would be the responsibility of the project architect, landscape architect, engineer, and developer, subject to the review and approval of the LAFD. To ensure long-term project compliance with the Plan, all property owners and residents of the project would be informed by the developer that the project

6 A looped system enables the system to provide needed fire-flow to all portions of the project in the event that a critical water main is out of service.

7 Inspector, Terrence O'Connell, Construction Services Unit, Los Angeles Fire Department, Telephone Conversation, August 17, 2000.

8 According to the project engineers, Psomas and Associates, November 2002

area is located within a Mountain Fire District and High Fire Hazard Area, and that each homeowner is responsible to ensure that the wildfire safety provisions of the plan are adhered to.

Project Impact

Development of the property would place residential structures immediately adjacent to existing homes and golf course developments, which are located north and east of the project site. However, the proposed project would also adjoin wildland and natural open space areas to the west and south. Even after project development, these natural areas would continue to have wildfire potential due to the presence of native vegetation, limited access and/or steep topography. The degree to which the City of Los Angeles Fire Department and the Conceptual Fire Protection/Vegetation Management Plan can provide adequate fire protection to the project site is based on site access, required water supply and fire-flow, response distance and time from existing fire stations, and the Fire Department's judgment of project-specific needs. Each of these issues is individually discussed below in addition to addressing the project demand on existing fire stations.

Site Access

As previously mentioned, direct fire vehicle access to the site would be available via Canyonback and Stoney Hill Roads, both of which would be accessed from Mountaingate Road. In addition, a Fire Department approved emergency secondary access is proposed as part of the project (see **Figure IV.O.1-1**). On the project site, Canyonback and Stoney Hill Roads are each proposed to be 40 feet wide, which is considered acceptable to allow evacuation while fire units are responding to on-site fires. The design of road widths accounts for the potential for abandoned vehicles and downed trees that could conceivably block portions of roadways.

With two means of primary access and one means of emergency access to the site, and adequate roadway widths, site accessibility would be adequate for fire fighting purposes, and no significant project impacts relative to site access are anticipated.

Water Supply and Fire-Flow Requirements

An adequate and reliable water supply is critical to fire protection in wildland-urban interface areas, and the availability of sufficient on-site water pressure, fire-flow, to serve development is a basic requirement of the City of Los Angeles Fire Department. In general, the quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and degree of fire hazard

Figure IV.O.1-1

Location of Fire/Secondary Access Road on Landfill

(i.e., risk), while fire-flow requirements are closely related to land use. The on-site water systems would comply with applicable codes and regulations for fire protection within a LAFD designated Mountain Fire District.

Water Supply

As discussed in **Section IV.Q.3, Utilities, Water Distribution**, water supplies to the site will be provided by the DWP, and the water distribution system would be elevated, gravity-fed, looped systems. Water for fire-fighting purposes would be from the existing 3.3 million gallon on-site Mountaingate Tank. Since fire storage is normally from the bottom one-third of all mountain storage tanks, the Mountaingate Tank would provide 1.1 million gallons of water to be used only for fire fighting purposes. Other sources of water supply to the site during a fire would be from the nearby golf course lake via helicopter drops.

Fire-Flow Requirements

An existing LADWP 10-inch water main in Sepulveda Boulevard to the east of the site provides fire-flow for existing developments in the project area. In the LAFD's response to the Notice of Preparation for this EIR, dated October 26, 2000, the required minimum fire-flow for this project was set at 1,000 gallons per minute (gpm) at 20 psi from four fire hydrants flowing simultaneously.[9] According to the LAFD, adequate off-site public and on-site private fire hydrants may be required, the number and location of which would be determined after LAFD review of the plot plans. In order to meet this fire-flow requirement, the project engineer proposes specific improvement to the water system. Please refer to **Section IV.Q.3, Utilities, Water Distribution**, for a discussion of these developer-financed improvements. According to Psomas and Associates, the proposed project water system would provide adequate fire flow capacity to meet LAFD fire-flow requirements and no significant project-related impacts would occur relative to fire-flow.

Response Distance and Time from Existing Fire Stations

The closest fire station to the project site is Station 109, located at 16500 Mulholland Drive and 2.6 miles from the site. Station 109 is staffed by twelve firefighters working four shifts. The Engine Company is equipped with one engine and one humvee.[10] Other stations that would serve the site include Station 88 and Station 99. Station 88 is located at 5101 Sepulveda Boulevard, 3.5 miles from the

9 Richard A. Wanford, op. cit.

10 Communication with Lt. Conenbold, Los Angeles Fire Department Station 109, December 19, 2001.

project site. The station has 20 firemen working three shifts and 7 pieces of emergency equipment (1 arial truck, 2 pumps, 2 ambulances and 1 chief sedan).[11] Station 99 is a 4-person engine company including a rescue ambulance, located at 14145 Mulholland Drive and 3.6 miles from the site.[12]

A first alarm structure response would bring three engines (12 firefighters) and two ladder trucks (eight firefighters) plus a Chief for a total of 20 plus the Chief. A brush fire would result in an initial response by six engines, one ladder, two Chiefs, and two helicopters. The entire response would probably arrive to the project site within eight minutes from receipt of alarm in the dispatch center, which is greater than the optimal Fire Department response time of 5.0 minutes, resulting in a significant fire impact relative to response time. However, with implementation of the Conceptual Fire Protection / Vegetation Management Plan, and mitigation measures recommended in this EIR, no significant impacts to Fire Department response time would occur.

Implementation of the project would not result in the need to create an additional fire station in the area. The project would also not result in the need to expand, consolidate or relocate an existing facility. Thus, no significant impacts would occur in respect to expansion, consolidation or relocation of an existing fire station facility.

Other Fire Department Issues

Because the site is within a Mountain Fire District and a High Fire Hazard Area, development of the project site poses special wildland fire hazards and fire prevention / suppression concerns to the LAFD. Since the 1978 Mandeville fire discussed above, the area around the project site has changed significantly, along with the wildland fire hazard potential of the area. The following is a discussion of the area surrounding the project site and the potential for fires in these areas to spread to the site.

Development to the north, along Mulholland Drive, has dramatically reduced the wildland fuel continuity such that fire moving in a southerly direction north of Mulholland Drive will run out of wildland or native fuel at the developed areas. Although ornamental exotic vegetation throughout the area can also provide continuity for wildfire, fires located north of Mulholland Drive would not pose a significant fire hazard threat to the project site.

Fires moving south of Mulholland Drive will encounter Mountaingate Golf Course, as well as the 200-plus-foot-wide fuel break created by the landscaping adjacent to Mountaingate Drive. The

11 Communication with Firefighter Kovacic, Los Angeles Fire Department Station 88, December 19, 2001.
12 Communication with Captain Craig Evens, Los Angeles Fire Department Station 99, December 19, 2001.

developed areas of Mountaingate could pose some fire hazard to the project site, but with implementation of the new Los Angeles Fire Code, the ornamental fuel buildup within these developed areas could be mitigated to less than significant.

The only existing continuous wildland fuel load subject to Santa Ana winds remains to the west of the project site in Mandeville Canyon, located approximately 0.5 miles from the project site. A fire incident in this location would pose a threat to the project site.

The fuel loading to the south of the site in Sepulveda Canyon, west of Sepulveda Boulevard, would not pose a fire problem to the project from Santa Ana wind conditions because due to its location and geographic bearing from the project site. However, it should be noted that a fire hazard in the project area could occur under sub-tropical high weather conditions which produce air temperatures above 100˚F, very low relative humidity, and little wind (less than 15 mph). Under weather conditions associated with a sub-tropical high aloft, a wildfire could move up-canyon, paralleling Sepulveda Boulevard toward the project area. The effect of the slope with the on-shore wind plus the elevated temperature would push the fire to the north and impact the existing Mountaingate development along the ridge. The sub-tropical high aloft is the type of weather system associated with the Laurel Canyon fire of 1977 and the La Brea / Crenshaw fire of 1985.

With implementation of the safeguards identified in the proposed Conceptual Fire Protection / Vegetation Management Plan, the mitigation measures identified later on in this section, and conditions of approval identified by LAFD during tract map review, development of the proposed project would reduce the risk of wildland fires on the project site to less than significant.

Cumulative Impacts

The LAFD evaluates fire station location and staffing of existing facilities City-wide to maximize fire service coverage and minimize response times. Further development within the service areas of Stations 88, 99, and 109 may result in the need to increase staffing at these facilities, and / or to construct new fire stations to serve cumulative development projects. Increases in staffing and equipment would be funded by increased revenues from property tax and special tax revenue. As these cumulative projects are built out, the level of fire protection services would be increased to keep pace with increased demands. In addition, each project is reviewed for compliance with all applicable fire codes and regulations. Based on the above, no cumulatively significant impacts are anticipated.

Mitigation Measures

1. The Tentative Tract Map and Conceptual Fire Protection / Vegetation Management Plan shall be submitted to the Los Angeles Fire Department (LAFD), Los Angeles Department of Building and Safety, and to the Los Angeles Department of Water and Power for review and approval prior to approval of the Final Map.

2. Prior to issuance of occupancy permits for the proposed project, the perimeter of the entire development area shall have a minimum 200-foot clearance from brush to structure that is irrigated with sprinkler and / or drip irrigation systems. Property owners shall be responsible for the long-term maintenance of the managed area.

3. Within the development area, the following tree palette shall be utilized:

   - Coastal live oak (*Q. agrifolia*),
   - Sycamore (*Plantus recemosa*),
   - Walnut (*Juglans californica*),
   - California laurel (*Umbellularia californica*),
   - Jacaranda (*Jacranda mimosifilia*),
   - Holly leaf cherry (*Prunus illicifolia*),
   - Liquidamber (*Liquidambar styraciflua*), and
   - Olive (*olea europea*).

4. Within the developed area, including the 200-foot zone, the following vegetation shall be prohibited:

   - Conifers,
   - Cypress,
   - Juniper,
   - Acacia,
   - Palm,
   - Eucalyptus, or
   - Pampas Grass.

5. Within the developed area of the project, including the 200-foot zone, the following shrubs shall be prohibited:

   - Chamise (*Adenostoma fasciculatum*),
   - Buckwheat (*Erigonum* sp.),
   - Manzanita* (*Arctostaphylos* sp.),
   - Sage (*Artemesia* sp.),
   - Poison Oak (*Rhus diversiloba*), or
   - Laurel sumac* (*Rhus laurina*).

   *Manzanita and Laurel sumac may be allowed in common areas on 30-foot centers, pruned up three feet from ground.

6. Within the development area, all irrigated seasonal shrubs shall be allowed, with the exception of those identified in **Mitigation Measure 5**. Recommended native shrubs include:

   - Lemonade berry (*Rhus integrofolia*),
   - Sugarbush (*Rhus ovata*),
   - Ceanothus (sp. *C. spinosis, C. crassifolius, C. megacarpus, and C. oliganthus*),
   - Holly leaf cherry (*Prunus ilicifolia*),
   - Choke cherry (*Prunus virginiana*),
   - Mountain mahogany (*Cercocarpus montanus*), and
   - Toyon (*Heteromeles arbutifolia*).

Roads and Driveways (Access)

7. All new improved on-site road grades shall not exceed 15 percent.

8. A vertical clearance of 14 feet to allow clear passage of tall fire apparatus shall be provided along all improved on-site roadways.

9. Unbroken vegetative or tree canopies over improved roadways which could provide an avenue for fire to spread through and cause the road to be unusable shall be prohibited.

10. On-site through streets shall have, at a minimum, two 10-foot traffic lanes and two 8-foot parking lanes.

11. The emergency access road shall be a minimum of 20 feet wide, paved, have a gradient of less than 15 percent, and be subject to the approval of the LAFD.

12. Private driveways that exceed 150 feet in length and serve one or two residences shall be within 50 feet of structures; be paved asphalt concrete or concrete; be 20 feet in width; and have a grade not to exceed 10 percent. Such driveways shall also provide an approved turnaround no less than every 400 feet and/or at the building site for fire apparatus, a 15-foot vertical clearance with no vegetative canopy, and a fire hydrant located within 150 feet of the structure.

13. Unless paved or planted and irrigated with the approved tree/shrub palettes identified in **Mitigation Measures 3, 6,** and **10**, all private driveways shall be clear of all combustible material 10 feet on each side of the driveway.

14. Per State Fire Code, public roadways shall not be gated.

15. Gates on the emergency access road, driveways, and any private roads shall not reduce the required roadway width to less than the minimum width as approved by LAFD.

    Gates shall be constructed of noncombustible materials and may be sliding, swinging or other design as approved by LAFD provided a vehicle that is denied access through the gate will not be required to backup in the approach lane in order to exit the area.

    Gates may be manually operated or power operated as approved by LAFD. Manually operated gates when closed shall be locked with a chain and padlock. The chain shall be limited to 3/8-inch diameter non-case hardened metal links or multiple padlocks may be used as links of the chain. Power operated gates shall be equipped with LAFD approved security gate override device mounted within an approved LAFD access box. In the event of power failure, the gate shall be capable of being pushed open.

16. All roadways shall have a minimum turning radius of 45 feet, and a minimum curvature radius of 100 feet measured at the centerline, as required by NFPA 299.

17. The minimum radius for a turnaround shall be 35 feet from centerline of the road.

18. All turning radii within the project shall be to the approval of the LAFD.

19. Vertical curves and dips in roadways shall have a radius of not less than 50 feet and shall be passable by a 20-ton fire truck.

Road and Building Identification

20. Names of all roadways shall be subject to the approval of the City of Los Angeles Fire Department and shall not conflict with other street names.

21. All structures within 100 feet of a roadway (with the exception of small outbuildings and detached garages) shall have non-combustible street numbers that are between 6 and 8 feet above grade, at least four inches high, at least one inch wide, and no less than 0.5 inch in stroke. Numbers shall be reflective on a contrasting background, and be clearly visible to emergency personnel for a distance of not less than 100 feet.

22. All structures further than 100 feet from a roadway (with the exception of small outbuildings and detached garages), shall have street numbers that are a minimum of five inches in height and mounted on a non-combustible post along the driveway, and are clearly visible to emergency personnel for a distance of not less than 100 feet.

Fire Protection Water System

23. Fire water mains and appurtenances shall comply with the LADWP and LAFD standards, and the standard "Distribution System Requirements for Fire Protection".

24. Sectional mains shall be provided every 500 feet in firewater mains, or as required by the LADWP.

25. Locations of fire hydrants shall be subject to LAFD approval.

26. Fire hydrants shall comply with the standards of LAFD and will have at least one 4-inch and one 2.5-inch connection. The street connection of the hydrant and main shall be 6 inches.

27. Fire hydrants shall have clear access for 15 feet on each side and be a minimum of 8 feet from flammable vegetation. Outlets shall be at least 18 inches above finished grade.

28. On roadways having no structures thereon (including the emergency access), hydrants shall be located at 1,000-foot intervals on the right side of the roadway or at locations approved by LAFD.

29. Any residences equipped with approved automatic fire sprinkler systems shall have an external alarm bell on the street side. Systems in structures exceeding twenty heads, or 5,000 square feet, or exceeding two stories in height from accessible grade shall be supervised to an alarm company.

30. All hydrant system plans and sprinkler plans shall be submitted to the City of Los Angeles Fire Department for review and approval.

31. All fire protection systems shall be designed and installed by State-licensed C-16 fire protection contractors utilizing listed and approved equipment and devices.

Building Construction

32. All structures (except non-combustible outbuildings of 100 square feet or less) within the perimeter of the development area directly abutting wildland and natural open space areas shall have walls protected on the exterior with at least one hour construction from foundation to underside of roof sheathing per the Uniform Building Code. Rain gutters and spouts on perimeter houses shall be non-combustible.

33. All structures within the perimeter of the development area directly abutting wildland and natural open space areas shall have stucco-masonry (non-wood) exterior walls; 1-3/4-inch thick, solid-core doors; and non-combustible garage doors.

34. Combustible exterior treatments shall be prohibited on structures within the perimeter of the development area directly abutting wildland and natural open space areas.

35. Eaves and overhangs shall be avoided wherever possible. If utilized, eaves and overhangs shall be of the same fire resistive rating as exterior walls and shall be enclosed (boxed in). Eaves shall not have vents.

36. The ends of all roofs shall be fire-stopped to preclude entry of flames or embers.

37. Structures shall not be cantilevered, stilted, or otherwise overhang slopes. Any roofs, floors, and similar surfaces which extend out from at-grade foundations of the exterior walls shall have the same fire rating as exterior walls (minimum one hour).

38. Any structures built on raised foundations shall have such foundations properly enclosed with the same rating as exterior walls (minimum one hour). Vents or openings within the raised foundations shall not face wildland areas.

39. Trellises, balconies, patio covers, decks, awnings, gazebos, and similar structures shall be of one-hour fire resistive construction, heavy timber, or non-combustible materials, and shall not overhang slopes. Combustible awnings shall not be permitted.

40. Undersides of decks or balconies shall be solidly enclosed to prevent intrusion of vegetation, fire, etc. Any exposed wooden members shall be at least 2-inch nominal thickness.

41. Every chimney or vent attached to any solid, liquid, or liquid fuel burning device within the project shall be equipped with an approved, properly-installed spark arrester consisting of 12 gauge welded or woven wire mesh with openings 0.5 inch across. Such arresters shall be mounted in a vertical or near vertical position, visible from grade and not within 10 feet of vegetation or obstructions.

Fire Alarms

42. All habitable structures within the project shall have approved smoke detectors installed in compliance with the Los Angeles Building Code and shall be subject to LAFD approval.

Utility Lines

43. Where feasible, new or modified electrical distribution lines in fire hazard areas within the project site shall be installed underground.[13]

[13] The LADWP is responsible for maintaining proper vegetation clearances within the existing easement for the high voltage lines which traverse the site, subject to requirements of the Public Resources Code and the Uniform Fire Code.

Fences

44. No wooden fences shall be permitted within the perimeter of the development area directly abutting wildland and natural open space areas. Fences in perimeter areas shall be masonry or other non-combustible material. Heavy timber wooden posts may be used to support iron fences.

45. Fencing facing wildland and natural open space areas shall have firefighter access gates, locations of which shall be determined by LAFD. The wildland-facing gate entrances shall display the street name and address of the property on which the gate abuts.

46. Residents shall be required to store combustible materials, such as firewood, at least 30 feet away from structures and that such materials shall have a 10-foot vegetation clearance.

Enforcement of the Conceptual Fire Protection/Vegetation Management Plan

47. Prior to sale and occupancy of on-site properties, all prospective property owners and residents shall be informed by the developer that the proposed project is within the Mountain Fire District of the City of Los Angeles and a High Fire Hazard Area, as defined by the California Public Resources Code.

48. Prior to sale and occupancy of on-site properties, all prospective property owners and residents shall receive a packet that specifically addresses Wildfire Safety and their role in fire prevention/suppression in their community. All prospective property owners and residents must acknowledge receipt and understanding of the Wildfire Safety provisions.

Adverse Effects

Project implementation will increase the need for fire protection and emergency medical services in the project area. The risk to human life for residents of this project, due to its location in the Mountain Fire District and response time to the site, constitutes a significant adverse impact. However, implementation of the proposed Conceptual Fire Protection/Vegetation Management Plan, in combination with other mitigation measures recommended herein, and compliance with City codes, would reduce project impacts relative to fire protection and emergency medical services to less than significant.