

IV.J.2 Fire Protection and Emergency Medical Services

1.0 INTRODUCTION

This section addresses the potential impacts of construction and operation of the Proposed Loyola Marymount University (LMU) Project on fire protection and emergency medical response services in the City of Los Angeles. Fire flow calculations are provided in the technical report prepared for the Proposed Project by KPFF Consulting Engineers, provided in **Appendix IV.J.2**.

2.0 REGULATORY FRAMEWORK

2.1 City of Los Angeles

2.1.1 General Plan – Safety Element

The General Plan Safety Element addresses the issue of protection of people from unreasonable risks associated with natural disasters (e.g., fires, floods, earthquakes). The Safety Element provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster and initial recovery from a natural disaster.

2.1.2 General Plan – Framework Element

The Los Angeles Citywide General Plan Framework contains policies and objectives which address the provision of fire prevention, fire protection and emergency medical services in the City of Los Angeles and the Los Angeles Fire Department. These policies and objectives deal with ensuring adequate service infrastructure as population growth occurs via monitoring of services, and supporting the acquisition of equipment, personnel, and/or new stations as necessary.

As stated in the City of Los Angeles General Plan Framework Element, Fire Department services are based on a community's needs, as determined by ongoing evaluations. When an evaluation indicates increased response time, the acquisition of equipment, personnel, and/or new stations is considered. The Framework Element sets forth goals related to public services in the City. Goal 9J states that every neighborhood in the City shall have the level of fire protection service, emergency medical service (EMS) and infrastructure required to provide for the public safety needs of that neighborhood.

2.1.3 Los Angeles Municipal Code

The Los Angeles Municipal Code (LAMC) sections relevant to Fire Protection include Chapter IX, Building Regulations, Article 1, Buildings (the "Building Code"), Division 7, Fire-Resistant Materials and

Construction, Division 9, Fire Protection Systems, and Division 72, Fire District Regulations; and Chapter V, Public Safety and Protection, Article 7, Fire Protection and Prevention (the “Fire Code”). Section 57.09.06 identifies access, maximum response distances, hydrants, and fire flow requirements to various land uses to ensure the provision of proper fire and emergency medical services in the service area. The LMU campus is classified as a High Density Residential and Neighborhood Commercial development by the City of Los Angeles Fire Department.¹ **Table IV.J.2-1, Los Angeles Fire Department Fire Code Standards Applicable to the LMU Campus**, summarizes the fire flow, hydrant and maximum response distance requirements for the LMU campus.

**Table IV.J.2-1
Los Angeles Fire Department Fire Code Standards Applicable to the LMU Campus**

Fire Code Standard	For High Density Residential and Neighborhood Commercial Development
Fire flow	4,000 gallons per minute from four hydrants flowing simultaneously
Land area served by hydrant	100,000 square feet
Distance between hydrants on roads and fire lanes	300-450 feet
Type of hydrant	2.5-inch x 4-inch Double Fire Hydrant
Maximum response distance that if exceeded requires the installation of an automatic fire sprinklers system	1.5 miles from Fire Station housing an Engine or Truck Company

Sources: LAMC Section 57.09.06, Tables 9-A, 9-B, 9-C. Los Angeles, California: May 12, 1987. http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&oid=amlegal:lamc_ca; Los Angeles Fire Department, Bureau of Fire Prevention and Public Safety, Los Angeles Fire Code Division 9, Access, hydrants, and fire flow requirements, http://www.lafd.org/prevention/hydrants/division_9_fc.html

The availability of sufficient on-site water pressure is a basic requirement of the City of Los Angeles Fire Department. Fire flow is defined as the quantity of water available or needed for fire protection and is normally measured in gallons per minute. The fire flow requirement for the LMU campus is 4,000 gallons per minute from four hydrants flowing simultaneously. A minimum residual water pressure of 20 pounds per square inch is required to remain in the system in addition to fire flow.² The LAMC also requires that each hydrant within a High Density Residential and Neighborhood Commercial development serve a land area of 100,000 square feet. The LAMC requires hydrants to be installed per LAMC Section 57.09.06 of Division 9 or as otherwise determined by the Chief.³ The Fire Code requires all

¹ Captain Frank Comfort, Hydrants and Access Unit, Los Angeles Fire Department, personal communication, March 2, 2009.
² LAMC Section 57.09.06.
³ LAMC Section 57.09.06.

ground-floor dwelling units and the ground floors of commercial buildings to be located within 300 feet of an approved fire hydrant.⁴

The required maximum response distance from a fire station housing an Engine or Truck Company to High Density Residential and Neighborhood Commercial development such as the LMU campus is 1.5 miles.⁵

3.0 EXISTING CONDITIONS

3.1 City of Los Angeles Fire Department

Fire prevention, fire protection, and emergency medical services for LMU are provided by the City of Los Angeles Fire Department. The City of Los Angeles Fire Department is a full-spectrum life safety agency that provides services to approximately 4 million people in the City of Los Angeles.

The City of Los Angeles Fire Department's 3,586 uniformed personnel protect life, property, and the environment through their direct involvement in fire prevention, firefighting, emergency medical care, technical rescue, hazardous materials mitigation, disaster response, public education, and community service. Approximately 353 non-uniformed support personnel provide technical and administrative expertise.⁶

A total of 1,101 uniformed firefighters (including 242 serving as firefighter/paramedics) are on duty 24 hours per day at Fire Department facilities Citywide, including 106 neighborhood fire stations located across the Fire Department's 471-square-mile jurisdiction. In 2007, the City of Los Angeles Fire Department responded to 753,428 incidents.⁷

The Fire Department operates three fire stations in the vicinity of the LMU campus that initially respond to incidents on the LMU campus. Primary fire protection services for the campus are provided by Fire Station No. 67, located at 5451 Playa Vista Drive, approximately 0.8 mile northwest of the campus. Fire Station No. 67 has a fire vehicle response time to the LMU campus of approximately 3 minutes⁸ and is equipped with one engine company and an emergency medical technician rescue team. Fire Station

⁴ LAMC Section 57.09.06.

⁵ An Engine Company operates vehicles that carry and pump water; a Truck Company operates vehicles equipped with an aerial ladder but no on-board water supply. Source: Captain William Wells, Planning Section, Los Angeles Fire Department, personal communication, July 1, 2008.

⁶ Los Angeles Fire Department, <http://www.lafd.org/about.htm>. 2008.

⁷ Los Angeles Fire Department, <http://www.lafd.org/about.htm>.

⁸ Battalion Chief Michael Greenup, Los Angeles Fire Department, Battalion 4-B, personal communication, November 22, 2008.

No. 67 is supported by six staff members, four of which are assigned to the paramedic assessment fire engine, while the remaining two members are assigned to the basic life support rescue ambulance. The paramedic assessment fire engine has an average response time of 7 minutes.⁹ Fire Station No. 67 serves an area of approximately 4.2 square miles and a 2008 estimated population of 32,237 residents.^{10,11} Staffing levels, equipment inventories, and fire station facility space at this station are considered adequate.¹²

Secondary fire protection to the LMU campus is provided by Fire Station No. 5, located at 8900 South Emerson Avenue, approximately 1.4 mile to the southeast. Fire Station No. 5 has a fire vehicle response time to the LMU campus of approximately 5.2 minutes¹³ and is equipped with a paramedic rescue team and task force. Fire Station No. 5 is supported by 15 staff members, of which six members are assigned to the light force (truck and engine companies), four members are assigned to the fire engine, two members are assigned to the paramedic rescue ambulance, two members are assigned to the Battalion Command Team, and one member is the Emergency Medical Technician Battalion Captain.¹⁴ Fire Station No. 5 serves an area of approximately 4.22 square miles.¹⁵ Staffing levels, equipment inventories, and fire station facility space at this station are considered adequate.¹⁶

Fire Station 51, located at 10435 South Sepulveda Boulevard, is the next closest fire station to the campus and is approximately 2.5 miles to the southeast with a fire vehicle response time to the campus of approximately 7.4 minutes. Fire Station No. 51 is equipped with a paramedic assessment fire engine and a paramedic rescue ambulance. Fire Station No. 51 is supported by six staff members, of which four members are assigned to the paramedic assessment fire engine and two members are assigned to the paramedic rescue ambulance. Fire Station No. 51 serves an area of approximately 4.65 square miles.¹⁷

⁹ Captain William Wells, Planning Section, Los Angeles Fire Department, personal communication, March 25, 2009.

¹⁰ Captain William Wells, personal communication, March 24, 2009.

¹¹ Population is estimated for 2008. The 2008 number of residents was calculated by taking the average population increase per year between 2005 and 2010, multiplying by 3 years, and adding it to the 2005 population. ($X=2010$ $Y=2005$; $Y-X=Z$, $Z/5$ years = W , $(W*3) + 2005 = \#$ number of residents in 2008) The 2005 and 2010 population data were obtained from Southern California Association of Government's 2008 Integrated Growth Forecast by Census Tract and estimated by Impact Sciences, Inc. by aggregating census tracts located within the combined first-in districts.

¹² Captain William Wells, personal communication, January 22, 2009.

¹³ Captain William Wells, personal communication, January 22, 2009.

¹⁴ Captain William Wells, personal communication, January 22, 2009.

¹⁵ Captain William Wells, personal communication, March 24, 2009.

¹⁶ Captain William Wells, personal communication, January 22, 2009.

¹⁷ Captain William Wells, personal communication, March 24, 2009.

Staffing levels, equipment inventories, and fire station facility space at this station are considered adequate.¹⁸

The City of Los Angeles Fire Department also includes a Hazardous Materials Division that responds to accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes. The nearest hazardous materials squad is in Fire Station 95, located at 10010 International Road, near the Los Angeles International Airport. Fire Station 95 is located approximately 3.3 miles¹⁹ to the south with a fire vehicle response time to campus of approximately 9.4 minutes.²⁰ Fire station 95 handles hazardous materials, in addition to normal fire department operations. Fire Station No. 95 is equipped with a fire engine and a paramedic rescue ambulance. Fire Station No. 95 is supported by 12 staff members, of which six on the light force, four are assigned to the fire engine and two members are assigned to the paramedic rescue ambulance. Fire Station No. 95 serves approximately 2.34 square miles.

Each fire station has a first-in district, or geographic boundaries within which it responds to incidents on a first-due basis, although fire trucks also respond to incidents in adjacent first-in districts, depending on their location at the time of an incident. The first-in district boundary for Fire Station 67 includes the Pacific Ocean on the west; the City limit on the northwest; Mindanao Way on the north; Centinela Avenue, Ballona Creek, and the Marina Expressway (CA-90) on the northeast; the San Diego Freeway (I-405) on the east; and the intersection of Manchester Avenue and Lincoln Boulevard on the south. The combined first-in district for the four stations that serve the LMU campus generally covers the Westchester community and area surrounding LAX with the following street boundaries: the City limit to the northwest; Mindanao Way to the north; Centinela Avenue, Ballona Creek, and the CA-90 (Marina Expressway) to the northeast; the 405 Freeway (San Diego Freeway) and the City limit to the east; and Century Boulevard and the City boundary to the south.²¹

Figure IV.J.2-1, Fire Station Locations and Combined First-In Districts, shows the locations of Fire Station Nos. 67, 5, 51, and 95 relative to the LMU campus and the combined first-in service district boundary for the four stations. Target response times within the City of Los Angeles are 5 minutes for first response and 8 minutes for paramedic response.

¹⁸ Captain William Wells, personal communication, January 22, 2009.

¹⁹ Battalion Chief Michael Greenup, personal communication, November 22, 2008.

²⁰ Captain William Wells, personal communication, January 22, 2009

²¹ Captain William Wells, personal communication, March 24, 2009.

The Fire Department has indicated that existing staffing levels, equipment inventories, and fire station facility space are adequate to meet the LMU campus area's current demand for fire service.²²

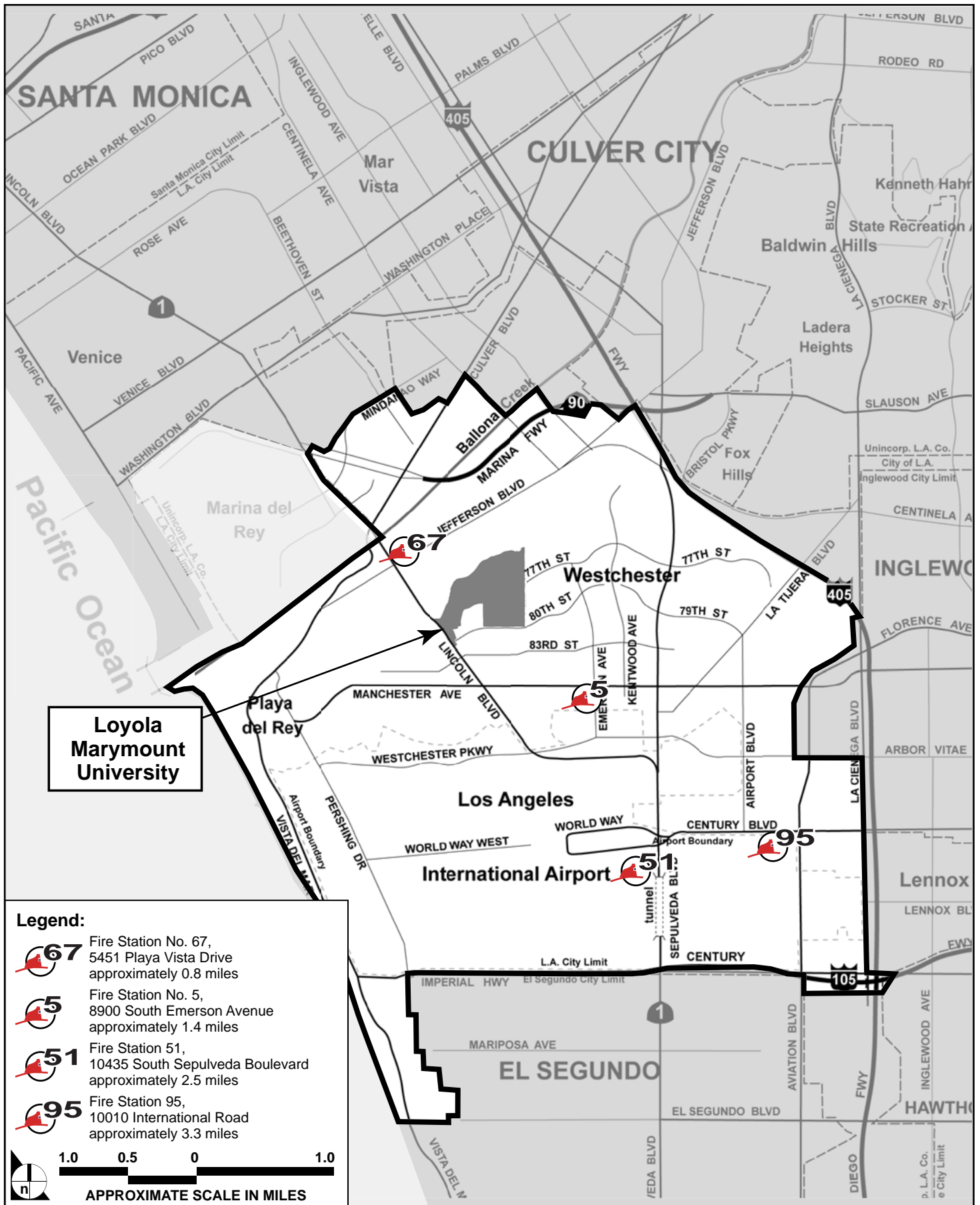
Table IV.J.2-2, below, provides the number of emergency incidents that each local fire station responded to during the fiscal year 2007–2008.

Table IV.J.2-2
Number of Emergency Incidents Responded to by Local Fire Stations During Fiscal Year 2007–2008

	Number of Emergency Incidents	
	Fiscal Year 2007–2008	Percent
FIRE STATION 67		
Basic Life Support Emergency Medical Services	592	25.7
Advanced Life Support Emergency Medical Services	936	40.7
Fire and Other Incidents	772	33.6
Total Station	2,300	100
FIRE STATION 5		
Basic Life Support Emergency Medical Services	736	29.4
Advanced Life Support Emergency Medical Services	1,248	49.8
Fire and Other Incidents	520	20.8
Total Station	2,504	100
FIRE STATION 51		
Basic Life Support Emergency Medical Services	1,440	31.7
Advanced Life Support Emergency Medical Services	2,276	50.1
Fire and Other Incidents	824	18.2
Total Station	4,540	100
FIRE STATION 95		
Basic Life Support Emergency Medical Services	452	26.6
Advanced Life Support Emergency Medical Services	756	44.6
Fire and Other Incidents	488	28.8
Total Station	1,696	100
Total for Stations 67, 5, 51, and 95	11,040	

Source: Captain William N. Wells, Captain II-Paramedic, of the Los Angeles Fire Department, Planning Section, personal communication, January 29, 2009, and Impact Sciences, Inc, January 2009.

²² Captain William Wells, personal communication, March 24, 2009.



SOURCE: Impact Sciences, Inc. – March 2009

FIGURE IV.J.2-1

Fire Station Locations and Combined First-In District Boundaries

As shown in **Table IV.J.2-2**, during the fiscal year 2007–2008, Fire Station 67 responded to 2,300 paramedic and fire incidents, Fire Station 5 responded to 2,504 incidents, Fire Station 51 responded to 4,540 incidents, and Fire Station 95 responded to 1,696 incidents. The four fire stations serving the area surrounding the campus responded to a combined total of 11,040 incidents during the Fiscal Year 2007-2008.

The annual ratio of emergency incidents per 1,000 residents within Fire Station 67's first-in district boundaries provides a measure of the level of fire protection services that are currently provided. Based on the 2,300 emergency incidents to which Fire Station 67 responded in Fiscal Year 2007-2008, and a 2008 estimated population of 32,237 residents within the Fire Station 67's first-in district, the level of fire protection service for emergency incidents was approximately 71 incidents per 1,000 residents.²³

3.2 Campus Conditions

As of Fall 2008 there were approximately 6,868 full-time equivalent (FTE) students²⁴ enrolled at LMU and approximately 1,484 FTE faculty/staff²⁵, for a total of approximately 8,352 FTE students, faculty and staff on campus. At present, the campus is developed with approximately 1,651,000 gross square feet of academic and administration uses, 942,000 gross square feet of residential uses, and 185,000 gross square feet of indoor athletic facilities.

3.2.1 Emergency Access

The main ingress/egress to campus is LMU Drive, which accesses the campus from Lincoln Boulevard. Secondary ingress/egress is provided from Loyola Boulevard at 80th Street along the southern edge of the campus. Ingress to campus via Loyola Boulevard is gate-controlled using key card access. Vehicular circulation routes within campus include Loyola Boulevard and Ignatian Circle. Ignatian Circle circumnavigates the core of the eastern portion of campus and provides access to a network of "tertiary routes" that lead to campus residence halls, academic and administrative buildings, and parking areas.

²³ The level of fire protection services ratio is determined by dividing the total number of emergency incidents by the total residential population, and then dividing that number by 1,000.

²⁴ FTE is a unit of measurement used to calculate enrollment for academic and master planning purposes, as opposed to student headcount. One undergraduate FTE student is defined as one undergraduate student taking 12 course units, which represents a full course load. Students taking fewer course units are considered to constitute a fraction of an FTE student, whereas students taking more than 12 units constitute more than one FTE student. One graduate FTE student is defined as one graduate student taking 9 course units, which represents a full course load. Graduate students taking fewer course units are considered to constitute a fraction of an FTE student, whereas students taking more than 9 units constitute more than one FTE student.

²⁵ One full-time staff member works 40 hours per week. Two part-time staff members working 20 hours per week equals one FTE staff person. For faculty, one full-time faculty member is one FTE faculty member and three part-time faculty members equals one FTE faculty member.

3.2.2 Fire Flow Infrastructure

Fire hydrants and building fire water service systems connect directly to local water mains. Water for fire flow is provided to the campus by existing Los Angeles Department of Water and Power water mains under the adjacent roadways. The fire flow requirement for the LMU campus is 4,000 gallons per minute (gpm) from four hydrants flowing simultaneously. A minimum residual water pressure of 20 pounds per square inch is to remain in the system with the required gallons per minute flowing.²⁶ These requirements are applicable to campus because the Fire Department considers the campus a High Density Residential and Neighborhood Commercial land development.²⁷

Water flow and pressure is strongest closest to the water source. There are three water sources on the LMU campus, at 7900 Loyola Boulevard, 7200 LMU Drive, and 7595 McConnell Avenue. A technical evaluation of the four hydrants near the center of campus, farthest from these water sources, was conducted to determine whether the fire flow from these four hydrants meets the requirements of 4,000 gallons per minute at a minimum residual pressure of 20 pounds per square inch.²⁸ LMU's water system combines domestic and fire water on the main campus loop. The analysis modeled available fire flow and residual pressure under two scenarios: with simultaneous average campus domestic water demand and with no campus domestic water demand. The analysis demonstrated that when the four hydrants farthest from a water source on campus are run simultaneously, each flowing at 1,000 gallons per minute to meet the minimum fire flow requirement for a combined fire flow of 4,000 gallons per minute, the residual pressure ranged from 46.8 to 49.7 pounds per square inch with no domestic water demand, and the residual pressure ranged from 36.6 to 39.6 pounds per square inch with simultaneous average domestic water demand. Therefore, under this conservative analysis of the four hydrants farthest from the water supply on campus, with the fire flow from those hydrants at the 4,000 gallons per minute required for High Density Residential and Neighborhood Commercial, the pressure at those hydrants, even with simultaneous average domestic water demand occurring at the same time, far exceeds the minimum 20 pounds per square inch of pressure required.

²⁶ Captain Frank Comfort, personal communication, March 2, 2009; see also Los Angeles Municipal Code Section 57.09.06.A.

²⁷ Different fire-flow requirements exist for different types of land development. The requirement for Low Density Residential is 2,000 gpm from three adjacent fire hydrants flowing simultaneously, the requirement for Industrial and Commercial is 6,000 to 9,000 gpm from four to six fire hydrants flowing simultaneously, and the requirement for High Density Industrial and Commercial (Principal Business Districts or Centers) is 12,000 gpm available to any block (where local conditions indicate that consideration must be given to simultaneous fires, and additional 2,000 to 8,000 gpm will be required). Los Angeles Municipal Code Section 57.09.06.A

²⁸ KPFF Consulting Engineers, *LMU Water System Analysis, Fire Flow Calculations*, (2009). (Provided in **Appendix IV.J.2.**)

The analysis also demonstrated that when these four hydrants farthest from a water source on campus are run simultaneously with the minimum residual pressure of 20 pounds per square inch, the hydrants produce a combined total of 6,980 gallons per minute with zero domestic water demand and a combined total of 5,520 gallons per minute with simultaneous average domestic water demand. Therefore, the fire flow on campus also exceeds the requirement for a combined fire flow of 4,000 gallons per minute for High Density Residential and Neighborhood Commercial. Thus, this conservative analysis demonstrates that sufficient fire flow currently exists on campus.²⁹

3.2.3 Response Distance and Time

As discussed above, Fire Station No. 67 is located approximately 0.8 mile from campus and has a fire vehicle response time to campus of approximately 3 minutes and a paramedic vehicle response time to campus of 7 minutes. Fire Station No. 5 is located approximately 1.4 mile from campus and has a fire vehicle response time to campus of approximately 5.2 minutes. Fire Station 51 is located approximately 2.5 miles from campus and has a response time to campus of approximately 7.4 minutes.

The target response times within the City of Los Angeles are 5 minutes for first response and 8 minutes for paramedic response, and the maximum response distance for High Density Residential and Neighborhood Commercial development is 1.5 miles. The existing response distance and time for fire and paramedic vehicles are considered adequate because Fire Station No. 67 has a fire vehicle response time of approximately 3 minutes and a paramedic vehicle response time of approximately 7 minutes and is located approximately 0.8 mile from campus.

At this time, the City of Los Angeles Fire Department considers fire protection services to LMU adequate based on distance and response times.³⁰ Emergency access for the City of Los Angeles Fire Department would be provided by the existing street system. Level of Service is a qualitative measure used to describe the condition of traffic flow, ranging from Level of Service A, excellent, free-flowing traffic conditions, to Level of Service F, overloaded traffic conditions. Level of Service D is typically recognized as the minimum satisfactory service level in urban areas. The intersections of Lincoln Boulevard and LMU Drive/Bluff Trail Road; and Lincoln Boulevard and 83rd street, which are both affected during the AM peak hour, are the only signalized intersections with an existing Level of Service E and F within Fire Station 67's first-in district boundaries, under the 2008 baseline year. More information regarding intersection levels of service is provided in **Section IV.K, Transportation**.

²⁹ KPFF Consulting Engineers, *LMU Water System Analysis, Fire Flow Calculations*, (2009) 2–3. (Provided in **Appendix IV.J.2**.)

³⁰ Battalion Chief Michael Greenup, personal communication, November 22, 2008.

The City of Los Angeles Fire Department's response time to calls located in areas surrounding the campus may also vary as a result of response distance and traffic conditions; however, as discussed above, first response times and paramedic response times from Fire Station 67 to campus are within the City of Los Angeles Department's target response times.

3.2.4 LMU Department of Public Safety and Emergency Preparedness

The LMU Department of Public Safety provides support services on campus until Los Angeles Fire Department arrives. All Department of Public Safety staff members, excluding students, are required to possess and maintain current first aid/CPR certification. In addition, several officers are trained as Emergency Medical Technicians and are trained in light search and rescue.³¹ Additionally, the Department of Public Safety maintains an Emergency Preparedness Program and has an Emergency Preparedness Manager, who maintains LMU's Emergency Management Guide.

LMU has committed significant resources toward the Emergency Preparedness Program and action plan including the hire of a full-time emergency preparedness manager. The Chief of the Department of Public Safety has the authority to declare a campus emergency and act accordingly to preserve life, safety and campus security. LMU has specific procedures that define LMU's response to natural or human-caused events. A network of individuals, comprised of LMU faculty and staff, across campus is trained in the Community Emergency Response Team program, which is given on campus by the Los Angeles Fire Department.³² During an emergency, Department of Public Safety acts as the first responder to minimize injuries and loss of life.

LMU utilizes multiple communications methods (e.g., Campus ALERT system)³³ to reach students, faculty and staff. The Campus Alert system uses the following methods to alert students, faculty and staff in the event of an emergency:

- Direct communications through Student Housing staff in all residence halls and apartments.
- Campuswide e-mail announcements.
- Campuswide voicemail announcements.
- LMU website (<http://www.lmu.edu>).

³¹ Loyola Marymount University, <http://www.lmu.edu/Page16045.aspx>, (2008).

³² The logic of the Community Emergency Response Team training is that communities must be self supporting for at least 72 hours when immediate help is not available from public agencies following any emergency.

³³ The LMU Alert system is designed to inform the faculty, students, and staff in the event of an emergency and/or crisis. Alerts are restricted to health, life and safety issues affecting the faculty, students, and staff. (Loyola Marymount University, *About LMU Alerts*, <http://www.lmu.edu/Page43793.aspx>, January 30, 2009.)

- LMU intranet (<http://mylmu.edu>).
- Campus radio station (KXLU 88.9 FM)
- Campus cable television (ROAR Network).
- Department of Public Safety (310.338.2893).

Department of Public Safety officers are trained to utilize the Incident Command System and National Incident Management System³⁴ in cases of emergency. The Incident Command System is an efficient on-site tool to manage all emergency response incidents related to oil spills or hazardous substance releases.³⁵ The National Incident Management System is a national program that helps to work with governmental and private organizations to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment.³⁶

In the event of an emergency, the Department of Public Safety is able to secure public campus entrances within minutes. All student residence halls are secured by authorized card entry. When necessary, the Department of Public Safety partners with the Los Angeles Police and Fire Departments, County, state and other emergency service agencies to deal with emergency situations. The Department of Public Safety partners with the Los Angeles Police and Fire Departments, county, state and other emergency service agencies for emergencies preparedness and in emergency situations. LMU maintains an Emergency Operations Center staffed by LMU representatives to coordinate a rapid response to a crisis. LMU utilizes external experts to review and audit emergency procedures to ensure that they reflect best practices.

³⁴ Incident Command System is training for the National Incident Management System. National Incident Management System provides a systematic, proactive approach to guide departments at all levels of government and nongovernmental organizations to work together during incidents to reduce the loss of life and property, and harm to the environment. (FEMA, About the National Incident Management System (NIMS), <http://www.fema.gov/emergency/nims/AboutNIMS.shtm>. 2009.)

³⁵ U.S. Department of Labor, Occupational Safety & Health Administration. *About ICS/UC and the NRS*, <http://www.osha.gov/SLTC/etools/ics/about.html>. 2008.

³⁶ Federal Emergency Management Agency, *About National Incident Management System*, <http://www.fema.gov/emergency/nims/AboutNIMS.shtm>. 2008.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.1 Significance Thresholds

The *Los Angeles CEQA Thresholds Guide* states that a project would normally have a significant impact on fire protection and emergency medical services if:

- It requires the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service.

Appendix G of the State *CEQA Guidelines* provides sample questions for use in an initial study to determine a project's potential for environmental impacts. According to the applicable sample question³⁷ included in Appendix G under Section XIII, Public Services, a project would have a potentially significant impact on fire protection and emergency medical services if it would:

- XIII.a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Therefore, the Proposed Project would have a significant impact on fire protection and emergency medical services if:

FIRE-1 The Proposed Project would require the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service; or

FIRE-2 The Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

³⁷ The remainder of the Appendix G Public Services sample questions (XII.a.ii, -iii, -iv, and -v) pertain to police protection, schools, parks, and other public facilities, respectively. Police protection and parks are addressed in **Sections IV.J.1, Police Protection**, and **IV.J.3, Recreation and Parks**, respectively. The Initial Study prepared for the Proposed Project determined that the Proposed Project would have no impact with regard to Section VIII Public Services sample questions XIII.a.iii and -v, which pertain to schools and other public facilities. The responses to these questions are discussed in **Section VII, Effects Found Not to be Significant**. The Initial Study is provided in **Appendix I**.

4.2 Methodology

Potential Proposed Project impacts on fire protection and emergency medical services were evaluated based on communication with the City of Los Angeles Fire Department to determine the ability of the City of Los Angeles Fire Department to maintain adequate service ratios, response times, or other performance objectives in the City resulting from development of the Proposed Project. Additionally, a water system analysis was performed to measure the flow rates and residual pressure on the campus from existing fire hydrants.³⁸

The City of Los Angeles Fire Department evaluates the demand for fire protection and prevention on a project-by-project basis, reviewing a project's emergency features and determining if a proposed project would require additional Fire Department equipment, personnel, or facilities. The Fire Department considers a project's size, proposed uses, required fire flow, response time and distance for engine and truck companies, fire hydrant sizing and placement standards, access and potential to use or store hazardous materials and any project design features which would reduce or increase the demand for fire protection services.

4.3 Project Design Features

As discussed above, LMU has committed significant resources towards its Emergency Preparedness program and action plan including the hiring of a full-time Emergency Preparedness Manager. The Chief of the Department of Public Safety has the authority to declare a campus emergency and act accordingly to preserve life, safety and campus security. LMU has specific procedures that define LMU's response to natural or human-caused events. A network of individuals across campus comprised of LMU faculty and staff is trained in the Community Emergency Response Team program, which is given on campus by the Los Angeles Fire Department.³⁹ During an emergency, Department of Public Safety acts as the first responder to minimize injuries and loss of life. LMU utilizes multiple communications methods (e.g., Campus ALERT system) to reach students, faculty and staff. Department of Public Safety officers are trained to utilize the Incident Command System and National Incident Management System in cases of emergency. When necessary, the Department of Public Safety partners with agencies such as the Los Angeles Police and Fire Departments and any applicable County or state agencies.

³⁸ KPFF Consulting Engineers, *LMU Water System Analysis, Fire Flow Calculations*.

³⁹ The logic of the Community Emergency Response Team training is that communities must be self-supporting for at least 72 hours when immediate help is not available from public agencies following any emergency.

4.4 Project Impacts

By replacing older buildings with new construction, the Proposed Project would upgrade the fire/life safety features of buildings on campus, through such upgrades as state-of-the-art Fire/Life Safety systems, improved evacuation route plans, and improved exterior lighting systems to better protect students, faculty, staff, visitors, and the neighborhood. New buildings would meet all Fire Department requirements.

- FIRE-1 Would the Proposed Project require the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service?
- FIRE-2 Would the Proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

4.4.1 Construction

Construction activities associated with implementation of the Proposed Project would occur in a variety of locations on the campus over a period of 20 years. During construction, where permitted by code, buildings are expected to comprise steel or wood framing. Electrical, plumbing, communications, and ventilation systems would be installed in each building. The risk of fire is considered minimal since the Proposed Project would not be constructed all at the same time and fire suppression equipment specific to construction would be maintained on site. LMU is not located within a Very High Fire Hazard Severity Zone, and, therefore, the Proposed Project construction would not increase fire hazards in a Very High Fire Hazard Severity Zone.

Construction of the Proposed Project could increase traffic both on and adjacent to the campus; however, construction workers are expected to travel outside of peak weekday commuting hours. Slow-moving, construction-related traffic on campus and surrounding roadways, as well as potential temporary construction-related obstruction of roadways on campus, may temporarily reduce optimal traffic flows on those roadways and could conceivably delay emergency vehicles traveling through the area. However, the Los Angeles Department of Transportation requires implementation of Worksite Traffic Control Plans to ensure that any construction related effects are minimized, and LMU requires its contractors to employ standard construction site precautions to safeguard against disruption of traffic on and around campus. Moreover, emergency access to the campus would be maintained consistent with the City of Los Angeles Fire Department's requirements. Construction impacts on emergency access would therefore be less than significant.

Construction of the Proposed Project would result in the presence of construction workers and delivery crews at LMU; therefore, the potential for an increased demand for fire and emergency medical services exists during construction due to the introduction of activities and individuals which may generate new fire and emergency medical calls. However, as required by OSHA and Building Code requirements, construction managers and personnel would be trained in emergency response and fire safety operations, which would include the monitoring and management of life safety systems and facilities. The response distance to the campus site from the nearest engine company (Fire Station No. 67) is approximately 0.8 mile, which is within the performance standard of 1.5 mile as required by the Los Angeles Fire Code for an engine company. The nearest truck company (Fire Station No. 5) is 1.4 mile from LMU, which is within the 1.5 mile requirement of the Los Angeles Fire Code. Therefore, potential impacts related to response distance would be less than significant during construction.⁴⁰

4.4.2 Operation

4.4.2.1 Emergency Access

LMU currently has through roads that provide for adequate vehicle circulation, including service for emergency vehicles. Service and emergency access to the site and circulation within LMU following Proposed Project buildout would typically follow the same routes as general traffic. The Proposed Project does not propose any changes to the existing points of campus ingress/egress, and intends to improve the vehicular network at LMU. The reconfiguration of buildings and recreational facilities are intended to improve circulation around and within LMU and is expected to improve emergency and service vehicle access by improving vehicular and pedestrian circulation, and, therefore, reduce chances for accidents involving vehicles and pedestrians. Additionally, some roadways would be designated specifically for service and emergency vehicles. The Los Angeles Fire Department requires that fire lanes have a minimum width of 28 feet.⁴¹ Additionally, the Los Angeles Fire Department requires that new structures and structures undergoing major modifications must be located within 150 feet of a fire lane.⁴² All roads would be designed in accordance with the recommendations and requirements of the Los Angeles Fire Department. All new structures and structures undergoing major modifications would also be located in accordance with the recommendations and requirements of the Los Angeles Fire Department.

The campus recycling and waste management area is currently located on the eastern edge of Burns Campus, and trucks travel along LMU Drive from Lincoln Boulevard through campus to access this area. Under the Proposed Project, the recycling and waste management area may be relocated to the lower

⁴⁰ Battalion Chief Michael Greenup, personal communication, November 22, 2008.

⁴¹ Captain Frank Comfort, personal communication, March 2, 2009.

⁴² Captain Frank Comfort, personal communication, March 2, 2009.

level of the existing, enclosed Drollinger Parking Plaza on Leavey Campus, as shown in **Figure IV.I-6, Recycling and Waste Management Operations within Drollinger Parking Plaza**. If these activities are relocated closer to LMU Drive and Lincoln Boulevard, the distance trucks travel through campus would be reduced, thereby improving access and circulation throughout the campus. For the reasons discussed above, operational impacts on emergency access would be less than significant.

4.4.2.2 Fire Flow Infrastructure

The City of Los Angeles Fire Department reviews development plans for adequate fire flow, hydrant locations, and overall site plan layout. The fire flow requirement for the LMU campus is 4,000 gallons per minute (gpm) from four hydrants flowing simultaneously. A minimum residual water pressure of 20 pounds per square inch is required to remain in the system in addition to fire flow.

As previously discussed, a technical evaluation was conducted to determine whether the fire flow on campus meets the requirements of 4,000 gallons per minute at a minimum residual pressure of 20 pounds per square inch.⁴³ LMU's water system combines domestic and fire water on the main campus loop. The analysis modeled available fire flow and residual pressure under two scenarios: with simultaneous average campus domestic water demand and with no campus domestic water demand. The conservative analysis demonstrates that when the four hydrants on campus farthest from a water source are run simultaneously, the minimum fire flow requirement for a combined fire flow of 4,000 gallons per minute from four hydrants flowing simultaneously, and the required minimum residual pressure of 20 pounds per square inch, are met or exceeded. Thus, this conservative analysis demonstrates that sufficient fire flow and pressure would exist on campus at Proposed Project buildout.⁴⁴ Therefore, impacts with regard to fire flow would be less than significant.

All buildings constructed under the Proposed Project would also be required to comply with applicable requirements regarding hydrant location and spacing, and building design and access. Furthermore, the Proposed Project would replace older buildings on campus with new construction that includes modern-day fire suppressant technology, such as fire sprinklers, fire alarms, and updated fire retardant building materials, thereby further reducing potential fire risks. Impacts to fire flow infrastructure would, therefore, be less than significant.

⁴³ KPFF Consulting Engineers, *LMU Water System Analysis, Fire Flow Calculations*.

⁴⁴ KPFF Consulting Engineers, *LMU Water System Analysis, Fire Flow Calculations*.

4.4.2.3 Response Distance and Time

As discussed above, Fire Station No. 67 is located approximately 0.8 mile from campus and has a response time of approximately 3 minutes. Fire Station No. 5 is located approximately 1.4 miles from the campus and has a response time of approximately 5.2 minutes. Fire Station 51 is located approximately 2.5 miles from campus and has a response time of approximately 7.4 minutes.

As discussed above, the target response times within the City of Los Angeles are 5 minutes for first response and 8 minutes for paramedic response, and the maximum response distance for High Density Residential and Neighborhood Commercial development is 1.5 miles from the nearest fire engine or truck company. The response distance and time are considered adequate because Fire Station No. 67 has a fire vehicle response time of approximately 3 minutes and a paramedic vehicle response time of approximately 7 minutes. Additionally, the response distance to the campus site from the nearest engine company (Fire Station No. 67) is approximately 0.8 mile, which is within the performance standard of 1.5 miles as required by the Los Angeles Fire Code for an engine company. The nearest truck company (Fire Station No. 5) is 1.4 miles from LMU, which is within the 1.5-mile requirement of the Los Angeles Fire Code.

4.4.2.4 Demand for Services

The Proposed Project would increase the number of FTE students from the Fall 2008 enrollment of approximately 6,868 FTE students to the previously approved 7,800 FTE students enrollment cap (an increase of approximately 932 FTE students) and would provide beds on campus for approximately 75 percent of undergraduate students or 4,250 beds, an increase of approximately 989 beds over the existing 3,261 beds.

An estimated increase in emergency incidents generated by the Proposed Project has been determined by prorating the existing ratio of incidents per resident within Fire Station 67's first-in district. Fire Station 67 responded to a total of 2,300 incidents in Fiscal Year 2007-2008, and served a total population of approximately 32,237 residents, for a ratio of 71 incidents per 1,000 residents. The Proposed Project would increase the number of on-campus residential students by approximately 989 residents, which, based on the ratio of 71 emergency incidents per 1,000 residents, would result in an addition of approximately 70 emergency incidents. This represents an increase of approximately 3.1 percent over the 2,300 incidents to which Fire Station 67 responded in Fiscal Year 2007-2008. This increase is not substantial, and, therefore, impacts would be less than significant.

4.4.2.5 Emergency Preparedness

LMU's Emergency Management Guide is consistent with the policies and regulations of the Governor's Office of Emergency Services, City of Los Angeles Fire Department, Los Angeles Police Department, and Federal Emergency Management Agency, which assures that the campus is adequately prepared in the event of an emergency. LMU's Emergency Preparedness program and action plan authorizes the Chief of the Department of Public Safety to declare a campus emergency and act accordingly. LMU faculty and staff are trained in the Community Emergency Response Team program, which is given on campus by the Los Angeles Fire Department. During an emergency, Department of Public Safety acts as the first responder to minimize injuries and loss of life. LMU utilizes the Campus ALERT system described above to reach students, faculty and staff. Department of Public Safety officers are trained to utilize the Incident Command System and National Incident Management System in cases of emergency. Therefore, operational impacts associated with emergency preparedness would be less than significant.

4.4.2.6 Emergency Facilities

According to the City of Los Angeles Fire Department, adequate staff, equipment and fire protection services currently exist to meet the additional demands that would be generated through the implementation of the Proposed Project.⁴⁵ Therefore, the provision of new or expanded fire protection facilities would not be necessary, and potential impacts associated with the construction of new or expanded fire protection facilities would be less than significant.

4.5 Project Design Features and Mitigation Measures

PDF-FIRE-1 LMU's Department of Public Safety shall continue to act as a first responder in emergencies and implement LMU's emergency procedures.

The Proposed Project would be required to meet the requirements of the Municipal Code for Fire Protection, and as described above, impacts of the Proposed Project would be less than significant. Nonetheless, to ensure that impacts remain less than significant, the following measures are recommended.

MM-FIRE-1 Prior to the issuance of any building permit, a plot plan shall be submitted to the Fire Department for approval.

⁴⁵ Battalion Chief Michael Greenup, personal communication, November 22, 2008.

- MM-FIRE-2 Prior to the issuance of any building permit, definitive plot plan and specifications including fire prevention features for the Project shall be submitted to and approved by the Fire Department.
- MM-FIRE-3 Adequate off-site public and on-site private fire hydrants shall be required. The exact number and location of the hydrants shall be determined after the Fire Department reviews the plot plan. LMU shall be required to pay for any hydrant installations required by the Fire Department.
- MM-FIRE-4 Adequate vehicular access ways around all multi-story buildings shall be required by the Fire Department where buildings exceed 28 feet in height.
- MM-FIRE-5 Where fire apparatus will be driven onto the road level surface of a subterranean parking structure, the structural foundation of the subterranean parking structures shall be engineered to withstand a bearing pressure of 8,600 pounds per square foot.
- MM-FIRE-6 LMU shall covenant that all streets on campus shall be open to free travel of emergency vehicles.
- MM-FIRE-7 LMU shall work with the Los Angeles Department of Water and Power to construct or otherwise suitably guarantee the construction of water system improvements as needed to meet the on-site fire flow requirements set forth by LAFD. In the event off-site improvements are necessary, LMU shall contribute its fair share to water system improvements to meet the on-site fire flow requirements set forth by the Fire Department.

4.6 Level of Impact After Mitigation

Implementation of the Proposed Project would not result in the need for increased staffing or fire protection facilities. In addition to new tax revenues generated from implementation of the Proposed Project that could be used for funding of the expansion of fire services and facilities, LMU will provide resources and improvements on campus as required by all statutory regulations. Furthermore, mitigation measures **MM-Fire-1** through **MM-Fire-7** are recommended to ensure that the impacts from the Proposed Project remain less than significant.

4.7 Cumulative Impacts

As discussed in **Section III, General Description of Environmental Setting**, additional residential related projects are proposed and/or planned within the first-in service area of Fire Station 67, the first-in fire station serving the LMU campus. The anticipated number of residents expected as a result of these related projects is summarized in **Table IV.J.2-3, Residential Related Projects Within Fire Station 67 First-In District**. The related projects within this first-in service district would add approximately 13,840 residents to Fire Station 67's first-in service area during implementation of the Proposed Project.

**Table IV.J.2-3
Residential Related Projects Within Fire Station 67 First-In District**

Related Project No.	Land Use	Size	Factor ¹	Residents ²
11	Condo	230 du	2.2 res/du	506
21	Residential	3,246 du	2.2 res/du	7141.2
23	Residential	2,600 du	2.2 res/du	5720
24	Condos	215 du	2.2 res/du	473
Subtotal:				13,840.20

Source: Fehr & Peers, February 2009 and Impact Sciences, Inc.

Notes: du = dwelling unit; res = resident;

¹ Average number of residents per household based on the total number of residents divided by the total number of household for the year 2007 within the Westchester Community Plan area. Factors are shown in terms of the number of residents per unit. (City of Los Angeles, Local Statistical Profile: Westchester Community Plan Area, (2010).

<http://planning.lacity.org/DRU/LocL/LocalPfl.cfm?geo=cp&loc=Wch>

² Assumes 100% occupancy rate.

4.7.1 Emergency Access

Future issues with regard to emergency access for related projects would be evaluated for each project on a case-by-case basis. Individual related projects would be reviewed by the Fire Department and would be designed to facilitate emergency access and mitigated as necessary to meet Fire Department codes. Further, related projects would typically be required to mitigate their traffic impacts, thus reducing their effect on emergency access as well as general travel. Cumulative impacts would be less than significant.

4.7.2 Fire Flow Infrastructure

Development of the related projects, as well as the Proposed Project, is subject to review for adequate water flow to the respective project sites, and the projects cannot be developed until such flows are available. Cumulative impacts would be less than significant.

4.7.3 Response Distance and Time

New development would, in most cases, fall within recommended response distances from fire stations. If a development should fall beyond the recommended distances, the Fire Department could require mitigation measures to reduce the potential impact. Developers of the related projects, as well as the Proposed Project, would comply with all statutory and Fire Department–required improvements to facilitate the provision of fire services. The related projects would not increase response time to the LMU campus nor would LMU increase response times to the related projects. Cumulative impacts would be less than significant.

4.7.4 Demand for Services

As indicated in **Table IV.J.2-3**, the residential related projects located within Fire Station 67’s first-in district would add a total of 13,840 residents⁴⁶ and the Proposed Project would increase the on-campus residential population by approximately 989 residents. Based on the ratio of 71 emergency incidents per 1,000 residents within Fire Station 67’s first-in district, the residential related projects would generate approximately 983 additional emergency incidents and the Proposed Project would generate approximately 70 additional incidents annually. Therefore, the Proposed Project combined with related residential projects could generate an additional 1,053 emergency incidents annually. Added to the 2,300 emergency incidents Fire Station 67 currently responds to, Fire Station 67 is anticipated to respond to approximately 3,353 emergency incidents upon buildout of the Proposed Project and related projects. As discussed in **Section 3.1**, Fire Station 51 responded to 4,540 incidents in Fiscal Year 2007–2008, and is considered by the Fire Department to have adequate staffing levels and equipment.⁴⁷ Therefore, it can be reasonably assumed that Fire Station 67, which has the same staffing and similar equipment as Fire Station 51, would be able to accommodate the increase in emergency incidents associated with the Proposed Project in combination with the related residential projects. Furthermore, all related projects would comply with the Los Angeles Municipal Code and Building Code regulations pertinent to fire safety, access, and fire flow. Therefore, the Proposed Project in combination with related projects would result in a less than significant cumulative impact relative to fire and emergency medical services.

⁴⁶ Based on the related projects list contained in the Transportation Impact Analysis prepared for the Loyola Marymount University Project, dated December 2009, and on the 2030 resident-per-household projections contained in the Southern California Association of Government’s 2008 Integrated Growth Forecast by Census Tract (census tracts located within the combined first-in districts were aggregated).

⁴⁷ Captain William Wells, personal communication, January 29, 2009.