CHAPTER 5.0 ENVIRONMENTAL ANALYSIS

5.1 LAND USE

5.1.1 INTRODUCTION

The following discussion analyzes the existing conditions related to land use, planning, and zoning in the vicinity of the Kaiser Permanente San Diego Central Medical Center project (project). The existing land uses were analyzed based on aerial photographs and a site visit conducted on August 15, 2012. This section also evaluates project-specific impacts resulting from development of the project. In order to analyze consistency with City planning documents and policies, research into each applicable plan and policy was conducted. Research included a review of all elements in each plan. A consistency analysis was then performed for each relevant policy. In addition to impacts related to the existing and planned land uses analyzed in this section, a number of land-use-related topics are addressed elsewhere in this EIR.

5.1.2 EXISTING CONDITIONS

On-Site Land Uses

The project site is approximately 20 acres of land fully graded and developed with a single-story 337,564 square foot building, plus parking lots and related site improvements (see *Figure 1-3*, *Aerial Photograph*). As of March 2013 the building was partially occupied by various departments of the County of San Diego who previously fully occupied the building. The current buildings improvements have an existing FAR of .39. The building and related improvements are estimated to have been constructed in 1960 for primarily industrial/warehouse use, and subsequently converted for office use in approximately 1980 for the County of San Diego.

Surrounding Land Uses

The project site is located in an urban setting and is surrounded by existing development and major transportation corridors. As shown in *Figures 1-2* and *1-3*, the site is bordered by Clairemont Mesa Boulevard to the north, Ruffin Court to the south, Ruffin Road to the west, and Polinsky Children's Center to the east. Interstate 15 (I-15) is approximately .28-mile to the east. Surrounding land uses include commercial, office, and light industrial uses to the north; the Polinsky Children's Center (child welfare services and residential care, including education and crisis intervention) and office buildings to the east; restaurants and commercial retail uses to the west; and the Chinese Bilingual Preschool, office buildings, and light industrial/manufacturing uses to the south; See *Figure 5.1-1*, *Existing Land Uses*. The uses located to the south of the project site are designated as Prime Industrial land in the City's General Plan. Currently, the main entrance to the site is off Ruffin Road on the western portion of the project site.

Regulatory Framework

San Diego Association of Governments 2050 Regional Transportation Plan

San Diego Association of Governments (SANDAG), as the Regional Transportation Commission and federally designated Metropolitan Planning Organization (MPO) for the San Diego region, builds consensus, develops strategic plans, obtains and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life (SANDAG 2011). The 2050 Regional Transportation Plan/Sustainable Communities Strategy (2050 RTP/SCS) is the blueprint for a regional transportation system, serving existing and projected residents and workers within the San Diego region over the next 40 years, which further enhances quality of life and offers more mobility options for people and goods (SANDAG 2011). The 2050 RTP/SCS looks 40 years ahead, accommodating another 1.2 million residents, half a million new jobs, and nearly 400,000 new homes. The 2050 RTP/SCS envisions most of these new jobs and homes would be situated in sustainable communities, conducive to transit, walking, and bicycling. To achieve this, future growth will be more compact in nature, focused in the western portion of the region and along major transit and transportation corridors.

However, a lawsuit that challenges SANDAG's 2050 RTP/SCS and was filed in the San Diego Superior Court in November 2011 by the Cleveland National Forest Foundation and the Center for Biological Diversity. In closed session on December 7, 2012, the SANDAG Board of Directors authorized its attorneys to meet with the petitioners, as they have requested, to continue settlement talks. Litigation is ongoing at this time.

City of San Diego General Plan

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The state also mandates that the plan be updated periodically to ensure relevance and utility. The City's General Plan was unanimously adopted by the City Council on March 10, 2008. The General Plan builds upon many of the goals and strategies of the former 1979 General Plan, in addition to offering new policy direction in the areas of urban form, neighborhood character, historic preservation, public facilities, recreation, conservation, mobility, housing affordability, economic prosperity, and equitable development. It recognizes and explains the critical role of the community planning program as the vehicle to tailor the City of Villages strategy for each neighborhood. It also outlines the plan amendment process, and other implementation strategies, and considers the continued growth of the City beyond the year 2020.

The project site has a General Plan Land Use Category of Institutional and Public and Semi-Public Facilities and is designated in the Kearny Mesa Community Plan Designation as County Facilities (see *Figure 5.1-2*, *2010 General Plan Land Use Designations*). Most of the environmental goals relevant to the project are contained within the General Plan's Land Use and Community Planning, Mobility, Urban Design, Economic Prosperity, and Noise Elements, as presented below.

Land Use and Community Planning Element: The purpose of this element is to guide future growth and development into a sustainable citywide development pattern, while maintaining or enhancing quality of life in our communities. The Land Use and Community Planning Element addresses land use issues that apply to the City as a whole. The community planning program is the mechanism to refine citywide policies, designate land uses, and make additional site-specific recommendations as needed. The Land Use and Community Planning Element establishes the structure to respect the diversity of each community and includes policy direction to govern the preparation of community plans. The element also provides policy direction in areas including zoning and policy consistency, the plan amendment process, coastal planning, airport land use compatibility planning, annexation policies, balanced communities, equitable development, and environmental justice.

Mobility Element: This element strives to improve mobility in the City by providing policies that support a balanced, multi-modal transportation network, while minimizing environmental and neighborhood impacts. The element contains policies that help make walking more viable for short trips, in addition to addressing various other transportation choices in a manner that strengthens the City of Villages land use visions and helps to achieve a sustainable environment.

Urban Design Element: "Urban design" describes the physical features that define the character or image of a street, neighborhood, community, or the City as a whole. Urban design provides the visual and sensory relationship between people and the built and natural environment. The built environment includes buildings and streets, and the natural environment includes features such as shorelines, canyons, mesas, and parks as they shape and are incorporated into the urban framework. Citywide urban design recommendations are necessary to ensure that the built environment continues to contribute to the qualities that distinguish the City as a unique living environment.

Economic Prosperity Element: The Economic Prosperity Element includes policies intended to improve economic prosperity by ensuring that the economy grows in ways that strengthens the City's industries. This element links economic prosperity goals with land use distribution and employment land use policies. Employment land includes land utilized by industrial, commercial service, and commercial retail users.

Public Facilities, Services and Safety Element: The Public Facilities, Services and Safety Element addresses facilities and services that are publicly managed, and have a direct influence on the location of land uses. Publicly or privately managed organizations, such as healthcare facilities, are also included as they too affect land uses and public health and safety.

Recreation Element: The purpose of the Recreation Element is to preserve, protect, acquire, develop, operate, maintain, and enhance public recreation opportunities and facilities throughout the City for all users. The Recreation Element provides guidelines and policies to address recreation challenges, such as increased demand, increased pressure to develop open space lands for recreational purposes, inequitable distribution of parks, and the need to balance competing land uses.

Conservation Element: The Conservation Element provides for the long-term conservation and sustainable management of the City's natural resources. Goals of the Conservation Element include, but are not limited to, reducing the City's overall carbon dioxide footprint, preserving and enhancing coastal resources, protecting and restoring water bodies, meeting regional air quality standards, and reducing greenhouse gas emissions.

Noise Element: The purpose of the Noise Element is to protect people living and working in the City from excessive noise. The Noise Element provides goals and policies to guide compatible land uses and incorporates noise attenuation measures for new uses to protect people living and working in the City from an excessive noise environment. This purpose becomes more relevant as the City continues to grow with infill and mixed-use development consistent with the Land Use Element.

Kearny Mesa Community Plan

The project is located within the Kearny Mesa Community (see *Figure 5.1-3*, *Community Plan Areas*). The Kearny Mesa Community Plan defines the community as a regional employment center which attracts employees and consumers from all over the county. The project site is currently designated as County Facilities (see *Figure 5.1-4, Kearny Mesa Community Plan Land Use Map*) within the community plan and is zoned IL-2-1, Industrial Light.

The Kearny Mesa Community Plan, as amended February 17, 2011, includes the following elements: Industrial, Commercial, Transportation, Urban Design, Housing, Community Facilities and Services, Conservation and Open Space, Airport, and General Plan Consistency. The goals and objectives of each of the elements that are relevant to the project are identified below.

Industrial Element: The Industrial Element provides recommendations and opportunities for well-designed research and development, business park, traditional industrial, and "heavy" commercial uses in the community which include employee amenities to enhance the viability and image of Kearny Mesa.

Commercial Element: The Commercial Element contains policies and recommendations aimed at (1) revitalizing retail areas by improving motor vehicle, bicycle, and pedestrian circulation on and off site, and by improving the aesthetic quality of retail development; (2) providing commercial services to employees within industrially designated areas by encouraging support commercial uses to locate within these developments; (3) discouraging freestanding retail and general commercial strip centers within industrially designated areas; and (4) providing opportunities for commercial uses that serve commuters traversing Kearny Mesa.

Transportation Element: The Transportation Element includes policies and recommendations to provide a safe and efficient multimodal transportation system that maximizes access for employees, customers, and residents of the community while minimizing adverse environmental impacts. This element identifies the street improvements necessary to support community buildout. Alternative modes of transportation and traffic management programs are also promoted as ways to improve the circulation system.

Urban Design Element: The Urban Design Element provides basic guidelines to enhance the quality of the built environment in Kearny Mesa. Given the high level of traffic in the community, this element focuses on reconciling motor vehicle needs with those of pedestrians and bicyclists. The enhancement and maintenance of pedestrian connections between uses and the provision of pedestrian amenities on public and private property are recommended considerations as part of any design process in the Kearny Mesa community. In addition, this element stresses that community identity and character should be reinforced through the strategic use of building materials, landscaping and signage. Focal points along the major entrances of the community are recommended to indicate that subareas of Kearny Mesa are corporate business centers, manufacturing and distributing centers, or retail shopping centers.

Housing Element: The primary goal of the Housing Element is to preserve, or allow infill residential neighborhoods and protect them from commercial and industrial encroachment, where not in conflict with overall community goals. While there are only three areas developed or proposed for development with residential uses, this element provides for the preservation and protection of two of these areas as residential neighborhoods.

Community Facilities and Services Element: The primary goal of the Community Facilities and Services Element is to maintain all existing community facilities and services and secure financing to upgrade those that are impacted by community growth and change. This element stresses that all community facilities and services should respond to changing community characteristics in order to assure that facilities and services remain adequate as the community builds out.

Conservation and Open Space Element: The primary goal of the Conservation and Open Space Element is to preserve open and environmentally sensitive areas for the aesthetic, psychological, and recreational benefits they provide to the community.

Airport Element—Montgomery Field: The primary goal of this element is to encourage the provision of compatible development in areas adjacent to Montgomery Field airport property. The element contains policies and recommendations intended to balance operations at the airport site with the existing and future development of Kearny Mesa.

General Plan Consistency Element: This element establishes specific recommendations to implement the goals and objectives of the City's General Plan. The element outlines proposed actions that help to implement or otherwise affect General Plan goals.

City of San Diego Municipal Code

Zoning Ordinance: Zoning for the project site is currently designated by the City's Municipal Code as Industrial Light (IL-2-1) (see *Figure 5.1-5*, *Zoning*). The purpose of the IL zones is to provide for a wide range of manufacturing and distribution activities. The IL zones are intended to permit a range of uses, including nonindustrial uses in some instances. The IL-2-1 zone allows a mix of light industrial and office uses with limited commercial (City of San Diego 2012a). The IL-2-1 zone would allow for development limitations consistent with the project design

Environmentally Sensitive Lands (ESL) Regulations: The City of San Diego Environmentally Sensitive Lands (ESL) Regulations (Chapter 14 § 143.0101 through 143.160) are intended to preserve and protect environmentally sensitive lands of San Diego. The regulations apply to land that contains any of the following: sensitive biological resources; steep hillsides; coastal beaches; sensitive coastal bluffs; and 100-year floodplains (City of San Diego 2012b). The proposed project is seeking a Site Development Permit (SDP) to allow for the widening of Clairemont Mesa Boulevard which would require that two-tier retaining wall system would be situated in existing slope area located between the southerly Clairemont Mesa Boulevard right-of-way and existing Polinsky Children's Center ball field.

Noise Ordinances: The City has adopted a noise ordinance to control excessive noise generated in the City (Municipal Code, Section 59.5.0401). The allowable limits depend on the land use zone, time of day, and duration. The City has also adopted noise ordinances limiting construction-related noise. More information on City noise ordinances can be found in *Section 5.5, Noise,* of this EIR.

Airport Land Use Compatibility Overlay Zone: The purpose of the Airport Land Use Compatibility Overlay Zone is to implement adopted Airport Land Use Compatibility Plans (ALUCPs), in accordance with state law, as applicable to property within the City. The intent of these supplemental regulations is to ensure that new development located within an airport influence area is compatible with respect to airport-related noise, public safety, airspace protection, and aircraft overflight areas (City of San Diego 2012a).

The project site is located within the Airport Land Use Compatibility Overlay Zones for both Marine Corps Air Station (MCAS) Miramar and Montgomery Field, as well as the Airport Influence Area (MCAS Miramar Review Area 2, Montgomery Field Review Area 1 on southwestern corner of property, and Montgomery Field Review Area 2 for remainder of property). The project site is also located within the FAA Part 77 Noticing Area, Montgomery Field Overflight Notification Area, and Montgomery Field Safety Zone 6.

Properties located within Montgomery Field Review Area 1 are required to comply with the noise, safety, and airspace protection compatibility requirements in Sections 132.1510 through 132.1520 of the City's Municipal Code and with the aircraft overflight notification requirements in accordance with Section 132.1525 of the City's Municipal Code. Properties located within the MCAS Miramar Review Area 2 shall comply with the airspace protection compatibility requirements in accordance with Section 132.1520. Additionally, properties located within the Brown Field, Montgomery Field, or Gillespie Field airport influence areas shall comply with requirements to dedicate aviation easements in accordance with Section 132.1530.

MCAS Miramar Airport Land Use Compatibility Plan

The project site is located within the Airport Influence Area (AIA) Review Area 2 for MCAS Miramar. The AIA defines the boundaries for the ALUCP and is comprised of noise contours, safety zones, airspace protection surfaces, and overflight areas for MCAS Miramar. ALUCPs are adopted by the San Diego County Regional Airport Authority's Airport Land Use Commission to establish land use compatibility requirements to protect the airport from incompatible land uses and provide the City with development criteria that will allow for the orderly growth of the area surrounding the airport. The latest MCAS Miramar ALUCP was adopted on October 2, 2008. The principle compatibility concerns, as defined in the ALUCP, are related to four specific factors, including noise, safety, airspace protection, and overflight. AIA Review Area 1 is comprised of all four factors; whereas AIA Review Area 2 is comprised only of the overflight and airspace factors. The ALUCP defines the project site as being located in AIA Review Area 2 which is outside of the accident potential zones (see *Figure 5.1-6*, *Airport Influence Zones*). The project is also not within areas exposed to noise levels greater than Community Noise Equivalent Level (CNEL) 60 decibels (dB) (SDCRAA 2008).

Montgomery Field Airport Land Use Compatibility Plan

Montgomery Field is located in Kearny Mesa, off of Aero Drive between State Route 163 (SR-163) and I-15. The airport is a general aviation airport accommodating both propeller and business jet powered aircraft, and is classified as a "reliever airport" by the Federal Aviation Administration (FAA) (San Diego County Airport Land Use Commission 2004). The predominant flow of traffic is north-south along the coast, while the predominant runway alignments are east-west. The project site is located north of Montgomery Field and is outside the AIA (see *Figure 5.1-6*, *Airport Influence Zones)*. The AIA defines the boundaries for the ALUCP and is comprised of noise contours, safety zones, airspace protection surfaces, and overflight areas for Montgomery Field. ALUCPs are adopted by the San Diego County Regional Airport Authority, as the Airport Land Use Commission, to establish land use compatibility requirements to protect the airport from incompatible land uses and provide the City with development criteria that would allow for the orderly growth of the area surrounding the airport. The latest Montgomery Field ALUCP was adopted on October 4, 2004. The principle compatibility concerns, as defined in the ALUCP, are related to four specific factors, including noise, safety, airspace protection, and overflight (San Diego County Airport Land Use Commission 2004).

Multiple Species Conservation Program

The Multiple Species Conservation Program (MSCP) is part of a comprehensive habitat conservation planning program for southwestern San Diego County. A goal of the MSCP is to preserve a network of habitat and open space, protecting biodiversity while allowing development of less sensitive lands. Local jurisdictions, including the City, implement their portions of the MSCP through subarea plans, which describe specific implementing mechanisms.

The City's MSCP Subarea Plan was adopted in March 1997. The MSCP subarea plan is a plan and process for the City to issue permits under the federal and state Endangered Species Acts and the California Natural Communities Conservation Planning Act of 1991. The primary goal of the MSCP Subarea Plan is to conserve viable populations of sensitive species and to conserve biodiversity while allowing for reasonable economic growth.

"MSCP Covered" refers to species covered by the City's Federal Incidental Take Permit (ITP) issued pursuant to Section 10(a) of the Federal Endangered Species Act (16 U.S.C. § 1539(a)(2)(A)). Under the Federal Endangered Species Act (FESA), an incidental take permit is required when non-federal activities would result in "take" of a threatened or endangered species. A Habitat Conservation Plan (HCP) must accompany an application for a Federal ITP. Take authorization for federally listed wildlife species covered in the HCP shall generally be effective upon approval of the HCP.

As of April 20, 2010, the City of San Diego may no longer rely on the its Federal ITP for authorization for incidental take of the two vernal pool animal species and five plant species (the seven vernal pool species). Development involving the take of the seven vernal pool species requires authorization from the U.S. Fish and Wildlife Service (USFWS) through the federal process until the City of San Diego completes a new HCP and enters into another Implementing Agreement for a new Federal ITP for those species. Until the City's ITP for the seven vernal species is obtained, development that would involve the take of any of the seven vernal pool species requires authorization from the USFWS through the federal process.

The Multi-Habitat Planning Area (MHPA) consists of areas within which the permanent MSCP preserve would be assembled and managed for biological resources. Areas not located with in the MHPA would be available for development proposals. The MSCP identifies a 56,831-acre MHPA in the City for preservation of core biological resource areas and corridors targeted for preservation. The southern area of the City's MSCP Subarea Plan includes Otay Mesa, the Otay River Valley, and the Tijuana River Valley.

5.1.3 IMPACT

Issue 1: Would the proposal conflict with the environmental goals, objectives, or recommendations of the community or general plan in which it is located?

According to the City's CEQA Significance Determination Thresholds (City of San Diego 2011b), land use compatibility impacts may be significant if the project would result in:

- Inconsistency/conflict with the environmental goals, objectives, or guidelines of a community or general plan.

The project site is designated as County Facilities in the Kearny Mesa Community Plan and Institutional and Public and Semi-Public Facilities in the General Plan's Land Use Element. The Institutional and Public and Semi-Public Facilities land use designation provides for uses which offer public and semi-public services to the community. These uses may include, but are not limited to airports, military facilities, community colleges, university campuses, landfills, communication and utilities, transit centers, water sanitation plants, schools, libraries, police and fire facilities, cemeteries, post offices, hospitals, park-and-ride lots, government offices and civic centers (City of San Diego 2008). The project proposes hospital-related structures and components and would therefore be compatible with the existing general plan land use designation. The project does not propose any development or conversion of open space or prime farmland.

The land use intensity within the Kearny Mesa Community Plan is .50 Floor Area Ratio (FAR).. However, the Kearny Mesa Community Plan allows a project to exceed the 0.5 FAR with a PDP. The land use intensity proposed for the project is .98 Floor Area Ratio (FAR) as allowed with a PDP. FAR means the numerical value obtained by dividing the gross floor area of all buildings on a premises by the total area of the premises on which the buildings are located. Once buildout is complete, the total square footage of the campus would be 936,000 square feet. The project proposes a Conditional Use Permit (CUP) for the proposed hospital use and a PDP in order to allow for the proposed FAR of .98. A Site Development Permit (SDP) would allow for development of the site, which contains environmentally sensitive lands along the slopes, on- and off-site, adjacent to Clairemont Mesa Boulevard.

The project's consistency with pertinent goals, policies, and recommendations are provided in *Table 5.1-1*, *Project's Consistency with City of San Diego's 2008 General Plan*, and *Table 5.1-2*, *Project's Consistency with the City of San Diego Kearny Mesa Community Plan*, located at the end of this section. The land use consistency analysis takes several factors into consideration. Overall, as shown in the consistency tables, the project would implement many of the goals, policies, guidelines, and recommendations contained within the existing General Plan and Kearny Mesa Community Plan. Some more important examples are as follows.

Policy LU-I.11: Implement the City of Villages concept for mixed-use, transit-oriented development as a way to minimize the need to drive by increasing opportunities for individuals to live near where they work, offering a convenient mix of local goods and services and providing access to high-quality transit services.

The project site is an infill development located in close proximity to commercial and retail uses, as well as residential uses. Several bus routes serve the project site. The San Diego Metropolitan Transit System (MTS) Routes 960 and 870 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 20 and 928 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 25, 27, and 120 run along Clairemont Mesa Boulevard. The project is consistent with this policy.

Policy PF-O.1: Encourage the provision of diverse, adequate and easily accessible healthcare facilities and services to meet the needs of all residents.

The project is for the development of a hospital in order to meet the needs of residents. The hospital is easily accessible, and public transportation to the site is available. As described previously, the site is currently served by MTS Routes 20, 25, 27, 120, 870, 928, and 960. The project is consistent with this policy.

5.1.4 SIGNIFICANCE OF IMPACT

The project includes a CUP, SDP and PDP and by obtaining these permits, the project would be consistent with the City's adopted General Plan and Kearny Mesa Community Plan. An analysis was completed to determine the project's consistency with applicable goals, policies, guidelines, and recommendations contained within the existing General Plan and Kearny Mesa Community Plan. This analysis is provided in *Table 5.1-1*, *Project's Consistency with City of San Diego's 2008 General Plan*, and *Table 5.1-2*, *Project's Consistency with the City of San Diego Kearny Mesa Community Plan,* and has demonstrated that the project would not result in a significant impact due to an inconsistency or conflict with the General Plan or Kearny Mesa Community Plan.

5.1.5 MITIGATION, MONITORING, AND REPORTING

No mitigation measures would be required.

5.1.6 IMPACT

Issue 2: Would the proposal require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?

According to the City's CEQA Significance Determination Thresholds (City of San Diego 2011b), land use compatibility impacts may be significant if the project would:

- Conflict with an adopted land use designation or intensity causing indirect or secondary environmental impacts to occur (for example, development of a designated school or park site with a more intensive land use could result in traffic impacts).

The project site is designated as County Facilities in the Kearny Mesa Community Plan and as Institutional and Public and Semi-Public Facilities in the General Plan's Land Use Element. Zoning for the project site is currently designated by the City's Municipal Code as IL-2-1. The project conforms to all development regulations for the IL-2-1 zone, except for the 0.5 maximum FAR, as described in *Section 5.1.3.* A PDP would be processed to allow for the deviation in maximum FAR. The proposed FAR would increase the development potential of the project site with a complementary use that is consistent with the Institutional and Public and Semi-Public Facilities land use designation. However, the proposed increase in development intensity would result in impacts relative to traffic, noise, greenhouse gas emissions and air quality, as described in detail in *Sections 5.2, 5.3, 5.4, and 5.5* respectively. As a result of these impacts, the proposed FAR deviation would result in a physical impact on the environment.

The project also requires a variance for the proposed retaining wall, which would exceed the 9-foot height requirement. This proposed variance for height would not result in a physical impact on the environment. No other deviations or variances are proposed. The Kearny Mesa Community Plan allows a project to exceed the 0.5 FAR with a PDP; refer to *Section 5.1.3* for further details.

As part of the PDP, the project is requesting a deviation from the allowable maximum retaining wall height of 9 feet. This proposed deviation for height would not cause indirect or secondary environmental impacts to occur. For example, as discussed in *Section 5.10.6*, the retaining wall would be screened by landscaping to match the current conditions, and would consist mostly of large shrubs and Sycamore trees. The retaining walls would not result in any significant impacts related to visual character or quality. No other deviations or variances are proposed.

5.1.7 SIGNIFICANCE OF IMPACT

The project would result in a physical impact on the environment due to a deviation in maximum FAR for the site. Impacts relative to traffic, noise, greenhouse gas emissions, and air quality are described in detail in *Sections 5.2, 5.3, 5.4,* and *5.5* respectively.

5.1.8 MITIGATION, MONITORING, AND REPORTING

As described in *Section 5.2*, the project will make fair-share contributions that would mitigate the traffic impacts relative to the project. However, impacts would remain significant and unavoidable at some locations.

As described in *Section 5.3*, significant and unavoidable noise impacts would result at the hospital building after construction of Phase II due to off-site traffic noise impacts along Clairemont Mesa Boulevard. No feasible mitigation exists to reduce this impact to below a level of significance. Additionally, noise generated from construction activities would temporarily exceed the City's thresholds for on-site sensitive receptors, and therefore would result in significant impacts. Since this is a phased project, and it is uncertain exactly where construction activities may occur relative to on-site sensitive receptors, the degree to which proposed mitigation actually reduces on-site exterior and interior noise levels cannot be accurately determined. Therefore, the on-site construction impacts are considered significant and unavoidable.

As described in *Sections 5.4* and *5.5*, the incorporation of project design features would reduce greenhouse gas emissions and air quality impacts associated with the project, but residual impacts would remain significant and unavoidable.

5.1.9 IMPACT

Issue 3: Would the proposal conflict with the provisions of the City's Multiple Species Conservation Program Subarea Plan or other approved local, regional, or state habitat conservation plan?

According to the City's CEQA Significance Determination Thresholds (City of San Diego 2011b), land use compatibility impacts may be significant if the project would:

- Be inconsistent or conflict with adopted environmental plans for an area (for example, a use incompatible with the MSCP for development within the MHPA would fall into this category).

As described in *Section 5.7, Biological Resources*, the project study area is within the boundaries of the City's MSCP Subarea Plan; however, it is not located within or adjacent to the MHPA. Additionally, the project study area has not been identified as a strategic preserve. Therefore, the loss of habitat resulting from the project identified in *Table 5.3-1* would not conflict with the provisions of the MSCP or associated MHPA. Additionally, implementation of mitigation measure BIO-1 would mitigate impacts to sensitive biological resources to a less than significant level. Therefore, the project would not propose development that would be inconsistent with the MSCP or any other adopted environmental plan.

5.1.10 SIGNIFICANCE OF IMPACT

The project would not result in a significant impact due to an inconsistency or conflict with the City's MSCP Subarea Plan or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

5.1.11 MITIGATION, MONITORING, AND REPORTING

No mitigation measures would be required.

5.1.12 IMPACT

Issue 4: Would the proposal result in land uses which are not compatible with an adopted Airport Land Use Compatibility Plan (ALUCP)?

According to the City's CEQA Significance Determination Thresholds (City of San Diego 2011b), land use compatibility impacts may be significant if the project would result in the following:

- Incompatible uses as defined in an airport land use plan or inconsistency with an airport's Comprehensive Land Use Plan as adopted by the Airport Land Use Commission to the extent that the inconsistency is based on valid data. CEQA, Section 21096 and 15154, requires this land use/health and safety analysis. For additional information, consult the California Airport Land Use Planning Handbook or the applicable Comprehensive Land Use Plan:
    - Brown Field (adopted September 21, 1981, amended October 4, 2004)
    - Montgomery Field (adopted July 27, 1984, amended October 4, 2004)
    - MCAS Miramar (adopted 1977, amended September 28, 1990, amended September 25, 1992, amended October 4, 2004)
    - Lindbergh Field (adopted February 28, 1992, amended April 22, 1994, amended October 4, 2004).

The MCAS Miramar ALUCP defines the project site as being located outside the noise contours (60 dB CNEL) and outside of Review Area 1, which consists of the ALUCP's accident potential zones or safety zones. However, the project site is located within Review Area 2, which is limited to overflight and airspace factors (see *Figure 5.1-6*, *Airport Influence Zones*). Therefore, the project is subject to additional criteria as specified in *Section 5.1.2,* as well as requirements for determinations by the FAA and the San Diego County Regional Airport Authority, as the Airport Land Use Commission.

Additionally, the project site is located within Montgomery Field Review Area 1 on southwestern corner of property, and Montgomery Field Review Area 2 for remainder of property. Properties located within Review Area 1 are required to comply with the noise, safety, and airspace protection compatibility requirements. Properties located within Review Area 2 are required comply with the airspace protection compatibility requirements. Refer to *Section 5.1.2* for further details.

The applicant has obtained the required determinations from the FAA, which state that the project would not constitute a hazard to air navigation (FAA 2013, included as *Appendix B* of this EIR).

The project would not require a change to air station flight operations, approach minimums, or departure routes. The project would not interfere with aircraft communications systems, navigation systems, or other electrical systems. The project does not propose reflective lighting that would interfere with aircrew vision. Finally, the project does not include development uses that would attract birds or waterfowl, such as, but not limited to landfills, feed stations, or certain types of vegetation. For the above stated reasons, the project would not conflict with the ALUCPs for MCAS Miramar or Montgomery Field.

5.1.13 SIGNIFICANCE OF IMPACT

The project would not result in land uses which are not compatible with an adopted Airport Land Use Compatibility Plan; impacts would be less than significant.

5.1.14 MITIGATION, MONITORING, AND REPORTING

No mitigation measures would be required.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Land Use and Community Planning Element			
Policy LU-F.2	Review public and private projects to ensure that they do not adversely affect the general plan and community plans. Evaluate whether proposed projects implement specified land use, density/intensity, design guidelines, and other general plan and community plan policies, including open space preservation, community identity, mobility, and the timing, phasing, and provision of public facilities.	The project implements the required land use, design guideline, and other policies related to the General Plan and Kearny Mesa Community Plan.	With the issuance of a PDP, the project has been analyzed for traffic impacts and would therefore be consistent with this policy.
Environmental Justice Goal I	Improve mobility options and accessibility in every community.	The project site is an infill development located in close proximity to commercial and retail uses, as well as residential uses. Several bus routes serve the project site. The San Diego Metropolitan Transit System (MTS) Routes 960 and 870 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 20 and 928 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 25, 27, and 120 run along Clairemont Mesa Boulevard.	The project would be consistent with this goal.
Policy LU-I.1	Ensure environmental justice in the planning process through meaningful public involvement. a. Assure potentially affected community residents that they have opportunities to participate in decisions that affect their environment and health and that the concerns of all participants involved will be considered in the decision-making process. b. Increase public outreach to all segments of the community so that it is informative and detailed in terms of process and options available to the community. c. Consult with California Native American tribes to provide them with an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting or mitigating impacts to cultural places.	Community residents of the Kearny Mesa Community Planning Group and the Native American Heritage Commission have been included in the public review process and solicited for review and comments on the EIR for this project. Additionally, a public scoping meeting was held August 15, 2012 and the project will be presented to the Kearny Mesa Community Planning Group.	The project would be consistent with this policy.
Policy LU-I.11	Implement the City of Villages concept for mixed-use, transit-oriented development as a way to minimize the need to drive by increasing opportunities for individuals to live near where they	The project site is an infill development located in close proximity to commercial and retail uses, as well as residential uses. Several bus routes serve	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	work, offering a convenient mix of local goods and services and providing access to high-quality transit services.	the project site. The San Diego Metropolitan Transit System (MTS) Routes 960 and 870 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 20 and 928 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 25, 27, and 120 run along Clairemont Mesa Boulevard. The project will also implement several Transportation Demand Management (TDM) measures to increase transit ridership and alternative modes of transportation for employees and patients; see Appendix C.	
Mobility Element			
A) Walkable Community Goals	Create a safe and comfortable pedestrian environment.	The project includes on-site walkways located throughout the campus that link buildings and parking areas. The project also provides security lighting around the perimeter of the proposed buildings and along the walkways. A 5-foot sidewalk is proposed along Clairemont Mesa Boulevard, as well as 5 feet of landscape buffer between the sidewalk and road for a safe and comfortable pedestrian linkage to surrounding community.	The project would be consistent with this goal.
Policy ME-A.2g	Provide adequate levels of lighting for pedestrian safety and comfort.	The project would provide security lighting around the perimeter of the proposed buildings.	The project would be consistent with this policy.
Policy ME-A.4	Make sidewalks and street crossings accessible to pedestrians of all abilities. a. Meet or exceed all federal and state requirements. b. Provide special attention to the needs of children, the elderly, and people with disabilities. c. Maintain pedestrian facilities to be free of damage or trip hazards.	All proposed sidewalks and street crossings would be constructed in accordance with all federal, state, and local safety requirements.	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy ME-A.6.e	Routinely accommodate pedestrian facilities and amenities into private and public plans and projects.	The project proposes safe on-site and off-site pedestrian walkways to promote walkability. The project includes on-site walkways located throughout the campus that link buildings and parking areas. The project also provides security lighting around the perimeter of the proposed buildings and along the walkways. A 5-foot sidewalk is proposed along Clairemont Mesa Boulevard, as well as 5 feet of landscape buffer between the sidewalk and road for a safe and comfortable pedestrian linkage to surrounding community.	The project would be consistent with this policy.
Goal B	Increase transit ridership.	The project is currently served by public transit, including MTS Routes 20, 25, 27, 120, 870, 928, and 960. The following transit-related Transportation Demand Management TDM features of the project would increase transit ridership: • Kaiser Permanente will coordinate with MTS and NCTD to offer partially subsidized monthly passes for employees. • Provision of preferentially located carpool/vanpool parking spaces in the employee parking area for use by qualified employees in an area closest to the entrance to the building. Sign and stripe these spaces "Car/Vanpool Parking Only". Information about the availability of and the means of accessing the car/vanpool parking spaces should be posted on Transportation Information Displays and communication regarding parking privileges. • Transportation Information Displays would	The project would be consistent with this goal.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
		be installed in common areas displaying information including, but not limited to, maps, routes and schedules for public transit serving the site. • Employees would be offered the opportunity to register for commuter ridematching provided through publicly sponsored services (e.g. SANDAG sponsored "iCommute Ridetracker") • Two events would be held annually to promote alternative transportation. • Provision of bicycle racks, lockers and showers inside for employee use. • Ensure that employees that share rides to work are provided with a ride to their home or location near their residence in the event that an emergency occurs during the work day that requires transportation. SANDAG's iCommute Guaranteed Ride Home service will be engaged to provide this service. • Provision of flexible work schedules to stagger arrivals and departures. Operating practices of the Medical Center that have employees working schedules that start and stop throughout the day will reduce peak trip generation. The work schedules are yet to be determined however, based on the existing Kaiser Permanente Zion Medical Center, approximately 54% of all staff have rotating shift (i.e. day, evening, or night shift). Kaiser will examine all	

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
		opportunities to rotate shift outside peak travel times as part of the TDM Plan. • Conduct an employee commute travel survey within six months of occupancy of the Kaiser San Diego Central Medical Center and annually thereafter • Submit a TDM Status Report annually to the City of San Diego that includes: 1. Name, phone number, and email address for the site's TDM contact 2. Number of employees at the work site during normal business hours 3. Average Vehicle Ridership and mode share 4. Demonstration of 'good faith effort' to implement the TDM actions identified in this document • With a view to achieving the goals of the TDM Ordinance, Kaiser will participate in the Kearny Mesa Traffic Management Association (TMA). Refer to Appendix C for further details.	
Policy ME-B.1	Work closely with regional agencies and others to increase transit ridership and mode share through increased transit service accessibility, frequency, connectivity, and availability.	The project is currently served by public transit, including MTS Routes 20, 25, 27, 120, 870, 928, and 960. Additionally, the I-15 Bus Rapid Transit (BRT) 20-mile I-15 Express Lanes Project, which extends from SR 78 to SR 163, is expected to begin operation in early 2014. The I-15 BRT would allow buses, carpoolers, vanpoolers, and FasTrak users access to the Express Lanes without encountering the congestion at the general traffic freeway on-ramps. In addition to providing faster service and increased	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
		routes, future BRT service will also offer 27 new buses with improvements designed to make the ride more comfortable, accessible and convenient for passengers. BRT buses will be designed to streamline and speed up the boarding process by featuring multiple doors, low-floor designs and fare-boxes that accept Compass Cards. Additional design features, such as comfortable seating and larger windows, will improve ride quality and video monitors will provide announcements on station stops and other transit information.	
Policy ME-B.7	Support efforts to develop additional transportation options for non-driving older adults and persons with disabilities.	The project will implement several TDM measures to increase transit ridership and alternative modes of transportation for non-driving older adult patients and patients with disabilities; see Appendix C.	The project would be consistent with this policy.
E. Transportation Demand Management Goals	Expanded travel options and improved personal mobility.	As stated above under Policy ME-B.1, the project is currently served by public transit, including MTS Routes 20, 25, 27, 120, 870, 928, and 960, and future BRT will offer more frequent and longer hours of services along Express Lanes. The project will also implement several TDM measures to increase transit ridership and alternative modes of transportation for employees and patients; see Appendix C.	The project would be consistent with this goal.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy ME-E.4	Promote the most efficient use of the City's existing transportation network.	The project is an infill development that is currently served by public transit, including MTS Routes 20, 25, 27, 120, 870, 928, and 960.	The project would be consistent with this policy.
G. Parking Management Goal	New development with adequate parking through the application of innovative citywide parking regulations.	The project proposes two parking garages that would exceed the minimum parking requirements of the project.	The project would be consistent with this goal.
Policy ME-G.2	Implement innovative and up-to-date parking regulations that address the vehicular and bicycle parking needs generated by development. b. Strive to reduce the amount of land devoted to parking through measures such as parking structures, shared parking, mixed-use developments, and managed public parking (see also Policy ME-G.3), while still providing appropriate levels of parking.	The project proposes two parking garages that would exceed the parking requirements of the project.	The project would be consistent with this policy.
Urban Design Element			
A. General Urban Design Goal	A built environment that respects San Diego's natural environment and climate.	The project is an infill development that would not substantially impact San Diego's natural environment.	The project would be consistent with this goal.
B. General Urban Design Goal	Utilization of landscape as an important aesthetic and unifying element throughout the City.	The project has incorporated a landscape plan into the project design.	The project would be consistent with this goal.
Policy UD-A.4	Use sustainable building methods in accordance with the sustainable development policies in the Conservation Element.	The project would incorporate several TDM measure to reduce vehicular trips and encourage alternative modes of transportation; see Goal B above and Appendix C. These are some of the sustainable goals of the Conservation Element.	The project would be consistent with this policy.
Policy UD-A.5	Design buildings that contribute to a positive neighborhood character and relate to neighborhood and community context. a. Relate architecture to San Diego's unique climate and topography. b. Encourage designs that are sensitive to the scale, form, rhythm, proportions, and materials proximate to commercial areas and residential neighborhoods that have a well-established,	a) The project's architectural theme would be cohesive with surrounding uses such as the Polinsky Children's Center, and surrounding commercial, office, and light industrial uses. The project would not block any sensitive viewsheds. b–e) The project's scale, form, rhythm, and overall architectural design would be cohesive with the	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	distinctive character. c. Provide architectural features that establish and define a building's appeal and enhance the neighborhood character. d. Encourage the use of materials and finishes that reinforce a sense of quality and permanence. e. Provide architectural interest to discourage the appearance of blank walls for development. This would include not only building walls, but fencing bordering the pedestrian network, where some form of architectural variation should be provided to add interest to the streetscape and enhance the pedestrian experience. For example, walls could protrude, recess, or change in color, height, or texture to provide visual interest. f. Design building wall planes to have shadow relief, where pop-outs, offsetting planes, overhangs, and recessed doorways are used to provide visual interest at the pedestrian level. g. Design rear elevations of buildings to be as well-detailed and visually interesting as the front elevation, if they will be visible from a public right-of-way or accessible public place or street. h. Acknowledge the positive aspects of nearby existing buildings by incorporating compatible features in new developments. i. Maximize natural ventilation, sunlight, and views. j. Provide convenient, safe, well-marked, and attractive pedestrian connections from the public street to building entrances.	surrounding mix of adjacent land uses. The design incorporates a great degree of architectural interest. The buildings and structures are designed to emphasize daylight, views, privacy and calm. See *Figures 4.10-2* through *4.10-4*, *Visual Simulations*, for further detail. f–h) The project's building design is intended to complement, enhance, and integrate the site with the existing surrounding uses. The massing and organization of the buildings and their elevations is classic modern. Fin-type sunscreens provide shading of the glass areas facing east, south and west and provide a depth to the building façade's appearance while also providing additional visual detail and interest due to shade / shadow cast patterns. i) The design of the project layout maximizes sunlight. j) The design emphasizes pedestrian access with pathways to and across the site from adjoining streets, seating and gathering spaces, water features and connections between indoor functions and outdoor adjunct spaces such as for dining. Walkways allow pedestrians to easily and safely access various buildings from parking garages.	
Policy UD-A.8	Landscape materials and design should enhance structures, create and define public and private spaces, and provide shade, aesthetic appeal, and environmental benefits. a. Maximize the planting of new trees, street trees, and other plants	a) The proposed landscape plan would enhance the existing site. b) The planting palette for the site includes trees, shrubs, vines, and groundcover that are drought-	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	for their shading, air quality, and livability benefits (See also Urban Forestry section of Conservation Element, Policies CE-A.11, CE-A.12, and Section J). b. Encourage water conservation through the use of drought-tolerant landscape. c. Use landscape to support stormwater management goals for filtration, percolation, and erosion control. d. Use landscape to provide unique identities within neighborhoods, villages, and other developed areas. e. Landscape materials and design should complement and build upon the existing character of the neighborhood (See also Conservation Element, Section J). f. Design landscape bordering the pedestrian network with new elements, such as a new plant form or material, at a scale and at intervals appropriate to the site. This is not intended to discourage a uniform street tree or landscape theme, but to add interest to the streetscape and enhance the pedestrian experience. g. Establish or maintain tree-lined residential and commercial streets. Neighborhoods and commercial corridors in the City that contain tree-lined streets present a streetscape that creates a distinctive character. 1. Identify and plant trees that complement and expand on the surrounding street tree fabric. 2. Unify communities by using street trees to link residential areas. 3. Locate street trees in a manner that does not obstruct ground illumination from streetlights. h. Shade paved areas, especially parking lots. j. Use landscaped walkways to direct people to proper entrances and away from private areas.	tolerant and native (see *Figure 3-5*, *Landscape Plan*). c) The landscape areas would include bioswale to be used for stormwater runoff. d) The proposed landscape plan would incorporate native plants and would be unique to the project site. e) The landscape design would be unique to the project site and would complement the character of the proposed uses. f) Landscape bordering the walkways would include a variety of pines, California sycamore, crape myrtle, and several other (see *Figure 3-5*). g) 1. As shown in *Figure 3-5*, the proposed trees would complement the existing internal and off-site roadways. 2. The proposed landscape plan identifies street trees and screening trees. 3. The trees would be located above the street grade and would therefore not obstruct ground illumination from streetlights. h) The proposed parking structure would be shaded. Surface parking lots include trees for shade and screening. j) As shown in the proposed landscape plan, the project would be landscaped to enhance proper entrances and would direct pedestrians throughout the project site.	
Policy UD-A.11	Encourage the use of underground or aboveground parking structures, rather than surface parking lots, to reduce land area devoted to	The project proposes two parking garages. b) The parking structure would be safe and	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	parking. (See also Mobility Element, Section G.) b. Design safe, functional, and aesthetically pleasing parking structures. c. Design structures to be of a height and mass that are compatible with the surrounding area. d. Use building materials, detailing, and landscape that complement the surrounding neighborhood. e. Provide well-defined, dedicated pedestrian entrances. f. Use appropriate screening mechanisms to screen views of parked vehicles from pedestrian areas, and headlights from adjacent buildings. g. Pursue development of parking structures that are wrapped on their exterior with other uses to conceal the parking structure and create an active streetscape. h. Encourage the use of attendants, gates, natural lighting, or surveillance equipment in parking structures to promote safety and security.	functional, providing access to each building. c) The proposed structures would be constructed at a height and mass that is consistent with the project's zoning and surrounding uses. d) The proposed building materials and landscaping have been included to complement the surrounding areas. e) Well-defined pedestrian entrances would be provided within the parking structure. f–h) The site also includes an active streetscape and appropriate lighting to promote safety and security.	
Policy UD-A.13.	Provide lighting from a variety of sources at appropriate intensities and qualities for safety. a. Provide pedestrian-scaled lighting for pedestrian circulation and visibility. b. Use effective lighting for vehicular traffic while not overwhelming the quality of pedestrian lighting. c. Use lighting to convey a sense of safety while minimizing glare and contrast. d. Use vandal-resistant light fixtures that complement the neighborhood and character. e. Focus lighting to eliminate spill-over so that lighting is directed and only the intended use is illuminated.	a) Pedestrian lighting is provided. b) The proposed vehicular lighting would not overwhelm the quality of pedestrian lighting. c) Security lighting would be provided within the parking areas and structures. In addition, lighting would be provided throughout the project, especially along the pedestrian walkways. d) All outdoor light fixtures would be shielded and consist of vandal-resistant features. e) All outdoor lighting would be shielded to prevent spill-over and glare to adjacent land uses.	The project would be consistent with this policy.
Policy UD-A.17.	Incorporate crime prevention through environmental design measures, as necessary, to reduce incidences of fear and crime, and design safer environments. a. Design projects to encourage visible space and "eyes on the	a) Proposed structures would include windows and doors along the street frontages that provide a sense of visibility on the streets and deter crime, thereby implementing CPTED measures.	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	street" security that will serve as a means to discourage and deter crime through the location of physical features, activities, and people to maximize visibility. b. Define clear boundaries between public, semi-public/private, and private spaces.	b) The boundary of the project would be clearly defined through project design features, landscaping, and signage.	
Public Facilities, Services, and Safety Element			
Policy PF-C.1	Require development proposals to fully address impacts to public facilities and services: a. Identify the demand for public facilities and services resulting from discretionary projects. b. Identify specific improvements and financing which would be provided by the project, including but not limited to sewer, water, storm drain, solid waste, fire, police, libraries, parks, open space, and transportation projects. c. Subject projects, as a condition of approval, to exactions that are reasonably related and in rough proportionality to the impacts resulting from the proposed development. d. Provide public facilities and services to assure that current levels of service are maintained or improved by new development within a reasonable time period.	a) The applicant has coordinated with public facility providers to identify the project's demand on services and their potential impacts. b) The project would be subject to pay the facility benefit assessment (FBA) fees, which would address impacts to fire-rescue services. c) The payment of FBA fees shall be made conditions of approval prior to the issuance of building permits. d) Through coordination with existing public-facility-service providers, no new facilities are required through the implementation of the project.	The project would be consistent with this policy.
F. Wastewater Goal	Implement environmentally sound collection, treatment, reuse, disposal, and monitoring of wastewater.	The applicant has coordinated with wastewater providers to ensure that adequate service levels would be available with the implementation of the project.	The project would be consistent with this goal.
Policy PF-F.6	Coordinate land use planning and wastewater infrastructure planning to provide for future development and maintain adequate service levels.	The applicant has coordinated with water and wastewater providers to ensure that adequate service levels would be available with the implementation of the project.	The project would be consistent with this policy.
G. Stormwater Infrastructure Goals	Protect beneficial water resources through pollution prevention and interception efforts.	The project would implement best management practices (BMPs) to ensure the protection of beneficial water resources.	The project would be consistent with this goal.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy PF-G.2	Install infrastructure that, where feasible, includes components to capture, minimize, and prevent pollutants in urban runoff from reaching receiving waters and our potable water supplies.	The project would implement BMPs to ensure the protection of beneficial water resources.	The project would be consistent with this policy.
Policy PF-G.5	Identify and implement BMPs for projects that repair, replace, extend, or otherwise affect the stormwater conveyance system. These projects should also include design considerations for maintenance, inspection, and, as applicable, water quality monitoring.	The project would implement BMPs to ensure the protection of beneficial water resources.	The project would be consistent with this policy.
H. Water Infrastructure Goal	Ensure a safe, reliable, and cost-effective water supply for San Diego.	The applicant has coordinated with the City Public Utilities Department to ensure that adequate water supplies are available with the implementation of the project.	The project would be consistent with this goal.
Policy PF-H.3	Coordinate land use planning and water infrastructure planning with local, state, and regional agencies to provide for future development, maintain adequate service levels, and ensure adequate water supply during emergency situations.	The applicant has coordinated with the City Public Utilities to ensure that adequate water supplies are available with the implementation of the project.	The project would be consistent with this policy.
I. Waste Management Goals	Maximize diversion of materials from disposal through the reduction, reuse, and recycling of wastes to the highest and best use.	The project would comply with all state and local laws regarding solid waste and recycling with the preparation of a Waste Management Plan.	The project would be consistent with this goal.
Policy PF-I.2	Maximize waste reduction and diversion (see also Conservation Element, Policy CE-A.9).	The project would comply with all state and local laws regarding solid waste and recycling with the preparation of a Waste Management Plan.	The project would be consistent with this policy.
Policy PF-I.2.b	Operate public and private facilities that collect and transport waste and recyclable materials in accordance with the highest environmental standards.	The transport of waste and recycled material would be conducted in accordance with federal, state, and local laws and regulations.	The project would be consistent with this policy.
Policy PF-I.2.f	Reduce and recycle construction and demolition (C&D) debris to the extent feasible. Strive for recycling of 100% of inert C&D materials and a minimum of 50% of all other material by weight.	The project would comply with all state and local laws regarding solid waste and recycling with the preparation of a Waste Management Plan.	The project would be consistent with this policy.
Policy PF-M.4	Cooperatively plan for and design new or expanded public utilities and associated facilities (e.g. telecommunications infrastructure, planned energy generation facilities, gas compressor stations, gas transmission lines, electrical substations and other large scale gas and electrical	The project includes development of a central utility plant (Energy Center). The Energy Center would contain all of the major mechanical and electrical equipment for the Kaiser Permanente	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	facilities) to maximize environmental and community benefits.	San Diego Central Medical Center.	
O. Healthcare Services and Facilities Goal	Public and private healthcare services and facilities that are easily accessible and meet the needs of all residents.	The project would meet the need for public and private healthcare services and facilities for residents in surrounding areas. The hospital would be easily accessible and public transportation to the site is available.	The project would be consistent with this policy.
Policy PF-O.1	Encourage the provision of diverse, adequate and easily accessible healthcare facilities and services to meet the needs of all residents. a. Strive to locate healthcare facilities and services near public transit.	The project would be easily accessible, and public transportation to the site is available. The site is currently served by MTS service routes 20, 25, 27, 120, 870, 928, and 960, including the Kearny Mesa Transit Center.	The project would be consistent with this policy.
Policy PF-O.2	Coordinate with providers so that the expansion or construction of new healthcare facilities addresses General Plan and community plan goals.	As demonstrated in this table, as well as *Table 5.1-2*, the project is consistent with the goals and policies of the General Plan and Kearny Mesa Community Plan.	The project would be consistent with this goal.
Policy PF-O.3	Encourage the collocation and joint use of healthcare facilities and services among providers, and as appropriate with any City services.	As described in *Chapter 2.0*, this project would include a hospital support building and Energy Center.	The project would be consistent with this goal.
Q. Seismic Safety Goals	Protection of public health and safety through abated structural hazards and mitigated risks posed by seismic conditions. Development that avoids inappropriate land uses in identified seismic risk areas.	The City of San Diego Seismic Safety Study, Geologic Hazards and Faults Map, Grid 31, defines the overall site within a Hazard Category 51 of nominal risk. The geotechnical report prepared for the project indicates that known active, potentially active or inactive faults are not located at the site.	The project would be consistent with this goal.
Policy PF-Q.1	Protect public health and safety through the application of effective seismic, geologic, and structural considerations. a. Ensure that current and future community planning and other specific land use planning studies continue to include consideration of seismic and other geologic hazards. This information should be disclosed, when applicable, in the CEQA document accompanying	a, c) The geotechnical report prepared for the project provides geologic recommendations to be incorporated into the project. This report considered seismic and other geologic hazards. The findings of this report have been summarized in *Section 5.11, Geologic Conditions*, of this EIR.	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	a discretionary action. c. Require the submission of geologic and seismic reports, as well as soils engineering reports, in relation to applications for land development permits whenever seismic or geologic problems are suspected.		
Policy PF-Q.2	Maintain or improve integrity of structures to protect residents and preserve communities. b. Continue to consult with qualified geologists and seismologists to review geologic and seismic studies submitted to the City as project requirements.	The City has reviewed the geotechnical investigation report prepared for the project.	The project would be consistent with this policy.
Conservation Element			
A. Climate Change & Sustainable Development Goal	To reduce the City's overall carbon dioxide footprint by improving energy efficiency, increasing use of alternative modes of transportation, employing sustainable planning and design techniques, and providing environmentally sound waste management. To be prepared for, and able to adapt to adverse climate change impacts. To become a city that is an international model of sustainable development and conservation.	The project site is currently serviced by public transportation. MTS service routes 20, 25, 27, 120, 870, 928, and 960 serve the area of Ruffin Road and Clairemont Mesa Blvd. Additionally, the project is employing sustainable planning and design techniques through LEED certification. The project would be developed to embrace both technology and the environment, incorporate reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilize systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction.	The project would be consistent with this goal.
Policy CE-A.5	Employ sustainable or "green" building techniques for the construction and operation of buildings.	The project is employing sustainable planning and design techniques through LEED certification.	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy CE-A.7	Construct and operate buildings using materials, methods, and mechanical electrical systems that ensure a healthful indoor air quality. Avoid contamination by carcinogens, volatile organic compounds, fungi, molds, bacteria, and other known toxins.	The project would comply with the applicable regulations in regard to construction and health safety.	The project would be consistent with this policy.
Policy CE-A.8	Reduce construction and demolition waste in accordance with Public Facilities Element, Policy PF-I-2, or by renovating or adding on to existing buildings, rather than constructing new buildings where feasible.	The project would comply with the applicable regulations in regard to construction and demolition waste.	The project would be consistent with this policy.
Policy CE-A.10	Include features in buildings to facilitate recycling of waste generated by building occupants and associated refuse storage areas. a. Provide permanent, adequate, and convenient space for individual building occupants to collect refuse and recyclable material. b. Provide a recyclables collection area that serves the entire building or project. The space should allow for the separation, collection, and storage of paper, glass, plastic, metals, yard waste, and other materials as needed.	Refuse and recycled waste areas would be provided and clearly identified within each occupied building and associated refuse storage area.	The project would be consistent with this policy.
Policy CE-A.11	Implement sustainable landscape design and maintenance, where feasible. d. Strategically plant deciduous shade trees, evergreen trees, and drought-tolerant native vegetation, as appropriate, to contribute to sustainable development goals.	The planting palette for the site includes trees, shrubs, vines, and groundcover that are drought-tolerant and native (see *Figure 3-5*).	The project would be consistent with this policy.
Policy CE-A.12	Develop and adopt an urban heat island mitigation policy. Reduce the San Diego Urban Heat Island through actions such as: • Using cool roofing material, such as reflective low heat retention tiles, membranes and coatings, or vegetated eco-roofs to reduce heat build-up; • Planting trees and developing other measures to increase vegetation. In particular, properly position trees to shade buildings, air conditioning units, and parking lots; • Reducing heat build-up in parking lots through increased shading or use of cool paving materials as feasible (see also Urban Design Element, Policy UD-A.12).	Through implementation of LEED design concepts, cool roofing material would be used throughout the project. The conceptual landscape plan includes small to medium planting trees, and flowering trees for screening and shading throughout the project area including parking lots.	The project would be consistent with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy CE-D.4	Coordinate local land use planning with state and regional water resource planning to help ensure that the citizens of San Diego have a safe and adequate water supply that meets existing needs and accommodates future needs (see also the Public Facilities Element, Section H).	The applicant has coordinated with the City Water Department to assess that with the implementation of the project, safe and adequate water supply would exist.	The project would be consistent with this policy.
E. Urban Runoff Management Goals	Protection and restoration of water bodies, including reservoirs, coastal waters, creeks, bays, and wetlands. Preservation of natural attributes of both the floodplain and floodway without endangering life and property.	The project would include standard BMPs to ensure that impacts to water bodies would be reduced. In addition, the project would not be located within a floodway or floodplain.	The project would be consistent with these goals.
CE-I.12	Use small, decentralized, aesthetically-designed, and appropriately-sited energy efficient power generation facilities to the extent feasible.	The project would include an energy center, implemented during phase I of the project which would serve the hospital and hospital support building.	The project would be consistent with these goals.
	Noise Element		
A. Noise and Land Use Compatibility Goal	Consider existing and future noise levels when making land use planning decisions to minimize people's exposure to excessive noise.	An environmental noise assessment was prepared for the project and addresses existing and potential future noise levels generated by the project. The project considers noise and attempts to minimize people's exposure to excessive noise.	The project would be consistent with this goal.
Policy NE-A.1	Separate excessive noise-generating uses from residential and other noise-sensitive land uses with sufficient spatial buffer of less sensitive uses.	The primary existing and future noise sources at the site are vehicular traffic from Clairemont Mesa Boulevard, Ruffin Road, and Ruffin Court, as well as short-term noise from construction of the project. The closest sensitive receptor is the Polinsky Children's Center located approximately 50 feet from the project site. At this distance, the average noise level associated with construction noise would be in excess of 75dB. However, this would be a short-term noise impact and the project includes project design features aimed at reducing this noise to the greatest extent possible.	The project would be in conformance with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy NE-A.2	Assure the appropriateness of proposed developments relative to existing and future noise levels by consulting the guidelines for noise-compatible land use (shown on Table NE-3) to minimize the effects on noise-sensitive land uses.	The project is an appropriate development when considering the project's zoning, land use designation, and adjacent land uses. The project's environmental noise assessment considered Table NE-3 to minimize effects of noise. As stated above, the project includes project design features to reduce noise impacts (see *Table 3-3, Summary of Project Design Features and Construction Measures*).	The project would be in conformance with this policy.
Policy NE-A.4	Require an acoustical study consistent with acoustical study guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the "compatible" noise level thresholds as indicated on the land use–noise compatibility guidelines (Table NE-3), so that noise mitigation measures can be included in the project design to meet the noise guidelines.	An environmental noise assessment for the project was prepared by Dudek and project design features were incorporated as recommended by the report (see *Section 5.5* of this EIR and *Table 3-3, Summary of Project Design Features and Construction Measures*).	The project would be in conformance with this policy.
B. Motor Vehicle Traffic Noise Goal	Create minimal excessive motor vehicle traffic noise on residential and other noise-sensitive land uses.	The project is located adjacent to major roadways and would contribute to traffic along these roadways. However, the project is not expected to cause excessive motor vehicle traffic that would impact noise-sensitive land uses in the surrounding area.	The project would be in conformance with this goal.
Policy NE-B.1	Encourage noise-compatible land uses and site planning adjoining existing and future highways and freeways.	The project is .28 mile from I-15. The project would be consistent with the existing and surrounding uses.	The project would be in conformance with this policy.
Policy NE-B.3	Require noise-reducing site design and/or traffic control measures for new development in areas of high noise to ensure that the mitigated levels meet acceptable decibel limits.	The project has been designed to include setbacks and project design features to reduce noise levels; however, upon full buildout, the project would result in short-term interior and exterior noise impacts due to construction of Phase II. These impacts would be temporary and the project design features would be implemented to reduce nose to the greatest extent possible.	The project would be in conformance with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
Policy NE-B.4	Require new development to provide facilities which support the use of alternative transportation modes such as walking, bicycling, carpooling, and, where applicable, transit to reduce peak-hour traffic.	The project is located adjacent to existing transportation corridors and promotes alternative transportation through following: • Close proximity to Metropolitan Transit Bus Routes and the Kearny Mesa Transit Station • Preferred parking for low-emitting vehicles.	The project would be in conformance with this policy.
Policy NE-B.7	Promote the use of berms, landscaping, setbacks, and architectural design where appropriate and effective, rather than conventional wall barriers to enhance aesthetics.	The project incorporates the use of landscaping to enhance aesthetics and reduce noise impacts.	The project would be in conformance with this policy.
Policy NE-D Aircraft Noise Goal	Strive for minimal excessive aircraft-related noise on residential and other noise-sensitive land uses.	Pursuant to the environmental noise assessment, the project would comply with the City's 65 dB maximum exterior noise policy associated with aircraft noise for sensitive receptors.	The project would be in conformance with this goal.
NE-D-1	Encourage noise-compatible land use within airport influence areas in accordance with federal and state noise standards and guidelines.	Pursuant to the environmental noise assessment, the project would comply with the City's 65 dB maximum exterior noise policy associated with aircraft noise for sensitive receptors.	The project would be in conformance with this policy.
NE-D-4	Discourage outdoor uses in areas where people could be exposed to prolonged periods of high aircraft noise levels greater than the 65 dB CNEL airport noise contour	Pursuant to the project's environmental noise assessment, the project's common outdoor use areas would be exposed to traffic noise levels of less than 65 dB CNEL and therefore would comply with the City's 65 dB CNEL exterior noise level requirement.	The project would be in conformance with this policy.
Policy NE-E.1	Encourage the design and construction of commercial and mixed-use structures with noise attenuation methods to minimize excessive noise to residential and other noise-sensitive land uses.	The project's environmental noise assessment outlines noise attenuation methods that would minimize excessive noise to noise-sensitive land uses.	The project would be in conformance with this policy.
Policy NE-E.3	Encourage daytime truck deliveries to commercial uses abutting residential uses and other noise-sensitive land uses to minimize excessive nighttime noise unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at other hours.	Daytime truck deliveries would be encouraged.	The project would be in conformance with this policy.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
I. Typical Noise Attenuation Methods Goal	Attenuate the effect of noise on future residential and other noise-sensitive land uses by applying feasible noise mitigation measures.	The project incorporates mitigation relative to the proposed mechanical equipment to reduce noise impacts.	The project would be in conformance with this goal.
Policy NE-I.1	Require noise attenuation measures to reduce the noise to an acceptable noise level for proposed developments to ensure an acceptable interior noise level, as appropriate, in accordance with California's noise insulation standards (California Code of Regulations (CCR) Title 24) and airport land use compatibility plans.	The project would be consistent with California's noise insulation standards (CCR Title 24). The project site is located within the MCAS Miramar Airport Influence Area and is consistent with the airport land use compatibility plan. The project site is located outside of the 60dB noise contours for both airport land use compatibility plans.	The project would be in conformance with this policy.
Policy NE-I.3	Consider noise attenuation measures and techniques addressed by the Noise Element, as well as other feasible attenuation measures not addressed as potential mitigation measures, to reduce the effect of noise on future residential and other noise-sensitive land uses to an acceptable noise level.	Noise attenuation measures have been incorporated into the project design to reduce noise levels to sensitive receptors. The project would result in short-term impacts to on-site and adjacent Polinsky Children's Center due to construction noise. However, the project incorporates project design features to reduce these to the greatest extent possible (see *Table 3-3* of *Chapter 3.0, Project Description*).	The project would be in conformance with this policy.
Economic Prosperity Element			
E. Employment Development Goal	A city with an increase in the number of quality jobs for local residents, including middle-income employment opportunities and jobs with career ladders.	The project would increase the diverse range of employment opportunities offered on the site.	The project would be consistent with this goal.
EP-E.1	Encourage the retention and creation of middle-income employment by: • Preserving employment land and capacity for base sector export industries that generate opportunities for middle-income wage earners. • Investing in infrastructure, educational and skill development, and quality of life assets that support middle-income employment development.	The project would increase the diverse range of employment opportunities offered on the site.	The project would be consistent with this goal.

Table 5.1-1
Project's Consistency with City of San Diego's 2008 General Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Consistency/ Inconsistency
	• Encouraging the development of measures that facilitate expansion of high technology business facilities that have the potential to create middle-income jobs likely to be filled by local residents.		
EP-E.3	Support the creation of higher quality jobs with advancement opportunities and self-sufficient wages.	The project would increase the diverse range of employment opportunities and offer high quality jobs on the site.	The project would be consistent with this goal.

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
Overall Community Goals			
Goals	Ensure the continued development of Kearny Mesa as a regional employment center, containing a mix of industrial, office, retail and compatible housing land uses.	The project would create a comprehensively planned, integrated medical center campus, community amenities, and new employment opportunities in San Diego.	The project would be consistent with this goal.
	Encourage the provision of a multi-modal transportation system that provides access to the entire community as efficiently as possible.	The project site is an infill development located in close proximity to commercial and retail uses, as well as residential uses. Several bus routes serve the project site. The San Diego MTS Routes 960 and 870 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 20 and 928 run along Clairemont Mesa Boulevard and Ruffin Road. Bus Routes 25, 27, and 120 run along Clairemont Mesa Boulevard. Education and access to information about other modes of transportation are included as items included in the projects Traffic Demand Management (TDM) Plan.	The project would be consistent with this goal.
	Create a sense of community identity by encouraging the provision of high quality urban design, complementary mixed uses and the provision of focal points that advertise Kearny Mesa as a regional employment center, consumer destination and a mix of other complementary uses that support these primary uses.	The project would encourage complementary mixed-uses by redeveloping an under-utilized parcel of land with a comprehensively planned, integrated medical center campus, community amenities.	The project would be consistent with this goal.
Transportation Element			
Policies	Development intensities should correlate with the capacity of the circulation system.	The project provides mitigation measures to accommodate the increase in density and traffic at the site; refer to *Section 5.2, Transportation/Circulation and Parking* for further details.	The project would be in conformance with this policy.
	Street widenings, restriping and signalization improvements should be	A traffic study was completed for this project,	The project would be in

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
	analyzed as needed to provide a safe and convenient transportation system for motorists, bicyclists and pedestrians.	which analyzed needed traffic improvements to provide for a safe and convenient transportation system.	conformance with this policy.
	Bicycle parking facilities, including bicycle racks and lockers, should be provided as part of new development and redevelopment for bike commuters to store their vehicles. In addition, bicycle safety and commuting workshops for employees should be jointly sponsored by the City of San Diego, Caltrans Commuter Computer, and the proposed Kearny Mesa TMA.	Per the project's TDM plan, bicycle lockers and showers would be provided for employee use as an alternative means of transportation. A total of 32 designated bicycle parking spaces and lockers would be provided by the completion of Phase I of the project.	The project would be in conformance with this policy.
Recommendations- Goods Delivery	Sufficient off-street areas for the loading and unloading of goods should be provided to eliminate obstructions in the public right-of-way. These loading areas and other service areas, including trash enclosures, should be screened from public view.	The landscaping element of this project provides for screening of service areas. The loading dock would also be screened. Walls and structures within the service and loading areas would be planted with vines in many locations.	The project would be in conformance with this recommendation.
Recommendations- Bicycle Facilities	New developments should provide secure bicycle parking at activity centers and commercial areas, including covered bicycle parking facilities such as covered lockers.	Per the project's TDM plan, bicycle lockers and showers would be provided for employee use as an alternative means of transportation. A total of 32 designated bicycle parking spaces and lockers would be provided by the completion of Phase I of the project.	The project would be in conformance with this recommendation.
	The addition of bicycle lanes, bicycle route signs and destination plates, bicycle parking facilities at employment sites and the inclusion of bicycle commuting encouragement programs in a future TSM program within the Kearny Mesa community is recommended to encourage bicycle commuting in place of the single-occupant motor vehicle.	The Ruffin Road/Murphy Canyon Road Bikeway Project would provide for the addition of bicycle lanes that would service the project site. A total of 32 designated bicycle parking spaces and lockers would be provided by the completion of Phase I of the project. The project shall include Class II bike lanes on Clairemont Mesa Blvd and Ruffin Road frontages.	The project would be in conformance with this recommendation.
Recommendations-	Development projects should provide internal pedestrian circulation,	Safe pedestrian walkways are provided for	The project would be in

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
Pedestrian Facilities	which connects with adjacent projects and the community-wide pedestrian system.	easy travel between buildings and parking areas. Walkways and seating areas are landscaped for a safe passive atmosphere that promotes their use. The project proposes a pedestrian circulation system that provides easy access between surrounding land uses buildings, parking areas, and the bus stop.	conformance with this recommendation.
Recommendations-Traffic and Air Quality Mitigation	New development should be required to provide its fair share of the mitigation measures suggested in this Plan to minimize additional negative traffic and air quality impacts within the community.	Traffic and air quality studies prepared for this project include mitigation measures regarding impacts to the community. Refer to *Section 5.2, Transportation/Circulation and Parking*, and *Section 5.3, Air Quality*.	The project would be in conformance with this recommendation.
	Urban Design Guidelines		
Recommendations-Building Scale and Design	New development should be consistent with the scale and character of surrounding development, and should use high quality design, materials, and workmanship. New buildings should provide a transition to older buildings by providing similar building setbacks. In addition, new buildings that are larger than existing structures should avoid abrupt differences in building height and mass though the use of step-back design techniques.	The massing and organization of the buildings and their elevations is classic modern. The exterior wall of the building is a metal and glass system that is panelized to provide scale and crisp detail to the smooth surfaces. Fin-type sunscreens provide shading of the glass areas facing east, south, and west, and provide a depth to the building façade's appearance while also providing additional visual detail and interest due to shade/shadow cast patterns. The main hospital and hospital support buildings are centrally located and set back from the main roads (Clairemont Mesa Boulevard and Ruffin Road).	The project would be in conformance with this recommendation.
	One- and two-story building facades are preferred in order to relate buildings to the human scale. Multi-story developments should use step-back design techniques in order to maintain this preferred relationship.	The project is a multi-story development up to seven stories high. The architectural design incorporates scale and appearance that would provide a depth to the building façade's	The project would be in conformance with this recommendation.

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
		appearance. The main hospital and hospital support buildings are centrally located and set back from the main roads (Clairemont Mesa Boulevard and Ruffin Road). See *Figures 5.10-2* through *5.10-4* for further details.	
	The roofline of new structures is recommended to be varied to increase visual interest and to avoid a box-like building appearance.	The buildings would vary from six stories to seven stories. Fin-type sunscreens provide shading of the glass areas facing east, south, and west, and provide a depth to the building façade's appearance while also providing additional visual detail and interest due to shade/shadow cast patterns.	The project would be in conformance with this recommendation.
	All roof-mounted equipment should be screened from view by use of parapets or other architectural elements that are fully integrated into the overall building design concept.	Roof-mounted equipment would be screened by the use of parapets; (see *Figure 3-2, Building Elevation – North/South; Figure 3-3, Building Elevation – East;* and *Figure 3-4, Building Elevation – West,* for further detail).	The project would be in conformance with this recommendation.
	Service areas such as those containing loading docks and dumpsters should be screened from those areas used by the general public.	The landscaping element of this project provides for screening of service areas. The loading dock would also be screened. Walls and structures within the service areas would be planted with vines in many locations.	The project would be in conformance with this recommendation.
	Parking structures should be integrated with adjacent buildings through the use of similar architectural treatment such as vertical and horizontal facade articulation, and use of similar materials, colors and textures.	The parking structures are located along the eastern boundary of the project site and, therefore, they are far less visible from the public roads. The parking structure design would incorporate similar colors to the other buildings so as to integrate within the site.	The project would be in conformance with this recommendation.
Recommendations-Arterials and Other Streets	Within the industrial and business park land use designation, basic pedestrian amenities such as transit shelters and sidewalks with wheelchair ramps should be provided.	The project design includes basic pedestrian amenities such as sidewalks with wheelchair accessible inlets. Additionally, the project would move the bus stop for routes 25 and	The project would be in conformance with this recommendation.

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
		928 that are currently located along Clairemont Mesa Boulevard to the east of Ruffin Road for easier access.	
	Increase pedestrian safety by providing pedestrian paths with a buffer between pedestrians and street activity.	The project includes internal pedestrian paths, walkways and jogging paths that have landscaped buffers.	The project would be in conformance with this recommendation.
Community Facilities and Services Element			
Policies	Developments should incorporate recreational facilities for residents or employees. These facilities should provide an opportunity for active recreation such as jogging tracks, handball courts, basketball courts and tennis courts. On-site bicycle and jogging paths should be considered for properties where such paths can be connected to a larger system. Shower and locker facilities should also be provided as part of new development or redevelopment. Where feasible, larger facilities to be used by the public should be incorporated into development plans. This can be accomplished through the PID permit process.	The project includes on-site recreational amenities for employees, patients, and visitors such as walking and jogging areas, overlooks with seating, and a pedestrian-oriented garden.	The project would be in conformance with this policy.
Recommendations	Encourage the provision of recreational amenities within planned developments.	The mesa garden area of the project site would include a café garden, a central garden/market area, several small gardens, and a staff garden. Three water features are incorporated into these gardens (see *Figure 3-5*)	The project would be in conformance with this recommendation.
	If the County of San Diego relocates its facilities, redevelopment of the Operations Center and the Government Offices site should be consistent with the Industrial and Business Park land use designation.	The project proposes a hospital with a CUP and PDP, which is consistent with the Institutional land use designation and Industrial zoning.	The project would be in conformance with this recommendation.
Conservation & Open Space Element			
Policies	In order to conserve natural resources, prevent incompatible uses from locating a constrained land.	This project would be developed on a previously developed site and would not be located on constrained land. Planned use of native and adapted plants provides habitat value and help to connect the site with open space corridors to the east and south.	The project would be in conformance with this policy.

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
	Developments should comply with the Airport Land Use Compatibility Plans for Montgomery Field and MCAS Miramar.	The project site is located within the Airport Land Use Compatibility Overlay Zones for both MCAS Miramar and Montgomery Field, as well as the AIA (MC AS Miramar Review Area 2, Montgomery Field Review Area 1 on southwestern corner of property, and Montgomery Field Review Area 2 for remainder of property). The applicant has obtained the required determinations from the FAA (*Appendix B*), which state that the project would not constitute a hazard to air navigation.	The project would be in conformance with this policy.
Recommendations	Provide open areas within developments that provide visual relief and temporary respite from the work place.	The site would provide healing gardens and outdoor event space for the staff, patients, and community (see *Figure 3-5*)	The project would be in conformance with this recommendation.
	Require a geologic reconnaissance study prior to project approval to identify development constraints when geologic hazards are known or suspected. This requirement would supplement the need for a full geotechnical report, which may be required at a later time in the permit process.	The geotechnical report prepared for the project provides geologic recommendations to be incorporated into the project. This report considered seismic and other geologic hazards. The findings of this report have been summarized in *Section 5.11*, *Geologic Conditions*, of this EIR	The project would be in conformance with this recommendation.
	Maintain the natural drainage system and minimize the use of impervious surfaces. Concentrations of runoff should be adequately controlled to prevent an increase in downstream erosion. Irrigation systems should be properly designed to avoid overwatering.	The site would be engineered to reduce runoff and improve the quality of the runoff that does enter the stormwater system. As per the proposed drainage description in the Grading and Drainage Plan, runoff from the project would ultimately be conveyed to the existing brow ditch at the northeast corner of the site. Structured parking would minimize the use of impervious surfaces. The landscaping plan for this project includes	The project would be in conformance with this recommendation.

Table 5.1-2
Project's Consistency with the City of San Diego Kearny Mesa Community Plan

Goal/Recommendation Number	Goal/Recommendation	Project	Project Conformance/ Nonconformance
		porous paving for stormwater retention as well as decomposed granite in small areas of the entry plaza.	
	Retain native vegetation where possible. Graded slopes that are adjacent to natural hillsides and canyons should be revegetated with native or drought-tolerant species to restore pre-development drainage conditions.	The site would also be restored with native, low-water-use planting and maximum open space to provide healing gardens and outdoor event space for the patients and community.	The project would be in conformance with this recommendation.

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SOURCE: Bing

FIGURE 5.1-1

Existing Land Uses

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

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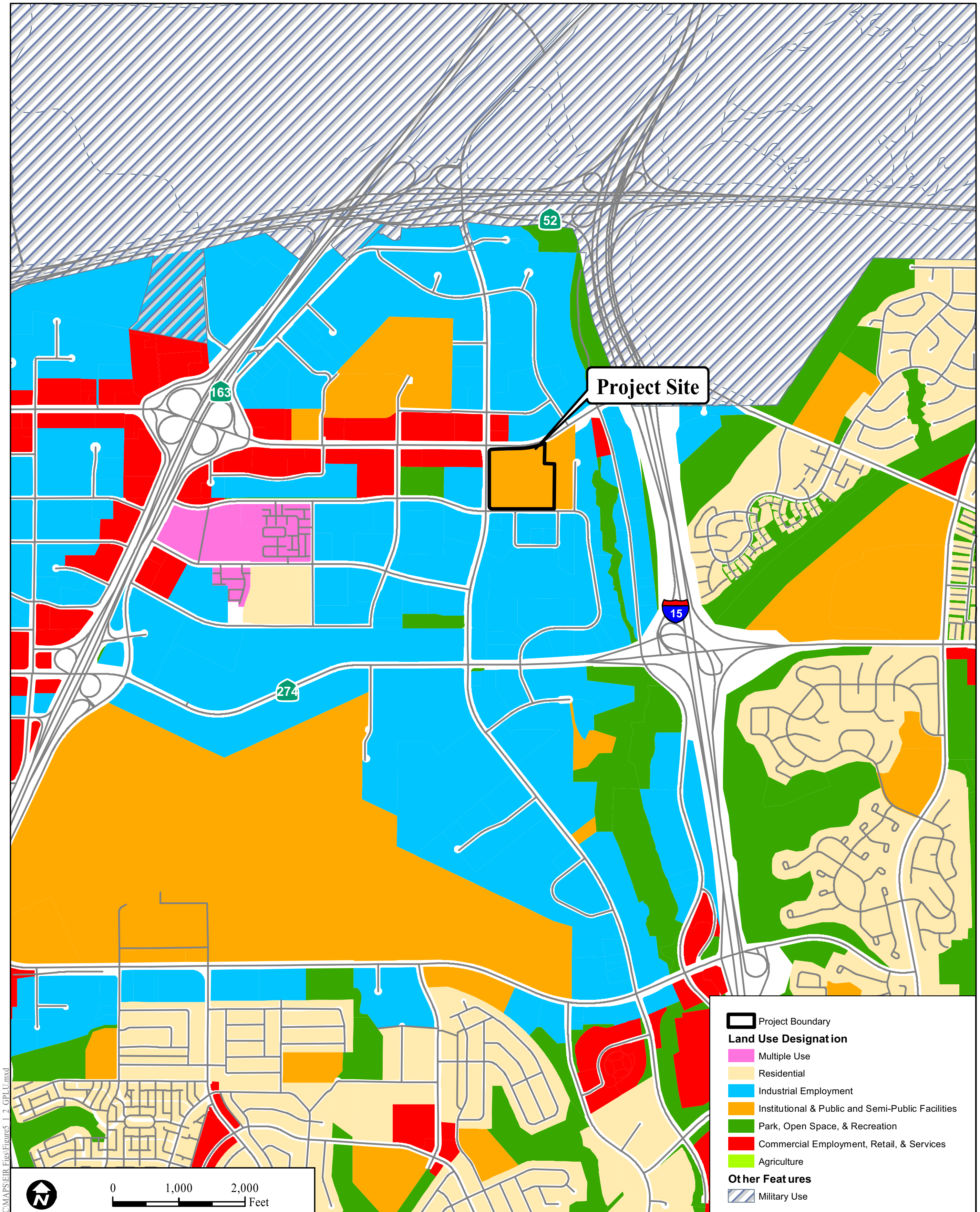

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SOURCE: SanGIS 2012

FIGURE 5.1-2

2010 General Plan Land Use Designations

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

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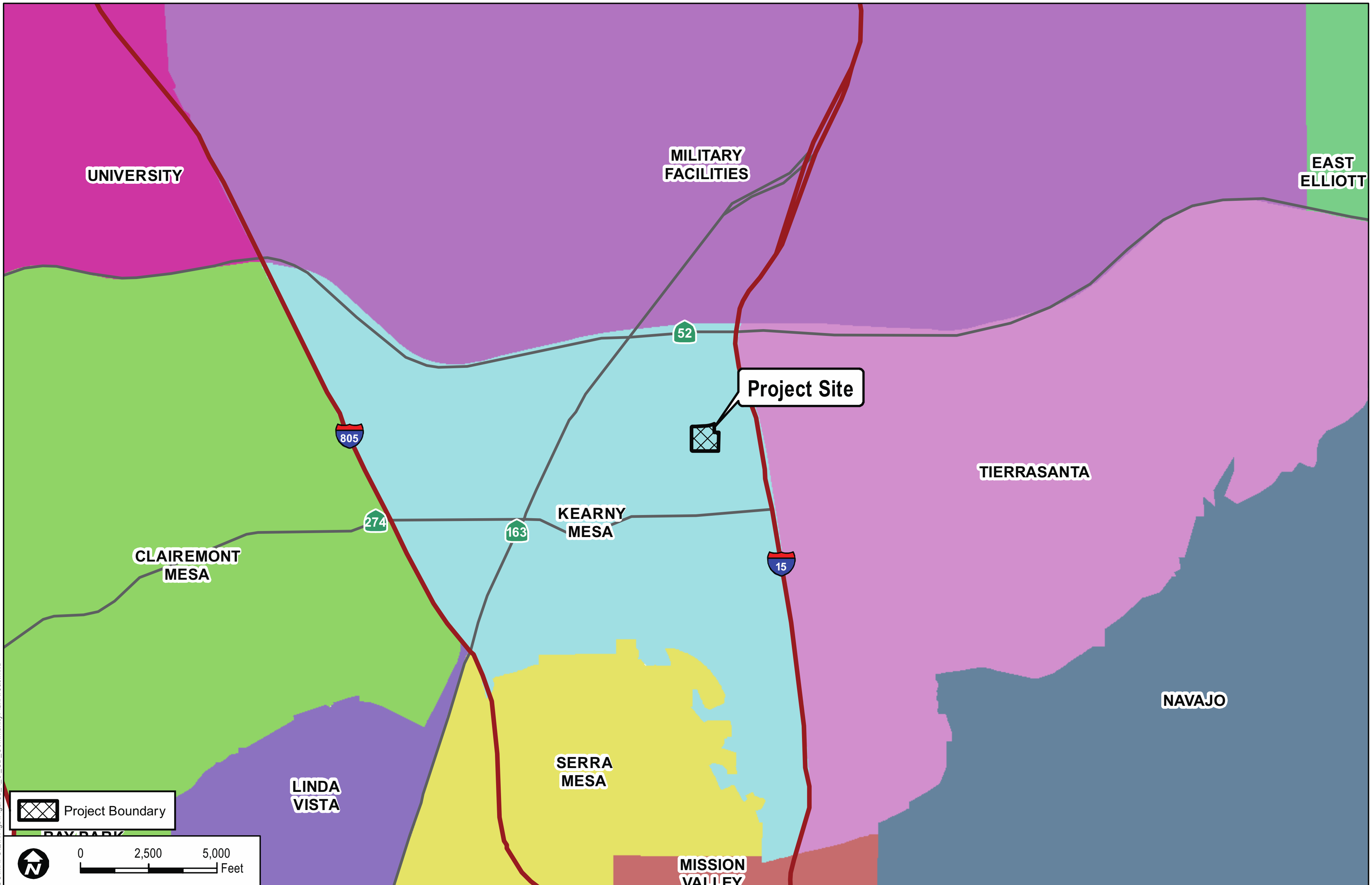

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SOURCE: SanGIS 2012

FIGURE 5.1-3

City of San Diego Community Plan Areas

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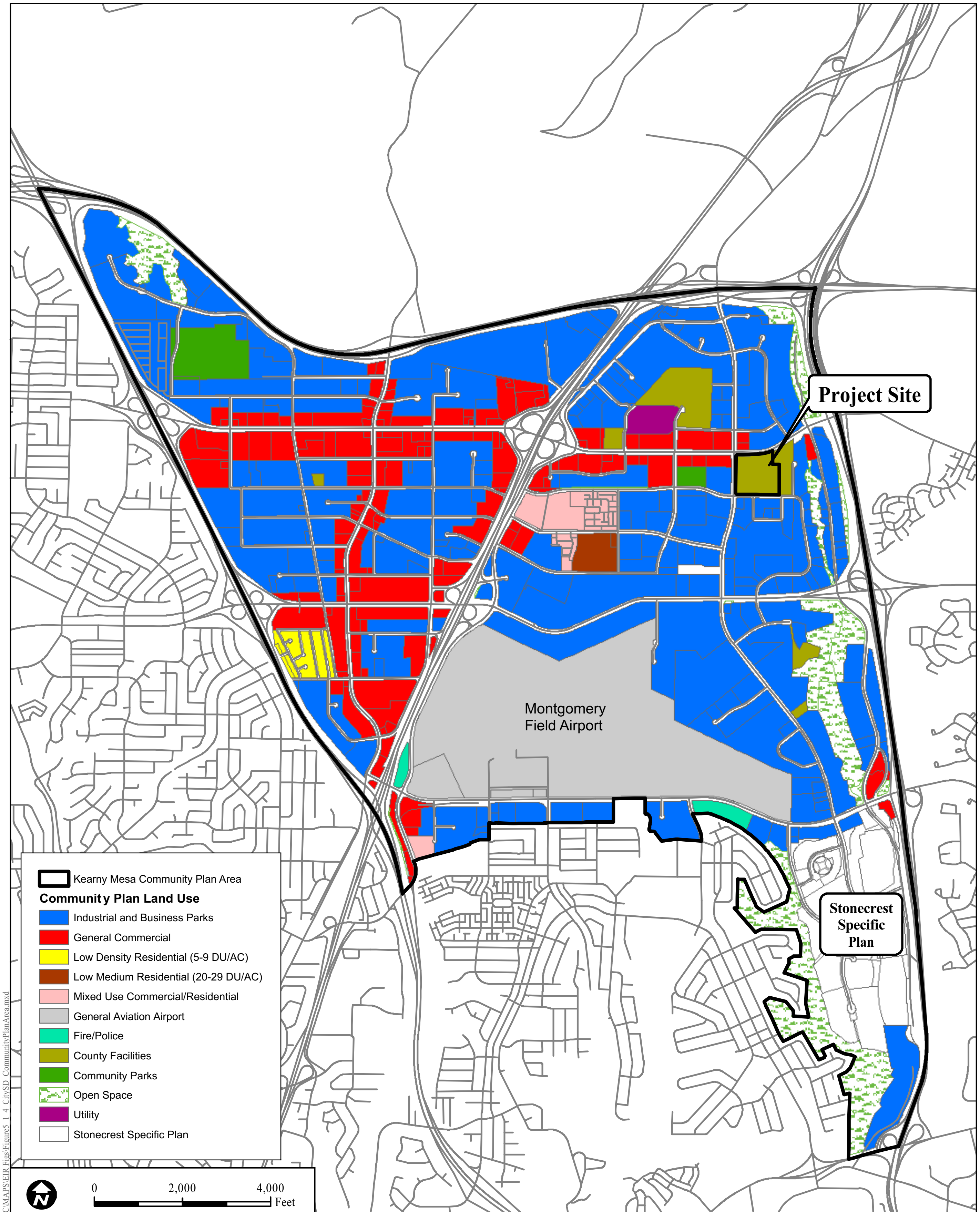

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SOURCE: SanGIS 2012

FIGURE 5.1-4

City of San Diego Community Plan Area

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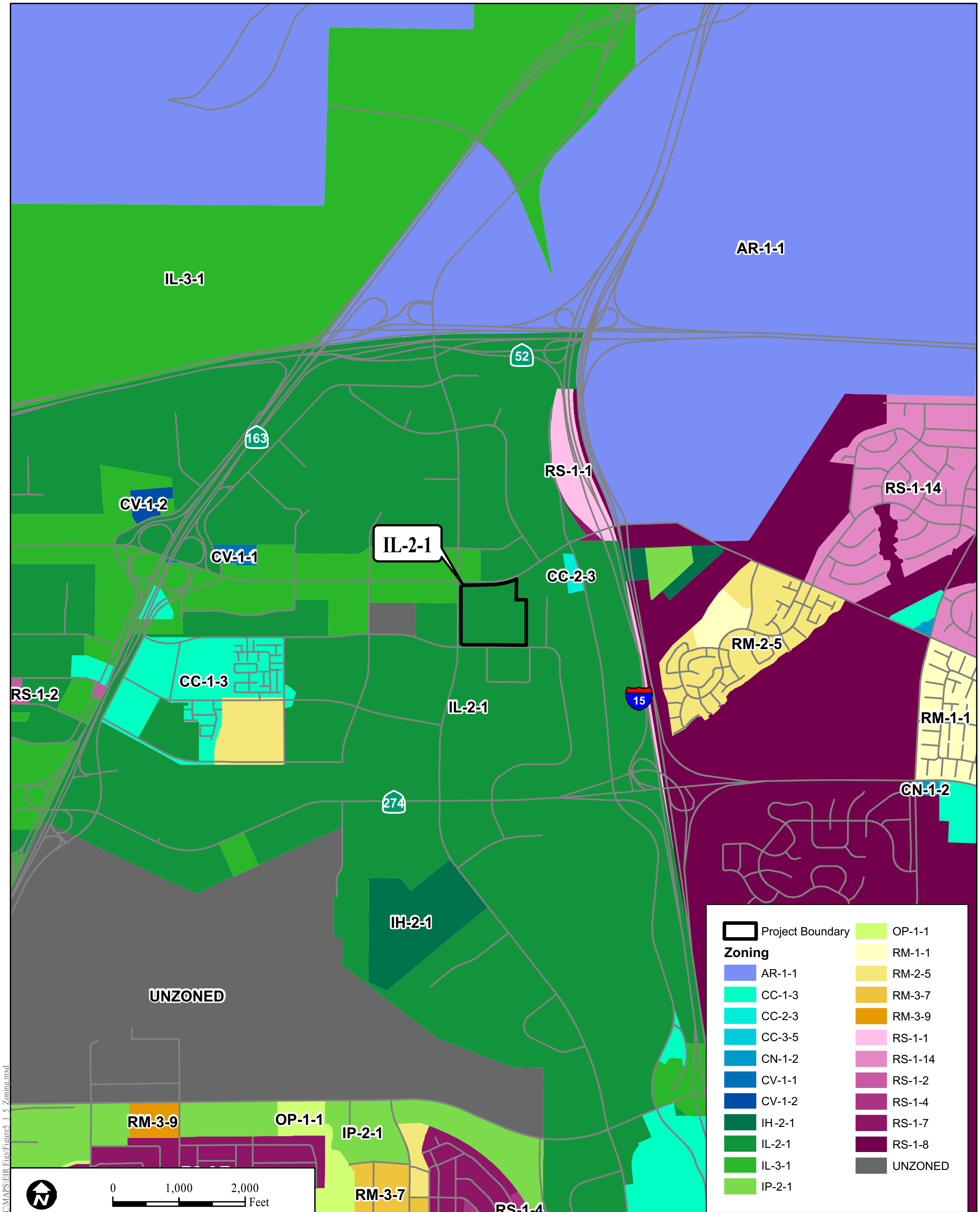

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SOURCE: SanGIS 2010

FIGURE 5.1-5

Zoning

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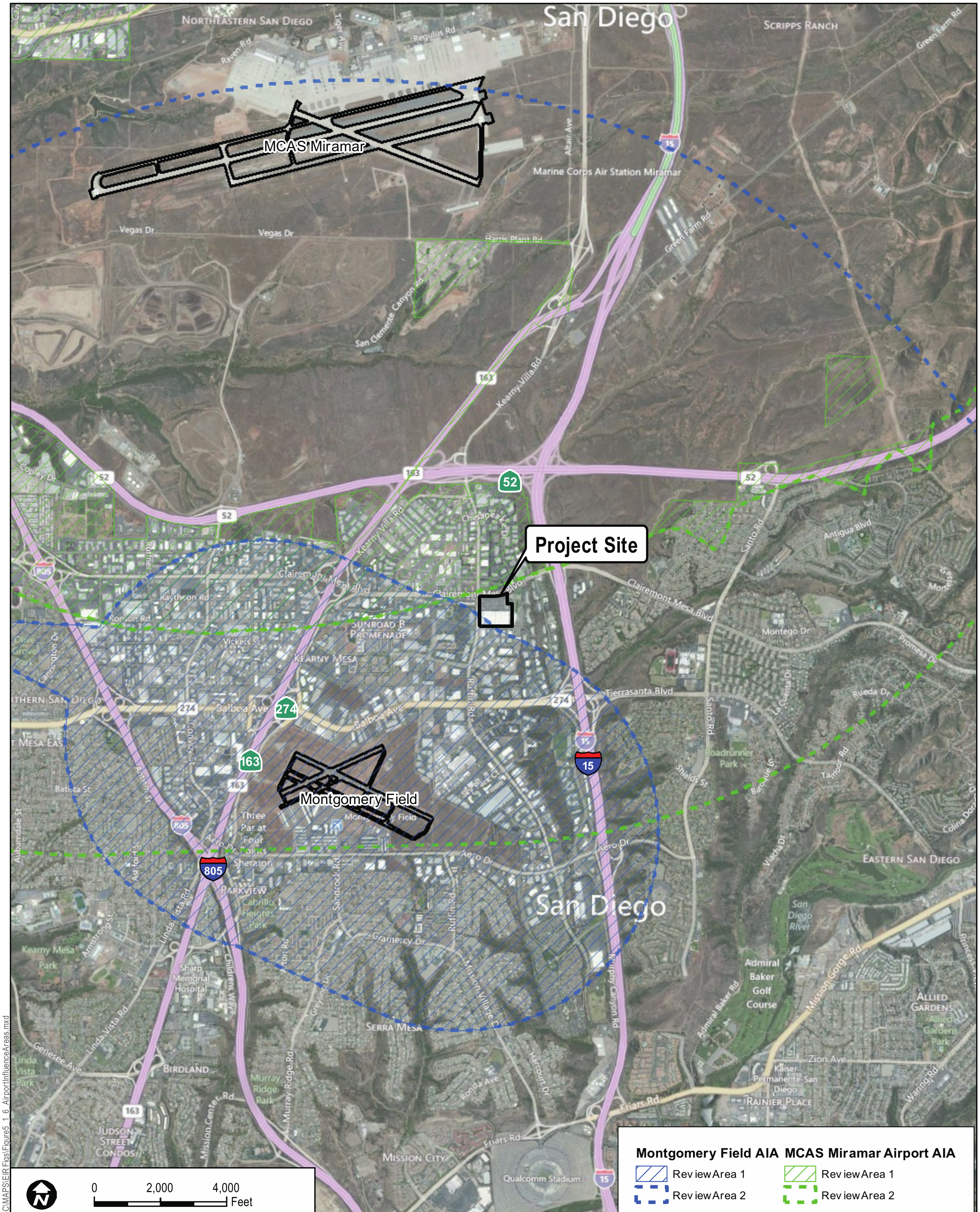

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SOURCE: Bing, SDCRAA2012

FIGURE 5.1-6
Airport Influence Zones

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

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5.2 TRANSPORTATION/CIRCULATION AND PARKING

5.2.1 INTRODUCTION

The following discussion summarizes the traffic impact analysis study for the Kaiser Permanente San Diego Central Medical Center (project) that was prepared by Linscott Law & Greenspan Engineers in May 2013. The complete report is included as *Appendix C* of this EIR. The traffic study area consists of 25 intersections, 24 roadway segments, 7 freeway mainline segments and 5 metered freeway on-ramps which were evaluated for the following scenarios: **Existing Plus Project** (Existing Plus Project Phase I Year 2017 and Existing Plus Full Project Buildout Year 2030), **Near-Term** (Near-Term Without Project, Near-Term Plus Project Phase I, Near-Term Plus Full Project Buildout), and **Long-Term** (Year 2035 Without Project and Year 2035 With Full Project Buildout). Mitigation measures (MM) are included in order to reduce potential impacts. This section also addresses effects on transit, bicycle, and pedestrian activities in the study area.

5.2.2 EXISTING CONDITIONS

5.2.2.1 Existing Street Network

Figure 5.2-1 shows the project study area including the existing street network.

Clairemont Mesa Boulevard is classified in the Kearny Mesa Community Plan Circulation Element as a six-lane prime arterial (City of San Diego 2011). Between State Route 163 (SR 163) and Ruffin Road, Clairemont Mesa Boulevard is currently built as a six-lane prime arterial with a raised median. Between Ruffin Road and Murphy Canyon Road, Clairemont Mesa Boulevard transitions to a five-lane divided roadway with three lanes westbound and two lanes eastbound. Clairemont Mesa Boulevard is generally surrounded by commercial/retail land uses. Curb, gutter, and sidewalks are provided. Curbside parking is permitted along sections of this roadway, but not along the project frontage. The posted speed limit is 45 miles per hour (mph). Currently, no bike lanes are provided on this section of Clairemont Mesa Boulevard between SR 163 and I-15. A Class II Bikeway is recommended for this section of Clairemont Mesa Boulevard in the current Kearny Mesa Community Plan.

The Clairemont Mesa Boulevard intersections with Kearny Villa Road, Overland Avenue, Ruffin Road and Murphy Canyon Road are all coordinated and operated by the City of San Diego. The I-15 Ramp intersections on Clairemont Mesa Boulevard are also coordinated but separately and operated by Caltrans. There is no coordination between the City of San Diego and Caltrans operated traffic signals.

Ruffin Road is classified in the Kearny Mesa Community Plan Circulation Element as a four-lane major road. It is currently built as a four-lane facility with a center two-way left-turn lane

(TWLTL). Curb, gutter, sidewalks and bike lanes are provided. Curbside parking is permitted along sections of this roadway. The posted speed limit is 45 mph. This portion of Ruffin Road is generally surrounded by commercial/retail land uses. Currently, no bike lanes are provided in the section of Ruffin Road between Chesapeake Drive and Clairemont Mesa Boulevard. Class II Bikeways are provided on Ruffin Road between Balboa Avenue and Clairemont Mesa Boulevard and on the east curb of Ruffin Road between Kearny Villa Road and Chesapeake Drive. A Class II Bikeway is recommended on Ruffin Road within the project study area, in the current Kearny Mesa Community Plan.

Ruffin Court is classified in the Kearny Mesa Community Plan Circulation Element as a two-lane collector between Ruffin Road and Viewridge Court with a TWLTL median. Curb, gutter, and sidewalks are provided. Curbside parking is permitted along sections of this roadway. The posted speed limit is 35 mph. Ruffin Court is generally surrounded by commercial land uses. Currently, no bike lanes are provided on the subject section of Ruffin Court and none are recommended in the current Kearny Mesa Community Plan.

Lightwave Avenue is classified in the Kearny Mesa Community Plan Circulation Element as a four-lane major road between Kearny Villa Road and Ruffin Road and is currently built to its classification. Curb, gutter, sidewalks, and bike lanes are provided. Curbside parking is not permitted. The posted speed limit is 45 mph. Lightwave Avenue is generally surrounded by commercial/residential land uses. Currently, no bike lanes are provided on the subject section of Lightwave Avenue. A Class II Bikeway is recommended for this section of Lightwave Avenue in the current Kearny Mesa Community Plan.

Balboa Avenue is classified in the Kearny Mesa Community Plan Circulation Element as a six-lane major road between SR 163 and Ruffin Road, and a six-lane prime arterial between Ruffin Road and Interstate 15 (I-15). Balboa Avenue is currently built as four-lane road with a raised median between SR 163 and Ruffin Road, and a six-lane prime arterial between Ruffin Road and I-15. Curb, gutter, and sidewalks are provided. Curbside parking is permitted along some sections of this roadway. The posted speed limit is 45 mph. This portion of Balboa Avenue is generally surrounded by commercial land uses. Currently, a Class II Bikeway is provided as recommended in the current Kearny Mesa Community Plan.

Viewridge Avenue is classified in the Kearny Mesa Community Plan Circulation Element as a two-lane collector between Viewridge Court and Balboa Avenue. Viewridge Avenue is currently built as two-lane collector with a center TWLTL. Curb, gutter and sidewalks are provided. Curbside parking is permitted along sections of this roadway. The posted speed limit is 35 mph. The section of Ruffin Court is generally surrounded by commercial land uses. Currently, no bike lanes are provided on the subject section of Viewridge Avenue, and none are recommended in the current Kearny Mesa Community Plan.

State Route 163 (SR 163) is generally an eight-lane north/south freeway. Freeway interchanges are provided at Balboa Avenue and Clairemont Mesa Boulevard in the project study area. Additionally, freeway access ramps are also provided to northbound (NB) SR 163 to/from Kearny Villa Road north and south of Balboa Avenue and an exit only ramp north of Clairemont Mesa Boulevard. Ramp meters are also provided at the Clairemont Mesa Boulevard and Balboa Avenue on-ramps.

Interstate 15 (I-15) is generally an eight-lane north/south freeway. Freeway interchanges are provided at Balboa Avenue and Clairemont Mesa Boulevard in the project study area. High-occupancy vehicle (HOV) lanes are also provided on northbound and southbound (SB) I-15. Ramp meters are also provided at the Clairemont Mesa Boulevard and Balboa Avenue on-ramps.

5.2.2.2 Existing Pedestrian Conditions

A contiguous sidewalk is currently provided in both directions on Ruffin Road along the project frontage between Clairemont Mesa Boulevard and Ruffin Court. A paved sidewalk is provided along the south curb of Clairemont Mesa Boulevard along the project frontage, between Ruffin Road and the first right-in / right out driveway. Additionally, a contiguous sidewalk is currently provided on the north side of Clairemont Mesa Boulevard between Ruffin Road and Murphy Canyon Road.

The proposed project would provide a contiguous sidewalk from the signalized entrance on Clairemont Mesa Boulevard to the east along Clairemont Mesa Boulevard. A non-contiguous sidewalk would be provided along Clairemont Mesa Boulevard between the main entrance and Ruffin Road with the exception of transition, intersection and bus stop areas on Clairemont Mesa Boulevard. Both Ruffin Road and Ruffin Court would be designed primarily with non-contiguous sidewalks with transition to contiguous sidewalks at the intersections.

5.2.2.3 Transit

Several bus routes serve the project site as described below. The San Diego Metropolitan Transit System (MTS) Routes 960 and 870 run along Clairemont Mesa Boulevard and Ruffin Road. Bus routes 20 and 928 run along Clairemont Mesa Boulevard and Ruffin Road. Bus routes 25, 27, and 120 run along Clairemont Mesa Boulevard.

The westbound bus stop for routes 25 and 928 is on the north curb of Clairemont Mesa Boulevard, just east of Ruffin Road, and the eastbound bus stop for Route 25 is located on the south curb of Clairemont Mesa Boulevard, just west of Ruffin Road. This project is in discussions with MTS to relocate the eastbound bus stop for Route 25 to a location east of Ruffin Road along the project frontage, thus providing easy transit access to hospital patients and visitors.

Table 5.2-1 summarizes the bus routes on various study area roadways.

Table 5.2-1
Study Area Transit Routes

Route #	Route	Approximate Hours of Operation		
		Weekday	*Saturday*	*Sunday*
20	Del Lago Transit Station— City College Trolley Station	5:00 a.m. to 9:30 p.m.	6:00 a.m. to 9:00 p.m.	7:00 a.m. to 8:30 p.m.
25	Kearny Mesa Transit Center—Fashion Valley Transit Center	7:00 a.m. to 7:00 p.m.	None	None
27	Felspar Street/Mission Boulevard intersection—Kearny Mesa Transit Center	5:30 a.m. to 10:00 p.m.	7:00 a.m. to 8:00 p.m.	None
120	Felspar Street/Mission Boulevard intersection—Kearny Mesa Transit Center	5:30 a.m. to 11:00 p.m.	6:00 a.m. to 10:30 p.m.	None
870	Ruffin Road/Aero Drive intersection—El Cajon Transit Center	6:30 a.m. to 8:00 a.m. and 4:00 p.m. to 5:30 p.m.	None	None
928	Kearny Mesa Transit Center—Fashion Valley Transit Center	6:00 a.m. to 8:00 p.m.	None	None
960	UTC Transit Center—Euclid Avenue Trolley Station	5:00 a.m. to 7:30 a.m. and 3:30 p.m. to 7:00 p.m.	None	None

Source: LLG 2013

Route 20 is an express route running between the Del Lago Transit Station in the City of Escondido and near the City College Trolley Station in downtown San Diego, which serves the Blue and Orange Trolley Lines. On Clairemont Mesa Boulevard, it runs between Kearny Villa Road and Ruffin Road. On Ruffin Road, it runs between Kearny Villa Road and Clairemont Mesa Boulevard. During the weekdays, Route 20 operates from around 5:16 a.m. to 9:20 p.m. with about 15 to 30 minutes of headway. On Saturday, Route 20 operates from around 6:18 a.m. to 8:51 p.m. with about 15 to 30 minutes of headway except between 10:00 a.m. and 2:00 p.m. and between 4:00 p.m. and 7:00 p.m. when the headway is 1 hour. On Sunday, Route 20 operates from around 6:53 a.m. to 8:22 p.m. with 1 hour of headway. Route 20 does not run along the project frontage but stops at the Clairemont Mesa Boulevard/Ruffin Road intersections, the northwest corner of the project site.

Route 25 runs between the Kearny Mesa Transit Center and the Fashion Valley Transit Center which serves the Green Trolley Line. On Clairemont Mesa Boulevard, it runs between the Clairemont Mesa Boulevard and Complex Drive intersection and the Clairemont Mesa Boulevard and La Cuenta Drive intersection (in Tierrasanta). Bus Route 25 operates only on weekdays from around 6:48 a.m. to 7:09 p.m. with about 1 hour of headway. Route 25 runs along the project frontage on Clairemont Mesa Boulevard. Therefore, direct access to the project site is possible.

Route 27 runs between the Felspar Street and Mission Boulevard intersection in Pacific Beach and the Kearny Mesa Transit Center. On Clairemont Mesa Boulevard, it runs between Convoy Street and Complex Drive. Route 27 does not run along the project frontage but originates at the Kearny Mesa Transit Center, which is approximately .75 mile west of the project site. The project site can be accessed by transferring to Route 20 at the Kearny Mesa Transit Center.

Route 120 runs between the Kearny Mesa Transit Center and the 4th Avenue/G Street intersection in downtown San Diego. On Clairemont Mesa Boulevard, it runs between Kearny Villa Road and the Clairemont Mesa Boulevard and Complex Drive intersection. On weekdays, Route 120 operates from around 5:33 a.m. to 10:53 p.m. with about 30 minutes of headway. On Saturday, Route 120 operates from around 6:05 a.m. to 10:30 p.m. with about 1 hour of headway. Route 120 does not run along the project frontage but originates at the Kearny Mesa Transit Center which is approximately .75 mile from the project site. The project site can be accessed by transferring to Route 20 at the Kearny Mesa Transit Center.

Route 870 is an express route running between the Ruffin Road/Aero Drive intersection and the El Cajon Transit Center which serves the Green and Orange Trolley Lines. On Clairemont Mesa Boulevard, it runs between Kearny Villa Road and Ruffin Road. On Ruffin Road, it runs between the SR 52 eastbound (EB) on-ramp and Clairemont Mesa Boulevard. Route 870 operates only on weekdays from around 6:38 a.m. to 8:02 a.m. and from around 4:04 p.m. to 5:29 p.m. with about 15 minutes of headway. Route 870 does not run along the project frontage but stops at the Clairemont Mesa Boulevard/Ruffin Road intersections, the northwest corner of the project site.

Route 928 runs between the Kearny Mesa Transit Center and the Fashion Valley Transit Center which serves the Green Line Trolley Line. On Clairemont Mesa Boulevard, it runs between the Clairemont Mesa Boulevard and Complex Drive intersection to the Clairemont Mesa Boulevard and Ruffin Road intersection. On Ruffin Road, it runs between Ruffin Road and Aero Drive. Along the project study area, Route 928 operates only on weekdays from around 5:53 a.m. to 8:13 p.m. with about 30 minutes of headway. Route 928 runs along the project frontage on Ruffin Road. Therefore, direct access to the project site is possible.

Route 960 is an express route running between the UTC Transit Center and the Euclid Avenue Trolley Station which serves the Orange Line. On Clairemont Mesa Boulevard, it runs between Kearny Villa Road and Ruffin Road. On Ruffin Road, it runs between the SR 52 eastbound on-ramp and Clairemont Mesa Boulevard. On Balboa Avenue, it runs between Kearny Villa road and the I-15 southbound on-ramp. Route 960 only operates on weekdays from around 5:09 a.m. to 7:37 a.m. and from around 3:20 p.m. to 6:47 p.m. with about 15 to 30 minutes of headway. Route 20 does not run along the project frontage but stops at the Clairemont Mesa Boulevard/Ruffin Road intersections, the northwest corner of the project site.

Five of the seven bus routes described (Routes 20, 25, 870, 928, and 960) run along the project frontage on Ruffin Road or Clairemont Mesa Boulevard. The remaining two routes run through the Transit Center located on Complex Drive, south of Clairemont Mesa Boulevard.

There are seven bus stops adjacent to the project site, four on Clairemont Mesa Boulevard and three on Ruffin Road. However, none of these are along the project frontage.

Table 5.2-2 summarizes the ridership data obtained from MTS for all the routes in the project vicinity for informational purposes only. As seen in *Table 5.2-2*, MTS Routes 20 and 120 have higher ridership than the other routes, and Route 20 runs adjacent to the hospital.

Table 5.2-2
Transit Passenger Boardings

MTS Route	Average Weekday		Average Saturday		Average Sunday/Holiday	
	Daily	*Hourly*	*Daily*	*Hourly*	*Daily*	*Hourly*
20	4,097	35.0	2,022	30.8	1,304	24.0
25	425	16.8	—	—	—	—
27	1,052	19.3	266	16.4	165	15.4
120	3,567	33.1	2,166	28.8	1,399	34.5
870	69	13.4	—	—	—	—
928	1,283	27.2	498	32.8	264	26.1
960	366	26.5	—	—	—	—

Source: LLG 2013

5.2.2.4 Existing Traffic

Existing Traffic Volumes

Peak hour intersection turning movement volume counts and pedestrian counts were conducted by LLG at the study area intersections in January and April, 2012. Table 5.2-3 shows existing average daily traffic volumes (ADTs).

Table 5.2-3
Existing Traffic Volumes

Street Segment	ADT[a]
Clairemont Mesa Boulevard	
SR-163 NB Ramps to Kearny Villa Road	31,700
Kearny Villa Road to Complex Drive [b]	23,500
Complex Drive to Overland Avenue [b]	25,600
Overland Avenue to Ruffin Road [b]	23,200
Ruffin Road to Project Access Driveway	25,500

Table 5.2-3
Existing Traffic Volumes

Street Segment	ADT[a]
Project Access Driveway to Murphy Canyon Road [b]	25,500
Murphy Canyon Road to I-15	23,600
Lightwave Avenue	
Overland Avenue to Ruffin Road	6,300
Ruffin Court	
Ruffin Road to Project Driveway	1,900
Balboa Avenue	
Ponderosa Avenue to Ruffin Road	21,700
Ruffin Road to Viewridge Avenue	24,800
Viewridge Avenue to I-15	32,900
Viewridge Avenue	
South of Ruffin Court	2,900
North of Balboa Avenue	5,000
Ruffin Road	
SR 52 to Kearny Villa Road	20,100
Kearny Villa Road to Chesapeake Drive	15,700
Chesapeake Drive to Hazard Way	15,400
Hazard Way to Farnham Street	14,800
Farnham Street to Clairemont Mesa Boulevard	16,900
Clairemont Mesa Boulevard to Project Access Driveway	17,800
Project Access Driveway to Ruffin Court	18,500
Ruffin Court to Spectrum Center Boulevard	15,100
Spectrum Center Boulevard to Balboa Avenue	18,000

Source: LLG 2013
Notes: Average Daily Traffic Volume counts conducted by LLG Engineers in January and April, 2012
The traffic signals on Clairemont Mesa Blvd. from Kearny Villa Road to Murphy Canyon Road are coordinated.

Existing Intersection Volumes

Peak hour intersection turning movement volume counts and pedestrian counts were conducted by LLG at the study area intersections in January and April, 2012. *Table 5.2-4* shows existing peak hour intersection operations. As shown, all study area intersections currently operate at LOS D or better.

Table 5.2-4
Existing Intersection Operations

Intersection	Control Type	Peak Hour	Delay[a]	LOS[b]
Clairemont Mesa Blvd./Kearny Mesa Rd.	Signal	AM	17.0	B
		PM	28.5	C
Clairemont Mesa Blvd./SR 163 SB Ramps	MSSC[c]	AM	13.4	B
		PM	11.6	B
Clairemont Mesa Blvd./SR 163 NB Ramps	Signal	AM	19.7	B
		PM	12.5	B
Clairemont Mesa Blvd./Kearny Villa Rd.[d]	Signal	AM	17.1	B
		PM	18.7	B
Clairemont Mesa Blvd./Complex Dr.[d]	Signal	AM	15.6	B
		PM	15.6	B
Clairemont Mesa Blvd./Overland Ave.[d]	Signal	AM	29.3	C
		PM	30.8	C
Clairemont Mesa Blvd./Ruffin Rd.[d]	Signal	AM	33.5	C
		PM	40.6	D
Clairemont Mesa Blvd./Project Driveway 1[e]	Signal	AM	DNE	DNE
		PM	DNE	DNE
Clairemont Mesa Blvd./Murphy Canyon Rd.[d]	Signal	AM	12.1	B
		PM	21.5	C
Clairemont Mesa Blvd./I-15 SB Ramps	Signal	AM	23.6	C
		PM	22.9	C
Clairemont Mesa Blvd./I-15 NB Ramps	Signal	AM	23.6	C
		PM	14.7	B
Lightwave Ave./Overland Ave.	Signal	AM	15.9	B
		PM	19.0	B
Ruffin Rd./SR 52 WB Ramps	Signal	AM	20.7	C
		PM	14.3	B
Ruffin Rd./SR 52 EB Ramps	Signal	AM	14.4	B
		PM	42.0	D
Ruffin Rd./Kearny Villa Rd.	Signal	AM	12.9	B
		PM	17.5	B
Ruffin Rd./Chesapeake Dr.	Signal	AM	10.1	B
		PM	12.9	B
Ruffin Rd./Hazard Way	Signal	AM	9.1	A
		PM	11.0	B
Ruffin Rd./Farnham St.	Signal	AM	8.5	A
		PM	12.6	B
Ruffin Rd./Project Driveway 2 [d]	MSSC	AM	DNE	DNE
		PM	DNE	DNE
Ruffin Rd./Ruffin Ct.	Signal	AM	18.7	B
		PM	22.0	C

Table 5.2-4
Existing Intersection Operations

Intersection	Control Type	Peak Hour	Delay[a]	LOS[b]
Ruffin Rd./Spectrum Center Blvd.	Signal	AM	13.0	B
		PM	17.8	B
Ruffin Rd./Balboa Ave.	Signal	AM	45.9	D
		PM	38.5	D
Viewridge Ave./Balboa Ave.	Signal	AM	16.1	B
		PM	33.5	C
Ruffin Ct./Project Driveway 3[d]	MSSC	AM	DNE	DNE
		PM	DNE	DNE
Ruffin Ct./Project Driveway 4[d]	MSSC	AM	DNE	DNE
		PM	DNE	DNE

Source: LLG 2013

Notes:
a. Average delay expressed in seconds per vehicle.
b. LOS = Level of Service.
c. MSSC = Minor Street Stop Controlled intersection. Minor street left turn delay is reported.
d. These intersections are part of a coordinated signal system.
e. The project driveways are not analyzed in the "no project" conditions since they will be relocated in the future or do not currently exist.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

As shown in Table 5.2-4, all study area intersections currently operate at LOS D or better.

Daily Segment Volumes

Twenty-four-hour daily volume counts were conducted at the study area segments in January and April, 2012. *Table 5.2-5* shows existing average daily traffic volumes (ADTs).

Table 5.2-5
Existing Street Segment Operations

Street Segment	Existing Functional Classification	Capacity at LOS E[a]	ADT[b]	LOS[c]	V/C[d]
Clairemont Mesa Boulevard					
SR 163 NB Ramps to Kearny Villa Rd.	6-lane Prime	60,000	31,700	B	0.528
Kearny Villa Rd. to Complex Dr.	6-lane Major	50,000	23,500	B	0.470
Complex Dr. to Overland Ave.	6-lane Major	50,000	25,600	B	0.512
Overland Ave. to Ruffin Rd.	6-lane Major	50,000	23,200	B	0.464
Ruffin Rd. to Project Access Driveway	5-lane Major	45,000	25,500	C	0.567
Project Access Driveway to Murphy Canyon Rd.	5-lane Major	45,000	25,500	C	0.567
Murphy Canyon Rd. to I-15	6-lane Major	50,000	23,600	B	0.472

Table 5.2-5
Existing Street Segment Operations

Street Segment	Existing Functional Classification	Capacity at LOS E[a]	ADT[b]	LOS[c]	V/C[d]
Lightwave Avenue					
Overland Ave. to Ruffin Rd.	4-lane Collector	30,000	6,300	A	0.210
Ruffin Court					
Ruffin Rd. to Project Driveway	2-lane Collector	15,000	1,900	A	0.127
Balboa Avenue					
Ponderosa Ave. to Ruffin Rd.	4-lane Major	40,000	21,700	C	0.543
Ruffin Rd. to Viewridge Ave.	6-lane Prime	60,000	24,800	A	0.413
Viewridge Ave. to I-15	6-lane Prime	60,000	32,900	B	0.548
Viewridge Avenue					
South of Ruffin Ct.	2-lane Collector	15,000	2,900	A	0.193
North of Balboa Ave.	2-lane Collector	15,000	5,000	A	0.333
Ruffin Road[e]					
SR 52 to Kearny Villa Rd.	4-lane Major	40,000	20,100	B	0.503
Kearny Villa Rd. to Chesapeake Dr.	4-lane Collector	30,000	15,700	C	0.523
Chesapeake Dr. to Hazard Way	4-lane Collector	30,000	15,400	C	0.513
Hazard Way to Farnham St.	4-lane Collector	30,000	14,800	C	0.493
Farnham St. to Clairemont Mesa Blvd.	4-lane Collector	30,000	16,900	C	0.563
Clairemont Mesa Blvd. to Project Access Driveway	4-lane Collector	30,000	17,800	C	0.593
Project Access Driveway to Ruffin Ct.	4-lane Collector	30,000	18,500	C	0.617
Ruffin Ct. to Spectrum Center Blvd.	4-lane Collector	30,000	15,100	C	0.503
Spectrum Center Blvd. to Balboa Ave.	4-lane Collector	30,000	18,000	C	0.600

Source: LLG 2013
Notes:
a. Capacities based on City of San Diego Roadway Classification Table.
b. ADT=Average Daily Traffic Volumes.
c. LOS=Level of Service.
d. V/C=Volume to Capacity ratio.
e. TWLTL = Two-way Left-turn Lane.

As seen in *Table 5.2-5*, all segments within the study area are calculated to currently operate at LOS D or better.

Freeway Mainline Analysis

Table 5.2-6 shows the existing freeway mainline operations.

Table 5.2-6
Peak Hour Freeway Mainline Operations Existing

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[a]	ADT[b]	% K[c]		% D[c]		Truck Factor[d]	Peak Hour Volume[e]		V/C[f]		LOS	
					AM	*PM*	*AM*	*PM*		*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	161,700	0.0813	0.0792	0.4735	0.4678	0.9627	6,466	6,223	0.808	0.778	D	C
	SB	4	8,000		0.0813	0.0792	0.5265	0.5322		7,190	7,080	0.899	0.885	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	163,300	0.0813	0.0792	0.4735	0.4678	0.9627	6,530	6,285	0.710	0.683	C	C
	SB	4 + 1	9,200		0.0813	0.0792	0.5265	0.5322		7,261	7,150	0.789	0.804	C	C
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	174,600	0.0813	0.0792	0.4735	0.4678	0.9627	6,982	6,720	0.759	0.730	C	C
	SB	4 + 1	9,200		0.0813	0.0792	0.5265	0.5322		7,763	7,645	0.844	0.831	D	D
SR 163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	120,000	0.0858	0.0923	0.4792	0.4931	0.9717	5,078	5,621	0.552	0.611	B	B
	SB	4 + 1	9,200		0.0858	0.0923	0.5208	0.5069		5,518	5,778	0.600	0.628	B	C
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	139,700	0.0858	0.0923	0.4792	0.4931	0.9717	5,911	6,543	0.643	0.711	C	C
	SB	4 + 1	9,200		0.0858	0.0923	0.5208	0.5069		6,424	6,726	0.698	0.731	C	C
SR 52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	65,000	0.0996	0.0903	0.5962	0.4246	0.9690	3,983	2,572	0.664	0.429	C	B
	EB	3	6,000		0.0996	0.0903	0.4038	0.5754		2,698	3,485	0.450	0.581	B	B
Kearny Villa Rd. to I-15	WB	2	4,000	65,000	0.0996	0.0903	0.5962	0.4246	0.9690	3,983	2,572	0.996	0.643	E	C
	EB	2	4,000		0.0996	0.0903	0.4038	0.5754		2,698	3,485	0.674	0.871	C	D

Source: LLG 2013

Notes:

a. Capacity calculated at 2,000 vehicles per hour (vph) per lane and 1,200 vph per auxiliary lane.
b. Existing ADT Volumes from Caltrans.
c. Peak Hour Percentage (K) and Direction Split (D) from Caltrans 2009.
d. Truck Factor from 2010 Annual Average Daily Truck Traffic on the California State Highway System.
e. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
f. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

As seen in *Table 5.2-6*, all study area freeway segments are calculated to currently operate at LOS D or better except one. The segment of SR 52 between SR 163 and Kearny Villa Road is calculated to currently operate at LOS F(0) in the westbound (WB) direction during the AM peak hour.

Freeway Ramp Meters

Calculated Delays and Queues

Table 5.2-7 shows the existing ramp meter operations for the single occupancy vehicles (SOV) and High Occupancy Vehicles (HOV) lanes.

Table 5.2-7
Existing Ramp Meter Analysis

Location/Condition	Peak Hour[a]	Demand D[b] (veh/hr/ln)	*Meter Rate[c] (R) (veh/hr/ln)*	Calculated (Most Restrictive)			Observed	
				Excess Demand[d] E (veh/hr/ln)	*Delay[e] (min/ln)*	*Queue[f]*	*Delay (min)*	*Queue (veh/ln)*
Clairemont Mesa Blvd./SR 163 Interchange								
WB Clairemont Mesa Blvd. to NB SR 163			12% Reduction in SOV lane volume due to HOV lane				1 SOV+1 HOV	
SOV	PM	481	593	0	0	0	0	0
HOV	PM	66	593	0	0	0	0	0
WB Clairemont Mesa Blvd. to SB SR 163							2 SOV	
SOV	PM	375	514	0	0	0	0	0
Clairemont Mesa Blvd./I-15 Interchange								
EB Clairemont Mesa Blvd. to NB I-15							2 SOV	
SOV	PM	313	238	75	19	1,875	1	7
EB Clairemont Mesa Blvd. to SB I-15			11% Reduction in SOV lane volume due to HOV lane				2 SOV+1 HOV	
SOV	PM	343	312	31	6	777	2	24
HOV	PM	85	312	0	0	0	0	0
Balboa Ave./I-15 Interchange								
EB Balboa Ave. to SB I-15			14% Reduction in SOV lane volume due to HOV lane				2 SOV+1 HOV	
SOV	PM	517	372	145	23	3,622	6	46
HOV	PM	168	372	0	0	0	0	0

Source: LLG 2013
Notes:

a. Analysis of the AM peak hour is not included since the ramp meter does not operate during the AM peak hour, but only during the PM peak hour.
b. Demand "D" is the traffic that desires to enter the freeway at this on-ramp during the peak hour.
c. Peak Hour Flow "F" is the *most restrictive* rate at which the ramp meter (signal) discharges traffic on to the freeway (See Appendix B-5 for the ramp meter data obtained from Caltrans).
d. Excess Demand "E" is the difference between the Demand and the Peak Hour Flow.
e. Delay in minutes per lane experienced by each vehicle, calculated as the ratio of the Excess Demand and the Peak Hour Flow in one minute.
f. Queue is calculated as 25 feet per vehicle (E).
g. Actual Delay and Queue observed in the field.

As seen in *Table 5.2-7*, using the *most restrictive* discharge rates obtained from the California Department of Transportation (Caltrans), all HOV lanes operate with no delay or queues. However, the SOV lanes at the following ramps have calculated delays of 15 minutes or more:

- Clairemont Mesa Boulevard/NB I-15 On-Ramp (SOV Lanes): Delay of 19 minutes with a 75 vehicle, or a 1,875-foot long queue
- Balboa Avenue/SB I-15 On-Ramp (SOV Lanes): Delay of 22 minutes with a 145-vehicle, or a 3,662-foot long queue.

Observed Delays and Queues

The above calculated delays and queues are not observed in the field since the calculations assume the most restrictive discharge rates for the entire peak hour. However, in the field, the discharge rate varies with the volume of traffic on the freeway mainline, with the discharge rate being low (restrictive) on the ramps when the freeway mainline volumes are high and vice versa. The actual maximum queues and delays observed in the field at the three on-ramps listed above during the PM peak hour are much lower than the calculated values and are shown below. Thus, the existing delays at the study area on-ramp meters are within acceptable limits (less than 15 minutes).

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 1 minute with a 7-vehicle queue (or, approximately 175 feet from the ramp meter).
- Balboa Avenue / SB I-15 On-Ramp: Queue – Delay of 6 minutes with a 46-vehicle queue (or, approximately 575 feet from the ramp meter).

Intersecting Lane Vehicle (ILV) Analysis

Table 5.2-8 shows the ILV calculations for the freeway interchanges with in the project study area. As shown, all study area interchanges are calculated to currently operate at under or near capacity with the following exception which was calculated to operate at over capacity during both AM and PM peak hours:

- Clairemont Mesa Boulevard/I-15 SB intersection

Table 5.2-8
Existing Intersecting Lane Vehicle (ILV) Operations

Intersection	Peak Hour	Total Operating Level (ILV/Hour)	Capacity
Clairemont Mesa Blvd./SR-163 NB Ramps	AM	1,260	Near
	PM	762	Under
Clairemont Mesa Blvd./I-5 SB Ramps	AM	1,778	Over
	PM	1,712	Over

Table 5.2-8
Existing Intersecting Lane Vehicle (ILV) Operations

Intersection	Peak Hour	Total Operating Level (ILV/Hour)	Capacity
Clairemont Mesa Blvd./I-15 NB Ramps	AM	1,278	Near
	PM	1,049	Under
Ruffin Road/SR-52 WB Ramps	AM	829	Under
	PM	1,278	Near
Ruffin Road/SR-52 EB Ramps	AM	695	Under
	PM	1,198	Under

Source: LLG 2013
Notes:
a. See *Appendix C* of this EIR for ILV calculations.
b. CAPACITY is shown as *UNDER* capacity, *NEAR* capacity or *OVER* capacity.
UNDER capacity = <1200 ILV/hour
NEAR capacity = > 1200 but < 1500 ILV/hour
OVER capacity = >1500 ILV/hour
c. The Clairemont Mesa Blvd/SR-163 ramps intersection is not analyzed since it is not signalized.

5.2.2.5 Kearny Mesa Community Plan Transportation Element

The Kearny Mesa Community Plan Transportation Element recognizes that single occupancy vehicular trips will continue to be primary mode of transportation, particularly for employee commuters to the area; however, emphasis is placed on the continual provisions for multi-modal transportation options. The following policies are included as part of the community plan Transportation Element:

- Development intensities should correlate with the capacity of the circulation system.
- Street widenings, restriping, and signalization improvements should be analyzed as needed to provide a safe and convenient transportation system for motorists, bicyclists, and pedestrians.
- Transit passenger facilities should be provided commensurate with transit activity according to the transit facility guidelines in the Metropolitan Transit Development Board's (MTDB's) Short Range Transit Plan.
- Once the MTDB has identified a preferred alignment, right-of-way (ROW) dedications for public transit should be acquired as part of discretionary approvals. This should include dedications for light-rail transit, a transit center and other bus facilities. Appropriate reservations should also be provided for the community bikeway system.
- Permit applicants should be strongly encouraged to incorporate provisions of the Transportation Demand Management (TDM) ordinance into their projects. In addition, developers, property owners, and employers in Kearny Mesa should establish a Kearny Mesa Traffic Management Association (TMA) as a means of achieving the goals of the TDM Ordinance.

- Public and private sector efforts should be made to identify funding sources for transit facilities and services such as the shuttle loop system.
- New or reconstructed primary arterials should be improved with medians of stamped concrete and/or landscaping where feasible.
- Bicycle parking facilities, including bicycle racks and lockers, should be provided as part of new development and redevelopment for bike commuters to store their vehicles. In addition, bicycle safety and commuting workshops for employees should be jointly sponsored by the City of San Diego, Caltrans Commuter Computer, and the proposed Kearny Mesa TMA.
- Enhanced facilities for pedestrian travel within the community should be provided to reduce auto-dependent travel.

5.2.3 ANALYSIS METHODOLOGY

5.2.3.1 Study Area

The study area was determined based on City of San Diego Traffic Impact Study Manual (City of San Diego 1998) and the San Diego Traffic Engineers' Council/Institute of Transportation Engineers Regional Guidelines for Traffic Impact Studies (SANTEC/ITE 2000), which require that a project study area be established as follows:

- All street segments where the project will add 50 or more peak hour trips in either direction
- Mainline freeway locations where the project will add 50 or more peak hour trips in either direction
- Metered Freeway Ramps where the project will add 20 or more peak hour trips.

In addition, the study area locations were selected based on the project's trip distribution and are the most likely locations to be impacted by project. The project study area includes the following locations.

Intersections

1. Clairemont Mesa Boulevard/Kearny Mesa Road (Signal)
2. Clairemont Mesa Boulevard/SR 163 SB Ramps (Minor Street Stop)
3. Clairemont Mesa Boulevard/SR 163 NB Ramps (Signal)
4. Clairemont Mesa Boulevard/Kearny Villa Road (Signal)
5. Clairemont Mesa Boulevard/Complex Drive (Signal)
6. Clairemont Mesa Boulevard/Overland Avenue (Signal)

7. Clairemont Mesa Boulevard/Ruffin Road (Signal)
8. Clairemont Mesa Boulevard/Project Access Driveway 1 (Signal)
9. Clairemont Mesa Boulevard/Murphy Canyon Road (Signal)
10. Clairemont Mesa Boulevard/I-15 SB Ramps (Signal)
11. Clairemont Mesa Boulevard/I-15 NB Ramps (Signal)
12. Lightwave Avenue/Overland Avenue (Signal)
13. Kearny Villa Road/SR 52 WB Ramps (Signal)
14. Kearny Villa Road/SR 52 EB Ramps (Signal)
15. Ruffin Road/Kearny Villa Road (Signal)
16. Ruffin Road/Chesapeake Drive (Signal)
17. Ruffin Road/Hazard Way (Signal)
18. Ruffin Road/Farnham Street (Signal)
19. Ruffin Road/Project Access Driveway 2 (Minor Street Stop)
20. Ruffin Road/Ruffin Court (Signal)
21. Ruffin Road/Spectrum Center Boulevard (Signal)
22. Ruffin Road/Balboa Avenue (Signal)
23. Viewridge Avenue/Balboa Avenue (Signal)
24. Ruffin Court/Project Access Driveway 3 (Minor Street Stop)
25. Ruffin Court/Project Access Driveway 4 (Minor Street Stop)

Roadway Segments

1. Clairemont Mesa Boulevard: SR 163 NB Ramps to Kearny Villa Road
2. Clairemont Mesa Boulevard: Kearny Villa Road to Complex Drive
3. Clairemont Mesa Boulevard: Complex Drive to Overland Avenue
4. Clairemont Mesa Boulevard: Overland Avenue to Ruffin Road
5. Clairemont Mesa Boulevard: Ruffin Road to Project Main Access
6. Clairemont Mesa Boulevard: Project Main Access to Murphy Canyon Road
7. Clairemont Mesa Boulevard: Murphy Canyon Road to I-15
8. Lightwave Avenue: Overland Avenue to Ruffin Road

9. Ruffin Court: Ruffin Road to Project Driveway
10. Balboa Avenue: Ponderosa Avenue to Ruffin Road
11. Balboa Avenue: Ruffin Road to Viewridge Avenue
12. Balboa Avenue: Viewridge Avenue to I-15
13. Viewridge Avenue: South of Viewridge Court
14. Viewridge Avenue: North of Balboa Avenue
15. Ruffin Road: SR 52 to Kearny Villa Road
16. Ruffin Road: Kearny Villa Road to Chesapeake Drive
17. Ruffin Road: Chesapeake Drive to Hazard Way
18. Ruffin Road: Hazard Way to Farnham Street
19. Ruffin Road: Farnham Street to Clairemont Mesa Boulevard
20. Ruffin Road: Clairemont Mesa Boulevard to Project Access
21. Ruffin Road: Project Access to Ruffin Court
22. Ruffin Road: Ruffin Court to Spectrum Center Boulevard
23. Ruffin Road: Spectrum Center Boulevard to Balboa Avenue

Freeway Segments

1. SR 163: SR 52 to Clairemont Mesa Boulevard
2. SR 163: Clairemont Mesa Boulevard to Balboa Avenue
3. I-15: SR 52 to Clairemont Mesa Boulevard
4. I-15: Clairemont Mesa Boulevard to Balboa Avenue
5. I-15: Balboa Avenue to Aero Drive

Freeway Ramp Metering

1. Clairemont Mesa Boulevard WB to SB SR 163
2. Clairemont Mesa Boulevard WB to NB SR 163
3. Clairemont Mesa Boulevard to SB I-15
4. Clairemont Mesa Boulevard to NB I-15
5. Balboa Avenue EB to SB I-15

5.2.3.2 Analysis Approach

This traffic analysis assesses the previously mentioned key intersections, street segments, freeway mainline segments, and freeway on-ramps, in the project area. Based on current membership growth, only 350 beds and 75,000 square feet of medical office space is required (Project Phase I). Thus, project buildout would occur only in 2030. The study area locations were analyzed in the following scenarios to determine the potential impacts to the road network:

- Existing
- Existing Plus Project Phase I (Year 2017)
- Existing Plus Full Project Buildout (Year 2030)
- Near-Term (Existing Plus Cumulative Projects)
- Near-Term Plus Project Phase I (Year 2017)
- Near-Term Plus Full Project Buildout (Year 2030)
- Year 2035 Without Project
- Year 2035 With Full Project Buildout.

5.2.3.3 Methodology

There are various methodologies used to analyze signalized intersections, unsignalized intersections, and street segments. The measure of effectiveness for intersection and segment operations is level of service (LOS) which denotes the operating conditions which occur at a given intersection or on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. An LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

Signalized Intersections

In the 2000 Highway Capacity Manual (HCM) (TRB 2000), LOS for signalized intersections is defined in terms of delay. The level of service analysis results in seconds of delay expressed in terms of letters A through F. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. *Table 5.2-9* summarizes the signalized intersections levels of service descriptions.

Table 5.2-9
Intersection Level of Service Descriptions

LOS	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels

Source: LLG 2013

Table 5.2-10 depicts the criteria, which are based on the average control delay for any particular minor movement (unsignalized intersections) and overall intersection (signalized intersections).

For signalized intersections, LOS criteria is stated in terms of the average control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Table 5.2-10
Intersection LOS and Delay Ranges

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	*Unsignalized Intersections*
A	≤ 10.0	≤ 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	≥ 80.1	≥ 50.1

Source: TRB 2000

LOS A describes operations with very low delay, (i.e., less than 10.0 seconds per vehicle). This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay in the range 10.1 seconds and 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

LOS C describes operations with delay in the range 20.1 seconds and 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

LOS D describes operations with delay in the range 35.1 seconds and 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher volume-to-capacity (V/C) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are frequent.

LOS E describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of over 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high V/C ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Unsignalized Intersections

For unsignalized intersections, LOS is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole.

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This LOS is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits.

LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

Street Segments

Street segment analysis is based upon the comparison of average daily traffic volumes (ADTs) to the City of San Diego's Roadway Classification, Level of Service, and ADT Table. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The City of San Diego's Roadway Classification, Level of Service and ADT table is shown in *Table 5.2-11.*

Table 5.2-11
Level of Service Thresholds for Roadway Segments

Classification	(# of Lanes)	LOS				
		A	*B*	*C*	*D*	*E*
Freeway	8	60,000	84,000	120,000	140,000	150,000
Freeway	6	45,000	63,000	90,000	110,000	120,000
Freeway	4	30,000	42,000	60,000	70,000	80,000
Expressway	6	30,000	42,000	60,000	70,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Collector	4	10,000	14,000	20,000	25,000	30,000
Collector (no center lane or continuous left-turn lane)	4 2	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industry fronting)	2	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2	2,500	3,500	5,000	6,500	8,000
Collector (single-family)	2	—	—	2,200	—	—

Source: City of San Diego (1998)
Notes:
The volumes and the average daily level of service listed above are only intended as a general planning guideline.
Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

Freeway Mainline

Freeway segments were analyzed for all analysis scenarios. The assessment of key freeway segments is necessary to satisfy the requirement of the Congestion Management Program (CMP), as discussed later in this section. Freeway segment LOS is based on the volume-to-capacity ratio on the freeway. The analysis of freeway segment LOS is based on the procedure developed by Caltrans District 11 based on methods described in the Highway Capacity Manual. The procedure involves comparing the peak hour volume of the mainline segment to the theoretical capacity of the roadway (V/C).

The procedure for calculating freeway LOS involves the estimation of volume-to-capacity (V/C) ratio using the following equation:

$$V/C = \frac{\text{(Daily Volume x peak hour Percent x Directional Factor x Truck Factor)}}{\text{Capacity}}$$

Notes:

a. *Daily Volume* = Annual Average Daily Traffic (AADT)
b. *Peak Hour Percent* = Percentage of ADT occurring during the peak hour.
c. *Directional Factor* = Percentage of peak hour traffic occurring in peak direction.
d. *Truck Factor* = Truck/terrain factor to represent influence of heavy vehicles & grades.
e. *Capacity* = 2,000 vehicles/lane/hour/lane for mainline, and 1,200 for auxiliary lanes.

The resulting V/C is then compared to accepted ranges of V/C values corresponding to the various LOS for each facility classification, as shown in *Table 5.2-12*. The corresponding LOS represents an approximation of existing or anticipated future freeway operating condition in the peak direction of travel during the peak hour.

Table 5.2-12
CALTRANS District 11—Freeway Segment LOS Definitions

LOS	V/C	Congestion/Delay	Traffic Description
Used for Freeways, Expressways and Conventional Highways			
A	< 0.41	None	Free flow
B	0.42–0.62	None	Free–to-stable flow, light-to-moderate volumes
C	0.63–0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81–0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
E	0.93–1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor

Table 5.2-12
CALTRANS District 11—Freeway Segment LOS Definitions

LOS	V/C	Congestion/Delay	Traffic Description
Used for Freeways and Expressways			
F(0)	1.01–1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go
F(l)	1.26–1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues
F(2)	1.36–1.45	Very Severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods
F(3)	> 1.46	Extremely Severe: 3+ hours of delay	Gridlock

Source: LLG 2013

Freeway Ramp Meters

A ramp meter analysis was conducted at the six on-ramps in the study area. As mentioned previously, the following ramps are currently metered during the AM and/or PM peak hour as indicated. The SR 52/Ruffin Road EB and WB on-ramps are not currently metered.

The measure of effectiveness (MOE) for this analysis is delay in minutes. Ramp meter flow rates characteristically vary throughout the peak hour based on the performance of the freeway mainline. As the mainline becomes more congested, the ramp meter rates decline, allowing fewer vehicles onto the freeway in the same time period.

Analysis Methodology

Calculated

The ramp meters were analyzed using the Fixed Rate Method. With the Fixed Rate Method, using the most restrictive flow rate during the peak hour, the total discharge and delay (in minutes) are calculated and the corresponding queue lengths are calculated.

Observed

The actual observed maximum queues and delays during the peak hours are generally lesser than the calculated delays. Therefore, the actual observed maximum queue and delays are also reported for comparison. The existing observed maximum queues and delays are summarized in *Table 5.2-13*.

Table 5.2-13
Existing Observed Maximum Queues and Delays

Ramp	Peak Hour	Maximum Observed		
			Queue	
		Delay (Minutes)	*(Vehicles/Hour/Lane)*	*Feet*
WB Clairemont Mesa Boulevard to NB SR 163				
SOV	PM	0	0	0
HOV	PM	0	0	0
WB Clairemont Mesa Boulevard to SB SR 163				
SOV	PM	0	0	0
EB Clairemont Mesa Boulevard to NB I-15				
SOV	PM	1	7	175
EB Clairemont Mesa Boulevard to SB I-15				
SOV	PM	2	24	600
HOV	PM	0	0	0
EB Balboa Avenue to SB I-15				
SOV	PM	6	46	1,150
HOV	PM	0	0	0

Source: LLG 2013

ILV (Intersecting Lane Vehicles) Operations

Caltrans requires that State-owned intersections be analyzed using Intersecting Lane Vehicles (ILV) methodology as described in Chapter 400, Topic 406 of the Department Highway Design Manual. The ILV methodology is based on the concept that capacity of intersecting lanes of traffic is 1,500 vehicles per hour. For the typical local street interchange there is usually a critical intersection of a ramp and the crossroads that establishes the capacity of the interchange. However, neither Caltrans nor the City of San Diego utilizes ILV results as a measure of effectiveness when determining impacts. Therefore, ILV summaries are shown in *Table 5.2-14* for informational purposes. Interchanges along SR–163, I–15, and SR–52 were analyzed.

Table 5.2-14
ILV Capacities

UNDER (ILV/hr<1200)	NEAR (ILV/hr 1200 – 1500)	OVER (ILV/hr >1500)
Denotes stable flow with slight but acceptable delay. Occasional signal loading may develop. Free mid-block operations.	Denotes unstable flow with considerable delay. Some vehicles occasionally wait two or more cycles to pass through the intersection. Continuous backup occurs at some approaches.	Denotes stop and go operation with severe delay and heavy congestion [a]. Traffic volume is limited by maximum discharge rates of each phase. Continuous backup in varying degrees occurs on all approaches. Where downstream capacity is restrictive, mainline congestion can impede orderly discharge through the intersection.

Source: LLG 2013
Notes:

a. The amount of congestion depends on how much the ILV/hr value exceeds 1,500. Observed flow rates will normally not exceed 1,500 ILV/hr and the excess will be delayed in a queue

5.2.4 SIGNIFICANCE CRITERIA

According to the City of San Diego's Significance Determination Thresholds dated January 2011, a project is considered to have a significant impact if project traffic would decrease the operations of surrounding roadways by a defined threshold. The City-defined thresholds are shown in *Table 5.2-15*.

The impact is designated either a "direct" or "cumulative" impact. According to the City's Significance Determination Thresholds,

> *Direct* traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term).
>
> *Cumulative* traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned buildout (long term cumulative).
>
> It is possible that a project's near-term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact.
>
> For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions.

A significant impact is determined if:

1. If any intersection, roadway segment, or freeway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, or, if a project would degrade the LOS on a facility from acceptable to unacceptable level, the impact would be significant if the project exceeds the thresholds shown in *Table 5.2-11*.
2. At any ramp meter location with delays above 15 minutes, the impact would be significant if the project exceeds the thresholds shown in *Table 5.2-11*.
3. If a project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp, the impact may be significant.
4. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in *Table 5.2-11*.

Table 5.2-15
City of San Diego Traffic Impact Significance Thresholds

LOS with Project[b]	Allowable Increase Due to Project Impacts[a]					
	Freeways		*Roadway Segments*		*Intersections*	*Ramp Meteringc*
	V/C	*Speed (mph)*	*V/C*	*Speed (mph)*	*Delay (sec.)*	*Delay (min.)*
E	0.010	1.0	0.02	1.0	2.0	2.0
F	0.005	0.5	0.01	0.5	1.0	1.0

Source: City of San Diego
Notes:
a. If a project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the project becomes unacceptable (see note b), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.
b. All LOS measurements are based upon Highway Capacity Manual procedures for Peak-Hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally D (C for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

General Notes:
Delay = Average control delay per vehicle measured in seconds for intersections or minutes for ramp meters.
LOS = Level of Service
V/C = Volume-to-capacity ratio
Speed = Arterial speed measured in miles per hour.

5.2.5 TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

The site is currently occupied by a County of San Diego office building. In order to determine the net increase in traffic due to the project, the current traffic generated by the project site is deducted from the total forecasted traffic generated by the proposed project. As allowed by the City of San Diego, if the existing facility has been occupied within six months prior to the existing traffic counts, the amount of traffic generated during the six months prior to the traffic counts may be deducted from the total traffic generated by the proposed project. Since the traffic counts were conducted in January 2012, this corresponds to June 2011.

The trips generated by the existing County Annex Office at the project site were determined by conducting 3-day tube counts at the four existing project driveways (one on Clairemont Mesa Boulevard, two on Ruffin Road and one on Ruffin Court). During discussions with the County, it was determined that as of January 2012, there were 300 employees at the project site. An additional 60 employees of the San Diego County DPW Development review groups (DPLU) and a training facility for around 50 trainees moved out of the building between June 2011 and January 2012.

The existing site generated traffic which was deducted from the total project traffic is the existing counted traffic plus the traffic generated by the 110 employees / trainees.

Table 5.2-16 summarizes the average daily and peak hour volumes currently generated by the site. Using the data in *Table 5.2-16*, the current trip generation rate per employee was determined from the average of the three day counts and the 300 employees. This rate was applied to the 110 employees that were relocated in the six months prior to the traffic counts in January 2012.

Based on the actual counts, the site currently generates an average of 3,527 daily trips with 399 trips during the AM peak hour (335 inbound and 64 outbound) and 343 trips during the PM peak hour (67 inbound and 276 outbound).

With the addition of the traffic related to the 110 employees / trainees that relocated in the six months prior to the traffic counts, the current trip generation at the site is considered to be 4,332 daily trips with 529 AM peak hour trips (452 inbound and 77 outbound) and 453 PM peak hour trips (82 inbound and 371 outbound) as shown in *Table 5.2-17*. This is the amount of traffic that is removed from the traffic generated by the proposed project and the remaining traffic is the net new traffic added to the street system. See *Appendix C* of this EIR for more details.

5.2.5.1 Trip Generation

Project trip generation was estimated using the City of San Diego Trip Generation Manual, May 2003. The City Trip Generation Manual contains both driveway trip rates and cumulative trip rates. Cumulative trip rates include trips (termed passby trips) that are already on the street network and are attracted to the project site and therefore are not *new* trips in the community. A passby trip as defined in the San Diego Trip Generation Manual is:

> A trip that is deviated from the roadway to a site for a stop-over to sites such as retail establishments, banks, restaurants, service stations, etc. A trip made to a site from traffic already "passing by" that site on an adjacent street that contains direct access to the generator. These are existing vehicle trips in a community.

The following trip rates were used:

• Hospital	20 trips per bed (driveway and cumulative)
• HSB[1] < 100,000 square feet	50 trips per 1,000 square feet (driveway), 20 trips per 1,000 square feet (cumulative)

Notes:
1. Hospital support building (HSB) is medical office building (MOB)
2. The location of the members' place of residence/work has no bearing on the trip rates listed above since these are standard rates provided by the City.

Even though the City of San Diego Trip Generation Manual (May 2003) allows using a rate of 16 daily cumulative trips per 1,000 square feet if the medical office building (MOB) is greater than 100,000 square feet, this lower cumulative trip rate was not used for analysis in this study. The higher rate of 20 daily cumulative trips was used to estimate the total trips generated by the 180,000 SF MOB (*Table 5.2-17*). *Table 5.2-17* shows the project trip generation.

Table 5.2-16
Existing Trip Generation County Operations Center

Description	Quantity		Daily Trip Ends (ADT)			AM Peak Hour					PM Peak Hour				
			Rate[a]		Volume	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total
Actual Counted Traffic (January 2012)	300	Employees	11.76	/Employee	3,527			335	64	399			68	276	344
DPLU (Vacated in 2011)[b]	60	Employees	11.76	/Employee	705	11%	84:16	67	13	80	10%	20:80	14	55	69
Training Facility (Vacated in 2011)[c]	50	Attendees	2	/Attendee	100	50%	100:0	50	-	50	40%	0:100	-	40	40
Total Existing Trip Generation					**4,332**			**452**	**77**	**529**			**82**	**371**	**453**

Source: LLG 2013

Notes:

a. Trip rates based on actual 3-day counts.

b. Trip rates derived on the basis of the actual existing counts are applied to the DPLU employees to estimate the trips generated by these 50 employees.

c. It is as sumed that all trainees will arrive at the site in the AM Peak Hour and leave at the end of the day during the PM Peak Hour.

Table 5.2-17
Trip Generation

Land Use	Quantity		Daily Trip Ends (ADT)			AM Peak Hour					PM Peak Hour				
						% of	*In:Out*	*Volume*			*% of*	*In:Out*	*Volume*[b]		
			Rate[a]		*Volume*	*ADT*	*Split*	*In*	*Out*	*Total*	*ADT*	*Split*	*In*	*Out*	*Total*
Kaiser Permanente Hospital - Phase I															
Hospital	321	Beds	20	/Bed	6,420	9%	70:30	405	173	578	10%	30:70	193	449	642
Medical Offices															
Driveway Trips	75	KSF	50	/KSF	3,750	6%	80:20	180	45	225	10%	30:70	113	262	375
With Passby/Diverted Trips[c]	75	KSF	20	/KSF	1,500	6%	80:20	72	18	90	10%	30:70	45	105	150
Project Phase I															
Driveway Trips					**10,170**			**585**	**218**	**803**			**306**	**711**	**1,017**
With Passby/Diverted Trips (New Trips)[c]					**7,920**			**477**	**191**	**668**			**238**	**554**	**792**
(Less) Existing Site Trip Generation (June '11)					(4,332)			(452)	(77)	(529)			(82)	(371)	(453)
Increase in Net Trips - Project Phase I					**3,588**			**25**	**114**	**139**			**156**	**183**	**339**
Kaiser Permanente Hospital - Phase II															
Hospital	129	Beds	20	/Bed	2,580	9%	70:30	162	70	232	10%	30:70	77	181	258
Medical Offices															
Driveway Trips	105	KSF	50	/KSF	5,250	6%	80:20	252	63	315	10%	30:70	158	367	525
With Passby / Diverted Trips[c]	105	KSF	20	/KSF	2,100	6%	80:20	101	25	126	10%	30:70	63	147	210
Phase II															
Driveway Trips					**7,830**			**414**	**133**	**547**			**235**	**548**	**783**
With Passby/Diverted Trips (New Trips)[c]					**4,680**			**263**	**95**	**358**			**140**	**328**	**468**
Full Project Buildout															
Driveway Trips					**18,000**			**999**	**351**	**1,350**			**541**	**1,259**	**1,800**
With Passby/Diverted Trips (New Trips)[c]					**12,600**			**740**	**286**	**1,026**			**378**	**882**	**1,260**
(Less) Existing Site Trip Generation (June '11)					(4,332)			(452)	(77)	(529)			(82)	(371)	(453)
Increase in Net Trips - Full Project Buildout					**8,268**			**288**	**209**	**497**			**296**	**511**	**807**

Source: LLG 2013
Notes:
a. Trip rates from Trip Generation Manual, City of San Diego, May 2003.
b. KSF=1,000 Square Feet.
c. Daily cumulative trip rate is 20 per 1,000 square feet for MOB of less than 100,000 square feet and 16 per 1,000 square feet for MOB of 100,000 square feet or more.
d. City of San Diego terms trip rates with passby/diverted trips as "Cumulative Trips."

As seen in *Table 5.2-17*, the project is estimated to generate trips summarized as follows.

Phase I—Year 2017

Driveway Trips—Phase I of the project consists of a 321-bed hospital building and a 75,000-square-foot MOB. Thus, in Phase I, the project is estimated to generate 10,170 daily *driveway* trips with 803 trips during the AM peak hour (585 inbound/218 outbound) and 1,017 trips during the PM peak hour (306 inbound/711 outbound).

Cumulative Trips—Project Phase I is estimated to generate a total of 7,920 daily *cumulative* trips with 668 trips during the AM peak hour (477 inbound/191 outbound) and 792 trips during the PM peak hour (238 inbound/554 outbound).

Existing Site Generated Trips—As explained above, 24-hour traffic counts were conducted at each of the four driveways at the existing site to determine the current trips generated by the existing use (County Annex). These trips were deducted to determine the net additional trips to the street system. The existing land uses on the project site are estimated to generate a total of 4,332 daily trips with 529 trips during the AM peak hour (452 inbound/77 outbound) and 453 trips during the PM peak hour (82 inbound/371 outbound).

Net New Trips—Thus the Phase I project is estimated to generate a net 3,588 daily (*cumulative*) trips with 139 trips during the AM peak hour (25 inbound/114 outbound) and 339 trips during the PM peak hour (156 inbound/183 outbound).

Project Phase II

Project Phase II includes adding 129 hospital beds and 105,000 square feet of MOB. The additional trips generated by the Phase II development are as follows.

Driveway Trips—In Phase II, 105,000 square feet will be added to the MOB. Thus, the Phase II Project is estimated to generate 7,830 daily *driveway* trips with 547 trips during the AM peak hour (414 inbound/133 outbound) and 783 trips during the PM peak hour (235 inbound/548 outbound).

Cumulative Trips—Phase II of the project is estimated to generate 4,680 daily *cumulative* trips with 358 trips during the AM peak hour (263 inbound/95 outbound) and 468 trips during the PM peak hour (140 inbound/328 outbound).

Full Project Buildout—Year 2030

Driveway Trips—Full Project Buildout is estimated to generate a total of 18,000 daily *driveway* trips with 1,350 trips during the AM peak hour (999 inbound/351 outbound) and 1,800 trips during the PM peak hour (540 inbound/1,260 outbound).

Cumulative Trips—Full Project Buildout is estimated to generate a total of 12,600 daily *cumulative* trips with 1,026 trips during the AM peak hour (740 inbound/286 outbound) and 1,260 trips during the PM peak hour (378 inbound/882 outbound).

Existing Site Generated Trips—As explained in Phase I, the project site is currently occupied by San Diego County DPW and generates 4,322 daily trips with 529 AM peak hour trips (452 inbound and 77 outbound) and 453 PM peak hour trips (82 inbound and 371 outbound). These trips were deducted from the total cumulative project trips to obtain the net *cumulative* trips.

Net New Trips—Thus, after deducting the existing trips as in Phase I, Full Project Buildout is estimated to add a net 8,268 daily (*cumulative*) trips with 497 trips (288 inbound/209 outbound) during the AM peak hour and 807 trips (296 inbound/511 outbound) during the PM peak hour.

5.2.5.2 Trip Distribution

Various methodologies are available to determine the project trip distribution. A Select Zone Analysis (SZA) is the most common methodology to estimate the project trip distribution. However, for this project, actual zip code information of members was available from the client. This is a more accurate way of determining the origins of trips by members. The members' zip code information obtained from the client was plotted on a regional zip code map. Employees will also be a source of trip generation at the site. The distribution of employee traffic was based on the location of residential areas in San Diego, focusing on areas closer to the site. Based on the membership zip code distribution and the employee distribution, a regional trip distribution was developed. It was determined, in general, that 12% of the project traffic is oriented to the north, 70% to the south, 11% to the west and 5% to the east, in general. The remaining 2% is estimated to be local traffic.

5.2.5.3 Trip Assignment

The trips were assigned by phase using the trip distribution percentages provided in the project's Traffic Impact Analysis (see *Figure 5.2-2, Project Trip Distribution*). The total driveway trips were assigned at all project driveways and the Clairemont Mesa Boulevard/Ruffin Road and Ruffin Court/Ruffin Road intersections which are adjacent to the project site. Cumulative trips were assigned at the remaining study area intersections.

5.2.6 CUMULATIVE PROJECTS

Several planned projects in the project vicinity were reviewed, are reasonably foreseeable, and are expected to be built and occupied prior to the project's opening day in 2017. Therefore, they are included in the near-term analysis. Projects that are completed and occupied are not included if they were occupied at the time the counts were conducted (January 2012). Also, for projects that are partially completed and occupied, the portion of those projects that are yet to be completed are also included. The traffic expected to be generated by these projects was assigned to the project study area intersections and segments.

Table 5.2-18 lists the cumulative projects in the project vicinity and the total ADT generated by these projects. It may be noted that 72% of the Spectrum Project was constructed at the time the traffic counts were conducted (January 2012) and therefore only 28% of the traffic related to that project was included in the cumulative analysis. With respect to the San Diego County Operations Center, approximately 55% of the project was occupied at the time the traffic counts were conducted. For a conservative analysis, 50% of the project traffic was included in the cumulative analysis. Regarding the Stone Creek Project, the proposed project is estimated to generate a total of 47,516 ADT at the build out of Stone Creek. In 2017 it is estimated that this project would generate approximately 2,475 ADT as shown in *Table 5.2-18*. Since this project is located more than 5 miles from the proposed project site, the traffic from this project at the study area intersections would be minimal.

Table 5.2-18
Summary of Cumulative Projects ADT

Project Name	Land Use Type	Size		Daily Trips	Status
Spectrum Center [a]	Residential	1,568	DU[c]	91,720	72% Constructed
	Commercial	3,689,000	SF [d]		
	Industrial	360,000	SF		
			Grand Total Spectrum Center	*91,720*	
Remaining to be built	Apartments	756	DU	4,536	
	Office	475,000	SF	5,843	
Others	Office	200,000	SF	2,851	
			Total Spectrum Center to be built	*13,230*	
Medical Examiner	—	—	—	108	Approved
Kyocera	Office	104,000	SF	1,499	In Review
SD County Operations Center [b]	Office	874,000	SF	23,761	55% Occupied
Stone Creek					In Review
Year 2017	**Light Industrial Park**	**165,000**	**SF**	**2,475**	
	Business Park	135,000	SF	2,009	
	High Tech Park	300,000	SF	4,560	
	Residential	4,445	SF	24,140	
	Retail	174000	Acres	6681	
	Commercial Office	200,000	SF	2,682	

Table 5.2-18
Summary of Cumulative Projects ADT

Project Name	Land Use Type	Size		Daily Trips	Status
	Hotel	175	Rooms	1,400	
	Neighborhood Park	26.2	Acres	131	
			Subtotal Stone Creek	*47,516*	
			Total Cumulative Projects	**164,604**	

Source: LLG 2013
Notes:
a. Approximately 72% of the project traffic is included in the existing traffic counts; therefore, only 28% of this traffic (25,700 ADT) is included in the cumulative analysis. Conversation with Sunroad indicated that project to be built would generate approximately 10,000 ADT. Therefore, the cumulative analysis is conservative.
b. Approximately 55% of the County Operations Center traffic was already built at the time the existing traffic count data was collected. Therefore, a conservative 50% of the project trip generation is added as cumulative traffic.
c. DU = dwelling unit
d. SF = square feet

5.2.7 IMPACT

Issue 1: Would the proposal result in traffic generation in excess of specific community plan allocation?

The Kearny Mesa Community Plan Transportation Element does not specify specific traffic generation allocations; however, the plan does include a policy stating that "development intensities should correlate with the capacity of the circulation system." Please refer to *Sections 5.2.10* and *5.2.13* for detailed analyses of impacts to the local street system.

5.2.8 SIGNIFICANCE OF IMPACT

Impacts relative to community plan traffic generation allocations would be less than significant.

5.2.9 MITIGATION, MONITORING, AND REPORTING

No significant impacts would occur; therefore, no mitigation is required.

5.2.10 IMPACT

Issue 2: Would the proposal result in an increase in projected traffic, which is substantial in relation to the existing traffic load and capacity of the street system?

The following analysis discusses impacts to the local street system, including intersections and roadway segments, for the following scenarios: Existing Plus Project (Existing Plus Project Phase I Year 2017 and Existing Plus Full Project Buildout Year 2030), Near-Term (Near-Term

Without Project, Near-Term Plus Project Phase I, Near-Term Plus Full Project Buildout), and Long-Term (Year 2035 Without Project and Year 2035 With Full Project Buildout).

Existing Plus Project

Existing Plus Project Phase I

Intersections

Table 5.2-19 summarizes the Existing Plus Project Phase I peak hour intersection operations. As seen in *Table 5.2-19*, with the addition of the Project Phase I traffic, all study area intersections are calculated to continue to operate at LOS D or better.

Table 5.2-19
Existing Plus Project Intersection Operations

Intersection	Control Type	Peak Hour	Existing		Existing + Project Phase I		Δ[c] Delay	Impact Type	Existing + Full Project Buildout		Δ Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*			*Delay*	*LOS*		
Clairemont Mesa Blvd./ Kearny Mesa Rd.	Signal	AM	17.0	B	17.1	B	0.1	None	17.4	B	0.3	None
		PM	28.5	C	28.8	C	0.3	None	29.6	C	0.8	None
Clairemont Mesa Blvd/ SR 163 SB Ramps	MSSC[d]	AM	13.4	B	13.5	B	0.1	None	13.6	B	0.1	None
		PM	11.6	B	11.7	B	0.1	None	11.7	B	0.0	None
Clairemont Mesa Blvd/ SR 163 NB Ramps	Signal	AM	19.7	B	20.0	C	0.3	None	23.4	C	3.4	None
		PM	12.5	B	13.4	B	0.9	None	22.4	C	9.0	None
Clairemont Mesa Blvd/ Kearny Villa Rd.[e]	Signal	AM	17.1	B	17.1	B	0.0	None	17.3	B	0.2	None
		PM	18.7	B	19.1	B	0.4	None	20.0	C	0.9	None
Clairemont Mesa Blvd/ Complex Dr.[e]	Signal	AM	15.1	B	15.1	B	0.0	None	18.1	B	3.0	None
		PM	15.6	B	16.6	B	1.0	None	18.0	B	1.4	None
Clairemont Mesa Blvd/ Overland Ave.[e]	Signal	AM	29.3	C	29.3	C	0.0	None	39.8	D	10.5	None
		PM	30.8	C	33.1	C	2.3	None	46.8	D	13.7	None
Clairemont Mesa Blvd/ Ruffin Rd.[e]	Signal	AM	33.5	C	36.8	D	3.3	None	48.4	D	11.6	None
		PM	40.6	D	41.7	D	1.1	None	50.9	D	9.2	None
Clairemont Mesa Blvd/ Project Access Driveway[f]	Signal	AM	DNE	DNE	9.9	A	NA	None	15.5	B	5.6	None
		PM	DNE	DNE	14.5	B	NA	None	25.7	C	11.2	None
Clairemont Mesa Blvd./ Murphy Canyon Rd.[e]	Signal	AM	12.1	B	13.9	B	1.8	None	14.6	B	0.7	None
		PM	21.5	C	22.6	C	1.1	None	28.5	C	5.9	None
Clairemont Mesa Blvd/ I-15 SB Ramps	Signal	AM	23.6	C	23.7	C	0.1	None	25.3	C	1.6	None
		PM	22.9	C	23.0	C	0.1	None	24.1	C	1.1	None
Clairemont Mesa Blvd/ I-15 NB Ramps	Signal	AM	23.6	C	23.9	C	0.3	None	25.2	C	1.3	None
		PM	14.7	B	15.2	B	0.5	None	20.6	C	5.4	None
Lightwave Ave./Overland Ave	Signal	AM	15.9	B	15.9	B	0.0	None	15.9	B	0.0	None
		PM	19.0	B	19.3	B	0.3	None	19.4	B	0.1	None
Ruffin Rd./SR 52 WB Ramps	Signal	AM	20.7	C	20.8	C	0.1	None	21.7	C	0.9	None
		PM	14.3	B	14.6	B	0.3	None	19.2	B	4.6	None
Ruffin Rd./SR 52 EB Ramps	Signal	AM	14.4	B	14.4	B	0.0	None	15.3	B	0.9	None
		PM	42.0	D	43.6	D	1.6	None	48.4	D	4.8	None

Table 5.2-19
Existing Plus Project Intersection Operations

Intersection	Control Type	Peak Hour	Existing		Existing + Project Phase I		Δ[c] Delay	Impact Type	Existing + Full Project Buildout		Δ Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*			*Delay*	*LOS*		
Ruffin Rd./Kearny Villa Rd.	Signal	AM	12.9	B	13.3	B	0.4	None	13.3	B	0.0	None
		PM	17.5	B	20.3	C	2.8	None	26.1	C	5.8	None
Ruffin Rd./Chesapeake Dr.	Signal	AM	10.1	B	10.1	B	0.0	None	10.1	B	0.0	None
		PM	12.9	B	13.7	B	0.8	None	14.4	B	0.7	None
Ruffin Rd./Hazard Way	Signal	AM	9.1	A	9.3	A	0.2	None	9.4	A	0.1	None
		PM	11.0	B	11.0	B	0.0	None	11.2	B	0.2	None
Ruffin Rd./Farnham St.	Signal	AM	8.5	A	8.5	A	0.0	None	8.5	A	0.0	None
		PM	12.6	B	12.6	B	0.0	None	12.7	B	0.1	None
Ruffin Rd./Project Access Driveway[f]	MSSC	AM	DNE	DNE	9.5	A	NA	None	9.6	A	0.1	None
		PM	DNE	DNE	9.5	A	NA	None	9.8	A	0.3	None
Ruffin Rd./Ruffin Ct.	Signal	AM	18.7	B	20.6	C	1.9	None	21.8	C	1.2	None
		PM	22.0	C	27.7	C	5.7	None	30.8	C	3.1	None
Ruffin Rd./Spectrum Center Blvd.	Signal	AM	13.0	B	13.1	B	0.1	None	13.3	B	0.2	None
		PM	17.8	B	17.8	B	0.0	None	17.9	B	0.1	None
Ruffin Rd./Balboa Ave.	Signal	AM	45.9	D	47.4	D	1.5	None	47.8	D	0.4	None
		PM	38.5	D	40.4	D	1.9	None	41.6	D	1.2	None
Viewridge Ave./Balboa Ave.	Signal	AM	16.1	B	16.6	B	0.5	None	19.4	B	2.8	None
		PM	33.5	C	34.5	C	1.0	None	36.6	D	2.1	None
Ruffin Ct./Project Driveway 3[f]	MSSC	AM	DNE	DNE	10.0	B	NA	None	10.9	B	0.9	None
		PM	DNE	DNE	10.7	B	NA	None	12.1	B	1.4	None
Ruffin Ct./Project Driveway 4[f]	MSSC	AM	DNE	DNE	10.1	B	NA	None	10.5	B	0.4	None
		PM	DNE	DNE	10.4	B	NA	None	10.9	B	0.5	None

Source: LLG 2013
Notes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to project traffic.
d. MSSC=Minor Street Stop Controlled intersection. Minor street left-turn delay and LOS are reported.
e. These intersections are part of a coordinated signal system
f. The project driveways are only analyzed in the "with Project" scenarios.

General Note:

DNE = Does not exist

SIGNALIZED Delay	SIGNALIZED LOS	UNSIGNALIZED Delay	UNSIGNALIZED LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Roadway Segments

Table 5.2-20 summarizes the Existing Plus Project Phase I segment operations. As seen in *Table 5.2-20*, with the addition of the Project Phase I traffic, all segments within the study area are calculated to operate at LOS D or better.

Table 5.2-20
Existing Plus Project Street Segment Operations

Street Segment	Classification	Capacity (LOS E)[a]	Existing			Existing + Project Phase I			Δ V/C	Impact Type	Existing + Full Project Buildout			Δ V/C	Impact Type
			ADT[b]	*LOS*[c]	*V/C*[d]	*ADT*	*LOS*	*V/C*			*ADT*	*LOS*	*V/C*		
Clairemont Mesa Boulevard															
SR 163 NB Ramps to Kearny Villa Rd.	6-lane Prime	60,000	31,700	B	0.528	32,170	B	0.536	0.008	None	32,770	B	0.546	0.018	None
Kearny Villa Rd. to Complex Dr.	6-lane Major	50,000	23,500	B	0.470	23,970	B	0.479	0.009	None	24,570	B	0.491	0.021	None
Kearny Villa Rd. to Overland Ave	6-lane Major	50,000	25,600	B	0.512	26,070	B	0.521	0.009	None	26,670	B	0.533	0.021	None
Overland Ave to Ruffin Rd.	6-lane Major	50,000	23,200	B	0.464	24,520	B	0.490	0.026	None	25,540	B	0.511	0.047	None
Ruffin Rd. to Project Access Driveway	5-lane Major	45,000	25,500	C	0.567	26,820	B	0.596	0.029	None	27,840	C	0.619	0.053	None
Project Access Driveway to Murphy Canyon Rd.	5-lane Major	45,000	25,500	C	0.567	31,300	C	0.696	0.129	None	35,760	D	0.795	0.229	None
Murphy Canyon Rd. to I-15	6-lane Major	50,000	23,600	B	0.472	25,650	B	0.513	0.041	None	28,310	C	0.566	0.094	None
Lightwave Avenue															
Overland Ave. to Ruffin Rd.	4-lane Collector	30,000	6,300	A	0.158	6,440	A	0.215	0.005	None	6,630	A	0.221	0.011	None
Ruffin Court															
Ruffin Rd. to Project Driveway	2-lane Collector	15,000	1,900	A	0.127	3,730	A	0.249	0.122	None	3,390	A	0.226	0.099	None
Balboa Avenue															
Ponderosa Ave. to Ruffin Rd.	6-lane Major	40,000	21,700	C	0.543	21,770	C	0.544	0.001	None	21,870	C	0.547	0.004	None

Table 5.2-20
Existing Plus Project Street Segment Operations

Street Segment	Classification	Capacity (LOS E)[a]	Existing			Existing + Project Phase I			Δ V/C	Impact Type	Existing + Full Project Buildout			Δ V/C	Impact Type
			ADT[b]	*LOS[c]*	*V/C[d]*	*ADT*	*LOS*	*V/C*			*ADT*	*LOS*	*V/C*		
Ruffin Rd. to Viewridge Ave.	6-lane Prime	60,000	24,800	A	0.413	24,940	A	0.416	0.003	None	25,130	B	0.419	0.006	None
Viewridge Ave. to I-15	6-lane Prime	60,000	32,900	B	0.548	33,330	B	0.556	0.008	None	33,890	B	0.565	0.017	None
Viewridge Avenue															
South of Ruffin Ct.	2-lane Collector	15,000	2,900	A	0.193	3,190	A	0.213	0.019	None	3,560	A	0.237	0.044	None
North of Balboa Ave.	2-lane Collector	15,000	5,000	A	0.333	5,290	B	0.353	0.019	None	5,660	B	0.377	0.044	None
Ruffin Road															
SR 52 to Kearny Villa Rd.	4-lane Major	40,000	20,100	B	0.503	20,490	B	0.512	0.010	None	21,010	C	0.525	0.023	None
Kearny Villa Rd. to Chesapeake Dr.	4-lane Collector	30,000	15,700	C	0.523	16,090	C	0.536	0.013	None	16,610	C	0.554	0.031	None
Chesapeake Dr. to Hazard Way	4-lane Collector	30,000	15,400	C	0.513	15,790	C	0.526	0.013	None	16,310	C	0.544	0.031	None
Hazard Way to Farnham St.	4-lane Collector	30,000	14,800	C	0.493	15,190	C	0.506	0.013	None	15,710	C	0.524	0.031	None
Farnham St. to Clairemont Mesa Blvd	4-lane Collector	30,000	16,900	C	0.563	17,290	C	0.576	0.013	None	17,810	C	0.594	0.031	None
Clairemont Mesa Blvd. to Project Driveway	4-lane Collector	30,000	17,800	C	0.593	19,530	C	0.651	0.058	None	20,860	D	0.695	0.102	None
Project Driveway to Ruffin Ct.	4-lane Collector	30,000	18,500	C	0.617	20,230	D	0.674	0.057	None	21,560	D	0.719	0.102	None
Ruffin Court to Spectrum Center Blvd.	4-lane Collector	30,000	15,100	C	0.503	15,350	C	0.512	0.009	None	15,680	C	0.523	0.020	None
Spectrum Center Blvd. to Balboa Ave.	4-lane Collector	30,000	18,000	C	0.600	18,250	C	0.608	0.008	None	18,580	C	0.619	0.019	None

Source: LLG 2013
Notes:
a. Capacities based on City of San Diego Roadway Capacity Table.
b. ADT = Average Daily Traffic Volumes.
c. LOS = Level of Service.
d. V/C = Volume to Capacity.

Existing Plus Full Project Buildout

Intersections

Table 5.2-19 summarizes the Existing Plus Full Project Buildout peak hour intersection operations. As seen in *Table 5.2-19*, with the addition of the Full Project Buildout traffic, all study area intersections are calculated to continue to operate at LOS D or better.

Roadway Segments

5.2-20 summarizes the Existing Plus Full Project Buildout segment operations. As seen in *5.2-20* with the addition of the Full Project Buildout traffic, all segments within the study area are calculated to continue to operate at LOS D or better.

Near-Term

Near-Term Without Project

Intersections

Table 5.2-21 summarizes the Near-Term Without Project peak hour intersection operations. As seen in *Table 5.2-21*, with the addition of Cumulative projects traffic, the following intersections are calculated to operate at LOS E:

- Clairemont Mesa Boulevard/Ruffin Road (LOS E during the PM peak hour)
- Ruffin Road/Balboa Avenue (LOS E during the AM and PM peak hours).

Roadway Segments

Table 5.2-22 summarizes the Near-Term Without Project segment operations. As seen in *Table 5.2-22*, with the addition of cumulative projects traffic, all segments within the study area are calculated to continue to operate at LOS D or better except the segment of Ruffin Road between Spectrum Center Drive and Balboa Avenue, which is calculated to operate at LOS E.

Table 5.2-21
Near-Term Intersection Operations

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project Phase I		Δ[c] Delay	Impact Type	Near-Term + Full Project Buildout		Δ Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*			*Delay*	*LOS*		
1. Clairemont Mesa Blvd./Kearny Mesa Rd.	Signal	AM	17.9	B	18.2	B	0.3	None	20.3	B	2.4	None
		PM	31.5	C	31.7	C	0.2	None	32.8	C	1.3	None
2. Clairemont Mesa Blvd./ SR 163 SB Ramps	MSSC [d]	AM	13.6	B	14.0	B	0.4	None	14.4	B	0.8	None
		PM	11.8	B	12.7	B	0.9	None	13.0	B	1.2	None
3. Clairemont Mesa Blvd./SR 163 NB Ramps	Signal	AM	22.6	C	25.5	C	2.9	None	25.8	C	3.2	None
		PM	11.5	C	24.2	C	12.7	None	26.5	C	15.0	None
4. Clairemont Mesa Blvd./Kearny Villa Rd.[e]	Signal	AM	42.1	D	46.0	D	3.9	None	49.1	D	7.0	None
		PM	34.7	D	39.5	D	4.8	None	43.4	D	8.7	None
5. Clairemont Mesa Blvd./Complex Dr [e]	Signal	AM	13.3	B	19.1	B	5.8	None	23.2	B	9.9	None
		PM	15.0	B	17.5	B	2.5	None	18.2	B	3.2	None
6. Clairemont Mesa Blvd./Overland Ave.[e]	Signal	AM	34.2	C	48.7	D	14.5	None	53.7	D	19.5	None
		PM	38.6	D	51.0	D	12.4	None	54.3	D	15.7	None
7. Clairemont Mesa Blvd./ Ruffin Rd.[e]	Signal	AM	33.1	C	42.8	D	9.7	None	50.0	D	16.9	None
		PM	57.0	E	57.1	E	0.1	None	**59.6**	**E**	**2.6**	**Direct**
8. Clairemont Mesa Blvd./ Project Access Driveway [f]	Signal	AM	DNE	DNE	13.9	B	NA	None	15.5	B	NA	None
		PM	DNE	DNE	14.2	B	NA	None	26.4	C	NA	None
9. Clairemont Mesa Blvd./Murphy Canyon Rd.[e]	Signal	AM	15.7	B	17.3	B	1.6	None	19.2	B	3.5	None
		PM	19.5	C	28.0	C	8.5	None	29.7	C	10.2	None
10. Clairemont Mesa Blvd./I-15 SB Ramps	Signal	AM	23.6	C	25.1	C	1.5	None	25.7	C	2.1	None
		PM	23.1	C	24.8	C	1.7	None	25.1	C	2.0	None
11. Clairemont Mesa Blvd./ I-15 SB Ramps	Signal	AM	24.6	C	24.9	C	0.3	None	26.6	C	2.0	None
		PM	15.1	B	20.4	C	5.3	None	21.4	C	6.3	None
12. Lightwave Ave./Overland Ave	Signal	AM	20.0	C	20.3	C	0.3	None	20.3	C	0.3	None
		PM	24.2	C	24.3	C	0.1	None	24.6	C	0.4	None

Table 5.2-21
Near-Term Intersection Operations

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project Phase I		Δ[c] Delay	Impact Type	Near-Term + Full Project Buildout		Δ Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*			*Delay*	*LOS*		
13. Ruffin Rd./SR 52 WB Ramps	Signal	AM	20.6	C	21.8	C	1.2	None	22.4	C	1.8	None
		PM	20.8	B	23.1	C	2.3	None	24.2	C	3.4	None
14. Ruffin Rd./SR 52 EB Ramps	Signal	AM	15.1	B	16.9	B	1.8	None	17.3	B	2.2	None
		PM	44.9	D	47.8	D	2.9	None	47.9	D	3.0	None
15. Ruffin Rd./Kearny Villa Rd.	Signal	AM	13.0	B	13.5	B	0.5	None	13.5	B	0.5	None
		PM	19.6	B	21.1	C	1.5	None	26.9	C	7.3	None
16. Ruffin Rd./Chesapeake Dr.	Signal	AM	12.7	B	12.7	B	0.0	None	12.8	B	0.1	None
		PM	14.8	B	14.8	B	0.0	None	14.9	B	0.1	None
17. Ruffin Rd./Hazard Way	Signal	AM	9.0	A	9.7	A	0.7	None	12.7	B	3.7	None
		PM	11.0	B	11.1	B	0.1	None	11.3	B	0.3	None
18. Ruffin Rd./Farnham St.	Signal	AM	10.3	B	10.3	B	0.0	None	10.3	B	0.0	None
		PM	14.8	B	14.9	B	0.1	None	14.9	B	0.1	None
19. Ruffin Rd./Project Access Driveway[f]	MSSC	AM	DNE	DNE	9.7	A	NA	None	9.8	A	NA	None
		PM	DNE	DNE	9.6	A	NA	None	9.7	A	NA	None
20. Ruffin Rd./Ruffin Ct.	Signal	AM	23.8	C	25.6	C	1.8	None	25.9	C	2.1	None
		PM	27.8	C	33.4	C	5.6	None	38.2	D	10.4	None
21. Ruffin Rd./Spectrum Center Blvd.	Signal	AM	14.9	B	15.2	B	0.3	None	15.4	B	0.5	None
		PM	23.8	C	34.9	C	11.1	None	35.5	D	11.7	None
22. Ruffin Rd./Balboa Ave.	Signal	AM	55.2	E	55.4	E	0.2	None	55.6	E	0.4	None
		PM	68.1	E	68.5	E	0.4	None	**73.7**	**E**	**5.6**	**Direct**
23. Viewridge Ave./Balboa Ave.	Signal	AM	16.9	B	18.5	B	1.6	None	19.8	B	2.9	None
		PM	39.2	D	41.6	D	2.4	None	45.8	D	6.6	None

Table 5.2-21
Near-Term Intersection Operations

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term + Project Phase I		Δ[c] Delay	Impact Type	Near-Term + Full Project Buildout		Δ Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*			*Delay*	*LOS*		
24. Ruffin Ct./Project Driveway 3[f]	MSSC	AM	DNE	DNE	11.3	B	NA	None	12.9	B	NA	None
		PM	DNE	DNE	12.2	B	NA	None	15.8	C	NA	None
25. Ruffin Ct./Project Driveway 4[f]	MSSC	AM	DNE	DNE	10.3	B	NA	None	10.7	B	NA	None
		PM	DNE	DNE	10.7	B	NA	None	11.5	B	NA	None

Source: LLG 2013

Notes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Increase in delay due to project traffic.
d. MSSC=Minor Street Stop Controlled intersection. Minor street left turn delay is reported.
e. These intersections are part of a coordinated signal system
f. The project driveways are only analyzed in the "with Project" scenarios.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

General Notes:

DNE = Does not exist.

BOLD indicates a significant impact.

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Table 5.2-22
Near-Term Street Segment Operations

Street Segment	Classification	Capacity (LOS E)[a]	Near-Term Without Project			Near-Term + Project Phase I			Δ V/C	Impact Type	Near-Term + Full Project Buildout			Δ V/C	Impact Type
			ADT[b]	*LOS*[c]	*V/C*[d]	*ADT*	*LOS*	*V/C*			*ADT*	*LOS*	*V/C*		
Clairemont Mesa Boulevard															
SR 163 NB Ramps to Kearny Villa Rd.	6-lane Prime	60,000	42,060	C	0.701	42,530	C	0.709	0.008	None	43,130	C	0.719	0.018	None
Kearny Villa Rd. to Complex Dr.	6-lane Major	50,000	31,130	C	0.623	31,600	C	0.632	0.009	None	32,200	C	0.644	0.021	None
Kearny Villa Rd. to Overland Ave.	6-lane Major	50,000	33,930	C	0.679	34,400	C	0.688	0.009	None	35,000	C	0.700	0.021	None
Overland Ave. to Ruffin Rd.	6-lane Major	50,000	27,870	B	0.557	29,190	C	0.584	0.027	None	30,210	C	0.604	0.047	None
Ruffin Rd. to Project Access Driveway	5-lane Major	45,000	29,200	C	0.649	30,520	C	0.678	0.029	None	31,540	C	0.701	0.053	None
Project Access Driveway to Murphy Canyon Rd.	5-lane Major	45,000	28,850	C	0.641	34,650	C	0.770	0.129	None	39,110	C	0.869	0.229	None
Murphy Canyon Rd. to I-15	6-lane Major	50,000	25,220	B	0.504	27,270	B	0.545	0.041	None	29,930	D	0.599	0.095	None
Lightwave Avenue															
Overland Ave. to Ruffin Rd.	4-lane Collector	30,000	10,870	A	0.362	11,010	A	0.367	0.005	None	11,200	A	0.373	0.011	None
Ruffin Court															
Ruffin Rd. to Project Driveway	2-lane Collector	15,000	3,680	A	0.245	5,510	B	0.367	0.122	None	5,170	B	0.345	0.100	None
Balboa Avenue															
Ponderosa Ave. to Ruffin Rd.	6-lane Major	40,000	24,100	C	0.603	24,170	C	0.604	0.001	None	24,270	C	0.607	0.004	None
Ruffin Rd. to Viewridge Ave.	6-lane Prime	60,000	30,040	B	0.501	30,180	B	0.503	0.002	None	30,370	B	0.506	0.005	None
Viewridge Ave. to I-15	6-lane Prime	60,000	37,980	C	0.633	38,410	C	0.640	0.007	None	38,970	C	0.650	0.017	None
Viewridge Avenue															
South of Ruffin Ct.	2-lane Collector	15,000	4,230	A	0.282	4,520	A	0.301	0.019	None	4,890	A	0.326	0.044	None
North of Balboa Ave	2-lane Collector	15,000	6,430	B	0.429	6,720	B	0.448	0.019	None	7,090	C	0.473	0.044	None

Table 5.2-22
Near-Term Street Segment Operations

Street Segment	Classification	Capacity (LOS E)[a]	Near-Term Without Project			Near-Term + Project Phase I			Δ V/C	Impact Type	Near-Term + Full Project Buildout			Δ V/C	Impact Type
			ADT[b]	*LOS[c]*	*V/C[d]*	*ADT*	*LOS*	*V/C*			*ADT*	*LOS*	*V/C*		
Ruffin Road															
SR 52 to Kearny Villa Rd.	4-lane Major	40,000	23,610	C	0.590	24,000	C	0.600	0.010	None	24,520	D	0.613	0.023	None
Kearny Villa Rd. to Chesapeake Dr.	4-lane Collector	30,000	19,050	C	0.635	19,440	C	0.648	0.013	None	19,960	C	0.665	0.030	None
Chesapeake Dr. to Hazard Way	4-lane Collector	30,000	19,390	C	0.646	19,780	C	0.659	0.013	None	20,300	D	0.677	0.031	None
Hazard Way to Farnham St.	4-lane Collector	30,000	19,280	C	0.643	19,670	C	0.656	0.013	None	20,190	D	0.673	0.030	None
Farnham St. to Clairemont Mesa Blvd.	4-lane Collector	30,000	21,870	D	0.729	22,260	D	0.742	0.013	None	22,780	D	0.759	0.030	None
Clairemont Mesa Blvd. to Project Driveway	4-lane Collector	30,000	18,690	C	0.623	20,420	D	0.681	0.058	None	21,750	D	0.725	0.102	None
Project Driveway to Ruffin Ct.	4-lane Collector	30,000	19,430	C	0.648	21,160	D	0.705	0.057	None	22,490	D	0.750	0.102	None
Ruffin Court to Spectrum Center Blvd.	4-lane Collector	30,000	19,230	C	0.641	19,480	C	0.649	0.008	None	19,810	C	0.660	0.019	None
Spectrum Center Blvd. to Balboa Ave.	4-lane Collector	30,000	25,040	E	0.835	25,290	E	0.843	0.008	None	25,620	E	0.854	0.019	None

Source: LLG 2013

Notes:
a. Capacities based on City of San Diego Roadway Capacity Table.
b. ADT = Average Daily Traffic Volumes.
c. LOS = Level of Service.
d. V/C = Volume to Capacity.

Near-Term Plus Project Phase I

Intersections

Table 5.2-21 summarizes the Near-Term Plus Project Phase I peak hour intersection operations. As seen in *Table 5.2-21*, with the addition of the Full Project Buildout traffic, the following intersections are calculated to operate at LOS E or worse:

- Clairemont Mesa Boulevard/Ruffin Road (LOS E during the PM peak hour)
- Ruffin Road/Balboa Avenue (LOS E during the AM and PM peak hours).

With the addition of Project Phase I traffic, and based on the City's established significance criteria, the project does not have a significant direct impact at the above two intersections since the increase in delay due to project traffic is less than the allowable 2.0 seconds respectively at these intersections operating at LOS E.

Roadway Segments

Table 5.2-22 summarizes the Near-Term Plus Project Phase I segment operations. As seen in *Table 5.2-22*, with the addition of the Full Project Buildout traffic, all segments within the study area are calculated to operate at LOS C or better except the segment of Ruffin Road between Spectrum Center Drive and Balboa Avenue, which is calculated to operate at LOS E.

However, the increase in V/C ratio due to the addition of project traffic is less than 0.02 on this segment calculated to operate at LOS E, the allowable increase in the V/C ratio. Therefore, the project has no significant impact on this segment.

Near-Term Plus Full Project Buildout

Intersections

Table 5.2-21 summarizes the Near-Term Plus Full Project Buildout peak hour intersection operations. As seen in *Table 5.2-21*, with the addition of the Full Project Buildout traffic, the following intersections are calculated to operate at LOS E or worse:

- Clairemont Mesa Boulevard/Ruffin Road (LOS E during the PM peak hour)
- Ruffin Road/Balboa Avenue (LOS E during the AM and PM peak hour).

Based on the City's established significance criteria, the project has significant direct impacts at the above two intersections.

Roadway Segments

Table 5.2-22 summarizes the Near-Term Plus Full Project Buildout segment operations. As seen in *Table 5.2-22*, with the addition of the Full Project Buildout traffic, all segments within the study area are calculated to operate at LOS C or better except the segment of Ruffin Road between Spectrum Center Drive and Balboa Avenue, which is calculated to operate at LOS E.

However, the increase in V/C ratio due to the addition of project traffic is less than 0.02 on this segment calculated to operate at LOS E, the allowable increase in the V/C ratio. Therefore, the project has no significant impact on this segment.

Long Term

A review of the SANDAG Year 2035 Series 12 volumes revealed that trips generated by the subject Traffic Analysis Zone (TAZ) within which the project site is located per the Year 2035 SANDAG plot included land uses with a substantial amount of traffic from the project site. In order to determine the "without project" volumes, this additional number of trips was first distributed and assigned to the surrounding street network using the project trip distribution. These volumes were then removed from the Year 2035 volumes to obtain the Year 2035 "without" project traffic volumes.

The SANDAG model outputs daily segment and peak hour volumes; however, the SANDAG model output is not as accurate in determining peak hour intersection turn movements. Therefore, Year 2035 peak hour turning movement volumes were estimated using a template in Excel developed by LLG to determine peak hour traffic at an intersection from future (adjusted Year 2035) ADT volumes using the relationship between existing peak hour turn movements and the existing ADT volumes. This same relationship can be assumed to generally continue in the future. For example, if the segment ADT on the roadway is forecast to double by the Year 2035, it is reasonable to assume that the peak hour intersection turning movement volumes will generally double.

The project traffic was added to the adjusted Year 2035 without project traffic volumes to obtain Year 2035 Plus Full Project Buildout traffic volumes.

The project would install a third eastbound through lane on Clairemont Mesa Boulevard between Ruffin Road and Murphy Canyon Road on project opening day (Year 2017). It is therefore assumed that the segment of Clairemont Mesa Boulevard between Ruffin Road and Murphy Canyon Road will be a 6-lane Major Road.

Year 2035 Without Project

Intersections

Table 5.2-23 summarizes the Year 2035 peak hour intersection operations. As seen in *Table 5.2-23*, the following intersections are calculated to operate at LOS E or worse in the year 2035 Without Project scenario:

- Clairemont Mesa Boulevard/Ruffin Road (LOS E during the PM peak hour).
- Balboa Avenue/Ruffin Road (LOS E during the PM peak hour).

Table 5.2-23
Long-Term Intersection Operations

Intersection	Control Type	Peak Hour	Year 2035 Without Project		Year 2035 With Project		Δ [c] Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*		
Clairemont Mesa Blvd./ Kearny Mesa Rd.	Signal	AM	20.5	C	20.7	C	0.2	None
		PM	34.6	C	34.9	D	0.3	None
Clairemont Mesa Blvd. / SR 163 SB Ramps	MSSC [d]	AM	14.0	B	15.1	B	1.1	None
		PM	10.5	B	11.4	C	0.9	None
Clairemont Mesa Blvd/ SR 163 NB Ramps	Signal	AM	25.6	C	26.2	C	0.6	None
		PM	19.1	B	20.9	B	1.8	None
Clairemont Mesa Blvd./ Kearny Villa Rd.[e]	Signal	AM	25.9	C	27.0	C	1.1	None
		PM	42.2	D	44.8	D	2.6	None
Clairemont Mesa Blvd./ Complex Dr.[e]	Signal	AM	19.8	B	20.6	C	0.8	None
		PM	16.8	B	18.9	B	2.1	None
Clairemont Mesa Blvd./ Overland Ave[e]	Signal	AM	50.8	E	52.3	D	1.5	None
		PM	52.1	D	53.5	D	1.4	None
Clairemont Mesa Blvd./ Ruffin Rd.[e]	Signal	AM	46.7	D	50.6	D	3.9	None
		PM	**61.6**	**E**	**65.1**	**E**	**3.5**	**Cumulative**
Clairemont Mesa Blvd./ Project Access Driveway [f]	Signal	AM	DNE	DNE	16.3	B	NA	None
		PM	DNE	DNE	21.6	C	NA	None
Clairemont Mesa Blvd./ Murphy Canyon Rd.[e]	Signal	AM	30.2	C	32.9	B	2.7	None
		PM	46.8	D	**58.4**	**E**	**11.6**	**Cumulative**
Clairemont Mesa Blvd./ I-15 SB Ramps	Signal	AM	28.6	C	29.7	C	1.1	None
		PM	28.7	C	29.0	C	0.3	None
Clairemont Mesa Blvd./ I-15 SB Ramps	Signal	AM	31.8	C	39.2	D	7.4	None
		PM	19.9	B	22.0	C	2.1	None
Lightwave Ave./Overland Ave	Signal	AM	23.5	C	23.6	C	0.1	None
		PM	28.1	C	28.6	C	0.5	None
Ruffin Rd./SR 52 WB Ramps	Signal	AM	22.3	C	23.1	C	0.8	None
		PM	29.7	C	30.4	C	0.7	None
Ruffin Rd./SR 52 EB Ramps	Signal	AM	16.5	B	17.1	B	0.6	None
		PM	52.4	D	54.4	E	2.0	None
Ruffin Rd./Kearny Villa Rd.	Signal	AM	15.5	B	15.7	B	0.2	None
		PM	24.0	C	25.6	C	1.6	None
Ruffin Rd./Chesapeake Dr.	Signal	AM	16.1	B	17.5	B	1.4	None
		PM	25.5	C	26.6	B	1.1	None
Ruffin Rd./Hazard Way	Signal	AM	9.7	A	10.5	A	0.8	None
		PM	16.1	B	17.5	B	1.4	None
Ruffin Rd./Farnham St.	Signal	AM	11.4	B	11.5	B	0.1	None
		PM	23.0	C	23.6	C	0.6	None
Ruffin Rd./Project Access Driveway [f]	Signal	AM	DNE	DNE	9.9	B	NA	None
		PM	DNE	DNE	10.1	A	NA	None

Table 5.2-23
Long-Term Intersection Operations

Intersection	Control Type	Peak Hour	Year 2035 Without Project		Year 2035 With Project		Δ[c] Delay	Impact Type
			Delay[a]	*LOS[b]*	*Delay*	*LOS*		
Ruffin Rd./Ruffin Ct.	Signal	AM	25.6	C	29.1	C	3.5	None
		PM	31.2	C	44.9	D	13.7	None
Ruffin Rd./Spectrum Center Blvd.	Signal	AM	19.0	B	19.0	B	0.0	None
		PM	38.3	D	38.3	D	0.0	None
Ruffin Rd./Balboa Ave.	Signal	AM	58.8	E	60.4	E	1.6	None
		PM	**60.8**	**E**	**66.4**	**E**	**5.6**	**Cumulative**
Viewridge Ave./Balboa Ave.	Signal	AM	30.4	C	33.1	C	2.7	None
		PM	52.8	D	**57.9**	**E**	**5.1**	**Cumulative**
Ruffin Ct./Project Driveway 3[f]	MSSC	AM	DNE	DNE	13.2	B	NA	None
		PM	DNE	DNE	15.2	B	NA	None
Ruffin Ct/Project Driveway 4[f]	MSSC	AM	DNE	DNE	12.8	B	NA	None
		PM	DNE	DNE	13.7	B	NA	None

Source: LLG 2013
Notes:
a. Average delay expressed in seconds per vehicle.
b. LOS=Level of Service.
c. Increase in delay due to project traffic.
d. MSSC = Minor Street Stop Controlled intersection. Minor street left turn delay is reported.
e. These intersections are part of a coordinated signal system
f. The project driveways are only analyzed in the "with Project" scenarios.

General Notes:
DNE = Does not exist.
BOLD indicates a significant impact.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Roadway Segments

Table 5.2-24 summarizes the Year 2035 segment operations. As seen in *Table 5.2-24*, the following segments are calculated to operate at LOS E or worse in the year 2035 Without Project scenario:

- Viewridge Avenue: North of Balboa Avenue (LOS F)
- Balboa Avenue: Ponderosa Avenue to Ruffin Road (LOS E).

The Viewridge Avenue roadway segment would not result in a significant impact because the V/C ratio is within the allowable limits. The Balboa Avenue roadway segment would not result in a significant impact because the arterial analysis as presented in the project Traffic Impact Analysis (LLG 2013) indicated a LOS C or better operations during the peak hours. See *Appendix C* of this EIR for more details.

Table 5.2-24
Long-Term Street Segment Operations

Street Segment	Classification	Capacity (LOS E)[a]	Year 2035 Without Project			Year 2035 With Project			Δ[e] V/C	Impac t Type
			ADT[b]	*LOS[c]*	*V/C[d]*	*ADT*	*LOS*	*V/C*		
Clairemont Mesa Boulevard										
SR 163 NB Ramps to Kearny Villa Rd.	6-lane Prime	60,000	34,000	B	0.567	35,070	C	0.585	0.018	None
Kearny Villa Rd.to Complex Dr.	6-lane Major	50,000	29,100	C	0.582	30,170	C	0.603	0.021	None
Kearny Villa Rd.to Overland Ave.	6-lane Major	50,000	28,200	C	0.564	29,270	C	0.585	0.021	None
Overland Ave. to Ruffin Rd.	6-lane Major	50,000	26,200	B	0.524	28,540	C	0.571	0.047	None
Ruffin Rd.to Project Access Driveway	5-lane Major	50,000	28,100	C	0.562	30,440	C	0.609	0.047	None
Project Access Driveway to Murphy Canyon Rd.	5-lane Major	50,000	32,500	C	0.650	42,760	D	0.855	0.205	None
Murphy Canyon Rd.to I-15	6-lane Major	50,000	37,100	C	0.742	41,810	D	0.836	0.094	None
Lightwave Avenue										
Overland Ave. to Ruffin Rd.	4-lane Collector	30,000	15,200	C	0.507	15,530	C	0.518	0.011	None
Ruffin Court										
Ruffin Rd.to Project Driveway	2-lane Collector	15,000	3,400	A	0.227	6,640	B	0.443	0.216	None
Balboa Avenue										
Ponderosa Ave. to Ruffin Rd.	6-lane Major	40,000	36,500	E	0.913	36,670	E	0.917	0.004	None
Ruffin Rd.to Viewridge Ave.	6-lane Prime	60,000	27,200	B	0.453	27,530	B	0.459	0.006	None
Viewridge Ave. to I-15	6-lane Prime	60,000	46,600	C	0.777	47,590	C	0.793	0.016	None
Viewridge Avenue										
South of Ruffin Ct.	2-lane Collector	15,000	8,600	C	0.573	9,260	C	0.617	0.044	None
North of Balboa Ave.	2-lane Collector	15,000	19,600	F	1.307	20,260	F	1.351	0.044	None
Ruffin Road										
SR 52 to Kearny Villa Rd.	4-lane Major	40,000	22,100	C	0.553	23,010	C	0.575	0.023	None
Kearny Villa Rd.to Chesapeake Dr.	4-lane Collector	30,000	18,400	C	0.613	19,310	C	0.644	0.031	None
Chesapeake Dr. to Hazard Way	4-lane Collector	30,000	16,900	C	0.563	17,810	C	0.594	0.031	None
Hazard Way to Farnham St.	4-lane Collector	30,000	16,800	C	0.560	17,710	C	0.590	0.030	None
Farnham St. to Clairemont Mesa Blvd.	4-lane Collector	30,000	18,600	C	0.620	19,510	C	0.650	0.030	None
Clairemont Mesa Blvd. to Project Driveway	4-lane Collector	30,000	19,600	C	0.653	22,660	D	0.755	0.102	None

Table 5.2-24
Long-Term Street Segment Operations

Street Segment	Classification	Capacity (LOS E)[a]	Year 2035 Without Project			Year 2035 With Project			Δ[e] V/C	Impac t Type
			ADT[b]	*LOS*[c]	*V/C*[d]	*ADT*	*LOS*	*V/C*		
Project Driveway to Ruffin Ct.	4-lane Collector	30,000	20,400	D	0.680	23,460	D	0.782	0.102	None
Ruffin Court to Spectrum Center Blvd.	4-lane Collector	30,000	22,700	D	0.757	23,280	D	0.776	0.019	None
Spectrum Center Blvd. to Balboa Ave.	4-lane Collector	30,000	28,300	E	0.943	28,880	E	0.963	0.020	None

Source: LLG 2013

Notes:

a. Capacities based on City of San Diego Roadway Capacity table.
b. ADT = Average Daily Traffic Volumes.
c. LOS = Level of Service.
d. V/C = Volume to Capacity.
e. Increase in V/C ratio due to project traffic.

General Note:

BOLD indicates a significant impact.

Year 2035 Plus Full Project Buildout

Intersections

Table 5.2-23 summarizes the Year 2035 with Full Project Buildout peak hour intersection operations. As seen in *Table 5.2-23*, the following intersections are calculated to continue to operate at LOS E:

- Clairemont Mesa Boulevard/Ruffin Road (LOS E during the PM peak hour)
- Clairemont Mesa Boulevard/Murphy Canyon Road (LOS E during the PM peak hour)
- Balboa Avenue/Ruffin Road (LOS E during the PM peak hour)
- Balboa Avenue/Viewridge Avenue (LOS E during the PM peak hour).

Roadway Segments

Table 5.2-24 summarizes the Year 2035 with Full Project Buildout segment operations. As seen in *Table 5.2-24*, the following segments are calculated to operate at LOS E or worse:

- Viewridge Avenue: North of Balboa Avenue (LOS F)
- Balboa Avenue: Ponderosa Avenue to Ruffin Road (LOS E).

The segment of Viewridge Avenue north of Balboa Avenue is calculated to operate at LOS F in the Year 2035 without and with the proposed project. The City allows a determination of no significance if the following three conditions are met:

(1) The roadway is built to its ultimate classification per the Kearny Mesa Community Plan,

(2) LOS D or better operations are calculated during the peak hours at the signalized intersections at each end of the study segment, and

(3) LOS D or better operations are calculated using the HCM peak hour arterial analysis method.

The Ruffin Road / Ruffin Court Road intersection at the north end of this segment is calculated to operate at LOS D or better during the AM and PM peak hours. The Viewridge Avenue / Balboa Avenue intersection is calculated to operate at LOS E with the addition of project traffic. However, with proposed mitigation, this intersection is calculated to operate at LOS D during the AM and PM peak hours (see *Table 5.2-24*).

Table 5.2-25 summarizes the results of the arterial analysis along the Viewridge Avenue / Ruffin Court between Ruffin Road and Balboa Avenue. As seen in *Table 5.2-25*, in the Year 2035 with the project, the subject segment of Viewridge Avenue is calculated to operate at LOS C or better in both directions during both AM and PM peak hours. To summarize:

(1) Viewridge Avenue is built to its ultimate classification per the Kearny Mesa Community Plan.

(2) The two intersections on either end of this roadway segment are calculated to operate at LOS D or better.

(3) LOS D or better operations are calculated using the HCM peak hour arterial analysis method.

Therefore, the project would not have a significant cumulative impact on the segment of Viewridge Avenue North of Balboa Avenue and all roadway segment impacts would be less than significant.

Table 5.2-25
Year 2035 With Project Arterial Operations – Viewridge Avenue

Direction	AM Peak Hour		PM Peak Hour	
	Travel Speed (mph)	*LOS*	*Travel Speed (mph)*	*LOS*
Northbound	22.0	C	19.5	C
Southbound	18.5	C	24.7	B

Source: LLG 2013

The increase in the V/C ratio due to the project traffic is less than 0.01 on the Balboa Avenue segment; therefore, the project would not have a significant cumulative impact on this segment.

Based on the above discussion, the project would not have any long-term segment impacts. Impacts to roadway segments would be less than significant during the year 2035.

5.2.11 SIGNIFICANCE OF IMPACT

Direct Impacts

Existing Plus Project

No direct impacts to intersections or roadway segments would occur under the Existing Plus Project scenario.

Near-Term Without Project

No direct impacts to intersections or roadway segments would occur under the Near-Term Without Project scenario.

Near-Term Plus Project Phase 1

No direct impacts to intersections or roadway segments would occur under the Near-Term Plus Project Phase 1 scenario.

Near-Term Plus Full Project Buildout

Under the Near-Term Plus Full Project Buildout scenario, two intersections would have direct significant impacts:

> **Impact D-1**: Clairemont Mesa Boulevard/Ruffin Road
>
> **Impact D-2**: Balboa Avenue/Ruffin Road

To reduce direct impacts at these intersections, Mitigation Measures TRA-1 and TRA-2 are provided. Following implementation of identified mitigation measures, Impact D-2 would be reduced to a less than significant level. Impact D-1 is considered significant and unavoidable since the mitigation for this impact requires acquisition of a 10 foot by 190 foot ROW, without confirmation that the ROW can be acquired.

Year 2035 Without Project

No direct impacts to intersections or roadway segments would occur under the Year 2035 Without Project scenario.

Year 2035 Plus Full Project Buildout

No direct impacts to intersections or roadway segments would occur under the Year 2035 With Full Project Buildout scenario.

Cumulative Impacts

Existing Plus Project

No cumulative impacts to intersections or roadway segments would occur under the Existing Plus Project scenario.

Near-Term Without Project

No cumulative impacts to intersections or roadway segments would occur under the Near-Term Without Project scenario.

Near-Term Plus Project Phase 1

No cumulative impacts to intersections or roadway segments would occur under the Near-Term Plus Project Phase 1 scenario.

Near-Term Plus Full Project Buildout

No cumulative impacts to intersections or roadway segments would occur under the Near-Term Plus Full Project Buildout scenario.

Year 2035 Without Project

No cumulative impacts to intersections or roadway segments would occur under the Year 2035 Without Project scenario.

Year 2035 Plus Full Project Buildout

Under the Year 2035 Plus Full Project Buildout scenario, four intersections would have significant cumulative impacts, as follows.

Intersections

Impact C-1: Clairemont Mesa Boulevard/Ruffin Road
Impact C-2: Clairemont Mesa Boulevard/Murphy Canyon Road
Impact C-3: Balboa Avenue/Ruffin Road
Impact C-4: Viewridge Avenue/Balboa Avenue

To reduce cumulative impacts at these intersections, Mitigation Measures TRA-1 through TRA-4 are provided. Following implementation of identified mitigation measures, impacts would be reduced to a less than significant level.

As seen in *Table 5.2-21*, in the Near-Term, the two intersections that are directly impacted are calculated to operate at LOS E with mitigation, but with less delay than for the without project traffic condition. Therefore, impacts would be less than significant following mitigation.

In the Long Term, with the addition of project traffic and with the implementation of mitigation, two of the four impacted intersections are calculated to operate at an acceptable LOS of D or better. The remaining three intersections, Clairemont Mesa Boulevard/Ruffin Road and Ruffin Road/Balboa Avenue are calculated to continue operate at LOS E with the implementation of mitigation measures, but with less delay than for the without project traffic condition. Therefore, impacts would be less than significant following mitigation.

Table 5.2-26 summarizes impacts following implementation of mitigation measures.

Table 5.2-26
Post-Mitigation Analysis

Intersection	Peak Period	Pre-Mitigation Conditions				Post Mitigation With Project Traffic	
		Without Project Traffic		*With Project Traffic*			
		Delay	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
Near Term							
Clairemont Mesa Blvd./Ruffin Rd.	PM	56.6	E	59.6	E	56.1[1]	E
Ruffin Rd./Balboa Ave.	PM	68.1	E	73.7	E	64.4	E
Long Term							
Clairemont Mesa Blvd./Ruffin Rd.	PM	61.6	E	65.1	E	61.5	E
Clairemont Mesa Blvd./Murphy Canyon Rd.	PM	46.8	D	58.4	E	25.1	C
Ruffin Rd./Balboa Ave.	PM	60.8	E	66.4	E	58.0	E
Viewridge Ave./Balboa Ave.	PM	52.8	D	57.9	E	40.6	D

Source: LLG 2013

Fair Share calculations were conducted as shown in *Table 5.2-27* to determine the project's percentage responsibility for each cumulatively impacted location where a direct impact is not also calculated (100% contribution for direct impacts). Regarding intersections, a fair share calculation was done for the Viewridge Avenue/Balboa Avenue intersection.

Table 5.2-27
Fair Share Calculations

Intersection	Entering PM Peak Hour Volume				Project Contribution Percentage
	Existing	*Year 2035 With Project*	*Increase*	*Project*	
23. Viewridge Ave./Balboa Ave.	3,651	4,897	1,246	97	8%

Source: LLG 2013

As shown in Table 5.2-27, a minimum fair share contribution of 8% would be required for restriping the southbound approach of the Balboa Avenue/Viewridge Avenue intersection to provide a second southbound left-turn lane (Mitigation Measure TRA-4); however, the project applicant has committed to contributing 100% toward implementation of mitigation at the Viewridge Avenue/Balboa Avenue intersection. Mitigation Measure TRA-4 would be implemented during initial project construction and would, therefore, be implemented before the cumulative impact at the Viewridge Avenue/Balboa Avenue intersection occurs in the long term.

[1] Source: Prasad, N. 2013. This revised delay time assumes the acquisition of a 10-foot by 190-foot ROW.

Roadway Segments

No significant impacts to roadway segments would occur in the 2035 Plus Full Project Buildout scenario.

5.2.12 MITIGATION, MONITORING, AND REPORTING

Direct Impacts

Near-Term Plus Full Project Buildout

The following mitigation measures are provided for the impacted locations for the Near-Term Plus Full Project Buildout scenario. Mitigation Measures TRA-1 and TRA-2 would be implemented prior to the development and operation of full project buildout.

Intersections

TRA-1 **Clairemont Mesa Boulevard/Ruffin Road (Impact D-1) (100% contribution) –** The improvement required to mitigate this impact is an eastbound right-turn lane on Clairemont Mesa Boulevard. Figure M-1 in Appendix M graphically depicts the potential improvement. (Refer to Appendix M of the Traffic Impact Analysis for conceptual plans. The Traffic Impact Analysis is attached as *Appendix C* of this EIR.) The median would be relocated 3 feet to the north and the eastbound lanes would be reconfigured to provide a bike lane and an eastbound right-turn lane. This would require the acquisition of approximately 10 feet by 190 feet of additional right-of-way (ROW) from the existing retail center at the southwest corner of the intersection. Acquisition of 10 feet of ROW would result in reducing the existing building 28-foot setback from the curb line to 18 feet, and may be difficult to achieve in a timely manner. This impact is considered significant and unavoidable.

TRA-2 **Balboa Avenue/Ruffin Road (Impact D-2) (100% contribution)** – Prior to issuance of the first occupancy permit for Phase II, the applicant shall modify signal and provide SB to WB right-turn overlap phasing at the Balboa Avenue / Ruffin Road intersection, to the satisfaction of the City Engineer. (U-turns are not currently permitted and therefore, providing SB right-turn overlap phasing will not impact any U-turning traffic).

Cumulative Impacts

Year 2035 Plus Full Project Buildout

The following mitigation measures are provided for the impacted locations:

Intersections

TRA-1 **Clairemont Mesa Boulevard/Ruffin Road (Impact C-1) (100% contribution)** – Mitigation Measure TRA-1 described above may also mitigate this cumulative impact. Since implementation of TRA-1 is contingent upon acquisition of a ROW to widen the roadway, this impact is considered significant and unavoidable.

TRA-2 **Balboa Avenue/Ruffin Road (Impact C-3) (100% contribution) –** Mitigation Measure TRA-2 described above will also mitigate this cumulative impact.

TRA-3 **Clairemont Mesa Boulevard/Murphy Canyon Road (Impact C-2) (100% contribution) –**Prior to issuance of the first occupancy permit for Phase I, the applicant shall widen Clairemont Mesa Boulevard to provide a third through lane on Clairemont Mesa Boulevard between Ruffin road and Murphy Canyon Road, satisfactory to the City Engineer. This lane will become a shared through / right-turn lane at Murphy Canyon Road, therefore providing additional capacity at the intersection. (See conceptual drawing M-2 in Appendix M of the Traffic Impact Analysis for a conceptual plan. The Traffic Impact Analysis is attached as Appendix C of this EIR.)

TRA-4 **Viewridge Avenue/Balboa Avenue (Impact C-4) (100% contribution)** – Prior to issuance of the first occupancy permit for Phase II, the applicant shall restripe the southbound approach of the Balboa Avenue / Viewridge Avenue intersection to provide a second southbound left-turn lane and provide appropriate signal modifications to accommodate the second southbound left turn lane, satisfactory to the City Engineer (see conceptual drawing M-3 in Appendix M of the Traffic Impact Analysis for a conceptual plan. The Traffic Impact Analysis is attached as Appendix C of this EIR).

The above improvements will result in the elimination of parking for a distance of 160 feet along the east curb of View Ridge Avenue, north of Balboa Avenue. This is a reduction of approximately 7 parking spaces.

As previously discussed, as shown in Table 5.2-27, a minimum fair share contribution of 8% would be required for implementation of Mitigation Measure TRA-4; however, the project applicant has committed to contributing 100% toward implementation of the mitigation at the Viewridge Avenue/Balboa Avenue intersection. Mitigation Measure TRA-4 would be implemented during initial project construction and would, therefore, be implemented before the cumulative impact at the Viewridge Avenue/Balboa Avenue intersection occurs in the long term.

The above improvements would result in the elimination of parking for a distance of 160 feet along the east curb of Viewridge Avenue, north of Balboa Avenue. This is a reduction of approximately seven parking spaces. Field observations during various times indicated a maximum of four and minimum of one occupied spaces. Several empty spaces were observed close to these spaces. The land uses fronting Viewridge Avenue provide adequate parking spaces onsite. Therefore, the demand for parking is unlikely to increase in the future. Eliminating these spaces are not expected to result in any hardship to current users.

Table 5.2-28 and *Table 5.2-29* summarize significant impacts to intersections and roadway segments, respectively, and mitigation measures. Following implementation of above identified mitigation measures, impacts at one intersection, the intersection of Clairemont Mesa Boulevard and Ruffin Road, would remain significant. Impacts at all other intersection and roadway segment impacts would be reduced to a less than significant level.

Table 5.2-28
Summary of Impacts and Mitigation Measures—Intersections

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM Delay LOS	*PM Delay LOS*			*AM Delay LOS*	*PM Delay LOS*
EXISTING PLUS PROJECT							
Existing + Project Phase I (Year 2017)							
No Impacts							
Existing + Full Project Buildout (Year 2030)							
No Impacts							
NEAR-TERM							
Near-Term Without Project							
No Impacts							
Near-Term + Project Phase I							
No Impacts							
Near-Term + Full Project Buildout							
D-1	Clairemont Mesa Blvd./Ruffin Rd.	N/A	**59.6 - E**	Direct	**TRA-1 (100% contribution)**: The improvement required to mitigate	N/A	56.1 - E[2]

[2] Source: Prasad, N. 2013. This revised delay time assumes the acquisition of a 10-foot by 190-foot ROW.

Table 5.2-28
Summary of Impacts and Mitigation Measures—Intersections

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM Delay LOS	*PM Delay LOS*			*AM Delay LOS*	*PM Delay LOS*
					this impact is an eastbound right-turn lane on Clairemont Mesa Boulevard. Figure M-1 in Appendix M graphically depicts the potential improvement. (Refer to Appendix M of the Traffic Impact Analysis for conceptual plans. The Traffic Impact Analysis is attached as Appendix C of this EIR.) The median would be relocated 3 feet to the north and the eastbound lanes would be reconfigured to provide a bike lane and an eastbound right-turn lane. This would require the acquisition of approximately 10 feet x 190 feet of additional right-of-way (ROW) from the existing retail center at the southwest corner of the intersection. Acquisition of 10 foot of ROW would result in reducing the existing building 28-foot setback from the curb line to 18 feet, and may be difficult to achieve in a timely manner. This impact is considered significant and unavoidable.		
D-2	Ruffin Rd./Balboa Ave.	N/A	**73.7 - E**	Direct	**MM TRA-2 (100% contribution):** Prior to issuance of the first occupancy permit for Phase II, the applicant shall modify signal and provide SB to WB right-turn overlap phasing at the Balboa Avenue / Ruffin Road intersection, to the satisfaction of the City Engineer. (U-turns are not currently permitted and therefore, providing SB right-turn overlap phasing will not impact any U-turning traffic).	N/A	64.4 - E
LONG-TERM							
Year 2035 Without Project							
C-1	Clairemont Mesa Blvd./Ruffin Rd.	46.7 - D	**61.6 - E**	Cumulative	N/A	N/A	N/A
C-3	Ruffin Rd./Balboa Ave.	58.8 – E	**60.8 – E**	Cumulative	N/A	N/A	N/A

Table 5.2-28
Summary of Impacts and Mitigation Measures—Intersections

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM Delay LOS	*PM Delay LOS*			*AM Delay LOS*	*PM Delay LOS*
	Year 2035 With Full Project Buildout						
C-1	Clairemont Mesa Blvd./Ruffin Rd.	50.6 - D	**65.1 - E**	Cumulative	See **TRA-1** above **(100% contribution)**. Mitigation Measure TRA-1 described above may also mitigate this cumulative impact. Since implementation of TRA-1 is contingent upon acquisition of a ROW to widen the roadway, this impact is considered significant and unavoidable.	N/A	61.5 - E
C-2	Clairemont Mesa Blvd./Murphy Canyon Rd.	32.9 - B	**58.4 – E**	Cumulative	**TRA-3 (100% contribution)**: Prior to issuance of the first occupancy permit for Phase I, the applicant shall widen Clairemont Mesa Boulevard to provide a third through lane on Clairemont Mesa Boulevard between Ruffin road and Murphy Canyon Road, satisfactory to the City Engineer. This lane will become a shared through / right-turn lane at Murphy Canyon Road, therefore providing additional capacity at the intersection. (See conceptual drawing M-2 in Appendix M of the Traffic Impact Analysis for a conceptual plan. The Traffic Impact Analysis is attached as Appendix C of this EIR.)	N/A	25.1 - C
C-3	Ruffin Rd./Balboa Ave.	60.4 – E	**66.4 – E**	Cumulative	See **TRA-2** above **(100% contribution)**. Mitigation Measure TRA-2 described above will also mitigate this cumulative impact.	N/A	58.0 - E
C-4	Viewridge Ave./Balboa Ave.	33.1 – C	**57.9 – E**	Cumulative	**TRA-4 (100% contribution)**: Prior to issuance of the first occupancy permit for Phase II, the applicant shall restripe the southbound approach of the Balboa Avenue / Viewridge Avenue intersection to provide a second southbound left-turn lane and provide appropriate signal modifications to accommodate the second southbound left turn lane,	N/A	40.6 - D

Table 5.2-28
Summary of Impacts and Mitigation Measures—Intersections

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM Delay LOS	*PM Delay LOS*			*AM Delay LOS*	*PM Delay LOS*
					satisfactory to the City Engineer (see conceptual drawing M-3 in Appendix M for a conceptual plan). The above improvements will result in the elimination of parking for a distance of 160 feet along the east curb of View Ridge Avenue, north of Balboa Avenue. This is a reduction of approximately 7 parking spaces.		

Source: LLG 2013
Note: N/A = not available

Table 5.2-29
Summary of Impacts and Mitigation Measures—Roadway Segments

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM Delay LOS	*PM Delay LOS*			*AM Delay LOS*	*PM Delay LOS*
EXISTING PLUS PROJECT							
Existing + Project Phase I (Year 2017)							
No Impacts							
Existing + Full Project Buildout (Year 2030)							
No Impacts							
NEAR TERM							
Existing + Cumulative Projects							
No Impacts							
Existing + Cumulative Projects Plus + Project Phase I							
No Impacts							
Existing + Cumulative Projects Plus + Full Project Buildout							
No Impacts							
LONG TERM							
Year 2035 Without Project							
No Impacts							
Year 2035 With Full Project Buildout							
No Impacts							

Source: LLG 2013

5.2.13 IMPACT

Issue 3: Would the proposal result in the addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp?

The following analysis discusses impacts to the local street system, including freeway segments and freeway ramp meters, for the following scenarios: Existing Plus Project (Existing Plus Project Phase I Year 2017 and Existing Plus Full Project Buildout Year 2030), Near-Term (Near-Term Without Project, Near-Term Plus Project Phase I, Near-Term Plus Full Project Buildout), and Long-Term (Year 2035 Without Project and Year 2035 With Full Project Buildout).

Existing Plus Project

Existing Plus Project Phase I

Freeway Segments

Table 5.2-30 summarizes the Existing Plus Project Phase I freeway mainline operations. As seen in *Table 5.2-30*, with the addition of the Project Phase I traffic, all study area freeway segments are calculated to operate at LOS D or better except one. The segment of SR-52 between Kearny Villa Road and I-15 is calculated to continue to operate at LOS E in the westbound direction. The project would not result in a significant impact since the increase in V/C ratio due to project traffic is less than the allowable increase of 0.005.

Table 5.2-30
Existing Plus Project Peak Hour Freeway Mainline Operations

Freeway Segment	Dir.	# of Lanes[a]	Hourly Capacity [b]	Existing Peak Hour Volume[c]		Project Traffic[d]		Existing + Project Traffic		V/C		Δ V/C		LOS	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Existing + Project Phase I															
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	6,466	6,223	11	18	6,477	6,241	0.810	0.780	0.001	0.002	D	C
	SB	4	8,000	7,190	7,080	3	16	7,193	7,096	0.899	0.887	0.000	0.002	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,530	6,285	11	70	6,541	6,355	0.711	0.691	0.285	0.048	C	C
	SB	4 + 1	9,200	7,261	7,150	51	82	7,312	7,232	0.795	0.786	0.120	0.085	C	C
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	6,982	6,720	14	88	6,996	6,808	0.760	0.740	0.002	0.010	C	C
	SB	4 + 1	9,200	7,763	7,645	65	104	7,828	7,749	0.851	0.842	0.007	0.011	D	D
State Route 163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	5,078	5,621	2	4	5,080	5,625	0.552	0.611	0.000	0.000	B	B
	SB	4 + 1	9,200	5,518	5,778	1	3	5,519	5,781	0.600	0.628	0.000	0.000	B	C
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	5,911	6,543	3	16	5,914	6,559	0.643	0.713	0.000	0.002	C	C
	SB	4 + 1	9,200	6,424	6,726	11	18	6,435	6,744	0.699	0.733	0.001	0.002	C	C
State Route 52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	3,983	2,572	9	15	3,992	2,587	0.665	0.431	0.001	0.003	C	B
	EB	3	6,000	2,698	3,485	2	12	2,700	3,497	0.450	0.583	0.000	0.002	B	B
Kearny Villa Rd. to I-15	WB	3	4,000	3,983	2,572	1	5	3,984	2,577	0.996	0.644	0.000	0.001	E	C
	EB	3	4,000	2,698	3,485	3	5	2,701	3,490	0.675	0.873	0.001	0.001	C	D
Existing + Full Project Buildout															
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	6,466	6,223	21	51	6,487	6,274	0.811	0.784	0.003	0.006	D	C
	SB	4	8,000	7,190	7,080	29	30	7,219	7,110	0.902	0.889	0.004	0.004	D	D

Table 5.2-30
Existing Plus Project Peak Hour Freeway Mainline Operations

Freeway Segment	Dir.	# of Lanes[a]	Hourly Capacity [b]	Existing Peak Hour Volume[c]		Project Traffic[d]		Existing + Project Traffic		V/C		Δ V/C		LOS	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,530	6,285	130	133	6,660	6,418	0.724	0.698	0.014	0.014	C	C
	SB	4 + 1	9,200	7,261	7,150	94	230	7,355	7,380	0.799	0.802	0.010	0.025	C	D
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	6,982	6,720	165	169	7,147	6,889	0.777	0.749	0.018	0.018	C	C
	SB	4 + 1	9,200	7,763	7,645	119	291	7,882	7,936	0.857	0.863	0.013	0.032	D	D
State Route 163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	5,078	5,621	4	10	5,082	5,631	0.552	0.612	0.000	0.001	B	B
	SB	4 + 1	9,200	5,518	5,778	6	6	5,524	5,784	0.600	0.629	0.001	0.001	B	C
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	5,911	6,543	29	30	5,940	6,573	0.646	0.714	0.003	0.003	C	C
	SB	4 + 1	9,200	6,424	6,726	21	51	6,445	6,777	0.701	0.737	0.002	0.006	C	C
State Route 52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	3,983	2,572	17	41	4,000	2,613	0.667	0.435	0.003	0.007	C	B
	EB	3	6,000	2,698	3,485	23	24	2,721	3,509	0.453	0.585	0.004	0.004	B	B
Kearny Villa Rd. to I-15	WB	2	4,000	3,983	2,572	9	9	3,992	2,581	0.998	0.645	0.002	0.002	E	C
	EB	2	4,000	2,698	3,485	6	15	2,704	3,500	0.676	0.875	0.002	0.004	C	D

Source: LLG 2013

Notes:

a. The number of lanes shown indicates the number of mainline lanes + the number of auxiliary lanes. No HOV lanes are currently provided on the above freeway segments of I-15, SR 52, or SR 163.
b. Capacity calculated at 2,000 vph per lane and 1,200 vph per Auxiliary lane.
c. Existing Peak Hour volumes in Table 5.2-16 are based on Year 2012 ADT volumes from *PeMS*.
d. Full Buildout project traffic volumes assigned based on the project trip distribution.

LOS	v/c
A	< 0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	> 1.46

Freeway Ramp Meters

Table 5.2-31 summarizes the Existing Plus Project Phase I ramp meter operations. As seen in *Table 5.2-31*, using the most restrictive discharge rates obtained from Caltrans, all HOV lanes operate with no delay or queues with the addition of the Project Phase I traffic. However, the SOV lanes at the following ramps are calculated to have delays of 15 minutes or more:

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 21 minutes with a 84-vehicle queue, or a 2,100-foot-long queue.
- Balboa Avenue/SB I-15 On-Ramp: Delay of 24 minutes with a 154-vehicle, or a 3,858-foot-long queue.

Comparing the calculated values to the maximum observed existing values, with the addition of Project Phase I traffic, the proportionate delays and queues are estimated to be:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 1 minute with a 8-vehicle, or a 200-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Queue: Delay of 7 minutes with a 49-vehicle, or a 1,225-foot long queue.

As seen above, the resulting delays and queues due to the addition of Project Phase I traffic are within acceptable limits (less than 15 minutes).

Table 5.2-31
Existing Plus Project Ramp Meter Analysis

Location/Condition	Peak Hour	Demand D [a] (veh/hr/ln)	Calculated (Most Restrictive)				Maximum Observed [g]		
			Peak Hour [b] Flow (F) (veh/hr/ln)	*Excess Demand [d] E (veh/hr/ln)*	*Delay [e] (min/ln)*	*Queue [f]*	*Delay Minutes*	*Queue Veh/Ln*	*Queue Feet*
Clairemont Mesa Boulevard / SR 163 Interchange WB Clairemont Mesa Boulevard to NB SR 163	12% Reduction to volumes in SOV lanes due to HOV lane						1 SOV + 1 HOV		
Existing- SOV	PM	481	593	0	0	0	0	0	0
Existing- HOV	PM	66	593	0	0	0	0	0	0
Existing + Project Phase 1 - SOV	PM	485	593	0	0	0	0	0	0
Existing + Project Phase 1 - HOV	PM	66	593	0	0	0	0	0	0
Existing + Entire Project- SOV	PM	490	593	0	0	0	0	0	0
Existing + Entire Project- HOV	PM	67	593	0	0	0	0	0	0
WB Clairemont Mesa Boulevard to SB SR 163							2 SOV		
Existing	PM	375	514	0	0	0	0	0	0
Existing + Project Phase 1	PM	385	514	0	0	0	0	0	0
Existing + Entire Project	PM	400	514	0	0	0	0	0	0
Clairemont Mesa Boulevard / I-15 Interchange EB Clairemont Mesa Boulevard to NB I-15							2 SOV		
Existing	PM	313	238	75	19	1,875	1	7	175
Existing + Project Phase 1	PM	322	238	84	21	2,100	1	8	200
Existing + Entire Project	PM	339	238	101	25	2,513	1	9	225
Clairemont Mesa Boulevard / I-15 Interchange EB Clairemont Mesa Boulevard to SB I-15	11% Reduction to volumes in SOV lanes due to HOV lane						2 SOV+1 HOV		
Existing - SOV	PM	343	312	31	6	777	2	24	600
Existing - HOV	PM	85	312	0	0	0	0	0	0
Existing + Project Phase 1 - SOV	PM	380	312	68	13	1,690	4	52	1,300
Existing + Project Phase 1 - HOV	PM	94	312	0	0	0	0	0	0
Existing + Entire Project- SOV	PM	445	312	133	26	3,336	9	103	2,575
Existing + Entire Project- HOV	PM	110	312	0	0	0	0	0	0

Table 5.2-31
Existing Plus Project Ramp Meter Analysis

Location/Condition	Peak Hour	Demand D [a] (veh/hr/ln)	Calculated (Most Restrictive)				Maximum Observed [g]		
			Peak Hour [b] Flow (F) (veh/hr/ln)	*Excess Demand [d] E (veh/hr/ln)*	*Delay [e] (min/ln)*	*Queue [f]*	*Delay Minutes*	*Queue Veh/Ln*	*Queue Feet*
Balboa Avenue / I-15 Interchange EB Balboa Avenue to SB I-15	14% Reduction to volumes in SOV lanes due to HOV lane						2 SOV+1 HOV		
Existing - SOV	PM	517	372	145	23	3,622	6	46	1,150
Existing - HOV	PM	168	372	0	0	0	0	0	0
Existing + Project Phase 1 - SOV	PM	526	372	154	25	3,858	7	49	1,225
Existing + Project Phase 1 - HOV	PM	171	372	0	0	0	0	0	0
Existing + Entire Project- SOV	PM	543	372	171	28	4,277	7	54	1,350
Existing + Entire Project- HOV	PM	177	372	0	0	0	0	0	0

a. Demand "D" is the traffic that desires to enter the freeway at this on-ramp during the peak hour.
b. Peak Hour Flow "F" is the *most restrictive* rate at which the ramp meter (signal) discharges traffic on to the freeway(from Caltrans).
c. Excess Demand "E" is the difference between the Demand and the Peak Hour Flow.
d. Delay in minutes per lane experienced by each vehicle, calculated as the ratio of the Excess Demand and the Peak Hour Flow in one minute.
e. Queue is calculated as 25 feet per vehicle (E)
f. Estimated Delay and Queue based on current field observations.

ILV Operations

Table 5.2-32 summarizes the Existing Plus Project Phase 1 ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-32*, all study area interchange intersections are calculated to continue to operate at under or near capacity with the addition of Project Phase 1 traffic, except for the following:

- Clairemont Mesa Boulevard/I-15 SB intersection – over capacity during both the AM and PM peak hours.

Table 5.2-32
Existing Plus Project ILV Operations

Intersection	Peak Hour	Existing		Existing + Project Phase I		Existing + Full Project Buildout	
		Operating Level (ILV/Hr)	*Capacity*	*Operating Level (ILV/Hr)*	*Capacity*	*Operating Level (ILV/Hr)*	*Capacity*
Clairemont Mesa Blvd/SR-163 NB Ramps	***AM***	1,260	Near	1,261	Near	1,263	Near
	PM	762	Under	1,020	Under	1,020	Under
Clairemont Mesa Blvd/1-15 SB Ramps	***AM***	1,778	Over	1,813	Over	1,908	Over
	PM	1,712	Over	1,763	Over	1,931	Over
Clairemont Mesa Blvd/1-15 NB Ramps	***AM***	1,278	Near	1,289	Near	1,359	Near
	PM	1,049	Under	1,061	Under	1,108	Under
Ruffin Road/SR-52 WB Ramps	***AM***	829	Under	839	Under	855	Under
	PM	1,278	Near	1,293	Near	1,319	Near
Ruffin Road/SR-52 WB Ramps	***AM***	695	Under	701	Under	719	Under
	PM	1,198	Under	1,205	Under	1,218	Under

Source: LLG 2013
Notes:
a. CAPACITY is shown as UNDER capacity, NEAR capacity or OVER capacity.
Under capacity = < 1200 ILV/hr
Near capacity = > 1200 but < 1500 ILV/hr
Over capacity = > 1500 ILV/hr
b. The Clairemont Mesa Blvd./SR-163 SB ramps intersection is not analyzed since it is not signalized.

Existing Plus Full Project Buildout

Freeway Segments

Table 5.2-30 summarizes the Existing Plus Full Project Buildout freeway mainline operations. As seen in *Table 5.2-30*, with the addition of the Full Project Buildout traffic, all study area freeway segments are calculated to operate at LOS D or better except one. The segment of SR-52 between Kearny Villa Road and I-15 is calculated to continue to operate at LOS E in the westbound direction. The project would not result in a significant impact since the increase in V/C ratio due to the project traffic is less than the allowable increase of 0.005.

Freeway Ramp Meters

Table 5.2-31 summarizes the Existing Plus Full Project Buildout ramp meter operations. As seen in *Table 5.2-31*, using the most restrictive discharge rates obtained from Caltrans, all HOV lanes operate with no delay or queues with the addition of the Full Project Buildout traffic. However, the SOV lanes at the following ramps have delays of 15 minutes or more:

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 25 minutes with a 101-vehicle, or a 2,513-foot-long queue
- Clairemont Mesa Boulevard/SB I-15 On-Ramp: Delay of 26 minutes with a 133-vehicel, or a 2,836-foot-long queue
- Balboa Avenue/SB I-15 On-Ramp: Delay of 28 minutes with a 171-vehicle, or a 4,119-foot-long queue.

Comparing the calculated values to the maximum observed existing values, with the addition of the Full Project Buildout traffic, the proportionate delays and queues are estimated to be:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 1 minute with a 9-vehicle, or a 225-foot long queue.
- Clairemont Mesa Boulevard / SB I-15 On-Ramp: Delay of 9 minutes with a 103-vehicle, or a 2,575-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Queue: Delay of 7 minutes with a 54-vehicle, or a 1,350-foot long queue.

As seen above, the resulting delays and queues due to the addition of the Full Project Buildout traffic are within acceptable limits (less than 15 minutes).

ILV Operations

Table 5.2-32 summarizes the Existing Plus Project ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-32*, all study area interchange intersections are calculated to continue to operate at under or near capacity with the addition of the Full Project Buildout traffic, except for the following:

- Clairemont Mesa Boulevard / I–15 SB intersection - over capacity during both the AM and PM peak hours.

Near term

Near-Term Without Project

Freeway Segments

Tables 5.2-33a, 5.2-33b, and 5.2-33c summarize the Near-Term Without Project freeway mainline operations. As seen in *Tables 5.2-33a, 5.2-33b, and 5.2-33c*, with the addition of cumulative projects traffic, all study area freeway segments are calculated to operate at LOS D or better except one. The segment of SR 52 between Kearny Villa Road and I-15 is calculated to continue to operate at LOS E in the westbound direction during the AM peak hour.

Table 5.2-33a
Near-Term Peak Hour Freeway Mainline Operations: Near-Term Without Project

Freeway Segment	Dir.	# of Lanes[a]	Hourly Capacity[b]	Existing[c]		Cumulative Projects Traffic[d]		Near-Term Traffic Without Project		V/C[f]		LOS	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 15													
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	6,466	6,223	8	38	6,474	6,261	0.809	0.783	D	C
	SB	4	8,000	7,190	7,080	0	0	7,190	7,080	0.899	0.885	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,530	6,285	124	59	6,654	6,344	0.723	0.690	C	C
	SB	4 + 1	9,200	7,261	7,150	0	0	7,261	7,150	0.789	0.777	C	C
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	6,982	6,720	316	154	7,298	6,874	0.793	0.747	C	C
	SB	4 + 1	9,200	7,763	7,645	40	180	7,803	7,825	0.848	0.850	D	D
SR 163													
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	5,078	5,621	35	133	5,113	5,754	0.556	0.625	B	C
	SB	4 + 1	9,200	5,518	5,778	240	147	5,758	5,925	0.626	0.644	C	C
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	5,911	6,543	210	107	6,121	6,650	0.665	0.723	C	C
	SB	4 + 1	9,200	6,424	6,726	47	268	6,471	6,994	0.703	0.760	C	C
SR 52													
SR 163 to Kearny Villa Rd.	WB	3	6,000	3,983	2,572	9	108	3,992	2,680	0.665	0.447	C	B
	EB	3	6,000	2,698	3,485	106	38	2,804	3,523	0.467	0.587	B	B
Kearny Villa Rd. to I-15	WB	2	4,000	3,983	2,572	0	11	3,983	2,583	0.996	0.646	E	C
	EB	2	4,000	2,698	3,485	0	0	2,698	3,485	0.674	0.871	C	D

Source: LLG 2013

Notes:

a. The number of lanes shown indicates the number of mainline lanes + the number of auxiliary lanes. No HOV lanes are currently provided on the above freeway segments of I-15, SR 52, or SR 163.
b. Capacity calculated at 2,000 vph per lane and 1,200 vph per Auxiliary lane.
c. Existing Peak Hour volumes from Table 5.2-16
d. Cumulative projects traffic volumes.

LOS	v/c
A	< 0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	> 1.46

Table 5.2-33b
Near-Term Peak Hour Freeway Mainline Operations: Near-Term Plus Project Phase I

Freeway Segment	Dir.	# of Lanes[a]	Hourly Capacity[b]	Near-Term Without Project Traffic[c]		Project Phase I Traffic[d]		Near-Term + Project Phase I Traffic		V/C		Δ V/C		LOS	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	6,474	6,261	11	18	6,485	6,279	0.811	0.785	0.001	0.002	D	C
	SB	4	8,000	7,190	7,080	3	16	7,193	7,096	0.899	0.887	0.000	0.002	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,654	6,344	11	70	6,665	6,414	0.724	0.697	0.001	0.008	C	C
	SB	4 + 1	9,200	7,261	7,150	51	82	7,312	7,232	0.795	0.786	0.006	0.009	C	C
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	7,298	6,874	14	88	7,312	6,962	0.795	0.757	0.002	0.010	C	C
	SB	4 + 1	9,200	7,803	7,825	65	104	7,868	7,929	0.855	0.862	0.007	0.011	D	D
SR-163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	5,113	5,754	2	4	5,115	5,758	0.556	0.626	0.000	0.000	B	C
	SB	4 + 1	9,200	5,758	5,925	1	3	5,759	5,928	0.626	0.644	0.000	0.000	C	C
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,121	6,650	2	16	6,123	6,666	0.666	0.725	0.000	0.002	C	C
	SB	4 + 1	9,200	6,471	6,994	12	18	6,483	7,012	0.705	0.762	0.001	0.002	C	C
SR-52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	3,992	2,680	10	15	4,002	2,695	0.667	0.449	0.002	0.003	C	B
	EB	3	6,000	2,804	3,523	2	12	2,806	3,535	0.468	0.589	0.000	0.002	B	B
Kearny Villa Rd. to I-15	WB	2	4,000	3,983	2,583	1	5	3,984	2,588	0.996	0.647	0.000	0.001	E	C
	EB	2	4,000	2,698	3,485	3	5	2,701	3,490	0.675	0.873	0.001	0.001	C	D

Source: LLG 2013

Notes:

a. The number of lanes shown indicates the number of mainline lanes + the number of auxiliary lanes. No HOV lanes are currently provided on the above freeway segments of I-15, SR 52, or SR 163.
b. Capacity calculated at 2,000 vph per lane and 1,200 vph per auxiliary lane.
c. Existing Peak Hour volumes from Table 5.2-16.
d. Project Phase I traffic volumes.

LOS	v/c
A	< 0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

Table 5.2-33c
Near-Term Peak Hour Freeway Mainline Operations: Near-Term Plus Full Project Buildout

Freeway Segment	Dir.	# of Lanes[a]	Hourly Capacity[b]	Near-Term Without Project Traffic[c]		Full Project Buildout Traffic[d]		Near-Term With Full Project Buildout Traffic		V/C		Δ V/C		LOS	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	6,474	6,261	21	51	6,495	6,312	0.812	0.789	0.003	0.006	D	C
	SB	4	8,000	7,190	7,080	29	30	7,219	7,110	0.902	0.889	0.004	0.004	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,654	6,344	130	133	6,784	6,477	0.737	0.704	0.014	0.014	C	C
	SB	4 + 1	9,200	7,261	7,150	94	230	7,355	7,380	0.799	0.802	0.010	0.025	C	D
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	7,298	6,874	165	169	7,463	7,043	0.811	0.765	0.018	0.018	D	C
	SB	4 + 1	9,200	7,803	7,825	119	291	7,922	8,116	0.861	0.882	0.013	0.032	D	D
SR-163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	5,113	5,754	4	10	5,117	5,764	0.556	0.626	0.000	0.001	B	C
	SB	4 + 1	9,200	5,758	5,925	5	6	5,763	5,931	0.626	0.645	0.001	0.001	C	C
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	6,121	6,650	25	30	6,146	6,680	0.668	0.726	0.003	0.003	C	C
	SB	4 + 1	9,200	6,471	6,994	20	51	6,491	7,045	0.706	0.766	0.002	0.006	C	C
SR-52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	3,992	2,680	16	41	4,008	2,721	0.668	0.453	0.003	0.007	C	B
	EB	3	6,000	2,804	3,523	20	24	2,824	3,547	0.471	0.591	0.003	0.004	B	B
Kearny Villa Rd. to I-15	WB	2	4,000	3,983	2,583	8	9	3,991	2,592	0.998	0.648	0.002	0.002	E	C
	EB	2	4,000	2,698	3,485	6	15	2,704	3,500	0.676	0.875	0.002	0.004	C	D

Source: LLG 2013

Notes:

a. The number of lanes shown indicates the number of mainline lanes + the number of Auxiliary lanes. No HOV lanes are currently provided on the above freeway segments of I-15, SR 52, or SR 163.
b. Capacity calculated at 2,000 vph per lane and 1,200 vph per Auxiliary lane.
c. Existing Peak Hour volumes from Table 5.2-16.
d. Full Project Buildout traffic volumes.

LOS	V/C
A	< 0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

Freeway Ramp Meters

Table 5.2-34 summarizes the Near-Term Without Project ramp meter operations. As seen in *Table 5.2-34*, using the most restrictive discharge rates obtained from Caltrans, all HOV lanes operate with no delay or queues with the addition of cumulative projects traffic. However, the SOV lanes at the following ramps have delays of 15 minutes or more:

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 24 minutes with a 94-vehicle, or a 2,350-foot long queue
- Balboa Avenue/SB I-15 On-Ramp: Delay of 37 minutes with a 227-vehile, or a 5,686-foot-long queue.

Comparing the calculated values to the maximum observed existing values, with the addition of Cumulative projects traffic, the proportionate delays and queues are estimated to be:

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 1 minute with a 9-vehicle, or a 225-foot long queue
- Balboa Avenue/SB I-15 On-Ramp: Delay of 10 minutes with a 72-vehicle, or a 1,800-foot-long queue.

As seen above, based on the field observations, the estimated delays with the addition of cumulative projects traffic are within acceptable limits (less than 15 minutes).

ILV Operations

Table 5.2-35 summarizes the Near-Term Without Project ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-35*, all study area interchange intersections are calculated to continue to operate at under or near capacity with the addition of the Full Project Buildout traffic, except for the following:

- Clairemont Mesa Boulevard / I–15 SB intersection - over capacity during both the AM and PM peak hours.

Table 5.2-34
Near-Term Ramp Meter Analysis

Location/Condition	Peak Hour	Demand D [a] (veh/hr/ln)	Calculated (Most Restrictive)				Maximum Observed [g]		
			Peak Hour [b] Flow (F) (veh/hr/ln)	*Excess Demand [d] E (veh/hr/ln)*	*Delay [e] (min/ln)*	*Queue [f]*	*Delay Minutes*	*Queue*	
								Veh/Ln	*Feet*
Clairemont Mesa Boulevard / SR 163 Interchange WB Clairemont Mesa Boulevard to NB SR 163	15% Reduction to volumes in SOV lanes due to HOV lane						1 SOV + 1 HOV		
Existing - SOV	PM	481	593	0	0	0	0	0	0
Existing - HOV	PM	66	593	0	0	0	0	0	0
Near-Term Without Project - SOV	PM	598	593	5	1	135	0	0	0
Near-Term Without Project - HOV	PM	82	593	0	0	0	0	0	0
Near-Term + Project Phase I - SOV	PM	602	593	9	1	223	0	0	0
Near-Term + Project Phase I - HOV	PM	82	593	0	0	0	0	0	0
Near-Term + Entire Project - SOV	PM	607	593	14	1	355	0	0	0
Near-Term + Entire Project - HOV	PM	83	593	0	0	0	0	0	0
WB Clairemont Mesa Boulevard to SB SR 163							2 SOV		
Existing	PM	375	514	0	0	0	0	0	0
Near-Term Without Project	PM	458	514	0	0	0	0	0	0
Near-Term + Project Phase I	PM	458	514	0	0	0	0	0	0
Near-Term + Entire Project	PM	481	514	0	0	0	0	0	0
Clairemont Mesa Boulevard / I-15 Interchange EB Clairemont Mesa Boulevard to NB I-15							2 SOV		
Existing	PM	313	238	75	19	1,875	1	7	175
Near-Term Without Project	PM	332	238	94	24	2,350	1	9	225
Near-Term + Project Phase I	PM	332	238	94	24	2,350	1	9	225
Near-Term + Entire Project	PM	358	238	120	30	2,988	1	11	275
EB Clairemont Mesa Boulevard to SB I-15	15% Reduction to volumes in SOV lanes due to HOV lane						2 SOV + 1 HOV		
Existing - SOV	PM	343	312	31	6	777	2	24	600
Existing - HOV	PM	85	312	0	0	0	0	0	0
Near-Term Without Project - SOV	PM	343	312	31	6	777	2	24	600

Table 5.2-34
Near-Term Ramp Meter Analysis

Location/Condition	Peak Hour	Demand D [a] (veh/hr/ln)	Calculated (Most Restrictive)				Maximum Observed [g]		
			Peak Hour [b] Flow (F) (veh/hr/ln)	*Excess Demand [d] E (veh/hr/ln)*	*Delay [e] (min/ln)*	*Queue [f]*	*Delay Minutes*	*Queue Veh/Ln*	*Queue Feet*
Near-Term Without Project - HOV	PM	85	312	0	0	0	0	0	0
Near-Term + Project Phase I - SOV	PM	380	312	68	13	1,690	4	52	1,300
Near-Term + Project Phase I - HOV	PM	94	312	0	0	0	0	0	0
Near-Term + Entire Project - SOV	PM	445	312	133	26	3,336	9	103	2,575
Near-Term + Entire Project - HOV	PM	110	312	0	0	0	0	0	0
Balboa Avenue / I-15 Interchange EB Balboa Avenue to SB I-15	15% Reduction to volumes in SOV lanes due to HOV lane						2 SOV + 1 HOV		
Existing - SOV	PM	517	372	145	23	3,622	6	46	1,150
Existing - HOV	PM	168	372	0	0	0	0	0	0
Near-Term Without Project - SOV	PM	599	372	227	37	5,686	10	72	1,800
Near-Term Without Project - HOV	PM	195	372	0	0	0	0	0	0
Near-Term + Project Phase I – SOV	PM	609	372	237	38	5,922	10	75	1,875
Near-Term + Project Phase I - HOV	PM	198	372	0	0	0	0	0	0
Near-Term + Entire Project - SOV	PM	626	372	254	41	6,341	11	81	2,025
Near-Term + Entire Project - HOV	PM	204	372	0	0	0	0	0	0

a. Demand “D” is the traffic that desires to enter the freeway at this on-ramp during the peak hour.
b. Peak Hour Flow “F” is the *most restrictive* rate at which the ramp meter (signal) discharges traffic on to the freeway (obtained from Caltrans).
c. Excess Demand “E” is the difference between the Demand and the Peak Hour Flow.
d. Delay in minutes per lane experienced by each vehicle, calculated as the ratio of the Excess Demand and the Peak Hour Flow in one minute.
e. Queue is calculated as 25 feet per vehicle (E)
f. Estimated Delay and Queue based on current field observations.

Table 5.2-35
Near-Term ILV Operations

Intersection	Peak Hour	Near-Term Without Project		Near-Term + Project Phas e 1		Near-Term + Full Project Buildout	
		Operating Level (ILV / Hour)	*Capacity*	*Operating Level (ILV / Hour)*	*Capacity*	*Operating Level (ILV / Hour)*	*Capacity*
Clairemont Mesa Boulevard / SR-163 NB Ramps	AM	1,396	Near	1,396	Near	1,399	Near
	PM	1,020	Under	1,020	Under	1,020	Under
Clairemont Mesa Boulevard / I-15 SB Ramps	AM	1,856	Over	1,868	Over	1,982	Over
	PM	1,731	Over	1,769	Over	1,931	Over
Clairemont Mesa Boulevard / I-15 NB Ramps	AM	1,371	Near	1,382	Near	1,452	Near
	PM	1,070	Under	1,107	Under	1,159	Under
Ruffin Road / SR-52 WB Ramps	AM	935	Under	945	Under	961	Under
	PM	1,440	Near	1,455	Near	1,481	Near
Ruffin Road / SR-52 EB Ramps	AM	812	Under	817	Under	835	Under
	PM	1,304	Under	1,312	Under	1,325	Near

Source: LLG 2013

Notes:

a. CAPACITY is shown as UNDER capacity, NEAR capacity or OVER capacity:
Under *Capacity* = <1200 ILV/Hour
Near Capacity = >1200 but < 1500 ILV/Hour
Over Capacity = >1500 ILV/Hour

b. The Clairemont Mesa Boulevard / SR-163 SB ramps intersection is not analyzed since it is not signalized.

Near-Term Plus Project Phase I

Freeway Segments

Table 5.2-33b summarizes the Near-Term Plus Project Phase I freeway mainline operations. As seen in *Table 5.2-33c*, with the addition of the Full Project Buildout traffic, all study area freeway segments are calculated to operate at LOS D or better except one. The segment of SR 52 between Kearny Villa Road and I-15 is calculated to continue to operate at LOS E in the westbound direction during the AM peak hour. However, since the increase in the V/C ratio due to the project traffic is 0.003, less than allowable 0.005, the project does not have a significance direct impact.

Freeway Ramp Meters

Table 5.2-34 summarizes the Near-Term Plus Project Phase I ramp meter operations. As seen in *Table 5.2-34*, using the most restrictive discharge rates obtained from Caltrans, all HOV lanes operate with no delay or queues with the addition of cumulative projects traffic with the addition of the Project Phase I traffic. However, the SOV lanes at the following ramps have delays of 15 minutes or more.

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 24 minutes with a 94-vehicle, or a 2,350-foot-long queue
- Balboa Avenue/SB I-15 On-Ramp: Delay of 38 minutes with a 237-vehicle, or a 5,922-foot-long queue.

Equating the calculated values to the maximum observed existing values, with the addition of the Project Phase I traffic, the proportionate delays and queues are estimated to be:

The actual delays and queues based on the existing observations are estimated to be:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 1 minute with a 9-vehicle, or a 225-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Queue – Delay of 10 minutes with a 75-vehicle, or a 1,875-foot long queue.

As seen above, based on the field observations, the estimated delays with the addition of Project Phase I traffic are within acceptable limits (less than 15 minutes).

ILV Operations

Table 5.2-35 summarizes the Near-Term with Project Phase 1 ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-35*, all study area interchange intersections are calculated to continue to operate at under or near capacity with the addition of the Full Project Buildout traffic, except for the following:

- Clairemont Mesa Boulevard / I–15 SB intersection - over capacity during both the AM and PM peak hours.

Near-Term Plus Full Project Buildout

Freeway Segments

Table 5.2-33b summarizes the Near-Term Plus Full Project Buildout freeway mainline operations. As seen in *Table 5.2-33b*, with the addition of the Full Project Buildout traffic, all study area freeway segments are calculated to operate at LOS D or better except one. The segment of SR 52 between Kearny Villa Road and I-15 is calculated to continue to operate at LOS E in the westbound direction during the AM peak hour; however, since the increase in the V/C ratio due to the project traffic is 0.003, less than allowable 0.005, the project would not result in a significance direct impact.

Freeway Ramp Meters

Table 5.2-34 summarizes the Near-Term Plus Full Project Buildout ramp meter operations. As seen in *Table 5.2-34*, using the most restrictive discharge rates obtained from Caltrans, all HOV lanes operate with no delay or queues with the addition of Cumulative Projects traffic with the addition of the Full Project Buildout traffic. However, the SOV lanes at the following ramps have delays of 15 minutes or more.

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 30 minutes with a 120-vehicle, or a 2,988-foot-long queue
- Clairemont Mesa Boulevard/SB I-15 On-Ramp: Delay of 26 minutes with a 133-vehicle, or a 3,336-foot-long queue
- Balboa Avenue/SB I-15 On-Ramp: Delay of 41 minutes with a 254-vehicle, or a 6,341-foot-long queue.

Equating the calculated values to the observed existing values, with the addition of the Full Project Buildout traffic, the proportionate delays and queues are estimated to be:

- Clairemont Mesa Boulevard/NB I-15 On-Ramp: Delay of 1 minute with a 11-vehicle queue, or a 275-foot-long queue.
- Clairemont Mesa Boulevard/SB I-15 On-Ramp: Delay of 9 minutes with a 103-vehicle, or a 2,575-foot-long queue.
- Balboa Avenue/SB I-15 On-Ramp: Delay of 11 minutes with a 81-vehicle, or a 2,025-foot-long queue.

As seen above, based on the field observations, the estimated delays with the addition of the Full Project Buildout traffic are within acceptable limits (less than 15 minutes).

ILV Operations

Table 5.2-35 summarizes the Near-Term With Full Project Buildout ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-35*, all study area interchange intersections are calculated to continue to operate at under or near capacity with the addition of the Full Project Buildout traffic, except for the following:

- Clairemont Mesa Boulevard / I–15 SB intersection - over capacity during both the AM and PM peak hours.

Long Term

Year 2035 Scenario

Freeway Segments

Tables 5.2-36a and 5.2-36b summarize the Year 2035 freeway mainline operations. As shown, all study area freeway segments are calculated to operate at LOS D or better except the following in the year 2035 Without Project scenario:

- **I-15:** Clairemont Mesa Boulevard to Balboa Avenue (SB - LOS F(0) in the AM peak hour and SB - LOS F(0) in the PM peak hour)
- **I-15:** Balboa Avenue to Aero Drive (NB - LOS E in the AM and PM peak hour and SB - LOS F(0) in the AM and PM peak hour)
- **SR-52:** Kearny Villa Road to I-15 (WB - LOS E in the AM peak hour and EB LOS E in the AM and LOS F(1) in the PM peak hour).

Table 5.2-36a
Long-Term (Year 2035) Freeway Mainline Operations: Year 2035 Without Project

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[a]	ADT[b]	% K[c]		% D[c]		Truck Factor[d]	Year 2035 Without Project Peak Hour Volume[e]		V/C[f]		LOS	
					AM	*PM*	*AM*	*PM*		*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	163,200	0.0813	0.0792	0.4735	0.4678	0.9627	6,526	6,281	0.816	0.785	D	C
	SB	4	8,000		0.0813	0.0792	0.5265	0.5322		7,256	7,145	0.907	0.893	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	209,300	0.0813	0.0792	0.4735	0.4678	0.9627	8,369	8,055	0.910	0.876	D	D
	SB	4 + 1	9,200		0.0813	0.0792	0.5265	0.5322		9,306	9,164	1.012	0.996	F(0)	E
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	222,400	0.0813	0.0792	0.4735	0.4678	0.9627	8,893	8,559	0.967	0.930	E	E
	SB	4 + 1	9,200		0.0813	0.0792	0.5265	0.5322		9,889	9,737	1.075	1.058	F(0)	F(0)
SR 163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	167,600	0.0858	0.0923	0.4792	0.4931	0.9717	7,092	7,850	0.771	0.853	C	D
	SB	4 + 1	9,200		0.0858	0.0923	0.5208	0.5069		7,707	8,070	0.838	0.877	D	D
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	174,000	0.0858	0.0923	0.4792	0.4931	0.9717	7,362	8,150	0.800	0.886	D	D
	SB	4 + 1	9,200		0.0858	0.0923	0.5208	0.5069		8,002	8,378	0.870	0.911	D	D
SR 52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	85,100	0.0996	0.0903	0.5962	0.4246	0.9690	5,215	3,367	0.869	0.561	D	B
	EB	3	6,000		0.0996	0.0903	0.4038	0.5754		3,532	4,563	0.589	0.761	B	C
Kearny Villa Rd. to I-15	WB	3	6,000	95,900	0.0996	0.0903	0.5962	0.4246	0.9690	5,877	3,795	1.469	0.949	F(3)	E
	EB	2	4,000		0.0996	0.0903	0.4038	0.5754		3,980	5,142	0.995	1.286	E	F(1)

Source: LLG 2013

Notes:

a. The number of lanes shown indicates the number of mainline lanes + the number of auxiliary lanes. No HOV lanes are currently provided on the above freeway segments of I-15, SR 52, or SR 163.
b. Capacity calculated at 2,000 vph per lane and 1,200 vph per auxiliary lane.
c. Existing ADT volumes from Caltrans.
d. Peak Hour Percentage (K) and Direction Split (D) from Caltrans 2009.
e. Truck Factor from 2010 Annual Average Daily Truck Traffic on the California State Highway System.
f. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
g. V/C=((ADT)(K)(D)/Truck Factor/Capacity)

LOS	V/C
A	< 0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	> 1.46

Table 5.2-36b
Long-Term (Year 2035) Freeway Mainline Operations: Year 2035 With Full Project Buildout

Freeway Segment	Dir.	# of Lanes[a]	Hourly Capacity [b]	Year 2035 No Project Peak Hour Volume[c]		Project Traffic[d]		Year 2035 With Project Peak Hour Volume		V/C		LOS		Δ V/C	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Interstate 15															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4	8,000	6,526	6,281	21	51	6,547	6,332	0.818	0.791	D	C	0.003	0.006
	SB	4	8,000	7,256	7,145	29	30	7,285	7,175	0.911	0.897	D	D	0.004	0.004
Clairemont Mesa Blvd.to Balboa Ave.	NB	4 + 1	9,200	8,369	8,055	130	133	8,499	8,188	**0.924**	0.890	**E**	D	**0.014**	0.014
	SB	4 + 1	9,200	9,306	9,164	94	230	9,400	9,394	**1.022**	**1.021**	**F(0)**	**F(0)**	**0.010**	**0.025**
Balboa Ave. to Aero Dr.	NB	4 + 1	9,200	8,893	8,559	165	169	9,058	8,728	**0.985**	**0.949**	**E**	**E**	**0.018**	**0.018**
	SB	4 + 1	9,200	9,889	9,737	119	291	10,008	10,028	**1.088**	**1.090**	**F(0)**	**F(0)**	**0.013**	**0.032**
SR 163															
SR 52 Connector to Clairemont Mesa Blvd.	NB	4 + 1	9,200	7,092	7,850	4	10	7,096	7,860	0.771	0.854	C	D	0.000	0.001
	SB	4 + 1	9,200	7,707	8,070	6	6	7,713	8,076	0.838	0.878	D	D	0.001	0.001
Clairemont Mesa Blvd. to Balboa Ave.	NB	4 + 1	9,200	7,362	8,150	29	30	7,391	8,180	0.803	0.889	D	D	0.003	0.003
	SB	4 + 1	9,200	8,002	8,378	21	51	8,023	8,429	0.872	0.916	D	D	0.002	0.006
SR 52															
SR 163 to Kearny Villa Rd.	WB	3	6,000	5,215	3,367	17	41	5,232	3,408	0.872	0.568	D	B	0.003	0.007
	EB	3	6,000	3,532	4,563	23	24	3,555	4,587	0.593	0.765	B	C	0.004	0.004
Kearny Villa Rd. to I-15	WB	3	6,000	5,877	3,795	9	9	5,886	3,804	1.471	0.951	F(3)	E	0.002	0.002
	EB	2	4,000	3,980	5,142	6	15	3,986	5,157	0.997	1.289	E	F(1)	0.002	0.004

Source: LLG 2013

Notes:

a. The number of lanes shown indicates the number of mainline lanes + the number of auxiliary lanes. No HOV lanes are currently provided on the above freeway segments of I-15, SR 52, or SR 163.
b. Capacity calculated at 2,000 vph per lane and 1,200 vph per Auxiliary lane.
c. Year 2035 “Without Project” peak hour traffic volumes from Table 5.2-28a.
d. Full Project Buildout traffic volumes.

General Note:

BOLD indicates a significant impact.

LOS	v/c
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

Freeway Ramp Meters

Table 5.2-37 summarizes the Year 2035 Without project ramp meter operations. As seen in *Table 5.2-37*, with the addition of the Full Project Buildout traffic, using the most restrictive discharge rates obtained from Caltrans, the results show:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 65 minutes with a 257-vehicle, or a 6,425-foot long queue.
- Clairemont Mesa Boulevard / SB I-15 On-Ramp: Delay of 38 minutes with a 195-vehicle, or a 4,883-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Delay of 55 minutes with a 339-vehicle, or a 8,481-foot long queue.

Comparing the calculated values to the maximum observed existing values, the proportionate delays and queues for the Year 2035 without project traffic are estimated to be:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 3 minutes with a 24-vehicle, or a 600-foot long queue.
- Clairemont Mesa Boulevard / SB I-15 On-Ramp: Delay of 25 minutes with a 299-vehicle, or a 7,475-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Queue: Delay of 15 minutes with a 112-vehicle, or a 2,800-foot long queue.

ILV Operations

Table 5.2-38 summarizes the Year 2035 Without Project ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-38*, the following study area interchange intersections are calculated to operate at over capacity:

- Clairemont Mesa Boulevard / SR–163 NB intersection - Over capacity during the AM peak hour.
- Clairemont Mesa Boulevard / I–15 SB intersection - Over capacity during both the AM and PM peak hours.
- Clairemont Mesa Boulevard / I–15 NB intersection - Over capacity during the AM peak hour.
- Ruffin Road / SR–52 WB intersection - Over capacity during the PM peak hour.

Table 5.2-37
Long-Term (Year 2035) Ramp Meter Analysis

Location/Condition	Peak Hour	Demand D [a] (veh/hr/ln)	*Merge Rate [b] (R) (veh/hr/ln)*	Calculated (Most Restrictive) *Excess Demand [d] E (veh/hr/ln)*	*Delay [e] (min/ln)*	*Queue [f]*	Maximum Observed [g] *Delay (Min)*	*Queue Veh/Ln*	*Queue Feet*
WB Clairemont Mesa Boulevard to NB SR 163	12% Reduction to volumes in SOV lanes due to HOV lane						1 SOV+1 HOV		
Year 2035 No Project - SOV	PM	757	593	164	17	4,095	0	0	—
Year 2035 No Project - HOV	PM	103	593	0	0	0	0	0	—
Year 2035 With Project - SOV	PM	766	593	173	17	4,315	0	0	—
Year 2035 With Project - HOV	PM	104	593	0	0	0	0	0	—
WB Clairemont Mesa Boulevard to SB SR 163							2 SOV		
Year 2035 No Project	PM	600	514	86	10	2,150	0	0	—
Year 2035 With Project	PM	626	514	112	13	2,788	0	0	—
EB Clairemont Mesa Boulevard to NB I-15							2 SOV		
Year 2035 No Project	PM	495	238	257	65	6,425	3	24	600
Year 2035 With Project	PM	521	238	283	71	7,063	4	26	650
EB Clairemont Mesa Boulevard to SB I-15	11% Reduction to volumes in SOV lanes due to HOV lane						2 SOV+1 HOV		
Year 2035 No Project - SOV	PM	507	312	195	38	4,883	25	299	7,475
Year 2035 No Project - HOV	PM	125	312	0	0	0	0	0	0
Year 2035 With Project - SOV	PM	610	312	298	57	7,441	**38**	**456**	**11,400**
Year 2035 With Project - HOV	PM	151	312	0	0	0	0	0	0
EB Balboa Avenue to SB I-15	14% Reduction to volumes in SOV lanes due to HOV lane						2 SOV+1 HOV		
Year 2035 No Project - SOV	PM	711	827	339	55	8,481	15	112	2,800
Year 2035 No Project - HOV	PM	232	248	0	0	0	0	0	0
Year 2035 With Project - SOV	PM	737	858	365	59	9,136	16	121	3,025
Year 2035 With Project - HOV	PM	240	257	0	0	0	0	0	0

a. Peak Hour Flow "F" is the rate at which the ramp meter (signal) discharges traffic on to the freeway.
b. Demand "D" is the traffic that desires to enter the freeway at this on-ramp during the peak hour.
c. Excess Demand "E" is the difference between the Demand and the Peak Hour Flow.
d. Delay in minutes per lane experienced by each vehicle, calculated as the ratio of the Excess Demand and the Peak Hour Flow in one minute.
e. Queue is calculated as 25 feet per vehicle (E)
f. Estimated Delay and Queue based on current field observations.

General Notes: Bold indicates a significant impact.

Table5.2-38
Year 2035 + Project ILV Operations

Intersection	Peak Hour	Year 2035 Without Project		Year 2035 With Project	
		Operating Level (ILV / Hour)	*Capacity*	*Operating Level (ILV / Hour)*	*Capacity*
4. Clairemont Mesa Boulevard / SR-163 NB Ramps	AM	1,617	Over	1,663	Over
	PM	1,190	Under	1,145	Under
10. Clairemont Mesa Boulevard / I-15 SB Ramps	AM	2,265	Over	2,391	Over
	PM	2,010	Over	2,270	Over
11. Clairemont Mesa Boulevard / I-15 NB Ramps	AM	1,735	Over	1,817	Over
	PM	1,305	Near	1,374	Near
13. Ruffin Road / SR-52 WB Ramps	AM	1,130	Under	1,156	Under
	PM	1,630	Over	1,680	Over
14. Ruffin Road / SR-52 EB Ramps	AM	1,110	Under	1,136	Under
	PM	1,420	Near	1,441	Near

General Note:

a. CAPACITY is shown as UNDER capacity, NEAR capacity or OVER capacity:
Under Capacity = <1200 ILV/Hour
Near Capacity = >1200 but < 1500 ILV/Hour
Over Capacity = >1500 ILV/Hour

b. The Clairemont Mesa Boulevard / SR-163 SB ramps intersection is not analyzed since it is not signalized.

Year 2035 Plus Full Project Buildout

Freeway Segments

Table 5.2-36a and 5.2-36b summarize the Year 2035 with project freeway mainline operations. As seen in *Table 5.2-36b*, with the addition of the Full Project Buildout traffic, the following freeway segments are calculated to continue to operate at LOS E or worse in the year 2035 without Project scenario:

- **I-15:** Clairemont Mesa Boulevard to Balboa Avenue (SB - LOS F(0) in the AM and LOS E in the PM peak hour)
- **I-15:** Balboa Avenue to Aero Drive (NB - LOS E in the AM and PM peak hour and SB - LOS F(0) in the AM and PM peak hour)
- **SR-52:** Kearny Villa Road to I-15 (WB - LOS E in the AM peak hour and EB LOS E in the AM peak hour and LOS F(1) in the PM peak hour).

The project results in a significant cumulative impact on the two I-15 freeway segments; however, the increase in V/C ratio on the SR-52 segment is 0.002, which is less than the City of San Diego significance criteria that allows an increase in V/C ratio of 0.005. Therefore, the project would not have a significant cumulative impact on the subject SR-52 freeway segment.

Freeway Ramp Meters

Table 5.2-37 summarizes the Year 2035 With project ramp meter operations. As seen in *Table 5.2-37*, with the addition of the Full Project Buildout traffic, using the most restrictive discharge rates obtained from Caltrans, the results show:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 71 minutes with a 283-vehicle, or a 7,063 -foot long queue.
- Clairemont Mesa Boulevard / SB I-15 On-Ramp: Delay of 57 minutes with a 298-vehicle, or a 7,441-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Delay of 59 minutes with a 365-vehicle, or a 9,136-foot long queue.

Comparing the calculated values to the maximum observed existing values, with the addition of the Full Project Buildout traffic, the proportionate delays and queues are estimated to be:

- Clairemont Mesa Boulevard / NB I-15 On-Ramp: Delay of 4 minutes with a 26 vehicle, or a 650-foot long queue.
- Clairemont Mesa Boulevard / SB I-15 On-Ramp: Delay of 38 minutes with a 456-vehicle, or a 11,400-foot long queue.
- Balboa Avenue / SB I-15 On-Ramp: Queue: Delay of 16 minutes with a 21-vehicle, or a 3,025-foot long queue.

As seen above, based on field observations, the estimated delays with the addition of the Full Project Buildout traffic is over 15 minutes at the Clairemont Mesa Boulevard / SB I-15 On-Ramp and the increase in delay due to the project traffic is 15 minutes. Therefore, the project would have a cumulative impact at this ramp meter location. At the Balboa Avenue / SB I-15 On-Ramp, even though the total delay with project traffic is 21 minutes (over 15 minutes), the project contributes only 1 minute towards this delay, which is less than the allowable 2 minutes. Therefore, the project would not have a significant cumulative impact at this ramp location.

ILV Operations

Table 5.2-38 summarizes the Year 2035 With Project ILV calculations for the freeway interchanges within the study area. As seen in *Table 5.2-38*, the following study area interchange intersections are calculated to operate at over capacity with the addition of the Full Project Buildout traffic:

- Clairemont Mesa Boulevard / SR–163 NB intersection - Over capacity during the AM peak hour.
- Clairemont Mesa Boulevard / I–15 SB intersection - Over capacity during both the AM and PM peak hours.

- Clairemont Mesa Boulevard / I–15 NB intersection - Over capacity during the AM peak hour.
- Ruffin Road / SR–52 WB intersection - Over capacity during the PM peak hour.

5.2.14 SIGNIFICANCE OF IMPACT

Direct Impacts

Existing Plus Project

No direct impacts to freeway segments, interchanges, or ramps would occur under the Existing Plus Project scenario.

Near-Term Without Project

No direct impacts to freeway segments, interchanges, or ramps would occur under the Near-Term Without Project scenario.

Near-Term Plus Project Phase 1

No direct impacts to freeway segments, interchanges, or ramps would occur under the Near-Term Plus Project Phase 1 scenario.

Near-Term Plus Full Project Buildout

No direct impacts to freeway segments, interchanges, or ramps would occur under the Near-Term Plus Full Project Buildout scenario.

Cumulative Impacts

Existing Plus Project

No cumulative impacts to freeway segments, interchanges, or ramps would occur under the Existing Plus Project scenario.

Near-Term Without Project

No cumulative impacts to freeway segments, interchanges, or ramps would occur under the Near-Term Without Project scenario.

Near-Term Plus Project Phase 1

No cumulative impacts to freeway segments, interchanges, or ramps would occur under the Near-Term Plus Project Phase 1 scenario.

Near-Term Plus Full Project Buildout

No cumulative impacts to freeway segments, interchanges, or ramps would occur under the Near-Term Plus Full Project Buildout scenario.

Year 2035 Plus Full Project Buildout

Under the Year 2035 Plus Full Project Buildout scenario, two freeway segments and one ramp meter would have significant cumulative impacts:

Freeway Segments

Impact C-6: I-15—Clairemont Mesa Boulevard to Balboa Avenue

Impact C-7: I-15—Balboa Avenue to Aero Drive

Mitigation in the form of fair share payment toward improvements along I-15 would be required to mitigation identified impacts; however, since there is no currently programmed and funded improvement plan for the impacted segments of I-15, the two identified freeway segment impacts are not considered fully mitigated and the impact would be significant and unavoidable.

Ramp Meter

Impact C-8: Clairemont Mesa Boulevard to SB I-15

The Clairemont Mesa Boulevard to SB I-15 on-Ramp currently has one HOV lane and 2 SOV lanes and is built to its ultimate configuration; therefore, no feasible mitigation is available. Impacts would remain significant and unavoidable.

5.2.15 MITIGATION, MONITORING, AND REPORTING

Direct Impacts

No direct impacts to freeway segments, interchanges, or ramps would occur following implementation of the proposed project; therefore, no mitigation is required.

Cumulative Impacts

Year 2035 Plus Full Project Buildout

Freeway Segments

No feasible mitigation measures are available for the impacted locations, since there is no programmed improvement plan for the two impacted segments of I-15. As such, the impact is considered significant an unavoidable.

Ramp Meters

The Clairemont Mesa Boulevard to SB I-15 on-ramp maintains one HOV lane and 2 SOV lanes and is currently built to its ultimate configuration; therefore, no feasible mitigation is available and the impact is considered significant and unavoidable.

In summary, for impacts to freeway segments (Impacts C-6 and C-7) and the Clairemont Mesa Boulevard to SB I-15 on-ramp meter (Impact C-8), no feasible mitigation measures are available, and impacts would be significant and unavoidable.

Table 5.2-39 and *Table 5.2-40* summarize significant impacts to freeway segments and freeway ramp meter locations, respectively, and mitigation measures. As shown, impacts would remain significant and unavoidable.

Table 5.2-39
Summary of Impacts and Mitigation Measures—Freeway Segments

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM V/C LOS	*PM V/C LOS*			*AM V/C LOS*	*PM V/C LOS*
EXISTING PLUS PROJECT							
Existing + Project Phase I (Year 2017)							
No Impacts							
Existing + Full Project Buildout (Year 2030)							
No Impacts							
NEAR TERM							
Existing + Cumulative Projects							
No Impacts							
Existing + Cumulative Projects Plus + Project Phase I							
No Impacts							
Existing + Cumulative Projects Plus + Full Project Buildout							
No Impacts							

Table 5.2-39
Summary of Impacts and Mitigation Measures—Freeway Segments

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		AM V/C LOS	*PM V/C LOS*			*AM V/C LOS*	*PM V/C LOS*
LONG TERM							
Year 2035 Without Project							
No Impacts							
Year 2035 With Full Project Buildout							
C-5	I-15: Clairemont Mesa Blvd.to Balboa Ave.	NB = 0.924, E SB = 1.022, F(0)	NB = 0.890, D SB = 1.021, F(0)	Cumulative	The project applicant shall contribute a fair share of 8% towards future improvements on I-15. Since there is no programmed improvement plan for this segment of I-15, the impact is considered not fully mitigated.	N/A	N/A
C-6	I-15: Balboa Ave. to Aero Dr.	NB = 0.987, E SB = 1.091, F(0)	NB = 0.951, E SB = 1.093, F(0)	Cumulative	Since there is no programmed improvement plan for this segment of I-15, the impact is considered significant and unavoidable.	N/A	N/A

Table 5.2-40
Summary of Impacts and Mitigation Measures—Freeway Ramp Meters

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		Delay (PM)	*Queue (PM)*			*Delay (PM)*	*Queue (PM)*
EXISTING PLUS PROJECT							
Existing + Project Phase I (Year 2017)							
No Impacts							
Existing + Full Project Buildout (Year 2030)							
No Impacts							
NEAR TERM							
Existing + Cumulative Projects							
No Impacts							
Existing + Cumulative Projects Plus + Project Phase I							
No Impacts							
Existing + Cumulative Projects Plus + Full Project Buildout							
No Impacts							
LONG TERM							
Year 2035 Without Project							
No Impacts							

Table 5.2-40
Summary of Impacts and Mitigation Measures—Freeway Ramp Meters

#	Location	Study Year With Project LOS		Impact	Mitigation	LOS with Mitigation	
		Delay (PM)	*Queue (PM)*			*Delay (PM)*	*Queue (PM)*
Year 2035 With Full Project Buildout							
C-7	Clairemont Mesa Blvd.to SB I-15	48	571	Cumulative	The Clairemont Mesa Blvd. to SB I-15 on-ramp currently has one HOV lane and two SOV lanes and is built to its ultimate configuration; therefore, no feasible mitigation is available, and the impact is considered significant and unavoidable.	N/A	N/A

Source: LLG 2013

5.2.16 IMPACT

Issue 4: Would the proposal result in a substantial impact upon existing or planned transportation systems?

As described in *Section 5.2.2, Existing Conditions*, seven bus routes currently serve the project site. Five of these seven transit routes, (MTS Routes 20, 25, 870, 928, and 960) serve either Ruffin Road or Clairemont Mesa Boulevard. Future planned transit improvements are described below.

I-15 Bus Rapid Transit

The 20-mile, I-15 Express Lanes Project, which extends from SR 78 in Escondido to SR 163, was completed in early 2012. In addition to the existing transit center in Escondido, infrastructure improvements include three transit stations with Park and Ride facilities at Del Lago, Rancho Bernardo, and Sabre Springs. These four stations are connected to the Express Lanes via Direct Access Ramps (DARs) which allow buses, carpoolers, vanpoolers, and FasTrak users access to the Express Lanes without encountering the congestion at the general traffic freeway on-ramps. In 2013, construction will be completed on the Mira Mesa/Scripps Ranch Transit Station located at Hillery Drive. Construction on its attached DAR will be completed in 2014. In early 2014, new Bus Rapid Transit (BRT), a bus service that is the first of its kind in San Diego, will begin to operate along the Express Lanes using the facilities noted above. Information regarding funding of this project is not known at this time. The new services will include:

1. An all-day, all-stops, bi-directional freeway service between the Escondido Transit Center and downtown San Diego;

2. An all-day, limited stop, bi-directional service between Escondido Transit Center and Sorrento Mesa (via Mira Mesa Boulevard), University Town Center, and University of California at San Diego (via I-805 and La Jolla Village Drive); and
3. Two peak-period, peak-direction-only Commuter Express services using the existing 800 Series routes buses. The San Diego bound services will also allow patrons to connect to the Mid-City Rapid and South Bay BRT services.

The benefits of the BRT service include more frequent and longer hours of service. During peak morning and afternoon commutes, service will be provided every 10 to 15 minutes. During off-peak hours, service will be provided every 15 to 30 minutes. In addition to providing faster service and increased routes, future BRT service will also offer 27 new buses with improvements designed to make the ride more comfortable, accessible, and convenient for passengers. BRT buses will be designed to streamline and speed up the boarding process by featuring multiple doors, low-floor designs, and fare-boxes that accept Compass Cards. Additional design features, such as comfortable seating and larger windows, will improve ride quality, and video monitors will provide announcements on station stops and other transit information.

Bus Stop Relocation

The applicant will work with MTS to relocate the existing bus stop for Routes 25 and 928 on Clairemont Mesa Boulevard just west of Ruffin Road, to a location to the east of Ruffin Road, along the project frontage. MTS generally prefers far-side bus stops and providing a bus stop along the project frontage would be a convenience to patients and visitors since they will not need to cross a four-lane major road (Ruffin Road) to access the hospital.

Transportation Demand Management

In an effort to reduce vehicular trips to and from the proposed project, a Transportation Demand Management Plan (TDM) was developed that would encourage staff and visitors to use alternate forms of transportation other than single occupancy vehicles and to shift vehicle trips out of the peak hour. The following TDM plan will be provided by the project applicant:

1. Kaiser Permanente will coordinate with MTS and NCTD to offer partially subsidized monthly passes for employees.
2. Provide preferentially located carpool/vanpool parking spaces in the employee parking area for use by qualified employees in an area closest to the entrance to the building. Sign and stripe these spaces "Car/Vanpool Parking Only". Information about the availability of and the means of accessing the car/vanpool parking spaces should be posted on Transportation Information Displays and communication regarding parking privileges.

3. Display transportation information in common areas accessible to employees and patients in each building. Transportation Information Displays should include, at a minimum, the following materials:
    - Maps, routes, and schedules for public transit serving the site
    - Ridesharing promotional material
    - Bicycle route and parking including maps and bicycle safety information
    - Materials publicizing internet and telephone numbers for referrals on transportation information
    - Promotional materials supplied by NCTD, MTS, and/or other publicly supported transportation organizations
    - A listing of facilities at the site for carpoolers/vanpoolers, transit riders, bicyclist and pedestrians, including information on the availability of preferential carpool/vanpool parking spaces and the methods for obtaining these spaces
4. Offer office employees the opportunity to register for commuter ridematching provided through publicly sponsored services (e.g., SANDAG sponsored "iCommute Ridetracker")
5. Stage two events annually to promote use of alternative transportation.
6. Provide bicycle racks, lockers and showers inside for employee use.
7. Ensure that employees that share rides to work are provided with a ride to their home or location near their residence in the event that an emergency occurs during the work day that requires transportation. SANDAG's iCommute Guaranteed Ride Home service will be engaged to provide this service.
8. Provide flexible work schedules to stagger arrivals and departures. Operating practices of the Medical Center that have employees working schedules that start and stop throughout the day will reduce peak trip generation. The work schedules are yet to be determined however, based on the existing Kaiser Permanente Zion Medical Center, approximately 54% of all staff have rotating shift (i.e. day, evening, or night shift). Kaiser will examine all opportunities to rotate shift outside peak travel times as part of the TDM Plan.
9. Conduct an employee commute travel survey within six months of occupancy of the Kaiser San Diego Central Medical Center and annually thereafter
10. Submit a TDM Status Report to the City of San Diego annually that includes:
    - Name, phone number, and email address for the site's TDM contact
    - Number of employees at the work site during normal business hours

- Average Vehicle Ridership and mode share
- Demonstration of 'good faith effort' to implement the TDM actions identified in this document

11. With a view to achieving the goals of the TDM Ordinance, Kaiser will participate in the Kearny Mesa Traffic Management Association (TMA).

5.2.17 SIGNIFICANCE OF IMPACT

Due to implementation of future planned transit improvements and the provision of a Transportation Demand Management Plan as described above, impacts on existing or planned transportation systems would be less than significant.

5.2.18 MITIGATION, MONITORING, AND REPORTING

No significant impacts would occur; therefore, no mitigation is required.

5.2.19 IMPACT

Issue 5: Would the proposal result in an increase in traffic hazards for motor vehicles, bicycles or pedestrians due to a proposed, non-standard design feature (e.g. poor sight distance or driveway onto an access-restricted roadway)?

The project would be designed consistent with the City's roadway standards and would not create a hazard for vehicles, bicycles, or pedestrians entering or existing the site. See Section 5.9, Health and Safety, for further information regarding hazards. Information regarding access, driveway design, on-site circulation and queuing is provided below.

Project Access Driveways

Currently, the site is served by the following access driveways:

- *Clairemont Mesa Boulevard:* One right-in/right-out only access located approximately 330 feet east of Ruffin Road on Clairemont Mesa Road serves the site. The project proposes to close this access and replace it with a signalized access to the east.
- *Ruffin Road:* Two driveways are currently provided on Ruffin Road. The first is a right-in/right-out only access located approximately 465 feet south of Clairemont Mesa Boulevard. It is proposed to relocate this driveway further south. The second is a right-turn outbound only driveway approximately 130 feet north of Ruffin Court. A "No Entry" sign restricts entry at this driveway. This driveway will be eliminated.

12. *Ruffin Court:* One driveway is currently provided at the eastern boundary of the site.

The following five driveways are proposed to serve the project site.

Driveway 1—Clairemont Mesa Boulevard

Approximately 66% of the project traffic is expected to access the project site via Clairemont Mesa Boulevard, including 55% east of the project site from I-15 and another 11% west of the project site. Therefore, it is proposed to install a signalized access at the eastern boundary of the project site on Clairemont Mesa Boulevard, approximately 760 feet (centerline-to-centerline) east of Ruffin Road. Based on the forecasted volumes, dual west-bound left-turn lanes and an east-bound right-turn lane would be adequate to serve the project.

Driveway 2—Ruffin Road (Emergency Department Access)

It is proposed to close the two existing driveways on Ruffin Road and provide one right-in/right-out only access driveway to serve the project.

An access driveway is proposed to be located approximately 540 feet south of Clairemont Mesa Boulevard. This driveway would provide right-in/right-out only access on Ruffin Road for ambulance access and access to the emergency room. Patients and ambulances accessing the Emergency Department from the north would make a U-turn at the Ruffin Court signal and approach the Ruffin Road access from the south.

Driveway 3—Ruffin Court

The second driveway on Ruffin Court is proposed with direct access to the parking structure, at the southwestern corner of the parking structure.

Driveway 4—Ruffin Court

The existing full access driveway at the eastern boundary of the site would serve as the third driveway on Ruffin Court. This driveway would also provide access to the County-owned Polinsky Children's Center adjacent to the site, to the east.

Driveway 5 Loading Docks—Ruffin Court

The first of the three driveways on Ruffin Court is proposed to serve the loading docks, the San Diego Gas & Electric (SDG&E) yard and the tech docks. The loading docks would serve the trucks delivering hospital supplies and removing waste. The tech docks would be used to park mobile CT scan and other equipment when needed. Generally, this equipment is needed infrequently and when needed, would be parked at the project for a few weeks at a time. A sign indicating that this access is for "Deliveries" only would be posted at the driveway entrance.

Aligning Project Driveways with Existing Cross-streets

Driveway 4—Ruffin Court

Driveway 4 on Ruffin Court is located just west of Greencraig Way. Greencraig Way is located outside of the project's eastern property line. Therefore, it is not possible to align this driveway with Greeencraig Way.

Driveway 5 Loading Docks—Ruffin Court

The Capital Projects team examined the possibility of aligning the service entrance with Greencraig Lane; however, it was determined that any other alternative would potentially change the hospital support buildings (HSB) internal functionality, footprint, and building heights (Phase I and II) for the following reasons:

1. The close proximity of diagnostic and treatment (D&T) to the HSB is the key to allowing the clinical flow that crosses between the inpatient and outpatient environments.
2. The greater the separation, the less feasible the integration of staff and services.
3. As proposed, the scheme is connected on a corner only; as that corner linkage is stretched, it becomes more complicated to plan.
4. The mobile imaging units (MRI and PET scan) located within the tech dock will become increasingly more difficult to access from D&T, and, shifting the HSB building eastward would further encroach into pedestrian paths between the HSB and the parking structure.

One alternative proposal is to add an additional "exit only" driveway adjacent to the southwest corner of Ruffin Court and Ruffin Road. The general turning movements of the different service vehicles that would use the driveway are as follows.

1. The general access to lower service dock handles traffic flow sufficiently.
2. The tech dock access is still feasible but tighter than the originally "proposed driveway" location.
3. However, the oxygen (O2) and fuel truck access is not feasible without the addition of an "exit only" driveway to the west to accommodate exiting, as opposed to backing-up across the service traffic flow. That is an undesirable condition as it would potentially cause trucks exiting the lower service dock to have to stop on the ramp and then re-start going uphill.

This driveway may be used for tech docks, oxygen and fuel tank loading and unloading, and activities such as trash pick-up. The use of this driveway would be minimal especially during the peak hours as demonstrated below:

1. **Tech Docks:** Traffic to the tech docks is infrequent and quarterly. The trailers are brought in, dropped off, and parked for a couple of weeks as needed, and when they are no longer required, the trucks return to pick-up the trailers.
2. **O2 and Fuel Tanks:** Trucks bring oxygen and fuel for the O2 and fuel tanks respectively and refill the O2 and fuel tanks during off-Peak Hours.
3. **Loading Docks:** Supplies to the hospital are generally delivered during off-peak hours.
4. **Trash:** Trash is generally picked-up during off-peak hours.

Thus, as previously described, traffic to and from the loading docks is minimal. The Peak Hour volume of traffic on northbound Greencraig Lane is less than 50 trips (right and left turns together). A sign indicating that the driveway is for the use of deliveries to the hospital only will be prominently displayed at the driveway entrance, which should avoid any confusion in the minds of drivers.

Therefore, it is anticipated that the driveway as proposed would function adequately and impacts would be less than significant.

Although no significant impacts are identified, the following frontage and circulation improvements would be implemented as part of the project in Phase I:

- **Ruffin Road: North of Ruffin Court –** The proposed project applicant will provide a 280-foot-long raised median on Ruffin Road, just north of Ruffin Court.
- **Clairemont Mesa Boulevard: Ruffin Road to Murphy Canyon Road -** The proposed project applicant will dedicate appropriate right-of-way along the entire project frontage on Clairemont Mesa Boulevard including appropriate off-site transitions and construct a third eastbound through-lane between Ruffin Road and Murphy Canyon Road.
- **Clairemont Mesa Boulevard / Project Driveway -** The Project will install a traffic signal at this new intersection and provide interconnect to the existing coordinated signal system on Clairemont Mesa Boulevard. The Project will provide the following lane configuration:
    - **Westbound:** Two 300-foot long left-turn lanes and three through lanes
    - **Northbound:** Two right-turn lanes and one left-turn lane
    - **Eastbound:** One 150-foot long right-turn lane, three through lanes and a Class II bike lane

See *Appendix C* of this EIR for details regarding these improvements.

On-Site Circulation

On-Site Vehicular and Pedestrian Circulation

The following internal roadways are proposed:

- The first is the road from Clairemont Mesa Boulevard to the parking structure/hospital main entrance. This road will generally have two lanes in each direction, except at Clairemont Mesa Boulevard where a northbound left-turn lane will be added to serve outbound traffic. This roadway will be utilized by both employees and the public.
- At the first internal intersection of this roadway, southbound traffic would not be stopped. Traffic on the road along the north of the parking structure will be stopped. This will ensure that traffic entering the site will not back-up into the signalized intersection.
- A secondary road branches out from the above roadway and wraps around the parking structure. This roadway will provide access to the Polinsky Children's Center to the east and the parking structure and will serve as an emergency fire access.
- A second road will be provided from the Emergency Department (ED) entrance to the ED and the surface parking lot at the northwest corner of the site.
- A third access roadway from the loading dock driveway on Ruffin Court to the O2 and fuel tanks, the tech docks, and the loading docks will be used only by truck traffic and employees that work in that area. This is not for public use.
- Several pedestrian paths will also be provided on site, connecting various on-site facilities.

Thus, as described, the site plan adequately addresses the needs of vehicular and pedestrian traffic and is not expected to have any impacts on the surrounding street system.

On-Site East–West Connection

No internal vehicular connection is provided between the west (Ruffin Road) and the east (parking structure). Only pedestrian paths will be provided. During discussions with the Kaiser, it was determined that based on their experience at other similar facilities, there is very little interaction between the ED and the parking structure. An adequate sized parking lot is proposed at the northwest corner of the site, to serve the ED. Approximately 100 spaces will be provided at this parking lot. Family members of patients at the ED will be able to park at this surface lot for the duration of their stay at the ED and can pick-up their family member at the end of the visit. There is little need for this traffic to access the parking structure.

While it would be preferable for emergency vehicles to use the signalized access on Clairemont Mesa Boulevard to access the ED, this would result in ambulance traffic mixing with patient traffic. As explained earlier, 66% of the project traffic is estimated to use this driveway, and therefore this driveway will have a large amount of traffic. Therefore, as is the practice at most hospitals, the ED traffic is separated from the patient/visitor traffic.

The other reason to provide an internal vehicular access between the east and west would be for patrons destined to the ED, who mistakenly enter the hospital at Clairemont Mesa Boulevard. Adequate signage will be provided to properly direct traffic to the ED, at the entrances to avoid such instances.

Thus, it is not essential to provide an internal vehicular access between the west (Ruffin Road) and the east (parking structure).

Emergency Department

The configurations of two ambulance parking areas are adequate for arriving ambulances to turn and back into their parking spaces. The width provided in the southern parking area is also sufficient for ambulances to maneuver into the parking spaces.

Loading Docks

Tech Docks: Inbound trucks have to head straight into the SDG&E yard and gas tanks area and back towards the east and north into the tech docks. Outbound trucks will be able to pull forward and head to the street with no difficulty.

Loading Dock—Trucks: Inbound trucks will be able to turn and back into the loading docks. They have to pull forward to the west and then south, and back into the dock. Outbound trucks have to pull forward southwards and then back to the north before climbing the ramp to the street level. The configuration provided will allow these maneuvers.

SDG&E Yard and Gas Tanks Area—Trucks: Inbound trucks have to head straight into the tech dock, and back towards the west into the SDG&E yard/gas tanks Area. Outbound trucks can exit directly onto the street.

No impacts would occur to on-site circulation with implementation of the proposed project. Although no significant impacts are identified, the following circulation improvements would be implemented as part of the project:

- Southbound traffic will not be stopped at the first internal intersection of the roadway from the Clairemont Mesa Boulevard signalized access point.

Queuing Analysis

Near-term and long-term queuing analyses were conducted at the three full movements at the project driveways to determine if the 95th percentile-calculated queue lengths at the project driveway intersections will exceed the available storage, thus degrading the operations at the intersections. A calculated queue analysis at project driveway 2 is not included since this intersection is a right-in/right-out only intersection. *Table 5.2-41* summarizes the results of this analysis for each "with Project" condition. One of the products of the Peak Hour intersection analysis is a queuing report that provides the 50th and 95th percentile queue lengths by lane in feet or number of vehicles.

Existing Plus Project Calculated Queue Lengths

As seen in *Table 5.2-41*, the calculated queue lengths for the Existing Plus Project Phase I and Existing Plus Full Project Buildout are less than the storage provided in the turn lanes at all intersections, except at the Clairemont Mesa Boulevard/Project Driveway 1 intersection. At this driveway, while it is true that the calculated queues in the northbound left and right-turn lanes are in excess of the storage provided, the traffic will, however, back-up on site and not on public streets. Site constraints do not allow for any increase in on-site storage.

Near-Term Calculated Queue Lengths

The calculated queue lengths for the Near-Term Plus Project Phase I and the Near-Term Plus Full Project Buildout are less than the storage provided in the turn lanes at all intersections, except at the Clairemont Mesa Boulevard/Project Driveway 1 intersection. As explained previously, while it is true that the calculated queues in the northbound left and right-turn lanes at this driveway are in excess of the storage provided, the traffic will, however, back-up on site and not on public streets. Site constraints do not allow for any increase in on-site storage.

Table 5.2-41
Near-Term Forecasted Queue in Feet (50th and 95th Percentile)

Intersection	Movement	Available Storage Length (Feet)	Existing + Project				Near-Term				Long-Term	
			Existing + Project Phase I		*Existing + Full Project Buildout*		*Existing + Cumulative Projects + Project Phase I*		*Existing + Cumulative Projects + Full Project Buildout*		*With Project*	
			AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
Clairemont Mesa Blvd./Project Driveway 1	WB Left to SB	300	160	120	190	190	130	120	240	190	300	180
	WB Through	> 500	70	50	60	60	60	50	65	70	100	180
	NB Left to WB	100	50	**125**	70	**200**	50	**125**	70	**200**	80	**200**
	NB Right to EB	150	20	**230**	40	**360**	20	**235**	40	**370**	70	**370**
	EB Through	> 500	110	60	110	250	130	145	110	390	160	240
	EB Right to SB	150	0	0	20	0	5	0	20	5	5	5
Ruffin Court Project Driveway 3	SB Left to EB	> 50	5	15	5	30	5	15	5	30	10	35
	SB right to WB	> 50	5	15	5	30	5	15	5	30	10	35
	WB Through	> 100	0	0	0	0	0	0	0	0	0	0
	WB right to NB	> 100	0	0	0	0	0	0	0	0	0	0
	EB Left to NB	> 100	5	5	10	10	5	5	10	10	10	10
	EB Through	> 100	0	0	0	0	0	0	0	0	0	0
Ruffin Court Project Driveway 4	SB Left to EB	240	0	5	0	10	0	5	0	10	5	10
	SB right to WB	240	0	5	0	10	0	5	0	10	5	10
	WB Through	> 100	0	0	0	0	0	0	0	0	0	0
	WB right to NB	> 100	0	0	0	0	0	0	0	0	0	0
	EB Left to NB	> 100	0	0	0	0	0	0	0	0	0	0
	EB Through	> 100	0	0	0	0	0	0	0	0	0	0

Source: LLG 2013
General Note:
Bold indicates calculated queue exceeds available storage length.

Long-Term (Year 2035) Calculated Queue Lengths

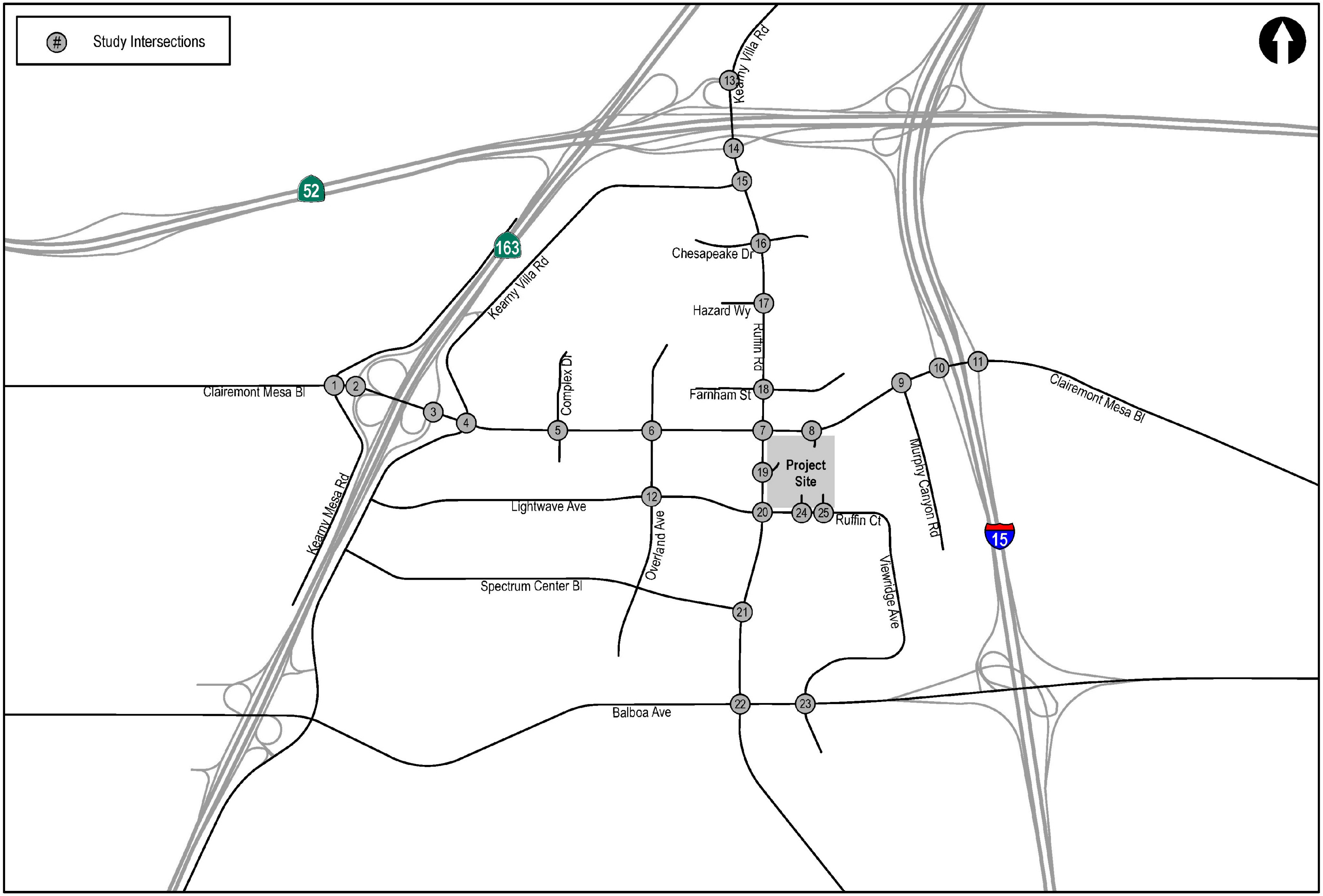
The calculated queue lengths for the Year 2035 Plus Full Project Buildout are less than the storage provided in the turn lanes at all intersections, except at the Clairemont Mesa Boulevard/Project Driveway 1 intersection. As explained above, while the calculated queues in the northbound left and right-turn lanes at this driveway are in excess of the storage provided, the traffic would, however, back-up on site and not on public streets. Site constraints do not allow for any increase in on-site storage.

5.2.20 SIGNIFICANCE OF IMPACT

No significant impacts regarding traffic hazards would occur; therefore, impacts would be less than significant.

5.2.21 MITIGATION, MONITORING, AND REPORTING

No significant impacts would occur; therefore, no mitigation is required.



SOURCE: LLG 2012

DUDEK

7372-01

FIGURE 5.2-1

Project Area Map

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

Path: Z:\Projects\j737201\MAPDOC\MAPS\EIR\Figs\Figure5_2_1_ProjectArea.mxd

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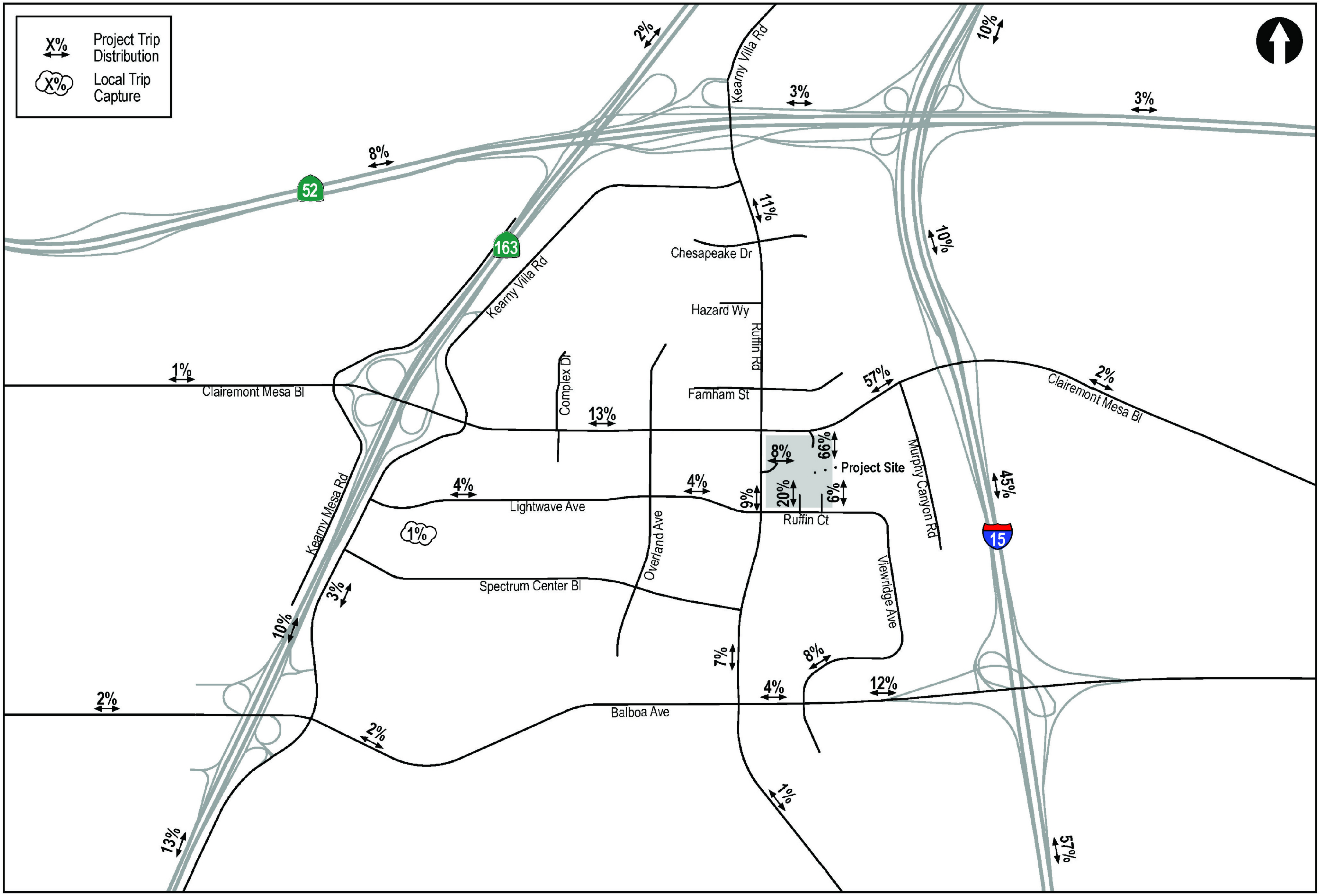

SOURCE: LLG 2012

FIGURE 5.2-2

Project Trip Distribution

DUDEK

7372-01

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

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5.3 AIR QUALITY

5.3.1 INTRODUCTION

The following discussion summarizes the air quality technical report for the Kaiser Permanente San Diego Medical Center project (project) that was prepared by Dudek in December 2012. The complete report is included as *Appendix D* of this EIR.

5.3.2 EXISTING CONDITIONS

Climate and Topography

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains.

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east. Along with local meteorology, the topography influences the dispersal and movement of pollutants in the basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

Air Pollution Climatology

The project site is located within the San Diego Air Basin (SDAB or basin) and is subject to the San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The SDAB is currently classified as a federal nonattainment area for ozone (O_3), and a state nonattainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and O_3.

The SDAB lies in the southwest corner of California and comprises the entire San Diego region, covering 4,260 square miles, and is an area of high air pollution potential. The basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3, commonly known as smog.

Light daytime winds, predominately from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and oxides of nitrogen (NO_x) emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County (County). This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

Air Quality Characteristics

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed sensitive receptors are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by the California Air Resources Board (CARB), include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards (AAQS), or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include: O_3, NO_2, CO, sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead (Pb). These pollutants are discussed in the following sections.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases (ROGs), and NO_x react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_x, the precursors of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis, and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume (ppm).

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the Environmental Protection Agency (EPA) Six Common Air Pollutants (EPA 2012a) and the CARB Glossary of Air Pollution Terms (CARB 2012a) published information.

from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs. Inhalable or coarse particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as Pb, sulfates, and nitrates, can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, and ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

Regulatory Setting

Federal

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions. NAAQS are established for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the standards within mandated time frames.

State

The federal CAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts (AQMDs) and air pollution control districts (APCDs) at the regional and county levels. CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act (CCAA) of 1988, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are more restrictive than the NAAQS, consistent with the CAA, which requires state regulations to be at least as restrictive as the federal requirements. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in *Table 5.3-1*, Ambient Air Quality Standards.

Table 5.3-1
Ambient Air Quality Standards

Pollutant	Average Time	California Standards[1]	National Standards[2]	
		Concentration[3]	*Primary*[3, 4]	*Secondary*[3, 5]
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as Primary Standard
	8 hour	0.070 ppm (137 μg/m³)	0.075 ppm (147 μg/m³)	
CO	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	None
	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	
NO_2	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	Same as Primary Standard
	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	
SO_2	1 hour	0.25 ppm (655 μg/m³)	0.75 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[7]	—

Table 5.3-1
Ambient Air Quality Standards

Pollutant	Average Time	California Standards[1]	National Standards[2]	
		Concentration[3]	*Primary*[3, 4]	*Secondary*[3, 5]
	Annual	—	0.030 ppm (for certain areas)[7]	—
PM_{10}	24 hours	50 µg/m³	150 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m³	—	
$PM_{2.5}$	24 hours	No Separate State Standard	35 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m³	15.0 µg/m³	
Pb[6]	30-day Average	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³ (for certain areas)[7]	Same as Primary Standard
	Rolling 3-month Average	—	0.15 µg/m³	
Hydrogen sulfide	1-hour	0.03 ppm	—	—
Vinyl chloride[6]	24-hour	0.01 ppm	—	—
Sulfates	24-hour	25 µg/m3	—	—
Visibility reducing particles	8-hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

ppm= parts per million by volume µg/m³ = micrograms per cubic meter mg/m³= milligrams per cubic meter

Source: CARB 2012b

1 California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For NO_2 and SO_2, the standard is attained when the 3-year average of the 98th and 99th percentile, respectively, of the daily maximum 1-hour average at each monitor within an area does not exceed the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr.
Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

5 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

6 CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

7 The 1971 SO_2 national standards (24-hour and annual) and 1978 lead national standard (quarterly) remain in effect until 1 year after an area is designated for the 2010 and 2008 standards, respectively.

As part of its diesel risk reduction program, CARB adopted an Airborne Toxic Control Measure (ATCM) that applies to new and in-use stationary compression-ignition (i.e., diesel) engines. The ATCM was adopted in 2004 and revised in November 2010 with an effective date of May 19, 2011. After December 31, 2008, the ATCM requires that new emergency standby engines must comply with EPA emission standards applicable to a 2007-model-year off-road engine of the same horsepower rating. The ATCM further limits the particulate matter (PM) emissions from an emergency standby engine operated less than 50 hours per year for maintenance and testing to 0.15 gram per brake-horsepower-hour.

Local

San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local AQMDs and APCDs are responsible for enforcing standards and regulating stationary sources. The project is located within the SDAB and is subject to SDAPCD guidelines and regulations. In San Diego County, O_3 and particulate matter are the pollutants of main concern, since exceedances of state ambient air quality standards for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 (1-hour and 8-hour) standards. The SDAB is also a federal O_3 moderate nonattainment area for the 1997 8-hour NAAQS and as a marginal nonattainment area for the 2008 8-hour NAAQS for O_3 and a CO maintenance area.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis (most recently in 2009). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the county as part of the development of their general plans.

The Eight-Hour Ozone Attainment Plan for San Diego County indicated that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard by 2009 (SDAPCD 2007). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

In December 2005, SDAPCD prepared a report titled “Measures to Reduce Particulate Matter in San Diego County” to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion.

As stated above, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations would apply to construction of the project and some of the proposed stationary sources:

- **SDAPCD Regulation II: Permits; Rule 10: Permits Required.** Requires that any person building, erecting, altering, or replacing any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants, shall receive written authorization (Authority to Construction) and a Permit to Operate from the SDAPCD (SDAPCD 2000a).
- **SDAPCD Regulation II: Permits; Rule 20.1: New Source Review—General Provisions.** Establishes the general provisions, including exemptions, definitions, and emission calculations, that apply to any new or modified emission unit, any replacement emission unit, any relocated emission unit or any portable emission unit for which an Authority to Construct or Permit to Operate is required (SDAPCD 1998a).
- **SDAPCD Regulation II: Permits; Rule 20.2: New Source Review—Non-Major Sources.** Applies to any new or modified stationary source, to any new or modified emission unit and to any relocated emission unit that is not considered a major stationary source. As applied to new or modified sources, the rule requires (1) the use of Best Available Control Technology (BACT) where the emissions of PM_{10}, NO_x, VOC, or SO_x would increase by 10 pounds per day or more; (2) an air quality impact analysis if the emissions of PM_{10}, NO_x, VOC, SO_x, or lead exceed designated trigger levels; and (3) establishes public noticing requirements prior to issuance of a permit (SDAPCD 1998b).
- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits any activity causing air contaminant emissions darker than 20% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period. In addition, Rule 50 prohibits any diesel pile-driving hammer activity causing air contaminant emissions for a period or periods aggregating more than 4 minutes during the driving of a single pile (SDAPCD 1997).
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).

- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2001).
- **SDAPCD Regulation IV: Prohibitions; Rule 69.2: Industrial and Commercial Boilers, Process Heaters, and Steam Generators.** Prescribes NO_x and CO emission limits for existing and new boilers, process heaters, and steam generators rated at 5 million British thermal units (MMBTU) per hour or more. The rule also includes recordkeeping and source testing requirements. (SDAPCD 1994).
- **SDAPCD Regulation IV: Prohibitions; Rules 69.3 and 69.3.1: Stationary Gas Turbine Engines.** Prescribes NO_x emission limits for stationary gas turbine engines, corresponding to reasonably available control technology and best available retrofit technology, respectively, as well as monitoring and recordkeeping requirements. The rules apply to gas turbine engines rated at greater than 0.3 megawatts (300 kilowatts (kW)) (SDAPCD 2000b).
- **SDAPCD Regulation IV: Prohibitions; Rule 69.4.1: Stationary Reciprocating Internal Combustion Engines.** Prescribes NO_x, VOC, and CO emission limits for existing and new internal combustion engines as well as monitoring and recordkeeping requirements. The requirements are limited for new emergency standby engines that operate less than 52 hours per year for non-emergency purposes (SDAPCD 2000b).
- **SDAPCD Regulation XII: Prohibitions; Rule 1200: Toxic Air Contaminants—New Source Review.** (SDAPCD 1996a). Applies to any new, relocated, or modified emission unit which may increase emissions of one or more TACs that requires an Authority to Construct or Permit to Operate. The rule establishes acceptable risk levels and emission control requirements for new and modified facilities that may emit additional TACs. Under Rule 1200, permits to operate may not be issued when emissions of TACs result in an incremental cancer risk greater than 1 in 1 million without application of Toxics-BACT (T-BACT), or an incremental cancer risk greater than 10 in 1 million with application of T-BACT, or a health hazard index (chronic and acute) greater than 1.

- **SDAPCD Regulation XI: National Emission Standards for Hazardous Air Pollutants; Subpart M, Rule 361.145: Standard for Demolition and Renovation.** Requires owners and operators of a demolition or renovation activity to provide written notification of planned asbestos stripping or removal to the Control Officer no less than 10 days prior to demolition and/or asbestos removal. A Notification of Demolition and Renovation Form and fee is required with written notification. Procedures for asbestos emission control are provided under Rule 361.145 and must be followed in accordance with this regulation (SDAPCD 1995b).

Local Air Quality

San Diego Air Basin Attainment Designation

An area is designated in attainment when it is in compliance with the NAAQS and/or CAAQS. These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare.

The criteria pollutants of primary concern that are considered in this air quality assessment include O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$. Although there are no ambient standards for VOCs or NO_x, they are important as precursors to O_3.

The SDAB is designated by the EPA as a moderate nonattainment area for the 1997 8-hour NAAQS for O_3 and as a marginal nonattainment area for the 2008 8-hour NAAQS for O_3. The SDAB was designated in attainment for all other criteria pollutants under the NAAQS with the exception of PM_{10}, which was determined to be unclassifiable. The SDAB is currently designated nonattainment for O_3, both 1-hour and 8-hour, and PM_{10} and $PM_{2.5}$ under the CAAQS. It is designated attainment for CO, NO_2, SO_2, lead, and sulfates.

Table 5.3-2, SDAB Attainment Classification, summarizes SDAB's federal and state attainment designations for each of the criteria pollutants.

Table 5.3-2
SDAB Attainment Classification

Pollutant	Federal Designation[a]	State Designation[b]
O_3 (1 hour)	Attainment*	Nonattainment
O_3 (8-hour – 1997) (8-hour – 2008)	Nonattainment (Moderate) Nonattainment (Marginal)	Nonattainment
CO	Attainment (Maintenance Area)	Attainment
PM_{10}	Unclassifiable**	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Pb	Attainment	Attainment

Table 5.3-2
SDAB Attainment Classification

Pollutant	Federal Designation[a]	State Designation[b]
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified

Sources: [a]EPA 2012b; [b]CARB 2011.
* The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.
** At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The SDAPCD monitors air quality conditions at 10 locations throughout the basin. Due to its proximity to the site and location in an area that is less congested than downtown San Diego, the Overland Avenue monitoring station concentrations for all pollutants, except CO and SO_2, are considered most representative of the project site. The downtown San Diego monitoring stations are the nearest locations to the project site where CO and SO_2 concentrations are monitored. Ambient concentrations of pollutants from 2009 through 2011 are presented in *Table 5.3-3*. The number of days exceeding the AAQS is shown in *Table 5.3-4*. The state 8-hour and 1-hour O_3 standards were exceeded in 2009, 2010, and 2011, while the federal 8-hour O_3 standard was exceeded in 2009 and 2011. Air quality within the project region was in compliance with both CAAQS and NAAQS for NO_2, CO, PM_{10}, $PM_{2.5}$, and SO_2 during this monitoring period.

Table 5.3-3
Ambient Air Quality Data (ppm unless otherwise indicated)

Pollutant	Averaging Time	2009	2010	2011	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	8-hour	0.082	0.074	0.087	0.070	Overland Avenue
	1-hour	0.105	0.100	0.097	0.090	
PM_{10}	Annual	24.9 μg/m³	18.7 μg/m³	20.3 μg/m³	20 μg/m³	Overland Avenue
	24-hour	50.0 μg/m³	32.0 μg/m³	47.0 μg/m³	50 μg/m³	
$PM_{2.5}$	Annual*	10.5 μg/m³	8.7 μg/m³	8.9 μg/m³	12 μg/m³	Overland Avenue
	24-hour	25.1 μg/m³	18.7 μg/m³	29.9 μg/m³	35 μg/m³	
NO_2	Annual	0.014	0.013	0.012	0.030	Overland Avenue
	1-hour	0.060	0.073	0.073	0.180	
CO	8-hour	2.77	2.17	2.44	9.0	Beardsley Street
	1-hour*	4.0	2.8	2.8	20	

Table 5.3-3
Ambient Air Quality Data (ppm unless otherwise indicated)

Pollutant	Averaging Time	2009	2010	2011	Most Stringent Ambient Air Quality Standard	Monitoring Station
SO_2	Annual	0.001	0.000	—	0.030	Beardsley Street
	24-hour	0.006	0.002	0.003	0.040	

Sources: CARB 2012c; EPA 2012c.
Data represent maximum values.
Notes: A new 1-hour NAAQS for NO_2 became effective in April 2010. Data reflect compliance with the 1-hour CAAQS.
* Data were taken from EPA 2012c.

Table 5.3-4
Frequency of Air Quality Standard Violations

Monitoring Site	Year	Number of Days Exceeding Standard		
		State 1-Hour O_3	*State 8-Hour O_3*	*National 8-Hour O_3*
Overland Avenue	2009	2	3	1
	2010	2	3	0
	2011	1	3	1

Source: CARB 2012b.

5.3.3 IMPACT

Issue 1: Would the proposal conflict with or obstruct implementation of the applicable air quality plan?

As mentioned earlier in this analysis, the SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the AAQS in the SDAB. The RAQS was initially adopted in 1991, and is updated on a triennial basis (most recently in 2009). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the RAQS and may contribute to a potentially significant cumulative impact on air quality. The project area is zoned

Light-Industrial (IL-2-1), which allows for the construction and operation of a hospital with a Conditional Use Permit (CUP). The existing County of San Diego government office building currently occupies the site as a commercial facility; however, because the project site is not zoned for hospital uses, and a medical facility use would be considered a more intense land use than the existing County of San Diego government office building, it is reasonable to assume vehicle trip generation and planned development for the site has not been anticipated in the RAQS. Because the increase in land use intensity and associated increase in vehicle trips has not been anticipated in local air quality plans, the project would be considered inconsistent at a regional level with the underlying growth forecasts in the RAQS, and impacts would be significant.

5.3.4 SIGNIFICANCE OF IMPACT

The project would be consistent with the existing General Plan designation, but would be considered a more intense land use than that of the existing County of San Diego government building. Therefore, because the increase in land use intensity and associated increase in vehicle trips has not been anticipated in local air quality plans, impacts would be significant.

5.3.5 MITIGATION, MONITORING, AND REPORTING

No mitigation is available to reduce air quality plan conflicts due to the nature of the proposed land use; therefore, impacts would remain significant and unavoidable.

5.3.6 IMPACT

Issue 2: Would the proposal result in a violation of any air quality standard or contribute substantially to an existing or project air quality violation?

Construction Emissions

Construction of the project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from grading and site preparation activities. NO_x and CO emissions would primarily result from the use of construction equipment and motor vehicles.

Emissions from the construction phase of the project were estimated using the URBEMIS 2007, Version 9.2.4, land use and air emissions model (Jones & Stokes 2007). For the purposes of modeling, it was assumed that the construction of the project would commence in March 2013.

Construction would occur intermittently over an approximately 12-year period, consisting of two primary phases and eight subphases per primary phase following demolition activities as follows:

Phase I (March 2013 – July 2016)

- Demolition of existing County Annex Building and asphalt removal (5 months)
- Mass grading (2 months)
- Site utilities (5 months)
- Foundation work (7 months)
- Structural steel erection (7.5 months)
- Slab on grade/slab on deck (8.5 months)
- Exterior skin (7 months)
- Architectural Coatings (3 months)
- Site work/paving/landscaping (6 months).

Phase II (May 2023 – May 2024)

- Asphalt removal (1 month)
- Mass grading (3 weeks)
- Site utilities (2 weeks)
- Foundation work (2 months)
- Structural steel erection (6 months)
- Slab on grade/slab on deck (6 months)
- Exterior skin (3.5 months)
- Site work/paving/landscaping (1 month)
- Architectural Coatings (2 months).

A detailed depiction of the construction schedule—including information regarding subphases, demolition, and equipment utilized during each subphase—is included in *Appendix D* of this EIR. The information contained in *Appendix D* was utilized as URBEMIS model inputs.

Construction equipment specifications were provided by the applicant and equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month), during project construction. Additionally, URBEMIS model assumptions were used for worker trips and vendor trips during building construction subphases.

The project is subject to SDAPCD Rule 55—Fugitive Dust Control. This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least two times daily, resulting in an approximately 55% reduction of particulate matter. The project is also subject to SDAPCD Rule 67.0—Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories. Because URBEMIS 2007 does not properly estimate VOC emissions from application of architectural coating for a project with multiple building construction phases, VOC emissions generated from architectural coatings were estimated separately based on the square footage of commercial space for each phase, the calculation method in URBEMIS 2007, VOC content of typical architectural coatings per SDAPCD Rule 67.0, and the estimated number of days of application during the coating period to determine the daily emission rate in pounds per day (see *Appendix D,* “Emissions of Architectural Coatings”). As shown in *Table 5.3-5*, Estimated Maximum Daily Construction Emissions, VOC emissions estimated from architectural coatings and those from all other sources were then combined to determine the total daily VOC emissions for the year 2014, during which architectural coatings would be applied. The year 2013 would not include the application of architectural coatings; therefore, VOC emissions generated from construction occurring in 2013 were estimated using URBEMIS 2007 alone.

Table 5.3-5 shows the estimated maximum daily construction emissions associated with the construction phases of the project. Complete details of the emissions calculations are provided in *Appendix D* of this EIR.

Table 5.3-5
Estimated Maximum Daily Construction Emissions (pounds/day)

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
2013	43.11	362.66	219.02	0.21	95.84	31.17
2014	121.01	99.56	162.58	0.21	6.48	5.41
2016	3.71	25.42	17.28	0.00	1.52	1.39
Phase I Maximum Daily Emissions	121.01	362.66	219.02	0.21	95.84	31.17
2023	7.81	50.04	67.52	0.08	36.55	9.25
2024	69.62	44.62	67.52	0.08	2.63	2.20
Phase II Maximum Daily Emissions	69.62	50.04	67.52	0.08	36.55	9.25
Maximum Daily Emissions	*121.01*	*362.66*	*219.02*	*0.21*	*95.84*	*31.17*
Emission Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: URBEMIS 2007 Version 9.2.4. See Appendix B, Part I for complete results.

Daily construction emissions would not exceed the City of San Diego's (City's) significance thresholds for VOC, CO, SO_x, PM_{10} or $PM_{2.5}$. However, the NO_x emissions associated with project construction would exceed the City's emission thresholds. Although PM_{10} emissions would be below the City's significance thresholds, mitigation measure AQ-1 would further reduce construction-related PM_{10}. Additionally, mitigation measure AQ-2 would reduce construction-related NO_x emissions; however, even with incorporation of these mitigation measures, NO_x emissions are anticipated to be above the threshold. This impact is therefore considered significant.

Operational Emissions

Following the completion of construction activities, the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile and stationary sources including vehicular traffic, area sources (space heating, water heating, landscaping), diesel generators, hot water boilers, steam boilers, PureComfort™ microturbines and PureThermal™ microturbines. For the purposes of this analysis, the project at full buildout (2025) is compared to the baseline scenario (existing conditions) in order to determine the net operational emissions associated with the project.

Vehicular Traffic

The project would impact air quality through the vehicular traffic generated by the project. According to the project's traffic report (LLG 2013), the baseline traffic scenario consists of 3,527 trips, while the project would result in a total of 12,600 trips at Kaiser Central Hospital. The net change in trips that can be attributed to the project is 9,073 trips. See *Appendix C* for detailed trip generation information.

The URBEMIS 2007 model was utilized to estimate daily emissions from proposed vehicular sources (refer to *Appendix D*). URBEMIS 2007 default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs.

Project-related traffic was assumed to be comprised of a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2012 were used to estimate emissions associated with the baseline scenario, while 2025 emission factors (full buildout) were used to estimate emissions associated with the project.

Area Sources

In addition to estimating mobile source emissions, the URBEMIS 2007 model was also used to estimate emissions from the project's area sources, which include other natural gas combustion, landscaping (which would not produce winter emissions), and architectural coatings for maintenance. Refer to *Appendix D* for additional information.

Stationary Sources

Diesel Generators

Operational emissions under the project would result from intermittent use of four 2500 kW diesel-powered emergency generators for maintenance and testing purposes. Each generator would be run for testing and maintenance approximately 30 minutes each week with a 4-hour, full load test once per 3 years for a total of 30 hours per year, assuming the triennial test is run in a given year. Generator engines would meet the EPA standards for Tier 2 engines and 0.15-gram PM per horsepower-hour as required by the CARB ATCM for new and in-use stationary diesel engines. The engines would also be required to use ultra-low-sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight. The estimated emissions from the emergency generator engines, which are based on compliance with the Tier 2 engine standards and use of ultra-low-sulfur diesel fuel, are shown in *Table 5.3-6*, Estimated Daily Maximum Stationary Source Emissions. The worst-case daily emissions assume that all four engines would be tested for 4 hours on a given day. The normal daily emissions assume all four engines would be tested for 30 minutes on a given day. Worst-case and normal emissions from emergency generators are provided in *Table 5.3-6*. Refer to *Appendix D* for additional information and detailed emission calculations. Under the baseline scenario, it is assumed that no emergency generators would operate on site.

Boilers

Hot Water Boilers

Three natural gas-fired hot water boilers and one standby boiler would be proposed as part of the project's Energy Center components. These boilers would have an input of approximately 12.0 MMBTU/hour at 287 horsepower (hp) and operate a minimum efficiency of 80%. The hot water boilers would be operated as required to provide the needs of the hospital. Maximum daily fuel usage for the hot water boilers would be approximately 112.8 MMBTU per day at 39% maximum daily load per unit; the estimated load was provided by the project engineers, Arup. According to the equipment specifications, the hot water boilers would be equipped with low-NO_x burners with exhaust concentrations of 9 ppm by volume NO_x and 100 ppm by volume CO, corrected to 3% oxygen. It is assumed that these levels will be considered BACT by the SDAPCD. These concentrations were converted to emission factors, expressed in units of pounds per MMBTU of natural gas combusted. The emission factors for other pollutants were obtained from Section 1.4 (Natural Gas Combustion) of EPA's Compilation of Air Pollutant Emission Factors (EPA 1998).

Steam Boilers

Under the project, four Cleaver Brooks CFH 60 steam boilers and one standby boiler would be installed in the Energy Center to produce steam. The steam boilers would be rated at 60 hp and produce approximately 2,070 pounds of steam per hour at 125 pounds per square inch gauge (psig). Steam boilers would have a heat input rating of 2.04 MMBTU/hour. The steam boilers would be operated as required to provide the needs of the hospital. Maximum daily fuel usage would be approximately 15.8 MMBTU per day at 32% load per unit; the estimated load was provided by the project engineers, Arup. According to the equipment specifications, the exhaust concentrations for the steam boilers would be 20 ppm by volume NO_x and 50 ppm by volume CO, corrected to 3% oxygen. These concentrations were converted to emission factors, expressed in units of pounds per MMBTU of natural gas combusted. The emission factors for other pollutants were obtained from Section 1.4 (Natural Gas Combustion) of EPA's Compilation of Air Pollutant Emission Factors (EPA 1998).

The estimated emissions from the hot water and steam boilers are shown in *Table 5.3-6*. Refer to *Appendix D* for additional information and detailed emission calculations. Under the baseline scenario, no boilers are assumed to operate on site.

Microturbines

PureComfort™ Microturbines

As part of the project, 6 PureComfort™ microturbines would operate at full load with a natural gas input of 0.842 MMBTU per hour and an output of 65 kW per unit. The microturbines would be operated continuously. Daily fuel usage would be approximately 20.2 MMBTU per unit. According to the equipment specifications, the exhaust concentrations for the PureComfort™ microturbines would be 5 ppm by volume NO_x, 9 ppm by volume VOC, and 15 ppm by volume CO, corrected to 15% oxygen. These concentrations were converted to emission factors, expressed in units of pounds per MMBTU of natural gas combusted. The emission factors for other pollutants were obtained from Section 3.1 (Stationary Gas Turbines) of EPA's Compilation of Air Pollutant Emission Factors (EPA 2000).

PureThermal™ Microturbines

In addition to PureComfort™ microturbines, 4 PureThermal™ microturbines would operate at full load with a natural gas input of 0.842 MMBTU per hour and an output of 65 kW per unit. The microturbines would be operated continuously. Daily fuel usage would be approximately 20.2 MMBTU per unit. According to the equipment specifications, the exhaust concentrations for the PureThermal™ microturbines would be 9 ppm by volume NO_x, corrected to 15% oxygen. This concentration was converted to an emission factor, expressed in units of pounds per MMBTU of natural gas combusted. The VOC and CO emission estimates are based on the 2007 Fossil Fuel Emission Standards in the Distributed Generation Certification Regulation (17 CCR 94200 et seq., Article 3, Subchapter 8, Chapter 1, Division 3). The emission factors for other pollutants were obtained from Section 3.1 (Stationary Gas Turbines) of EPA's Compilation of Air Pollutant Emission Factors (EPA 2000).

The estimated emissions from the microturbines are shown in *Table 5.3-6*. Refer to *Appendix D* for additional information and detailed emission calculations. Under the baseline scenario, no microturbines would operate on site.

Table 5.3-6
Estimated Daily Maximum Stationary Source Emissions (pounds/day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Project						
Emergency Generators (normal)	3.85	73.06	41.66	0.08	2.40	2.35
Emergency Generators (worst case)	30.76	584.52	333.28	0.64	19.23	18.77
Hot Water Boilers	1.86	3.70	25.01	0.20	0.26	0.26
Steam Boilers	0.35	1.54	2.34	0.04	0.05	0.05
PureComfort™ Microturbines	1.40	2.23	4.08	0.41	0.80	0.80
PureThermal™ Microturbines	0.12	2.68	0.62	0.27	0.53	0.53
Total	**34.49**	**594.67**	**365.33**	**1.56**	**20.87**	**20.41**

Source: Dudek 2012
Note: Total emissions do not include "normal" emergency generator emissions. Worst-case emissions resulting from emergency generator testing would occur on one day every 3 years. During all other time periods emissions associated with emergency generator testing would reflect "normal" testing emissions.

Summary

Table 5.3-7, Estimated Daily Maximum Operational Emissions, presents the maximum daily emissions associated with the operation of the project after all phases of construction have been completed. The values shown for motor vehicles and area sources are the maximum summer or winter daily emissions results from URBEMIS 2007. Complete details of the emissions calculations are provided in *Appendix D* of this EIR.

Table 5.3-7
Estimated Daily Maximum Operational Emissions (pounds/day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Baseline Scenario						
Motor Vehicles	24.14	37.03	273.02	0.33	54.68	10.63
Area Sources	2.27	2.29	3.45	0.00	0.01	0.01
Stationary Sources	0.00	0.00	0.00	0.00	0.00	0.00
Total	**26.41**	**39.32**	**276.47**	**0.33**	**54.69**	**10.64**

Table 5.3-7
Estimated Daily Maximum Operational Emissions (pounds/day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Project						
Motor Vehicles	45.96	56.83	486.49	1.28	209.30	40.60
Area Sources	3.74	3.71	6.17	0.00	0.02	0.02
Stationary Sources	34.50	594.67	365.33	1.57	20.87	20.41
Total	**84.20**	**655.20**	**857.99**	**2.85**	**230.19**	**61.03**
Net Change						
Total	**57.79**	**615.88**	**581.52**	**2.52**	**175.5**	**50.39**
Emission Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**Yes**	**Yes**	**No**	**Yes**	**No**

Source: Dudek 2012.
Emissions represent maximum of summer and winter. "Summer" emissions are representative of the conditions that may occur during the ozone season (May 1 to October 31), and "winter" emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

As shown, the net change in daily operational emissions would not exceed the City's significance threshold for VOC, SO_x or $PM_{2.5}$. Operational emissions would exceed the City's significance thresholds for NO_x, CO, and PM_{10} primarily due to motor vehicle emissions and stationary source emissions, specifically operation of the emergency generators during testing. Due to the anticipated increase in average daily traffic (ADT) as a result of project implementation, no mitigation is available to reduce CO and PM_{10} impacts from motor vehicles. All four emergency generators would be tested at full load for a 4-hour period 1 day every 3 years to verify optimal function and performance of the engines; all other testing periods would be approximately 30 minutes in duration. During normal testing periods, NO_x impacts would be less than significant. Additionally, "worst-case" emissions conservatively assume diesel generator engines would meet the Tier 2 engine standards for NO_x. The actual NO_x emissions may be better than the standards; thus, using the Tier 2 standards as the basis would produce higher estimated emissions than what would likely occur when emergency generators are operating.

In San Diego County, the "smog season" generally runs from May to October (SDAPCD 2010b). To reduce potential ozone impacts during triennial emergency generator testing periods, mitigation measure AQ-3 is provided. Mitigation measure AQ-3 would require the triennial 4-hour emergency generator testing period to occur outside of the smog season to ensure the contribution to ozone formation due to diesel engine NO_x emissions generation is minimized. Following implementation of mitigation measure AQ-3, however, impacts would remain significant and unavoidable because NO_x emissions would remain above the City's threshold of significance. No additional feasible mitigation is available to reduce anticipated vehicle trips and stationary source emissions during project operations; therefore, impacts would be significant and unavoidable.

5.3.7 SIGNIFICANCE OF IMPACT

Daily construction emissions would not exceed the City's significance thresholds for VOC, CO, SO_x, PM_{10} or $PM_{2.5}$. However, the NO_x emissions associated with project construction would exceed the City's emission thresholds. Although PM_{10} emissions would be below City significance thresholds mitigation measure AQ-1 would further reduce construction-related PM_{10}. Additionally, mitigation measure AQ-2 would reduce construction-related NO_x emissions; however, even with incorporation of these mitigation measures, NO_x emissions are anticipated to be above the threshold. Construction impacts are therefore considered significant and unavoidable.

Regarding operational emissions, the net change in daily operational emissions would not exceed the City's significance threshold for VOC, SO_x, or $PM_{2.5}$. Operational emissions would exceed the City's significance thresholds for NO_x, CO, and PM_{10} primarily due to motor vehicle emissions and stationary source emissions, specifically operation of the emergency generators during testing. Due to the anticipated increase in ADT as a result of project implementation, no mitigation is available to reduce PM_{10} impacts from motor vehicles. To reduce potential ozone impacts during triennial emergency generator testing periods, mitigation measure AQ-3 is provided. Following implementation of mitigation measure AQ-3, however, impacts would remain significant and unavoidable because NO_x emissions would remain above the City's threshold of significance. No additional feasible mitigation is available to reduce anticipated vehicle trips and stationary source emissions during project operations; therefore, impacts would be significant and unavoidable.

5.3.8 MITIGATION, MONITORING, AND REPORTING

Mitigation measures AQ-1, AQ-2, and AQ-3 would reduce emissions associated with PM_{10} and NO_x. Following implementation of AQ-2 and AQ-3, however, NO_x emissions would remain significant and unavoidable.

AQ-1: To ensure construction of the project would not result in a significant impact relative to fugitive dust (PM_{10}), the following requirements shall be implemented by the applicant's contractor during all construction phases, and incorporated in the contractor's grading plans subject to review by the City of San Diego Development Services Department:

- All active construction areas, unpaved access roads, parking areas, and staging areas shall be watered at least three times per day and/or stabilized with nontoxic soil stabilizers as needed to control fugitive dust.
- Exposed stockpiles (e.g. dirt, sand, etc.) shall be covered and/or watered or stabilized with nontoxic soil binders as needed to control emissions.
- Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

AQ-2: Prior to approval of any grading permits, the following requirements shall be placed on all grading plans, and shall be implemented by the applicant's contractor during grading of each phase of the project to minimize NO_x emissions:

- Minimize simultaneous operation of multiple construction equipment units. During construction, vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions.
- All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.
- All diesel-fueled on-road construction vehicles shall meet the emission standards applicable to the most current year to the greatest extent possible. To achieve this standard, new vehicles shall be used, or older vehicles shall use post-combustion controls that reduce pollutant emissions to the greatest extent feasible.
- The effectiveness of the latest diesel emission controls is highly dependent on the sulfur content of the fuel. Therefore, diesel fuel used by on- and off-road construction equipment shall be low sulfur (less than 15 ppm) or other alternative, low-polluting diesel fuel formulation.

AQ-3: To ensure contribution to ozone formation during emergency generator testing is minimized, if a triennial 4-hour emergency generator testing is conducted by the applicant or its contractors, the testing period shall occur only between November and April. This testing schedule shall be identified specifically in the application for Authority to Construct submitted to the San Diego Air Pollution Control District. A copy of the Authority to Construct issued by the San Diego Air Pollution Control District shall be submitted to the City of San Diego Development Services Department.

5.3.9 IMPACT

Issue 3: Would the proposal expose sensitive receptors to substantial pollutant concentrations?

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants (HAPs). State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program, and is aimed at HAPs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal HAPs, and is adopting appropriate control measures for sources of these TACs. As examples, TACs include acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter. Some of the TACs are groups of compounds that contain many individual substances (for example, copper compounds and polycyclic organic matter).

The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. The closest sensitive receptor is the Polinsky Children's Center, located approximately 50 feet from the project site. The next closest sensitive receptor is the Chinese Bilingual Preschool, located approximately 125 feet from the project site.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. SDAPCD Rule 1210 (SDAPCD 1996b) indicates that an incremental cancer risk threshold of 10 in 1 million or greater warrants public notification. "Incremental Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer quantified using standard risk-assessment methodology. Construction would total approximately 5 years spread out over a 12-year period. Off-road diesel construction equipment and heavy-duty diesel trucks (e.g., concrete trucks, building materials delivery trucks), which are sources of diesel exhaust particulate matter, are regulated under three ATCMs adopted by CARB. The ATCM for diesel construction equipment specifies particulate matter emission standards for equipment fleets, which become increasingly stringent over time. Furthermore, most newly-purchased construction equipment introduced into construction fleets after 2013–2015, depending on the engine horsepower rating, will be equipped with high-efficiency diesel particulate filters. One of ATCMs for heavy-duty diesel trucks specifies that commercial trucks with a gross vehicle weight rating over 10,000 pounds are prohibited from idling for more than 5 minutes unless the engines are idling while queuing or involved in operational activities. In addition, starting in model year 2008, new heavy-duty trucks must be equipped with an automatic shutoff device to prevent excessive idling or meet stringent NO_x requirements. Lastly, fleets of diesel trucks with a gross vehicle weight rating greater than 14,000 pounds are subject to another ATCM. This ATCM requires truck fleet operators to replace older vehicles and/or equip them with diesel particulate filters, depending on the age of the truck. Thus, over the life of the project, the diesel exhaust particulate matter emissions from off-road construction equipment and trucks would be controlled substantially. Accordingly, construction of the project is not anticipated to result in a long-term exposure of sensitive receptors to substantial concentration of TACs.

Following construction activities, stationary sources (boilers, diesel generators and microturbines) would result in TAC emissions. In San Diego County, SDAPCD Rule 1200 establishes acceptable risk levels and emission control requirements for new and modified stationary sources that may emit additional TACs, such as the proposed hot water boilers and diesel-powered emergency generators. The steam boilers and microturbines would not require permits from the SDAPCD and Rule 1200 would not apply to them. Under Rule 1200, permits to operate may not be issued when emissions of TACs result in an incremental cancer risk greater than 1 in 1 million without application of T-BACT, or an incremental cancer risk greater than 10 in 1 million with application of T-BACT, or a health hazard index (chronic and acute) greater than 1. The human health risk analysis is based on the time, duration, and exposures expected. T-BACT will be determined on a case-by-case basis; however, examples of T-BACT include diesel particulate filters, catalytic converters, and selective catalytic reduction technology. In accordance with SDAPCD Rule 20, the SDAPCD cannot issue a permit if compliance with Rule 1200 (Toxic Air Contaminants—New Source Review) and all other applicable air quality rules and regulations is not demonstrated. Accordingly, the cancer risk at nearby sensitive receptors would be at acceptable levels, and the impact to sensitive receptors would be less than significant.

A health risk assessment has been conducted for the TAC emissions from the boilers, emergency generators, and microturbines; no other substantial sources of TACs are associated with the proposed project (Yorke Engineering 2012). While the steam boilers and microturbines would not require air permits, their TAC emissions were included for purposes of this analysis under CEQA.

Two sensitive receptors were identified in the vicinity of the project, the Polinsky Children Center at 9400 Ruffin Court and the Chinese Bilingual Preschool at 5075 Ruffin Road. Receptors were placed along the closest edge of these facilities to the proposed project site to determine the health impacts to these locations. The nearest residences are homes located approximately 2,000 feet east of the project site and an apartment complex located approximately 2,800 feet to the west of the project site.

Cancer Risk

The 70-year, 30-year, and 9-year cancer risk for the point of maximum impact, the maximally exposed individual – receptor, the maximally exposed individual – worker, and the two sensitive receptors are shown in *Table 5.3-8, Estimated Health Impacts*. The maximum 70-year cancer risk was estimated at 1.4 in one million at the fenceline, while the cancer risk at the Polinsky Children's Center is estimated to be 1.2 in 1 million.

Acute Health Risk

Acute health hazard index is the ratio of exposure of any individual to a TAC for a period of one hour to an established reference exposure level (REL). Since it is possible for a receptor to be in any location for a period of one hour, the location of highest impact is anywhere from the fenceline outward. As shown in *Table 5.3-8*, it was estimated that the maximum acute health hazard index of 0.033 would occur near the north-east corner of the Chinese Bilingual Preschool.

Chronic Health Risk

Chronic health hazard index is the ratio of exposure of any individual to a TAC for an extended period of time (typically 1 year or longer) to a TAC versus an established REL. It was estimated that the maximum chronic health hazard index of 0.045 would occur at the southern fenceline of the facility near the generator yard.

The health risk assessment is included as *Appendix D*. The results of the health risk assessment are shown in *Table 5.3-8*.

Table 5.3-8
Estimated Health Impacts

Receptor	Cancer Risk			Acute Noncancer Hazard Index	Acute Noncancer Hazard Index
	70-Year	*30-Year*	*9-Year*		
Point of Maximum Impact	1.4	0.8	0.2	0.016	0.045
Maximum Exposed Individual Resident	0.7	N/A	N/A	0.012	0.021
Maximum Exposed Individual Worker	0.3	N/A	N/A	0.016	0.045
Chinese Bilingual Preschool	0.8	N/A	N/A	0.033	0.015
Polinsky Children's Center	1.2	N/A	N/A	0.023	0.007

Source: Yorke Engineering (2012)

As shown in *Table 5.3-8*, the cancer risk, acute hazard index, and chronic hazard index are all less than the Rule 1200 thresholds. Thus, the project would result in health impacts that are less than significant.

With regard to demolition activities and the potential release of asbestos, SDAPCD's Regulation XI, Subpart M, Rule 361.145 requires that the SDAPCD be notified in writing at least 10 days before the start of any demolition or renovation activities involving the presence of asbestos-containing material. Considering the age of the County Administration Building, the potential exists for the presence of regulated asbestos-containing material. Subpart M requires that all regulated asbestos-containing material be removed prior to demolition activities. Kaiser Permanente would comply with this regulation by notifying the SDAPCD in writing at least 10 days before the start of the demolition of any buildings. Compliance with Rule 361.145 would reduce asbestos-related impacts to a level that is less than significant. Due to the presence of nearby sensitive receptors, Kaiser would also notify the operators of the Chinese Bilingual Preschool and the Polinsky Children's Center prior to the start of demolition.

CO Hotspots

Mobile-source impacts occur basically on two scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, project traffic will be added to the roadway system in the vicinity of the project. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

Carbon monoxide transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and the elderly. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable level of service (LOS). Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. The project's traffic impact analysis (LLG 2013) evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the project. As indicated in the City of San Diego's Significance Determination Thresholds (City of San Diego 2011), a site-specific CO hotspot analysis should be performed if a proposed development would cause a four- or six-lane road to deteriorate to LOS E or worse.

The project's traffic report evaluated 25 intersections in the project vicinity to assess potential impacts resulting from the project. The results of the existing conditions (2012) show that all study intersections are currently operating at acceptable levels of service (LOS D or better) based on the Highway Capacity Manual methodology. Existing, near-term, and long-term (2035) conditions were evaluated without and with the project. Based on the City of San Diego significance criteria, no direct significant impacts were determined in the Existing + Project scenario. The results of the traffic analysis, however, show that the following intersections are forecast to be significantly impacted by the addition of project trips during the AM and/or PM Peak Hours under the near-term and/or long-term scenarios:

- Clairemont Mesa Boulevard/Ruffin Road (Near-Term Direct Impact [Existing + Cumulative Projects + Project]; Long-Term Cumulative Impact [Year 2035 + Entire Project])
- Clairemont Mesa Boulevard/Murphy Canyon Road (Long-Term Cumulative Impact [Year 2035 + Entire Project])
- Balboa Avenue/Ruffin Road (Near-Term Direct Impact [Existing + Cumulative Projects + Project]; Long-Term Cumulative Impact [Year 2035 + Entire Project])
- Balboa Avenue/Viewridge Avenue (Long-Term Cumulative Impact [Year 2035 + Entire Project]).

Mitigation measures are recommended for all four intersections to reduce potential direct and cumulative traffic impacts as a result of project implementation.

The Clairemont Mesa Boulevard/Ruffin Road intersection currently operates at LOS C during the AM Peak Hour and LOS D during the PM Peak Hour. In the near term, PM Peak Hour LOS conditions would deteriorate to LOS E under Existing + Cumulative Projects + Total Project implementation. To mitigate direct and cumulative impacts at the Clairemont Mesa Boulevard/Ruffin Road intersection, an exclusive eastbound right-turn lane would be provided. With mitigation, near-term intersection operation would improve to LOS D in the PM Peak Hour. Prior to mitigation, this intersection would operate at LOS E during the PM Peak Hour under the long-term scenario with or without the project; however, intersection delay would be greater with project traffic. Although implementation of the exclusive eastbound right-turn lane would not improve intersection operation to LOS D or better, it would reduce intersection delay below the without-project conditions. Accordingly, the project would not be the cause for the intersection deterioration, and no quantitative CO hotspot analysis would be required per the City of San Diego screening thresholds.

The Clairemont Mesa Boulevard/Murphy Canyon Road intersection currently operates at an acceptable LOS and would continue to operate at LOS D or better with or without project implementation in the near term. Under long-term conditions, this intersection would operate at LOS C during the AM Peak Hour and LOS D during the PM Peak Hour without project-generated traffic. With implementation of the project, intersection operation would be LOS B in the AM Peak Hour and LOS E during the PM Peak Hour, resulting in a cumulative PM Peak Hour impact. To reduce traffic impacts at the Clairemont Mesa Boulevard/Murphy Canyon Road intersection, a third eastbound through-lane on Clairemont Mesa Boulevard between Ruffin Road and Murphy Canyon Road would become a shared through/right lane at Murphy Canyon Road. With the addition of the eastbound through-lane, intersection operation would improve to LOS C during the PM Peak Hour. Although project traffic would cause this intersection to deteriorate to LOS E, project mitigation would result in reduced delay and improved intersection operation compared to the without project long-term scenario. As such, a quantitative CO hotspot analysis is not required.

The Balboa Avenue/Ruffin Road intersection currently operates at LOS D during the AM and PM Peak Hours. This intersection is estimated to operate at LOS E during both Peak Hours under the Existing + Cumulative Projects and Existing + Cumulative Projects + Total Project near-term scenarios. Project traffic would contribute to the delay and would exacerbate the poor operating conditions, with greater delay occurring in the PM Peak Hour. A southbound right-turn overlap phasing would be provided at this intersection to mitigate direct traffic impacts. Service operation would remain LOS E with mitigation; however, delay would be reduced compared to the without project scenario. In the long term, project traffic would contribute to the cumulative impact at the Balboa Avenue/Ruffin Road intersection prior to mitigation. With the addition of the southbound right-turn overlap phasing, intersection operation would be better with the project plus mitigation than without the project. Per the City of San Diego's guidance, no quantitative CO hotspot assessment is required.

Intersection operation at Balboa Avenue/Viewridge Avenue would operate at LOS D or better during the near-term scenario with or without project implementation. Under the long-term scenario, intersection operation is expected to deteriorate to LOS E during the PM Peak Hour with the addition of project traffic. To reduce the project's cumulative contribution to impacts, the project applicant would contribute a fair share (9%) towards restriping the southbound approach of the Balboa Avenue/Viewridge Avenue intersection to provide a second southbound left-turn lane. This mitigation would improve intersection operation to LOS D and would result in a reduced delay compared to the without project scenario, thus, mitigating cumulative project impacts at this intersection. No further quantitative CO hotspot analysis is required.

Although the project would generate traffic that would potentially contribute to poor operating conditions at intersections impacted by cumulative projects, the project would implement mitigation measures that would reduce the project's direct and cumulative impacts (refer to *Section 5.2*). Per the City's CO hotspot screening thresholds, a quantitative CO hotspot analysis would not be required for potentially impacted intersections examined in the project traffic impact analysis as the project with incorporation of required mitigation measures would not cause a four- or six-lane road to deteriorate to LOS E or worse.

5.3.10 SIGNIFICANCE OF IMPACT

The project would result in less-than-significant impacts to sensitive receptors.

5.3.11 MITIGATION, MONITORING, AND REPORTING

No mitigation measures would be required.

5.3.12 IMPACT

Issue 4: Would the proposal result in the creation of objectionable odors affecting a substantial number of people?

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project entails a hospital construction and would not result in the creation of a land use that is commonly associated with odors. Therefore, project operations would result in an odor impact that is less than significant.

5.3.13 SIGNIFICANCE OF IMPACT

The odor impacts as a result of project implementation would be less than significant.

5.3.14 MITIGATION, MONITORING, AND REPORTING

No mitigation would be required.

5.3.15 IMPACT

Issue 5: Would the proposal exceed 100 pounds per day of particulate matter (PM) (dust)?

As indicated in *Section 5.3.*6, the project's construction emissions would not exceed 100 pounds per day of particulate matter (see *Table 5.3-5*). Accordingly, impacts would be less than significant. Although impacts resulting from particulate matter would be below the City's significance thresholds, mitigation measure AQ-1 would be implemented to ensure impacts remain below a level of significance. The net increase in operational PM_{10} emissions would be 175.5 pounds per day. Therefore, operational emissions would exceed the City's significance threshold for PM_{10} of 100 pounds per day primarily due to motor vehicle emissions and would result in a significant impact. Due to the anticipated increase in ADT as a result of project implementation, no mitigation is available to reduce PM_{10} impacts from motor vehicles. Operational emissions would be below the City's significance threshold for $PM_{2.5}$; therefore, impacts would be less than significant for particulate matter less than 2.5 micrometers in diameter.

5.3.16 SIGNIFICANCE OF IMPACT

The project's particulate matter emissions would be less than significant during construction activities. During project operation, fugitive dust emissions would be significant and unavoidable.

5.3.17 MITIGATION, MONITORING, AND REPORTING

Mitigation Measure AQ-1 as described in *Section 5.3.8* would ensure impacts related to fugitive dust during construction would remain less than significant. No feasible mitigation is available to reduce PM_{10} emissions to a less than significant level during operation. Impacts would be significant and unavoidable.

5.3.18 IMPACT

Issue 6: Would the proposal result in substantial alteration of air movement in the area of the project?

The existing built environment that characterizes the site and surrounding land uses is generally consistent in terms of scale, density, and mass of structures. The majority of parcels located east of State Route 163, west of Interstate 15, and south of State Route 52 are entirely built out and consistent of structure between one and four stories in height. The addition of two hospital towers and associated facilities and a parking garage would replace the large, bulk structure of the existing County Administration building, and would introduce a physically dominant development to the area in terms of height and mass when compared to structures and development patterns in the immediate vicinity. Although the use and scale of the project would differ from that of existing nearby land uses, the open, low-density urban character of the surrounding street grid and built environment would be maintained following project implementation. Because the overall existing physical layout and urban character of the area would not be significantly altered following project implementation, the project would not create substantial changes in air movement in and around the project site.

5.3.19 SIGNIFICANCE OF IMPACT

Impacts related to air movement as a result of project implementation would be less than significant.

5.3.20 MITIGATION, MONITORING, AND REPORTING

No mitigation would be required.

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5.4 GREENHOUSE GAS EMISSIONS

5.4.1 INTRODUCTION

The following discussion summarizes the greenhouse gas (GHG) analysis for the project that was prepared by Dudek in December 2012. The complete report is included as *Appendix E* of this EIR.

5.4.2 EXISTING CONDITIONS

The Greenhouse Effect and Greenhouse Gases

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer).

Gases that trap heat in the atmosphere are often called "greenhouse gases" (GHGs). The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor (H_2O). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely byproducts of fossil fuel combustion, whereas CH_4 results mostly from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3), which are associated with certain industrial products and processes (CAT 2006).

The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Without it, the temperature of the Earth would be about 0°F (−18°C) instead of its present 57°F (14°C). Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect (National Climatic Data Center 2009).

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its "global warming potential" (GWP). GWP varies between GHGs; for example, the GWP of CH_4 is 21, and the GWP of N_2O is 310. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of pounds or tons of "CO_2 equivalent" (CO_2E).[1]

Contributions to Greenhouse Gas Emissions

In 2010, the United States produced 6,822 million metric tons of CO_2E (MMT CO_2E) (EPA 2012). The primary GHG emitted by human activities in the United States was CO_2, representing approximately 84% of total GHG emissions. The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 94% of the CO_2 emissions and 78% of overall GHG emissions.

According to the 2009 GHG inventory data compiled by the California Air Resources Board (CARB) for the California Greenhouse Gas Inventory for 2000–2009, California emitted 457 MMT CO_2E of GHGs, including emissions resulting from out-of-state electrical generation (CARB 2011). The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. These primary contributors to California's GHG emissions and their relative contributions in 2009 are presented in *Table 5.4-1*, *GHG Sources in California.*

Table 5.4-1
GHG Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	% of Total
Agriculture	32.13	7.03%
Commercial and residential	42.95	9.40%
Electricity generation	103.58[a]	22.68%
Forestry (excluding sinks)	0.19	0.04%
Industrial uses	81.36	17.81%
Recycling and waste	7.32	1.60%
Transportation	172.92	37.86%
High-GWP substances	16.32	3.57%
Totals	**456.77**	**100.00%**

Source: CARB 2011
Footnote: [a] Includes emissions associated with imported electricity, which account for 48.05 MMTCO2E annually.

[1] The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that $MTCO_2E$ = (metric tons of a GHG) x (GWP of the GHG). For example, the GWP for CH_4 is 21. This means that emissions of 1 metric ton of methane are equivalent to emissions of 21 metric tons of CO_2.

Potential Effects of Human Activity on Climate Change

According to CARB, some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high O_3 days, more large forest fires, and more drought years (CARB 2006). Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts.

The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2°C per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming would occur, which would induce further changes in the global climate system during the current century. Changes to the global climate system and ecosystems and to California would include, but would not be limited to:

- The loss of sea ice and mountain snowpack resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (IPCC 2007)
- A rise in global average sea level primarily due to thermal expansion and melting of glaciers and ice caps and the Greenland and Antarctic ice sheets (IPCC 2007)
- Changes in weather that includes widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2007)
- A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California, by 70% to as much as 90% over the next 100 years (CAT 2006)
- An increase in the number of days conducive to O_3 formation by 25% to 85% (depending on the future temperature scenario) in high O_3 areas of Los Angeles and the San Joaquin Valley by the end of the 21st century (CAT 2006)
- High potential for erosion of California's coastlines and sea water intrusion into the Delta and levee systems due to the rise in sea level (CAT 2006).

Regulatory Setting

Federal Activities

Massachusetts vs. EPA. On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the Environmental Protection Agency (EPA) Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the Clean Air Act (CAA). On December 7, 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Energy Independence and Security Act. On December 19, 2007, President Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the Act would do the following, which would aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022
2. Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

EPA and NHTSA Joint Final Rule for Vehicle Standards. On April 1, 2010, the EPA and NHTSA announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016. The joint rule is intended to reduce GHG emissions and improve fuel economy. The EPA is finalizing the first-ever national GHG emissions standards under the CAA, and NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act (EPA 2010). This final rule follows the EPA and Department of Transportation's joint proposal on September 15, 2009, and is the result of the President Obama's May 2009 announcement of a national program to reduce GHGs and improve fuel economy (EPA 2011). The final rule became effective on July 6, 2010 (EPA and NHTSA 2010).

The EPA GHG standards require new passenger cars, light-duty trucks, and medium-duty passenger vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016, equivalent to 35.5 mpg if the automotive industry were to meet this CO_2 level through fuel economy improvements alone. The CAFE standards for passenger cars and light trucks will be phased in between 2012 and 2016, with the final standards equivalent to 37.8 mpg for passenger cars and 28.8 mpg for light trucks, resulting in an estimated combined average of 34.1 mpg. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program. The rules will simultaneously reduce GHG emissions, improve energy security, increase fuel savings, and provide clarity and predictability for manufacturers (EPA 2011).

In August 2012, the EPA and NHTSA approved a second round of GHG and CAFE standards for model years 2017 and beyond (EPA and NHTSA 2012). These standards will reduce motor vehicle GHG emissions to 163 grams of CO_2 per mile, which is equivalent to 54.5 mpg if this level were achieved solely through improvements in fuel efficiency, for cars and light-duty trucks by model year 2025. A portion of these improvements, however, will likely be made through improvements in air conditioning leakage and through use of alternative refrigerants, which would not contribute to fuel economy. The first phase of the CAFE standards, for model year 2017 to 2021, are projected to require, on an average industry fleet-wide basis, a range from 40.3 to 41.0 mpg in model year 2021. The second phase of the CAFE program, for model years 2022 to 2025, are projected to require, on an average industry fleet-wide basis, a range from 48.7 to 49.7 mpg in model year 2025. The second phase of standards have not been finalized due to the statutory requirement that NHTSA set average fuel economy standards not more than 5 model years at a time. The regulations also include targeted incentives to encourage early adoption and introduction into the marketplace of advanced technologies to dramatically improve vehicle performance, including:

- Incentives for electric vehicles, plug-in hybrid electric vehicles, and fuel cells vehicles
- Incentives for hybrid technologies for large pickups and for other technologies that achieve high fuel economy levels on large pickups
- Incentives for natural gas vehicles
- Credits for technologies with potential to achieve real-world GHG reductions and fuel economy improvements that are not captured by the standards test procedures.

State of California

Title 24. Although not originally intended to reduce GHG emissions, California's Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR 6) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The premise for the standards is that energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results in GHG emissions. Therefore, increased energy efficiency in buildings results in relatively lower rates of GHG emissions on a building-by-building basis.

Assembly Bill (AB) 1493. In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 (Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Before these regulations could go into effect, the EPA had to grant California a waiver under the federal CAA, which ordinarily preempts state regulation of motor vehicle emission standards. The waiver was granted by Lisa Jackson, the EPA Administrator, on June 30, 2009. On March 29, 2010, the CARB Executive Officer approved revisions to the motor vehicle GHG standards to harmonize the state program with the national program for 2012–2016 model years (see the discussion *EPA and NHTSA Joint Final Rule for Vehicle Standards* earlier in this section). The revised regulations became effective on April 1, 2010.

Executive Order S-3-05. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80% below 1990 levels by 2050. The California Environmental Protection Agency (CalEPA) Secretary is required to coordinate efforts of various agencies to collectively and efficiently reduce GHGs. The Climate Action Team is responsible for implementing global warming emissions reduction programs. Representatives from several state agencies comprise the Climate Action Team. The Climate Action Team fulfilled its report requirements through the March 2006 Climate Action Team Report to the governor and the legislature (CAT 2006). A second draft biennial report was released in April 2009.

The 2009 Draft Climate Action Team Report (CAT 2009) expands on the policy outlined in the 2006 assessment. The 2009 report provides new information and scientific findings regarding the development of new climate and sea-level projections using new information and tools that have recently become available and evaluates climate change within the context of broader soil changes, such as land use changes and demographics. The 2009 report also identifies the need for additional research in several different aspects that affect climate change in order to support effective climate change strategies. The aspects of climate change determined to require future research include vehicle and fuel technologies, land use and smart growth, electricity and natural gas, energy efficiency, renewable energy and reduced carbon energy sources, low GHG technologies for other sectors, carbon sequestration, terrestrial sequestration, geologic sequestration, economic impacts and considerations, social science, and environmental justice.

AB 32. In furtherance of the goals established in Executive Order S-3-05, the legislature enacted AB 32 (Núñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. The GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020.

CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

The first action under AB 32 resulted in the adoption of a report listing early action GHG emission reduction measures on June 21, 2007. The early actions include three specific GHG control rules. On October 25, 2007, CARB approved an additional six early-action GHG reduction measures under AB 32. The three original early-action regulations meeting the narrow legal definition of "discrete early-action GHG reduction measures" include:

1. A low-carbon fuel standard to reduce the "carbon intensity" of California fuels
2. Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants
3. Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early-action regulations, which were also considered "discrete early-action GHG reduction measures," consist of:

1. Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology
2. Reduction of auxiliary engine emissions of docked ships by requiring port electrification
3. Reduction of PFCs from the semiconductor industry
4. Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products)
5. Requirements that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency
6. Restriction on the use of SF_6 from non-electricity sectors if viable alternatives are available.

As required under AB 32, on December 6, 2007, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 MMT CO_2E. In addition to the 1990 emissions inventory, CARB also adopted regulations requiring mandatory reporting of GHGs for large facilities that account for 94% of GHG emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and other industrial sources that emit CO_2 in excess of specified thresholds.

On December 11, 2008, CARB approved the Climate Change Proposed Scoping Plan: A Framework for Change (Scoping Plan; CARB 2008) to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

The key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33%
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

SB 1368. In September 2006, Governor Schwarzenegger signed SB 1368, which requires the California Energy Commission (CEC) to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC). This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low or lower than new combined-cycle natural gas plants, by requiring imported electricity to meet GHG performance standards in California, and by requiring that the standards be developed and adopted in a public process.

Executive Order S-1-07. Issued on January 18, 2007, Executive Order S-1-07 sets a declining Low Carbon Fuel Standard (LCFS) for GHG emissions measured in CO_2E gram per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources such as algae, wood, and agricultural waste. In addition, the LCFS would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The LCFS is anticipated to lead to the replacement of 20% of the fuel used in motor vehicles with alternative fuels by 2020.

SB 97. In August 2007, the legislature enacted SB 97 (Dutton), which directs the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. OPR was to develop proposed guidelines by July 1, 2009, and the Natural Resources Agency was directed to adopt the guidelines by January 1, 2010. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the CEQA Guidelines.

On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents (OPR 2008). The advisory indicated that a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities, should be identified and estimated. The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures that are necessary to reduce GHG emissions to a level that is less than significant.

On April 13, 2009, OPR submitted to the Natural Resources Agency its proposed amendments to the CEQA Guidelines relating to GHG emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting the proposed amendments, starting the public comment period.

The Natural Resources Agency adopted the CEQA Guidelines Amendments on December 30, 2009, and transmitted them to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative law completed its review and filed the amendments with the secretary of state. The amendments became effective on March 18, 2010. The amended guidelines establish several new CEQA requirements concerning the analysis of GHGs, including the following:

- Requiring a lead agency to "make a good faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project" (Section 15064(a))
- Providing a lead agency with the discretion to determine whether to use quantitative or qualitative analysis or performance standards to determine the significance of GHG emissions resulting from a particular project (Section 15064.4(a))
- Requiring a lead agency to consider the following factors when assessing the significant impacts from GHG emissions on the environment:
  - The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting
  - Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project
  - The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (Section 15064.4(b)).
- Allowing lead agencies to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures, including offsets that are not otherwise required (Section 15126.4(c)).

The amended guidelines also establish two new guidance questions regarding GHG emissions in the Environmental Checklist set forth in CEQA Guidelines Appendix G:

- Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The adopted amendments do not establish a GHG emission threshold, but instead allow a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts.[2] The Natural Resources Agency also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.[3]

SB 375. In August 2008, the legislature passed and on September 30, 2008, Governor Schwarzenegger signed SB 375 (Steinberg), which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, as determined by CARB, are required to consider the emission reductions associated with vehicle emission standards (see SB 1493), the composition of fuels (see Executive Order S-1-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a Sustainable Communities Strategy within their Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for "transit priority projects," as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the Sustainable Communities Strategy or Alternative Planning Strategy. On September 23,

[2] "The CEQA Guidelines do not establish thresholds of significance for other potential environmental impacts, and SB 97 did not authorize the development of a statement threshold as part of this CEQA Guidelines update. Rather, the proposed amendments recognize a lead agency's existing authority to develop, adopt and apply their own thresholds of significance or those developed by other agencies or experts" (California Natural Resources Agency 2009, p. 84).

[3] "A project's compliance with regulations or requirements implementing AB 32 or other laws and policies is not irrelevant. Section 15064.4(b)(3) would allow a lead agency to consider compliance with requirements and regulations in the determination of significance of a project's greenhouse gas emissions" (California Natural Resources Agency 2009, p. 100).

2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for the San Diego Association of Governments (SANDAG) are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a Sustainable Communities Strategy will be the responsibility of the MPOs. SB 375 is currently undergoing legal challenge, and in November 2012 the Superior Court of San Diego County struck down the CEQA analysis of SANDAG's 2050 Regional Transportation Plan/Sustainable Communities Strategy that was prepared per the SB 375 streamlined approach (*Cleveland National Forest Foundation v. SANDAG* 2012). In closed session on December 7, 2012, the SANDAG Board of Directors authorized its attorneys to meet with the petitioners, as they have requested, to continue settlement talks.

Executive Order S-13-08. Governor Schwarzenegger issued Executive Order S-13-08 on November 14, 2008. The Executive Order is intended to hasten California's response to the impacts of global climate change, particularly sea level rise. It directs state agencies to take specified actions to assess and plan for such impacts. It directs the Resources Agency, in cooperation with the California Department of Water Resources, the CEC, California's coastal management agencies, and the Ocean Protection Council, to request that the National Academy of Sciences prepare a Sea Level Rise Assessment Report by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies, are required to conduct a public workshop to gather information relevant to the Sea Level Rise Assessment Report. The Business, Transportation, and Housing Agency was ordered to assess within 90 days of the order the vulnerability of the state's transportation systems to sea level rise. OPR and the Resources Agency are required to provide land use planning guidance related to sea level rise and other climate change impacts. The order also requires the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final adaption strategies report was issued in December 2009. To assess the state's vulnerability, the report summaries key climate change impacts to the state for the following areas: public health, ocean and coastal resources, water supply and flood protection, agriculture, forestry, biodiversity and habitat, and transportation and energy infrastructure. The report then recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Executive Order S-14-08. On November 17, 2008, Governor Schwarzenegger issued Executive Order S-14-08. This Executive Order focuses on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. The governor's order requires that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the order directs state agencies to take appropriate actions to facilitate reaching this target. The Resources Agency, through collaboration with the CEC and California Department of Fish and Game (CDFG), is directed to lead this effort. Pursuant to a Memorandum of Understanding between the CEC and CDFG creating the Renewable Energy Action Team, these agencies will create a "one-stop" process for permitting renewable energy power plants.

Executive Order S-21-09. On September 15, 2009, Governor Schwarzenegger issued Executive Order S-21-09. This Executive Order directed CARB to adopt a regulation consistent with the goal of Executive Order S-14-08 by July 31, 2010. CARB is further directed to work with the CPUC and CEC to ensure that the regulation builds upon the Renewable Portfolio Standard (RPS) program and is applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB is to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB adopted regulations to implement a "Renewable Electricity Standard," which would achieve the goal of the executive order with the following intermediate and final goals: 20% for 2012–2014, 24% for 2015–2017, 28% for 2018–2019, and 33% for 2020 and beyond. Under the regulation, wind; solar; geothermal; small hydroelectric; biomass; ocean wave, thermal, and tidal; landfill and digester gas; and biodiesel would be considered sources of renewable energy. The regulation would apply to investor-owned utilities and public (municipal) utilities.

SB X1 2. On April 12, 2011, Governor Jerry Brown signed SB X1 2 in the First Extraordinary Session, which would expand the RPS by establishing a goal of 20% of the total electricity sold to retail customers in California per year, by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered by SB 107, SB X1 2 adds local publicly owned electric utilities to the RPS. By January 1, 2012, the CPUC is required to establish the quantity of electricity products from eligible renewable energy resources to be procured by retail sellers in order to achieve targets of 20% by December 31, 2013; 25% by December 31, 2016; and 33% by December 31, 2020. The statute also requires that the governing boards for local publicly owned electric utilities establish the same targets, and the governing boards would be responsible for ensuring compliance with these targets. The CPUC will be responsible for enforcement of the RPS for retail sellers, while the CEC and CARB will enforce the requirements for local publicly owned electric utilities.

California Air Pollution Control Officers Association. The California Air Pollution Control Officers Association (CAPCOA) is the association of Air Pollution Control Officers representing all 35 air quality agencies throughout California. CAPCOA is not a regulatory body, but has been an active organization in providing guidance in addressing the CEQA significance of GHG emissions and climate change as well as other air quality issues.

5.4.3 IMPACT

Issue 1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a cumulatively significant impact on the environment?

Construction Impacts

GHG emissions would be associated with the construction phase of the project through use of construction equipment and vehicle trips. Emissions of CO_2 were estimated using the URBEMIS 2007, Version 9.2.4, land use and air emissions model (Jones & Stokes 2007). For the purposes of modeling, it was assumed that construction of the project would commence in Spring 2013. Construction of Phase I would occur over approximately 3 years, and construction of Phase II is anticipated to occur over a one-year period. Construction would consist of various components as previously described in *Section 1.3* of this EIR. A detailed depiction of the construction schedule—including information regarding subphases, demolition, and equipment utilized during each subphase—is included in *Appendix E* of this EIR. The information contained in *Appendix E* was utilized as URBEMIS inputs.

Construction equipment specifications were provided by the applicant, and equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month), during project construction. Additionally, URBEMIS assumptions were used for worker trips and vendor trips during building construction subphases.

The model results were adjusted to estimate CH_4 and N_2O emissions in addition to CO_2. The CO_2 emissions from off-road equipment and vehicles and delivery trucks, which are assumed by URBEMIS 2007 to be diesel fueled, were adjusted by a factor derived from the relative CO_2, CH_4, and N_2O for diesel fuel as reported in the California Climate Action Registry's (CCAR) General Reporting Protocol (CCAR 2009) for transportation fuels and the GWP for each GHG to estimate the emissions in units of CO_2E. The CO_2 emissions associated with construction worker trips were multiplied by a factor based on the assumption that CO_2 represents 95% of the CO_2E emissions associated with passenger vehicles (EPA 2005). The results were then converted from annual tons per year to metric tons per year. *Table 5.4-2, Estimated Construction GHG Emissions*, shows the estimated annual GHG construction emissions associated with the project, as well as the amortized annual construction emissions over a 30-year "project life."

Table 5.4-2
Estimated Construction GHG Emissions (metric tons CO_2E/year)

Construction Year	GHG Emissions
2013	1,868
2014	2,356
2016	213
2023	885
2024	313
Total Construction Emissions	5,635
Amortized Annual Construction Emissions	188

Source: URBEMIS 2007 Version 9.2.4 (Jones & Stokes 2007). See *Appendix E* for complete results.

Operational Impacts

Operation of the project would result in GHG emissions from vehicular traffic, area sources (natural gas combustion, landscaping), stationary sources (diesel generators, boilers and microturbines), electrical generation, water supply, and solid waste.

To effectively analyze operational GHG emissions associated with the project, two scenarios were modeled. The first scenario represents project emissions under a "business as usual" approach, which estimates project emissions absent federal, state, and local measures and without project features intended to reduce GHG emissions. The second scenario represents project emissions with implementation of applicable federal, state, and local GHG reduction measures and project features. Statewide emission reduction measures proposed in CARB's Scoping Plan (CARB 2008) that are applicable to the project as well as the percent reduction from "business as usual" are indicated in *Table 5.4-3*. Detailed calculations can be found in *Appendix E*.

Table 5.4-3
State Measures Addressing Reduction of GHG Emissions

Measure	Sector	Percent Reduction from Business as Usual
AB 1493 – Pavley Standards	Transportation	19.71%
Energy Efficiency	Energy Consumption (Electricity)	10.92%
Renewable Portfolio Standard (33% by 2020)	Energy Consumption (Electricity)	15.30%
Residential and Commercial (Hospital)	Energy Consumption (Natural Gas)	9.54%
Renewable Portfolio Standard (33% by 2020)	Energy Consumption (Water Supply)	15.30%

Source: CARB 2008. See *Appendix E* for complete results.

Vehicular Traffic

The project would impact air quality through the vehicular traffic generated by the project. According to the project's traffic report (LLG 2013), the baseline traffic scenario consists of 3,527 trips, while the project would result in a total of 12,600 trips at the project site (see *Table 5.4-4*). The net change in trips that can be attributed to the project is 9,073 trips. See *Appendix E* for detailed trip generation information.

Annual CO_2 emissions from motor vehicle trips for full project buildout were quantified using URBEMIS 2007 (refer to *Appendix E* for additional details and model assumptions). As described earlier, CH_4 and N_2O emissions were accounted for by multiplying the URBEMIS 2007 CO_2 emissions by a factor based on the assumption that CO_2 represents 95% of the CO_2E emissions associated with passenger vehicles (EPA 2005).

GHG emission reduction measures identified earlier in *Table 5.4-3* would reduce emissions associated with vehicular traffic by approximately 20%.

Area Sources

In addition to estimating mobile source emissions, URBEMIS 2007 was also used to estimate emissions from the project's area sources, which include natural gas combustion and landscape maintenance (which would not produce winter emissions). Refer to *Appendix E* for additional information. The CO_2 emissions from natural gas combustion were adjusted by a factor derived from the relative CO_2, CH_4, and N_2O for natural gas as reported in the CCAR's General Reporting Protocol (CCAR 2009) for stationary combustion fuels and their GWPs.

GHG emission reduction measures identified earlier in *Table 5.4-3* would reduce emissions associated with natural gas combustion by approximately 10%.

Diesel Generators

Operational emissions under the project would result from intermittent use of three 2500-kilowatt (kW) diesel-powered emergency generators for maintenance and testing purposes. Each generator would be run for testing and maintenance approximately 30 minutes each week with a 4-hour full load test once per 3 years for a total of 30 hours per year, assuming the triennial test is run in a given year. Generator engines would meet the EPA standards for Tier 2 engines as required by the CARB Airborne Toxic Control Measure (ATCM) for new and in-use stationary diesel engines. Under the baseline scenario, it is assumed that no emergency generators would operate on site. The CO_2 emission factor was obtained from Section 3.4 (Large Stationary Diesel and All Stationary Dual-fuel Engines) of the EPA's Compilation of Air Pollutant Emission Factors (EPA 1996). The CO_2 emissions from diesel combustion were adjusted by a factor derived from the relative CO_2, CH_4, and N_2O for natural gas as reported in the CCAR's General Reporting Protocol (CCAR 2009) for stationary combustion fuels and their GWPs. The estimated emissions from the emergency generator engines are shown in *Table 5.4-4*. Refer to *Appendix E* for additional information. No GHG reduction measures have been applied to the diesel generators.

Boilers

Hot Water Boilers

Three natural gas-fired hot water boilers and one standby boiler would be proposed as part of the project's Energy Center components. These boilers would have an input of approximately 12.0 million British thermal units per hour (MMBtu/hr) at 287 horsepower (hp) and operate a minimum efficiency of 80%. The hot water boilers would be operated as required to provide the needs of the hospital. Total annual fuel usage is estimated to 65,277 MMBtu per year at 21% annual capacity factor; the estimated capacity factor was based on fuel usage estimates by the project engineers.

Steam Boilers

Under the project, four Cleaver Brooks CFH 60 steam boilers and one standby boiler would be installed in the Energy Center to produce steam. Steam boilers would be rated at 60 hp and produce approximately 2,070 pounds/hour of steam at 125 pounds per square inch gauge (psig). Steam boilers would have a heat input rating of 2.04 MMBtu/hr. The steam boilers would be operated as required to provide the needs of the hospital. Total annual fuel usage is estimated to be 15,012 MMBtu per year at 21% annual capacity factor. Under the baseline scenario, no boilers are assumed to operate on site. The CO_2 emission factor was obtained from Section 1.4 (Natural Gas Combustion) of the EPA's Compilation of Air Pollutant Emission Factors (EPA 1998). The CO_2 emissions from natural gas combustion in the boilers were adjusted by a factor derived from the relative CO_2, CH_4, and N_2O for natural gas as reported in the CCAR's General Reporting Protocol (CCAR 2009) for stationary combustion fuels and their GWPs. The estimated emissions from the hot water and steam boilers are shown in *Table 5.4-4*. Refer to *Appendix E* for additional information. No GHG reduction measures have been applied to the boilers.

Microturbines

PureComfort™ Microturbines

As part of the project, six PureComfort™ microturbines would operate at full load with a natural gas input of 0.842 MMBtu per hour and an output of 65 kW per unit. The microturbines would be operated continuously. Total annual fuel usage is estimated to be 44,256 MMBtu per year.

The CO_2 emission factors were obtained from Section 3.1 (Stationary Gas Turbines) of EPA's Compilation of Air Pollutant Emission Factors (EPA 2000).

PureThermal™ Microturbines

In addition to pure comfort microturbines, four PureThermal™ microturbines would operate at full load with a natural gas input of 0.842 MMBtu per hour and an output of 65 kW per unit. The microturbines would be operated continuously. Total annual fuel usage is estimated to 29,504 MMBtu per year.

Under the baseline scenario, no microturbines operate on site.

The CO_2 emission factors were obtained from Section 3.1 (Stationary Gas Turbines) of EPA's Compilation of Air Pollutant Emission Factors (EPA 2000). The CO_2 emissions from natural gas combustion in the microturbines were adjusted by a factor derived from the relative CO_2, CH_4, and N_2O for natural gas as reported in the CCAR's General Reporting Protocol (CCAR 2009) for stationary combustion fuels and their GWPs. The estimated emissions from the microturbines are shown in *Table 5.4-4*. Refer to *Appendix E* for additional information. No GHG reduction measures have been applied to the microturbines; however, as proposed microturbines would generate electricity on site, net positive electricity generation due to turbine operation has been accounted for in GHG emissions associated with electricity consumption as discussed below.

Table 5.4-4
Estimated Annual Stationary Source GHG Emissions (metric tons CO_2E/year)

Emission Source	GHG Emissions
Project	
Emergency Generators	235
Hot Water Boilers	3,562
Steam Boilers	819
Comfort Microturbines	2,214
Thermal Microturbines	1,476
Total	**8,306**

Source: Dudek 2012. See *Appendix E* for complete results.

Electrical Generation

Default electric usage rates of the California Emissions Estimator Model (CalEEMod) were used to estimate electricity consumption from the baseline scenario and the project (ENVIRON 2011). The net change in electricity consumption would be approximately 13,300,560 kilowatt-hours per year (see *Appendix E* for calculations) without considering the electricity generated by the microturbines. The 10 microturbines would generate a total of 5,518,800 kilowatt-hours of net positive electricity usage.

The generation of electricity through combustion of fossil fuels typically results in emissions of CO_2 and to a smaller extent CH_4 and N_2O. Annual electricity emissions were estimated using the reported CO_2 emissions per kilowatt-hour for San Diego Gas & Electric (SDG&E), which would provide electricity for the project. The contributions of CH_4 and N_2O for power plants in California were obtained from the CCAR's General Reporting Protocol (CCAR 2009), which were adjusted for their GWPs.

GHG emission reduction measures identified earlier in *Table 5.4-3* would reduce emissions associated with electrical generation by approximately 26%. Net positive electricity generated by microturbines would reduce emissions associated with electricity consumption by approximately 41%.

Water Supply

Water supplied to the project requires the use of electricity. Accordingly, the supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through use of electricity. Default water usage rates of the CalEEMod were used to estimate electricity consumption from water use for the baseline scenario (ENVIRON 2011). Water usage rates for the project were taken from the project's Preliminary Water and Sewer Report (RBF 2012). The estimated electrical usage associated with supply, conveyance, treatment, and distribution of water was obtained from a CEC report on electricity associated with water supply in California (Navigant 2006).

GHG emission reduction measures identified earlier in *Table 5.4-3* would reduce emissions associated with electricity used for water supply by approximately 15%.

Solid Waste

The project would generate solid waste, and would therefore result in CO_2E emissions associated with landfill off-gassing. Solid waste generation rates for the baseline scenario and the project, and CO_2E conversion factors were obtained from the Bay Area Air Quality Management District's Greenhouse Gas Model, Version 1.1.9 Beta (BAAQMD 2010).

Summary of GHG Emissions

The net change in estimated GHG emissions associated with vehicular traffic, area sources, stationary sources, electrical generation, water supply, and solid waste relative to the baseline emissions is shown below in *Table 5.4-5, Estimated Net Change in GHG Emissions*. The emission reductions due to statewide measures and project features shown in *Table 5.4-3* and discussed previously are reflected in the project emissions. The amortized annual construction emissions are included in these overall emissions estimates as well. Additional detail regarding these calculations can be found in *Appendix E.* The net change in GHG emissions is 24,670 metric tons CO_2E per year.

Table 5.4-5
Estimated Net Change in GHG Emissions (metric tons CO_2E/year)

Source	GHG Emissions Proposed Project	GHG Emissions Baseline Project	Net Change
Motor Vehicles	17,063	5,487	11,577
Area Sources			
Natural Gas Combustion	661	498	163
Landscaping	1	1	1
Stationary Sources	8,306	—	8,306
Electrical Generation	1,446	1,336	110
Water Supply	1,325	1,119	207
Solid Waste	6,470	2,350	4,120
Amortized Annual Construction Emissions	188	—	188
Total	**35,459**	**10,789**	**24,670**

Source: Dudek 2012. See *Appendix E* for complete results.

Per the City's interim guidance, the project's "business as usual" emissions were compared to the project's gross (not net) emissions after accounting for statewide measures and project features. As shown in *Table 5.4-6*, *Estimated GHG Emissions Compared to Business as Usual*, the estimated GHG emissions from the project would be 42,990 metric tons CO_2E per year without the GHG reduction measures ("business as usual"), and 35,459 metric tons CO_2E per year with the GHG reduction measures including project features. As indicated in *Table 5.4-6*, implementation of the GHG reduction measures would reduce GHG emissions by 17.5%.

Table 5.4-6
Estimated GHG Emissions Compared to Business as Usual (metric tons CO_2E/year)

Source	GHG Emissions Business As Usual	GHG Emissions Project with GHG Reduction Measures	Percent Reduction
Motor Vehicles	21,253	17,063	19.71%
Area Sources			
Natural Gas Combustion	730	661	9.54%
Landscaping	1	1	0%
Stationary Sources	8,306	8,133	0%
Electrical Generation	4,478	1,446	68%
Water Supply	1,565	1,325	15.3%
Solid Waste	6,470	6,470	0%
Amortized Annual Construction Emissions	188	188	0%
Total	**42,990**	**35,460**	**17.5%**

Source: Dudek 2012. See *Appendix E* for complete results.

Statewide emission reduction measures proposed in CARB's Scoping Plan (CARB 2008) that are applicable to the proposed project as well as the percent reduction from "business as usual" are indicated in *Table 5.4-7* below.

Table 5.4-7
State Measures Addressing Reduction of GHG Emissions

Measure	Sector	Percent Reduction from Business as Usual
AB 1493 – Pavley Standards	Transportation	19.71%
Energy Efficiency	Energy Consumption (Electricity)	10.92%
Renewable Portfolio Standard (33% by 2020)	Energy Consumption (Electricity)	15.30%
Residential and Commercial (Hospital)	Energy Consumption (Natural Gas)	9.54%
Renewable Portfolio Standard (33% by 2020)	Energy Consumption (Water Supply)	15.30%

Source: CARB 2008. See Appendix B of *Appendix E* for complete results.

Assessment of GHG Impacts

As shown in *Table 5.4-6*, the project, after accounting for statewide GHG reduction measures and project features, would result in a net change of 24,670 metric tons CO_2E per year relative to the baseline scenario. To assess the impact of the project's GHG emissions, the emissions under a "business as usual" scenario are compared with the project's gross emissions. As shown in *Table 5.4-6*, with implementation of GHG reduction measures the project would reduce GHG emissions by 17.5 %. The project would therefore not achieve the target of 28.3% below business as usual that has been established for the purposes of assessing the GHG emissions of projects in the City of San Diego, and impacts would be considered significant.

The project has incorporated sustainability goals and project design features in order to reduce its overall emissions. Sustainable goals are set to ensure that the hospital building would achieve LEED Gold certification. The project would be developed to incorporate reduced energy demand systems (solar, thermal insulation), utilization of rainwater, and recycling of waste, as well as to utilize systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction. Furthermore, the project would incorporate microturbines that serve multiple purposes, including on-site generation of electricity.

Structured parking, with preferred parking for fuel-efficient vehicles, would eliminate the heat island effect of surface parking and encourage the use of alternative fuel vehicles. The site would also be landscaped with native, low-water use plantings and maximum open space to provide gardens, which help offset GHG emissions. In addition, low-flow fixtures and water-efficient medical and mechanical equipment, as well as metering for measurement and verification, would be used to conserve water in the hospital.

As shown in *Table 5.4-8*, the project has incorporated the following sustainable features into the project design in order to reduce its overall emissions. Sustainable goals are set to ensure that the hospital building would achieve LEED Gold certification:

Table 5.4- 8
Project Design Features

Feature	Specifications
Energy	Installation of solar infrastructure and thermal insulation to reduce energy demand throughout the project and increase building efficiency.
	Installation of PureComfort™ and PureThermal™ microturbines which would generate on-site electricity.
	Consideration of energy recovery options to be incorporated into project design.
Water Conservation	Utilization of rainwater/rain capture systems for outdoor water use.
Waste Reduction	Implementation of project-wide recycling program.
	Prefabrication elements incorporated across project construction to minimize waste.
	Incorporation of native, drought-tolerant landscaping and open spaces.
	Installation of low-flow fixture s and water-efficient medical and mechanical equipment.
	Installation of water metering for measurement and verification of water conservation features.
Material Sourcing	Consideration of local materials for landscape and construction.
Transportation	Structured parking to reduce heat-island effect of surface parking.
	Provisions for preferred parking for fuel-efficient vehicles.

The identified project design features reflect the types of emissions reduction measures recommended by public agencies to contribute to reducing the intensity of GHG emissions and helping California achieve its economy-wide goals. Additionally, the project would achieve LEED Gold certification and would incorporate additional design features including energy and water conservation measures, designed to further reduce GHG emissions once operational. Even with the features presented above, however, the project would still result in a significant impact. This is also due to the uniqueness of hospital facilities, which are not generally subject to energy efficiency requirements applied to other non-residential building types (e.g., 24 CCR). Hospitals are also required to meet other state laws related to ventilation and air exchanges, resulting in increased energy needs. Overall, while significant GHG impacts would be reduced through the incorporation of identified design features, residual impacts would remain significant and unavoidable.

5.4.4 SIGNIFICANCE OF IMPACT

The project would not achieve the target of 28.3% below the business as usual scenario that has been established for the purposes of assessing the GHG emissions of projects in the City, and the GHG impact would be significant. Overall, while significant GHG impacts would be reduced by 17.5% through the incorporation of project design features, residual impacts would remain significant and unavoidable.

5.4.5 MITIGATION, MONITORING, AND REPORTING

While the project would achieve LEED Gold certification, and would incorporate project design features, listed in *Table 3-3* of *Chapter 3*, *Project Description,* which would reduce impacts, residual impacts would remain significant because GHG reductions resulting from these project design features cannot be quantified at this time. Additionally, no feasible mitigation has been identified beyond what is listed in *Table 3-3*. As discussed above, this is also due to the uniqueness of hospital facilities, which are not generally subject to energy efficiency requirements applied to other non-residential building types, such as those specified in 24 CCR 6. Hospitals are also required to meet other state laws related to ventilation and air exchanges, resulting in increased energy needs.

5.4.6 IMPACT

Issue 2: Would the proposed project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City has taken steps to address climate change impacts at a local level. In 2002, the City Council adopted the San Diego Sustainable Community Program. This program established a partnership with the Cities for Climate Protection Campaign, which is a program administered by the International Council for Local Environmental Initiatives (ICLEI)–Local Governments for Sustainability. The sustainable community program established a GHG reduction goal of 15% below 1990 levels by the year 2010. Actions to be taken to achieve this goal are outlined in the City's Climate Protection Action Plan, which was adopted in 2005. The City has continued to reduce its share of GHG emissions through fuel efficiency, energy conservation, use of renewable energy, and use of methane gas (biogas) to generate electricity. In addition, the City's most recent General Plan includes various policies that address conservation with the goal of reducing GHG emissions by increased energy efficiency and increased use of alternative forms of transportation, among others. The project would achieve a 17.5% reduction from business as usual and would implement a number of design features aimed at reducing GHG emissions, which are consistent with the City's goals. Additionally, the project would achieve LEED Gold certification, further reducing GHG emissions particularly through energy and water conservation features. As such, the project would not conflict with any of these plans.

5.4.7 SIGNIFICANCE OF IMPACT

The project would not conflict with the City's sustainable community program, Climate Protection Action Plan, or General Plan. Impacts would therefore be less than significant.

5.4.8 MITIGATION, MONITORING, AND REPORTING

No mitigation would be required.

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5.5 NOISE

5.5.1 INTRODUCTION

This section assesses existing noise conditions at the project site and vicinity, as well as short-term construction and long-term operational noise impacts associated with the project. This is based on the environmental noise assessment prepared by Dudek in December 2012 for the project. The complete report is included as *Appendix F* of this EIR.

5.5.2 EXISTING CONDITIONS

Noise Definitions and Criteria

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called "A-weighting," the measurement of which is expressed as dB(A). Hourly average noise levels are usually expressed as dB(A) equivalent noise level (Leq) over that period of time. Therefore, all sound levels discussed in this section are A-weighted. Because community receptors are more sensitive to noise intrusion during the evening and at night, state law requires that an artificial dB(A) increment be added to "quiet-time" noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

Noise Standards

General community noise and land use compatibility guidelines are set forth in the Noise Element of the City of San Diego General Plan, as shown in *Table 5.5-1*, *Land Use – Noise Level Compatibility Guidelines*.

Table 5.5-1
Land Use – Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (dB(A) CNEL)				
	60 65 70 75				
Open Space and Parks and Recreational					
Community and Neighborhood Parks; Passive Recreation					
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Outdoor Spectator Sports, Water Recreational Facilities; Horse Stables; Park Maintenance Facilities					
Agricultural					
Crop Raising and Farming; Aquaculture, Dairies; Horticulture Nurseries and Greenhouses; Animal Raising, Maintenance, & Keeping; Commercial Stables					
Residential					
Single Units; Mobile Homes; Senior Housing		45			
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations		45	45*		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities		45			
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)		45	45		
Cemeteries					
Sales					
Building Supplies/Equipment; Food, Beverages, and Groceries; Pets and Pet Supplies; Sundries, Pharmaceutical, and Convenience Sales; Wearing Apparel and Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating and Drinking; Financial Institutions; Assembly and Entertainment; Radioand Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business and Professional; Government; Medical, Dental, and Health Practitioner; Regional and Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Service Use					
Commercial or Personal Vehicle Repair and Maintenance; Commercial or Personal Vehicle Sales and Rentals; Vehicle Equipment and Supplies Sales and Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment and Materials Storage Yards; Moving and Storage Facilities; Warehouse; Wholesale Distribution					
Industrial					
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking and Transportation Terminals; Mining and Extractive Industries					
Research and Development				50	

Table 5.5-1
Land Use – Noise Compatibility Guidelines

	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.
		Outdoor Uses	Activities associated with the land use may be carried out.
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable.
	Incompatible	Indoor Uses	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

Source: City of San Diego 2008a.

The City has adopted a quantitative noise ordinance to control excessive noise generated in the City (City of San Diego 2008a). The noise ordinance limits are expressed in terms of a 1-hour average sound level. The allowable noise limits depend on the land use zone, time of day, and duration of the noise, as depicted in *Table 5.5-2*, *City of San Diego Sound Level Limits*.

Table 5.5-2
City of San Diego Sound Level Limits

Land Use	Time of Day	One-Hour Average Sound Level (dB)
Single-Family Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45 40
Multifamily Residential (up to maximum density of 1/2000)	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50 45
All other residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55 50
Commercial	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	65 60 60
Industrial or Agricultural	Anytime	75

Source*:* City of San Diego Municipal Code, Section 59.5.0401–59.5.0404 (City of San Diego 2008b).

The City also regulates noise associated with construction activities. Construction is permitted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday, with the exception of legal holidays. Construction equipment shall be operated so as not to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dB during the 12-hour period from 7:00 a.m. to 7:00 p.m. (City of San Diego 2006).

The project site is located within the Marine Corps Air Station (MCAS) Miramar Airport Influence Area (SDCRAA 2008). The City's General Plan also has several policies to limit residents' exposure to aircraft noise to 65 dB or less (City of San Diego 2008a), which is also the standard used by the California Department of Transportation for airport noise (Caltrans 2011).

Airport Noise Contours

The project is located within the Airport Influence Area for Montgomery Field Airport and MCAS Miramar. Based on the Program EIR for the City of San Diego General Plan, MCAS Miramar and Montgomery Field Airport Land Use Compatibility Plan Noise Contours with Generalized Planned Land Use, the project site is located outside of the 60 dB(A) CNEL noise contour for both airfields (see *Figure 5.5-1, Airport CNEL Contours*). As such, the project site would not be exposed to excessive airport noise.

Existing Noise

The ambient noise in the project area is primarily generated by traffic along Clairemont Mesa Boulevard, Ruffin Road, and Ruffin Court. Montgomery Field Airport is located approximately 0.7 mile southwest of the site, and MCAS Miramar is located approximately 2.4 miles north of the project site. The project site is exposed to noise levels of less than 60 dB CNEL due to aircraft noise generated at both airfields (City of San Diego 2008c). On-site noise sources such as noise from vehicles in parking lots also generate noise at the site.

Three noise measurement locations were selected at the project site and are depicted as M1, M2, and M3 in *Figure 5.5-2, Noise Measurement Locations*. Based on data collected at the site, the existing noise level at a distance of 58 feet from the centerline of Clairemont Mesa Boulevard is 70 dBA. The existing noise level along Ruffin Road is 64 dBA at a distance of 40 feet from the centerline of the roadway. The existing noise level at a distance of 30 feet from the centerline of Ruffin Court is 62 dBA. The results of these field measurements are shown in *Table 5.5-3*.

Table 5.5-3
Existing Traffic Noise Levels

Site	Traffic Volume (ADT)[1]	Speed Limit (mph)	Noise Level (CNEL)
M1 - Clairemont Mesa Blvd.	25,500	40	70
M2 - Ruffin Road	18,500	45	64
M3 - Ruffin Court	1,900	30	62

[1] **Source:** LLG 2013

5.5.3 IMPACT

Issue 1: Would the project result in or create a significant increase in the existing ambient noise levels?

Issue 2: Would the project result in the exposure of people to noise levels which exceed the City's adopted noise ordinance (Section 59.5.0401–0404) or are incompatible with the City of San Diego General Plan Noise Element?

Issue 3: Would the project cause exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan?

Issue 4: Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing without the project?

Based on the City's Significance Determination Thresholds (City of San Diego 2011a), noise impacts may be significant if the project would:

- Generate noise levels that exceed the City's Noise Ordinance Standards (San Diego Municipal Code, Section 59.5.0401-0404) or General Plan policies
- Cause temporary construction noise that exceeds the standards in San Diego Municipal Code, Section 59.5.0404
- Expose people to transportation noise levels that exceed standards established in the General Plan or an adopted airport comprehensive land use plan
- Result in land uses that are not compatible with aircraft noise levels as defined by an adopted airport comprehensive land use plan.

Construction Noise

Future development of the project would occur during two construction phases. Phase I is anticipated to begin in 2013 and be completed in 2016, and Phase II construction is anticipated to occur over the course of 1 year, from 2023 to 2024.

Construction noise would be primarily associated with construction of the medical buildings, hospital support building, Energy Center, and parking structures. The maximum noise levels associated with construction at 50 feet would range from approximately 70 to 90 dB for the type of equipment expected to be used for this project. Based on a preliminary construction equipment list for the project, construction of the buildings would include equipment such as excavators, rubber tire loaders, scrapers, backhoes, cranes, concrete surfacing machines, pavers, water trucks, welders, concrete trucks, aerial lifts, compactors, boom pumps, forklifts, dozers, rollers, skid steer loaders, and air compressors.

The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are included as *Appendix F*. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance (Dudek 2012). Therefore, at a distance of 100 feet, the maximum noise level would be approximately 6 dB less than maximum noise levels for any given piece of equipment. This assumes a direct line-of-sight from the receiver to the construction equipment. Note that the construction noise levels provided in the environmental noise assessment are maximum noise levels, not the average sound level. The average sound level at construction sites is typically less than the maximum noise level because the equipment operates in alternating cycles of full power and low power. Also, the equipment rotates in various directions (i.e., noisiest side of the equipment to quieter sides of the equipment) and moves around the construction site, especially during clearing and grading activities. Thus, the average noise levels produced are less than the maximum level. Hourly average noise levels associated with construction activities will vary, but can range up to approximately 75 to 80 dB at a distance of 50 feet.

Off-site Impacts

The closest off-site daytime noise sensitive receptors are the Polinsky Children's Center located approximately 50 feet east from the project site and the Chinese Bilingual Preschool, located approximately 125 feet to the south of the project site. At these distances, the average noise level associated with construction noise would be approximately 73 dB or less at the Chinese Bilingual Preschool, and approximately 80 dB or less at the Polinsky Center. Therefore, the daytime construction noise resulting from the construction of the parking structure would result in a potentially significant noise impact for off-site sensitive receptors (Polinsky Center) because noise levels would be in excess of 75 dB during the 12 hour period from 7:00 a.m. to 7:00 p.m. at noise-sensitive receptors. The applicant would construct during the City's allowable hours of construction; however, impacts would remain significant and unavoidable.

On-site Impacts

Appendix G of the CEQA Guidelines and the City's Significance Thresholds require assessment of noise impacts on the environment, including an analysis of potential exposure of persons to noise levels in excess of standards established in the local general plan or noise ordinance. For this project, the City is evaluating construction noise levels at sensitive on-site receptors relative to the 75 dB threshold. Additionally, while the City's General Plan Noise Element does not identify specific thresholds for construction noise, for this project, the City is evaluating interior construction noise levels at sensitive on-site receptors relative to a 45 dB threshold for hospital rooms and a 50 dB threshold for medical office space and outpatient facilities.

As mentioned previously, hourly average noise levels associated with construction activities will vary, but can range up to approximately 75 to 80 dB at a distance of 50 feet, based on the construction equipment that is anticipated to be utilized as part of the project. The closest sensitive receptors to construction activities would vary as the project is built out in phases. For example, hospital beds in the Phase I Acute Care Hospital Building would be affected by construction of the Phase II Diagnostic and Treatment Building and Patient Tower. The Phase I Hospital Support Building would be affected by construction of the Phase II Hospital Support Building and Phase II Parking Structure. In addition, medical office building receptors could be affected by nearby construction activities. It is conservatively assumed that construction activities would occur within 25 feet of any of these on-site sensitive receptors.

Based on the loudest construction equipment anticipated to be used and the minimum distance to on-site sensitive receptors, construction noise could generate hourly average noise levels of up to approximately 86 dB at the nearest receptors. This noise level could intermittently occur for a few days while construction equipment is operating immediately adjacent to hospital buildings. The remainder of the time, construction noise levels would be greatly reduced as equipment would be working in a large area at farther distances from sensitive receptors. Because on-site sensitive receptors could be disturbed by construction activities while equipment is in operation, exterior noise levels generated from construction activities associated with the project would result in a potentially significant impact.

In addition to exceeding the 75 dB exterior Noise Ordinance threshold at various on-site sensitive receptors, construction of the project would result in maximum interior noise levels of up to approximately 66 dB at the nearest on-site sensitive receptors. This is assuming that 20 dB attenuation is provided with standard building construction materials and design. As a result, interior noise levels at on-site sensitive receptors during construction activities would exceed the 45 dB Noise Element threshold for hospital rooms and the 50 dB threshold for medical office space and outpatient facilities. Therefore, the interior noise levels from construction activities associated with the project could adversely affect sensitive on-site receptors, resulting in a potentially significant impact.

Nighttime Construction Activities

The City's noise ordinance notes that construction between the hours of 7:00 p.m. and 7:00 a.m. shall not be conducted in such a manner as to create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. Construction activities are not anticipated to occur between the hours of 7:00 p.m. and 7:00 a.m. in accordance with the City's Noise Ordinance.

Mechanical Equipment Noise Impacts

Mechanical equipment for the project would be located at the southwest portion of the site at the proposed Energy Center building and generator yard (see *Figure 3-1, Project Site Plan*). Additionally, mechanical equipment would be located at the hospital building.

Energy Center, Generator Yard, and Hospital Outdoor Mechanical Equipment

The City requires outdoor mechanical equipment noise to meet the City's General Plan Noise Element criteria with respect to its potential effects to on-site hospital campus users. Noise-sensitive uses at the site consist of hospital rooms, medical office space, and outpatient facilities.

Based on preliminary design information, the rooftop equipment at the Energy Center would ultimately include four air-handling units (Alliance 9.5K, 12K, 24K, and 31K), 10 microturbines and five exhaust and supply fans (Greenheck SFD-9-A, CUE-131-A, SFB-09, SQ-95-D, and RSF-100). Four cooling towers would be located within the cooling tower yard and five generators (Caterpillar 2500 kW) are ultimately planned to be located within the generator yard.

The air-handling units have manufacturer sound power ratings ranging from 93 to 96 dBA, depending on the type and capacity size of the equipment (Dudek 2012). The microturbines have a manufacturer sound rating of 75 dBA at 10 meters. The exhaust and supply fans have manufacturer sound power-level ratings ranging from approximately 72 to 78 dBA (Dudek 2012). The cooling tower noise level would vary along the sides and top of the units, depending on the orientation of the units. The manufacturer indicates that the cooling towers would generate a noise level of 68 dB to 74 dB at a distance of 50 feet (Dudek 2012). The generators would be installed within sound attenuation enclosures having a sound rating of 70 dBA at 23 feet (Dudek 2012). Various equipment such as chillers, boilers, and pumps would be enclosed within rooms at the Energy Center building and would not generate substantial noise to the outside due to the attenuation provided by the building.

Outdoor mechanical equipment would also be located on the roof of the hospital building. Based on preliminary information, it is anticipated the equipment would include approximately 10 air-handling units (Alliance 20K–89K), and 27 exhaust and supply fans (Dudek 2012).

The air-handling units have manufacturer sound power-level ratings ranging from 68 to 82 dBA, depending on the type and capacity size of the equipment. The exhaust and supply fans have sound power-level ratings ranging from approximately 72 to 89 dBA (Dudek 2012).

On Site

On a case-by-case basis, the City regulates the level of noise that can be generated by a project's own outdoor mechanical equipment within its private property. The City has determined that outdoor mechanical equipment noise levels that exceed 65 dB CNEL at outdoor use areas on the property, 45 dB CNEL within hospital patient rooms, and 50 dB CNEL within hospital offices would result in a significant noise impact for this project.

Off Site

The City's noise ordinance requires that the mechanical equipment generated by the project not exceed a 1-hour average sound level of 65 dBA between 7 a.m. and 7 p.m., and 60 dBA between 7 p.m. and 7 a.m., on or beyond the boundaries of the property. All equipment would be shielded from the various property boundaries by intervening parapets or screen walls located on the Energy Center building and hospital building, and a sound wall located around the generator yard. With all the equipment operating, and the noise attenuation due to distance and shielding provided by rooftop parapets, screen walls, and generator sound walls, the resulting 1-hour average noise level would be 59 dBA or less at the north, south and east project site boundaries. This noise level would comply with the City's noise ordinance criteria and result in a less-than-significant noise impact.

At the western property line, without mitigation, the noise level would reach approximately 79 dBA Leq and exceed the City's noise ordinance requirements by up to approximately 19 dBA Leq due to the cooling towers; thus, a potentially significant noise impact would result.

Exterior Noise Level at the Outdoor Use Area

The project proposes several outdoor use areas. The closest outdoor use area, during either Phase I or Phase II, would be located approximately 250 feet east of the proposed generator yard. This outdoor use area would ultimately be removed during Phase II to allow for the hospital building expansion. In the interim, the mechanical equipment noise level at the worst-case outdoor use area would be less than 60 dB CNEL. Thus, the mechanical equipment noise level would comply with the City's noise ordinance 65 dB CNEL criterion and result in a less-than-significant noise impact for the on-site visitors, workers, and hospital patients at the outdoor use areas.

Interior Noise Level within the Hospital Building

As part of the standard building design, the hospital building would include a curtain wall system with dual-glazed windows, acoustical tile ceilings, and a mechanical ventilation system. With these construction materials, the hospital rooms and offices are calculated to achieve a minimum exterior-to-interior noise level reduction of approximately 20 dB CNEL. Assuming 20 dB of noise attenuation would be provided with standard building construction materials and design, the resulting interior noise levels would range up to approximately 55 dB CNEL at the rooms along the hospital buildings western facade, primarily as a result of the cooling tower noise. This noise level would exceed the 45 dB and 50 dB CNEL criteria for noise-sensitive uses on the site; thus, the noise impact would be significant. The noise level at the remaining rooms would be less than 45 dBA CNEL, resulting in a less-than-significant noise impact.

The majority of the mechanical equipment, including the larger and louder rooftop mechanical equipment, would be mounted on 6-inch-thick concrete pads. In addition, the roof assemblies would include minimum 6-inch-thick concrete, and below these roofs would be suspended ceilings with either acoustical tile or gypsum board. These assembly combinations would attenuate the exterior airborne noise by more than 50 dBA. The rooftop equipment would have sound levels ranging from approximately 60 to 81 dBA at a distance of 3 feet, depending on the type and capacity size of the equipment. With the sound attenuation provided by the mechanical equipment pads, roof, and ceiling assemblies, the interior noise level would be less than 40 dBA CNEL within both the hospital rooms and staff offices. Thus, the interior noise level would be below the 45 dBA interior noise criteria, and the noise impact would be less than significant.

On-Site Traffic Noise

The project site would primarily be affected by traffic noise along Clairemont Mesa Boulevard, Ruffin Road, and Ruffin Court. The future (Year 2035) traffic volume along Clairemont Mesa Boulevard, Ruffin Road, and Ruffin Court adjacent to the project site are listed in *Table 5.5-4*. Average daily traffic (ADT) volumes were divided by 10 to estimate hourly segment volumes along these roadways, and these hourly segment volumes were utilized in the model. During model calibration, modeled vehicle speed limits were increased from 40 miles per hour (mph) to 45 mph along Clairemont Mesa Boulevard to more accurately reflect on-road traffic conditions. Similarly, modeled vehicle speed limits were decreased from 45 mph to 40 mph along Ruffin Road in the model calibration inputs to more accurately reflect vehicle speeds west of the project site. The locations of modeled receptors along these roadways are shown in *Figure 5.5-3, Modeled Receptor Locations*.

Table 5.5-4
Future (Year 2035) Anticipated Traffic Volumes

Roadway	Traffic Volume (ADT)[1]	Speed Limit (mph)
Clairemont Mesa Blvd.	30,440	40
Ruffin Road	23,460	45
Ruffin Court	6,640	30

[1] **Source:** LLG 2013

The noise levels at the first floor of the Acute Care Building would range from 63 dB CNEL to 69 dB CNEL. Noise levels at the sixth floor of the Acute Care Building would range from 63 dB CNEL to 70 dB CNEL. Noise levels at the Canyon Slope open space area would be approximately 64 dB CNEL. Exterior traffic noise levels at these receptors are shown in *Table 5.5-5*.

Table 5.5-5
Exterior Traffic Noise Levels at Modeled Receptors

Receptor	First Floor Noise Level (dB CNEL)	Sixth Floor Noise Level (dB CNEL)
Acute Care North	69	70
Acute Care West	63	64
Acute Care South	63	63
Canyon Slope – Open Space	64	—

Source: TNM 2.5 model output. See *Appendix F* for complete results.

Exterior Noise Impacts

The primary hospital building would include the Mesa Gardens and outdoor event space for the patients and community in addition to the Canyon Slope open space area to the northeast of the project site. Mesa Gardens would be located at the interior of the project site and would be effectively shielded from traffic noise by the main Acute Care Hospital building providing adequate noise attenuation. The future traffic noise level at the Canyon Slope outdoor use space associated with the hospital building would be approximately 64 dB CNEL. Noise levels at this location would be below 65 dB CNEL, and therefore, impacts would be less than significant.

Interior Noise Impacts

The City considers noise levels of 45 dB CNEL within hospitals and 50 dB CNEL within offices to be the maximum acceptable interior noise level. Typically, with the windows closed and using standard California construction materials and methods, building shells provide approximately 20 dB of noise reduction. Therefore, hospital patients and visitors exposed to an exterior CNEL greater than 65 dB could result in an interior CNEL greater than 45 dB. Interior noise levels associated with each receptor are shown in *Table 5.5-6*, based on the assumption that building shells provide 20 dB of noise reduction.

Table 5.5-6
Interior Traffic Noise Levels at Modeled Receptors

Receptor	First Floor Noise Level (dB CNEL)	Sixth Floor Noise Level (dB CNEL)
Acute Care North	49	50
Acute Care West	43	44
Acute Care South	43	43

Source: TNM 2.5 model output. See *Appendix F* for complete results.

Interior noise levels at the Acute Care West and Acute Care South areas would not exceed 45 dB. The Acute Care North area would be exposed to an exterior noise level of approximately 69 dB CNEL on the first floor, and 70 dB CNEL at the sixth floor. Thus, this segment of the building would require 25 dB CNEL exterior to interior noise reduction in order to meet the City's 45 CNEL interior noise standard for hospital buildings. With standard construction practices, typical buildings achieve outdoor to indoor noise reductions between 15 dB and 20 dB with the windows closed. Therefore, even with closed windows the interior noise levels could exceed the City's interior noise criteria by up to 5 dB interior CNEL at the Acute Care North building location. Impacts would be potentially significant.

Off-Site Traffic Noise

At buildout, the project would generate a net increase of approximately 8,268 ADT (LLG 2013) and would increase traffic along several existing roads in the area including Ruffin Road, Ruffin Court, and Clairemont Mesa Boulevard. The City does not have a specific Noise Element noise criterion for evaluating off-site noise impacts from project-related traffic to residences or noise-sensitive areas. A 3 dB increase is generally considered the point of change in environmental noise that can just be detected by the human ear. Therefore, for the purposes of this noise study, traffic-related noise impacts are considered significant when they either exceed a 3 dB CNEL increase and elevate noise levels above 65 dB CNEL, or they exceed a 3 dB CNEL increase in an existing noisy area (i.e., where noise level already exceeds 65 dB CNEL) at existing schools or other noise-sensitive land uses. The City's significance determination threshold noise level is 65 dB CNEL.. The closest noise sensitive receptors are the Polinsky Children's Center, located approximately 50 feet from the project site, and the Chinese Bilingual Preschool, located approximately 125 feet from the project site.

Off-site traffic noise increase was evaluated for the existing plus project and Year 2035 with project traffic scenarios. The existing plus project study scenario assumes the existing street network and includes analysis of existing traffic count data plus the addition of project trips forecast to be generated at buildout. The Year 2035 with project condition assumes buildout of the project assuming the 2025 roadway network plus planned improvements to be completed by Year 2035.

The existing plus project traffic noise would generate a noise level increase of up to 3 dB CNEL along Ruffin Court where the greatest increase in traffic volumes would occur. Similarly, with the project, the Year 2035 traffic noise would generate a noise level increase of up to 3 dB CNEL along Ruffin Court. Traffic noise level increases along Clairemont Mesa Boulevard and Ruffin Road would be 1 dB CNEL or less. The additional traffic volume along the adjacent roads would not substantially increase the existing noise level in the project vicinity and would not exceed a 3 dB CNEL noise level increase; therefore, the traffic noise level increase is considered less than significant. The noise level increases associated with the existing plus project traffic volume are depicted in *Table 5.5-7*. The noise level increases associated with the Year 2035 conditions are depicted in *Table 5.5-8*.

Table 5.5-7
Existing Off-Site Traffic Noise Level Increase

Street (Segment)	Existing ADT[1]	Existing w/ Project ADT[1]	Noise Level Increase (CNEL)
Clairemont Mesa Boulevard			
Ruffin Road to Project Access Driveway	25,500	27,840	<1
Ruffin Road			
Project Driveway to Ruffin Court	18,500	21,560	1
Ruffin Court			
Ruffin Road to Project Driveway	1,900	3,390	3

[1] **Source:** LLG 2013

Table 5.5-8
2035 Off-Site Traffic Noise Level Increase

Street (Segment)	2035 ADT[1]	2035 w/ Project ADT[1]	Noise Level Increase (CNEL)
Clairemont Mesa Boulevard			
Ruffin Road to Project Access Driveway	28,100	30,440	<1
Ruffin Road			
Project Driveway to Ruffin Court	20,400	23,460	1
Ruffin Court			
Ruffin Road to Project Driveway	3,400	6,640	3

[1] **Source:** LLG 2013

Additionally, emergency transport vehicles would continue to arrive at the hospital. Emergency sirens can generate noise levels of approximately 100 dB at a distance of 50 feet. Noise from sirens during an emergency is exempt from the City's noise ordinance per Municipal Code, Section 59.5.0402 (b) (City of San Diego 2008b).

5.5.4 SIGNIFICANCE OF IMPACT

Noise from project-related construction activities would be temporary and would be in compliance with applicable noise ordinance during both day and nighttime construction activities. However, as discussed previously, noise generated from construction activities would exceed City thresholds at on-site sensitive receptors, and therefore, significant impacts would result.

Mitigation measure NOI-1 would reduce on-site noise impacts from both daytime and nighttime construction activities. However, since this is a phased project and it is uncertain exactly where construction activities may occur relative to on-site sensitive receptors, the degree to which proposed mitigation actually reduces on-site exterior and interior noise levels cannot be accurately determined. Therefore, the on-site construction noise impacts (both exterior and interior) are considered significant and unavoidable.

Once construction is complete and the project is operational, there would be new sources of noise from increases in hospital-generated traffic and new mechanical equipment, including the cooling towers.

As discussed previously, all equipment would be shielded from the various property boundaries by intervening parapets or screen walls located on the Energy Center building and hospital building, and a sound wall located around the generator yard. With all the equipment operating, and the noise attenuation due to distance and shielding provided by rooftop parapets, screen walls, and generator sound walls, the resulting 1-hour average noise level would be 59 dBA or less at the north, south and east project site boundaries. This noise level would comply with the City's noise ordinance criteria and result in a less-than-significant noise impact. Without mitigation, the noise level would reach approximately 79 dBA Leq at the western property line and exceed the City's noise ordinance requirements by up to approximately 19 dBA Leq due to the cooling towers; thus, resulting in a potentially significant noise impact. Mitigation Measure NOI-2 would reduce impacts to a level that is less than significant through construction of a noise barrier around the north and west sides of the cooling tower yard.

Assuming between 15 dB and 20 dB of noise attenuation would be provided with standard building construction materials and design, the resulting interior noise levels would range up to approximately 55 dB CNEL at the rooms along the hospital buildings western facade, primarily as a result of the cooling tower noise. This noise level would exceed the City 45 dB and 50 dB CNEL criteria for noise-sensitive uses on the site; thus, the noise impact would be significant. Mitigation Measure NOI-2 would require an interior noise study prior to submittal of final building plans to ensure interior CNEL would not exceed 45 dB in hospital patient rooms, and 50 dB within hospital offices. The noise level at the remaining rooms would be less than 45 dBA CNEL, resulting in a less-than-significant noise impact.

Outdoor mechanical equipment that would be located on the rooftop of the Energy Center would have sound levels ranging from approximately 60 to 81 dBA at a distance of 3 feet, depending on the type and capacity size of the equipment. With the sound attenuation provided by the mechanical equipment pads, roof, and ceiling assemblies, the interior noise level would be less than 40 dBA CNEL within both the hospital rooms and staff offices. Thus, the interior noise level would meet the City Planning Department's interior noise criteria, and the noise impact would be less than significant.

Anticipated future traffic noise along roadways would result in interior noise levels that would exceed the City interior noise standard of 45 dB CNEL, and thus would be significant. Mitigation measure NOI-3 would reduce on-site interior noise impacts through implementation of an interior noise study to ensure interior noise levels for portions of the Acute Care buildings facing Clairemont Mesa Boulevard would be reduced to below 45 dB CNEL.

5.5.5 MITIGATION, MONITORING, AND REPORTING

The following mitigation measure shall be incorporated to reduce the on-site exterior and interior noise impacts associated with both daytime and nighttime construction activities.

NOI-1: To mitigate the on-site exterior and interior noise impacts associated with both daytime and nighttime construction activities, the following features shall be incorporated into the project during construction, to the satisfaction of the City:

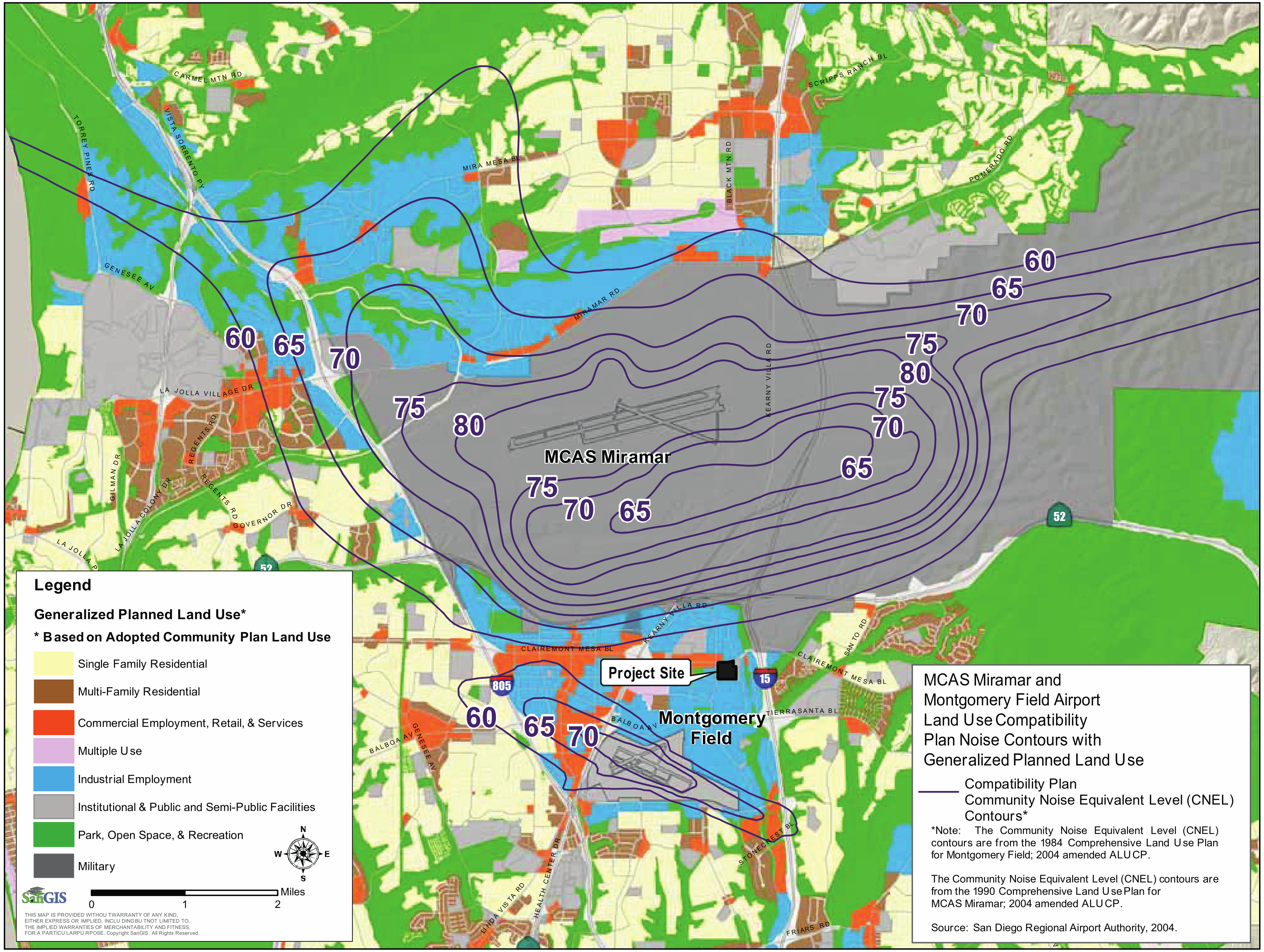
- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
- Construction noise reduction methods such as shutting off idling equipment, maximizing the distance between construction equipment staging areas and occupied sensitive receptor areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- Implement noise attenuation measures, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive receptors.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent if necessary. In the event the City receives a complaint, appropriate corrective actions shall be implemented and a report of the action provided to the reporting party.

Since this is a phased project and it is uncertain exactly where construction activities may occur relative to on-site sensitive receptors, the degree to which proposed mitigation actually reduces on-site exterior and interior noise levels cannot be accurately determined. Therefore, the on-site construction noise impacts (both exterior and interior) are considered significant and unavoidable.

The following mitigation measures shall be incorporated to reduce the on-site interior noise impacts associated with traffic noise along Clairemont Mesa Boulevard.

NOI-2: To mitigate interior noise impacts within hospital patient rooms and medical offices, the proposed project would be required to incorporate sound-rated windows having a minimum STC 38 sound-rating, and acoustical tile ceilings for the hospital rooms and staff offices along the western hospital building façade. An interior noise study shall be required prior to submittal of final building plans to ensure the interior CNEL would not exceed 45 dB in hospital patient rooms, and 50 dB within hospital offices.

NOI-3: To mitigate the on-site interior noise impacts at the Acute Care Center North building area due to traffic along Clairemont Mesa Boulevard, an interior noise study shall be required to ensure that the interior CNEL would not exceed 45 dB. The interior acoustical analysis shall be required prior to issuance of building permits.



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SOURCE: CITY OF SAN DIEGO 2007

7372-01

FIGURE 5.5-1
Airport CNEL Contours

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

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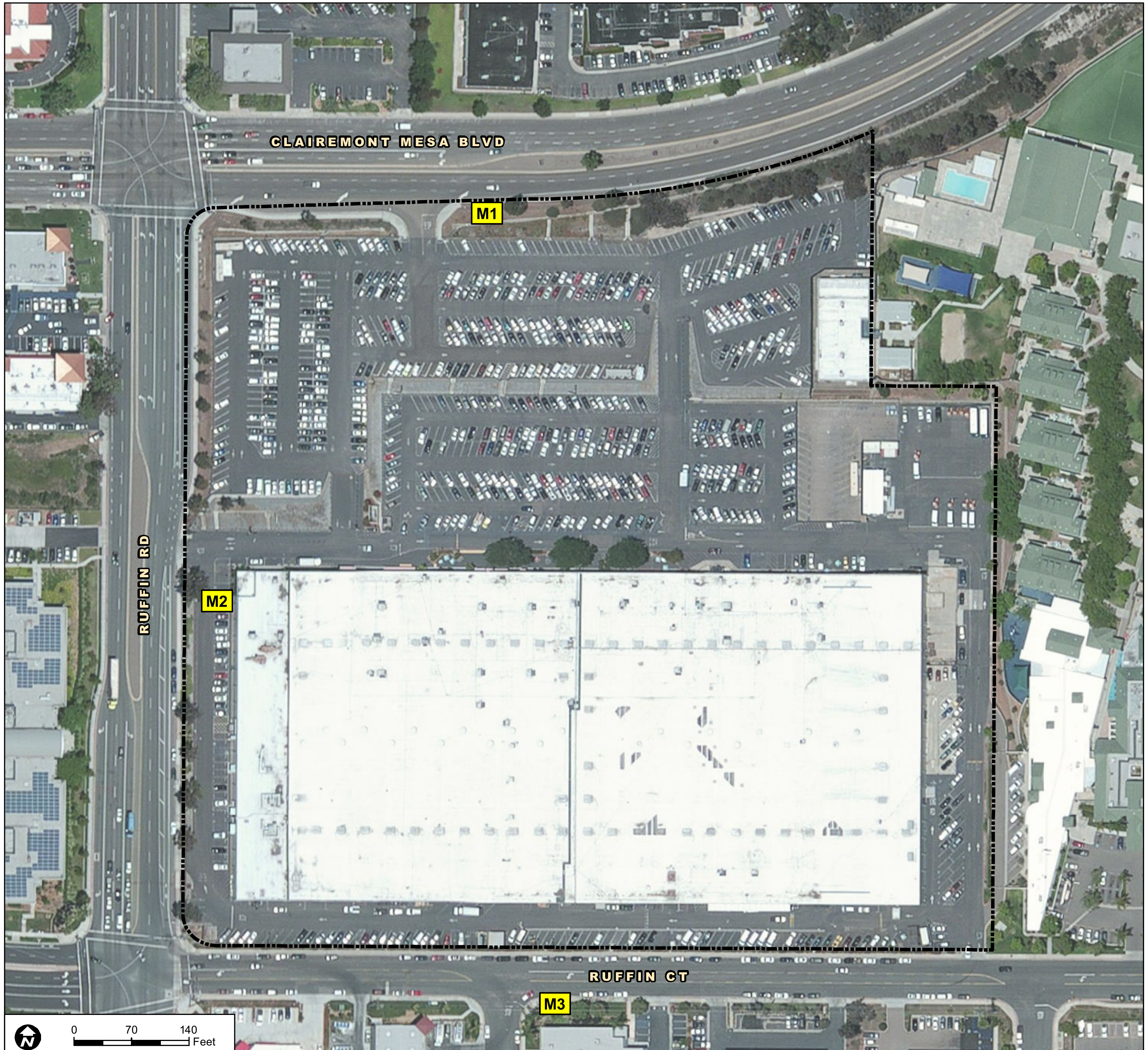

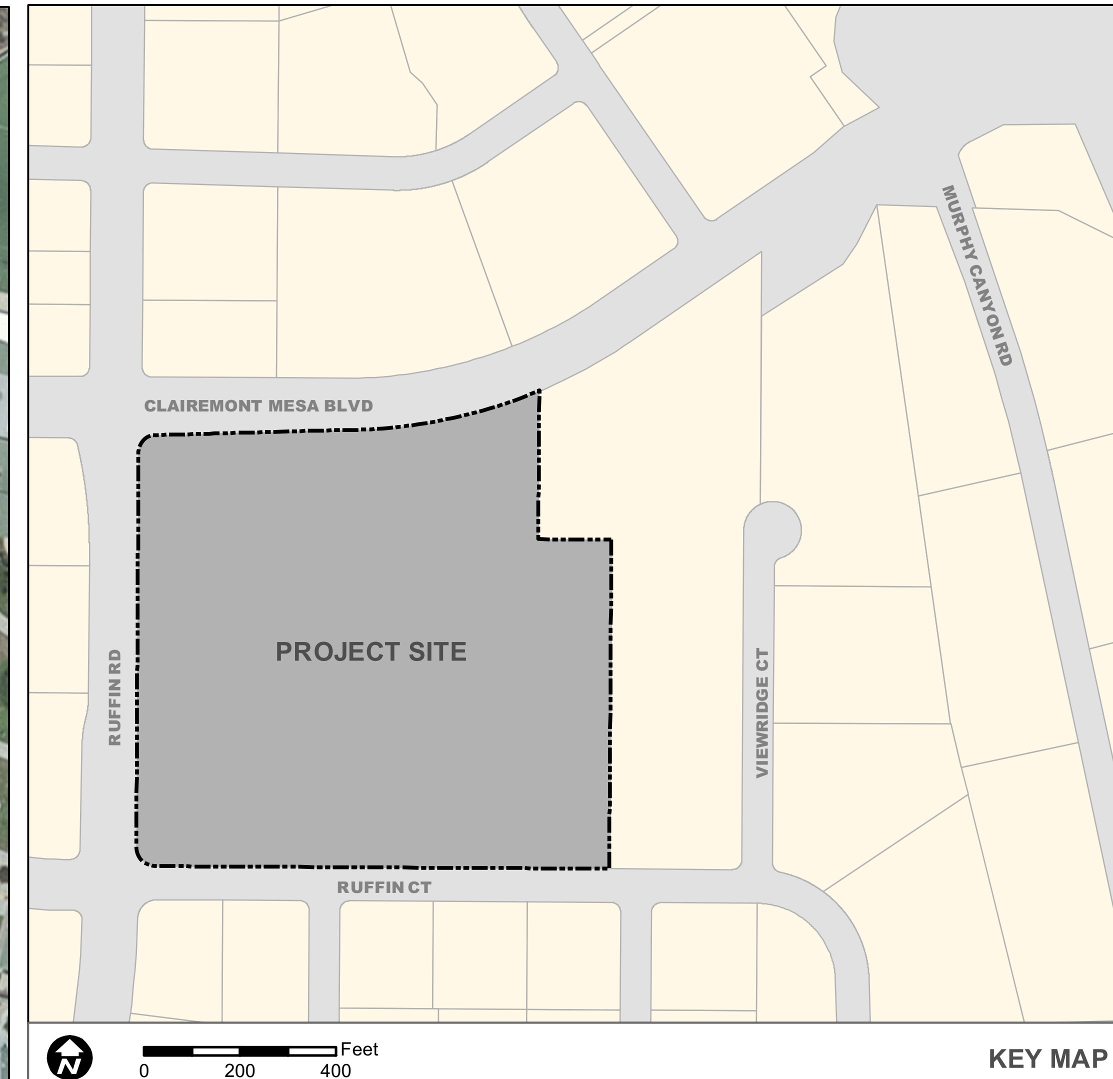

Legend

Project Site

M1 Noise Measurement Location

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SOURCE: CO ARCHITECTS 2012

FIGURE 5.5-2

Noise Measurement Locations

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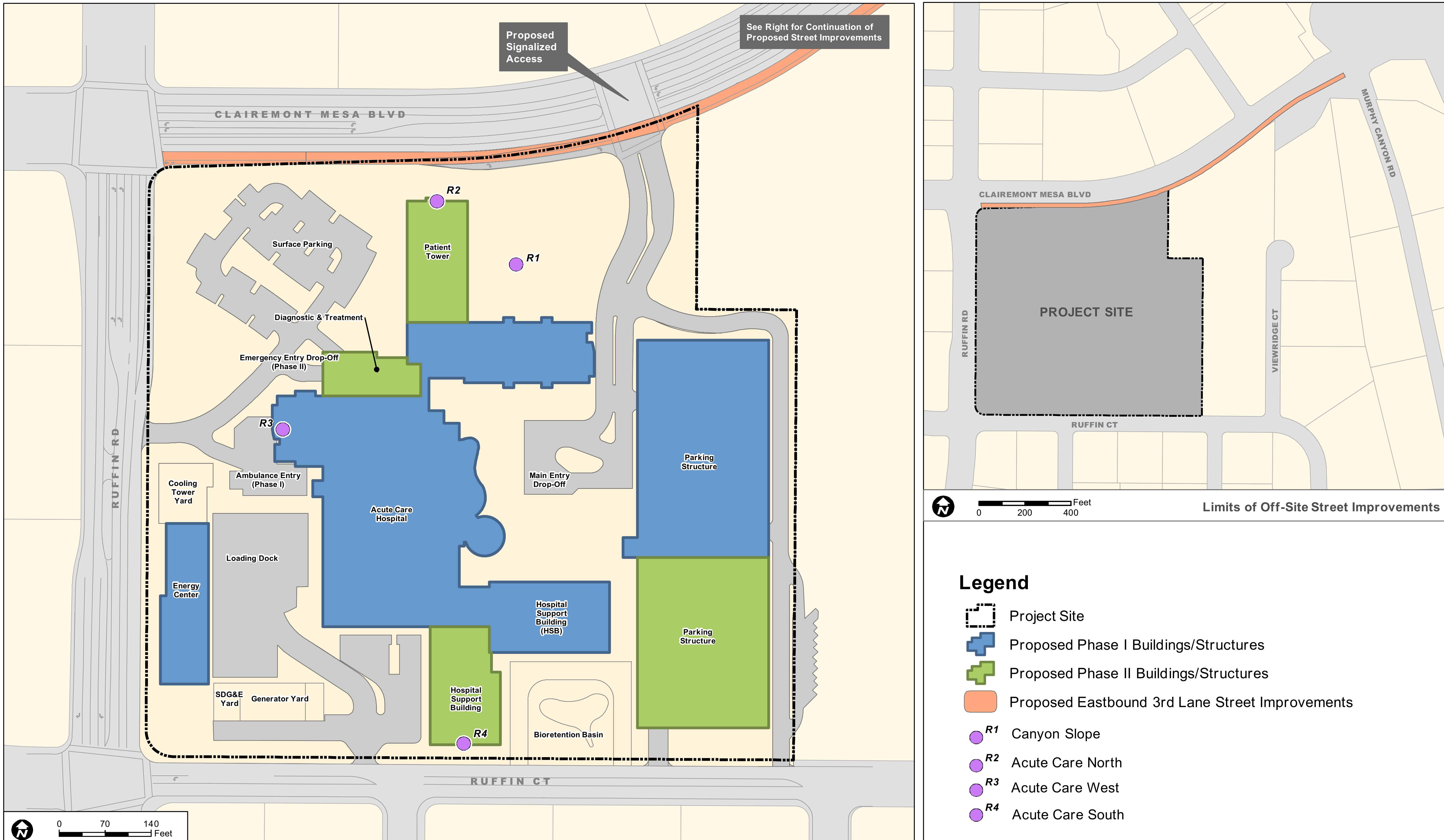

Legend

- Project Site
- Proposed Phase I Buildings/Structures
- Proposed Phase II Buildings/Structures
- Proposed Eastbound 3rd Lane Street Improvements
- R1 Canyon Slope
- R2 Acute Care North
- R3 Acute Care West
- R4 Acute Care South

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SOURCE: CO ARCHITECTS 2012

KAISER CENTRAL SAN DIEGO HOSPITAL EIR

FIGURE 5.5-3

Modeled Receptor Locations

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