CHAPTER 4.0
ENVIRONMENTAL IMPACTS

4.1 AIR QUALITY AND ODOR

This section describes existing air quality conditions at the Project site, summarizes applicable regulations, and analyzes potential short-term construction and long-term operational air quality impacts of the Project. In addition, mitigation measures are recommended, as necessary, to reduce significant air quality impacts. Appendix B includes additional information on the emission estimates for the Project.

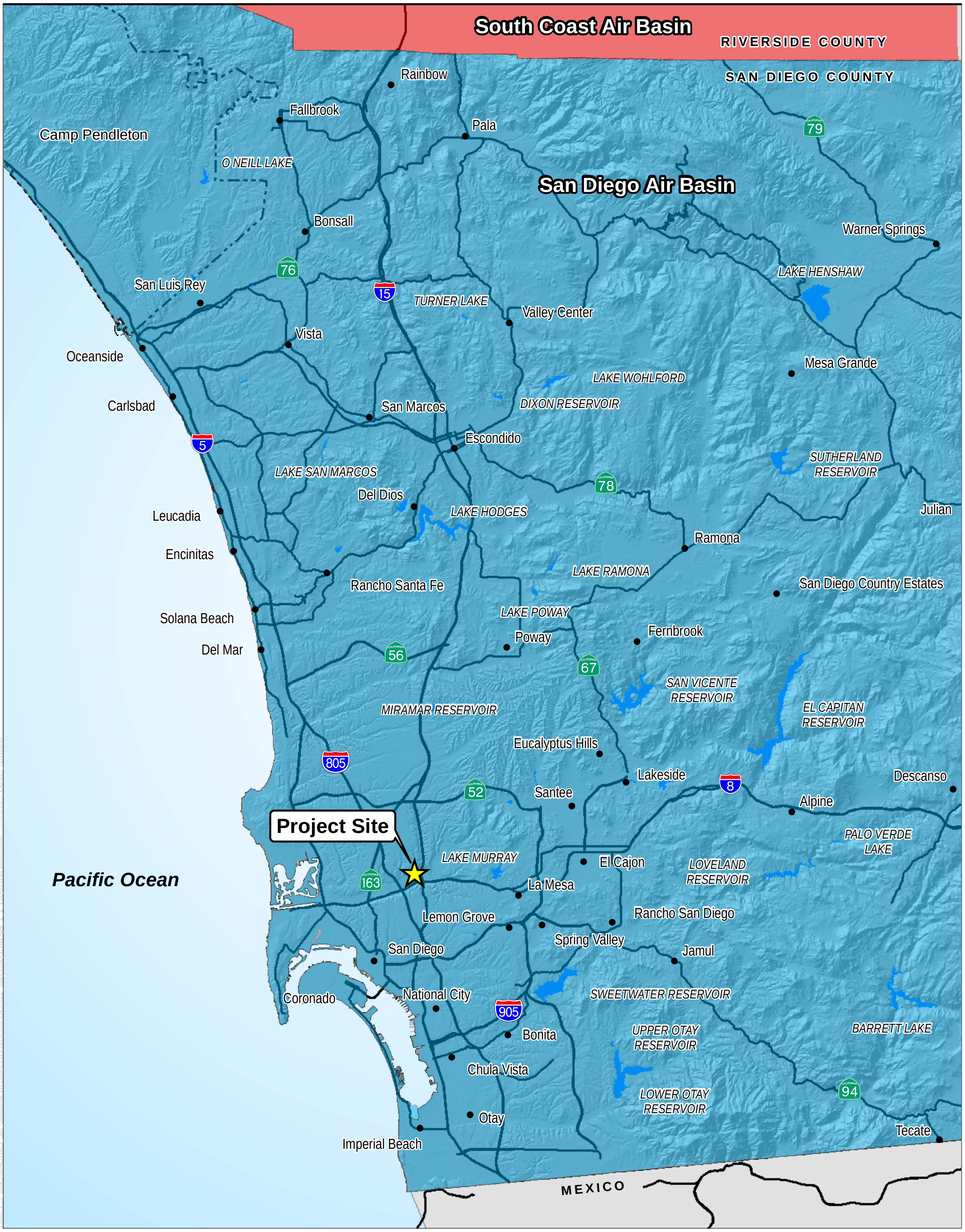
4.1.1 Existing Conditions

Air quality is defined by the concentration of pollutants related to human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

Climate, Topography, and Meteorology

Climate, topography, and meteorology influence regional and local ambient air quality. Southern California is characterized as a semiarid climate, although it contains three distinct zones of rainfall that coincide with the coast, mountain, and desert. The Project is located in the City of San Diego in the south coastal portion of San Diego County, and within the San Diego Air Basin (SDAB). The SDAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east. The topography in the SDAB region varies greatly, from beaches on the west, to mountains and then desert to the east. The location of the Project with respect to the northern and southern limits of the SDAB is shown in Figure 4.1-1.

The climate of the SDAB is characterized by warm, dry summers and mild winters. One of the main determinants of its climatology is a semipermanent high-pressure area in the eastern Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought



Source: Esri; SanGIS; SANDAG; California Air Resources Board, 2004.

8 4 0 8 Miles

Scale: 1:506,880; 1 inch = 8 miles

Figure 4.1-1
Project Location in the San Diego Air Basin

into the region, causing widespread precipitation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower humidity, often to less than 20 percent. The local meteorology of the Mission Valley area is represented by measurements recorded at the San Diego International Airport station. The normal annual precipitation, which occurs primarily from October through April, is approximately 9 inches. Normal January temperatures range from a minimum of 50 degrees Fahrenheit (°F) to a maximum of 65°F, and August temperatures range from a minimum of 67°F to a maximum of 76°F (WRCC 2015). The predominant wind direction and speed, measured at the Lindbergh International Airport station, is from the west at approximately 6.0 miles per hour (WRCC 2015).

A dominant characteristic of spring and summer is night and early morning cloudiness, locally known as the marine layer. Low clouds form regularly, frequently extending inland over the coastal foothills and valleys. These clouds usually dissipate during the morning, and afternoons are generally clear.

A common atmospheric condition known as a temperature inversion affects air quality in the SDAB. During an inversion, air temperatures get warmer rather than cooler with increasing height. Inversion layers are important for local air quality, because they inhibit the dispersion of pollutants and result in a temporary degradation of air quality. The pollution potential of an area is largely dependent on a combination of winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, the atmospheric pollution potential is greatly reduced.

Criteria Air Pollutants

The U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (ARB) focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead; and particulate matter, which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as "criteria air pollutants." The following paragraphs provide information on the source(s) and health effects of these pollutants:

Ozone. Ozone is the principal component of smog and is formed in the atmosphere through a series of reactions involving volatile organic compounds (VOC) and nitrogen oxides (NO_X) in the presence of sunlight. VOC and NO_X are called precursors of ozone. NO_X includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO_2, and others. Significant ozone concentrations are usually produced only in the summer, when atmospheric inversions are greatest and temperatures are high. VOC and NO_X emissions are both considered critical in ozone formation.

Ozone is a principal cause of lung and eye irritation in the urban environment. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered the most susceptible subgroups for ozone effects. Short-term exposure (lasting for a few hours) to ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Carbon Monoxide. CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Nitrogen Dioxide. NO_2 is a product of combustion and is generated in vehicles and in stationary sources, such as power plants and boilers. It is also formed when ozone reacts with NO in the atmosphere. As noted above, NO_2 is part of the NO_X family and is a principal contributor to ozone and smog generation.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children, is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups.

Sulfur Dioxide. SO_2 is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. SO_2 in the atmosphere contributes to the formation of acid rain.

In asthmatics, increased resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Lead. Lead is a highly toxic metal that may cause a range of human health effects. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. USEPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. Lead emissions have significantly decreased due to the near elimination of leaded gasoline use.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of lead on the respiratory system. This analysis does not directly evaluate lead because little to no quantifiable and foreseeable emissions of these substances would be generated by the Project. Lead emissions have significantly decreased due to the near elimination of leaded fuel use.

PM. Particulate matter is a complex mixture of extremely small particles and liquid droplets. Particulate matter is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of particulate matter include windblown dust and ocean spray.

The size of particulate matter is directly linked to the potential for causing health problems. USEPA is concerned about particles that are 10 micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to particulate matter and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems, such as heart attacks and irregular heartbeat (USEPA 2007). Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children.

$PM_{2.5}$. Fine particles, such as those found in smoke and haze, are $PM_{2.5}$. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. $PM_{2.5}$ is also formed through reactions of gases, such as SO_2 and nitrogen oxides, in the atmosphere. $PM_{2.5}$ is the major cause of reduced visibility (haze) in California.

Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with preexisting respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

PM_{10}. PM_{10} includes both fine and coarse dust particles; the fine particles are $PM_{2.5}$. Coarse particles, such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM_{10} is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

Air Quality Standards

Health-based air quality standards have been established for the aforementioned pollutants by ARB at the state level and by USEPA at the national level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. Table 4.1-1 presents the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS).

Table 4.1-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]	National Standards [b]	
		Concentration [c]	Primary [c,d]	Secondary [c,e]
Ozone	1 hour	0.09 ppm (180 $\mu g/m^3$)	–	Same as primary standard
	8 hours	0.070 ppm (137 $\mu g/m^3$)	0.075 ppm (147 $\mu g/m^3$)	
Respirable particulate matter (PM_{10})[f]	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as primary standard
	Annual arithmetic mean	20 $\mu g/m^3$	–	
Fine particulate matter ($PM_{2.5}$) [f]	24 hours	–	35 $\mu g/m^3$	Same as primary standard
	Annual arithmetic mean	12 $\mu g/m^3$	12 $\mu g/m^3$	15 $\mu g/m^3$
Carbon monoxide	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen dioxide [g]	Annual arithmetic mean	0.030 ppm (57 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)	Same as primary standard
	1 hour	0.18 ppm (339 $\mu g/m^3$)	100 ppb (188 $\mu g/m^3$)	None
Sulfur dioxide [h]	Annual arithmetic mean	–	0.030 ppm (for certain areas) [h]	–
	24 hours	0.04 ppm (105 $\mu g/m^3$)	0.14 ppm (for certain areas) [h]	–
	3 hours	—	–	0.5 ppm (1,300 $\mu g/m^3$)
	1 hour	0.25 ppm (655 $\mu g/m^3$)	75 ppb (196 $\mu g/m^3$)	–
Lead [i,j]	30-day average	1.5 $\mu g/m^3$	–	–
	Calendar quarter	–	1.5 $\mu g/m^3$ (for certain areas) [j]	Same as primary standard
	Rolling 3-month average	–	0.15 $\mu g/m^3$	
Visibility-reducing particles	8 hours	See footnote j	No national standards	
Sulfates	24 hours	25 $\mu g/m^3$		
Hydrogen sulfide	1 hour	0.03 ppm (42 $\mu g/m^3$)		
Vinyl chloride [i]	24 hours	0.01 ppm (26 $\mu g/m^3$)		

Notes: mg/m^3 = milligrams per cubic meter; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppb = parts per billion; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

[a] California standards for ozone, carbon monoxide, sulfur dioxide (1- and 24-hour), nitrogen dioxide, and 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. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than 1. 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 standards. Contact EPA for further clarification and current national policies.

[c] Concentration expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°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 reference pressure of 760 torr; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

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

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

[f] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[g] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm.

[i] The California Air Resources Board (ARB) has identified lead and vinyl chloride as toxic air contaminants 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.

[j] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

Source: ARB 2013a

Attainment Status in the SDAB

Both USEPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. An "attainment" designation for an area signifies that pollutant concentrations did not exceed the established standard. In most cases, areas designated or redesignated as attainment must develop and implement maintenance plans, which are designed to ensure continued compliance with the standard.

In contrast to attainment, a "nonattainment" designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme).

Finally, an unclassified designation indicates that insufficient data exist to determine attainment or nonattainment. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

As shown in Table 4.1-2, the SDAB currently meets NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM_{10}, and $PM_{2.5}$. The SDAB currently falls under a federal maintenance plan for 8-hour ozone. The SDAB is currently classified as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$.

Table 4.1-2
San Diego Air Basin Attainment Designations

Pollutant	State	Federal
Ozone (1-hour)	Nonattainment	Attainment
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Nonattainment	Attainment
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified	N/A
Lead	Attainment	Attainment

Source: SDAPCD 2010
N/A = not applicable; no standard.

Existing Air Quality in the SDAB

Ambient air pollutant concentrations in the SDAB are measured at air quality monitoring stations operated by ARB and the San Diego Air Pollution Control District (SDAPCD). The closest and most representative SDAPCD air quality monitoring station to the Project site is the San Diego monitoring station, located at 5555 Overland Avenue, San Diego, California. As this air monitoring station does not have the data for CO in 2012, data were taken from the next closest station to the Project site located at 1110 Beardsley Street, San Diego, California. For the years 2013 and 2014, no data exist for the monitoring station located at 5555 Overland Avenue, San Diego, California; therefore, data were obtained from the monitoring station located at 1110 Beardsley Street, San Diego, California. Table 4.1-3 presents the most recent data over the past 3 years from the San Diego monitoring stations as summaries of the exceedances of standards and the highest pollutant levels recorded for years 2012 through 2014. These concentrations represent the existing, or baseline conditions, for the Project.

As shown in Table 4.1-3, ambient air concentrations of CO, NO_2, and ozone 1-hour at the San Diego air monitoring stations have not exceeded the NAAQS or CAAQS in the past 3 years. PM_{10} and ozone 8-hour concentrations exceeded the CAAQS in 2014. $PM_{2.5}$ concentrations exceeded the NAAQS in 2013 and 2014.

Toxic Air Contaminants

In addition to criteria pollutants, both federal and state air quality regulations also focus on toxic air contaminants (TACs). TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains.

Table 4.1-3
Ambient Air Quality Summary – San Diego Monitoring Station

Pollutant Standards	2012	2013	2014
Carbon Monoxide (CO)[1]			
National maximum 8-hour concentration (ppm)	1.81	*	*
State maximum 8-hour concentration (ppm)	1.81	2.1	1.9
State maximum 1-hour concentration (ppm)	2.6	3.0	2.7
Number of Days Standard Exceeded			
NAAQS 8-hour (>9.0 ppm)	0	*	*
CAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 1-hour (>20.0 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
State maximum 1-hour concentration (ppm)	0.055	0.072	0.075
Annual Average (ppm)	*	0.014	0.013
Number of Days Standard Exceeded			
CAAQS 1-hour	0	0	0
Ozone			
State maximum 1-hour concentration (ppm)	0.050	0.063	0.093
National maximum 8-hour concentration (ppm)	0.047	0.053	0.072
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	0	0	0
CAAQS 8- hour (>0.070 ppm)/NAAQS 8-hour (>0.075 ppm)	0/0	0/0	2/0
Particulate Matter (PM_{10})			
National maximum 24-hour concentration ($\mu g/m^3$)	22.0	90.0	40.0
State maximum 24-hour concentration ($\mu g/m^3$)	22.0	92.0	41.0
State annual average concentration ($\mu g/m^3$)	*	25.4	23.8
Estimated Number of Days Standard Exceeded			
NAAQS 24-hour (>150 $\mu g/m^3$)	*	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)	*	6	0
Particulate Matter ($PM_{2.5}$)			
National maximum 24-hour concentration ($\mu g/m^3$)	20.0	37.4	36.7
State maximum 24-hour concentration ($\mu g/m^3$)	20.0	37.4	37.2
National annual average concentration ($\mu g/m^3$)	*	10.3	10.1
State annual average concentration ($\mu g/m^3$)	*	*	*
Estimated Number of Days Standard Exceeded			
NAAQS 24-hour (>35 $\mu g/m^3$)	*	1.1	1.0

[1] San Diego-1110 Beardsley Street Air Monitoring Station
* = Not Available $\mu g/m^3$ = micrograms per cubic meter;   CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards;   ppm = parts per million
Source: ARB 2014 (http://www.arb.ca.gov/adam/topfour/topfour1.php); and USEPA 2014 (http://www.epa.gov/airdata/ad_rep_mon.html)

Particulate exhaust emissions from diesel-fueled engines (diesel particulate matter, or DPM) were identified as a TAC by ARB in 1998. Federal and state efforts to reduce DPM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

Diesel engines tend to produce a much higher ratio of fine particulates than other types of internal combustion engines. The fine particles that make up DPM tend to penetrate deep into the lungs and the rough surfaces of these particles makes it easy for them to bind with other toxins within the exhaust, thus increasing the hazards of particle inhalation. Long-term exposure to DPM is known to lead to chronic, serious health problems including cardiovascular disease, cardiopulmonary disease, and lung cancer.

Figure 4.1-1 shows the location of the Project in San Diego County, along with the limits of the SDAB, which is under the jurisdiction of SDAPCD. SDAPCD samples for TACs at the El Cajon and Chula Vista monitoring stations. Excluding DPM emissions, data from these stations indicate that the background ambient cancer risk in 2012 due to air toxics was 120 in one million in Chula Vista and 139 in one million in El Cajon. There is no current methodology for directly measuring DPM concentrations. Based on ARB estimates using measurements of elemental carbon, DPM emissions could add an additional 354 in one million to the ambient cancer risk levels in San Diego County (SDAPCD 2014). In addition, ARB estimates that risk from DPM decreased by about 50 percent from 870 in one million since 1990.

Odor

Odors are considered an air quality issue both at the local level (e.g., odor from wastewater treatment) and at the regional level (e.g., smoke from wildfires). Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

Several examples of common land use types that generate substantial odors include wastewater treatment plants, landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. The existing Qualcomm Stadium is not one of the listed land uses.

Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These include children, the elderly, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, daycare centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

The Project vicinity includes residential and commercial land uses. The closest sensitive receptors to the Project site are residential uses to the north, northwest, and northeast, respectively. Schools in the vicinity of the Project site include Nazareth School, Juarez Elementary School, and Children’s Workshop. Nazareth School is located at 10728 San Diego Mission Road (approximately 0.4 mile) to the east; Juarez Elementary School is located at 2633 Melbourne Drive (approximately 0.5 mile) to the northwest; and Children’s Workshop is located at 2255 Camino Del Rio S (approximately 0.5 mile) to the southeast from the Project site, respectively. A senior care facility, Nazareth House, is located at 6333 Rancho Mission Road (approximately 0.45 mile) to the east of the Project site. Health care facilities in the Project vicinity include Kaiser Permanente located at 10992 San Diego Mission Road (approximately 0.7 mile) to the east. Four medical clinics (approximately 0.2 mile) to the south across I-8; and three medical facilities (approximately 0.6 mile) to the southwest across I-805 are located in the vicinity of the Project site.

Commercial lands proximate to the Project site are located to the east, south, and west, respectively. Residential uses also occupy the areas farther to the east, south, and west of these commercial properties. Commercial land uses including offices, stores, restaurants, etc. are considered the least sensitive to air pollution.

4.1.2 Regulatory Framework

Federal Regulations

USEPA, under the provisions of the Clean Air Act (CAA), requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. The SIP is not a single document, but a compilation of new and previously submitted attainment plans, emissions reduction programs, district rules, state regulations, and federal controls.

State Regulations

ARB is the lead agency for developing the SIP in California. Local air districts and other agencies prepare Air Quality Attainment Plans (AQAPs) or Air Quality Management Plans (AQMPs), and submit them to ARB for review, approval, and incorporation into the applicable SIP. ARB also maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by ARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

The California CAA requires that each area exceeding the CAAQS for ozone, CO, SO_2, and NO_2 must develop a plan aimed at achieving those standards (California Health and Safety Code 40911 et seq.). The California Health and Safety Code, Section 40914, requires air districts to design a plan that achieves an annual reduction in district-wide emissions of 5 percent or more, averaged every consecutive 3-year period. To satisfy this requirement, the local air districts have to develop and implement air pollution reduction measures, which are described in their AQAPs/AQMPs and outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

ARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both state and federal agencies. During the past decade, federal and state agencies have imposed numerous requirements on the production and sale of gasoline in California. ARB has also adopted control measures for DPM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

Toxic Air Contaminants

The CAA Amendments of 1990 expanded the regulation of hazardous air pollutants (HAPs), which is the federal government terminology for TACs, establishing a list of 172 individual compounds and 17 compound categories to be regulated as HAPs. USEPA established stringent, technology-based emissions standards for stationary sources of emissions of these listed substances.

At the state level, TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). ARB continues to implement an ongoing program to identify TACs, assess their public health risks, and develop air toxics control measures to reduce toxic emissions from specific source categories statewide. Local air districts then must adopt and implement the state-approved emission reduction measures.

Local Regulations

SDAPCD is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. Included in SDAPCD's tasks are the monitoring of air pollution, the preparation of San Diego County's portion of the SIP, and the promulgation of rules and regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in San Diego County; this list of strategies is called the San Diego Regional Air Quality Strategy (RAQS) (SDAPCD 2009). The rules and regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

The following SDAPCD rules and regulations would apply to the construction of the Project:

- 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.
- 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.
- Regulation IV: Prohibitions; Rule 67.0: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compound (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

4.1.3 Impact Analysis

According to the City of San Diego's Significance Determination Thresholds, a significant impact related to air quality would occur if implementation of a project would:

- conflict with or obstruct implementation of the applicable air quality plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard,
- exceed 100 pounds per day of PM_{10} dust, or
- expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates, or
- create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. SDAPCD has not developed quantitative significance thresholds for CEQA projects. However, the City of San Diego has established recommended screening level thresholds of significance for regional pollutant emissions. Therefore, the City of San Diego screening thresholds of significance for regional pollutant emissions were used to analyze the impacts of the Project.

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

Impact Thresholds

A significant impact related to air quality would occur if implementation of the Project would conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and state air quality standards into compliance with those standards pursuant to the requirements of the CAA and California CAA.

Air quality planning efforts are based on analysis and forecasts of air pollutant emissions throughout the entire region. The regional air quality plan for San Diego County is SDAPCD's

RAQS, which is also the applicable portion of the SIP. The RAQS was developed pursuant to California CAA requirements, and identifies feasible emissions control measures to provide expeditious progress toward attaining the state ozone standard in San Diego County.

Projects that are consistent with the assumptions used in development of the applicable air quality plan are considered to not conflict with or obstruct the attainment of the air quality levels identified in the plan. Assumptions for land use development used in the RAQS are taken from local and regional planning documents. Emission forecasts rely on projections of vehicle miles traveled (VMT) by the Metropolitan Planning Organizations (MPOs), such as SANDAG, and population, employment, and land use projections made by local jurisdictions during development of the area and general plans.

Significance of Impacts

Since the project would retain the current land use as a stadium, emissions associated with a stadium use are currently accounted for in the RAQS. As such, the project would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant.

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

Impact Thresholds

If the emissions of the Project are found to be below the screening level thresholds, the Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The screening level thresholds are shown in Table 4.1-4.

Table 4.1-4
Regional Pollutant Emission Screening Level Thresholds of Significance

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$[1]	Lead
Pounds per hour	–	25	100	25	–	–	–
Pounds per day	137	250	550	250	100	55	3.2
Tons per year	15	40	100	40	15	10	0.6

[1]Threshold for $PM_{2.5}$ from South Coast Air Quality Management District
ROG = reactive organic gases; NO_X = oxides of nitrogen; SO_X = sulfur oxides
- = No threshold proposed
Source: City of San Diego 2011

Impact Analysis

Construction

Construction emissions are described as “short-term” or temporary in duration; however, they have the potential to represent a significant impact with respect to air quality. Construction of the Project would result in the temporary generation of reactive organic gases (ROG), oxides of nitrogen (NO_X), CO, SO_2, PM_{10}, and $PM_{2.5}$ emissions. ROG, NO_X, CO, and SO_2 emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site.

The intensity of construction activity associated with the Project would vary annually based on the construction phase. The construction of the new stadium would commence in December 2016 and last through August 2019 for a period of approximately 930 days. After the new stadium is fully constructed and operational, the demolition of the existing Qualcomm Stadium would occur through mid- to late-2020.

Given that exhaust emissions rates of the construction equipment fleet in California are expected to decrease over time as stricter standards take effect, construction emissions were estimated using the earliest calendar year when construction could begin (i.e., 2016) to generate conservative estimates. If construction were to occur in later years, advancements in engine technology, retrofits, and turnover in the equipment fleet are anticipated to result in lower levels of emissions. Therefore, using the earliest year of construction provides the most conservative estimate of construction emissions.

Construction emissions associated with the Project were quantified using the California Emissions Estimator Model (CalEEMod) Version 2013.2.2. CalEEMod allows the user to enter Project-specific construction information, such as types, number, and horsepower of construction equipment, and number and length of off-site motor vehicle trips. The modeling also assumes that different phases of construction activities (e.g., demolition, grading, asphalt paving, building construction, and application of architectural coatings) could occur simultaneously at various locations within the Project site. Modeling was based on Project-specific data, when available. However, when information was not available (e.g., types of equipment to be used, number of construction employees), default settings based on land use types, acreage, and construction schedule were used to estimate criteria pollutant emissions.

As shown in Table 4.1-5, Project-related construction emissions were assessed on an hourly, daily, and annual basis and compared to the City of San Diego's significance thresholds. To determine hourly emissions, the daily emissions were divided over an 8-hour time period to obtain a 1-hour average. This 1-hour average was assessed against the 1-hour significance threshold. The Project would exceed the hourly significance threshold for NO_X and CO. Hourly significance thresholds would not be exceeded for SO_2. As such, the Project's maximum hourly construction emissions would result in a significant impact to air quality prior to the implementation of mitigation measures.

Table 4.1-5
Estimated Hourly, Daily, and Annual Unmitigated Construction Emissions

	ROG	NO_X	CO	SO_2	PM_{10} [1,2]	$PM_{2.5}$ [1]
Maximum Stadium Construction Hourly Emissions (lbs/hour)						
2016	5	72	24	<1	4	3
2017	6	86	36	<1	5	3
2018	7	44	23	<1	2	1
2019	11	89	54	<1	12	4
2020	5	63	33	<1	12	4
Threshold of Significance (lbs/hour)	--	25	100	25	--	--
Significant Impact?	NA	Yes	No	No	NA	NA
Daily Construction Emissions (lbs/day)						
2016	60	867	287	1	50	35
2017	74	1027	436	1	55	36
2018	87	527	274	1	20	17
2019	138	1068	652	2	143	50
2020	58	755	401	2	140	49
Threshold of Significance (lbs/day)	137	250	550	250	100	55
Significant Impact?	No	Yes	Yes	No	Yes	No
Annual Construction Emissions (tons/year)						
2016	1	10	3	<1	1	1
2017	8	104	45	<1	5	3
2018	7	76	39	<1	3	3
2019	12	122	66	<1	8	4
2020	1	14	7	<1	3	1
Threshold of Significance (tons/year)	15	40	100	40	15	10
Significant Impact?	No	Yes	No	No	No	No

[1] PM_{10} emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.
[2] Fugitive dust emissions were reduced based on watering three times per day.
lbs = pounds; ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter
Source: Estimated by AECOM in 2015

Table 4.1-5 also shows that the Project's construction emissions would exceed the daily significance thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$. As such, significant air quality impacts are anticipated to occur from the unmitigated maximum daily emissions attributable to the Project.

As shown in Table 4.1-5, annual Project construction emissions were found to exceed the annual significance thresholds for NO_X and would result in a significant impact to air quality. The annual emissions from the other pollutants were found to be below the annual significance thresholds. Because the Project would exceed the hourly, daily, and annual significance thresholds are anticipated to be exceeded by the emissions generated by the Project, construction emissions would potentially violate the ambient air quality standard or contribute substantially to an existing violation. This impact to air quality would be significant.

Construction Dust from Implosion of the Existing Stadium

Under the construction and demolition plan for the Project, the existing Qualcomm Stadium is expected to be demolished via an engineered implosion. The implosion would involve the strategic placement of explosives and timing of the detonation so that the structure collapses on itself in a matter of seconds. This demolition method reduces the demolition time to seconds from a typical demolition process that could take months or years to achieve. Potential air quality concerns related to the implosion of the stadium consist primarily of fugitive dust emissions. Prior to the implosion event, a hazardous material assessment would be conducted. If it is determined that asbestos containing materials or lead are present in the stadium, these materials would be removed prior to the implosion (this is discussed in further detail in the Public Health study and section). The Project is required to have a City-approved permit in place as well as a dust control plan aimed at minimizing public exposure that is approved by SDAPCD.

A review of resources and published government literature on fugitive dust generated from implosion of structures was conducted and did not reveal published emission rates. However, a monitoring study (Beck et al., Air & Waste Management Association, 2003) was found that documented air monitoring results associated with the implosion of a 22-story building, in Baltimore, Maryland. Indoor and outdoor particulate matter (PM) (nominally 0.5-10 micrometers) were measured using portable dust monitoring equipment at seven outdoor and four indoor locations.

The findings of the study stated that PM_{10} levels varied in time and space; there was no measurable effect observed upwind of the implosion. The downwind peak PM_{10} levels varied with distance (54,000-589 micrograms/m^3 [cubic meters]) exceeding pre-implosion levels for sites 100 and 1130 m 3000- and 20-fold, respectively. Estimated outdoor 24-hr. integrated mass concentrations varied from 15 to 72 micrograms/m^3. The implosion did not result in the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) for

PM_{10} being exceeded. Peak PM_{10} concentrations were short-lived; most sites returned to background conditions within 15 minutes. No increase in indoor PM_{10} was observed even at the most proximate 250 m [meters] location. These results demonstrate that a building implosion can have a severe but short-lived impact on community air quality. Effective protection is offered by being indoors or upwind.

This study measured elevated PM outdoor concentrations as far as 1,130 meters (over 0.7 miles) away from the imploded building. Indoor measurement locations as close as 300 meters (1,000 feet) away from the imploded structure did not record any measurable increase in PM. Outdoor PM levels returned to background levels within 7-40 minutes of the implosion. While this may not be indicative of the outcome for the implosion of the existing stadium, it does provide insight on the potential effects on air quality.

Based on the aforementioned monitoring study, implosion of the existing Qualcomm Stadium would result in elevated levels of PM in the stadium vicinity on a short-term basis. It is anticipated that the PM concentrations would dissipate and return to ambient background levels in a period of 1 to 2 hours. Because of the transient nature of the dust cloud related to stadium implosion, the implosion is not anticipated to result in an exceedance of State or federal ambient air quality standards for particulate matter.

Operations

Operational emissions are considered long-term emissions because they would occur for the lifetime of the Project, which is opposite of short-term and temporary construction emissions that would cease following buildout of the Project. Daily activities associated with the operation of the Project would generate criteria air pollutant and precursor emissions from mobile and area sources. Mobile sources include vehicle trips coming to and leaving from the new stadium. Area sources include sources such as consumer products (i.e., ROG), natural gas combustion for water and space heating, landscape maintenance equipment, and periodic architectural coatings.

Existing Stadium Emissions

The emissions that are generated for the existing Qualcomm Stadium were quantified to provide an inventory of emissions under existing conditions. The year 2015 emissions are shown below in Table 4.1-6 on an hourly, daily and annual basis. The hourly and daily emissions are shown for a NFL event which has the highest emissions of all the stadium events. The annual emissions represent the total emissions that occur from all events throughout the year.

Table 4.1-6
Operational Emissions from Existing Stadium Events

Emissions Sources	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Hourly Emissions (lbs./hr.)						
Area	13	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	126	470	2,443	6	430	120
Total	139	470	2,443	6	430	120
Maximum Daily Emissions (lbs./day)						
Area	160	0	0	0	0	0
Energy	0	2	2	0	0	0
Mobile	379	1,409	7,329	19	1,290	360
Total	539	1,411	7,331	19	1,290	360
Annual Emissions (tons/year)						
Area	29	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	6	23	99	<1	22	6
Total	35	23	99	<1	22	6

The operational emissions associated with the activities for the existing Qualcomm Stadium and the new stadium were quantified using CalEEMod. The new stadium is anticipated to increase the frequency of events currently occurring at Qualcomm Stadium as well as new events. The following scenarios were evaluated to assess the potential impact to air quality that would occur related to the operations phase of the Project:

- Comparison of emissions from the existing Qualcomm Stadium and new stadium
- Comparison of emissions of additional events from the new stadium
- Comparison of combined emissions from construction and operation of the new stadium

Comparison of Emissions of Events from the Existing Stadium and New Stadium

To determine the change in emissions between the existing Qualcomm Stadium and the new stadium, the emissions associated with the existing Qualcomm Stadium were subtracted from the emissions for the new stadium to calculate the net change in emissions associated with implementation of the Project. The net increase in emissions is compared to the applicable threshold of significance. The estimated daily emissions for the existing land uses and the Project are shown in Table 4.1-7.

The maximum hourly and daily emissions evaluation for the existing and new stadium is based on an NFL game. The annual emissions evaluation is based on the anticipated events that would occur throughout the year. The annual emissions evaluation takes into account the increase in frequency of events and new events anticipated to occur. As shown in Table 4.1-7, hourly and daily emissions would not exceed the significance thresholds for all analyzed pollutants. Annual emissions were also evaluated between those that would occur with the existing Qualcomm Stadium and those of the Project. The net change in emissions would result in exceedance of the significance threshold for PM_{10} with all other pollutants being below the significance thresholds.

Table 4.1-7
Comparison of Operational Emissions from Existing and New Stadium Events

Emission Sources	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Hourly Emissions (lbs/hour)						
Existing Stadium	100	438	1,776	6	424	117
New Stadium	88	401	1,610	5	394	111
Net Difference	-12	-37	-166	-1	-30	-6
Significance Threshold (lbs/hour)	--	25	100	25	--	--
Significant Impact?	--	No	No	No	--	--
Maximum Daily Emissions (lbs/day)						
Existing Stadium	310	1,314	5,329	18	1,271	352
New Stadium	275	1,202	4,832	16	1,182	333
Net Difference	-35	-112	-497	-2	-89	-19
Significance Threshold (lbs/day.)	137	250	550	250	100	55
Significant Impact?	No	No	No	No	No	No
Annual Emissions (tons/year)						
Existing Stadium	33	16	70	<1	22	6
New Stadium	38	34	150	<1	55	15
Net Difference	5	18	80	<1	32	9
Significance Threshold (tons/year)	15	40	100	40	15	10
Significant Impact?	No	No	No	No	Yes	No

lbs = pounds; ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter
Source: Estimated by AECOM in 2015

Comparison of Emissions of Additional Events from the New Stadium

The Project would also result in an increase in the number of events as compared to the existing Qualcomm Stadium. The additional events that generate the most attendance and vehicle trips would be concerts and soccer games. Table 4.1-8 shows emissions associated with the addition of concert events as compared to a day without any events with the existing Qualcomm Stadium. When emissions associated with concert events are evaluated without a comparison to any existing Qualcomm Stadium event, the emissions were found to exceed the hourly significance thresholds for NO_X and CO. Other events that would occur with the new stadium that would not occur with the existing Qualcomm Stadium would likewise result in hourly and daily exceedances of the significance thresholds. The potential impact from annual emissions is previously accounted for in Table 4.1-7.

Table 4.1-8
Summary of Modeled Long-Term Operational Emissions for a Concert Event

Emission Sources	ROG	NO_X	CO	SO_2	PM_{10} [1,2]	$PM_{2.5}$ [1]
Maximum Hourly Emissions (lbs/hour)						
Area	13	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Mobile	64	219	1,108	4	265	74
Total	77	219	1,108	4	265	74
Threshold of Significance (lbs/hour)	--	25	100	25	--	--
Significant Impact?	--	Yes	Yes	No	--	--
Maximum Daily Emissions (lbs/day)						
Area	13	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	192	658	3,323	11	795	221
Total	205	658	3,323	10	795	221
Threshold of Significance (lbs/day)	137	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes

[1] PM_{10} emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.
[2] Fugitive dust emissions were reduced based on watering three times per day.
lbs = pounds; ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter
Source: Estimated by AECOM in 2015

Comparison of Combined Emissions from Construction and Operation of the New Stadium

There would also be a period in 2019 when the new stadium would be built and in operation concurrent with demolition of Qualcomm Stadium. To evaluate this worst-case condition, construction emissions for the year 2019 were added to the emissions from an NFL event to obtain the combined construction and operations phase emissions. The operations phase emissions used in this comparison are based on the net change in emissions (existing stadium minus the new stadium). These combined emissions were evaluated against the hourly, daily, and annual significance thresholds. The maximum emissions from both these phases are presented in Table 4.1-9.

As shown in Table 4.1-9, the combined emissions from Project-related construction and operations phase activities would exceed the hourly thresholds for NO_X and CO. The daily and annual emissions thresholds would be exceeded for all of the analyzed criteria pollutants (ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$) except for SO_2.

Table 4.1-9
Combined Emissions from the Project's Construction and Operations Phases

Emission Sources	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Hourly Emissions (lbs/hour)						
Construction (year 2019)	11	89	54	0	12	4
Operations	109	654	1,830	6	455	132
Total	119	743	1,884	6	467	136
Threshold of Significance (lbs/hour)	--	25	100	25	--	--
Significant Impact?	--	Yes	Yes	No	--	--
Maximum Daily Emissions (lbs/day)						
Construction	138	1068	652	2	143	50
Operations	337	1,961	5,489	18	1,365	397
Total	475	3,029	6,141	20	1,508	447
Threshold of Significance (lbs/day)	137	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes
Maximum Annual Emissions (tons/year)						
Construction	12	122	66	<1	8	4
Operations	9	34	150	<1	55	15
Total	21	156	216	<1	63	19
Threshold of Significance (tons/year)	15	40	100	40	15	10
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes

lbs = pounds; ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter
Source: Estimated by AECOM in 2015

Significance of Impacts

As shown in Table 4.1-5, construction-generated emissions would exceed the hourly, daily, and annual significance thresholds established by the City of San Diego. As such, construction of the Project would result in significant impacts to air quality. As shown in Table 4.1-7, the net change in emissions between the existing Qualcomm Stadium and the new stadium were evaluated for the operational phase. The analysis of the net change in emissions found that the Project emissions would be below the emissions that occur with the existing Qualcomm Stadium and would not exceed the hourly and daily thresholds but would cause an exceedance of the annual significance thresholds. The analysis of new events that are planned for the new stadium would likewise result in emissions that exceed the hourly, daily, and annual significance thresholds. The concurrent activities occurring under the construction and operations phases of the Project were also evaluated and found to exceed hourly, daily, and annual significance thresholds. Because the Project would exceed the hourly, daily, and annual significance thresholds for all the evaluated scenarios, the Project would result in significant air quality impacts. Implementation of mitigation measures would reduce these impacts but not to below a level of significance.

Issue 3: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Impact Thresholds

A significant impact related to air quality would occur if implementation of the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. The significance thresholds discussed under Air Quality and Odor Issues 1 and 2 are also used to determine the cumulative impact of the Project.

Impact Analysis

The cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SDAB, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. If a project's emissions would be less than those threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact.

As discussed above, the net increase in emissions over the baseline conditions would result in the generation of criteria air pollutant emissions that exceed the thresholds for construction and operational activities. These thresholds are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would exceed the thresholds of significance would contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile, and may impede attainment and maintenance of ambient air quality standards.

Significance of Impacts

Because the Project would exceed any Project-level air quality significance thresholds, the Project's construction and operational emissions would be cumulatively considerable. Therefore, impacts related to a cumulatively considerable net increase of criteria pollutants would be significant. Implementation of mitigation measures would reduce these impacts but not to below a level of significance.

Issue 4: Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact Thresholds

A significant impact would occur if implementation of the Project would expose sensitive receptors to substantial pollutant concentrations, including air toxics such as diesel particulates. In addition, a significant impact would occur if the Project would result in a CO hotspot.

Impact Analysis

Carbon Monoxide

The primary mobile-source pollutant of localized concern is CO. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is limited since it disperses rapidly with distance from the source under normal meteorological conditions. However, under specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels related to local sensitive land uses such as residential units, hospitals, schools, playgrounds, and childcare facilities.

CO concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. As a result, air districts typically recommend analysis of CO emissions at a local rather than a regional level.

The City of San Diego indicates that if a proposed development causes a four- or six-lane road to deteriorate to Level of Service (LOS) E or worse, the resulting longer queue at the traffic signals could cause a localized significant air quality impact. The City of San Diego indicates that if a proposed development causes a four- or six-lane road to deteriorate to Level of Service (LOS) E or worse, the resulting longer queue at the traffic signals could cause a localized significant air quality impact. According to the traffic study prepared for the project, several roadway segments currently operate at LOS E or F. The following intersections are identified as having a LOS F during a NFL game:

- Fairmount Avenue\Twain Avenue
- Fairmount Avenue\Alvarado Canyon Road

- Rancho Mission Road\Ward Road
- I-15 Northbound Ramps\Friars Road
- I-15 Southbound Ramps\Friars Road
- Mission Village Drive\Friars Road Eastbound
- Northside Drive\Friars Road
- Fenton Parkway\Friars Road
- Qualcomm Way\ Friars Road Eastbound
- Qualcomm Way\I-8 Westbound Ramps

These underperforming LOS conditions occur under an NFL game scenario where the highest number of vehicle trip would be generated. The new stadium would host new events as well as increase the frequency of events currently held at the existing Qualcomm Stadium. To determine whether the NFL events and the other planned events held at the new stadium would result in or contribute to the formation of a CO hotspot, a CO hotspot analysis was performed for the following intersections:

- I-15 Northbound Ramps\Friars Road
- Fenton Parkway\Friars Road
- Mission Village Drive\Friars Road Eastbound

These intersections were selected for modeling based on a combination of having the lowest LOS as well as having substantial levels of project traffic contribution of the 10 intersections previously listed. The intersection vehicle turn volumes were used in the Caltrans CALINE4 model to evaluate local CO concentrations at intersections most affected by Project traffic. Per EPA guidelines, the highest CO concentrations measured within the past three years were used as the background levels for the future build-out of the Project (2019) conditions. At the 1110 Beardsley Street, San Diego monitoring station, the background concentrations measured for the past 3 years range from 2.6-3.0 ppm for the 1-hour period and 1.8-2.1 ppm for the 8-hour period. As shown in Table 4.1-10, of the three intersections analyzed, no intersections would experience CO concentrations that exceed the state's one-hour and eight-hour standards of 20 ppm and 9 ppm, respectively. The CO concentrations at these analyzed intersections are substantially below the California Ambient Air Quality Standards (CAAQS). The analysis of traffic from a NFL event consists of the highest traffic volumes that would be generated by the stadium. Because no exceedance of the CAAQS would occur under traffic generated by a NFL stadium event, other events held at the stadium that would generate comparable or lower levels of traffic would likewise not be expected to exceed the CAAQS and cause the formation of CO hotpots.

Table 4.1-10
New Stadium Opening Year (2019)
Carbon Monoxide Concentrations at Local Intersections[1]

	Project and Ambient Concentrations 1-Hour (ppm)	Project and Ambient Concentrations 8-Hour (ppm)	State Standards		Exceeds State Standards?	
			1-Hour	8-Hour	1-Hour	8-Hour
Mission Village Drive/ Friars Road Eastbound	3	2	20	9	No	No
	4	2			No	No
	4	2			No	No
	4	2			No	No
I-15 Northbound/ Friars Road Eastbound	4	3	20	9	No	No
	4	3			No	No
	4	3			No	No
	4	3			No	No
Fenton Parkway/ Friars Road	4	3	20	9	No	No
	4	3			No	No
	3	3			No	No
	4	3			No	No

[1] Includes ambient 1-hour concentration of 3 ppm and ambient 8-hour concentration of 2.1 ppm. The state's standards are 20 ppm for 1-hour and 9.0 ppm for 8-hour concentrations.
Source: AECOM, 2015

Construction-Related Health Risk

The greatest potential for health impacts would result from DPM emitted during Project construction. Construction of the Project would result in the generation of DPM from the use of off-road diesel construction equipment required for demolition, site preparation, construction, and equipment installation. Most DPM emissions associated with material delivery trucks and construction worker vehicles would occur off-site.

The generation of DPM emissions from construction projects typically occurs in a single area for a short period of time. The dose of DPM to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure a person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period to a fixed amount of emissions results in a higher exposure level and higher health risks for the maximally exposed individual.

Rather than a constant plume of emissions, construction emissions are assumed to occur intermittently, 12 hours per day on weekdays and Saturdays. All construction emissions would cease following completion of the Project.

A health risk assessment (HRA) was performed to assess the potential health impacts posed by DPM emissions from diesel-fueled heavy equipment and haul trucks involved in Project construction. The detailed methodology employed in the HRA is further detailed in the Air Quality Technical Study attached as Appendix B.

The estimated cancer risk was based on the maximum annual DPM concentration obtained using CalEEMod and a preferred USEPA air quality dispersion model (i.e. AERMOD) over the 5-year construction period, together with inhalation potency factor, age-sensitivity factors, and default estimates of breathing rate, body weight, and exposure period. In addition to the potential cancer risk, DPM may result in a chronic noncancer hazard. The chronic hazard index (HI) is calculated by dividing the estimate annual concentration by a reference exposure level (or REL), specified by ARB and the California Office of Environmental Health Hazard Assessment (OEHHA). The REL is the concentration below which no adverse health impacts effects are expected.

Table 4.1-10 shows the estimated cancer risk and chronic HI for Project construction. The cancer risk was estimated to be 14 in one million at the Maximum Exposed Individual Resident (MEIR), and 1.3 in one million at the Maximum Exposed Individual Resident (MEIW). The chronic HI was estimated to be 0.007 for the MEIR and 0.08 for the MEIW, as shown in Table 4.1-11. The locations of and results at the MEIR and MEIW are also shown graphically in Figure 4.1-2. The estimated cancer risk at the MEIR is greater than the significance threshold of 10 in one million; the estimated cancer risk at the MEIW is less than the significance threshold of 10 in one million. The chronic HI at both the MEIR and MEIW would be less than the significance threshold of 1.0. Therefore, Project construction would expose nearby residents, but not workers or other sensitive receptors, to significant concentrations of DPM.

Table 4.1-11
Summary of Estimated Cancer Risk and Chronic Noncancer Impacts

Receptor Type	Estimated Cancer Risk (in one million)	Maximum Chronic Hazard Index
MEIR[1]	7	0.003
MEIW[2]	0.9	0.003
CEQA Significance Threshold	10	1
Exceed Threshold?	No	No

Notes: All reported chronic hazards associated with diesel particulate matter are via the inhalation pathway.
[1] MEIR: Maximally exposed individual at an existing residential receptor
[2] MEIW: Maximally exposed individual at an existing occupational worker receptor
Source: Data Compiled by AECOM in 2015

The nonresidential sensitive receptors that are estimated to be subject to Project construction cancer impacts greater than 1 in one million are listed in Table 4.1-12. The maximally exposed nonresident sensitive receptor is a daycare/school located about 2,500 feet from the southeast corner of the Project site boundary with a maximally exposed cancer risk of 4.6 in one million and chronic HI of 0.002 (see Figure 4.1-3).

Table 4.1-12
Results for Other Nearby Nonresident Sensitive Receptors

Receptor Type	Estimated Cancer Risk (in one million)	Maximum Chronic Hazard Index
Maximally Exposed Nonresident Sensitive Receptor: Children's Workshop, 4055 Camino Del Rio S San Diego, CA 92108	4.6	0.002
Non-Resident Sensitive Receptor: Nazareth (school), 10728 San Diego Mission Rd San Diego, CA 92108	1.0	0.0005
CEQA Significance Threshold	10.0	1
Exceed Threshold?	No	No

Notes: All reported chronic hazards associated with diesel particulate matter are via the inhalation pathway.
Source: Data Compiled by AECOM in 2015

Significance of Impacts

The Project would generate TAC emissions which elevate the health risk during the construction period. The CO hotspot analysis results in less than significant impacts at congested intersections. The Project would not expose sensitive receptors to substantial pollutant concentrations for CO. However, because the health risk thresholds would be exceeded during the construction phase of the Project, the Project could expose sensitive receptors to substantial pollutant concentrations. Implementation of these mitigation measures would reduce the impacts but not to below a level of significance.

Issue 5: Would the project exceed 100 pounds per day of PM_{10} dust?

Impact Thresholds

A significant impact would occur if implementation of the Project would exceed 100 pounds per day of PM dust.

Impact Analysis

Construction grading and demolition dust accounts for 30 percent of all PM_{10} emissions in the SDAB (City of San Diego 2011). Road dust from paved and unpaved roads accounts for 47

Receptor Type	Estimated Cancer Risk (in one million)	Estimated Chronic Hazard Index
MEIR	14	0.006
MEIW	1.3	0.008

Source: NAIP 2014.

600 300 0 600 Feet

Scale: 1 = 7,200; 1 inch = 600 feet

Figure 4.1-2
Health Risk Assessment Results Summary

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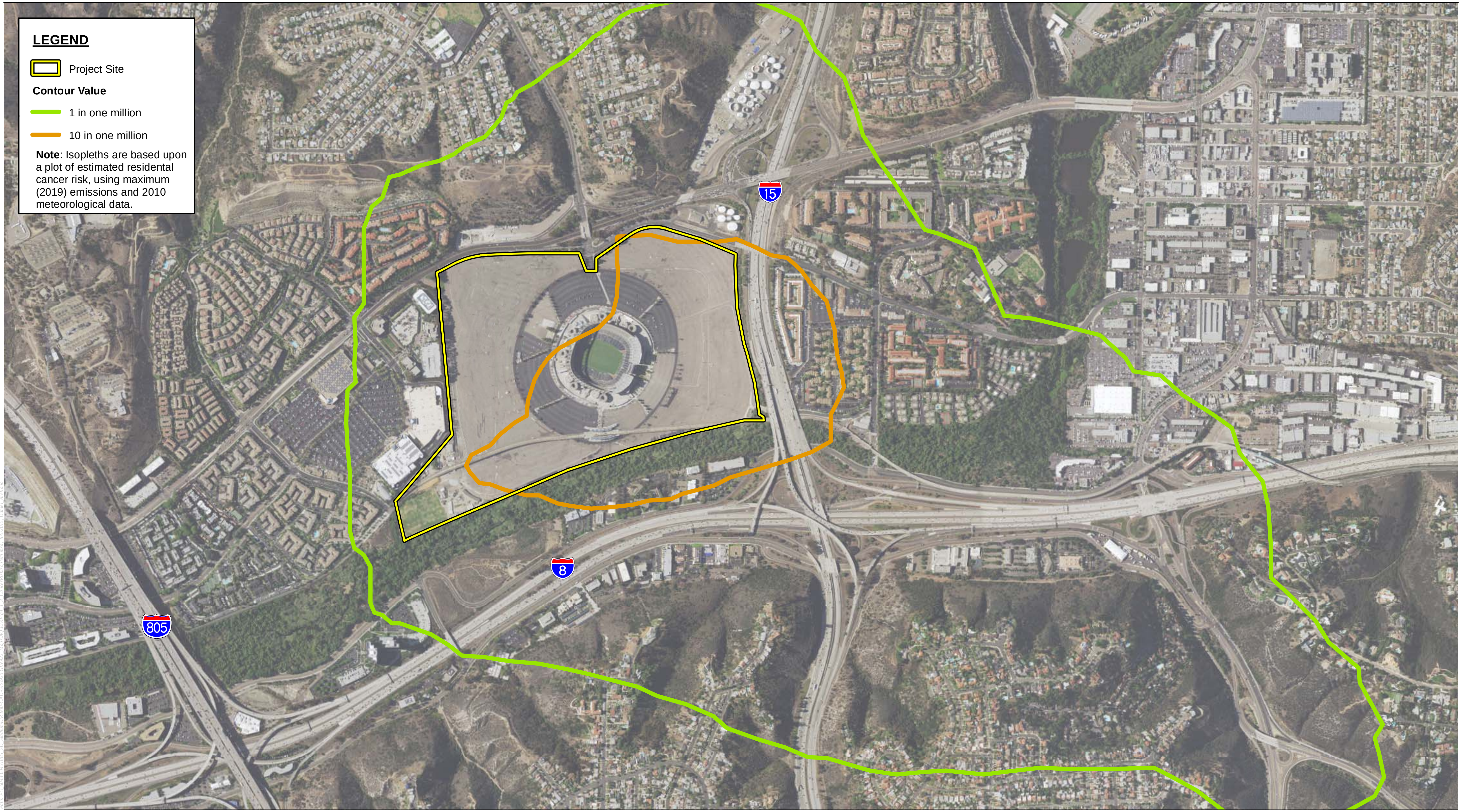

Source: NAIP 2014.

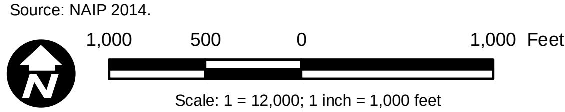

Figure 4.1-3
Cancer Risk Isopleth for Residence

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percent of all PM_{10} emissions (City of San Diego 2011a). The Project would generate PM_{10} emissions from construction and operational activities, including on-road motor vehicles. As indicated in Table 4.1-5, construction-related PM_{10} emissions were estimated at 5 pounds per day. The net increase in operational PM_{10} emissions was estimated at 1,694 pounds per day, as shown in Table 4.1-7. Therefore, the Project would exceed 100 pounds per day of PM dust prior to the implementation of mitigation measures.

Significance of Impacts

As indicated in Table 4.1-5, construction-related PM_{10} emissions were estimated at a maximum of 154 pounds. Therefore, the Project would exceed 100 pounds per day of PM dust during construction activities. The operations phase of the Project would likewise result in emissions of PM in excess 100 pounds for those additional events that would occur as a result of the new stadium. Implementation of these mitigation measures would reduce these impacts but not to below a level of significance.

Issue 6: Would the project create objectionable odors affecting a substantial number of people?

Impact Thresholds

A significant impact would occur if implementation of the Project would create objectionable odors affecting a substantial number of people. Two situations increase the potential for odor problems. The first occurs when a new odor source is located near existing sensitive receptors. The second occurs when new sensitive receptors are developed near existing sources of odors.

Impact Analysis

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Many regional air districts have developed screening-level distances for major odor sources. Major sources of odors would include wastewater treatment and pumping facilities, sanitary landfills, painting/coating operations (e.g., auto body shops), and composting facilities. There are no existing major sources of odors within 1 mile of the Project.

Potential sources that may emit odors during construction would include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would not be anticipated to be affected by diesel exhaust odors associated with Project construction. The Project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Operation of the Project would not add any new odor sources, and any odors generated would be similar to existing odors associated with land uses in the area. The existing Qualcomm Stadium has an established program for the removal of solid waste generated from stadium events. This includes maintenance staff rapidly picking up and disposing of trash as well as consolidating recycling materials.

Significance of Impacts

As a result, the Project's construction and operational activities would not create objectionable odors affecting a substantial number of people, and nearby residents would not be impacted by any existing odor sources. The impact would be less than significant.

4.1.4 Mitigation, Monitoring, and Reporting

Construction emissions were found to exceed the significance thresholds. Project construction would use clean engine technology that meets USEPA Tier 4 emission standards in addition to compliance with SDAPCD Regulation IV, Rule 55 Fugitive Dust Control.

In addition, the following mitigation measures are required:

AQ-1 The construction contractor shall maintain and properly tune all construction equipment in accordance with manufacturer's specifications.

AQ-2 The construction contractors shall minimize idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.

AQ-3 A blasting execution plan shall be developed and approved prior to any implosion event. This blasting execution plan shall evaluate the feasibility of staged implosion to minimize dust generation and exposure.

AQ-4 A public notification program shall be instituted prior to the implosion event which includes recommendations to minimize exposure to airborne dust.

AQ-5 The implosion shall be scheduled during periods of low/no wind speeds.

AQ-6 A dust control plan shall be developed to identify measures and equipment necessary to minimize dust from windblown storage piles, offsite tracking of dust, debris loading, truck hauling of debris, vehicle speed limits, and to identify other dust suppression measures.

AQ-7 An ambient air quality monitoring program shall be implemented proximate to the stadium to measure actual particulate matter concentrations.

Operations Phase Mitigation

The operations phase of the Project would result in emissions which exceed the City's hourly, daily and annual significance thresholds. Project emissions reduction measures include the stadium meeting energy and water efficiency goals consistent with LEED Gold standards. In addition, the following mitigation measures are required:

AQ-8 A public information campaign shall be established to encourage the use of park and ride lots serving the stadium as well as the Qualcomm Stadium electric trolley station.

4.1.5 Mitigated Emissions

Construction Phase

The mitigated emissions are presented in Table 4.1-13. The mitigated emissions generated during the construction phase of the Project would exceed the significance thresholds despite the implementation of mitigation measures and would result in a significant and unavoidable impact.

Operations Phase

Mitigation Measure AQ-8 would reduce emissions associated with the new stadium. The mitigated emissions associated with these measures were not quantified primarily because the efficacy of these measures is currently unknown. It is conservatively assumed that mitigated emissions associated with the Project would be comparable to those presented in Tables 4.1-7 through 4.1-9. Mitigated emissions would exceed the hourly, daily and annual significance thresholds adopted by the City and would result in an unavoidable significant impact to air quality.

Table 4.1-13
Estimated Hourly, Daily, and Annual Mitigated Construction Emissions

	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Stadium Construction Hourly Emissions (lbs/hour)						
2016	1	23	31	0	1	1
2017	2	30	45	0	2	1
2018	5	10	34	0	0	0
2019	6	41	72	0	4	1
2020	2	35	40	0	10	3
Threshold of Significance (lbs/hour)	--	25	100	25	--	--
Significant Impact?	NA	Yes	No	No	NA	NA
Daily Construction Emissions (lbs/day)						
2016	9	277	372	1	12	6
2017	18	363	543	1	19	9
2018	55	126	408	1	5	2
2019	73	491	861	2	53	16
2020	27	420	478	2	125	36
Threshold of Significance (lbs/day)	137	250	550	250	100	55
Significant Impact?	No	Yes	Yes	No	Yes	No
Annual Construction Emissions (tons/year)						
2016	0	3	4	<1	0	0
2017	2	31	58	<1	1	1
2018	2	18	58	<1	1	0
2019	6	53	84	<1	4	2
2020	0	8	9	<1	2	1
Threshold of Significance (tons/year)	15	40	100	40	15	10
Significant Impact?	No	Yes	No	No	No	No

lbs = pounds; ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter
Source: Estimated by AECOM in 2015

4.2 BIOLOGICAL RESOURCES

This section describes the existing biological conditions within and adjacent to the Project site, identifies current applicable regulations, and evaluates potential biological resource impacts associated with implementation of the Project. Mitigation measures are included at the end of the section.

4.2.1 Existing Conditions

The information presented herein was compiled from existing databases and literature as cited in the sections below, and from the Project Biological Technical Report summarizing the on-site habitat assessment for biological resources (Appendix C). The discussion of biological resources focuses on the Project site plus a 500-foot buffer (herein collectively referred to as the Biological Study Area [BSA]) (Figure 4.2-1). The BSA is mostly developed and consists of the existing Qualcomm Stadium, parking lots, residential and commercial development, and associated infrastructure (i.e., Friars Road and I-15). Elevation ranges from approximately 55 feet above mean sea level (AMSL) in the southwest to approximately 100 feet AMSL in the northwest. Two major drainage features occur within the BSA: the San Diego River along the southern edge of the BSA and Murphy Canyon Creek along the eastern edge of the BSA; each is described in detail in Sections 4.2.1.3 and 4.2.1.6.

The Project site is adjacent to a highly urbanized area and lighting from the Interstate 8 (I-8), Interstate 15 (I-15), San Diego Metropolitan Transit System (MTS) Green Line Trolley, Qualcomm Stadium parking lot, and other urban structures currently have a major influence on Murphy Canyon Creek and the San Diego River. Special status bat and/or avian species inhabiting the adjacent riparian habitat have been exposed to existing light levels at the Project site since Qualcomm Stadium was opened in 1967.

Existing noise at the Project site is primarily influenced by noise from vehicle traffic on the roadways adjacent to and in proximity of the Project site and secondarily, from the noise generated by the Stadium event. The predominant traffic noise is from I-15 and I-8 based on average daily traffic volumes, which are provided for the Project roadways in Section 4.10 Mobility (Circulation) of this EIR. Secondary noise sources of the Project site (non-event) are activities at the surrounding industrial, commercial, office, and residential areas, the MTS Trolley system, and aircraft flyover. Murphy Canyon Creek is narrow with minimal vegetation to buffer the habitat from the constant urban noise caused from freeway traffic (I-15) and Qualcomm Stadium events under existing conditions. Similarly, the San Diego River is subject to constant urban noise because it crosses under the I-15 and is subject to noise from Qualcomm Stadium events as well as the MTS Green Line Trolley that runs adjacent to it on a daily basis. Daytime and nighttime noise levels along the Murphy Canyon Creek and the San Diego River are near and slightly above 70 and 60 decibels (dBA), respectively (see Section 4.2.3.1 for a detailed discussion of noise levels at Murphy Canyon Creek and the San Diego River).

4.2.1.1 Methods

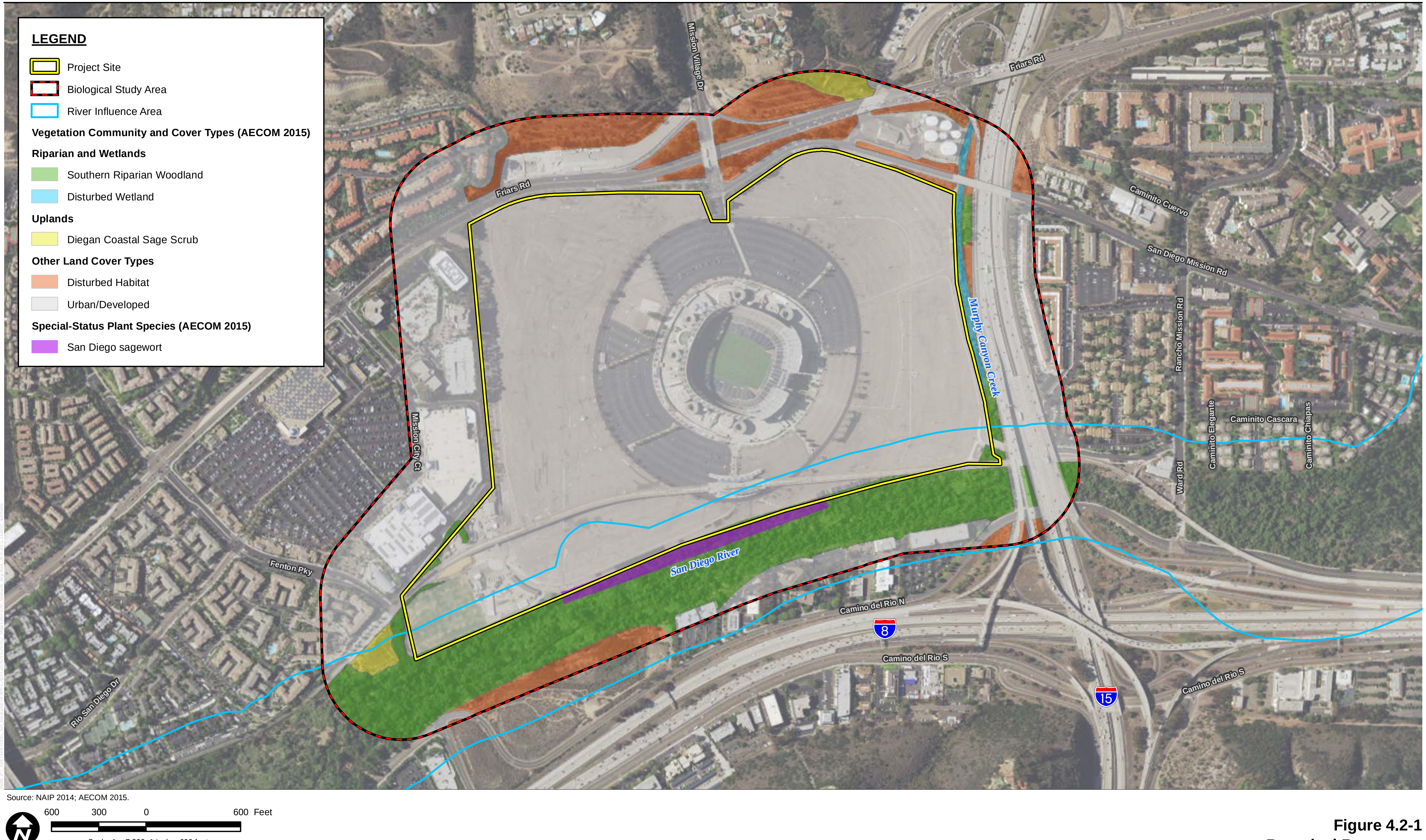
The following section describes the methods used to characterize the biological resources present or potentially present within and adjacent to the Project site. Methods included a review of relevant databases and published literature as well as a field reconnaissance survey within the BSA.

Literature Review

Available information pertaining to the natural resources of the region was reviewed prior to conducting field surveys. The following sources were consulted to obtain public information relevant to the BSA:

- San Diego River Park Master Park Plan (City of San Diego 2013)
- City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan (City of San Diego 1997a)
- Aerial photography of the BSA, U.S. Geological Survey (USGS) Seamless Data Distribution System (USGS 2003)
- Soil Survey of San Diego County, San Diego Area, California, Soil Conservation Service (USDA 1973)
- U.S. Fish and Wildlife Service (USFWS) regional species database and National Wetland Inventory (USFWS 2015)
- USGS National Hydrology Dataset flow line data (USGS 2015)
- County of San Diego SanGIS Data (County of San Diego 2015)
- eBird online database of bird distribution and abundance (eBird 2015)
- California Natural Diversity Data Base (CNDDB) (CDFW 2015)
- California Native Plant Society (CNPS) Electronic Inventory (CNPS 2015)

For the CNDDB and CNPS database queries, biologists searched special-status species records within a 9-quad search area (i.e., species records within the nine USGS 7.5-minute topographic quadrangles encompassing and immediately surrounding the BSA). Special-status species are plant and wildlife species that have been afforded protection or special recognition by federal, state, or local resource agencies or organizations. Special-status species typically have relatively



Source: NAIP 2014; AECOM 2015.

Figure 4.2-1
Botanical Resources

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limited distribution and may require specialized habitat conditions. For the purposes of this report, species were considered special-status if they met at least one of the following criteria:

- Listed or proposed for listing (including candidate species[2]) under the federal Endangered Species Act and California Endangered Species Act (CESA).
- California Department of Fish and Wildlife (CDFW) Species of Special Concern.
- CDFW Fully Protected species.
- California Rare Plant Rank Species (formerly CNPS listed species[3]): (CRPR) 1A (presumed extinct in California and rare/extinct elsewhere), 1B (rare, threatened, and endangered in California and elsewhere), 2A (presumed extinct in California, but more common elsewhere), 2B (rare, threatened, or endangered in California, but more common elsewhere), or 3 (plants are those for which more information is needed [a review list]) (CNPS 2015). All plants constituting CRPR 1A, 1B, 2A, 2B, and 3 meet the definitions of Sections 2062 and 2067 (CESA) of the California Fish and Game Code.
- Some (as specified in CNDDB), but not all, CRPR 4 plant species meet the definitions of Sections 2062 and 2067 (CESA) of the CFGC (CNPS 2015). CRPR 4 plants are those of limited distribution (watch list) (CNPS 2015).
- Species covered by the City of San Diego MSCP and considered sensitive by the San Diego Municipal Code (City of San Diego 2012).

Field Reconnaissance Survey

A field reconnaissance survey was conducted on June 29, 2015 by AECOM biologists Dallas Pugh and Keir Morse to evaluate existing and potentially occurring biological resources present within the BSA. Given that the majority of the BSA is currently developed, the survey focused on natural habitat (i.e., undeveloped areas) including areas within the City of San Diego's MSCP Multi-Habitat Planning Area (MHPA) north of Friars Road and along the San Diego River, which runs along the southern edge of the BSA (Figure 4.2-2). The survey also focused on

[2] Candidate species are those petitioned species that are actively being considered for listing under the federal Endangered Species Act (ESA), as well as those species for which the U.S. Fish and Wildlife Service (USFWS) has initiated an ESA status review, as announced in the Federal Register. Proposed species are those candidate species that warrant listing as determined by USFWS and have been officially proposed for listing in the Federal Register. Under the California Endangered Species Act, candidate species are those species currently petitioned for state-listing status.

[3] In 2010, CDFW changed the name of the CNPS Lists in its publications to "California Rare Plant Rank," The change was intended to correct a public misimpression that the CNPS was solely responsible for the rank assignments. Rare Plant Status Review groups (300+ botanical experts from government, academia, non-governmental organizations, and the private sector) produce the rank assignments for rare plants and both CDFW and CNPS jointly manage this collaborative effort.

Murphy Canyon Creek which runs along the eastern edge of the BSA. The biologists walked meandering transects through these undeveloped areas to assess resources. Where topography was too steep or access was not permitted, biologists used binoculars to assess the area. Where vegetation was too thick to survey a given habitat, the biologists used vantage points on the tops of man-made structures (e.g., overpasses) or drainage embankments to assess the area.

The biologists mapped vegetation communities and cover types and recorded any potential resources for species. Vegetation communities and cover types were mapped based on the dominant and characteristic plant species, in accordance with the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008), based on the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Vegetation community mapping was conducted using digital mapping tools capable of displaying aerial ortho-photographs, topographic relief, and other digitized geographic data at any scale.

Plant and wildlife were identified to species level in the field and recorded. The biologists were equipped with a Global Positioning System (GPS) unit to document the location of sensitive species or resources incidentally detected. Field data were collected on high-resolution aerial field maps and recorded in a field notebook. No focused special status plant or wildlife surveys were completed as no direct impacts are anticipated to occur within suitable habitat for potentially occurring special-status species (i.e., Murphy Canyon Creek and San Diego River) and the San Diego River is well-studied with recent, numerous special-status species known to utilize the river corridor from available regional databases. Potential indirect impacts to these known special-status species and associated mitigation measures are discussed in Sections 4.2.3 and 4.2.4, respectively.

A general assessment of potentially jurisdictional waters was also conducted within the BSA. A formal jurisdictional delineation was not conducted because the Project site does not contain potentially jurisdictional features and therefore no direct impacts would occur.

The biologists noted drainage features and riparian habitats that could potentially fall under the jurisdiction of the CDFW, the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board, and/or the City of San Diego Land Development Code and Biology Guidelines.

Photographs were taken throughout the BSA, focusing on features of biological significance (drainages, riparian woodland, etc.).

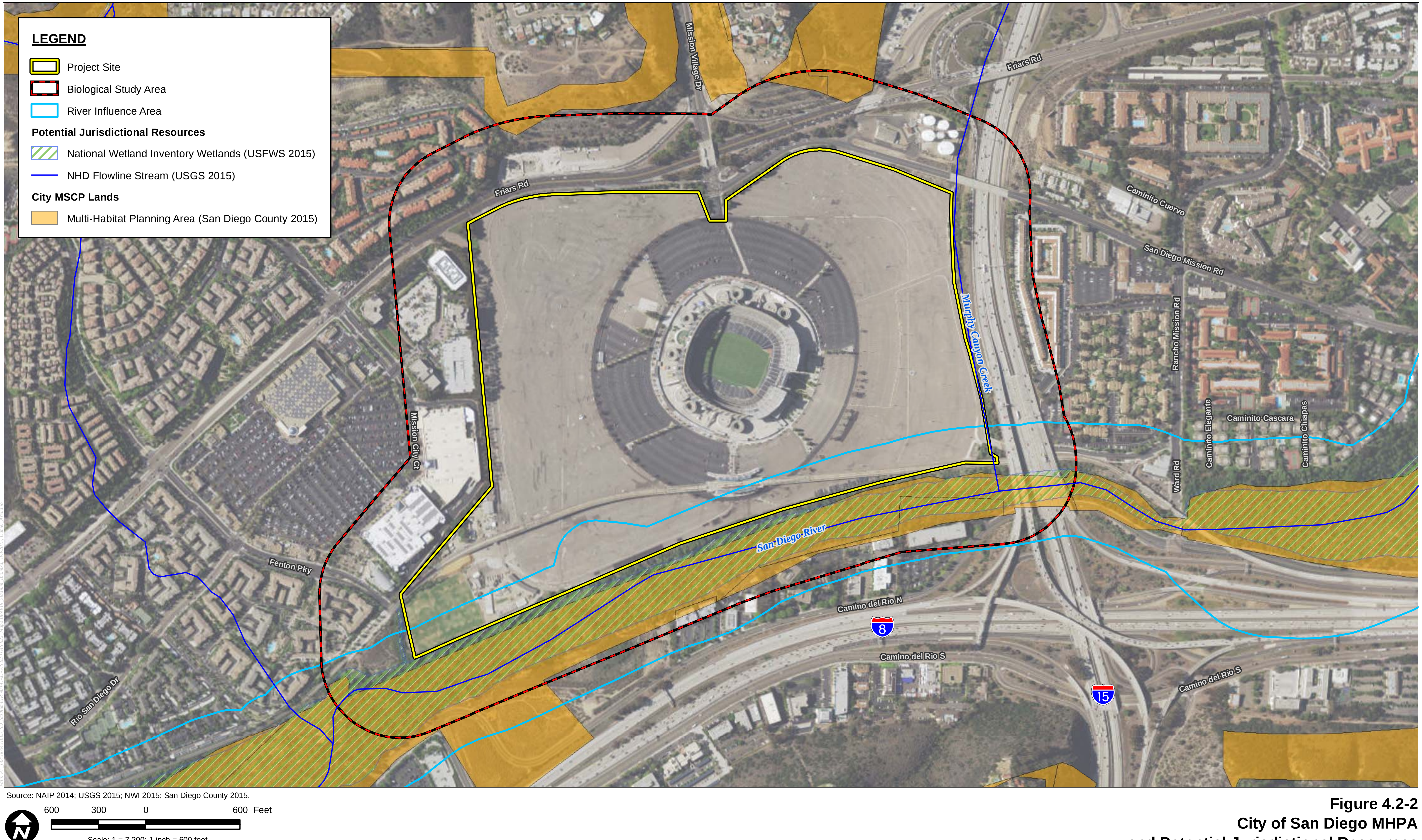

Figure 4.2-2
City of San Diego MHPA
and Potential Jurisdictional Resources

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4.2.1.2 Vegetation Communities and Cover Types

Five vegetation communities and other land cover types were identified within the BSA during vegetation mapping efforts (Table 4.2-1 and Figure 4.2-1): southern riparian woodland, disturbed wetland, Diegan coastal sage scrub, disturbed habitat, and urban/developed. Representative photographs of each vegetation community and cover type are included in the Biological Technical Report (Appendix C).

Vegetation communities considered sensitive by the City of San Diego include wetlands and Tier I, II, IIIA, and IIIB upland vegetation communities, as described by the City's Biology Guidelines (City of San Diego 2012). Three sensitive vegetation communities were mapped within the BSA: southern riparian woodland, disturbed wetland, and Diegan coastal sage scrub (Table 4.2-1). Sensitive vegetation communities within the BSA are mostly confined to the existing MHPA boundary, which occurs outside the Project site, within the 500-foot buffer (Figure 4.2-2).

Vegetation communities and other land cover types mapped within the BSA are described further below.

Table 4.2-1
Vegetation Community and Cover Type Acreages

Vegetation Community/Land Cover Type	MSCP Wetland/Upland Tier Category	Project Site	500-Foot Buffer	BSA
Riparian and Wetlands				
Southern Riparian Woodland	Wetland	0.9	41.5	42.4
Disturbed Wetland	Wetland	--	1.8	1.8
Uplands				
Diegan Coastal Sage Scrub	Tier II	--	2.7	2.7
Other Land Cover Types				
Disturbed Habitat	Tier IV	--	20.0	20.0
Urban/Developed	Tier IV	165.1	90.6	255.7
	Totals	**166.0**	**156.6**	**322.6**

Urban/Developed

Urban/developed areas have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. All areas within the Project site and much of the 500-foot buffer are considered developed (Figure 4.2-1). This includes buildings, roads, parking lots, and landscaping of nonnative vegetation.

Disturbed Habitat

Disturbed habitat is characterized by predominantly nonnative species introduced and established through human action. These areas are not typically artificially irrigated, but receive water from precipitation or runoff.

Disturbed habitat exists north of the Project site within the 500-foot buffer on road cuts along Friars Road and San Diego Mission Road (Figure 4.2-1). The vegetation is dominated by the California Invasive Plant Council (Cal-IPC) (Cal-IPC 2006) invasive fountain grass (*Pennisetum setaceum*) and includes scattered gum trees (*Eucalyptus* sp.) and Brazilian pepper trees (*Schinus terebinthifolius*).

Disturbed Wetland

Disturbed wetlands are areas permanently or periodically inundated by water, which have been significantly modified by human activity.

A disturbed wetland exists outside the eastern edge of the Project site (within the 500-foot buffer) within Murphy Canyon Creek (Figure 4.2-1). This area is a ditch with running water located between the stadium parking and I-15. The northern portion of Murphy Canyon Creek is concrete lined; however, enough sediment has accumulated along the base of the ditch to support some wetland vegetation. Minimal vegetation grows in the earthen portion of the channel further downstream. Vegetation along the banks is dominated by Cal-IPC (Cal-IPC 2006) invasive castor bean (*Ricinus communis*) and nonnative white sweetclover (*Melilotus albus*). Additional species present include broom baccharis (*Baccharis sarothroides*), coastal goldenbush (*Isocoma menziesii* var. *vernonioides*), and cattail (*Typha domingensis*) as well as the Cal-IPC (Cal-IPC 2006) invasive plants fennel (*Foeniculum vulgare*), fountain grass, and smilo grass (*Stipa milacea*).

Diegan Coastal Sage Scrub

Diegan coastal sage scrub is characterized by low, soft-woody subshrubs. Many taxa are facultatively drought-deciduous. This vegetation community is often dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) together with laurel sumac (*Malosma laurina*), white sage (*Salvia apiana*) and black sage (*Salvia mellifera*).

Diegan coastal sage scrub exists in two locations within the 500-foot buffer (Figure 4.2-1). One area north of Friars Road is dominated by California sagebrush with some broom baccharis

(*Baccharis sarothroides*) and lemonade berry (*Rhus integrifolia*) as well as scattered gum trees and a considerable amount of the Cal-IPC (Cal-IPC 2006) invasive plant, black mustard (*Brassica nigra*). The second area is located south of the trolley platform at the end of Fenton Parkway. This area is dominated by broom baccharis and coastal goldenbush (*Isocoma menziesii* var. *vernonioides*) with the associates coyote brush (*Baccharis pilularis*), California sagebrush, and bush sunflower (*Encelia californica*) as well as significant amounts of the invasive species crown daisy (*Glebionis coronaria*), summer mustard (*Hirschfeldia incana*), and red brome (*Bromus madritensis* ssp. *rubens*).

Southern Riparian Woodland

Southern riparian woodlands are moderate-density riparian woodlands dominated by small trees or shrubs with scattered taller riparian trees. Characteristic species include willows (*Salix* spp.), cottonwoods (*Populus* spp.), sycamores (*Platanus racemosa*), broom baccharis, and elderberries (*Sambucus* spp.).

A stand of southern riparian woodland runs the entire southern boundary of the Project site within the 500-foot buffer (Figure 4.2-1). This area is dominated by a mix of native shrubs and trees including black willow (*Salix goodingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), Fremont's cottonwood (*Populus fremontii*), and mule fat (*Baccharis salicifolia*). This area also supports several invasive species including giant reed, (*Arundo donax*), Brazilian pepper tree, pampas grass (*Cortaderia selloana*), and smilo grass.

A second small stand of southern riparian woodland occurs within the disturbed wetland along Murphy Canyon Creek just east of the Project site (within the 500-foot buffer) (Figure 4.2-1). This area supports California sycamore, Acacia (*Acacia* sp.), and Mexican fan palm (*Washingtonia robusta*).

4.2.1.3 Jurisdictional Resources

During the literature review, AECOM biologists identified USFWS National Wetland Inventory Wetlands and USGS National Hydrology Dataset “blue-line” streams to the south and east of the Project site, within the 500-foot buffer (Figure 4.2-2). Two major drainage features occur within the BSA: the San Diego River along the southern edge of the BSA and Murphy Canyon Creek along the eastern edge of the BSA.

The San Diego River originates in the Cuyamaca Mountains northwest of the town of Julian and then flows to the southwest until it reaches the El Capitan Reservoir. Below El Capitan Dam, the river runs west through the cities of Santee and San Diego and discharges into the Pacific Ocean near the entrance to Mission Bay, forming an estuary. The vegetation communities within the river include a mosaic of pristine riparian woodlands, riparian scrub, open water habitats, wetlands and anthropogenically disturbed areas that now support nonnative and species designated as invasive (e.g., giant reed) by the Cal-IPC (Cal-IPC 2006). The exiting conditions at Qualcomm Stadium cause stormwater to drain directly into the MHPA (i.e., San Diego River). The majority of site runoff is conveyed to three outlets that discharge directly to the San Diego River; however, during moderate storm events water overtops the berm between Murphy Canyon Creek and the parking and floods the existing parking area. The resulting sheet flow empties directly into the San Diego River.

Murphy Canyon Creek originates to the north of the BSA from multiple headwaters in the foothills generally south and east of Marine Corps Air Station Miramar (e.g., undeveloped/open space associated with Mission Trails Regional Park and San Clemente Canyon). The creek narrows into a single channel along the western edge of I-15 where it collects stormwater runoff from adjacent residential and commercial developments. The creek consists of intermittent aboveground and belowground segments that are both concrete-lined and earthen. As it approaches the Kinder Morgan Energy Partners Mission Valley Terminal (KMEP MVT) just north of the BSA, Murphy Canyon Creek becomes a covered concrete-lined channel. Near the northeastern corner of the BSA, the concrete-lined channel widens for a distance of approximately 1,200 feet and then becomes earthen for approximately 1,600 feet before connecting with the San Diego River.

Murphy Canyon Creek is regularly maintained by the City for purposes of flood control. Maintenance includes vegetation and sediment removal as well as maintenance of a man-made earthen berm along the western edge of the creek to ensure the channel can handle the volume of storm events. During moderate storm events, water overtops the berm and floods the existing parking area. Vegetation communities within the portion of Murphy Canyon Creek in the BSA include disturbed wetlands and patches of riparian woodland.

No formal delineation was conducted for these two features during the reconnaissance survey because the Project site does not contain potentially jurisdictional features and therefore no direct impacts would occur. However, the biologists mapped the extent of each feature along with the associated riparian vegetation within the BSA (Figure 4.2-1). Both the San Diego River to the south of the Project site and Murphy Canyon Creek to the east of the Project site could potentially fall under the jurisdiction of CDFW and the USACE. These features would also qualify as wetland habitat under the City of San Diego’s Biology Guidelines (City of San Diego 2012).

4.2.1.4 Special Status Plant Species

A total of 81 plant species were recorded incidentally during the reconnaissance survey. Of these, 35 species are native to the region. The majority of plant species were observed within the undeveloped habitats in the 500-foot buffer. Those plant species found within the Project site included ornamental species associated with stadium landscaping. A complete list of plant species recorded during the survey is included in the Biological Technical Report in Appendix C.

A total of 70 special-status plant species were considered for their potential to occur within the BSA based on a review of the literature, database searches, and habitat assessments during the reconnaissance survey. One special-status plant species was observed during the June 2015 field reconnaissance survey, San Diego sagewort (*Artemisia palmeri*; California Rare Plant Ranking [CRPR] List 4.2), and one special-status plant species, San Diego marsh-elder (*Iva hayesiana*; CRPR List 2B) has moderate potential to occur within the BSA based on presence of suitable habitat. These species are discussed in further detail below. Special-status plant species that are not expected or that have low potential to occur are not discussed further in this document given the minimal likelihood that they occur on-site. The Biological Technical Report in Appendix C provides a summary of special-status plant species with low potential to occur within the BSA and species evaluated but not expected to occur in the BSA.

<u>San Diego Sagewort</u>

The San Diego sagewort, a CRPR List 4.2 species, is a perennial deciduous shrub typically occurring in creeks and drainages near the coast, at elevations between 45 and 2,700 feet. This species blooms from February through September and is threatened by development, flood control projects, and nonnative plants (CNPS 2015).

Approximately 20 scattered individuals were incidentally observed throughout the southern riparian woodland within the 500-foot buffer of the BSA along the northern bank of the San Diego River. The sagewort was scattered within the polygon shown on Figure 4.2-1 across the length of the northern bank of the river from the MTS Trolley station west to the soccer field. The species was not found within the Project site or incidentally within any other portion of the BSA; however, a focused survey for special-status plants was not conducted. The closest known historical record is an occurrence in 2000 in the Crestridge Ecological Reserve, located approximately 13.3 miles to the east of the Project site (County of San Diego 2015).

San Diego Marsh-elder

San Diego marsh-elder (*Iva hayesiana*), a CRPR List 2B species, is a perennial herb typically occurring in open areas near creeks or intermittent streambeds, at elevations between 30 and 1,500 feet. This species blooms from April through October and is threatened by waterway channelization, coastal development, vehicles, and nonnative plants (CNPS 2015). This species has moderate potential to occur within the BSA. Suitable habitat for this species occurs within the southern riparian woodland along the banks of the San Diego River and disturbed wetland along Murphy Canyon Creek within the 500-foot buffer of the BSA. The closest known recently (i.e., within the last 20 years) documented location of San Diego marsh elder is a 2010 occurrence near Lake Murray approximately 4.6 miles to the east of the Project site (CDFW 2015).

4.2.1.5 Special Status Wildlife Species

A total of 14 wildlife species were recorded incidentally during the reconnaissance survey. This includes one reptile species, 11 bird species and two mammal species. The majority of species were detected or observed within the undeveloped habitats in the 500-foot buffer. A complete list of wildlife species detected during the survey is included the Biological Technical Report in Appendix C.

A total of 85 special-status wildlife species were considered for their potential to occur within the BSA based on a review of the literature, database searches, and habitat assessments during the reconnaissance survey. No special-status wildlife species were observed during the reconnaissance survey. There are 12 special-status wildlife species that have moderate or high potential to occur within the BSA based on presence of suitable habitat. These species are discussed below. Special-status wildlife species that are not expected or that have low potential to occur are not discussed further in this report given the minimal likelihood that they occur on-site. The Biological Technical Report in Appendix C provides a summary of special-status wildlife species with low potential to occur within the BSA and species evaluated but not expected to occur in the BSA.

Western Spadefoot Toad

The western spadefoot (*Spea hammondii*) is a CDFW species of special concern. It occurs in the Central Valley of California and west of the coastal ranges from Point Conception south to northern Baja California. It is found from near sea level to 4,470 feet, but usually below 2,985 feet (Stebbins 2003). Western spadefoot toads occur in a wide range of habitats including lowlands to foothills, grasslands, open chaparral, coastal sage scrub, and pine-oak woodlands.

The western spadefoot toad has moderate potential to occur within and immediately adjacent to the southern riparian woodland within the San Diego River channel corridor and within the disturbed wetland along Murphy Canyon Creek. Both the concrete-lined and earthen-lined segments of Murphy Canyon Creek have enough sediment deposit to support breeding and dispersal. The closest known documented location of western spadefoot toad occurs approximately 3.9 miles to the east of the Project site (County of San Diego 2015). Several egg masses and larvae were recorded at Mission Trails Regional Park in November 2002 (County of San Diego 2015).

Southwestern Pond Turtle

The southwestern pond turtle (*Emys marmorata*) is a CDFW species of special concern and covered by the City of San Diego MSCP. It inhabits slow-moving rivers, streams, and ponds of coastal California from the San Francisco Bay area and the central valley south and into northern Baja California. Its elevational distribution is from sea level to 4,690 feet. It most often occurs in smaller pools and permanent or intermittent streams. In intermittent streams, the turtles rely on small pools that persist through the dry season. Emergent marsh vegetation along the water course is needed for cover.

The southwestern pond turtle has moderate potential to occur within and immediately adjacent to the San Diego River channel corridor within the 500-foot buffer south of the Project site. The species also has a moderate potential to occur within the southern end of Murphy Canyon Creek where deeper waters meet with the San Diego River. The closest known documented location of southwestern pond turtle occurs approximately 4.6 miles to the east of the Project site in Lake Murray, recorded in August 2003 (County of San Diego 2015).

Two-Striped Garter Snake

Two-striped garter snake (*Thamnophis hammondii*) is a CDFW species of special concern. It is locally common in aquatic habitats from coastal central California to northwestern Baja California from sea level to 8,040 feet. It is widespread and locally common in creeks throughout western and central San Diego County. This garter snake occurs in aquatic habitats, preferring rocky streams with protected pools, cattle ponds, marshes, vernal pools, and other shallow bodies of water lacking large aquatic predators.

The two-striped garter snake has high potential to occur within and immediately adjacent to the southern riparian woodland and disturbed wetland in the San Diego River channel corridor and Murphy Canyon Creek within the 500-foot buffer. The closest known recently (i.e., within the last 20 years) documented location is a 2006 occurrence that occurs approximately 4.2 miles to the east of the Project site near Lake Murray (County of San Diego 2015).

<u>Southwestern Willow Flycatcher</u>

The southwestern willow flycatcher (*Empidonax traillii extimus*), a subspecies of willow flycatcher (*Empidonax trailli*), is listed as federally endangered (USFWS 1995). The subspecies was also listed as endangered by the State of California in 1990 and is covered by the City of San Diego MSCP. The southwestern willow flycatcher is a summer breeding resident in riparian habitats in southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and northwestern Mexico (USFWS 1995). In San Diego County, only two substantial breeding populations are known to remain along the Santa Margarita River and the upper San Luis Rey River. The southwestern willow flycatcher is restricted to dense riparian woodlands of willow, cottonwood, and other deciduous shrubs and trees. In general, the riparian habitat of this species tends to be rare, isolated, small, and/or in linear patches, separated by vast expanses of arid lands. Egg laying by the endangered southwestern willow flycatcher occurs in San Diego County from the end of May through the end of June.

San Diego River and Murphy Canyon Creek have a high potential to support migrant southwestern willow flycatchers due to the presence of dense stands of willow and cottonwood. However, the species has moderate potential to breed within the riparian habitat of the San Diego River channel corridor within the 500-foot buffer south of the Project site because although habitat is present this species has not been documented to breed in this portion of the San Diego River since prior to 1997 (Unitt 2004). The closest known breeding location occurs in the upper Sweetwater Reservoir (Unitt 2004). The closest known documented location of southwestern willow flycatcher occurs approximately 2 miles to the southwest of the Project site in the San Diego River, recorded in June 2009; however, nesting was not confirmed (USFWS 2015). Additionally, willow flycatchers detected during early May through late June in Southern California may not be breeding on-site (Sogge et al. 2010); willow flycatchers identified during this time period could be migrants that are not resident.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) was federally listed as endangered in 1986 and state listed as endangered in 1980. This species is also covered by the City of San Diego MSCP. The least Bell's vireo is the westernmost subspecies of the Bell's vireo and breeds entirely within southern California and Baja, California. The least Bell's vireo breeding season extends from March through September. During the breeding season, the least Bell's vireo is restricted to riparian woodland and riparian scrub. In San Diego County, it occurs mainly in the coastal lowlands, rarely up to 3,000 feet in elevation. Territory size ranges from 0.5 to 7.5 acre and there is evidence of high site fidelity among adults (Kus 2002). Early to mid-successional riparian habitat is typically used for nesting by this vireo because it supports the dense shrub cover required for nest concealment as well as a structurally diverse canopy for foraging (Kus 2002).

This species has high potential to breed and forage within the southern riparian woodland in the San Diego River channel corridor and Murphy Canyon Creek within the 500-foot buffer of the BSA. The closest known records of least Bell's vireo occur just south of the Project site in the San Diego River within the 500-foot buffer of the BSA and were recorded in July 1998 and August 1997 (Figure 5) (CDFW 2015).

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a fully protected species by CDFW. White-tailed kites are resident in southern Texas and California; at scattered locations in Washington, Oregon, and Florida; and from Mexico to South America. In southern California, kites are widespread except in the Anza-Borrego Desert (Unitt 2004). While this species is commonly observed hunting within savanna, open woodlands, marshes, grasslands, and agricultural fields, they are known to almost exclusively nest in association with watercourses. Nests are typically placed in the crowns of oaks or other densely foliaged trees. In San Diego County, the nesting season lasts from February through fledging in June (Unitt 2004).

The white-tailed kite has high potential to forage and breed within the riparian habitat found within the BSA. Favored nesting habitats of this species include any larger trees or woodlands within the 500-foot buffer south of the Project site. The closest known documented location is a 2013 occurrence along the San Diego River approximately 0.6 mile to the east of the Project site (eBird 2015).

Cooper’s Hawk

The Cooper’s hawk (*Accipiter cooperii*) is covered by the City of San Diego MSCP. The species is a breeding resident throughout most of the wooded portion of California. In San Diego County, the Cooper’s hawk occurs as a year-long resident and a winter migrant. Cooper’s hawks nest primarily in oak woodlands but occasionally in willows or eucalyptus. The species prefers dense stands of live oak, riparian deciduous forests, or other forest habitat near water. The species usually nests and forages near open water or riparian vegetation. The Cooper’s hawk will catch small birds, especially young during nesting season, and small mammals. They will also forage on reptiles and amphibians.

Cooper’s hawk has high potential to forage and breed throughout the BSA in any habitat. Preferred nesting habitats of this species may include any larger trees or woodlands within or adjacent to the BSA. The closest known documented location of Cooper's hawk occurs approximately 1.2 miles to the northeast of the Project site near the San Diego River, recorded in April 2000 (County of San Diego 2015).

Clark’s Marsh Wren

The Clark’s marsh wren (*Cistothorus palustris clarkae*) is a CDFW species of special concern. Clark’s marsh wren is a year-round resident that inhabits freshwater and brackish marshes along, or mainly along, the coast. It is joined by migratory marsh wrens during the winter season. This species is known to have a long breeding season in San Diego County.

This species has high potential to occur in marsh habitats within the San Diego River channel corridor and Murphy Canyon Creek. The closest known documented location occurs 1 mile to the southwest of the Project site in the San Diego River in April 1997 (County of San Diego 2015).

Western Bluebird

The western bluebird (*Sialia mexicana*) is covered by the City of San Diego MSCP. This species is a common resident of San Diego County’s foothills and meadows, especially where meadows lie among groves of oak or pine (Unitt 2004). The western bluebird is a cavity nester and competes heavily with many other species for holes in trees. Although there is competition for nesting sites for the western bluebird, this species appears to be expanding its range and colonizing urban areas with mature trees and large lawns (Unitt 2004). Insects are the primary food source during the warmer months, and during the winter season it favors berries and is especially attracted to mistletoe. The breeding distribution of western bluebirds in San Diego County is largely associated with montane coniferous and oak woodlands. Where these habitats occur (mainly the mountains of San Diego County), this species is relatively abundant during the breeding season. Approaching the coast, the western bluebird becomes less abundant and more localized (Unitt 2004). Nesting of this species is primarily in early April through the end of June.

This species has high potential to nest in trees found within all habitats throughout the BSA and is rather common in San Diego County. This species has been documented in the BSA as recently as 2008 and is documented regularly along the San Diego River (ebird 2015).

Yellow Warbler

The yellow warbler (*Setophaga petechia* ssp. *brewster*) is a CDFW species of special concern. The yellow warbler breeds from northern Alaska and Canada southward to the middle United States and in the western United States southward into Mexico. This warbler winters in Mexico, and Central and South America. Nest building may occur as early as April in San Diego County, with fledglings reaching independence by August (Unitt 2004). This species occurs most commonly in riparian woodlands dominated by willows. The yellow warbler is frequently parasitized by the brown-headed cowbird (*Molothrus ater*).

This species has a high potential to breed and forage within the southern riparian woodland along the San Diego River and Murphy Canyon Creek, or use the BSA for stopover habitat during migration movements. The closest known documented location occurs approximately 2.4 miles to the northeast of the Project site in the San Diego River in June 2009 (County of San Diego 2015).

Yellow-breasted Chat

The yellow-breasted chat (*Icteria virens*) is a CDFW species of special concern. This species breeds across the central and eastern United States and southern Canada from South Dakota to New Hampshire and southward to eastern Texas and northern Florida. It also occurs in scattered regions across the western United States from southern Canada to very northern Mexico. In San Diego County, nest building typically occurs in May and fledging is completed by August (Unitt 2004). In California, chats require dense riparian thickets associated with watercourses, saturated soils, or standing water (lakes or ponds). They typically occur in riparian woodland/scrub with dense undergrowth. In San Diego County, this species occurs in the coastal lowlands and is strongly concentrated in the northwest portion of the county (i.e., Santa Margarita River and San Luis Rey River) (Unitt 2004). Comparable to other breeding riparian passerines addressed herein, the chat is frequently parasitized by the brown-headed cowbird.

The yellow-breasted chat has high potential to nest within the riparian habitats of the San Diego River channel corridor and Murphy Canyon Creek. The closest known documented location of this species occurs approximately 2.4 miles to the northeast of the Project site in the San Diego River, recorded in June 2009 (County of San Diego 2015).

Western Red Bat

The western red bat (*Lasiurus blossevillii*) is a CDFW species of special concern. It is locally common in some areas of California, occurring from Shasta County to the Mexican border, west of the Sierra Nevada/Cascade crest and deserts. The winter range includes western lowlands and coastal regions south of San Francisco Bay. There is migration between summer and winter ranges, and migrants may be found outside the normal range. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. This species roosts in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. Foraging has been noted in habitats such as mature orchards, oak woodland, low-elevation conifer forest, along riparian corridors, among nonnative trees in urban and rural residential areas, and also near strong lights that attract flying insects. In addition, this species may forage in habitats and agricultural areas adjacent to streams and rivers that do not provide roosting habitat.

This species has high potential to roost in the riparian trees associated with the San Diego River and Murphy Canyon Creek, and a low potential to roost in the ornamental trees throughout the existing stadium parking lot, year-round. The closest known recently (i.e., within the last 20 years) documented location of western red bat is a 2006 occurrence that is located in the San Diego River approximately 3.7 miles to the northeast of the Project site (County of San Diego 2015).

4.2.1.6 Wildlife Movement

Habitat connectivity is essential for the persistence of healthy and genetically diverse animal communities (Crooks and Sanjayan 2006). Wildlife corridors or linkages are linear landscape features that allow for species movement over time between two areas of habitat that would otherwise be disconnected (Beier and Noss 1998; Beier et al. 2008; Lidicker and Peterson 1999). Regional corridors (or landscape linkages) link two or more large areas of natural open space, and local corridors (or dispersal corridors) allow resident animals to access critical resources (food, water, and cover) in areas that might otherwise be isolated. At a minimum, corridors promote local colonization or recolonization of distinct habitats, and potentially increase genetic variability within and between populations. Wildlife movement activities typically fall into one of three movement categories: local and regional dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions), regional seasonal migration, and local movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

Human encroachment and other disturbances (e.g., light, loud noises, domestic animals) associated with developed areas that have caused habitat fragmentation may have a negative effect on corridors (Schweiger et al. 2000). Therefore, wildlife corridors may function at various levels depending upon these factors and the species. The level of connectivity needed to maintain a population of a particular species will vary with the demography of the population, including population size, survival and birth rates, and genetic factors such as the level of inbreeding and genetic variance (Rosenberg et al. 1997). Areas not considered as functional wildlife dispersal corridors or linkages are typically obstructed or isolated by concentrated development and heavily traveled roads, known as “chokepoints.” One of the worst scenarios for dispersing wildlife occurs when a large block of habitat leads animals into “cul-de-sacs” of habitat surrounded by development. These habitat cul-de-sacs frequently result in adverse human/animal interface.

The San Diego River corridor that runs along the southern portion of the BSA functions as a portion of a landscape linkage providing connection of coastal and inland habitats (Penrod et al. 2001). The City of San Diego recognized the importance of this riparian corridor to serve as a landscape linkage for amphibians, reptiles, birds, and small- and medium-sized mammals when delineating MHPA for the City’s MSCP. In spite of the urbanized surrounding area, the San Diego River riparian habitat and adjacent Diegan coastal sage scrub are areas of relatively high species diversity and abundance and provide a regional corridor between Mission Trails Regional Park and Mission Bay Park. Concentrated development and heavily traveled roads surrounding the San Diego River corridor limit terrestrial species from using this corridor to disperse to adjacent canyons. However, this regional corridor supports avian or bat species that are capable of flying over barriers to adjacent habitat.

Murphy Canyon Creek is a maintained drainage feature that provides some wetland and riparian vegetation along the banks, but very little vegetation along the creek bed. Upstream of the BSA, near the Kinder Morgan Energy Partners Mission Valley Terminal, the creek becomes a covered concrete-lined channel for approximately 0.5 mile north before opening up again to an earthen channel supporting dense nonnative ornamentals and riparian scrub species. Further upstream, the creek consists of intermittent above-ground and below-ground segments that are both concrete-lined and earthen supporting riparian scrub and woodland species. This channel provides a north-south connection between the San Diego River and MHPA lands comprised of Diegan coastal sage scrub to the north of the BSA.

Murphy Canyon Creek functions primarily as “stepping stone” for avian and bat species to travel between the San Diego River MHPA and larger fragments of MHPA to the northwest of the junction of Murphy Canyon Creek and Friars Road. In addition, avian and bat species may use this “stepping stone” habitat to reach larger fragments of MHPA habitat east of the I-15 that ultimately lead to Mission Trails Regional Park and undeveloped areas to the north. Similar to the San Diego River, concentrated development and heavily traveled roads surrounding the Murphy Canyon Creek corridor limit terrestrial species from using this corridor to disperse to adjacent canyons. The importance of Murphy Canyon Creek on a regional scale is less in magnitude than the San Diego River because Murphy Canyon Creek does not directly connect the San Diego River with other open space habitat and essentially dead ends at Aero Drive and I-15.

To summarize, the presence of the San Diego River and Murphy Canyon Creek as a wildlife corridor is expected to benefit primarily small- and medium-sized species despite the density of surrounding development. Various wildlife species are likely to reside in and utilize riparian habitat associated with the San Diego River and Murphy Canyon Creek for normal home range movements (e.g., foraging, natal dispersal, and home range expansion) to survive and reproduce. These include reptiles, amphibians, and small- and medium-sized mammals, including those special-status species with a moderate to high potential to occur as discussed in Sections 4.4 and 4.5. Common medium-sized mammals known or expected to use Murphy Canyon Creek and the San Diego River include raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), and coyote (*Canis latrans*). Mammals with large home range requirements such as mule deer (*Odocoileus hemionus*) or mountain lion (*Puma concolor*) are not expected to use this area due to the narrow width of the corridor and surrounding development.

The San Diego River and Murphy Canyon Creek are located along the Pacific Flyway, a major north/south migration route for birds that travel between North and South America. In southern California, this migratory pathway spans a broad front, and migrating birds are not uniformly distributed across the landscape (Bloom 1985). The San Diego River and Murphy Canyon Creek likely serve as stopover habitat or stepping stone corridors for this broad movement of migrating birds. Individuals stopping over in the BSA may winter, forage, or nest in these riparian areas or continue to migrate through the landscape.

4.2.2 Regulatory Conditions

Several regulations have been established by federal, state, and local agencies to protect and conserve biological resources. The descriptions below provide a brief overview of agency regulations that may or may not be applicable based on determination of Project impacts to the resources that occur within the BSA, and their respective requirements.

4.2.2.1 Federal Regulations

Endangered Species Act

The Federal Endangered Species Act (FESA) provides protections for species endangered or threatened with extinction. FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] Section 17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties. See Section 4.2.2.3 for a discussion of the habitat conservation plan (HCP) that addresses federally endangered and threatened species in the City of San Diego (i.e., the City of San Diego's Multiple Species Conservation Program [MSCP]). Projects that are implemented consistent with *San Diego Municipal Code, Land Development Code, Biology Guidelines* (Biology Guidelines; City of San Diego 2012) would be allowed to "take" listed species with the City of San Diego's authorization and approval.

<u>Clean Water Act</u>

Pursuant to Section 404 of the Clean Water Act (CWA), the USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into jurisdictional waters of the U.S., which include those waters listed in 33 CFR Part 328 (Definitions). USACE, with oversight by the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 Permits.

Pursuant to Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB), Region 9, certifies that any discharge into jurisdictional waters of the U.S. will comply with state water quality standards. RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

<u>Migratory Bird Treaty Act</u>

The federal Migratory Bird Treaty Act (MBTA) prohibits any person unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention…for the protection of migratory birds…or any part, nest, or egg of any such bird" (16 U.S. Code 703). The list of migratory birds protected by the MBTA includes nearly all bird species native to the United States. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under the MBTA to directly kill, or destroy a nest of, nearly any bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA.

Removal of unoccupied nests, or bird mortality resulting indirectly from a project, is not considered a violation of the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) is the primary law protecting eagles, including individuals, and their nests and eggs (16 USC Section 668 et seq.). It defines “take” to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb” (16 USC 668c). “Disturb” is defined by regulation at 50 CFR 22.3 in 2007 as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause,…(1) injury to an eagle, (2) a decrease in productivity…, or (3) nest abandonment…” (USFWS 2009). Under the BGEPA Eagle Permit Rule (50 CFR 22.26), USFWS may issue permits to authorize limited, non-purposeful take of bald eagles and golden eagles.

Executive Order 11988, Floodplain Management

Executive Order (EO) 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. This EO provides an eight-step process that agencies carry out as part of their decision-making process for projects that have potential impacts to or within a floodplain.

Executive Order 11990, Protection of Wetlands

Pursuant to EO 11990, each federal agency is responsible for preparing implementing procedures for carrying out the provisions of the EO. The purpose of this EO is to “minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.” Each agency, to the extent permitted by law, must avoid undertaking or providing assistance for any activity located in wetlands, unless the head of the agency finds that there is no practical alternative to such activity, and the proposed action includes all practical measures to minimize harm to wetlands that may result from such actions. In making this finding, the head of the agency may take into account economic, environmental, and other pertinent factors. Each agency must also provide opportunity for early public review of any plans or proposals for new construction in wetlands.

Executive Order 13112, Invasive Species

EO 13112 requires federal agencies to “prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health effects that invasive species cause." An invasive species is defined by the EO as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Alien species are defined, with respect to a particular ecosystem, as any species (including its seeds, eggs, spores, or other biological material capable of propagating that species) that is not native to that ecosystem.

4.2.2.2 State Regulations

California Fish and Game Code

The California Fish and Game Code (CFGC) regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. Applicable sections of the CFGC are discussed in turn below.

Section 2050 Et Seq. – California Endangered Species Act

This California Endangered Species Act (CESA) (Section 2050 et seq.) prohibits the "take" (defined as "to hunt, pursue, catch, capture, or kill") of state-listed species except as otherwise provided in state law. CESA is administered by California Department of Fish and Wildlife (CDFW) is similar to FESA. State lead agencies are required to consult with CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any state-listed species or result in the degradation of occupied habitat.

Under Section 2081, CDFW authorizes "take" of state-listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in questions, and (4) the applicant ensures suitable funding to implement the measures required by CDFW.

See Section 4.2.2.3 for a discussion of the Natural Community Conservation Plan (NCCP) that addresses state endangered and threatened species in the City of San Diego (i.e., the City of San Diego's Multiple Species Conservation Program [MSCP]). Projects that are implemented consistent with *San Diego Municipal Code, Land Development Code, Biology Guidelines* (Biology Guidelines; City of San Diego 2012) would be allowed to "take" state listed species with the City of San Diego's authorization and approval.

Section 3503 and 3503.5 – Protection of Birds, Nests, and Raptors

CFGC Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. This statute does not provide for the issuance of any type of incidental take permit.

Section 3511, 4700, 5050, and 5515 – Fully Protected Species

Protection of fully protected species is described in CFGC Sections 3511, 4700, 5050, and 5515. These species include certain fish, amphibian and reptile, bird, and mammal species. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take of fully protected species.

Section 3513 – Migratory Birds

This code protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame birds.

Section 1900 Et. Seq. – Native Plant Protection Act

The Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.) includes measures to preserve, protect, and enhance rare and endangered native plant species. Definitions for "rare and endangered" are different from those contained in CESA, although CESA-listed rare and endangered species are included in the list of species protected under the NPPA.

Section 1600 Et. Seq. – Streambed Alteration Agreement

Pursuant to Section 1600 et seq. of the CFGC, CDFW regulates activities of an applicant's project that would substantially alter the flow, bed, channel, or bank of streams or lakes, unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 et seq. as the "bed, channel, or bank of any river, stream,[4] or

[4] Title 14 California Code of Regulations (CCR) 1.72 defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit."[5] However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

In some cases, drainage ditches and retention ponds[6] can be potentially considered under the regulatory administration of CDFW. CDFW provides specific guidance concerning its regulatory administration in California Code of Regulations Title 14 Section 720 (Designation of Waters of Department Interest):

> For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code, which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct, or change the natural flow or bed of any river, stream, or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds, *which may have intermittent flows of water*, are hereby designated for such purpose. (Italics added.)

Porter-Cologne Water Quality Act

Pursuant to Section 13000 et seq. of the California Water Code (the 1969 Porter-Cologne Water Quality Control Act), RWQCB is authorized to regulate any activity that would result in discharges of waste or fill material to waters of the state, including "isolated" waters and wetlands (e.g., vernal pools and seeps). Waters of the state include any surface water or groundwater within the boundaries of the state (California Water Code Section 13050[e]). RWQCB also adopts and implements water quality control plans (basin plans) that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region.

Designated beneficial uses of state waters that may be protected against quality degradation include preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

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[5] This also includes the habitat upon which they depend for continued viability (California Fish and Game Code Division 5, Chapter 1, Section 45, and Division 2, Chapter 1, Section 711.2[a]).

[6] Title 14 CCR 1.56 defines a lake as a feature that "includes lakes or man-made reservoirs."

California Environmental Quality Act

The California Environmental Quality Act of 1970 (CEQA), Public Resources Code 21100 et seq., requires lead agencies to evaluate the environmental impact associated with a proposed project. CEQA requires that a local agency prepare an EIR on any project it proposes to approve that may have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective document that fully discloses the potential environmental effects of a proposed project. The EIR process is specifically designed to objectively evaluate and disclose potentially significant direct, indirect, and cumulative impacts of a proposed project; to identify alternatives that may reduce or eliminate a project's significant effects; and to identify feasible measures that mitigate significant effects of a project. In addition, CEQA requires that an EIR identify those adverse impacts that remain significant after mitigation.

4.2.2.3 Local Regulations

The City of San Diego adopted a Multiple Species Conservation Program (MSCP) Subarea plan in 1997. The goal of the City of San Diego's MSCP was to create a habitat preserve system known as the Multi-Habitat Planning Area (MHPA) in order to coordinate conservation efforts on a regional scale while allowing development projects to occur.

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) was prepared pursuant to the general outline developed by USFWS and CDFW to meet the requirements of the California Natural Communities Conservation Planning Act of 1992. It serves as the Natural Communities Conservation Plan necessary under the Endangered Species Act for the issuance of an Incidental Take Permit for MSCP "covered" species. The MSCP identifies certain species as considered "covered," that is adequately conserved, within the MHPA. The Subarea plan specifies conditions of coverage for each covered species that must be applied when those species occur in a project area.

In addition, through the Biology guidelines in the Land Development Code (City of San Diego 2012), the City regulates development activities according to project location, within or outside of the MHPA. Upon project compliance with the MSCP Subarea plan and the Biology guidelines, the City is able to issue "take" authorization for covered species. Prior to the adoption of the MSCP, this "take" authorization would have required project-by-project review with the regulatory agencies.

Thus, the MSCP provides for the preservation of a network of habitat and open space, protecting biodiversity, and enhancing the region's quality of life. The plan is designed to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. By identifying priority areas for conservation and other areas for future development, the MSCP streamlined permit procedures for development projects that impact habitat. It also provides an economic benefit by reducing constraints on future development and decreasing the costs of compliance with federal and state laws that protect biological resources.

In addition to the City of San Diego's MSCP Subarea Plan, other local planning policy documents include the *City of San Diego Guidelines for Conducting Biology Surveys* (City of San Diego 2002) and the City's Biology Guidelines (City of San Diego 2012), referenced above. Within these guidelines, the City of San Diego established Environmentally Sensitive Land (ESL) regulations to ensure protection of resources consistent with CEQA and the City of San Diego's MSCP. ESLs include lands within the MHPA, wetlands, sensitive vegetation communities, habitat for listed species, lands supporting narrow endemics, and steep slopes. The regulations encourage avoidance and minimization of impacts to ESLs. The City's Biology Guidelines define the survey and impact assessment methodologies and mitigation requirements for unavoidable impacts (City of San Diego 2012).

Sensitive biological resources are defined by the San Diego Municipal Code (City of San Diego 2012) as:

- Lands that have been included in the MHPA as identified in the City of San Diego's MSCP Subarea Plan;
- Wetlands (as defined by the Municipal Code, Section 113.0103);
- Lands outside of the MHPA that contain Tier I habitats, Tier II habitats, Tier IIIA habitats, or Tier IIIB habitats as identified in the Biology Guidelines;
- Lands supporting species or subspecies listed as rare, endangered, or threatened;
- Lands containing habitats with narrow endemic species as listed in the Biology Guidelines; and
- Lands containing habitats of covered species as listed in the Biology Guidelines.

4.2.3 <u>Impact Analysis</u>

This section discusses potential impacts associated with the Project relative to the biological resources. The impact analysis is based on the Project description provided in Chapter 3. The Project is located within the MSCP and has MHPA land adjacent to the south and to the north, on the north side of Friars Road (Figure 4.2-2). The Project proposes construction of facilities outside the River Influence Area of the City of San Diego's San Diego River Master Plan. The River Influence Area is defined as areas within 200 feet of the River Corridor Area (Figure 4.2-1). The River Corridor Area is defined as all areas within 35 feet of FEMA 100-year floodway. No new construction or construction staging would occur within 235 feet of the 100-year floodway for the San Diego River. Therefore, direct impacts are only anticipated to occur within the Project site, excluding the River Influence Area.

The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines).

Reductions or implementation of other recommendations identified in the City of San Diego's San Diego River Park Master Plan are not a part of this Project and consequently are not analyzed in this direct impact analysis. The existing parking would remain in place within the River Influence Area and its current use continued until implementation of the City of San Diego's San Diego River Park Master Plan.

The significance of potential impacts to biological resources is discussed for each issue in the City's Initial Study Checklist (City of San Diego 2011). Biological resources may be either directly or indirectly impacted by activities associated with construction and operation of the Project. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These various types of impacts are defined per the City's CEQA Significance Determination Thresholds guidance document (City of San Diego 2011) below.

> <u>Direct</u>: A direct impact is a physical change in the environment which is caused by and immediately related to the project. Direct impacts are caused by a project and occur at the same time and place as the project.
>
> <u>Indirect</u>: An indirect impact is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct impact in turn causes another physical change in the environment, then the secondary changes is an indirect impact. An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable
>
> <u>Permanent</u>: All impacts that result in the irreversible removal or loss of biological resources are considered permanent.

<u>Temporary</u>: Any impact that will last for only a limited amount of time and is considered to have reversible effects on biological resources can be viewed as temporary. This includes all impacts related to construction activities.

The City's Biology Guidelines require that the impact discussion include an analysis of direct impacts, indirect impacts, and cumulative impacts (City of San Diego 2012). The significance of both direct and indirect impacts is determined based on the City's significance thresholds (City of San Diego 2011).

Direct impacts from the Project would include injury, death, and/or harassment of avian species protected under the MBTA; avian collisions with reflective surfaces on the new stadium; or avian collisions with PV solar panels used in the parking lot. Bat species are not anticipated to be directly impacted by the Project as their preferred roosting habitat occurs throughout the riparian trees within the San Diego River and Murphy Canyon Creek.

Temporary indirect impacts would occur during construction because these indirect impacts would cease when construction is complete. Permanent indirect impacts would occur as a result of operation activities. The extent of indirect impacts varies by species and biological resource. Potential indirect impacts could include the following.

Noise: Elevated ambient noise levels that could result from Project implementation (construction and operation), could impact species that rely on sound to communicate (e.g., birds). Elevated ambient noise levels have potential to disturb species and/or cause direct habitat avoidance. The impact of noise on wildlife differs from species to species, and is dependent on the source of the noise (e.g., vehicle traffic versus blasting) and the decibel level, duration, and timing.

Changes in Hydrology: Changes in hydrology, runoff, and sedimentation resulting from the Project could indirectly impact species dependent on surface water species. Increased runoff into habitat could also result in increased erosion and rates of scouring, which could result in downstream habitat loss for some species. Runoff, sedimentation, and erosion can adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and exotic nonnatives) that would competitively displace the special-status species.

Exotic and Predator Species: The introduction of exotic plant and animal species to Murphy Canyon Creek or the San Diego River would be considered an indirect impact as such species have few natural predators or other ecological controls on their population sizes, and they often thrive in disturbed habitats. Exotic plant species have few natural ecological controls on their population sizes, and they often thrive in disturbed habitats. Exotic plant and wildlife species may aggressively outcompete native species.

Lighting: Artificial night lighting associated with the Project could impact habitat value for some species, particularly for nocturnal species, through potential modification of predation rates, obscuring of lunar cycles, and/or causing direct habitat avoidance. Nighttime lighting could also disturb diurnal species roosting in adjacent habitat.

Fugitive Dust: Fugitive dust generated during Project construction can adversely impact plants by coating the surfaces of the leaves and reducing the rates of metabolic processes, such as photosynthesis and respiration. Suboptimal conditions that stress the processes necessary for normal plant growth would degrade the quality of riparian vegetation communities adjacent to the Project site.

Unauthorized Access: Project construction and operation can provide entrance points to habitats that otherwise would not have been accessible to humans. Disturbance from human activities (i.e., trampling of species from recreational activity) and trash left by human activities can adversely impact species and degrade habitat.

4.2.3.1 City of San Diego Biological Resources Initial Study Checklist Issue 1

Issue 1: Would the project result in a substantial adverse impact on any species identified as a candidate, sensitive, or special-status species in the MSCP or other local or regional plans, policies, or regulations, or by CDFW or USFWS?

<u>Impact Thresholds</u>

The City's Significance Determination Thresholds indicate direct impacts to sensitive species should be considered significant based upon the rarity of the species and extent of impacts. Impacts on state or federally listed species and all narrow endemics should be considered significant. Impacts on certain species covered by the MSCP and other species not covered by the MSCP should be considered significant on a case-by-case basis, taking into consideration all pertinent information regarding distribution, rarity, and the level of habitat conservation afforded by the MSCP. Indirect impacts should be considered significant on a case-by-case basis taking into consideration all pertinent information regarding the species' ecology.

<u>Impact Analysis</u>

Direct Impacts

The Project occurs within urban/developed habitat (i.e., existing stadium facility and parking lot). The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines).

However, ornamental trees to be removed during Project construction have the potential to support nesting avian species including common species protected under the MBTA observed during the field reconnaissance survey (see Appendix C). Therefore, direct impacts to special-status species on the Project site would be limited to avian species protected under the MBTA that may nest in the ornamental trees present within the parking lot. No listed avian species are expected to nest in the ornamental trees present within the parking lot.

The final design of the new stadium may include windows and glass doors and may include use of solar photovoltaic (PV) energy. The PV system would serve the dual purpose of energy efficiency and a parking shade canopy. Up to approximately 5 acres of PV panels are anticipated to be located within the limits of the parking lot in the northwest area of the Project site. The exact location of the panels has not been determined, but the panels would be situated on the portion of the site furthest away from both Murphy Canyon Creek and the San Diego River.

Recent studies have demonstrated that utility-scale solar developments represent a source of fatality for birds (CEC 2013, 2014, Kagan et al. 2014, WEST 2014, Walston et al. 2015). Avian fatalities at PV solar sites may result from direct collision with project structures including PV panels (Walston et al. 2015). Therefore, the Project could result in direct impacts to special-status avian species resulting from collisions with PV panels.

There are relatively few PV solar sites with publicly available data disclosing the post-construction impacts of the solar sites on birds. The most recently available bird fatality data available to the public was associated with three PV solar energy facilities located in California: California Valley Solar Ranch (4,700 acre site), Desert Sunlight (3,900 acre site), and Topaz Solar Farm (3,500 acre site) (WEST 2014, Walston et al. 2015). Passerines have comprised the majority of avian fatalities at these three sites (WEST 2014, Walston et al. 2015). The cause of fatalities is not always clear and it is often unknown if the cause of death is from impact trauma (i.e., collision) (WEST 2014, Walston et al. 2015 Kagan et al. 2014).

Waterbird fatalities have also been recorded at these three large solar energy sites. It has been hypothesized that these species confuse the arrays for bodies of water (the lake effect hypothesis) (WEST 2014, Walston et al. 2015 Kagan et al. 2014). Most evidence of this “lake effect” phenomenon is anecdotal (CEC 2014) and little research exists to explain the actual cause of mortalities. Some studies have shown that glare intensity or reflectivity of PV modules are lower than that of water and similar to asphalt (Dudek 2014), suggesting that bird mortality associated with solar panels is not a result of attraction to reflective surfaces. Waterbirds have represented a large proportion (42%) of mortalities at Desert Sunlight but comprised a small percentage (less than 2%) of the mortalities at California Valley Solar Ranch and Topaz Solar Farm (WEST 2014, Walston et al. 2015). The relatively small proportion of waterbird mortality in comparison to other bird species indicates that perhaps bird mortality associated with solar panels may be explained by something other than the “lake effect.”

Another hypothesis to explain bird mortality in PV facilities proposes that polarized light pollution caused by solar PV panels may alter normal foraging behaviors, navigation, and orientation in birds, leading to potential collisions with panels (Horvath et al. 2009; Horvath et al. 2010). It has been further speculated that the glare and polarized light emitted by solar projects may also attract insects, which, in turn, could attract foraging birds (WEST 2014, Walston et al. 2015).

To date, no empirical research has been conducted to evaluate the lake effect or polarized light hypothesis or the attraction of waterbirds or migrating birds to PV facilities (WEST 2014, Walston et al. 2015). Studies have also not been conducted for small-scale PV solar projects such as the approximately 5 acres proposed for the Project. However, the need for quantitative data pertaining to bird mortality and solar energy is widely recognized. In recent years, the USFWS has developed monitoring methodologies in an effort to collect data that will inform future strategies for implementing solar energy while minimizing bird mortality (USFWS 2011).

Avian collisions and mortality associated with solar PV panels would be considered a significant project impact even though the direct impact from bird strikes could be limited. As demonstrated above, bird fatalities in association with solar PV have been documented primarily at large scale sites (greater than 3,000 acres) located in non-urban areas. Given the urban environment and relatively small acreage proposed (5 acres) for the Project, bird collision and mortality associated with Project-related PV panels are anticipated at a relatively low frequency. Furthermore, impacts to special status birds would be anticipated and would be considered a significant impact. However, PV panels would be situated in the northwest area of the Project site, away from vegetation or habitat familiar and attractive to birds that would result in disorienting reflective images (Cusa et al. 2015, Sheppard 2011).

While the direct Project impacts to avian species from collisions with PV panels may be low in comparison to large scale solar energy facilities, potentially occurring avian species, including special-status species, could collide with PV panels. Not enough data exists, even with data collected using USFWS guidance (2011), to conclude that the impact is not significant. Due to limited data on the causal relationship between avian fatalities and PV solar facilities, no mitigation measures exist to ensure avoidance of this impact. BIO-7 and BIO-8 provide measures that would aim to minimize Project impacts to the extent possible and monitor potential impacts. Without data to support the efficacy of these measures, conclusions made regarding their success would be premature. Thus, impacts to potentially occurring avian species, including special-status species, associated with collisions with PV panels would be considered significant and unmitigated.

Nationwide, millions of birds are killed annually as a result of colliding with buildings (Loss et al. 2014). The numbers of fatalities can vary among species due to population abundance and species behavior (Loss et al. 2014). Buildings covered with a large percentage of windows or glass have an increased risk for avian collisions because birds cannot see the glass or it reflects adjacent habitat and they attempt to fly through (Cusa et al. 2015). Other reflective surfaces (e.g., metals or reflective paint) can have the same effect as glass by reflecting the sky, clouds, or nearby habitat familiar and attractive to birds (Sheppard 2011). Direct impacts to potentially occurring special-status bird species from collisions with the new stadium would be considered significant.

Indirect Impacts

Indirect impacts would occur to special status wildlife and/or plant species inhabiting the riparian vegetation communities in Murphy Canyon Creek and the San Diego River adjacent to the Project. Indirect impacts could include the following:

- *Exotics Species*: Construction activities have the potential to introduce nonnative plants by carrying seeds from outside sources on vehicles, people, and equipment to adjacent habitat potentially occupied by the special status wildlife and/or plant species discussed in Sections 4.2.1.4 and 4.2.1.5. Exotic plant species have few natural ecological controls on their population sizes, and they often thrive in disturbed habitats. Exotic plant species may aggressively outcompete native species and "choke off" habitat constituents essential for the survival of a species. For example, least Bell's vireo nests almost exclusively in native riparian scrub. Introduction of the nonnative giant reed, which can rapidly spread through a riparian area, could prohibit the growth and propagation of riparian scrub species, thereby eliminating essential nesting habitat for least Bell's vireo. Additionally, developed areas can harbor human commensal species, such as ravens, which may increase predation rates of native species. Special status species potentially affected by introduction of exotic species include San Diego sagewort, the MBTA-protected avian species observed or detected during the field reconnaissance survey (see Appendix C), and those special status species with a moderate to high potential to occur within the BSA – white-tailed kite, Cooper's hawk, southwestern willow flycatcher, least Bell's vireo, Clark's marsh wren, western bluebird, yellow warbler, and yellow-breasted chat.

- *Changes in Hydrology:* Grading and other activities associated with construction (e.g., transport of 490,000 cubic yards of fill onto the Project) have the potential to create sedimentation and erosion into adjacent riparian vegetation. Sedimentation and erosion could potentially change the structure of the existing river channel and degrade the quality of adjacent riparian vegetation communities. This would be considered an indirect Project impact. Changes in hydrology, runoff, and sedimentation could indirectly impact surface-water-dependent species. Increased runoff into habitat could also result in increased erosion and rates of scouring, which could result in downstream habitat loss for some species. Runoff, sedimentation, and erosion can adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and exotic nonnatives) that would competitively displace the special-status species. Special status species potentially affected by changes in hydrology (either directly or through habitat modification) include San Diego sagewort, the MBTA-protected avian species observed or detected during the field reconnaissance survey (see Appendix C), and those special status species with a moderate to high potential to occur within the BSA – white-tailed kite, Cooper's hawk, southwestern willow flycatcher, least Bell's vireo, Clark's marsh wren, western bluebird, yellow warbler, and yellow-breasted chat.

- *Fugitive Dust:* Construction fugitive dust can adversely impact plants by coating the surfaces of the leaves and reducing the rates of metabolic processes, such as photosynthesis and respiration, and by degrading the quality of adjacent riparian vegetation communities potentially occupied by the special status species. Special status species potentially affected by fugitive dust (either directly or through habitat modification) include San Diego sagewort, the MBTA-protected avian species observed or detected during the field reconnaissance survey (see Appendix C), and those special status species with a moderate or high potential to occur within the BSA – white-tailed kite, Cooper's hawk, southwestern willow flycatcher, least Bell's vireo, Clark's marsh wren, western bluebird, yellow warbler, and yellow-breasted chat. Indirect impacts to vegetation communities could also result from construction-related airborne dust that could result from the transport of fill dirt for the new stadium construction and during demolition of Qualcomm Stadium.

- *Unauthorized Access:* Unauthorized access outside of the parking lot by construction workers or by people attending events at the new stadium may cause damage through trampling of special status wildlife and/or plant species and their habitat within adjacent vegetation communities. Special status species potentially affected by unauthorized access (either directly or through habitat modification) include San Diego sagewort, the MBTA-protected avian species observed or detected during the field reconnaissance survey (see Appendix C), and those special status species with a moderate to high potential to occur within the BSA – white-tailed kite, Cooper's hawk, southwestern willow flycatcher, least Bell's vireo, Clark's marsh wren, western bluebird, yellow warbler, and yellow-breasted chat.

- *Noise:* Noise may indirectly impact special status avian species through disruption of breeding/nesting activities and hindrance of vocal communication. Potentially affected species include the MBTA-protected avian species observed or detected during the field reconnaissance survey (see Appendix C), and those special status species with a moderate to high potential to occur within the BSA – white-tailed kite, Cooper's hawk, southwestern willow flycatcher, least Bell's vireo, Clark's marsh wren, western bluebird, yellow warbler, and yellow-breasted chat. Noise may also indirectly impact western red bat through disruption of roosting and foraging activities.

  Current noise levels are provided in Table 4.2-2 to establish existing conditions within the BSA (AECOM 2015b). In order to evaluate potential indirect impacts to sensitive species from the Project, predicted construction/operation noise levels are provided in Tables 4.2-3 and 4.2-4 (respectively) for comparison with existing noise levels (AECOM 2015b).

  - *Existing Noise Levels:* Existing noise at the Project site is primarily influenced by noise from vehicle traffic on the roadways adjacent to and in proximity of the Project site and secondarily, from the noise generated by the Stadium event. The predominant traffic noise is from I-15 and I-8 based on average daily traffic volumes, which are provided for the Project roadways in Section 4.10 Mobility (Circulation) of this EIR. Secondary noise sources of the Project site (non-event) are activities at the surrounding industrial, commercial, office, and residential areas, the MTS Trolley system, and aircraft flyover.

    Short-term noise measurements were regularly taken at Murphy Canyon Creek and the San Diego River to determine the existing ambient (non-event) and event noise conditions. Murphy Canyon Creek is narrow with minimal vegetation to buffer the habitat from the constant urban noise caused from freeway traffic (I-15) and Qualcomm Stadium events under existing conditions. Similarly, the San Diego River is subject to constant urban noise because it crosses under the I-15 and is subject to noise from Qualcomm Stadium events as well as the MTS Green Line Trolley that runs adjacent to it on a daily basis.

    Event noise levels at the San Diego River vary between 55 and 67 dBA and existing ambient (non-event) noise levels at the San Diego River vary between 54 to 62 dBA (Table 4.2-2 and Figure 4.2-3). Event noise levels along Murphy Canyon Creek vary between 52 and 75 dBA and ambient (non-event) noise levels along Murphy Canyon Creek range from 70 to 76 dBA (see Table 4.2-2 and Figure 4.2-3). According to the data in Table 7, the ambient (non-event) noise levels at both Murphy Canyon Creek and San Diego River are similar to the noise generated by existing Qualcomm Stadium events

Table 4.2-2
Existing Event Noise Levels at San Diego River and Murphy Canyon Creek

Measurement Location[1]	Qualcomm Stadium (Existing) - Predicted Event Noise Levels (dBA)																
	Professional Football Game		College Football Game		Motorsports (Supercross)		Live Music / Concert		Weekday – No Event			Saturday – No Event			Sunday – No Event		
	With Traffic	Event-Only	With Traffic	Event-Only	With Traffic	Event-Only	With Traffic	Event-Only	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
San Diego River (ST-6)	66	58	65	55	66	58	67	61	62	60	55	58	57	54	59	58	54
Murphy Canyon Creek (MCC)	75	55	75	52	75	55	75	60	76[1]	74[1]	71[1]	75[1]	74[1]	72[1]	74[1]	74[1]	70[1]

1 Locations depicted on Figure 4.2-3
2 An existing noise receptor to measure daily noise levels was not available next to Murphy Canyon Creek. The nearest receptor (LT-1) is on the east side of I-15 (Figure 4.2-3). This receptor along with the estimated noise contours shown in Figure 4.2-3 was used to provide values for the existing noise levels near Murphy Canyon Creek.
Source: AECOM 2015b

Table 4.2-3
Predicted Construction Noise Levels at San Diego River and Murphy Canyon Creek

Measurement Location	Proposed Project – Predicted Construction Noise Levels (dBA)					
	Demolish Old Parking	New Stadium Site Prep	New Stadium Building Construction	New Stadium Building Construction - Pile Driving Only	Old Stadium Demolition (excludes blasting)	New Stadium Parking
San Diego River (ST-6)	66	70	57	53	64	75
Murphy Canyon Creek (MCC)	66	70	66	64	62	93

1 Locations depicted on Figure 4.2-3
Source: AECOM 2015b

Table 4.2-4
Predicted Event Noise Levels at San Diego River and Murphy Canyon Creek

Measurement Location	Proposed Project - Predicted Event Noise Levels (dBA)							
	Professional Football Game		College Football Game		Motorsports (Supercross)		Live Music / Concert	
	With Traffic	Event-Only	With Traffic	Event-Only	With Traffic	Event-Only	With Traffic	Event-Only
San Diego River	65	52	65	49	65	53	66	59
Murphy Canyon Creek	75	60	75	57	76	60	76	63

1 Locations depicted on Figure 4.2-3
Source: AECOM 2015b

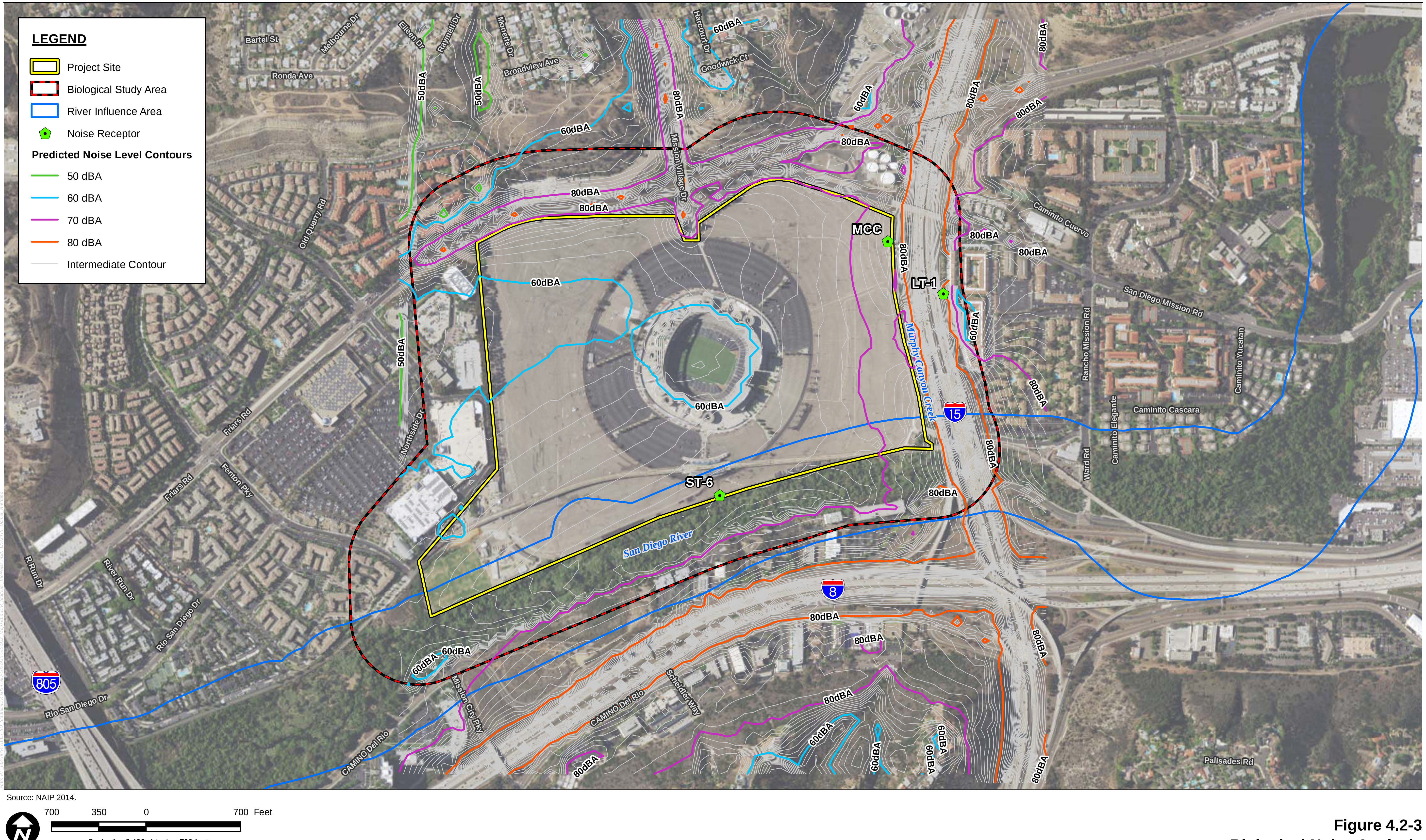

Figure 4.2-3
Biological Noise Analysis

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- *Predicted Construction Noise Levels:* Stadium reconstruction would result in noise from pumps, generators, and compressors, or a variable noise operation, such as pile drivers, rock drills, and pavement breakers. Site preparation involves demolition, grading, compacting, and excavating, which would include the use of backhoes, bulldozers, loaders, excavation equipment (e.g., graders and scrapers), pile drivers, and compaction equipment. Finishing activities may include the use of pneumatic hand tools, scrapers, concrete trucks, vibrators, and haul trucks. Demolition would result in noise from explosion and implosion of Qualcomm Stadium.

  Noise associated with pile driving and blasting activities at the new stadium footprint would result in noise levels of 64 dBA and 53 dBA at Murphy Canyon Creek and the San Diego River, respectively. This could potentially result in an indirect impact to potentially occurring sensitive avian species. However, as shown in Tables 4.2-2 and 4.2-3, the existing ambient noise level at Murphy Canyon Creek reaches 76 dBA which exceeds the 64 dBA projected from pile driving. Existing ambient noise at the San Diego River reaches 67 dBA and which exceeds projected 53 dBA from pile driving) (Tables 4.2-2 and 4.2-3). This comparison of existing and projected noise data indicates that indirect noise impacts on sensitive species potentially occurring in Murphy Canyon Creek or the San Diego River would not be directly attributed to pile driving and blasting associated with the proposed Project. Therefore, no indirect impacts from Project-related pile driving and blasting are less than significant.

  Parking lot improvements include use of saw cutters and scrapers that can generate noise levels as high as 93 dBA L_{eq} at 50 feet. Parking lot improvements are anticipated to occur directly adjacent to Murphy Canyon Creek outside of the San Diego River Influence Area. As shown in Table 4.2-3, parking lot improvements 235 feet away from the San Diego River would generate noise levels as high as 75 dBA. This exceeds maximum noise measured at the San Diego River during current stadium events (67 dBA) (Table 4.2-2). As shown in Table 4.2-3, parking lot improvements directly adjacent to Murphy Canyon Creek would generate noise levels as high as 93 dBA. This also exceeds the existing stadium noise levels that currently reach a maximum of 76 dBA on weekdays with no special events (Table 4.2-2). This comparison of existing and projected noise from Project-related parking improvements indicate that proposed improvements would result in indirect impacts to the natural environment and associated sensitive species potentially occurring in Murphy Canyon Creek and the San Diego River.

- *Predicted Operation Noise Levels:* No indirect noise impacts to potentially occurring sensitive species associated with the San Diego River are anticipated from Project operation. As shown in Tables 4.2-2 and 4.2-4, projected operational noise measured along the San Diego River would be similar to operational noise currently measured for Qualcomm Stadium. Events at the existing stadium generate noise levels between 55 and 67 dBA (Table 4.2-2). Existing ambient (non-event) noise levels at the San Diego River measure between 54 and 62 dBA (Table 4.2-2). For the Project, event noise is projected between 49 and 66 dBA (Tables 4.2-2 and 4.2-4), that is less than or within the range of existing noise levels. Thus, these data indicate that indirect Project-related operational noise impacts to the San Diego River and associated sensitive species would be less than significant.

  Similarly, Project operation is not expected to result in indirect impacts to potentially occurring sensitive species in Murphy Canyon Creek. Projected event noise levels along the northern portion of Murphy Canyon Creek would be elevated from existing conditions due to the proximity of the planned facility to the creek. However this project increase in event noise is not significant because existing ambient noise at MCC is relatively high. Currently, event noise from Qualcomm Stadium reaches between 52 and 75 dBA. Existing ambient (non-event) noise levels at Murphy Canyon Creek are between 70 and 76 dBA (Table 4.2-2). Event noise at Murphy Canyon Creek between 57 and 76 dBA is projected for the new stadium (Tables 4.2-2 and 4.2-4). These data indicate that projected noise levels at Murphy Canyon Creek generated from Project operation will remain within the current range of operational and ambient noise. Thus, noise from Project operation is expected to have a less than significant indirect impact on adjacent habitats and potentially occurring sensitive species in Murphy Canyon Creek.

  As described in Chapter 3, the number of stadium events would increase from 200 events per year to approximately 252 events per year after Project completion. This increase in the number of events could potentially increase noise indirect effects to nesting birds in the San Diego River and Murphy Canyon Creek by number of exposures as compared to existing conditions. Potential impacts include additional noise from traffic in the parking lot near the San Diego River and Murphy Canyon Creek; however, these areas are currently used for parking during events at Qualcomm Stadium. The noise levels from traffic at each extra event would not be louder than any single event noted in Table 4.2-2. Therefore, despite a cumulative increase in events, no single event would exceed the ambient levels noted in Table 4.2-2; noise impacts from 50 additional events per year would be less than significant.

As described above, noise levels from Project operation are expected to be similar to the existing conditions; however, noise levels from Project construction(i.e., parking lot improvements) are expected to be higher than the existing conditions at both Murphy Canyon Creek (17 dBA increase) and the San Diego River (8 dBA increase). Impacts to noise-sensitive species are anticipated to be less than significant through implementation of BIO-17 through BIO-19, as described in Section 4.2.4.

- *Lighting:* Artificial night lighting could disturb special status avian and bat species nesting and/or roosting in adjacent habitat. Lighting could affect the habitat value by modifying predation rates, obscuring lunar cycles, and/or causing direct habitat avoidance. Special status bat and/or avian species potentially affected by light include the MBTA-protected avian species observed or detected during the field reconnaissance survey (see Appendix C), and those special status species with a moderate to high potential to occur within the BSA – white-tailed kite, Cooper's hawk, southwestern willow flycatcher, least Bell's vireo, Clark's marsh wren, western bluebird, yellow warbler, yellow-breasted chat, and western red bat. Existing light levels are described below based to establish existing conditions within the BSA. The lighting discussion is based on the Section 4.15 of this EIR. Predicted construction/operation light levels are also provided for comparison with existing light levels to determine if the potential indirect impacts will result from the Project.
    - *Existing Light Levels:* The Project site is adjacent to a highly urbanized area and lighting from the Friars Road, I-8, I-15, MTS Green Line Trolley, Qualcomm Stadium parking lot, and other urban structures currently influence Murphy Canyon Creek and the San Diego River. Special status bat and/or avian species inhabiting the adjacent riparian habitat have been exposed to existing light levels at the Project site since Qualcomm Stadium was opened in 1967.
    - *Predicted Construction Light Levels* Construction/demolition hours of operation would be from 7:00 a.m. to 5:00 p.m. Monday through Saturday. Therefore, no nighttime lighting would be required during construction except for security purposes. Security lighting would be shielded away from riparian areas.
    - *Predicted Operation Light Levels:* Operation of the new stadium would require event lighting (including interior lighting) and exterior stadium lighting (i.e., building perimeter lighting and parking lot lighting), as well as interior emergency lighting. Event lighting would consist of outdoor metal LED or similar energy-efficient luminaire floodlights with internal reflector systems to control light spill and glare. Proposed interior stadium lighting has little to no effect on the

illuminance levels in the parking lot (Appendix N) and therefore, is expected to have no impact on adjacent habitats.

Exterior lighting associated with the new stadium would be designed to provide clear, safe pedestrian paths around the stadium. Existing parking lot lighting would be upgraded to more energy-efficient lights. Project-related exterior lighting would increase the ambient lighting of the nighttime sky during stadium events and would be considered an indirect Project impact that could affect potentially occurring sensitive species associated with Murphy Canyon Creek and the San Diego River. This impact would be less than significant upon implementation of lighting design measures described as BIO-4 in Section 4.2.4.

As described in Chapter 3, Project Description, the number of stadium events would increase from 200 events per year to approximately 252 events per year after Project completion (see Table 3-4). This increase in the number of events could result in indirect impacts by potentially disruptive to nesting avian species in the San Diego River and Murphy Canyon Creek by increasing the number of lighting exposures as compared to existing conditions.

These additional events would be spread throughout the year and not all of them would occur during the nesting season. New parking lights would be shielded and directed away from the riparian areas in the Murphy Canyon Creek in order to reduce light spillage from the adjacent parking lot. New lighting would not be placed within 235 feet of the San Diego River. Furthermore, many of the additional events, such as car or RV sales, would occur in the daytime. Thus, light impacts from the additional events per year would be less than significant.

As described above, light levels from Project construction are expected to be similar to the existing conditions; however, light levels during Project operation have the potential to increase ambient nighttime lighting. Impacts from an increase in ambient nighttime lighting are anticipated to be less than significant through implementation of BIO-4, as described in Section 4.2.4.

Significance of Impact

Potential construction-related direct impacts to special-status avian and bat species would be less than significant through implementation of BIO-1, BIO-9 through BIO-13, BIO-18 and BIO 19 described in Section 4.2.4. Operation-related impacts from collisions with the new stadium and associated PV panels could occur to special-status avian species and avian species protected under the MBTA. These direct impacts would be considered significant. Implementation of design measure BIO-6 through BIO-8 could minimize the impacts, but not to a level below significant.

In summary, the biological resources associated with the San Diego River and Murphy Canyon Creek are currently subject to edge effects from the operation of the existing stadium. Project compliance with the Land Use Adjacency Guidelines presented as mitigation in BIO-1 through BIO-5, BIO-9 through BIO-12, and BIO-13 through BIO-19 would avoid or minimize these edge effects. Thus, indirect impacts to sensitive species potentially occurring in the Project area from exotic species introduction, changes in hydrology, unauthorized access resulting from Project construction or operation would be less than significant. Project-related indirect impacts to special status species from noise and lighting also would be less than significant through implementation of measures BIO-4 and BIO-17 through BIO-19. Measures are discussed in detail in Section 4.2.4.

4.2.3.2 City of San Diego Biological Resources Initial Study Checklist Issue 2

Issue 2: Would the project result in a substantial adverse impact on any Tier I, Tier II, Tier IIIA, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

<u>Impact Thresholds</u>

The City’s Significance Determination Thresholds indicate Tier I, II, IIIA, and IIIB upland habitats and all wetland habitats are considered sensitive and declining upland habitats and direct impacts to these resources should be considered significant. Total upland (Tiers I–IIIB) impacts of 0.1 acre or greater and wetland (including riparian) impacts of 0.01 acre or greater should be considered significant. However, total upland (Tiers I - IIIB) and wetland impacts less than 0.1 acre are not considered significant. Additionally, impacts to nonnative grasslands (Tier IIIB) that are completely surrounded by existing urban development and totaling less than 1.0 acre are not considered significant. Indirect impacts should be considered significant on a case-by-case basis taking into consideration all pertinent information regarding vegetation requirements.

<u>Impact Analysis</u>

Direct Impacts

The Project occurs within urban/developed habitat (i.e., existing stadium facility and parking lot). The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines). Therefore, no direct impacts are expected to occur to Tier I, II, IIIA, and IIIB upland habitats or wetland habitats.

Indirect Impacts

Indirect impacts to riparian vegetation communities in Murphy Canyon Creek and the San Diego River adjacent to the site could include the following:

- *Exotics Species*: Construction activities have the potential to introduce nonnative plants to adjacent habitat by carrying seeds from outside sources on vehicles, people, and equipment. Exotic plant species have few natural ecological controls on their population sizes, and they often thrive in disturbed areas. Exotic plant species may aggressively outcompete native species and degrade the quality of a vegetation community by replacing the native habitat. For example, introduction of nonnative species with rapid propagation rates such as giant reed and castor bean into the San Diego River or Murphy Canyon Creek could be detrimental in that the species would "choke off" the native riparian scrub.

- *Changes in hydrology:* Grading and other activities associated with construction (e.g., transport of 490,000 cubic yards of fill onto the Project) have the potential to create sedimentation and erosion into adjacent riparian vegetation. Sedimentation and erosion could potentially change the structure of the existing river channel and degrade the quality of adjacent riparian vegetation communities. This would be considered an indirect Project impact.

  In addition, stormwater contaminant runoff during Project construction and operation could potentially carry a variety of pollutants into the riparian vegetation within the San Diego River. This would also be considered a potential indirect project impact. This impact would be minimized however as a result of Project design features and construction minimization measures including BMPs and a SWPPP. Thus, stormwater runoff and pollutant load contributions to the San Diego River would be reduced (see Section 4.8.4).

- *Fugitive Dust:* Construction fugitive dust can adversely impact plants by reducing the rates of metabolic processes such as photosynthesis and respiration degrade the quality of adjacent riparian vegetation communities. Indirect impacts to vegetation communities could also result from construction-related airborne dust that could result from the transport of fill dirt for the new stadium construction and during demolition of Qualcomm Stadium.

- *Unauthorized Access:* Unauthorized access outside of the parking lot by construction workers or by people attending events at the new stadium may cause damage through trampling of plant species within adjacent vegetation communities.

Significance of Impact

No direct impacts are expected to occur to Tier I, II, IIIA, and IIIB upland habitats or wetland habitats.

Currently, the operation of the existing stadium results in edge effects such as the introduction of exotic species, changes in hydrology, and unauthorized access to adjacent natural areas. The project will require implementation of the MSCP Land Use Adjacency guidelines provided as BIO-1 through BIO-3, BIO-5, BIO-9 through BIO-12, and BIO-14 through BIO-16 in Section 4.2.4. Compliance with these guidelines will ensure that indirect impacts to riparian vegetation communities from the Project would be less than significant.

4.2.3.3 City of San Diego Biological Resources Initial Study Checklist Issue 3

Issue 3: Would the project result in a substantial adverse impact on wetlands through direct removal, filling, hydrological interruption, or other means?

Impact Thresholds

The City's Significance Determination Thresholds indicate all wetlands are considered sensitive and declining habitats and direct impacts to these resources should be considered significant. Total wetland impacts of 0.01 acre or greater are considered significant. Indirect impacts should be considered significant on a case-by-case basis taking into consideration all pertinent information regarding wetland ecosystems.

Impact Analysis

Direct Impacts

The Project occurs within urban/developed habitat (i.e., existing stadium facility and parking lot). The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines). Therefore, no significant direct impacts would occur to jurisdictional waters and wetlands in Murphy Canyon Creek and the San Diego River adjacent to the Project. If these features were to be directly impacted a formal delineation would need to be prepared to determine the limits of jurisdiction and applicable permits/certifications obtained from the appropriate agencies (e.g., Clean Water Act [CWA] Section 401 Water Quality Certification, CWA Section 404 Permit, Fish and Game Code Section 1600 Streambed Alteration Agreement, and a mitigation program in compliance with the City's Biology Guidelines) prior to Project construction.

Indirect Impacts

As described in Section 4.2.3.2 for Vegetation Communities and Cover Types, jurisdictional waters and wetlands in Murphy Canyon Creek and the San Diego River are subject to edge effects associated with the operation of Qualcomm Stadium. Potential indirect impacts to jurisdictional resources could include the following:

- *Exotics Species*: Construction activities have the potential to introduce nonnative plants to adjacent jurisdictional waters and wetlands by carrying seeds from outside sources on vehicles, people, and equipment.
- *Changes in Hydrology:* Grading and other activities associated with construction have the potential to create sedimentation and erosion into adjacent jurisdictional resources. Sedimentation and erosion could potentially change the structure of the existing river channel and degrade the quality of adjacent jurisdictional waters and wetlands. Currently, the majority of site runoff is conveyed to three outlets that discharge directly to the San Diego River (see Section 4.8.1). During moderate storm events water overtops the berm between Murphy Canyon Creek and the Stadium parking lot and floods the existing parking area. The resulting sheet flow empties directly into the San Diego River. Stormwater contaminant runoff during construction and operation has the potential to carry a variety of pollutants into the riparian vegetation within the San Diego River; however, stormwater runoff would be reduced from current levels as a result of Project design features and construction minimization measures, which would decrease pollutant load contributions to the San Diego River (see Section 4.8.4).

  As noted in Section 4.8.3, Hydrology and Water Quality Impact Analysis, the Murphy Canyon Creek drainage along the Project site's eastern boundary causes site flooding and sheet flow) during storms above the 10-year recurrence interval (AECOM 2015a). Flooding is also anticipated from the 100-year floodplain of Murphy Canyon Creek to the north. Therefore, the Project would require protective measures to mitigate on-site flooding from the Murphy Canyon Creek overflow and floodplain. Flood protection measures (yet to be designed) would occur within the Project site boundary and would not disturb Murphy Canyon Creek. Regardless of the Project final design, the Project would continue to allow water to overtop the western berm along Murphy Canyon Creek.

This would ensure the flow rate of water within Murphy Canyon Creek remains unchanged thereby avoiding erosion and disturbance of existing vegetation. The protection measures (yet to be designed) would direct the flooding water around the stadium where the water would flow out onto the southeast corner of the parking lot as it currently does during heavy or moderate storm events. This water would be captured by the existing inlets and conveyed via the underground storm drain system. Therefore, the Project would not result in indirect impacts to the existing hydrology of Murphy Canyon Creek or the San Diego River.

- *Fugitive Dust:* Construction fugitive dust can adversely impact plants by reducing the rates of metabolic processes such as photosynthesis and respiration degrade the quality of adjacent jurisdictional waters and wetlands. Airborne dust may result while bringing in fill dirt for the Stadium Reconstruction and during demolition of the existing Qualcomm Stadium.

- *Unauthorized Access:* Unauthorized access outside of the parking lot by construction workers or by people attending events at the new stadium may cause damage through trampling of plant species within adjacent jurisdictional waters and wetlands.

Significance of Impact

No direct impacts are expected to occur to jurisdictional waters and wetlands in Murphy Canyon Creek and the San Diego River adjacent to the Project.

Because jurisdictional resources associated with Murphy Canyon Creek and the San Diego River are currently subject to the introduction of exotic species, changes in hydrology, and unauthorized access, no new indirect impacts are anticipated as a result of the Project. Upon implementation of BIO-1 through BIO-3, BIO-5, BIO-9 through BIO-12, and BIO-14 through BIO-16 described in Section 4.2.4 indirect impacts to jurisdictional resources would be less than significant.

4.2.3.4 City of San Diego Biological Resources Initial Study Checklist Issue 4

Issue 4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?

Impact Thresholds

The City's Significance Determination Thresholds do not directly address significance thresholds for impacts to corridors, therefore, direct and indirect impacts should be considered significant on a case-by-case basis taking into consideration all pertinent information regarding the species' movement ecology.

Impact Analysis

Direct Impacts

The Project occurs within urban/developed habitat (i.e., existing stadium facility and parking lot). The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines). Therefore, no significant direct impacts are expected to occur to wildlife corridors.

Indirect Impacts

As described in Section 4.2.1.6, the San Diego River is identified as a regional habitat linkage in the County of San Diego MSCP (County of San Diego 1998) and in the Missing Linkages report by South Coast Wildlands (Penrod et al. 2001). The San Diego River provides a regional corridor between Mission Trails Regional Park and Mission Bay Park. Concentrated development and heavily traveled roads surrounding the San Diego River corridor limit terrestrial species from using this corridor to disperse to adjacent canyons. However, this regional corridor is known to support common medium-sized mammals such as raccoon, opossum, and coyote, as well as avian or bat species that are capable of flying over barriers to adjacent habitat.

Murphy Canyon Creek functions primarily as "stepping stone" for avian and bat species to travel between the San Diego River MHPA and larger fragments of MHPA to the northwest of the junction of Murphy Canyon Creek and Friars Road. In addition, avian and bat species may use this "stepping stone" habitat to reach larger fragments of MHPA habitat east of the I-15 that ultimately lead to Mission Trails Regional Park and undeveloped areas to the north.

Indirect impacts to wildlife movement from Project construction and operation would be similar to indirect impacts described in Section 4.2 for special-status species and vegetation communities. Indirect impacts from construction and operation that have the potential to degrade the quality of vegetation and sensitive species habitat would also discourage the use of these same habitats for wildlife movement including, but not limited to, the use of the San Diego River and Murphy Canyon Creek for avian migration.

Significance of Impact

No direct impacts are expected to occur to wildlife corridors.

Indirect impacts to wildlife movement from exotic species introduction, changes in hydrology, unauthorized access, noise, and lighting currently result as edge effects associated with the operation of Qualcomm Stadium. Potential construction and operation-related indirect impacts to wildlife movement would be less than significant upon implementation of mitigation measures BIO-1 through BIO-5, BIO-9 through BIO-12, and BIO-13 through BIO-17 as described in Section 4.2.4.

4.2.3.5 City of San Diego Biological Resources Initial Study Checklist Issue 5, 6, and 7

Issue 5: Would the project conflict with the provisions of an adopted HCP, NCCP, other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region?

Issue 6: Would the project introduce a land use within an area adjacent to an MHPA that would result in adverse edge effects?

Issue 7: Would the project conflict with any local policies or ordinances protecting biological resources?

Impact Thresholds

Any encroachment into the MHPA should be a significant impact, and introducing land use within an area adjacent to the MHPA that would result in adverse edge effects should also be a significant impact.

Impact Analysis

Direct Impacts

The Project would comply with all approved local, regional, state, and federal regulations, policies, ordinances, and finalized HCP/NCCP conservation plans. The Project occurs within urban/developed habitat (i.e., existing stadium facility and parking lot). The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines). The Project is not located within the

MHPA but is adjacent to the MHPA associated with the San Diego River. Therefore, no significant direct impacts are expected to occur within the MHPA.

Indirect Impacts

Because the MHPA is located adjacent to but outside of the Project, the Project must comply with MHPA Land Use Adjacency Guidelines in Section 1.4.3 of the City of San Diego's MSCP Subarea Plan (City of San Diego 1997a). Each Adjacency Guideline is included below and followed by a project-specific analysis.

<u>Drainage</u>

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g., clay compounds) when necessary and appropriate.*"

The existing conditions of Qualcomm Stadium cause stormwater to drain directly into the MHPA south of the Project (i.e., San Diego River). The Project would not eliminate drainage into the MHPA, but, as stated in design measure BIO-2, it shall treat and reduce overall output into the San Diego River as follows: the inner stadium reconstruction footprint and outside perimeter pedestrian areas shall be self-retaining (e.g., porous paving, bioretention planters/tree pits, interspersed parking island landscapes, site edge treatments, etc.) to capture the rainfall volume associated with the 85th percentile storm per City and state requirements. Additionally, stormwater harvesting and reuse BMPs shall be incorporated into the Project design to capture and store stormwater runoff for later use. Thus, the Project will reduce run off into the MHPA and reduce the level of toxins currently released into the San Diego River. Implementation of BMPs and preparation and compliance with a SWPPP will ensure that sediment and water sources of nonnative seed will be captured or directed away from the MHPA or generally minimized to the extent practicable. Potential construction- and operation-related indirect impacts associated with drainage into the San Diego River would be less than significant through implementation of design measures BIO-1 through BIO-3, and construction measure BIO-15, described in Section 4.2.4.

Toxics

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal.*"

As described above for drainage, the Project will result in unavoidable drainage into the MHPA. However, stormwater BMPs would be implemented that would decrease the pollutant load contributions to the San Diego River MHPA, to the extent feasible. In particular, BIO-11 requires the preparation of a SWPPP according to RWQCB standards. The Project would comply with the guidelines established by that document thereby ensuring that water quality would be maintained at a level not considered potentially toxic or impactful to wildlife, sensitive species or habitat. Potential construction- and operation-related indirect impacts associated with toxics entering adjacent MHPAs would be less than significant upon implementation of design measures BIO-1 through BIO-3 and construction measure BIO-15, described in Section 4.2.4.

Lighting

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.*"

Any new lighting would be consistent with the MHPA Adjacency Guidelines. Potential construction- and operation-related indirect impacts associated with lighting in adjacent MHPAs would be less than significant through implementation of design measure BIO-4 described in Section 4.2.4.

Noise

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may* *introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year."*

The MHPA to the south (i.e., San Diego River) is currently exposed to high noise levels by existing noise sources as discussed in Section 4.1.3. As discussed in Section 4.11 of this EIR, the MHPA to the north (refer to noise receptor LT-2 in 4.11) is also currently impacted by existing noise, including traffic from Friars Road and Mission Village Drive, and Qualcomm Stadium. Noise from operation of the new stadium would be similar to existing ambient noise levels; however, noise from construction (specifically parking lot improvements) would be higher than existing noise levels. Increases in ambient noise levels in the MHPA areas would adversely affect species, in particular birds, which rely on sound to communicate. Potential construction-related indirect impacts associated with noise in the adjacent MHPA would be less than significant with implementation of Mitigation Measures BIO-17 through BIO-19.

<u>Barriers</u>

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation."*

Friars Road provides a barrier between the Project and the MHPA to the north of the Project. The MHPA area to the south of the Project is already protected with a chain link fence that precludes people from accessing the San Diego River MHPA. Additionally, the San Diego River MHPA to the south of the Project would be 235 feet from Project activities. Potential construction- and operation-related indirect impacts associated with unauthorized trespass into the adjacent MHPA would be less than significant.

<u>Invasives</u>

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*No invasive non-native plant species shall be introduced into areas adjacent to the MHPA."*

As described in Section 4.2.4, BIO-15 minimizes the introduction of toxins into the MHPA through implementation of BMPs and preparation and compliance with a SWPPP to ensure that sediment and water sources of nonnative seed would be captured or directed away from the MHPA or generally minimized to the extent practicable. Per design measure BIO-5, landscaping shall include California native species and shall not include plants considered invasive by the Cal-IPC (Cal-IPC 2006). No other measures are proposed since the site is currently developed and any soil brought to the site will be covered with concrete.

Brush Management

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size than is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party.*"

Brush management is not required for the Project because Project improvements would be entirely within a developed area surrounded by a paved parking lot. Therefore, this guideline is not applicable.

Grading/Land Development

The City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) states: "*Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.*"

In accordance with design measure BIO-1, manufactured slopes associated with site development shall be included within the development footprint. Potential construction-related grading will not affect the MHPA.

Significance of Impact

The Project would comply with all approved local, regional, state, and federal regulations, policies, ordinances, and finalized HCP/NCCP conservation plans. No direct impact would occur to the MHPA. The indirect impacts associated drainage, toxics, lighting, noise, barriers, and invasives, brush management, and grading/land development have potential to indirectly impact adjacent MHPAs. Potential construction- and operation-related indirect impacts to the MHPA within the San Diego River would be less than significant through implementation BIO-1 through BIO-5, and BIO-9 through BIO-19 described in Section 4.2.4.

4.2.3.6 City of San Diego Biological Resources Initial Study Checklist Issue 8

Issue 8: Would the project introduce invasive species of plants into a natural open space area?

Impact Thresholds

A significant impact would occur if invasive species of plants are introduced into a natural open space area.

Impact Analysis

Direct Impacts

The permanent and temporary direct impact area occurs entirely within urban/developed habitat (i.e., existing stadium facility and parking lot).

Indirect Impacts

Construction activities have the potential to introduce nonnative plants to adjacent habitat by carrying seeds from outside sources on vehicles, people, and equipment.

Significance of Impact

As described in Section 4.2.4, BIO-15 minimizes the introduction of toxins into the MHPA through implementation of BMPs and preparation and compliance with a SWPPP to ensure that sediment and water sources of nonnative seed would be captured or directed away from the MHPA or generally minimized to the extent practicable. Per design measure BIO-5, landscaping shall include California native species and shall not include plants considered invasive by the Cal-IPC (Cal-IPC 2006). No other measures are proposed since the site is currently developed and any soil brought to the site will be covered with concrete.

4.2.4 Mitigation, Monitoring and Reporting

This section identifies mitigation measures that shall be implemented as part of the Project to prevent degradation of sensitive biological resources to the maximum extent feasible. Design and construction measures are provided separately in this section. Design measures are consistent with MHPA Land Use Adjacency Guidelines in Section 1.4.3 of the City of San Diego's MSCP Subarea Plan (City of San Diego 1997a) to address operation indirect impacts from drainage, toxins, lighting, noise, unauthorized trespass, invasive plant species, brush management, and grading discussed in Section 4.2.3.

With the exception of operation-related impacts from avian collisions, no significant Project impacts are anticipated to occur upon implementation of these mitigation measures. Operation-related impacts from avian collisions with the new stadium or PV facilities that could occur to special-status avian species and avian species protected under the MBTA would remain significant and unmitigated. Table 4.2-5 summarizes applicable mitigation measures relative to each significance criterion.

Table 4.2-5
Summary of Impacts and Applicable Mitigation Measures

Significance Criterion and Impact Type	Applicable Measures	Significance after Mitigations
1. A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in the MSCP or other local or regional plans, policies, or regulations, or by CDFW or USFWS.		
Direct Impacts	BIO-1, BIO-6 through BIO-13, and BIO-18	Operation-related impacts from avian collisions significant and unavoidable
Indirect Impacts	BIO-1 through BIO-5 and BIO-9 through BIO-19	Less than Significant
2. A substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Code or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.		
Direct Impacts	Not applicable (no impacts)	Less than Significant
Indirect Impacts	BIO-1 through BIO-3, BIO-5, BIO-9 through BIO-12, and BIO-14 through BIO-16	Less than Significant
3. A substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means.		
Direct Impacts	Not applicable (no impacts)	Less than Significant
Indirect Impacts	BIO-1 through BIO-3, BIO-5, BIO-9 through BIO-12, and BIO-14 through BIO-16	Less than Significant
4. Interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites.		
Direct Impacts	Not applicable (no impacts)	Less than Significant
Indirect Impacts	BIO-1 through BIO-5 and BIO-9 through BIO-17	Less than Significant
5. A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region. *6. Introducing land use within an area adjacent to the MHPA that would result in adverse edge effects.* *7. A conflict with any local policies or ordinances protecting biological resources.*		
Direct Impacts	Not applicable (no impacts)	Less than Significant
Indirect Impacts	BIO-1 through BIO-5 and BIO-9 through BIO-19	Less than Significant
8. An introduction of invasive species of plants into a natural open space area.		
Direct Impacts	Not applicable (no impacts)	Less than Significant
Indirect Impacts	BIO-5 and BIO-15	Less than Significant

4.2.4.1 Design Measures

BIO-1 *Grading/Land Development/MHPA Boundaries* – MHPA boundaries on adjacent properties shall be delineated on the Construction Documents. The City's Development Services Department (DSD) Planning and/or MSCP staff shall ensure that all grading is included within the Project footprint, specifically manufactured slopes, disturbance, and development adjacent to the MHPA. All manufactured slopes associated with site development shall be included within the development footprint.

BIO-2 *Drainage* – Measures incorporated into the Project design shall minimize the release of toxins, chemicals, petroleum products, and exotic plant materials from developed and paved areas as set forth in this measure. The existing conditions of Qualcomm Stadium cause stormwater to drain directly into the MHPA (i.e., San Diego River). The Project would not eliminate drainage into the MHPA, but it would treat and reduce overall output into the San Diego River as follows: the inner new stadium footprint and outside perimeter pedestrian areas shall be self-retaining (e.g., porous paving, bioretention planters/tree pits, interspersed parking island landscapes, site edge treatments, etc.) to capture the rainfall volume associated with the 85th percentile storm per City and state requirements. Additionally, stormwater harvesting and reuse BMPs shall be incorporated into the Project design to capture and store stormwater runoff for later use. Stormwater runoff shall be reduced from current levels, which would decrease pollutant load contributions to the San Diego River.

BIO-3 *Toxics/Project Staging Areas/Equipment Storage* – The Project shall be designed to achieve LEED Gold certification from the U.S. Green Building Council, which requires that a project incorporate specific measures to reduce impacts caused by the application and/or drainage of chemicals or generated by-products such as pesticides, herbicides, and other substances that are potentially toxic or impactful to native habitats/flora/fauna (including water) into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits.

BIO-4 *Lighting* - Lighting of all developed areas adjacent to the MHPA shall be shielded, unidirectional, and directed away from the MHPA and subject to the City's Outdoor Lighting Regulations per Land Development Code Section 142.0740. The Project shall utilize low-reflective glass materials and vary the fenestration to break up large expanses of light-colored materials and shall implement stadium floodlight good practices to prevent over-lighting and focus light on the new stadium field (AECOM 2015d). Additionally, nighttime lighting shall include design features to minimize impacts to birds and bats such as shielded lights (to reduce ambient light into nearby native habitats), use of motion detectors and other automatic controls, and lighting design that uses shields to prevent light from shining upward into the sky (Sheppard 2011).

BIO-5 *Invasive Plant Species* - Invasive nonnative plant species shall not be introduced into areas adjacent to the MHPA. Project landscaping shall not include plants considered invasive by the Cal-IPC (Cal-IPC 2006). Implementation of BMPs and preparation and compliance with a SWPPP will ensure that sediment and water sources of nonnative seed will be captured or directed away from the MHPA or generally minimized to the extent practicable.

BIO-6 *Building Design* – The Project design shall consider features that reduce bird collisions with buildings. Design features that shall be considered to reduce bird collisions such as the following: transparent passageways, corners, atria, or courtyards so that birds do not get trapped; appropriately shielded outside lighting that is directed away from native habitats to minimize attraction to light-migrating songbirds; interior lighting that is turned off at night or designed to minimize light escaping through windows; and landscaping designed to keep birds away from the building's façade. Use of non-reflective or opaque glass; external shades (or other devices to reduce glare, transparency, or reflectiveness) on windows; ultraviolet patterned glass; angled glass; and/or louvers can aid in reducing bird collisions (Sheppard 2011).

BIO-7 *Photovoltaic Solar Design* – PV panels shall be situated in the northwest area of the Project site, away from vegetation or habitat familiar and attractive to birds that would result in disorienting reflective images (Cusa et al. 2015, Sheppard 2011). Non-reflective PV modules shall be used over reflective technologies to minimize collision risk.

BIO-8 *Avian Mortality Monitoring* - The City is shall assess Project-related impacts to avian species to avoid and reduce potential impacts to the greatest extent feasible. The City shall voluntarily develop and implement a post-construction monitoring plan in coordination with USFWS and CDFW to assess impacts on avian species resulting from the Project. The post-construction monitoring plan shall include a description of standardized carcass searches, scavenger rate (i.e., carcass removal) trials, searcher efficiency trials, and reporting. Statistical methods shall be used to estimate Project avian fatalities if sufficient data is collected to support analysis. Pending result of monitoring, avian deterrents shall be considered, such as the use of radar and bio-acoustics to activate nuisance sounds that would deter birds from that area of the parking lot.

4.2.4.2 Construction Measures

BIO-9 To minimize direct and indirect impacts to avian and bat species, a letter shall be provided to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City of San Diego's Biological Guidelines (2012), has been retained to implement the Project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project. A Qualified Biologist is defined as having a bachelor's degree in biology or a closely related field with appropriate areas of study to understand San Diego's local avian and bat species; sufficient local field experience in identification of avian and bat species, experience in habitat evaluation and in quantifying environmental impacts, and familiarity with suitable mitigation methods including revegetation design and implementation.

BIO-10 The Qualified Biologist shall submit a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance (ESL), project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state or federal requirements. In addition, the BCME shall include: avian survey schedules (including general avian nesting and USFWS protocol), timing of surveys, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City Assistant Deputy Director (ADD)/MMC. The BCME shall include a site plan, written and graphic depiction of the Project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD/MMC within 30 days of construction completion.

BIO-11 The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist. The Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR shall be e-mailed to MMC on the 1st day of monitoring, the 1st week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

BIO-12 Prior to initiation of any construction-related grading, the construction foreman, construction crew, and/or the Qualified Biologist shall have a preconstruction meeting to discuss the sensitive nature of the adjacent habitat with the construction crew, the limits of construction, approved construction staging areas, mitigation measures including site-specific monitoring and preconstruction avian clearance surveys, and monitoring.

BIO-13 To avoid direct permanent impacts to sensitive habitats and species, the limits of construction shall be clearly delineated by a survey crew prior to Project construction. The limits of construction shall be defined with silt fencing or orange construction fencing and checked by the Qualified Biologist before initiation of construction grading.

BIO-14 Spoils, trash, and any construction-generated debris shall be removed to an approved off-site disposal facility. A trash abatement program shall be established. Trash and food items shall be contained in closed containers and removed daily to reduce the attraction of opportunistic predators such as common ravens, coyotes, and feral cats and dogs that may prey on sensitive species. This phase shall include flagging and delimiting buffers to protect sensitive biological resources (e.g., nesting birds) during construction. Appropriate steps/care shall be taken to minimize attraction of nest predators to the site.

BIO-15 A SWPPP shall be prepared prior to the start of construction as required by Construction General Permit Order 2009-0009-DWQ (as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ). The SWPPP would be prepared by a Qualified SWPPP Developer certified by the California Storm Water Quality Association. The SWPPP would specify measures to avoid or minimize construction-related surface water pollution to include proper runoff controls, pollutant source controls, and runoff treatment controls (when other nontreatment controls are insufficient for reducing runoff pollutant loads) that may degrade sensitive species habitat. The construction

SWPPP would include water quality protection and monitoring measures and storm water BMPs to minimize scour/erosion and control sediment that may degrade sensitive species habitat. Implementation of BMPs and preparation and compliance with a SWPPP will ensure that sediment and water sources of nonnative seed will be captured or directed away from the MHPA or generally minimized to the extent practicable. The SWPPP is described in further detail in Section 4.8.4 of the Hydrology and Water Quality section of the EIR (AECOM 2015c).

BIO-16 Dust suppression measures shall be implemented during construction to minimize the creation of dust clouds and possible degradation of sensitive vegetation communities, special-status species suitable habitat, and critical habitat. These measures include applying water at least once per day or as determined necessary by the qualified biologist(s) to prevent visible dust emissions from exceeding 100 feet in length in any direction.

BIO-17 To minimize construction noise impacts to birds and bats in the MHPA, berms or walls (e.g., at least 0.5-inch thick plywood) shall be constructed to reduce noises that could impact or interfere with wildlife utilization of the MHPA. Temporary noise barriers using appropriately thick wooden panel walls (at least 0.5-inch thick) shall be within the development footprint and built high enough to block the dominant construction noise source(s).

BIO-18 To avoid impacts to raptors and/or native/migratory birds, Project activities, including removal of habitat that supports active nests in the new stadium footprint (i.e., ornamental trees), shall occur outside of the breeding season for these species (February 1 [January 1 for some raptors] through September 15) except as follows. If Project disturbances must occur during the breeding season to accommodate the Project schedule, a Qualified Biologist shall conduct a pre-construction survey within 300 feet of the disturbance area (within 500 feet for raptors) to determine the presence or absence of nesting birds that may be impacted by visual disturbance from construction. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). Results of the pre-construction survey shall be submitted to the City's DSD for review and approval prior to initiating any construction activities.

If nesting birds are detected, a letter report or mitigation plan in conformance with the City’s Biology Guidelines and applicable state and federal law (e.g., appropriate follow-up surveys, monitoring schedules, visual construction barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. No-disturbance buffers (i.e., areas where work shall not occur) around active nests would be set at distances at the discretion of the Qualified Biologist and would be dependent on species, nest location, and an individual's habituation to human activity. Recommended distances include 100 feet for passerine birds and 500 feet for raptors; however, these distances can be reduced/enlarged at the discretion of the Qualified Biologist based on the behavior and response of the nesting individuals to construction-related activity. For example, parking lot improvements near active nests may require larger buffers to mitigate the high level of noise. The report or mitigation plan shall be submitted to the City DSD for review and approval. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.

BIO-19 A Qualified Biologist (possessing a valid FESA section 10(a)(1)(A) recovery permit for southwestern willow flycatcher) shall survey those wetland areas that would be subject to construction noise levels exceeding 60 dBA hourly average or exceeding the dBA of ambient noise levels should they be greater than 60 dBA hourly average (i.e., whichever is greater)[7] for the presence of the least Bell's vireo and southwestern willow flycatcher. Surveys for these species shall be conducted pursuant to the protocol survey guidelines established by USFWS within the breeding season for least Bell's vireo (March 15 through September 15) and southwestern willow flycatcher (May 1 through August 30) prior to the commencement of construction. If the species are present, then the following conditions must be met:

d. During the breeding season, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dBA hourly average or exceeding the dBA of ambient noise levels should they be greater than 60 dBA hourly average (i.e., whichever is greater) at the edge of occupied least Bell's vireo or southwestern willow flycatcher habitat.

   An analysis showing that noise generated by construction activities would not exceed 60 dBA hourly average or exceeding the dBA of ambient noise levels

[7] The 60 dBA hourly average is the standard threshold used to determine nest disturbance to least Bell's vireo and southwestern willow flycatcher. If ambient noise is less than the 60dBA hourly average, this standard threshold would be used (i.e., the greater value) to determine when noise attenuation measures would be implemented. If ambient noise is already above the 60 dBA hourly average then noise attenuation measures would not be implemented because noise sources are coming from sources other than the Project. Therefore, in the scenario ambient noise is higher than the 60 dBA hourly average, ambient noise levels would be used (i.e., the greater value) to determine when noise attenuation measures would be implemented.

should they be greater than 60 dBA hourly average (i.e., whichever is greater) at the edge of occupied habitat shall be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the City manager at least two weeks prior to the commencement of construction activities.

Prior to the commencement of any of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

e. At least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities would not exceed 60 dBA hourly average or the dBA of ambient noise level should they be greater than 60 dBA hourly average (i.e., whichever is greater) at the edge of habitat occupied by the least Bell's vireo or southwestern willow flycatcher.

   Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring8 shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dBA hourly average or the dBA of ambient noise level should they be greater than 60 dBA hourly average (i.e., whichever is greater). If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season.

f. If least Bell's vireo or southwestern willow flycatcher are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City manager and applicable resource agencies which demonstrates whether or not mitigation measures such as noise walls are necessary as follows:

[8] Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. If not, other measures shall be implemented in consultation with the biologist and the city manager, as necessary, to reduce noise levels to below dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

I. If this evidence indicates the potential is high for least Bell's vireo or southwestern willow flycatcher to be present based on historical records or site conditions, then condition "b" shall be adhered to as specified above.

ii. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures shall be necessary.

4.3 ENERGY

This section was prepared pursuant to CEQA Guidelines Section 15126.4(a)(1)(C) and Appendix F requiring EIRs to include a discussion of the potential energy impacts of proposed projects with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

4.3.1 Existing Conditions

Energy consumption is analyzed in an EIR because of the environmental impacts associated with its production and usage. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants during both the production and consumption phases. In 2013, total energy usage of the State of California was 7,684 trillion British thermal units (BTUs). This energy use can be broken down by sector with the largest user being transportation at 37.8 percent, followed by Industrial at 23.6 percent, and both Residential and Commercial sectors at 19.3 percent (DOE 2014).

Electricity

Electricity generation is typically measured in gigawatt-hours (GWh), megawatt-hours (MWh), or kilowatt-hours (kWh). In 2012, total electricity consumed in California was 302,113 GWh (CEC 2014a). Nuclear power typically provided 20 percent of the state's total electricity generation. However, the reactors at the San Onofre nuclear plant were shut down in 2012, reducing the amount of electricity generation from nuclear power. California's electrical system has also become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, and hydroelectric plants. However, the recent drought has led to less hydropower (reduced from 20 percent to 10 percent of California's total electricity generation) and increased natural gas generation. In 2014, 9.9 million megawatts (MW) was produced by utility-scale solar plants in California, an increase of 6.1 million MWh from 2013 (DOE 2015a).

The existing Qualcomm Stadium receives its electricity from San Diego Gas & Electric Company (SDG&E), a natural gas and electric utility. SDG&E obtained 23.6 percent of its energy from renewable resources in 2013 (CPUC 2015).

Existing energy use was established using electricity data meter readings from the existing Qualcomm Stadium for the period of February 2014 through January 2015. Electricity usage during this time period was 5,839,000 kWh. There are currently no solar (photovoltaic [PV]) facilities in use on the Project site. On-site electric and gas facilities are discussed in Section 4.14, Public Utilities.

Natural Gas

In 2013, California consumed 2,414,518 million cubic feet of natural gas and produced 252,310 million cubic feet. With the state's natural gas reserves declining, California production satisfies about one-tenth of state demand (DOE 2012).

The existing Qualcomm Stadium receives its gas from SDG&E. Existing gas use was established using gas data meter readings from the existing Qualcomm Stadium for the period of February 2014 through January 2015. Gas usage during this time period was 44,383 therms.

Transportation Fuels

Although gasoline consumption has been declining since 2008, it is still the dominant fuel used in transportation (CEC 2014). In 2012, total gasoline consumed in the state was 14.6 billion gallons (BOE 2014a). Diesel fuel is the second most used transportation fuel in California behind gasoline. In 2012, more than 2.6 billion gallons of diesel were sold in California (BOE 2014b). Passenger cars and light-duty trucks are the largest consumers of transportation fuel in the state and the San Diego region. Passenger cars and light-duty trucks account for 1.6 billion gallons of gasoline and diesel fuel per year, or approximately 85 percent of total energy consumption by on-road vehicles in the San Diego region (SANDAG 2014).

California leads the nation in registered alternatively fueled vehicles and requires all California motorists to use, at a minimum, a specific blend of gasoline called California Reformulated Gasoline (CaRFG). In ozone nonattainment areas, motorists face even stricter requirements and must use California Oxygenated Reformulated Gasoline. As a result, California leads the nation in retail sales of reformulated gasoline. In 2013, California was also home to almost half of all of the nation's 104,000 plug-in hybrid electric vehicles.

4.3.2 Regulatory Conditions

Federal Energy Policies and Regulations

The National Energy Act was approved by the U.S. Congress in 1978. The Act included the Public Utility Regulatory Policies Act (Public Law 95-617), Energy Tax Act (Public Law 95-318), National Energy Conservation Policy Act (NECPA) (Public Law 95-619), Power Plant and Industrial Fuel Use Act (Public Law 95-620), and the Natural Gas Policy Act (Public Law

95-621). The intent of the National Energy Act was to promote greater use of renewable energy, provide residential consumers with energy conservation audits to encourage slower growth of electricity demand, and promote fuel efficiency.

Adopted in 2005, the Energy Policy Act included a comprehensive set of provisions to address energy issues. The Energy Policy Act included tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants. Subsidies were also included for geothermal, wind energy, and other alternative energy producers.

Signed into law in December 2007, the Energy Independence and Security Act included an increase in auto mileage standards and addressed conservation measures and building efficiency. The Energy Independence and Security Act also included a new energy grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

State Energy Policies and Regulations

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunication, water, railroad, rail transit, and passenger transportation companies. The California Energy Commission (CEC) is California's energy policy and planning agency. It was established by the Warren-Alquist Act in 1974, in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. CEC is committed to reducing energy costs and environmental impacts of energy use, such as greenhouse gas (GHG) emissions, while ensuring a safe, resilient, and reliable supply of energy (CEC 2015).

The California Energy Code (California Code of Regulations [CCR] Title 24) provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California. These energy efficiency building standards are updated approximately every 3 years. On July 1, 2014, the California Building Standards Commission adopted the current 2013 California Green Building Standards Code for all new construction statewide. The code sets targets for energy efficiency, water consumption, diversion of construction waste from landfills, and use of environmentally sensitive materials in construction and design.

California Senate Bill (SB) 1078 established California's Renewable Portfolio Standard (RPS) in 2002. SB 1078 required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 changed the target date to 2010. EO S-14-08 expanded the state's

Renewable Energy Standard to 33 percent renewable power by 2020. This new goal was codified in 2011 with the passage of SB X1-2.

Executive Order B-16-12 orders State entities under the direction of the Governor including ARB, CEC, and CPUC to support the rapid commercialization of zero emission vehicles (ZEV). The Executive Order calls for infrastructure to support up to one million zero emission vehicles by 2020, over 1.5 million zero emission vehicles on California roads by 2025, and annual displacement of at least 1.5 billion gallons of petroleum fuels by 2025 (CA 2015d).

4.3.3 Impact Analysis

Issue 1: Would the project result in an increase in overall per capita energy consumption relative to baseline conditions, or otherwise use energy in an inefficient, wasteful, or unnecessary manner.

Impact Thresholds

Appendix F of the CEQA Guidelines provides guidance for evaluation of environmental impacts related to energy. Impacts on energy conservation are considered significant if implementation of the Project would result in wasteful, inefficient, and unnecessary consumption of energy during construction, operation, and maintenance of the Project.

Impact Analysis

Construction

Construction of the Project would result in energy consumption through the combustion of fossil fuels in off-road construction equipment, worker commute vehicles, and haul trucks, and the use of electricity for temporary buildings, lighting, and other sources. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, stadium construction, and demolition of the existing Qualcomm stadium. The types of equipment could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, front-end loaders, and cranes. Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools.

Based on the Project design and construction schedule, it is likely that much of the off-road equipment used during construction would meet Tier 3 or 4 emission standards (even without the project design feature that requires that all construction equipment meet Tier 4 emission standards). Although the Tier standards are based on improvements in emission levels, the improved fuel efficiency of newer off-road engines would also result in reduced energy consumption compared to older equipment.

Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. California regulations (CCR Title 13, Sections 2449(d)(3) and 2485) limit idling from both on-road and off-road diesel-powered equipment and are enforced by ARB.

Operations

The operational phase of the Project would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, and electronics. Operational energy would also be consumed during vehicle trips associated with the visitors attending events and worker trips. The Project would result in an increase in floor area for support, team facilities, and administrative functions and number of events compared to Qualcomm Stadium. The new stadium would be built to current Title 24 code and CALGreen requirements, which require a higher level of energy, HVAC, and lighting efficiencies over the existing Qualcomm Stadium. Annual operational energy use was estimated using Dynamic Thermal Modeling (DTM). The energy analysis considered several scenarios for electricity and natural gas consumption to better understand the potential energy use of the new stadium. These scenarios include the existing Qualcomm Stadium (baseline energy consumption) and the new stadium. Table 4.3-1 shows the results of the energy analysis. Additional details are included in Appendix D.

Table 4.3-1
Estimated Electricity and Gas

	Existing Qualcomm Stadium	New Stadium (Project)	Net Increase under the Project
Gas (therms)	44,758	56,259	11,537 (26% increase)
Electricity (MWh)	5,768	6,322	554 (10% increase)
Total (MMBTU)	24,157	27,198	3,041 (13% increase)

Notes: MWh = megawatt hours; MMBTU = 1 million BTU
Source: Estimated by AECOM 2015

Based on maximum increase in square footage alone, and not including any improvements in building efficiencies, the new stadium is predicted to use more energy (see Appendix D for additional information). To provide a summary of overall energy use, the analysis also combines electricity and natural gas into a common unit of energy usage, BTU. A BTU is a traditional unit of energy that is the amount of energy needed to cool or heat one pound of water by one degree Fahrenheit. When electricity and natural gas consumption are converted to the same unit, total energy consumption if the stadium was rebuilt to the same standards (i.e., using the existing Qualcomm building envelope) would increase by an estimated 29 percent compared to the existing consumption at Qualcomm Stadium (see Appendix D for further information of this scenario).

However, the new stadium would be constructed to newer building codes, which require higher levels of energy efficiencies resulting in improved building envelope, HVAC systems and lighting. With Title 24 code and CALGreen requirements, as shown in Table 4.3-1, annual electricity usage would be expected to increase with the new stadium from 5,768 MWh to 6,322 MWh, or an approximately 10 percent increase compared to the existing Qualcomm Stadium. Annual natural gas consumption would increase from 44,578 therms to 56,259 therms, or an approximately 26 percent increase. Total energy consumption (BTUs) associated with operation of the Project are estimated to increase by 13 percent over existing conditions when considering minimum code requirements.

As discussed above, total energy consumption could increase with the new stadium due to the increase in square footage and estimated number of events. However, Appendix F of the CEQA guidelines includes a goal of conserving energy by decreasing overall per capita energy consumption. Based on the Project characteristics, per capita consumption can be measured in several ways (per attendee, per square foot, per event, etc.). As shown in Table 4.3-2, all measures of per capita energy consumption decrease from the existing Qualcomm Stadium to the new stadium. Additional details are included in Appendix D.

Table 4.3-2
Per Capita Energy Consumption

	Existing Qualcomm Stadium	New Stadium	Per Capita Energy Consumption Net Change
Attendance	1,327,320	2,794,500	
BTUs Per Person	18,199	9,733	**-47%**
Square Footage	1,351,200	1,750,000	
BTUs Per Square Foot	17,878	15,542	**-13%**
Full Event Equivalent[1]	23	41	
MMBTUs Per Event Equivalent	1,030	664	**-36%**

[1]A Full Event Equivalent event is the number of equivalent 100% (NFL Regular season) events at the stadium throughout the year taking into account smaller events. Please see Appendix D for further detail on calculation of Full Event Equivalent.
Notes: BTU = British Thermal Unit; MMBTU = 1 million BTU.
Source: Estimated by AECOM 2015.

As shown in Table 4.3-2, the new stadium would not result in an increase in overall per capita energy consumption. In addition, the estimates in Tables 4.3-1 and 4.3-2 do not include additional efficiency measures from LEED Gold certification and project design features that would reduce energy consumption beyond Title 24 and CALGreen requirements. The LEED Gold Certification would be met using energy conservation measures and renewable energy to further reduce the energy consumption. As discussed in Section 3, the Project would be designed to have "no net increase" in total annual energy consumption related to electricity and natural gas use over the existing Qualcomm Stadium.

Key energy conservation measures included in the Project include:

- Energy-efficient lighting (including where appropriate LED lighting) throughout the interior of the new stadium, spectator spaces, stadium lighting, and exterior parking lot lighting.
- Comprehensive lighting control system utilizing motion sensors and photocells to ensure lighting is only in operation when required and at the minimum required illumination levels (avoid over lighting).
- LED scoreboard and field signs (LED scoreboard can reduce energy consumption by 90 percent, from 1.2 million kWh for incandescent to 130,000 kWh for LED (Game Changer Report)).
- Energy efficient escalators with multi-mode operation (e.g. sleep mode). Optimization of kitchen use/facilities together with high efficiency (E.g. Energy star) appliances.

The Project also includes the use of solar PV energy. This rapidly increasing form of reliable renewable energy would generate electricity on-site, allowing the end user the benefit of offsetting the amount of power purchased from the local utility. When coupled with a parking shade canopy, the PV system provides shade while generating electricity.

The Project would install a minimum of 100-kilowatt (kW)of PV either as part of car canopy shade structures, as shown in Figure 4.3-1, or on the roof of the new stadium. Roof located PV would ideally be placed on sloped roof sections facing south at an optimum angle for solar collection. The Project would install additional PV as required to meet "no net increase" in total annual energy consumption related to electricity and natural gas use over the existing Qualcomm Stadium. This could be fixed PV panels mounted on up to five acres of new carport structures within the northwestern portion of the stadium surface parking lot or located on the roof of the new stadium. A 100-kW solar PV T-framed car canopy shade structure would offset 185,000 kWh annually. There are several parking sites within the new stadium parking area that could be used for solar shade canopies. The parking sites would allow for shade structures facing southeast or southwest. Actual placement and total energy generation of PV panels would be determined in final design development, with sensitivity to nesting birds and avian strikes as discussed in 4.2 Biological Resources 4.2.

Figure 4.3-1. Typical T-Framed Solar Shade Canopy

Energy consumption directly attributable to operation of the Project is also related to fuel consumption associated with on-road motor vehicles. Vehicle miles traveled (VMT) are a component of the energy analysis, because VMT can be used to determine energy consumption based on assumptions of fuel economy and fleet mix. Fuel consumption would be primarily related to vehicle use by visitors and employees associated with the Project.

As discussed in more detail in Section 4.10, Mobility, the Project would encourage and increase the use of public transit, ridesharing, biking and walking for large stadium events. The new stadium would have less onsite parking and would rely on more attendees to take transit, carpool, walk and bike to the Project site. A transportation demand management (TDM) program would be developed to alleviate traffic congestion, identify offsite and overflow parking and continue to encourage, incentivize and maintain high public transit ridership for stadium events. This TDM plan would aid the new stadium to be more sustainable, reduce VMT, and continue to promote a more balanced and sustainable transportation modal split with fewer attendees traveling to the new stadium by car.

Significance of Impact

Construction

Despite the increase in energy demand, primarily related to fuel use, during construction, project design features (e.g., recycling of materials from the demolition of the existing site, requirement for cleaner construction equipment), combined with local, state, and federal regulations, which limit engine idling times and require recycling of construction debris, would reduce short-term energy demand due to Project construction. Therefore, it is anticipated that the construction phase would not result in wasteful, inefficient, and unnecessary consumption of energy.

Operations

The Project would comply with state and federal regulations and would meet the most stringent current Title 24 (including any city amendments) and CALGreen requirements. Per capita energy consumption associated with the Project would decrease compared to existing conditions as shown in Table 4.3-2. In addition, the Project would be designed as a sustainable, green building that would achieve a LEED Gold rating and further reduce energy consumption. The addition of solar PV would further reduce energy consumption at the new stadium. As discussed in Section 3, the Project would also be designed to have no net increase in total annual energy consumption related to electricity and natural gas use compared to the existing Qualcomm Stadium.

As a result, the Project would not result in an increase in overall per capita energy consumption, or otherwise use energy in an inefficient, wasteful, or unnecessary manner. The impact would be less than significant.

Issue 2: Would the project result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources.

Impact Thresholds

Impacts on energy conservation are considered significant if implementation of the Project would result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources.

Impact Analysis

Overall it is estimated that energy consumption associated with operation of the Project could increase by approximately 13% percent from existing conditions due to an increase in square footage and number of events. That increase in overall energy consumption could result in an increased reliance on fossil fuels based on the potential need for additional energy.

Federal, state and regional regulations and programs, such as the Renewable Portfolio Standard, Title 24, Green Building Standards, would decrease reliance on fossil fuels and increase reliance on renewable energy. The Project site would receive electricity from SDG&E, which produced 23.6 percent of its energy from renewable sources. The amount of renewable energy would increase to 33 percent by 2020.

Additional on-site project design features, beyond minimum code requirements, would reduce total energy consumption and decrease reliance on fossil fuels. Renewable energy is not currently used at Qualcomm Stadium, and the Project would install solar PV to generate at a minimum of 185,000 kWh. Energy conservation measures to meet LEED Gold Certification and total Project PV would be determined during final stadium design.

As discussed in Section 4.10, Mobility, the percent of public transit use (i.e., modal split) is anticipated to increase from 22 to 28 percent for existing Qualcomm stadium to 29 to 34 percent for the Project. The reduced parking associated with the Project would also encourage attendees to use public transit and reduce regional VMT coming to the Project Site. This is also anticipated to reduce the overall fossil fuel consumption. Additional information is included in the air quality and greenhouse gas analyses in Sections 4.1 and 4.5, respectively.

Significance of Impact

As a result of the energy conservation measures, installation of on-site solar PV, and modal shift, the Project would not result in increased reliance on fossil fuels and decreased reliance on renewable energy sources. The impact would be less than significant.

4.3.4 Mitigation, Monitoring, and Reporting

No mitigation measures are proposed.

4.4 GEOLOGY/SOILS

This section of the EIR discusses potential impacts related to the proposed Project associated with geologic and soil conditions. Information in this section has been summarized from the report titled *Geotechnical and Geologic Evaluation for Stadium Reconstruction, San Diego, California* (Appendix E).

4.4.1 Existing Conditions

4.4.1.1 Site Topography

The Project site is bounded by Friars Road to the north, I-15 to the east, and the San Diego River to the south. The ground surface in the Project vicinity generally slopes gradually down toward the south and southwest toward the San Diego River. At the Project site, the existing ground surface ranges from about 55 to 75 feet AMSL.

4.4.1.2 Geologic Setting

The site is located in the coastal plain subprovince of the Peninsular Ranges physiographic province. The Peninsular Ranges are an elongate, northwest-trending mountain range formed by Mesozoic-age crystalline rocks. Following the mountain building event there was uplift, tilting, and erosion of the western margin of the Peninsular Ranges. These processes led to the formation of low relief topography west of the mountains. During the Tertiary period, marine and nonmarine strata were widely deposited across the erosional surface and capped by early Quaternary terrace deposits. These broad mesa surfaces were incised by westerly trending drainages including the San Diego River.

The Project site is located in Mission Valley along the northern margins of the former floodplain of the San Diego River and near the outlet of Murphy Canyon, a south-trending tributary drainage. A geologic map of the area is shown in 4.4-1 and is based on published regional geologic mapping (Kennedy and Tan 2008). The immediate Project area is mapped as older alluvial deposits (Qoa). These older alluvial deposits are overlain locally by younger alluvial and colluvial deposits associated with the Murphy Canyon drainage and the adjacent hillslopes. The alluvial and colluvial deposits are overlain by fill soils placed during construction of Qualcomm Stadium in the 1960s.

The alluvial deposits are underlain by Tertiary-age sedimentary deposits of the Friars Formation. The nearby hillslopes bordering Friars Road expose the Friars Formation and the overlying Stadium Conglomerate (Kennedy 1975; Kennedy and Tan 2008). Both formations have a gentle southwesterly dip based on geologic mapping of exposures in the area as shown in Figure 4.4-1. The Stadium Conglomerate consists mostly of cobble conglomerate in a sandstone matrix. The Friars Formation underlies the Stadium Conglomerate and consists of interbedded sandstone, siltstone, and claystone.

The late Pleistocene geologic history of the site involves the San Diego River and subsidiary drainages such as Murphy Canyon downcutting (incising) their respective channels into the underlying sedimentary formations during sea level low stands. During subsequent transgressions (sea level rises), the river and larger tributaries backfilled their channels with alluvial deposits including silt, sand, and gravel. Buried gravel-filled channels associated with the San Diego River and the tributary Murphy Canyon are present in the subsurface in the general site area. These buried alluvial channels are cut into the Eocene-age Friars Formation.

A brief description of the primary geologic units is provided below.

A. Fill

Fill was placed across the Project site in 1966 as part of the original site grading for Qualcomm Stadium. Fill was sourced from cutting into the hills to the north and northwest of the property. This material consisted primarily of Stadium Conglomerate (clayey sand and gravel) and some of the underlying Friars Formation (likely clay, silt, and sand). In the area of the Project, cuts and fills appear to have been minor, on the order of about 5 feet or less. It is expected that fill was placed and compacted in accordance with the Project recommendations (Benton Engineering 1965b); however, compaction records were not available for review. Some removal and recompaction of the existing fill may be required prior to placement of additional fill and/or construction of near-surface improvements.

B. Alluvium

The fill is underlain by alluvial deposits that exhibit considerable variation in sediment composition and thickness. The source of the alluvium is the San Diego River to the south and the Murphy Canyon drainage to the north. In general, the alluvium is primarily sandy with some gravel, silt, and clay interbeds. The lower 5 to 10 feet of the alluvium (significantly greater thickness in some areas) typically consists of dense gravel. In the vicinity of the proposed Project site, the alluvium is estimated to be about 55 to 60 feet thick. Geotechnical data with density/consistency evaluations of the alluvium in the site vicinity include the Stadium Expansion project (Ninyo & Moore 1996) and the Mission Valley West Light Rail Trolley Extension project (MTDB 1999). Based on the available well logs and geotechnical borings, zones of loose and soft material are expected to be present in the Project site. Much of the

Source: NAIP 2014; USGS.

4,000 2,000 0 4,000 Feet

Scale: 1 = 48,000; 1 inch = 4,000 feet

Figure 4.4-1
Regional Geologic Map

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alluvium has the potential to experience settlement when loaded, as well as liquefaction-induced settlement during an earthquake, and is not expected to be suitable to support the major structural elements of the Project. Deep foundations are typically required in similar alluvial settings.

C. Friars Formation

Fill and alluvium overlie the Friars Formation at the Project site. The Friars Formation at the Project location is primarily medium-grained sandstone, with some gravel layers and siltstone and claystone beds. The top of the formational material was encountered in previous borings at elevations ranging from about +26 to -14 feet across the Project site. In the area of the Project site, the top of the formation is expected to be at elevations typically ranging from about +2 to +9 feet based on available information.

4.4.1.3 Groundwater

Based on a review of the California State Water Resources Board (SWRCB) GeoTracker website, numerous groundwater wells are present across the Project site. The wells are concentrated in the north/northeast portion of the Project site, with numerous wells also present around and southwest of the existing Qualcomm Stadium. Stabilized groundwater elevation readings made in 2014 (SWRCB 2015) show groundwater elevations typically ranging from +38 to +42 feet. In general, the data show the groundwater elevation lowering toward the southwest. Groundwater elevations will fluctuate depending on variations in seasonal rainfall, stream flow, and other conditions.

4.4.1.4 Geologic Hazards

The geologic hazards considered in relation to the Project as part of this EIR include seismic, soil, and slope stability considerations. This evaluation is based on published information and subsurface information in the Project vicinity and our experience.

A. Faulting and Seismicity

The tectonic setting of the San Diego area is influenced by plate boundary interaction between the Pacific and North American lithospheric plates. This crustal interaction occurs along a broad zone of northwest-striking, predominantly right-slip faults that span the width of the Peninsular Ranges and extend offshore into the California Continental Borderland Province. At the latitude of San Diego, this zone extends from the San Clemente fault zone, located approximately 60 miles offshore of the San Diego coastline, to the San Andreas fault, located about 84 miles east of the Project (see 4.4-2 Regional Faults and Epicenters).

Geologic, geodetic, and seismic data indicate that the faults along the eastern margin of the plate boundary, including the San Andreas, San Jacinto, and Imperial faults, are currently the most active. These active faults are located in the Imperial Valley and are the dominant structures in accommodating the majority of the motion between the two adjacent plates. A smaller portion of the relative plate motion is being accommodated by northwest-striking active faults to the west, including the Elsinore, Newport-Inglewood-Rose Canyon, and offshore faults. The offshore faults include the Coronado Bank, San Diego Trough, and San Clemente fault zones.

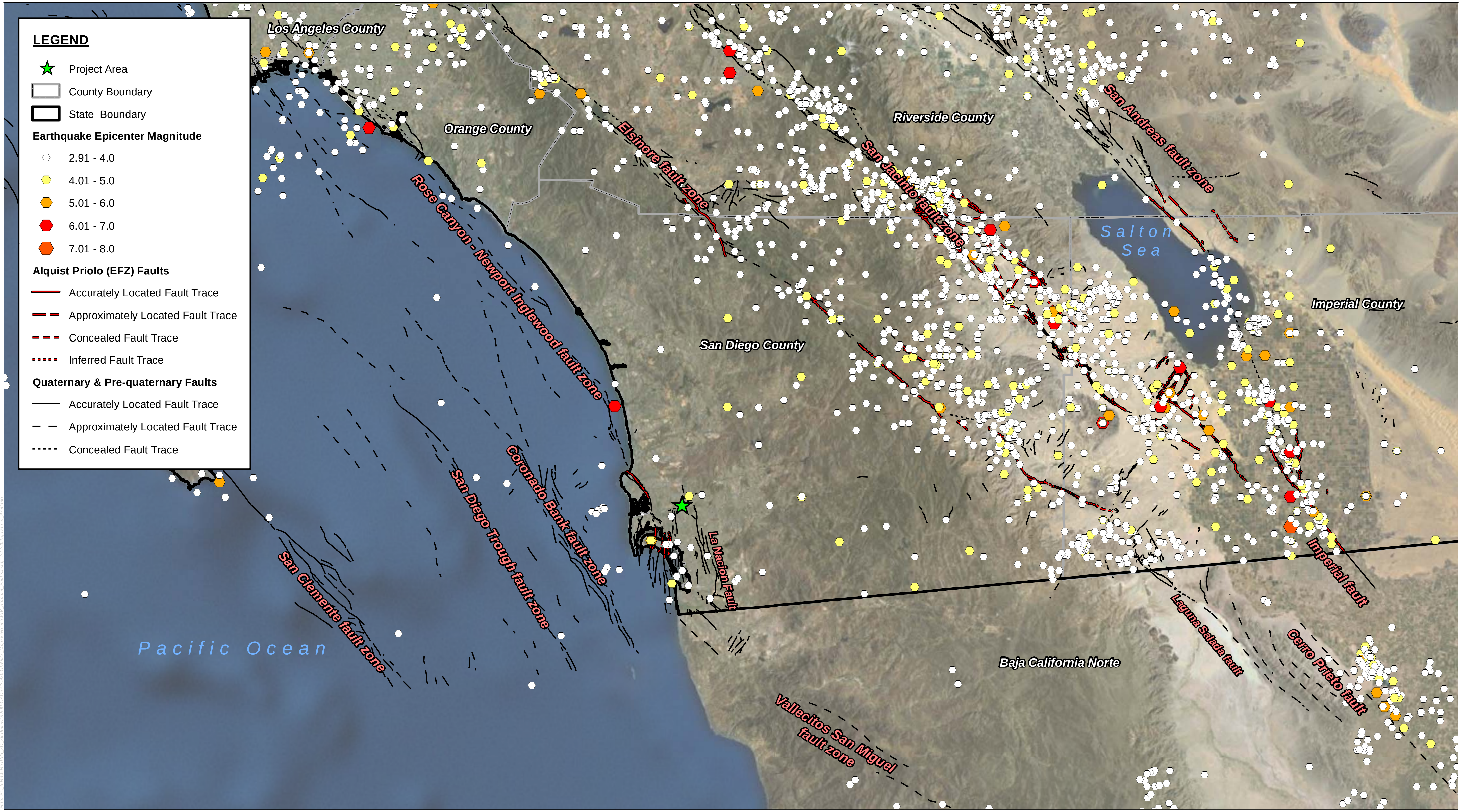
The vicinity of the Project would likely be subject to moderate to severe ground shaking in response to a local or more distant large-magnitude earthquake occurring during the expected life of the proposed facility. The USGS indicates the Peak Ground Acceleration (PGA) for a level of shaking associated with a probability of exceedance of 2 percent in 50 years is 0.46 g (percentage of gravity) (USGS 2015). Both the USGS and California Building Code (CBC) PGAs are associated with Site Class D (stiff soil).

B. Ground Surface Rupture

The nearest active fault is the Rose Canyon fault, which is mapped approximately 4.3 miles west of the Project near the intersection of the San Diego River and I-5. An active fault (as defined by City of San Diego 1999) is a fault that has had evidence of movement in Holocene time (last 11,000 years). These faults present the greatest risk of fault rupture hazard as well as being the potential sources of strong ground shaking in the region. Active faults are zoned by the State of California within Alquist-Priolo Special Studies Zones, or Earthquake Fault Zones (EFZ) (Hart and Bryant 2007) and are mapped as active fault zones (Zone 11) on City of San Diego Seismic Safety Maps (City of San Diego 2008). Habitable structures located within an EFZ are required to have building setbacks from the trace of an active fault. In addition to active fault zones, the City of San Diego has identified potentially active faults if there is evidence that movement occurred during the Quaternary period (past approximately 1.6 million years), but not within the Holocene (City of San Diego 1999). The Project site is not within an EFZ or a City of San Diego fault zone, nor is it underlain by any active or potentially active faults.

C. Liquefaction and Secondary Effects

Liquefaction is a phenomenon where loose, saturated coarse-grained soils (predominantly sandy soils with less than 50 percent passing the No. 200 sieve) lose their strength and acquire some mobility from strong ground motion induced by earthquakes. The secondary effects of liquefaction include sand boils, settlement, reduced soil shear strength, lateral spreading, and global instability (flow slides in areas with sloping ground). Seismic settlement can also occur in dry sands.



Source: Microsoft 2010; Esri 2010; CA Dept of Conservation, CA Geological Survey; DOCGS, SCEDE, AECOM.

15 7.5 0 15 Miles

Scale: 1 = 950,400; 1 inch = 15 miles

Figure 4.4-2
Regional Faults and Epicenters

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Liquefaction Potential

Hazard maps generated by the City of San Diego (2008) and intended for planning purposes categorize the Project area as having a high potential for liquefaction (Zone 31). Based on a review of available information, liquefaction-induced settlement at the ground is possible given the character of the alluvium and shallow groundwater conditions. Some subsurface data (well logs and borings) are available for the site area that includes resistance of the soil (blow counts). These data (SWRCB 2015, MTDB 1999, Ninyo & Moore 1996) were evaluated and suggest that the potential for liquefaction within the sandy alluvium at the site is moderate to high. Based on the available data from the borings and well logs, assessments made for other sites in the Mission Valley area, and our experience, we estimate that the ground surface at the site could experience as much as 2 to 6 inches of settlement as a result of liquefaction.

Settlement of Dry Sands

Strong ground motion can cause the densification of soils, resulting in settlement of the ground surface. This phenomenon is known as seismically induced settlement or seismic compaction, which typically occurs in dry, loose cohesionless soils. During an earthquake, soil grains may become more tightly packed due to the collapse of voids or pore spaces, resulting in a reduction in the thickness of the soil column. Available subsurface data suggest that zones of loose sand could be present above the groundwater table in the Project area, and therefore the potential for seismic compaction at the site is considered moderate.

Lateral Spreading and Flow Slides

Lateral spreading and flow slides are phenomena where surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces. Lateral spreading is thought to occur on slopes as level as 0.5 percent, or on level ground with a “free face,” such as a stream bank. Flow slides occur when conditions are favorable for liquefaction to occur and lead to a state of unlimited flow. A contributing factor to lateral spreading and flow slides is the presence of stratified soil in which pore pressures build up within potentially liquefiable layers that are confined by lower permeability soil layers. This can result in significant reductions in shear strength and large lateral deformations and flow failures.

Given that there is likely a potential for liquefaction, as well as sloping ground, the potential exists for lateral spreading to occur at the site. However, available data indicate that the alluvium is highly variable, with discontinuous fine-grained soil layers and denser sand and gravel layers, and the potentially liquefiable layers do not appear to be laterally continuous across the Project site. Further, the Project is more than 1,000 feet from the free face of the river channel.

Strength Loss in Fine-Grained Soil

The loss of shear strength in fine-grained soil from strong ground shaking can adversely impact the performance of foundations and slopes. While limited data are available on the fine-grained soil layers at the site, some strength loss could occur. However, the effects of strength loss on the foundations are expected to be small compared with the liquefaction-induced settlements discussed above.

D. <u>Soil</u>

As discussed previously, the Project area is expected to be underlain by fill, highly variable alluvial deposits (sand, gravel, silt and clay), and Friars Formation at depth. The natural surficial soils (e.g., “topsoils”) that had formed on the alluvium within the Project area have likely been mostly disturbed or removed by previous site development. Key properties of the on-site soils from a USDA soil survey perspective and from a geotechnical perspective are described below.

Soil Survey Characteristics

The National Resource Conservation Service (NRCS) is the branch of the United States Department of Agriculture (USDA) that maps and summarizes general information regarding soils in the United States. Based on the NRCS data, the soil map units in the Qualcomm site area include predominantly Made Land with a minor area of Riverwash on the south side of the Project site (USDA 1973). The soil survey data include hydrologic group and soil drainage class as presented below in Table 4.4-1. The soil survey mapping of the Project is entirely underlain by Made Land and is not classified relative to hydrologic group or soil drainage because Made Land is disturbed by development and considered highly variable.

Table 4.4-1
Summary of Mapped Soil Units

Soil Map Unit Name	Map Unit Symbol	Hydrologic Group	Soil Drainage Class	Approximate Percentage of Stadium Property
Made Land	Md	Not Reported	Not Reported	89
River Wash	Rm	D	Excessively Drained	11

Source: USDA 1973

Expansion Potential

Expansive soil generally consists of clayey materials that can shrink and swell in response to changes in moisture content, with the potential to damage near-surface improvements, such as foundations and flatwork. Near-surface material is primarily granular (sandy) in nature, consisting of sand and gravel, although some clay soils are present within the alluvium and possibly within the fill. Limited data are available on the fine-grained material at the site, although there is some potential for expansive soil.

Collapse Potential

Loose granular soils can be subject to collapse due to wetting and/or inundation. Collapse can occur in dry granular soils that have an unstable soil structure due to deposition or irrigation processes, typically with a skeletal structure that is weakly cemented by soluble salts or clay. Increases in moisture content can cause the interparticle cementation to reduce, causing changes in volume (collapse), especially when loaded. The existing fill materials are expected to be relatively dense and the underlying alluvial soils are not known to have a collapse potential.

Subsidence

Before approximately 1939, groundwater withdrawal in the Mission Valley area provided a significant source of water in San Diego (USGS 1919). Other sources of groundwater largely replaced the former Mission Valley well field and currently no significant groundwater withdrawal is taking place in the Project vicinity. The potential for subsidence of the ground surface in the Project area due to current groundwater pumping is low.

Settlement

The placement of significant thicknesses of fill could cause underlying loose and soft alluvial soil layers to consolidate, resulting in ground surface settlement. For Qualcomm Stadium, Benton Engineering (1965b) estimated that 2 to 6 inches of settlement could occur due to placement of 30 to 50 feet of fill.

E. <u>Tsunamis and Seiches</u>

The Project site is at elevations of about +55 feet or higher and is outside of the tsunami inundation area. The nearest area that is mapped to potentially be inundated by a tsunami is greater than 5 miles to the west near the interchange of I-5 and I-8 (CalEMA, CGS, and USC 2009). Therefore, the potential for tsunami inundation at the site is considered low.

A wave created by earthquake shaking in an enclosed body of water is called a seiche. There are no significant bodies of water near the site. Therefore, the potential for flooding at the site as a result of a seiche is considered to be very low.

F. <u>Landslides</u>

The Project site is not located within a landslide hazard zone based on the City Seismic Safety Study (2008). The area to the north and east of the site is underlain by Zone 23, indicating the landslide-prone Friars Formation is in a neutral or favorable orientation.

4.4.2 <u>Regulatory Conditions</u>

4.4.2.1 Alquist-Priolo Earthquake Fault Zoning Act of 1972, and Amendments

The Alquist-Priolo Earthquake Fault Zoning Act was implemented by the State of California to mitigate the potential for surface faulting to cause distress to buildings used for human occupancy. The Project is not located within and does not cross an Alquist-Priolo EFZ or a City fault zone. The Project would not be subject to requirements for construction within an earthquake fault zone.

4.4.2.2 Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act is a companion to the Alquist-Priolo EFZ Act that addresses public safety in California as it relates to seismic hazards including strong ground shaking, liquefaction, landslides, and other hazards. The Seismic Hazards Mapping Act requires mitigation of earthquake hazards to an acceptable level of risk.[9] The first Official Seismic Hazard Zone Maps showing areas of potential liquefaction and landslides were issued in 1997. Maps for San Diego County have not yet been released.

4.4.2.2 California Building Code

The 2013 edition of the CBC is based on the 2012 edition of the International Building Code, with revisions specifically tailored to geologic hazards in California.

Chapter 16, Structural Design requires structural designs to be based on geologic information for seismic parameters, soil characteristics, and site geology. Chapter 18, Soils and Foundations

[9] "Acceptable level" of risk means that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project [CCR Title 14, Section 3721(a)].

defines the criteria for preparation of a geotechnical report. It also sets requirements for excavations and fills, foundations, and retaining structures with regard to expansive soils, subgrade bearing capacity, and seismic parameters, and also addresses waterproofing and damp-proofing foundations. Liquefaction potential at the site should be evaluated, if warranted.

4.4.2.3 San Diego Municipal Code

In conjunction with the CBC, the San Diego Municipal Code (SDMC) requires the preparation of a geotechnical investigation report in accordance with the criteria in Section 145.1803 (SDMC 2012). The City also requires the preparation of a preliminary geotechnical report in order to obtain development or construction permits. The City uses the San Diego Seismic Safety Study (2008), which includes hazard maps and requirements for the level of geotechnical investigation, to evaluate the relative hazard of the site. The geotechnical report must address the hazards identified in the Seismic Safety Study and satisfy State of California requirements including the Alquist-Priolo Earthquake Fault Zone Act of 1972. Geotechnical reports submitted in support of building and grading permits must present geotechnical recommendations specific to the Project and reference the Project drawings.

4.4.3 Impact Analysis

Issue 1: Would the proposed project expose people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

Impact Thresholds

A significant impact would occur if the Project would expose people or structures to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards.

Impact Analysis

A. Faulting, Seismic Shaking, and Ground Rupture

The Project site is not underlain by any active or potentially active faults. As discussed previously, the nearest active fault is the Rose Canyon fault, which is mapped approximately 4 to 5 miles west of the Project site. Further, the Project site is not within an EFZ or a City fault zone. Therefore, the potential for surface fault rupture to impact the Project site is very low.

The vicinity of the Project would likely be subject to moderate to severe ground shaking in response to a local or more distant large-magnitude earthquake occurring during the expected life of the new stadium. The seismic design of the Project would be performed in accordance with the requirements in the CBC and the SDMC. This would reduce potential impacts to people or structures, including the risk of death or injury, to an acceptable level of risk. Therefore, the impacts associated with strong ground motion would be less than significant.

B. Liquefaction and Secondary Effects

As discussed previously, available data suggest that, due to the presence of loose granular material and a high groundwater level, the potential for liquefaction within the sandy alluvium at the site is moderate to high. A preliminary design groundwater elevation of +50 feet was considered for the Project in the Geotechnical and Geologic Evaluation report to qualitatively address long-term and seasonal fluctuations in water level (Appendix E). There is also some potential for strength loss within the saturated fine-grained layers within the alluvium and settlement of dry sands above the groundwater table. These hazards could result in excessive settlement that could damage a structure supported at grade. To minimize the potential for liquefaction and secondary effects that could cause distress to the Project, the stadium would either be supported on deep foundations extending to the underlying dense soil or formational material, or on shallow or deep foundations supported by soil that has been densified/stiffened using ground improvement techniques. Ground improvement, if used, would be limited to within about 10 feet of the structure. The foundation design features would be compatible with the structural system used and would reduce vertical settlement and lateral deformations of the foundation elements to an acceptable level of risk.

In addition, given that there is a potential for liquefaction, as well as the presence of sloping ground, the potential exists for lateral spreading or flow sliding to occur at the Project site. Lateral spreading or flow sliding can cause distress to structures, surface improvements, and underground utilities. The potential for lateral spreading and flow sliding is considered low given the distance of the site from the river channel free face, the low potential for liquefiable layers to be laterally continuous, and the presence of discontinuous fine-grained soil layers and denser sand and gravel layers. This conclusion would be verified by site-specific design level geotechnical studies. Should lateral spreading or flow sliding be determined to be a hazard to the Project, design measures would be implemented as part of the design process in accordance with the requirements in the CBC and the SDMC. Possible design measures include ground improvement, such as the installation of stone columns, or the construction of retaining walls that would isolate the stadium structure from any identified potential for lateral spreading or flow sliding to the south of the Project.

The potential for liquefaction and related hazards would be further investigated and defined during detailed design-level geotechnical studies for the Project. With the implementation of the recommendations contained in the geotechnical investigation report, as required by the design process in conformance with the CBC and SDMC, the potential for these hazards to impact people, the Project, or adjacent properties would be reduced to an acceptable level of risk and, therefore, a significant effect is not indicated.

C. Soil

As discussed previously, the Project is expected to be underlain by fill (primarily coarse-grained), highly variable alluvial deposits (sand, gravel, silt, and clay), and Friars Formation sandstone. Near-surface material is primarily granular in nature, consisting of sand and gravel, although some clay soils are present within the alluvium and possibly within the fill. Therefore, there is some limited potential that expansive soil could be present at the Project site. In addition, ground surface settlement could occur as a result of the consolidation of loose and soft alluvial soil layers due to significant fill placement. The potential for other soil phenomena, including collapse and subsidence, is considered low.

Subsurface investigation and laboratory testing performed as part of design-level geotechnical studies would further evaluate the potential for expansive soil to be present at the Project site, and provide recommendations for mitigation of the hazard to the Project, if present. If expansive soil is encountered within the Project footprint, it would be locally removed and replaced with nonexpansive material. The geotechnical investigation would also provide estimates of expected settlement due to the placement of fill. Smaller structures and surface improvements that are not supported on deep foundations would be designed to accommodate the expected settlement, and/or the earthwork would be programmed to limit long-term settlement by placing surcharge loads or implementing other measures. With the implementation of the recommendations contained in the final geotechnical report, as required by the design process in conformance with the CBC and SDMC, the potential for expansive soil and settlement to impact people, the Project, or adjacent properties would be reduced to less than significant levels.

The potential for other soil phenomena, including collapse and subsidence, is considered low.

D. Tsunamis and Seiches

As discussed previously, the Project site is outside of the tsunami inundation area (CalEMA CalEMA, CGS, and USC 2009) and there are no significant bodies of water near the site. The potential for tsunami inundation or flooding at the site as a result of a seiche is considered very low. Therefore, impacts to people, the Project, or surrounding properties due to tsunamis or seiches would be less than significant.

E. Landslides

The Project site is relatively level, and the construction of steep slopes is not planned as part of the Project. Geologic hazards maps generated by the City of San Diego Seismic Safety Study do not show the Project area as underlain by landslides and a review of site and geologic conditions suggests that the Project is not at significant risk to landslide hazards (see additional discussion in the Geotechnical and Geologic Evaluation Report, Appendix E). Therefore, the potential for landslides to impact people, the Project, or surrounding properties is considered low. Further, the potential for the Project to create a landslide hazard that would impact people or property is also considered low.

Significance of Impact

A. Faulting, Seismic Shaking and Ground Rupture

The Project site is not underlain by any active or potentially active faults. The seismic design of the Project would be performed in accordance with the requirements in the CBC and the SDMC. Based on the absence of fault rupture hazard and the planned compliance with the CBC and SDMC requirements for seismic design, the impacts of faulting, seismicity, and ground rupture would be reduced to an acceptable level of risk. Therefore, the impacts associated with strong ground motion would be less than significant.

B. Liquefaction and Secondary Effects

Due to the presence of loose granular material and a high groundwater level, the potential for liquefaction to occur is high. There is a lower potential that associated effects, including lateral spreading or flow sliding, could occur. To minimize the potential for liquefaction and secondary effects to cause distress to the Project, the stadium would either be supported on deep foundations extending to the underlying dense soil or formational material, or on shallow or deep foundations supported by soil that has been densified/stiffened using ground improvement techniques. These design features would reduce vertical settlement and lateral deformations of the foundation elements to less than significant levels. Therefore, the potential for liquefaction and secondary effects, including settlement of dry sands, strength loss in fine-grained soil, and lateral spreading or flow sliding, to impact people, the Project, or adjacent properties would be reduced to an acceptable level of risk. Therefore, the impacts associated with strong ground motion would be less than significant.

C. Soil

Due to the presence of variable subsurface deposits, including loose granular material and clayey soils, there is some potential for the presence of expansive soil, and a potential for settlement due to fill placement. Expansion potential and settlement estimates, including recommendations to address possible damage to the Project, would be made during design level geotechnical studies performed in accordance with the requirements in the CBC and the SDMC. Therefore, the potential for expansive soil and static settlement to impact people, the Project, or adjacent properties would be reduced to less than significant levels.

D. Tsunamis and Seiches

As discussed previously, the potential for tsunami inundation or flooding at the site as a result of a seiche is considered very low. Therefore, impacts associated with tsunamis or seiches would be less than significant.

E. Landslides

The potential for landslides and slope instability to impact people, the Project, or surrounding properties is considered low. Further, the potential for the Project to create a landslide hazard that would impact people or property is also considered low. Therefore, impacts associated with landslides would be less than significant.

Issue 2: Would the proposed project result in a substantial increase in wind or water erosion of soils, either on or off the site?

Impact Thresholds

A significant impact would occur if the Project results in a substantial increase in wind or water erosion of soils, either on or off the site.

Impact Analysis

Construction of the Project would involve grading activities, which would expose and disturb soils and could therefore increase the potential for soil erosion on the site. However, potential erosion impacts during construction would be avoided with adherence to the erosion control standards established by the City of San Diego's grading ordinance. As discussed in Section 4.8 Hydrology and Water Quality, surface water runoff and sedimentation would be controlled with the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and best management practices (BMPs). After construction, the Project site would include operational BMPs in accordance with the City of San Diego MS4 permit that would limit any wind or water erosion of soils during operations. Therefore, the Project would result in less than significant impacts resulting from a substantial increase in wind or water erosion of soils.

Significance of Impact

The proposed Project includes preparation and implementation of a SWPPP and BMPs as discussed in Section 4.8 Hydrology and Water Quality. Therefore, with implementation of the SWPPP and BMPs, less than significant impacts associated with wind or water erosion of soils would occur.

Issue 3: Would the proposed project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Impact Thresholds

A significant impact would occur if the Project would be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Impact Analysis

A. Liquefaction and Secondary Effects

As discussed for Issue 1, the available data suggest that due to the presence of loose to medium dense granular material and a high groundwater level, the potential for liquefaction within the sandy alluvium at the site is moderate to high. Further, there is also some potential for strength loss within the saturated fine-grained layers within the alluvium and settlement of dry sands above the groundwater table. In addition, given that there is a potential for liquefaction, as well as the presence of sloping ground, the potential exists for lateral spreading or flow sliding to occur at the site. As discussed previously, the potential for lateral spreading or flow sliding is considered low, however, this would need to be verified by detailed site-specific geotechnical studies conducted in accordance with the requirements in the CBC and the SDMC.

The potential impacts to the Project that could result from liquefaction and secondary effects, including lateral spreading, are discussed above in the Impact Analysis for Issue 1 (B, Liquefaction and Secondary Effects). Design features intended to reduce the potential consequences of soil liquefaction and secondary effects are also discussed above for Issue 1. With the implementation of the project design features in accordance with the CBC and SDMC, the potential for these hazards to impact the Project would be reduced to an acceptable level of risk.

B. Landslides

As discussed previously in the Impact Analysis for Issue 1 (E, Landslides), the potential for landslides to occur on or near the Project site under current conditions or as a result of the Project is considered low.

C. Subsidence, Collapse, and Settlement

Based on the geologic setting and soil types present, the potential for collapse and subsidence to occur at the Project site is considered low.

As discussed previously, ground surface settlement could occur as a result of the consolidation of loose and soft alluvial soil layers due to significant fill placement. The potential impacts to the Project that could result from settlement due to placement of new loads are discussed above in the Impact Analysis for Issue 1 (C, Soil). Project features designed to reduce potential effects of static settlement are also discussed above for Issue 1. With the implementation of these design features in accordance with the CBC and SDMC, the potential for settlement to adversely affect the Project would be reduced to less than significant levels.

Significance of Impact

A. Liquefaction and Secondary Effects

The Project site is located within an area with a potential for liquefaction and, to a lesser degree, a potential for lateral spreading. As required by the design process and in accordance with the CBC and SDMC, recommendations developed during design-level geotechnical studies to mitigate the potential for damage to the Project would be integrated into the design and construction of the Project. Therefore, the potential for liquefaction and secondary effects, including settlement of dry sands, strength loss in fine-grained soil, and lateral spreading and flow sliding, to adversely affect the Project would be reduced to an acceptable level of risk. The potential for impacts associated with strong ground motion would be less than significant.

B. Landslides

The potential for landslides and slope instability to impact the Project is considered low. Further, the potential for the Project to create a landslide hazard that would impact people or property is also considered low. Therefore, impacts associated with landslides would be less than significant.

C. Subsidence, Collapse, and Settlement

Due to the presence of variable subsurface deposits, including loose granular material, there is some potential for settlement due to fill placement. Project features designed to reduce any potential effects of settlement are also discussed above for Issue 1. Therefore, the potential for static settlement to the Project would be reduced to less than significant levels.

4.4.4 Mitigation, Monitoring, and Reporting

Based on the geologic conditions in the site area, the Project has the potential to expose people or properties to geologic hazards, including liquefaction and related effects and settlement. However, the potential impacts of these hazards would be reduced to an acceptable level of risk through implementation of Project design in accordance with the CBC and SDMC.

4.5 GREENHOUSE GAS EMISSIONS

This section describes global climate change and existing greenhouse gas (GHG) emission sources on the Project Site; summarizes applicable federal, state, and local regulations; and analyze the potential effects of GHGs from construction and operation of the Project on global climate change.

4.5.1 Existing Conditions

GHG emissions have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Global climate change also has the potential to result in sea level rise (resulting in flooding of low-lying areas), affect rainfall and snowfall (leading to changes in water supply and runoff), affect temperatures and habitats (affecting biological and agricultural resources), and result in many other adverse effects.

GHG emissions related to human activities have been determined as likely responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (IPCC 2007). The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; however, no single project alone is expected to measurably contribute to a noticeable incremental change in the global average temperature, or to a global, local, or micro climate. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

Scientific Basis of Climate Change

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. This infrared radiation (i.e., thermal heat) is absorbed by GHGs within the earth's atmosphere. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on the earth.

GHGs are present in the atmosphere naturally, are released by natural and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels, waste treatment, and agricultural processes. The following are GHGs that are widely accepted as the principal contributors to human-induced global climate change:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)
- Nitrogen Trifluoride (NF_3)

Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4 is the main component of natural gas and is associated with agricultural practices and landfills. N_2O is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices. HFCs are synthetic chemicals used as a substitute for chlorofluorocarbons in automobile air conditioners and refrigerants. PFCs are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable GHG used for insulation in electric power transmission and distribution equipment, and in semiconductor manufacturing. NF_3 is used in the electronics industry during the manufacturing of consumer items, including photovoltaic solar panels and liquid-crystal-display (i.e., LCD) television screens.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere (“atmospheric lifetime”). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs attributed to human activity include CH_4, which has a GWP of 28, and N_2O, which has a GWP of 265 (IPCC 2013). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 28 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change, because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

GHG Emissions Sources

GHG emissions contributing to global climate change are attributable in large part to human activities. For purposes of accounting for and regulating GHG emissions, sources of GHG emissions are grouped into emission categories. California Air Resources Board (ARB) identifies the following main GHG emission categories that account for most anthropogenic GHG emissions generated within California:

- *Transportation:* On-road motor vehicles, recreational vehicles, aviation, ships, and rail
- *Electric Power:* Use and production of electrical energy
- *Industrial:* Mainly stationary sources (e.g., boilers and engines) associated with process emissions
- *Commercial and Residential:* Area sources, such as landscape maintenance equipment, fireplaces, and consumption of natural gas for space and water heating
- *Agriculture:* Agricultural sources that include off-road farm equipment; irrigation pumps; crop residue burning (CO_2); and emissions from flooded soils, livestock waste, crop residue decomposition, and fertilizer volatilization (CH_4 and N_2O)
- *High GWP:* Refrigerants for stationary and mobile-source air conditioning and refrigeration, electrical insulation (e.g., SF_6), and various consumer products that use pressurized containers
- *Recycling and Waste:* Waste management facilities and landfills; primary emissions are CO_2 from combustion and CH_4 from landfills and wastewater treatment

<u>California</u>

ARB performs an annual GHG inventory for emissions and sinks of the six major GHGs. As shown in Figure 4.5-1, California produced approximately 459 million metric tons (MMT) of CO_2e in 2013. Combustion of fossil fuel in the transportation category was the single largest source of California's GHG emissions in 2013, accounting for 37 percent of total GHG emissions in the state. The transportation category was followed by the electric power category (including in-state and out-of-state sources), which accounts for 20 percent of total GHG emissions in California, and the industrial category, which accounts for 23 percent of the state's total GHG emissions (ARB 2015).

<u>San Diego County</u>

The University of San Diego School of Law, Energy Policy Initiative Center, prepared a GHG inventory for San Diego County in 2008. Total GHG emissions in San Diego County in 2012 were estimated to be 32.9 MMT of CO_2e. This represents an 11 percent increase compared to 1990 emissions levels of 29.5 MMT CO_2e (University of San Diego 2014). Transportation is the largest emissions sector, accounting for approximately 14 MMT of CO_2e, or 41 percent of total emissions. Energy consumption, including electricity and natural gas use, is the next largest source of emissions, at 32 percent of the total.

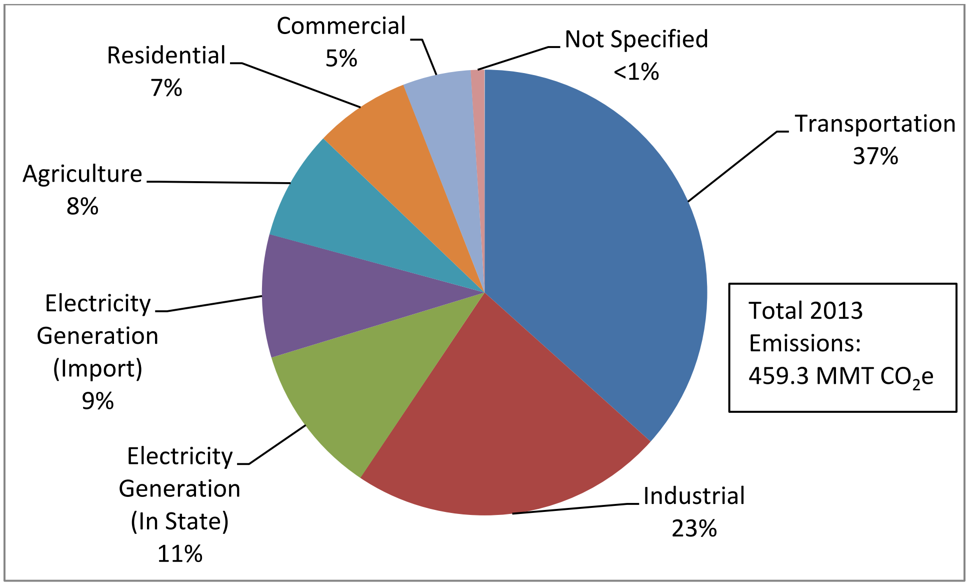

Figure 4.5-1. 2013 California GHG Emissions by Category

<u>City of San Diego</u>

The City of San Diego emitted approximately 15.5 million tons (MT) of GHGs in 1990 (City of San Diego 2005). Citywide emission levels were previously projected to result in an increase to 22.5 MT per year by 2010. The most recent GHG inventory for the year 2010 estimated the total emissions at 12.8 MMT CO_2e per year (City of San Diego 2014). Transportation is the largest emissions sector, accounting for approximately 55 percent of total emissions. Energy consumption is the next largest source of emissions, at 42 percent of the total. Accounting for future population and economic growth, the City estimates that GHG emissions will increase to approximately 14.0 MMT CO_2e in 2020 and 16.2 MMT CO_2e in 2035.

<u>Existing Qualcomm Stadium</u>

The Project Site is currently occupied by the existing Qualcomm Stadium, which actively holds events throughout the year. Operational activities include, but are not limited to professional football games, college football games, other sporting events (e.g., soccer, high school football), religious events, and parking lot-based events. Existing emissions were modeled using CalEEMod Version 2013.2.2 consistent with the methodologies discussed in Section 4.1, Air Quality of the DEIR, and later in this section. This analysis modeled the existing Qualcomm Stadium's annual GHG emissions using current attendance and utilities records. Table 4.5-1 presents the annual operational emissions associated with the existing Qualcomm Stadium. See Appendix F, GHG Technical Report, for detailed assumptions and modeling outputs.

Table 4.5-1
Existing Qualcomm Stadium Operational GHG Emissions

Emissions Source	Annual Operational Emissions ($MT\ CO_2e$)	Percent of Total Emissions (percent)
Area	0.14	<1%
Energy [1]	1,851	8.6%
Mobile (On-Road) [2]	19,047	88.0%
Waste	515	2.4%
Water [3]	226	1.0%
Total Operational Emissions	21,639	**100%**

Note: GHG = greenhouse gases; MT CO_2e = metric tons of carbon dioxide equivalent.
Totals may not add due to rounding.
[1] Energy emissions include electricity and natural gas consumption.
[2] Represents on-road emissions associated with event operations.
[3] Water-related emissions include both water consumption and wastewater generation.
Additional details available in Appendix F.
Source: Modeled by AECOM in 2015

4.5.2 Regulatory Framework

Federal Regulations

USEPA is the federal agency responsible for implementing the federal CAA. On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the CAA and that USEPA has the authority to regulate GHGs.

Mandatory Greenhouse Gas Reporting Rule

On October 30, 2009, USEPA published the final version of the Mandatory GHG Reporting Rule in the *Federal Register*. In general, this national reporting requirement provides USEPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO_2 per year. Subsequent rulings have expanded the emissions sources required to report emissions data, and now include oil and natural gas industries, industrial wastewater treatment, and industrial landfills. There are now a total of 41 source categories reporting emissions as a result of the Mandatory GHG Reporting Rule (USEPA 2013).

Greenhouse Gas Findings under the Federal Clean Air Act

On December 7, 2009, USEPA signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—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.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industries or other entities, this action was a prerequisite to finalizing the USEPA's Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles. On May 7, 2010, the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards were published in the *Federal Register*. The emissions standards will require model year 2016 vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, which is equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely by improving fuel economy.

On August 28, 2012, the U.S. Department of Transportation and USEPA issued a joint Final Rulemaking requiring additional federal GHG and fuel economy standards for passenger cars and light-duty trucks produced in model years 2017 through 2025. These vehicles would be required to meet an estimated combined average emissions level of 163 grams of CO_2 per mile in model year 2025, which is equivalent to mileage of 54.5 miles per gallon if the improvements were made solely through improvements in fuel efficiency.

In addition to the standards for light-duty vehicles, the U.S. Department of Transportation and USEPA adopted complementary standards to reduce GHG emissions and improve the fuel efficiency of heavy-duty trucks and buses on September 15, 2011. These standards together form a comprehensive heavy-duty national program for all on-road vehicles rated at a gross vehicle weight at or above 8,500 pounds for model years 2014 through 2018. The standards will phase in with increasing stringency in each model year from 2014 to 2018. The EPA standards adopted for 2018 will represent an average per-vehicle reduction in GHG emissions of 17 percent for diesel vehicles and 12 percent for gasoline vehicles (EPA 2011). The President has directed the USDOT and EPA to develop and issue the next phase of heavy-duty vehicle fuel efficiency and GHG standards by March 2016.

State Regulations

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California CAA.

Assembly Bill 1493

AB 1493 requires ARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. In June 2009, the USEPA Administrator granted a CAA waiver of preemption to California. This waiver allowed California to implement its own GHG emissions standards for motor vehicles beginning with model year 2009. California agencies worked with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger car model years 2017 to 2025.

Executive Order S-3-05

Executive Order S-3-05, signed in June 2005, proclaimed that California is vulnerable to the impacts of climate change. Executive Order S-3-05 declared that increased temperatures could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established total GHG emissions targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05: reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies ARB as the state agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target.

In December 2008, ARB adopted its Climate Change Scoping Plan (Scoping Plan), which contains the main strategies California will implement to achieve the GHG reductions required by AB 32 (ARB 2008). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of California's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles;
- Low Carbon Fuel Standard;
- Energy efficiency measures in buildings and appliances; and
- Renewable portfolio standard for electricity production.

The Scoping Plan states that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed.

ARB is required to update the Scoping Plan at least once every 5 years to evaluate progress and develop future inventories that may guide this process. ARB approved the *First Update to the Climate Change Scoping Plan: Building on the Framework* in May 22, 2014. The Scoping Plan update includes a status of the 2008 Scoping Plan measures and other state, federal, and local efforts to reduce GHG emissions in California and potential actions to further reduce GHG emissions by 2020.

Executive Order S-1-07

Executive Order S-1-07, which was signed by then California governor Arnold Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, at more than 40 percent of statewide emissions. Executive Order S-1-07 establishes a goal that the carbon intensity of transportation fuels sold in California should be reduced by a minimum of 10 percent by 2020. This order also directed ARB to determine if this low-carbon fuel standard (LCFS) could be adopted as a discrete early action measure after meeting the mandates in AB 32. ARB adopted the LCFS on April 23, 2009.

Senate Bill 97

Senate Bill (SB) 97 required the Governor's Office of Planning and Research to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375

SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or an Alternative Planning Strategy (APS), which will prescribe land use allocation in that MPO's Regional Transportation Plan (RTP). On September 23, 2010, ARB adopted regional GHG targets for passenger vehicles and light trucks for 2020 and 2035 for the 18 MPOs in California. If MPOs do not meet the GHG reduction targets, transportation projects would not be eligible for funding programmed after January 1, 2012.

This bill also extends the minimum time period for the Regional Housing Needs Allocation cycle from 5 years to 8 years for local governments located within an MPO that meet certain requirements. City or county land use policies (including general plans) are not required to be consistent with the RTP (and associated SCS or APS). However, new provisions of CEQA would incentivize qualified projects that are consistent with an approved SCS or APS, categorized as “transit priority projects.”

Senate Bill 1078, SB 107, and SB X1-2

SB 1078 established California’s Renewable Portfolio Standard (RPS) in 2002. SB 1078 required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 changed the target date to 2010. Executive Order S-14-08 expanded the state’s Renewable Energy Standard to 33 percent renewable power by 2020. This new goal was codified in 2011 with the passage of SB X1-2. In 2013, SDG&E, which provides electricity and natural gas to the project site, used 23.6 percent renewable energy to provide electricity to customers (CPUC 2014).

Assembly Bill 900

AB 900 (Jobs and Economic Improvement Through Environmental Leadership Act) was signed by Governor Jerry Brown in September 2011. The Act established procedures to streamline environmental review for qualifying, “leadership projects.” Any challenges to an EIR that qualifies as a “leadership project” would be evaluated immediately in the Court of Appeals, where the court has a maximum of 175 days to issue a decision on the challenge. “Leadership projects” can range from residential, retail, commercial, sports, cultural, entertainment, or recreational uses. The project must also meet certain qualifications such as achieving a minimum of LEED silver certification, resulting in at least 10 percent greater transportation efficiency than comparable projects, be an infill site, and be located in an area where an SCS has been adopted, among others. With respect to GHG emissions, qualifying projects cannot result in a net increase of GHG emissions, and all mitigation measures are required to be enforced and monitored.

Executive Order B-30-15

In April 2015, Governor Edmund Brown issued an executive order establishing a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Governor Brown's Executive Order S-03-05 goal of reducing statewide emissions 80 percent below 1990 levels by 2050. In addition, the executive order aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40 percent below 1990 levels by 2030) that was adopted in October 2014.

Local Regulations

ARB also acknowledges that local governments have broad influence and, in some cases, exclusive jurisdiction over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations.

<u>San Diego Air Pollution Control District</u>

In San Diego County, SDAPCD is the agency responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. SDAPCD has no regulations or guidance to other agencies relative to GHG emissions.

<u>City of San Diego</u>

General Plan

The City of San Diego adopted an updated General Plan in 2008. The following policies contained in the Conservation, Mobility Element of the General Plan are applicable to the Project:

- CE-A.2. Reduce the City's carbon footprint. Develop and adopt new or amended regulations, programs, and incentives as appropriate to implement the goals and policies set for the in the General Plan to:
    - Create sustainable and efficient land use patterns to reduce vehicular trips and preserve open space;
    - Reduce fuel emission levels by encouraging alternative modes of transportation and increasing fuel efficiency;
    - Improve energy efficiency, especially in the transportation sector and buildings and appliances;

  - Reduce the Urban Heat Island effect through sustainable design and building practices, as well as planting trees (consistent with habitat and water conservation polices) for their many environmental benefits, including natural carbon sequestration;
  - Reduce waste by improving management and recycling programs;
  - Plan for water supply and emergency reserves.

- CE-A.5. Employ sustainable or "green" building techniques for the construction and operation of buildings.
- CE-A.6. Design new and major remodels to City buildings, and where feasible, long-term building leases for City facilities, to achieve at a minimum, the Silver Rating goal identified by the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System to conserve resources, including but not limited to energy and renewable resources.
- 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.
- CE-A.9. Reuse building materials, use materials that have recycled content, or use materials that are derived from sustainable or rapidly renewable sources to the extent possible.
- CE-A.10. Include features in buildings to facilitate recycling of waste generated by building occupants and associated refuse storage areas.
- CE-A.11. Implement sustainable landscape design and maintenance.
- CE-F.4. Preserve and plant trees, and vegetation that are consistent with habitat and water conservation polices and that absorb carbon dioxide and pollutants.
- CE-F.6. Encourage and provide incentives for the use of alternatives to single-occupancy vehicle use, including using public transit, carpooling, vanpooling, teleworking, bicycling, and walking. Continue to implement programs to provide City employees with incentives for the use of alternatives to single-occupancy vehicles.
- CE-I.4. Maintain and promote water conservation and waste diversion programs to conserve energy.
- CE-I.5. Support the installation of photovoltaic panels, and other forms of renewable energy production.

- CE-I.7. Pursue investments in energy efficiency and direct sustained efforts toward eliminating inefficient energy use.
- CE-I.10. Use renewable energy sources to generate energy to the extent feasible
- CE-1.12. Use small, decentralized, aesthetically-designed, and appropriately-sited energy efficiency power generation facilities to the extent feasible.
- ME-I.1. Support commuter, intercity and high-speed passenger rail transportation projects that will provide travel options and improve the quality of service for intercity travel while minimizing impacts to the communities.

The General Plan Land Use Element establishes a City of Villages strategy to focus growth into mixed-use activity centers that are pedestrian-friendly, centers of community, and linked to the regional transit system. A “village” is defined as the mixed-use heart of a community where residential, commercial, employment, and civic uses are all present and integrated. Implementation of this strategy can decrease vehicle miles traveled (VMT) and reduce GHG emissions.

Climate Protection Plans

The City of San Diego has taken steps to address climate change impacts at a local level. On January 29, 2002, the San Diego City Council approved the San Diego Sustainable Community Program, including participation in the Cities for Climate Protection program, establishment of a 15 percent GHG reduction goal set for 2010, and direction to use the recommendations of a scientific advisory committee to improve the GHG Emission Reduction Action Plan and to identify additional community actions.

The City’s first Climate Protection Action Plan was approved in 2005. By adopting a goal of 15 percent reduction of baseline (1990) levels, the City hoped to reduce its emissions to 13.2 MT of GHG per year by 2010. Measures to reduce emissions included transportation, energy efficiency and renewable energy, waste reduction and recycling, urban heat island policy, and environmentally preferable purchasing for City purchases.

The City of San Diego distributed a draft Climate Action Plan (CAP) in July 2015 (City of San Diego 2015). The draft CAP quantifies GHG emissions; establishes reduction targets for 2020 and 2035; identifies strategies and measures to reduce GHG levels; and provides guidance for monitoring progress on an annual basis. The draft CAP is anticipated to be considered for adoption by the end of 2015.

4.5.3 Impact Analysis

Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project's GHG emissions and its incremental contribution to global climate change would be considered significant if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant cumulative impact on the environment, or
- Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

The SDAPCD has neither quantitative thresholds nor specific guidelines for determining the significance of impacts under CEQA. The City of San Diego CAP is currently being revised; GHG analyses occur on a project-by-project basis. The City uses an interim threshold to determine whether a GHG analysis is required for projects subject to CEQA analysis.

The City's memorandum "Addressing Greenhouse Gas Emissions from Projects Subject to CEQA", August 2010, provides guidance for the evaluation of GHG emissions from land use development projects. The memorandum recommends that the conservative, quantitative threshold of 900 MT CO_2e per year be used as screening criteria to evaluate the potential impact of a project's GHG emissions. If a project does not exceed 900 MT CO_2e per year, then the climate change impacts would be less than significant and would not require additional analysis.

If the project exceeds 900 MT CO_2e per year, then the City assesses significance based upon whether the project would impede the implementation of AB 32. To demonstrate that the project would not impede the implementation of AB 32, the project must demonstrate how future GHG emissions generated by the project would be reduced to 28.3 percent below projected business-as-usual (BAU) levels in 2020.

Analysis Methodology

Construction

Construction-related emissions associated with typical construction activities, such as site grading, construction and demolition, were modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2. CalEEMod allows the user to enter project-specific construction information, such as types, number, and horsepower of construction equipment, and number and length of off-site motor vehicle trips. Construction-related GHG exhaust emissions for the Project were estimated for construction worker commutes, haul trucks, and the use of off-road equipment. All project-specific construction assumptions and parameters are consistent with those used in Chapter 4.1, “Air Quality.” See Appendix A (CalEEMod Modeling Data) for detailed construction assumptions and modeling outputs.

Based upon guidance from the Association of Environmental Professionals (AEP), the total construction GHG emissions associated with a project are amortized over 30 years for Project construction, and added to the operational GHG emissions (AEP 2010).

Operational

Following construction of the Project, day-to-day operational activities would generate emissions from a variety of sources. Pursuant to the state CEQA Guidelines (Section 15125(e)), this analysis evaluates the net change in operational emissions from the existing Qualcomm Stadium to the new stadium, which is assumed to be operational in 2019.

CalEEMod estimates operational GHG emissions associated with development of a project, including transportation, electricity, natural gas, solid waste, water and wastewater, and area-source emissions. It should be noted that the Project is not a typical land use development project and therefore when possible, this analysis uses stadium-specific consumption rates (e.g., electricity, natural gas, mobile sources, water, and solid waste) based on the existing Qualcomm Stadium historical data to model existing (2015) operational activities. For the new stadium, consumption rates from the existing Qualcomm Stadium were adjusted to account for the differences in the new stadium that would occur at full buildout (2019).

Operational GHG emissions may be both direct and indirect emissions, and would be generated by area and mobile sources associated with the Project. Area-source emissions would be associated with activities such as maintenance of landscaping and grounds. Natural gas combustion for space and water heating is also a direct area source of GHG emissions. Solid waste disposal and wastewater treatment from operation of the new stadium would result in indirect, off-site emissions of GHGs.

Indirect emissions sources include emissions from electricity generation at off-site utility providers. Consumption of water and generation of wastewater would also result in indirect GHG emissions because of the electricity consumption associated with the off-site conveyance, distribution, and treatment of water and wastewater.

Mobile-source GHG emissions generated by vehicle trips from stadium attendees, workers, vendors, and event participants were modeled using trip generation information from the traffic study (AECOM 2015a). The traffic study evaluated the various existing and proposed events that would occur at the Project Site over a calendar year. In addition, vehicle class information for stadium attendees and visitors was obtained from recent Qualcomm Stadium records, which was used to model GHG emissions in CalEEMod. As discussed above, the year 2015 was used to model existing conditions and year 2019 was used to model operation of the new stadium.

For electricity-related GHG emissions, emission factors specific to San Diego Gas and Electric (SDG&E) were obtained from Energy Model Report (AECOM 2015). The SDG&E-specific emission factor accounts for the current electricity portfolio mix used to produce power for the Project and compliance with RPS. The natural gas GHG emission factor was obtained from CalEEMod.

For water consumption, water-related energy intensities (i.e., kilowatt-hour per gallon of water provided) were also obtained from CalEEMod, which contains southern California-specific water energy intensities from the California Energy Commission's *Refining Estimates of Water-Related Energy Use in California*. Water consumption associated with the Project and from the existing Qualcomm Stadium was obtained from Chapter 4.14, "Public Utilities." Water-related electricity consumption was calculated by multiplying the annual water consumption (e.g., million gallons) by the water-related energy intensity. Because the source, infrastructure, and electricity used to supply water to San Diego and the Project Site varies, a California-specific electricity emission factor was used to calculate water-related GHG emissions.

For wastewater generation, this analysis conservatively assumed that 85 percent of the water consumption would be treated. In other words, 85 percent of the water used would be captured by the sewage system, which is the high end of the range of the wastewater capture (VWD 2010). CalEEMod calculates wastewater-related CH_4 emissions using methodologies and default assumptions IPCC's *2006 Guidelines for National Greenhouse Gas Inventories*. This analysis uses the methodologies with an updated GWP for CH_4 from IPCC's Fifth Assessment (IPCC 2013).

For solid waste, CalEEMod does not contain waste generation rates that would be applicable to the Project. Therefore, waste generation rates for the existing Qualcomm Stadium based on a waste generation rate per stadium seat factor (i.e., annual tons of solid waste per seat) were used to estimate annual solid waste generation (AECOM 2015). Emission factors developed for waste streams similar to the Project (i.e., sporting events, concerts, and other entertainment events) were used to quantify the Project's solid waste GHG emissions (OPR 2015).

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

Construction

Construction-related GHG exhaust emissions would be generated by sources such as heavy-duty off-road equipment, trucks hauling materials to the site, and construction worker commutes. GHG emissions generated by construction would be primarily in the form of CO_2. While emissions of other GHGs, such as CH_4 and N_2O, are important with respect to global climate change, emission levels of other GHGs are less dependent on the emissions-generating activities associated with the Project than are levels of CO_2. However, emissions and associated GWP of CH_4 and N_2O were incorporated into the total CO_2e emissions of the Project to provide an accurate estimate of total project-related emissions.

As described above in Analysis Methodology, all construction-related assumptions and parameters used to model GHG emissions are consistent with those described in Chapter 4.1, “Air Quality.” Construction-related GHG emissions were estimated at an annual maximum of 21,320 MT CO_2e per year during 2019, and 48,270 MT CO_2e over the entire 5-year construction period. The Project’s total construction emissions were amortized over 30 years and added to annual operational emissions to be evaluated. Table 4.5-2 presents the Project’s annual, total, and amortized construction emissions.

Table 4.5-2
Proposed Project Construction-Related GHG Emissions

Construction Year	Emissions (MT CO_2e)
2016	822
2017	11,690
2018	11,717
2019	21,320
2020	2,723
Total	**48,270**
Amortized Construction Emissions[1]	**1,609**

Notes: MT CO_2e = metric tons of carbon dioxide equivalent.
[1] Construction emissions were amortized over a 30-year period.
Source: Modeled by AECOM 2015b

As described above, the Project’s amortized construction-related emissions are evaluated further along with operational emissions.

Operations

Operational GHG emissions were estimated for the Qualcomm Stadium and the Project at full buildout to determine the net change in operational emissions. As described above, amortized construction emissions were added to the net change to compare with the City's threshold of significance. Table 4.5-3 presents the existing annual operational GHG emissions for the existing Qualcomm Stadium and GHG emissions projected to occur at full buildout of the Project in 2019, and the net change between the Project and the existing conditions.

The analysis first discusses the net change in GHG emissions between the existing Qualcomm Stadium and the Project. Then to determine whether the project would impede implementation of AB 32, the analysis demonstrates that the Project would achieve the required 28.3 percent reduction in GHG emissions from BAU levels in 2020. "Business-as-usual" refers to the level of GHG emissions that the Project would emit if it does not take into account any GHG reduction measures. It is a projection of GHG emissions in the future if the analysis assumes that California, the local agencies, or the project do not include any measures to reduce GHG emissions.

The business-as-usual emissions for the Project were estimated using 2005 emission factors, and therefore, do not include any improvements associated with state programs, such as Title 24 standards, AB 1493, or the LCFS. In addition, the business-as-usual estimates do not include any benefits associated with the project location, such as pedestrian improvements or increased transit use.

Net Change

Mobile Source

As indicated in the Section 3.0, Project Description, in addition to its other planned uses, the Project would be designed specifically for use by an NFL team. However the new stadium is expected to be used for other non-NFL events. The annual activities are similar to the type of events that have occurred at Qualcomm Stadium, but are anticipated to increase over existing conditions. The traffic study estimated the number and types of vehicle trips that occur during annual operation of the existing Qualcomm Stadium and the projected number and type of vehicle trips that would occur during annual operation of the new stadium. Therefore, as shown in Table 4.5-3, the net change in mobile source emissions between the Project and the existing Qualcomm Stadium is a result of increased event frequency projected for the new stadium.

Electricity and Natural Gas

The energy sector would include both electricity and natural gas consumption. As discussed in Section 4.3, Energy, electricity consumption was based on actual meter readings at Qualcomm stadium between 2014 and 2015. The electricity usage was 5,768 MWh per year for the existing Qualcomm Stadium. The Energy Modeling Report modeled electricity and natural gas consumption associated with the Project and the existing Qualcomm Stadium (AECOM 2015). The energy modeling estimated that the proposed increase in floor area and number of events for the new stadium would result in a 10 percent and 26 percent increase in annual electricity and natural gas consumption, respectively (AECOM 2015).

The new stadium would also incorporate several design measures that would reduce GHG emissions from a variety of emission sources. These design measures would include achieving LEED Gold Certification among others. Although many of the credits and features to achieve LEED Gold Certification would result in GHG emission reductions, LEED provides a level of flexibility for projects to choose the exact credits and project features. LEED credits include categories, including, but not limited to, location and transportation (e.g., access to quality transit), energy (e.g., renewable energy production), and water efficiency (USGBC 2015).

It is anticipated that the measures used by the Project to achieve LEED Gold Certification would reduce GHG emissions from a variety of sources (e.g., energy, water, solid waste, transportation). The new stadium would include solar photovoltaic (PV) panels that would provide a minimum of 100 kilowatts of renewable energy developed on-site. The reduction in GHG emissions were estimated for the amount of solar generation that would be provided by the Project. At the time of this analysis, the exact LEED credits and project features that would be selected to achieve LEED Gold Certification (i.e., 60-79 LEED credits) have not yet been determined, and therefore, no additional GHG reductions were taken for achievement of LEED Gold Certification. The net change in energy-related GHG emissions shown in Table 4.2-3 is a result of increased energy consumption for the new stadium.

Solid Waste

The new stadium would result in a net decrease in the total number of seats compared to the existing Qualcomm Stadium (i.e., from 70,560 existing seats to 68,000 seats for the new stadium). However, for existing conditions, the attendance rate (i.e., 65,432 attendees was used to estimate existing solid waste generation. The annual solid waste generated by the new stadium and Qualcomm Stadium was estimated using waste generation rates (i.e., tons of waste generated per seat) from the existing Qualcomm Stadium (AECOM 2015). The net change in solid waste emissions is shown in Table 4.5-3.

Water

The water consumption associated with the new stadium and the existing Qualcomm Stadium was estimated in Chapter 4.14, “Public Utilities.” Therefore, the net change in water-related GHG emissions shown in Table 4.2-3 is a result of increased water consumption for the new stadium.

In addition to the water-related GHG emissions, the Project would also generate wastewater as a result of its operations. Because the amount of wastewater generated would depend on water consumption, the net change in wastewater-related GHG emissions shown in Table 4.2-3 is a result of increased water consumption for the new stadium.

Table 4.5-3
Existing and Proposed Project Operational GHG Emissions

Emissions Source	Existing Qualcomm Stadium Emissions (MT CO_2e)	New Stadium Emissions (MT CO_2e)	Net Change in Emissions from Existing (MT CO_2e)
Area	0.14	0.14	0
Energy [1]	1,851	1,779	(73)
Mobile (On-Road) [2]	19,047	33,636	14,589
Mobile (San Diego MTS) [3]	515	535	(20)
Waste	226	493	268
Water [4]	21,639	36,444	14,805
Operational Emissions	–	1,609	–
Amortized Construction Emissions[5]	21,639	38,053	16,414
Total Emissions	13,255	25,595	13,543

Note: BAU = business as usual. Emissions shown in parentheses represent negative emissions (i.e., net decrease in emissions from existing conditions). Totals may not add due to rounding.
[1] Energy emissions include electricity and natural gas consumption.
[2] Represents on-road emissions associated with event operations.
[3] Water-related emissions include both water consumption and wastewater generation.
[4] Construction emissions are amortized over 30 years and added to the net change in emissions.
Additional details available in Appendix C.
Source: Modeled by AECOM in 2015

As shown in Table 4.5-3, the Project would result in a net increase of 16,414 MT CO_2e from existing conditions, including amortized construction emissions.

Business As Usual

In order to demonstrate that Project would achieve the required 28.3 percent reduction in GHG emissions, this analysis modeled the Project (i.e., new Stadium) under BAU conditions (year 2005). The following analysis describes how the Project’s operational emissions were modeled using 2005 data, which are presented in Table 4.5-4.

Construction

At this time, the City of San Diego has not adopted policies or recommended performance measures to address specific GHG emission reductions related to construction. Even though emission rates for construction equipment and on-road vehicles improve from BAU conditions (resulting in lower construction-related GHG emissions), the analysis conservatively assumes that construction-related emissions for the Project would be the same as BAU conditions. Therefore, amortized construction emissions are not included in the BAU analysis.

Mobile Sources

For mobile source emissions, CalEEMod contains emission factors from EMFAC2011 that incorporate the emission reductions associated with Pavley I (AB 1493) and Low Carbon Fuel Standard (LCFS). The amount of reductions associated with Pavley I emission standards would increase from its inception year (2009) to the last year where it would affect vehicle emission standards (i.e., model year 2016 vehicles). Similarly, the first year of LCFS implementation was 2011, after which required reductions would increase until 2020, which is the full implementation year for LCFS. In addition, the fleet turnover and increases in fuel and emission efficiencies independent of AB 1493 and LCFS would further reduce emission at full buildout compared to BAU conditions. Therefore, as shown in Table 4.5-4, mobile source emissions associated with the new stadium in the buildout year (2019) would be reduced by 31.2 percent compared to BAU conditions (2005), when AB 1493 and LCFS were not in effect.10

Energy

For electricity and natural gas consumption, the Energy Modeling Report modeled the Project assuming use of the existing building envelope and energy efficiency (i.e., existing Qualcomm Stadium building efficiency), which was used to represent the energy consumption for the new stadium operating under a BAU scenario (AECOM 2015). The electricity and natural gas consumption for the BAU scenario was assumed to be 7,175 MWh and 67,035 therms per year, respectively. This energy consumption is a result of less energy efficient systems (e.g., heating, cooling, lighting) than the current and future Title 24 standards. Electricity consumption for the new stadium was modeled to be 6,322 MWh per year, which is a 12 percent reduction from BAU

[10] This mobile source reduction would be slightly higher than typical land use development projects because of the vehicle class distribution (i.e., fleet mix) used in the analysis. The on-road motor vehicles for the visitors to the stadium would primarily be passenger vehicles (i.e., light-duty autos and light-duty trucks). This is a higher percentage than the County average, which would include more heavy-duty vehicles (that are not affected by AB 1493 vehicle emission standards). Since the majority of vehicles traveling to the project site would be directly affected by AB 1493, the Project would result in higher reductions compared with other projects that use a default San Diego County vehicle class distribution.

conditions resulting from increases in energy efficiency standards in the new stadium. Annual natural gas consumption for the Project would be 56,259 therms, or a 16 percent decrease from BAU conditions.

In addition, as described above, Executive Order S-14-08 established a RPS to 33 percent by 2020. In order to achieve the RPS in 2020, utilities such as SDG&E have been increasing their renewable resources for energy production. Therefore, all electricity consumption from SDG&E sources would decrease in GHG intensity (i.e., GHG emissions generated per kilowatt-hour) as the RPS is met. Emission factors specific to SDG&E's projected 2020 electricity intensity assuming compliance with the 33 percent RPS were used to calculate electricity-related GHG emissions for the new stadium. These emission factors would account for the GHG-reductions associated with SDG&E increasing the percent of renewable energy in their electricity portfolio. As a result of increases in energy efficiency (e.g., Title 24 standards) and RPS requirements for SDG&E, total GHG emissions related to energy consumption (electricity and natural gas) for the Project would be reduced by 32 percent compared to BAU conditions (see Table 4.5-4).

Solid Waste

For the solid waste sector, consumption rates were conservatively assumed to remain constant from current to BAU conditions. As a result of the Recycling Ordinance and other local policies, the City of San Diego waste diversion rate increased from 52 percent in 2004 to 68 percent in 2012. The increased diversion rate would result in a reduction of 31 percent from business-as-usual conditions. Therefore, it is anticipated that solid waste disposed under BAU conditions would be approximately 31 percent higher than that during buildout of the new stadium. Compared to BAU conditions, the new stadium would result a 23.7 percent reduction in solid waste-related GHG emissions (see Table 4.5-4).

Water

The water sector would include GHG emissions from water consumption and wastewater generation. The water consumption levels for the water and wastewater sector were conservatively assumed to remain constant from BAU to the new stadium. It is anticipated that the new stadium's water fixtures and increases in water efficiency infrastructure would result in a net reduction in water consumption; however, these reductions cannot be accurately calculated and therefore constant water consumption levels were assumed. However, the electricity intensity factor for water conveyance under the new stadium would be lower than BAU conditions. In other words, the California statewide electricity portfolio would have become less carbon-intensive as additional renewable energy sources have been developed. Therefore, as shown in Table 4.5-4, assuming similar water consumption and wastewater generation rates under the new stadium and BAU conditions, the new stadium would result in a 15.7 percent reduction in water-related GHG emissions compared to BAU conditions as result of a cleaner statewide electricity production.

Table 4.5-4
Estimated Business-as-Usual and Project Annual GHG Emissions

Emissions Source	BAU Emissions (MT CO_2e) [1]	New Stadium Emissions (MT CO_2e)	Net Change in Emissions (MT CO_2e)	Percent Reduction from BAU
Area	0.14	0.14	(0.01)	3.7%
Energy [2]	2,602	1,779	(823)	31.6%
Mobile (On-Road) [3]	48,890	33,636	(15,254)	31.2%
Waste	701	535	(166)	23.7%
Water [4]	520	493	(27)	15.7%
Total Operational Emissions	52,713	36,444	(16,270)	30.9%
BAU Threshold				28.3%
Meets Threshold?				YES

Note: BAU = business as usual; MT CO_2e = metric tons of carbon dioxide equivalent; MTS = Metropolitan Transit Service.
Totals may not add due to rounding.
At this time, the City of San Diego has not adopted policies or recommended performance measures to address specific GHG emission reductions related to construction. Even though emission rates for construction equipment and on-road vehicles improve from BAU conditions (resulting in lower construction-related GHG emissions), the analysis conservatively assumes that construction-related emissions for the Project would be the same as BAU conditions. Therefore, amortized construction emissions are not included in the BAU analysis.
[1] BAU emissions represent emissions under year 2005 conditions.
[2] Energy emissions include electricity and natural gas consumption.
[3] Represents on-road emissions associated with event operations.
[4] Water-related emissions include both water consumption and wastewater generation.
Additional details available in Appendix F.
Source: Modeled by AECOM in 2015

Significance of Impacts

When accounting for California statewide emission reduction measures included in the Scoping Plan, City waste diversion programs, increases in energy efficiency standards, and other increases in emissions technology, this analysis estimates that the Project at full buildout would result in a 30.9 percent reduction in long-term operational GHG emissions from BAU conditions, and therefore would not impede the implementation of AB 32. Therefore, the Project would not generate GHG emissions that may have a significant impact on the environment. This impact would be less than significant.

Although the Project would not impede implementation of AB 32, in order to apply for AB 900 CEQA streamlining, a project cannot result in a net increase of GHG emissions from construction or operational emissions. Therefore, in the case that the Project would apply for and receive final approval for AB 900 streamlining, the following Project Improvement Measure would be required, but is not a required mitigation measure.

Project Improvement Measure: Purchase Voluntary Carbon Credits

Calculations of construction and long-term operational emissions that span the useful lifetime of the project (e.g., 30 years) performed with methodology agreed upon by ARB in connection with the AB 900 certification shall be developed. Courtesy copies of the operational calculations shall be provided to ARB and the Governor's office as part of the AB 900 application. One or more contracts shall be executed to purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset construction and operational GHG emissions over the lifetime of the project. Carbon credits shall be purchased at a net present value although the contracts could propose acquiring the credits in advance of the emission-generating activities to be offset. Copies of the contract(s) shall be provided in the AB 900 application to ARB and the Governor's office to verify that construction and lifetime operational emissions have been offset. The improvement measure will become effective after final approval and certification of the AB 900 application by the Governor's office.

Issue 2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG?

At the time of this writing, the City of San Diego's CAP is still in draft form and therefore cannot be considered as an approved plan. Once reviewed and approved, City of San Diego CAP will establish strategies and measures to meet the GHG reduction target. The environmental review process for the draft CAP has not yet been completed, and the details of any applicable measures were not available at the time of this analysis. Therefore, for the purposes of this analysis, the applicable GHG reduction plan to evaluate the project against is the statewide AB 32 Scoping Plan. Projects that would be consistent with the goals and strategies of the AB 32 Scoping Plan would be considered not to conflict with the plan's purpose of reducing GHG emissions.

ARB's First Update to the Climate Change Scoping Plan: Building on the Framework (Scoping Plan Update) includes updates to measures and strategies established to meet California's goal of reducing emissions to 1990 levels by 2020 and also reiterates the state's role in the long-term goal established in Executive Order S-3-05, which is to reduce GHG emissions to 80 percent below 1990 levels by 2050. The Scoping Plan Update confirms that the state is on track to meet the 2020 emissions reduction target, but will need to maintain and build upon its existing programs, scale up deployment of clean technologies, and provide more low-carbon options to accelerate GHG emission reductions, especially after 2020, in order to meet the 2050 target. However, the plan does not recommend additional measures for meeting specific GHG emissions limits beyond 2020. In general, the measures described in the plan are designed to meet emissions goals in 2020 and have not yet been adjusted to meet emission reduction targets after 2020.

The Scoping Plan did not directly create any regulatory requirements for construction of the Project. However, measures included in the Scoping Plan would indirectly address GHG emissions levels associated with construction activities, including the phasing-in of cleaner technology for diesel engine fleets (including construction equipment) and the development of a low-carbon fuel standard. The Project would comply with any mandate or standards set forth by the Scoping Plan update.

With respect to land use planning and transportation-related emissions, which are the largest emission sector in the state (see Figure 4.5-1), SB 375 includes regional emission reduction goals for 2020 and 2035, and requires each MPO to develop an SCS that aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. The San Diego Association of Governments (SANDAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) determined that the region will achieve the GHG emissions reduction goals set by ARB of 7 percent per capita GHG reductions from passenger vehicles by 2020 and 13 percent by 2035 (SANDAG 2011).

SANDAG plans are developed based on land use, population, and commercial/industrial growth projections from local jurisdictions in the region, including the City of San Diego. The City of San Diego General Plan was approved in 2008 and includes strategies that focus growth into mixed-use activity centers that are pedestrian-friendly and linked to an improved regional transit system. Projects consistent with the City of San Diego's General Plan would be considered to comply with the planning efforts in the SANDAG RTP/SCS, which was designed to achieve the region's fair-share GHG emission reductions pursuant to AB 32. Therefore, projects consistent with the City of San Diego's General Plan would also be consistent with the GHG emission reduction goals of the AB 32 Scoping Plan.

The Project is not a typical land use development project, but it would be responsible for significant trip generation as a result of the events that are anticipated to be scheduled at the venue (see Section 3.0 Project Description, Table 3-4 for detailed existing and anticipated annual event details). The Project would be consistent with the overall GHG reduction strategies of the SCS, Scoping Plan, and General Plan to reduce mobile source emissions and increase energy efficiency. The Project would be located at the same site as the existing Qualcomm Stadium to take advantage of the multi-modal access (i.e., public transit and multiple freeways). However, as part of the project design (i.e., reduced parking), the Project would encourage attendees to maximize the use of current public transit infrastructure (i.e., San Diego MTS). In addition, the reduced parking would also encourage attendees that cannot use public transit to utilize remote transit-oriented and parking facilities to reduce VMT coming to the Project Site. See Section 4.10 Mobility (Circulation) for more description of how the project design would increase public transit and reduce VMT to the Project Site. Although the Project would increase the number of annual events held at the Project site, which could increase annual VMT, it is anticipated that reduced parking availability would increase the rate of use of public transit by an average of 7 percent for the Project (see Tables 4.10-13 and Tables 4.10-14). As discussed in Section 4.10 Mobility (Circulation) Table 4.10-8, it is anticipated that the Project's reduced parking would result in a 12.6 percent and 11.5 percent reduction in total trips for weekday and weekend game events, respectively.

The Scoping Plan also cites energy efficiency and renewable energy as key strategies for achieving the State's GHG reduction targets. The Project would achieve LEED Gold Certification and would be built according to the most recent Title 24 standards, which would increase energy efficiency beyond the existing Qualcomm Stadium. Although it is anticipated that energy efficiency would increase with the Project, overall energy consumption was projected to increase by 10 percent and 26 percent for electricity and natural gas as a result of increased on-site stadium space and event frequency per year. Additional on-site project design features, beyond minimum code requirements, would reduce total energy consumption and decrease reliance on fossil fuels.

As discussed in Section 3, the Project would be designed to have "no net increase" in total annual energy consumption related to electricity and natural gas use compared to existing conditions. Furthermore, the new stadium would include photovoltaic renewable energy that would provide a minimum of 100 kilowatts of renewable energy on-site. This could be fixed PV panels mounted on up to five acres of new carport structures within the northwestern portion of the stadium surface parking lot or located on the roof of the new stadium. Therefore, it is anticipated that overall the Project would result in greater energy efficiency and increased renewable energy production for the Project Site beyond existing conditions. Therefore, the Project would be consistent with General Plan Policies CE-I.10, CE-I.12, and CE-I.5 that promote renewable energy and would also comply with the overarching GHG reduction strategies of AB 32 Scoping Plan (i.e., energy efficiency, renewable energy).

As discussed above, the Project would achieve LEED Gold Certification, which would require a minimum number of features to increase on-site water conservation and efficiency. Although the exact features that would be used to qualify for LEED Gold Certification have not yet been finalized, the Project (as discussed in Chapter 3.0, "Project Description") would include access to quality transit, renewable energy production, and water efficiency. In addition, restrooms would be equipped with waterless urinals, low-flow toilets, and sensor faucets to reduce overall water use beyond existing conditions. These project design features would comply with General Plan

Policies CE-B.4 and CE-E.2, and be consistent with the Scoping Plan's strategy to increase water efficiency, which would subsequently decrease energy consumption and GHG emissions associated with water and wastewater treatment.

The Project would include design features (i.e., reduced parking and LEED Gold Certification) consistent with the General Plan and the Scoping Plan that increase transportation, energy, and water efficiency at the Project site compared to existing conditions. Therefore, the Project would not conflict with existing California legislation that has been adopted to reduce statewide GHG emissions. Neither the City nor any other agency with jurisdiction over this project has adopted climate change or GHG reduction measures with which the project would conflict. Therefore, the Project would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions. This impact would be less than significant.

4.5.4 Mitigation, Monitoring, and Reporting

No mitigation measures are required unless the Project is approved for final certification of an AB 900 application for CEQA streamlining, in which case, the Project shall implement Project Improvement Measure as follows:

Project Improvement Measure: Purchase Voluntary Carbon Credits

Calculations of construction and long-term operational emissions that span the useful lifetime of the project (e.g., 30 years) performed with methodology agreed upon by ARB in connection with the AB 900 certification shall be developed. Courtesy copies of the operational calculations shall be provided to ARB and the Governor's office as part of the AB 900 application. One or more contracts shall be executed to purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset construction and operational GHG emissions over the lifetime of the project. Carbon credits shall be purchased at a net present value although the contracts could propose acquiring the credits in advance of the emission-generating activities to be offset. Copies of the contract(s) shall be provided in the AB 900 application to ARB and the Governor's office to verify that construction and lifetime operational emissions have been offset. The improvement measure will become effective after final approval and certification of the AB 900 application by the Governor's office.

4.6 HAZARDOUS MATERIALS/HUMAN HEALTH/PUBLIC SAFETY

This section of the EIR evaluates the potential impacts of the Project to the public or the environment associated with hazardous materials, wildland fire, airport and aircraft hazards, emergency and evacuation planning, and other sources of risk to safety and the environment. This analysis is partially based on the *Phase I Environmental Site Assessment (ESA) for Qualcomm Stadium, 9449 Friars Road, San Diego, California* (Phase I ESA), which is included as Appendix G to this EIR. Please note that health risks associated with air pollutant emissions are evaluated in Section 4.1 of this EIR, geologic hazards are evaluated in Section 4.4, and water quality and flooding are evaluated in Section 4.8. Additionally, land use compatibility of the Project with airports and aircraft use in the Project area is addressed in Section 4.9.

4.6.1 Existing Conditions

Current Site Uses

The Project site is located on 166 acres of land owned by the City of San Diego within the Mission Valley area of San Diego, California. Tenants of the current stadium include the San Diego Chargers, San Diego State University Aztecs football team, and food and retail vendors. Annual recurring events at the stadium include NFL games, Holiday Bowl, Poinsettia Bowl, and various high school football games. Other events at the stadium include concerts, moto-cross events, and soccer games. The parking lots around the current stadium are also used for car sales, swap meets, recreational vehicle (RV) shows, RaceLegal events, antique collector car parts exchanges, and Police Academy training.

The Project Site is located at 9449 Friars Road. The new stadium would be located on the existing Qualcomm Stadium property but northeast of the current stadium, south of San Diego Mission Road, and west of I-15. Mission Valley is a major floodplain, and the Project site is located immediately north of the San Diego River and west of Murphy Canyon Creek. The majority of the site is located within the FEMA 100- and 500-year flood zones and drains to the San Diego River. The property has been previously graded by previous development and the expansion projects for the current stadium.

Qualcomm Stadium is an approximately 1,351,200-square-foot, seven-level (with two basement levels) structure, which occupies approximately 15 acres in the central portion of the Project site. The existing Qualcomm Stadium was constructed with half of the lower level seating built of permanent concrete in the southern quadrant of the Stadium, and the other half of portable modular construction using aluminum or steel. Interior areas include retail shops, food vendor facilities, locker room, and restroom facilities. Asphalt-paved parking areas surround the entire existing Qualcomm Stadium. There are approximately 18,870 parking spaces on the property. Numerous pad-mounted transformers and dumpsters were observed throughout the parking areas during the site survey performed as part of preparation of the Phase I ESA (AECOM 2015). An elevated trolley station and overhead trolley line, owned and operated by MTS, are located in the southern portion of the property, south of the current existing Qualcomm Stadium.

Several additional features are present in the southwestern corner of the Project site, to the north and south of the MTS Trolley Green Line in this area. On the south side of the MTS Trolley line, these features include a practice field, a concrete block restroom facility and storage room, concrete-paved and unpaved storage areas, a three-sided concrete block storage structure, a sod farm, a practice field, and temporary structures associated with San Diego Fire Department Station 45. Features present to the north of the MTS Trolley line in this area include paved and unpaved exterior storage areas, a maintenance shop building, and a maintenance yard. Materials stored within the storage barn include excess seating, miscellaneous promotional items, electronic equipment, universal waste (spent fluorescent light bulbs), and miscellaneous building maintenance materials. The maintenance shop is used for general building maintenance activities and storage of miscellaneous building maintenance materials (such as tools, manual lathes, and light welding equipment). An air compressor, propane storage cage, and a covered hazardous waste storage area are located at the exterior west side of the maintenance building. A concrete pad associated with a former on-site water recycling facility is located south of the maintenance building. The concrete pad contains a sewer lift station, a SDG&E-owned transformer, a truck trailer used for storage, and a wooden storage building. In addition, a 1,500-gallon divided compartment aboveground storage tank (AST), with gasoline and diesel, is located to the south of the concrete pad. Two trash compactor units (used by current tenant Urban Corps Recycling) are also located on a concrete pad to the southwest of the maintenance building. To fuel two emergency generators located on-site, one 200-gallon diesel fuel AST is located in a fenced enclosure on the north side of the existing Qualcomm Stadium and the other 50-gallon diesel fuel AST is located west of San Diego Fire Department Station 45.

Petroleum products and hazardous materials are used routinely as part of existing Qualcomm Stadium operations and maintenance. Materials observed inside the maintenance shop building at the property include motor oil, petroleum-based lubricants, lubricating oils, gasoline, paint, paint thinner, aerosol paints, and welding gases. The exterior yard area of the maintenance area included lubricating oil, antifreeze, gasoline, and diesel storage. In addition, a paint storage area is located west of the storage structure, and a pesticide storage building containing pesticides and fertilizer is located in the southwestern corner of the subject property. Containers of Freon are also located on-site in support of the heating, ventilation and air conditioning (HVAC) system. Additional details regarding the specific locations and quantities of these substances located on-site are provided in Appendix G.

During the Phase I ESA site survey, no visual evidence of potable water wells, dry wells, septic tanks, or leach fields was observed on the Project site. Several monitoring wells and soil vapor extraction (SVE) systems were observed at the Project site and within the portion of the Project site proposed for the new stadium. Based on information provided by ARCADIS (2011), there are between 100 and 150 groundwater monitoring and groundwater and soil vapor extraction wells located within the parking lot areas of the Project site. In addition, sewage lift stations were observed at the exterior south side of the maintenance shop, exterior north side of the practice field restroom facilities, and within the maintenance area on the Basement Level 1 of the existing Qualcomm Stadium.

Historic Site Uses

From 1909 through the late 1940s, the Project site was part of the Guglielmetti Dairy, and from at least 1949 through the early 1960s it consisted of agricultural row crops (including alfalfa), grazing land, and dairy farm buildings in the northern portion; dirt roads, dairy farm buildings, and undeveloped land in the central portion; and additional undeveloped land and row crops in the southern portion. At this time, the San Diego River bisected the subject property. The Guglielmetti Dairy was sold to another local dairy owner, Pete Ferrari, in 1962. By 1967, the property was developed with a stadium structure and associated asphalt-paved parking areas, with a grassy area in the southwest corner. In addition, the San Diego River was relocated. In approximately 1968, a maintenance building was constructed on the southwest side of the property, and a leaded gasoline underground storage tank (UST) was installed in the vicinity of the pesticide storage building. By approximately 1979, the grassy area in the southwestern corner of the property was utilized as a practice field and sod farm. In 1980 and again 1983, renovations to increase seating capacity were completed at the stadium. In the early to mid-1980s, the maintenance building in the southwestern portion of the property was occupied by the Aqua I facility (water reuse pilot plant). Operations at the treatment plant included the use of water lilies to reclaim 25,000 gallons of wastewater daily. The water produced was used to irrigate the on-site sod farm. In 1991, the leaded gasoline UST was removed and three USTs (one gasoline and two diesel) were installed in its location. In 2004, the USTs were removed from the Project site.

On-Site Sources of Contamination at the Project Site

No visual evidence of discolored soil, water, or unusual vegetative conditions or odors was observed during the Phase I ESA site survey. In addition, no visual evidence of significant corrosion was observed on the exterior of the stadium property. However, according to the Phase I ESA, the Project site is identified in several compliance-related environmental databases. The following databases were reviewed for potential impacts to the subject property:

- Underground storage tank (UST);
- Aboveground storage tank (AST);
- California Hazardous Material Incident Reporting System (CHMIRS);
- California Hazardous Waste Information System (HAZNET);
- Recycling Facilities in California (SWRCY);
- Federal Toxics Tracking System (FTTS);
- California Spills, Leaks, Investigation, and Cleanup (SLIC);
- Emergency Response Notification System (ERNS);
- San Diego County Hazardous Materials Management Division (HMMD);
- Statewide Environmental Evaluation and Planning System (SWEEPS) UST;
- San Diego Site Assessment and Mitigation (SAM); and
- Recovered Government Agency Leaking Underground Storage Tank (RGA LUST) databases.

It should be noted that these listings are not indicative of a release at the subject property. The sources of the database listings and other research findings about on-site occurrences are described below, and additional information is provided in Appendix G.

Underground and Aboveground Storage Tanks

The Project site was listed in the RGA LUST database in 2006 and 2007, but no other information related to these listings is provided in the Environmental Data Resources (EDR) report (which is provided as part of the Phase I ESA in Appendix G). However, several records provided by the City of San Diego Environmental Services Department were reviewed that were related to USTs and ASTs located at the Project site. The results of this review follow below.

- A 700-gallon, steel, single-walled gasoline UST was removed from the vicinity of the maintenance building in the southwestern corner of the subject property in February 1991. The closure report indicates that holes were found underneath the tank, and that slight staining and odors were detected during the removal. Laboratory analysis of two soil samples collected during UST removal activities indicated that total petroleum hydrocarbons (TPH) were not detected. No further action was recommended for this UST on the 1991 closure report. Although the case was closed with signatory concurrence received from the City of San Diego, it does not appear that soil samples were collected below associated fuel dispensers or underground piping, or that underground piping associated with the UST was removed and properly disposed.

- In January 2004, three USTs and associated dispensers and piping were excavated and removed from the ground at the subject property. At that time, a 1,500-gallon, divided compartment AST containing 500 gallons of gasoline and 1,000 gallons of diesel fuel was installed at the Project site as a replacement for the former USTs. During the UST excavation, three soil samples (one from the bottom of each UST) were collected, as directed by the San Diego Department of Environmental Health (DEH). Laboratory analysis of the soil samples indicated that TPH and benzene, toluene, ethylbenzene, xylenes were not detected in soils in the location of the former USTs. Methyl tertiary butyl ether (MTBE) was detected at a concentration of 19 milligrams per kilogram (mg/kg) in soil, but its presence in this area was attributed to an off-site source, which is discussed later in this section). According to a UST system closure report, no further action was recommended. The DEH concurred with this recommendation and the case was closed.

- In June 2002 during a regulatory inspection of the facility, a DEH inspector noted a slow dripping leak to the paved surface beneath diesel dispensers was occurring on one of the dispensers at the Project site, near the maintenance building. An unauthorized release report was filed and the dispenser was fixed. Based on soil data collected when the USTs and dispenser island were removed in 2004 (discussed above), no evidence of a significant release was detected in this area.

Spills and Releases

Several incidents related to spills and releases of hazardous materials at the Project site are listed in the CHMIRS and/or ERNS databases. The following is a summary of the incidents reported at the Project site:

- In November 1995, an incident was reported in the parking lot. The incident report indicates 1,000 gallons of dissolved jet fuel (10,000 parts per billion [ppb]) were released into the parking lot as the result of water that overflowed during pumping. The database listing indicates that the environmental health department was on the scene during cleanup, but no other details are provided.

- In February 2003, a spill of approximately 9 ounces of ammonia occurred from a leak in the refrigeration unit of a motor home. No information was provided as to the location of this incident, but it is presumed to have occurred in the parking area. The spill was cleaned and the case was closed.

- In October 2007, soil contaminated with an unknown oil or chemical was found adjacent to the Project site. The soil was believed to have been dumped illegally. The report indicates that soil removal was started; however, odors were overwhelming so digging ceased and a HAZMAT company was called in to complete the soil removal. This incident was documented in the City of San Diego Environmental Services Department records. Following the completed soil removal the case was closed.

- In February 2008, an incident occurred in which approximately 50 gallons of a hydrocarbon material was released from a containment area when equipment failed during drilling activities. The spill was contained and cleaned using absorbents, and no waterways were reported as affected. The spill site is shown as refinery and occurred in a parking lot, though the specific location, either on-site or off-site, is not specified.

- In February 2014, an incident was reported at the subject property where approximately 40 gallons of a fluorescein dye was observed coming out of a storm drain mixed with water and flowing toward the San Diego River. The source could not be found, and it was reported that the dye would dry and no cleanup would occur.

Pesticides

Based on the historical use of the Project site as agricultural from the early 1900s through the mid-1960s, and that a portion of the site has also been used as a sod farm since approximately the late 1970s, residual concentrations of organo-chlorine pesticides (OCPs) may potentially be present in shallow soil. However, it should be noted that OCP concentrations may be reduced because the grading and/or earthmoving activities that accompanied redevelopment of the Project site over the years likely resulted in a mixing and blending of the sites' soils.

Asbestos

Asbestos is a strong, natural, mineral fiber that can be found in rock and soil. Due to its strength and heat resistant properties, asbestos has been used in building materials for insulation and as a fire retardant. Asbestos can be found in roofing shingles, attic, and wall insulation with vermiculite, ceiling and floor tiles, and paper products, as well as in automobile transmission parts, heat-resistant fabrics, packaging, and gaskets. Asbestos fibers may be released into the air by disturbing or damaging asbestos- containing materials (ACM), which most commonly occurs during remodeling or demolition work. The major health effects that may result from asbestos exposure are lung cancer, mesothelioma, and asbestosis (a long-term, non-cancer lung disease) (USEPA 2015a). The handling and disposal of asbestos and ACM is regulated at the local, state, and federal levels. Based on review of information provided by the City, asbestos is and/or is suspected to be present in portions of the existing Qualcomm Stadium structure, including concrete asbestos panels, thermal system insulation, linoleum floor coverings, floor tiles and mastics, drywall and plaster walls, and fire doors (City of San Diego 2015).

Lead-Based Paint

While lead is a naturally occurring element and has some beneficial uses, it can be toxic to humans and animals and cause adverse health effects, including, but not limited to, anemia, hearing problems, reduced fetus growth, reproductive problems, hypertension, and decreased kidney function. Lead and lead compounds have been used in household items such as paints, plumbing materials, batteries, and cosmetics. Individuals may be exposed to lead from eating food and drinking water containing lead or from dishes or glasses that contain lead, inhaling lead dust from lead-based paint (LBP) while repairing or renovating older buildings where LBP is still present, or from lead-contaminated soil. Regulations are in place now to eliminate or reduce the amount of lead in the air, drinking water, consumer products, food, and occupational settings (USEPA 2015b). However, the existing Qualcomm Stadium structure pre-dates these regulations. Based on review of information provided by the City, LBP is present in portions of the existing Qualcomm Stadium structure, including original doors, door frames, pipes, and walls (City of San Diego 2015).

Polychlorinated Biphenyls

Evidence of polychlorinated biphenyls (PCBs)-containing dielectric fluids, once widely used as coolants and lubricants in transformers, capacitors, and other electric equipment, was not observed in the areas of pad-mounted transformers during the site survey. However, an inspection (February 24, 1988) is listed in the EDR report for the subject property. FTTS is associated with Toxic Substances Control Act (TSCA) enforcement actions and compliance activities. The only information provided in the EDR report indicates that a Section 6 PCB federal investigation was conducted and that a violation occurred. Nothing further is discussed related to this violation in the EDR report. Based on this information and the age of the existing Qualcomm Stadium (built in 1967), the potential exists for PCB-containing equipment to be present on the Project site.

Surrounding Land Uses

The Project site is bordered to the north by Friars Road and San Diego Mission Road followed by residential property, a San Diego Fire Station (currently under construction), Mission Village Drive, and a bulk petroleum terminal currently operated by Kinder Morgan (to the northeast) known as Kinder Morgan Energy Partners (KMEP) Mission Valley Terminal (MVT). The

Project site is bordered to the east by Qualcomm Way/Rancho Mission Road and I-15, beyond which are residential and hotel properties. The site is bordered to the south by the San Diego River followed by several multi-tenant commercial office buildings along Camino del Rio North, beyond which is I-8. The site is bordered to the west by residential properties, multi-tenant commercial office buildings, and a multi-tenant retail shopping center that includes a Lowes Home Improvement Center, Costco Wholesale and Tire Center, Ikea, restaurants, and retail stores.

Historic Land Uses in the Project Area

According to the Phase I ESA, the area surrounding the Project site consisted mainly of agricultural land with scattered dairy farms from the late 1890s through the late 1940s. In approximately 1940, a dirt farmers road was paved to the south of the stadium property, and by 1949 that road became U.S. Highway 80 (currently I-8), and Friars Road was developed to the north of the property. Commercial properties were developed to the south of I-8 in the early 1950s. By 1954, tanks associated with Santa Fe Pacific Pipeline Facility (currently KMEP MVT) were developed north of the Project site. The last of the surrounding area dairy farms was closed by 1960. By 1970, I-15 had been constructed to the east, the property to the west of the Project site had been graded in anticipation of development, and commercial properties had been developed to the south of the site beyond the San Diego River. Commercial development of the properties to the south beyond the river and east beyond I-15 was apparent by 1979 and continued through the 1980s and 1990s. By 2000, residential properties had been developed to the northwest beyond Friars Road and to the west beyond I-15. Construction of the fire station facility located to the north of the site across Friars Road commenced in 2014 and is ongoing.

Off-Site Sources of Contamination at the Project Site

The Phase I ESA identified off-site hazardous materials releases that resulted in soils and/or groundwater contamination at the Project site. These events are discussed below, and additional information is included in Appendix G.

Kinder Morgan Energy Partners Mission Valley Terminal

Petroleum storage and distribution operations resulted in the accidental release of approximately 200,000 gallons of gasoline into the soils and groundwater of what is now referred to as the KMEP MVT area between 1987 and 1991. These impacts affected both the KMEP MVT property (“On-Terminal” area) and off-site areas (“Off-Terminal” area), including land beneath the Project site. The facility is included in numerous databases, including, but not limited to:

- Resource Conservation and Recovery Act (RCRA) Small Quantity Generators (SQG);
- RCRA Large Quantity Generators (LQG);
- San Diego County HMMD and SAM databases;
- UST;
- Historical UST Registered Database (HIST UST);
- SWEEPS UST;
- LUST;
- SLIC;
- CHMIRS;
- Facility Index System (FINDS);
- HAZNET; and
- National Pollutant Discharge Elimination System (NPDES) databases.

In 1991, the Regional Water Quality Control Board – San Diego Region (RWQCB) received reports that between approximately 0.5 to more than 1 foot of light non-aqueous phase liquid (LNAPL), or free phase product, was reported in various monitoring wells throughout the KMEP MVT property during monitoring events conducted between 1988 and 1991. The RWQCB subsequently issued Cleanup and Abatement Order (CAO) 92-01 for the Mission Valley Terminal located at 9950 San Diego Mission Road in 1992. The named dischargers at the time (Santa Fe Pacific Pipeline, Shell Oil, Mobil Oil, and Powerine Oil Company) were ordered to complete a comprehensive site assessment for the MVT property, immobilize and recover all free product from the affected groundwater and immobilize dissolved product in the soil to prevent off-site migration, and complete a Corrective Action Plan (CAP). In addition to these directives, quarterly progress reports were also required as part of the CAO.

Four addendums to the original CAO followed between 1994 and 2002 and mainly addressed changes to cleanup deadlines, ownership, and liability. Addendum No. 5 in 2005 to the CAO stated that a quarterly monitoring program, revised CAP, and further soil and groundwater investigations were needed to adequately assess the cleanup and path forward. Among other investigation and reporting requirements, Addendum No. 5 ordered KMEP to remove LNAPL from the subsurface and groundwater to the extent technically practicable by December 31, 2010, and set a goal of achieving "background water quality conditions" in the off-site area by December 31, 2013.

In summary, characterization and remediation of groundwater in the area has been ongoing since the late 1980s, prior to issuance of CAO 92-01. A pump and treat groundwater remediation system to capture and treat both free-phase (LNAPL) and dissolved-phase petroleum hydrocarbons in groundwater to the north of the stadium parking lot was constructed in 1993 and

1994, and began operation in May 1994. Extraction wells were also constructed as part of this original pump and treat system. In approximately 1996, MTBE was added to the sampling program, and dissolved-phase MTBE was later detected both in the On-Terminal and Off-Terminal areas. Additional monitoring wells were installed in the stadium parking lot in 1998 to further delineate the extent of MTBE impacts, and impacts were found to extend to the southwestern corner of the stadium property. An SVE system was installed and began operation in 1999, with expansion and improvements through the early 2000s. Additional improvements were made to the groundwater extraction and monitoring system in 2003. Soil excavation was also conducted in the Off-Terminal LNAPL zone in order to facilitate compliance with cleanup deadlines.

According to the *Post-Remediation Groundwater, Mission Valley Aquifer Report* prepared for the City by Geofirma Engineering Ltd and Intera (2015), compliance with remediation goals has not yet been demonstrated for the entire Project site. For example, tertiary butyl alcohol (TBA) is detectable north and southwest of the existing Qualcomm stadium (refer to Figure 1.3p of the Geofirma and Intera Report). However, according to ARCADIS (2014), the area of the new stadium footprint has been remediated per the CAO. Nevertheless, a No Further Action letter regarding this remediation has not yet been issued by the regulatory oversight agency (Chan 2015). Groundwater monitoring wells, groundwater extraction wells, and SVE infrastructure remain present in the new stadium footprint area.

Tanker Truck Spill at Mission Village Drive and San Diego Mission Road

A truck containing gasoline overturned at the southeast corner of Mission Village Drive and San Diego Mission Road, resulting in a gasoline spill and fire in the northeastern quadrant of the Project site in 2005. The quantity of gasoline released is not detailed in the information reviewed associated with this incident. Fuel and water (used to extinguish the fire) flowed to the south of the accident site, and into the northeastern parking lot area of the Project site. Information reviewed as part of the Phase I ESA indicates that liquids were contained in this area and removed by a vacuum truck within approximately 48 hours after the incident and impacted surface soils were also removed. Multiple SLIC listings are provided, indicating that the site is a cleanup program site (Lead Agency Case Number H21360-001). The SLIC reports indicate that a case was started on December 5, 2005, and completed and closed on March 15, 2007. The SLIC reports indicate that the potential media affected as part of this incident was soil, and the potential contaminant of concern was gasoline. The spill incident involving the tanker truck has a closed status in both the RWQCB GeoTracker® and San Diego County SAM department databases, but based on information provided in the subsurface investigation report, soil vapor concentrations existed above residential and commercial California Human Health Screening Levels (CHHSLs).

Apex Tank Lines, Inc. Truck Spill

In 2013, a tanker truck operated by Apex Tank Lines, Inc. (Apex) containing approximately 8,000 gallons of ethanol with trace quantities of gasoline-range TPH overturned at the intersection of Mission Village Drive and San Diego Mission Road. Approximately 4,500 gallons of ethanol were recovered by emergency response personnel at the scene, approximately 2,000 gallons of ethanol reportedly remained inside the truck, and approximately 2,500 gallons pooled into two areas in the Project site parking area. Approximately 3,500 gallons of ethanol was not recovered and was estimated to have evaporated into the atmosphere, infiltrated cracks in the pavement, or spilled into storm drains. Sand was deposited into the affected storm drains in the area to prevent further spread of spilled ethanol. An application for the County of San Diego DEH Voluntary Assistance Program (VAP) was submitted for this incident on April 19, 2013, and was assigned a DEH Case Number DEH2013-LSAM-000173. Spill response, soil and groundwater sampling, and subsurface investigations followed the incident. Following a recommendation by investigators that no further action for investigation or remediation was recommended (as part of the subsurface assessment report), a concurrence letter was issued for this incident by DEH in February 2014.

4.6.2 Regulatory Framework

Several local, state, and federal plans, policies, and regulations control the storage, use, handling, disposal, and transport of hazardous materials and waste in order to protect public health and the environment. Additional regulations exist to protect workers on the job, and still others serve to formulate emergency and evacuation procedures. The regulations applicable to the Project are discussed in this section.

Federal

U.S. Environmental Protection Agency

Title 40 USC, Chapter 1, Subchapter I, Parts 260-265 – Solid Waste Disposal Act/ Federal Resource Conservation and Recovery Act of 1976

The Solid Waste Disposal Act, as amended and revised by the RCRA, establishes requirements for the management of solid wastes (including hazardous wastes), landfills, USTs, and certain medical wastes. The statute also addresses program administration; implementation and delegation to the states; enforcement provisions and responsibilities; and research, training, and grant funding. Provisions are established for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing generator record keeping, labeling, shipping paper management, placarding, emergency response information, training, and security plans.

Title 40 USC, Chapter 1, Subchapter I, Part 273 – Universal Waste

This regulation governs the collection and management of widely generated waste, including batteries, pesticides, mercury-containing equipment, and bulbs. This regulation streamlines the hazardous waste management standards and ensures that such waste is diverted to the appropriate treatment or recycling facility.

Title 40 USC, Chapter 1, Subchapter D, Part 112 – Oil Pollution Prevention

Oil Pollution Prevention regulations require the preparation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan if oil is stored in excess of 1,320 gallons in aboveground storage (or have a buried capacity of 42,000 gallons). SPCC regulations place restrictions on the management of petroleum materials and, therefore, have some bearing on hazardous materials management.

Title 40 USC, Chapter 1, Subchapter C, Part 61 – National Emission Standards for Hazardous Air Pollutants, Subpart M – National Emission Standard for Asbestos

This regulation established National Emission Standards for Hazardous Air Pollutants (NESHAP) and names ACM as one of these materials. ACM use, removal, and disposal are regulated by USEPA under this law. In addition, notification of friable ACM removal prior to a proposed demolition project is required by this law.

Title 42 U.S. Code of Federal Regulations, Chapter 116 – Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) provides for public access to information about chemical hazards. The EPCRA and its regulations included in Title 40 U.S.C. Parts 350-372 establish four types of reporting obligations for facilities storing or managing specified chemicals: emergency planning, emergency release notification, hazardous chemical storage reporting requirements, and toxic chemical release inventory. USEPA maintains a database, termed the Toxic Release Inventory, which includes information on reportable releases to the environment.

Title 15 USC, Chapter 53, Subchapter I, Section 2601 et seq. – Toxic Substances Control Act of 1976

The TSCA of 1976 empowers USEPA to require reporting, record-keeping, and testing, as well as place restrictions on the use and handling of chemical substances and mixtures. This regulation phased out the use of asbestos and ACM in new building materials and it also sets requirements for the use, handling, and disposal of ACM as well as for LBP waste. USEPA has also established NESHAP, which govern the use, removal, and disposal of ACM as a hazardous air pollutant and mandate the removal of friable ACM before a building is demolished and require notification before demolition. In addition to asbestos, ACM, and LBP requirements, this regulation also banned the manufacturing of PCBs and sets standards for the use and disposal of existing PCB-containing equipment or materials.

U.S. Department of Labor, Occupational Safety and Health Administration

Title 29 USC, Part 1926 et seq. – Safety and Health Regulations for Construction
These standards require employee training; personal protective equipment; safety equipment; and written procedures, programs, and plans for ensuring worker safety when working with hazardous materials or in hazardous work environments during construction activities, including renovations and demolition projects and the handling, storage, and use of explosives. These standards also provide rules for the removal and disposal of asbestos, lead, LBP, and other lead materials. Although intended primarily to protect worker health and safety, these requirements also guide general facility safety. This regulation also requires that an engineering survey is prepared prior to demolition.

Title 29 USC, Part 1910 et seq. – Occupational Safety and Health Standards
Under this regulation, facilities that use, store, manufacture, handle, process, or move hazardous materials are required to conduct employee safety training; inventory safety equipment relevant to potential hazards; have knowledge on safety equipment use; prepare an illness prevention program; provide hazardous substance exposure warnings; prepare an emergency response plan, and prepare a fire prevention plan.

U.S. Department of Transportation

Title 49 USC, Part 172, Subchapter C – Shipping Papers
The Department of Transportation established standards for the transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests.

Federal Aviation Administration

Title 14 USC, Chapter 1, Subchapter E, Part 77 – Aeronautics and Space – Safe, Efficient Use, and Preservation of the Navigable Airspace
This regulation establishes requirements for notifying the Federal Aviation Administration (FAA) of certain construction activities and alterations to existing structures, in order to ensure

there are no obstructions to navigable airspace. For example, projects that include construction or alteration exceeding 200 feet in height above ground level are required to notify the FAA.

Title 14 USC, Part 99, Subpart A, Section 99.7 – Aeronautics and Space – Special Security Instructions

Pursuant to this regulation, special security instructions go into effect for aircraft operations 1 hour before the time of the event until 1 hour after the end of the event. Such operations are prohibited within 3 nautical miles up to and including 3,000 feet above ground level of stadiums having a capacity of 30,000 or more people and hosting Major League Baseball, NFL, or National Collegiate Athletic Association Division 1 games, as well as National Association for Stock Car Auto Racing Sprint Cup, Indy Car, and Champ Series races.

<u>State</u>

California Environmental Protection Agency

California Health and Safety Code (HSC), Division 20, Chapter 6.11, Sections 25404-25404.9 Sections– Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Under the California Environmental Protection Agency (CalEPA), the Department of Toxic Substances Control (DTSC) and Enforcement and Emergency Response Program (EERP) administer the technical implementation of California's Unified Program, which consolidates the administration, permit, inspection, and enforcement activities of several environmental and emergency management programs at the local level (DTSC 2015; CalEPA 2015a). Certified Unified Program Agencies (CUPAs) implement the hazardous waste and materials standards (CalEPA 2015b). This program was established under the amendments to the California HSC made by SB 1082 in 1994. The programs that make up the Unified Program are:

- Aboveground Petroleum Storage Act (APSA) Program
- Area Plans for Hazardous Materials Emergencies
- California Accidental Release Prevention (CalARP) Program
- Hazardous Materials Release Response Plans and Inventories (Hazardous Materials Business Plans, or HMBPs)
- Hazardous Material Management Plan (HMMP) and Hazardous Material Inventory Statements (HMIS)
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (Tiered Permitting) Program
- Underground Storage Tank Program

The CUPA for the City of San Diego is the County of San Diego DEH, Hazardous Materials Division.

Title 19 CCR, Chapter 2, Subchapter 3, Sections 2729-2734/California HSC Division 20, Chapter 6.95, Sections 25500–25520

This regulation requires the preparation of an HMBP by facility operators. The HMBP identifies the hazards, storage locations, and storage quantities for each hazardous chemical stored on-site. The HMBP is submitted to the CUPA for emergency planning purposes. The Project site is currently subject to these requirements and there is an HMBP in place.

California Department of Toxic Substances Control

Title 22 CCR, Division 4.5 – Environmental Health Standards for the Management of Hazardous Waste

These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers; prepare manifests before transporting waste off-site; and use only permitted treatment, storage, and disposal facilities. Standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters.

In addition, Chapter 31 – Waste Minimization, Article 1 – Pollution Prevention and the Hazardous Waste Source Reduction and Management Review of these regulations require that generators of 12,000 kilograms/year of typical, operational hazardous waste evaluate their waste streams every 4 years and, as applicable, select and implement viable source reduction alternatives. This Act does not apply to nontypical hazardous waste, including ACM and PCBs, among others).

Title 22 California HSC, Division 20, Chapter 6.5 – California Hazardous Waste Control Act of 1972

This legislation created the framework under which hazardous wastes must be managed in California. It provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards that are equal to or, in some cases, more stringent than, federal requirements. The CUPA is responsible for implementing some elements of the law at the local level.

California Regional Water Quality Control Board, San Diego Region

Title 22 California HSC, Division 20, Chapter 6.67, Sections 25270 to 25270.13 – Aboveground Petroleum Storage Act

This law applies if a facility is subject to SPCC regulations under Title 40 U.S.C. Part 112, or if the facility has 10,000 gallons or more of petroleum in any or combination of ASTs and connecting pipes. If a facility exceeds these criteria, it must prepare a SPCC plan.

California Integrated Waste Management Board

Title 14 CCR, Division 7, Chapter 8.2 – Electronic Waste Recovery and Recycling Act of 2003

This regulation sets requirements regarding the use and disposal of hazardous substances in electronics. When discarded, the DTSC considers the following materials manufactured before 2006 to be hazardous waste: cathode ray tube devices, liquid crystal display (LCD) desktop monitors, laptop computers with LCD displays, LCD televisions, plasma televisions, and portable DVD Players with LCD screens.

California Department of Transportation/California Highway Patrol

Title 13 CCR, Division 2, Chapter 6

California regulates the transportation of hazardous waste originating or passing through the state. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. CHP enforces materials and hazardous waste labeling and packing regulations that prevent leakage and spills of material in transit and provides detailed information to cleanup crews in the event of an incident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of CHP. CHP conducts regular inspections of licensed transporters to ensure regulatory compliance. Caltrans has emergency chemical spill identification teams at locations throughout the state. Hazardous waste must be regularly removed from generating sites by licensed hazardous waste transporters. Transported materials must be accompanied by hazardous waste manifests.

California Division of Occupational Safety and Health Administration

Title 8 CCR – Safety Orders

Under the California Occupational Safety and Health Act of 1973, the California Occupational Safety and Health Administration (CalOSHA) is responsible for ensuring safe and healthful working conditions for California workers. CalOSHA assumes primary responsibility for developing and enforcing workplace safety regulations in Title 8 of the CCR. CalOSHA hazardous substances regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. CalOSHA also enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances. The hazard communication program also requires that Material Safety Data Sheets be available to employees and that employee information and training programs be documented.

In Division 1, Chapter 4, Subchapter 4 – Construction Safety Orders of Title 8, construction safety orders are listed and include rules for demolition, excavation, explosives work, working around fumes and vapors, pile driving, vehicle and traffic control, crane operation, scaffolding, fall protection, and fire protection and prevention, among others.

California Building Standards Commission

Title 24 of the CCR – California Building Standards Code

The California Building Standards Code is a compilation of three types of building standards from three different sources:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

Among other rules, the Code contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official at the local government level (i.e., City of San Diego) must inspect and verify compliance with these requirements prior to issuance of an occupancy permit.

California State Board of Forestry and Fire Protection/California Department of Forestry and Fire Protection

2010 Strategic Fire Plan for California

Public Resources Code Sections 4114 and 4130 authorize the State Board of Forestry to establish a fire plan that establishes the levels of statewide fire protection services for State Responsibility

Area (SRA) lands. These levels of service recognize other fire protection resources at the federal and local level that collectively provide a regional and statewide emergency response capability. In addition, California's integrated mutual aid fire protection system provides fire protection services through automatic and mutual aid agreements for fire incidents across all ownerships. The California Fire Plan is the state's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health.

California State Fire Marshal

Title 19 CCR, Division 1, Chapter 10 – Explosives

This regulation addresses the sale, transportation, storage, use, and handling of explosives in California. Requirements for obtaining permits from the local Fire Chief having jurisdiction and blasting guidelines (such as blasting times, warning devices, and protection of adjacent structures and utilities) are also explained in Chapter 10 of Title 19.

<u>Local</u>

San Diego Air Pollution Control District

Regulation XI, Subpart M – National Emission Standards for Asbestos, Rule 361.145 – Standard for Demolition and Renovation

The San Diego Air Pollution Control District (SDAPCD) requires that the proponent of a proposed demolition or renovation project submit an Asbestos Demolition or Renovation Operational Plan ("Notice of Intention") at least 10 days prior to the onset of any asbestos stripping or removal work. It should be noted that the Notice of Intention is required for all demolition projects, regardless of the presence of asbestos.

San Diego County Airport Land Use Commission

Montgomery Field Airport Land Use Compatibility Plan

As further described in Section 4.9 Land Use, the County's Airport Land Use Commission's (ALUC) airport land use compatibility plans serve to promote compatibility between airports and the land uses around them. ALUCs are required to review land use plans, development proposals, and certain airport development plans for their consistency with the land use compatibility plan (San Diego County Airport Land Use Commission 2010). In the case of the Project, the applicable plan is the Montgomery Field Airport Land Use Compatibility Plan (ALUCP).

San Diego County Office of Emergency Services

2014 Unified San Diego County Emergency Services Organization and County of San Diego Emergency Operations Plan

The Emergency Operations Plan includes a comprehensive emergency management system that provides planned response in disaster situations associated with natural disasters, technological incidents, terrorism, and nuclear-related incidents. The Plan also describes tasks and overall responsibilities for protecting life and property and identifies sources of outside support. The Plan is for use by the County and its cities to respond to major emergencies and disasters (Unified San Diego County Emergency Services Organization 2014).

City of San Diego Development Services Department

2008 City of San Diego General Plan – Public Facilities, Services, and Safety Element

The General Plan includes goals and policies related to the City's disaster preparedness program, which focuses on the prevention of, response to, and recovery from natural, technological, and manmade disasters. The City's disaster preparedness efforts include oversight of the City's Emergency Operations Center, and the City participates in San Diego County's Multi-Jurisdictional Hazard Mitigation Plan, which identifies risks posed by both natural and manmade disasters. The City is also responsible for development and maintenance of emergency operational documents for Qualcomm Stadium.

2015 City of San Diego Land Development Manual, Project Submittal Requirements, Section 3 – Construction Permits – Grading and Public Right-of-Way

This section of the City's Land Development Manual applies to construction permit applications for grading on private property, as well as to the construction, reconstruction, or repair of improvements within the public right-of-way. City guidelines for obtaining grading permits and public right-of-way permits are incorporated into the Land Development Manual, and, depending on the characteristics of the Project and Project site, the permittee may be required to provide a grading plan, construction plan, geotechnical study, drainage study, water quality study, traffic control plan, and structural calculations. In general, this review is a ministerial process whereby approval is granted if the regulations are met (City of San Diego Development Services Department 2015c).

City of San Diego Office of the City Clerk, Development Services Department, and Fire-Rescue Department

San Diego Municipal Code, Chapter 5: Public Safety, Morals, and Welfare, Article 5: Fire Protection and Prevention

Chapter 5, Article 5 of the City of San Diego Municipal Code (referred to as the “Fire Code”) includes portions of the California Fire Code and International Fire Code (City of San Diego Office of the City Clerk 2012). As of January 1, 2014, the City of San Diego adopted the 2013 California Codes and its referenced standards (City of San Diego Development Services Department 2015a). However, local amendments to the 2013 edition of the California Fire Code are currently under review and have not yet been adopted.

San Diego Municipal Code, Chapter 5: Public Safety, Morals, and Welfare, Article 3: Firearms, Dangerous Weapons, Explosives, and Hazardous Trades, Sections 53.01 and 53.01.1

According to this regulation, blasting is only permissible within the City of San Diego following receipt of an explosives permit from the City of San Diego Fire Chief, which is also required under California HSC, Section 12101.

4.6.3 Impact Analysis

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

Impact Thresholds

A public safety issue occurs when brush management requirements cannot be met. The approval of the Fire Chief must be given to avoid a significant public safety impact.

Impact Analysis

According to the City of San Diego Fire-Rescue Department (SDFD), state law requires that local jurisdictions identify the Very High Fire Hazard Severity Zones that fall within their area of responsibility. Such designation facilitates the identification of measures by public officials to retard the rate at which fires spread and to reduce the intensity of uncontrolled fires by implementing vegetation management practices and building standards (SDFD 2015). Official SDFD mapping of Very High Fire Hazard Severity Zones throughout the City of San Diego indicates that a portion of the Project would be located in such an area, and such zones are also designated on land immediately to the north and south of the Project, as well as approximately 0.5 mile to the east and 1 mile to the west (SDFD 2009). Therefore, the Project would potentially expose people and structures to a risk of loss, injury, or death involving wildland fires during Project construction as well as during new stadium operations.

Significance of Impacts

The majority of the Project site is comprised of impervious concrete or asphalt surfaces, but portions of the Project site boundary and stadium parking lot are landscaped. Similar landscaping would be included with the Project. According to the City of San Diego Municipal Code, Section 142.0412, brush management is required on premises that are located within 100 feet of a structure and also contain native or naturalized vegetation (City of San Diego Office of the City Clerk 2015). However, the stadium structure would not be located within 100 feet of native or naturalized vegetation; therefore, such brush management is not required of the Project.

Although the Project would not conflict with the City's brush management policy, portions of the Project would still be located within a Very High Fire Hazard Severity Zone designated by the City. It should be noted that building plan submittals in the City are required to undergo Fire Code Plan Check by the Development Services Department to ensure compliance with the Fire Code (City of San Diego Development Services Department 2015d). Using fire-resistant building materials serves to help protect developed lands from fires, thereby reducing the potential loss of life and property. As the City of San Diego requires adherence to the Fire Code, which is implemented through Fire Code Plan Check by the Development Services Department, the impact associated with the Project's location in and near areas susceptible to wildland fire is less than significant.

Issue 2: Would the project result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school?

Impact Thresholds

The siting of facilities that may emit hazardous or acutely hazardous materials or may handle acutely hazardous materials within 0.25 mile of a school may result in a significant impact. Although the City's Significance Determination Thresholds do not specify thresholds for this issue area, CEQA Statute Section 21151.4 states the following:

> *An environmental impact report shall not be certified or a negative declaration shall not be approved for any project involving the construction or alteration of a facility within one-fourth of a mile of a school that might reasonably be anticipated to emit hazardous air emissions, or that would handle an extremely hazardous substance or a mixture containing extremely hazardous substances in a quantity equal to or greater than the*

state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code, that may pose a health or safety hazard to persons who would attend or would be employed at the school, unless both of the following occur:

1) *The lead agency preparing the environmental impact report or negative declaration has consulted with the school district having jurisdiction regarding the potential impact of the project on the school.*

2) *The school district has been given written notification of the project not less than 30 days prior to the proposed certification of the environmental impact report or approval of the negative declaration.*

Impact Analysis

No private or public schools serving students from pre-kindergarten through 12th grade are located within 0.25 mile of the Project. Two such schools in closest proximity to the Project site are Nazareth School at 10728 San Diego Mission Road (located approximately 0.37 mile to the east) and Juarez Elementary School at 2633 Melbourne Drive (located approximately 0.36 mile to the north).[11] In addition, based on review of the City of San Diego Planning Department's cumulative project list, no new schools are proposed at this time that would be located within 0.25 mile of the Project.

Significance of Impacts

As no pre-kindergarten through 12th grade schools are located or proposed to be located within 0.25 mile of the Project site, the Project would not result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within such specified proximity of a school. This impact is considered less than significant and no mitigation is required.

Issue 3: Would the project impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact Thresholds

The Project must not interfere with the implementation of the City of San Diego Office of Homeland Security's Emergency Operations Plan, which addresses emergency response and evacuation procedures for the City.

[11] To provide a conservative estimate, distances to Nazareth School and Juarez Elementary School are measured from the closest property boundary to the school, rather than from the proposed stadium or current stadium locations within the property.

Impact Analysis

The City of San Diego Office of Homeland Security coordinates disaster planning efforts; trains City employees; assists with the integration of emergency plans; ensures information flow to the public to assist in their emergency preparation and response; interfaces with County of San Diego, state, and federal jurisdictions; and secures grants from state and federal agencies related to homeland security. The Office of Homeland Security also maintains the City's Emergency Operations Center and is responsible for the development and maintenance of other emergency operations plans, such as the Emergency Operations Plan, Emergency Operations Center Activation Guide, Emergency Operations Guides for Large Public Venues, Unscheduled Power Interruption Plan, and the Plan for Response to a Nuclear Emergency (City of San Diego Office of Homeland Security 2006). The City's Emergency Operations Plan is adopted from the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan, which includes provisions for a planned response in disaster situations associated with natural disasters, technological incidents, terrorism, and nuclear-related incidents.

The City is also responsible for the development and maintenance of the emergency operational documents and guides for the existing Qualcomm Stadium (City of San Diego, City Planning and Community Investment 2008). Current Qualcomm Stadium emergency response guidelines include procedures for evacuating the stadium as well as for emergency responses to fire, earthquake or building collapse, explosions, chemical spills, suspicious packages, bomb threats, power outages, and flooding. For NFL home games, the City of San Diego Police Department staffs officers and San Diego Emergency Medical Services is responsible for contracted medical and emergency assistance. The City of San Diego also provides a safety officer for all events. In addition, the San Diego Fire-Rescue Department is responsible for venue safety and emergency medical and fire response (San Diego Chargers and Elite Services USA 2011).

Demolition of the existing Qualcomm Stadium and construction and operation of the new stadium would be performed in accordance with the City's standards, codes, and regulations pertaining to emergency response and evacuation planning, including the Office of Homeland Security Emergency Operations Plan. However, the new stadium would have a different onsite location and design. Therefore, the new stadium would have the potential to conflict with existing emergency response and evacuation plans.

Significance of Impacts

Inconsistencies between existing emergency response and evacuation plans and the new stadium would represent a significant impact. As required by Mitigation Measure HAZ-1, the City and

County of San Diego and the new stadium tenants shall update plans and policies pertaining to emergency response and evacuation procedures to reflect the location and design of the new stadium. Following implementation of Mitigation Measure HAZ-1, the Project would not impair or interfere with adopted emergency response or evacuation plans. This impact is considered less than significant following implementation of Mitigation Measures HAZ-1.

Issue 4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or environment?

Impact Thresholds

Project sites that meet one or more of the following criteria may result in a significant impact:

- Located within 1,000 feet of a known contamination site.
- Located within 2,000 feet of a known Superfund site or a hazardous waste property subject to corrective action pursuant to the HSC.
- DEH site with a closed file.
- Located in Centre City San Diego, Barrio Logan, or other areas known or suspected to contain contamination sites.
- Located on or near an active or former landfill.
- Properties historically developed with industrial or commercial uses, which involved dewatering (the removal of groundwater during excavation), in conjunction with major excavation in an area with high groundwater.

Impact Analysis

Government Code Section 65962.5 (commonly referred to as the “Cortese List” after its legislator) requires reporting to the Secretary of Environmental Protection by the DTSC and SWRCB, as follows:

- The DTSC must compile lists of the hazardous waste facilities subject to corrective action, all land designated as a hazardous waste property, all information received pursuant to Section 25242 of the HSC on hazardous waste disposals on public land, all sites listed pursuant to Section 25356 of the HSC, and all sites included in the Abandoned Site Assessment Program.

- The SWRCB must compile lists of all USTs for which an unauthorized release report is filed pursuant to Section 25295 of the HSC, all solid waste disposal facilities from which there is a migration of hazardous waste and for which a California regional water quality control board has notified the DTSC, all cease and desist orders issued after January 1, 1986, pursuant to Section 13301 of the Water Code, and all cleanup or abatement orders issued after January 1, 1986 that concern the discharge of wastes that are hazardous materials (CalEPA 2015c).

DTSC listings can be found in the EnviroStor database, which lists the hazardous waste and substances sites throughout California. The EnviroStor database consists of National Priority List (NPL) sites, state response sites, voluntary cleanup sites, and school cleanup sites. The SWRCB listings can be found in the GeoTracker® database. The GeoTracker® database includes investigations consisting of LUFT, SLIC, Land Disposal, Department of Defense (non-UST) wells, and UST sites throughout California.

The Phase I ESA includes a records search of the GeoTracker® database. Both the ethanol spill from 2013 and the tanker spill from 2005 are listed for the stadium property in the GeoTracker® database as case closed. The stadium property is also listed as a permitted UST facility; however, no additional information is listed in GeoTracker® for the USTs. The Project site is not included in the EnviroStor database.

For the area surrounding the Project site, KMEP MVT is listed in the GeoTracker® database as well. Other businesses (Texaco Terminal sites at 9950 and 9966 San Diego Mission Road, the HG Fenton Material Company facility and Shewey Environmental Facility located at 9300 and 9310 Friars Road, and a Thermal Treatment Facility located at 2365 Northside Drive) located in the vicinity of the Project site also have records in this database, but they are also listed as completed and closed. The KMEP MVT property is also listed in the EnviroStor database.

Therefore, the Project site and surrounding land uses are included in the databases of lists compiled pursuant Government Code Section 65962.5. Furthermore, the Project area, and the Project site specifically, have been subject to remediation associated with the KMEP MVT release.

Significance of Impacts

Soil and groundwater on the Project site are known to have been contaminated as a result of this release (and other past incidents), and portions of the Project site remain subject to remediation. The Project has the potential to create a significant hazard to the public and environment as a result of listing pursuant Government Code Section 65962.5, mainly because development activities have the potential to uncover contaminated soil and groundwater during site grading and excavation. In addition, remediation infrastructure (such as groundwater monitoring wells, groundwater extraction wells, and SVE units) associated with the KMEP MVT cleanup activities are located in the vicinities of both the existing Qualcomm Stadium and new stadium footprints. Therefore, site development must be closely coordinated with the remediation regulatory oversight agencies to ensure the program, if still necessary, can continue. Exposure of workers or the public to contaminated materials (and further exposure to the environment) and potential interruption of an ongoing remediation program would represent a significant impact.

In accordance with local, state, and federal regulations for hazardous waste, contaminated soil and groundwater generated at the Project site must be identified, characterized (as RCRA hazardous, California hazardous, or nonhazardous), and disposed of accordingly. Further, demolition of the current stadium and construction of the new stadium are subject to the City’s land development review process. As part of this process, the City would coordinate with the RWQCB, which is the primary oversight agency of the cleanup, on whether the remediation infrastructure is ready for closure and removal from the stadium site, or whether it must be preserved and/or relocated and continue to operate. Implementation of Mitigation Measures HAZ-2 and HAZ-3 are required to reduce this impact to a less than significant level.

Refer to the Issue 7 discussion for additional analysis related to this subject.

Issue 5: Would the project expose people to toxic substances, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses?

Impact Thresholds

A significant impact may result if the Project site is located on a site presently or previously used for agricultural purposes.

Impact Analysis

According to the Phase I ESA (AECOM 2015), historical research indicates that from 1909 through the mid-1960s, the Project site was part of the Guglielmetti Dairy and consisted of agricultural row crops (including alfalfa), grazing land, and dairy farm buildings in the northern portion; the San Diego River, dirt roads, dairy farm buildings, and undeveloped land in the central portion; and undeveloped land and agricultural row crops in the southern portion. Therefore, residual concentrations of OCPs may be present in shallow soils of both the demolition site and the Project site.

Significance of Impacts

The potential exists for workers and the public to be exposed to soils impacted by toxic substances, including pesticides, during Project site development, and this represents a significant impact of the Project. However, as discussed in more detail in the responses to Issues 5 and 7, soil that would be excavated as part of Project development activities must be identified, characterized (as RCRA hazardous, California hazardous, or nonhazardous), and disposed of in accordance with local, state, and federal regulations regarding hazardous waste, as applicable. Excavated soil would be disposed of properly based on the results of waste characterization. Compliance with these regulations and implementation of Mitigation Measure HAZ-2 would reduce this impact to a less than significant level.

Issue 6: Would the project result in a safety hazard for people residing or working in a designated airport influence area or for people residing or working within 2 miles of a private airstrip or a private airport or heliport facility that is not covered by an adopted Airport Land Use Compatibility Plan?

Impact Thresholds

Project sites located in a designated airport influence area and where the FAA has reached a determination of "hazard" through FAA Form 7460-1, "Notice of Proposed Construction or Alteration" as required by FAA regulations in CFR Title 14 Section 77.13 may have a significant impact (U.S. Government Publishing Office 2015). Additionally, a significant impact may occur if the project is inconsistent with an ALUCP or if the Project site is located within 2 miles of a private airstrip, airport, or airstrip that is not included in an adopted ALUCP.

Impact Analysis

The Project is located approximately 2 miles south/southeast of the Montgomery Field Airport. According to the Montgomery Field ALUCP, the Project site lies within the Airport Influence Area (AIA) of Montgomery Field and specifically within Review Area 2 of that Airport. Height limitations are the only restrictions placed on land uses within Review Area 2, especially for projects located in areas of high terrain, according to the Montgomery Field ALUCP. It should be noted that the current parking lot areas where the new stadium would be located sit at elevations of approximately 55 to 75 feet AMSL, while elevations across Montgomery Field Airport range from approximately 420 to 430 feet AMSL.

The Montgomery Field ALUCP contains four principal compatibility concerns: noise (exposure to aircraft noise), safety (land use factors that affect safety both for people on the ground and occupants of aircraft), airspace protection (protection of airport airspace), and overflight (annoyance or other general concerns related to aircraft overflights). Although the Project site is within the Montgomery Field AIA, the Project's proposed land uses of Commercial Recreation are compatible with the Montgomery Field ALUCP, as discussed in Section 4.9 Land Use.

Review Area 2 includes Airspace Protection Areas and Overflight Notification Areas; however, Overflight Notification Areas apply to real estate transactions. The ALUCP for Montgomery Field Airport includes two types of Airspace Protection Surfaces: the FAA Height Notification Boundary and Part 77 Airspace Surfaces (discussed previously in the Regulatory Framework portion of this EIR section). The Project is located within both zones. The Project proponent is required to file notifications with the FAA when construction or alteration exceeds 200 feet above ground level and/or exceeds an imaginary surface extending outward and upward at defined slopes, such as 100 feet outward and 1 foot upward for a horizontal distance of 20,000 feet from the nearest point of the nearest runway (San Diego County Airport Land Use Commission 2010).

The Project would be required to notify the FAA (via FAA Form 7460-1, Notice of Proposed Construction or Alteration) of both the new stadium (which is anticipated to reach a height of approximately 250 feet above ground level), as well as of the anticipated temporary use of construction cranes, which may be used during construction of the stadium and may reach heights of up to 300 feet above ground level. In addition to FAA notifications of the Project, the FAA restricts aircraft operations within the vicinity of stadiums exceeding a capacity of 30,000 people during NFL games (FAA 2015).

Significance of Impacts

As discussed, the Project would be located in the AIA of the Montgomery Field ALUCP. However, the Project's proposed land uses are compatible with the Montgomery Field ALUCP; therefore, the Project would result in a less than significant impact regarding conflicts associated with airport use and land use compatibility (refer to Section 4.9).

However, consistency with FAA regulations is also incorporated into the ALUCP. As the Project proponent has not yet filed Form 7460-1 (Notice of Proposed Construction or Alteration) with the FAA and therefore has not received a "Determination of No Hazard" from the FAA, for purposes of this EIR, it is considered to have a significant impact regarding airport hazards. Implementation of Mitigation Measure HAZ-4 would reduce this impact to a less than significant level.

Issue 7: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Impact Thresholds

A significant impact would occur if the routine transport, use, or disposal of hazardous materials associated with demolition, construction, or operational activities of the Project would expose people to a substantial risk of loss, injury, or death, or expose the environment (air, water, or soil) to contamination resulting from a hazardous materials release.

Impact Analysis

Construction activities and new stadium operations would involve the transport, use, and disposal of hazardous materials, which are described for all components of the Project in greater detail in this section.

Construction and Demolition

The Project involves new stadium construction, as well as demolition of the existing Qualcomm Stadium. These activities necessitate the use of hazardous materials at the Project site, their transport to and from the site, and possibly their disposal at an appropriate, designated disposal facility permitted to accept hazardous waste. Hazardous materials sources during construction and demolition are discussed below.

Hazardous Materials

Hazardous materials that may be used during construction and demolition activities of the Project include gasoline, diesel fuel, oil, lubricants, welding gases (e.g., acetylene, oxygen, and argon), solvents, paints, and explosives. Gasoline, diesel fuel, oil, and lubricants may be temporarily stored on-site inside service trucks or other approved storage containers. Paints and solvents would be stored in flammable materials storage cabinets. Welding gases would be stored in steel cylinders, chained upright to a solid support structure with the safety cover over the valve when not in use. The use of explosives is further addressed in Issue 8 below; however, explosives would not be stored at the Project site. In accordance with applicable regulations, maintenance and service personnel, and construction and demolition contractors would handle, transport, and dispose of these materials properly.

Hazardous Waste

Waste generation during construction of the Project would consist of typical construction-related waste, as well as waste related to demolition of the existing Qualcomm Stadium, parking areas, and other hardscape and landscape areas. Nonhazardous construction waste would include material such as plastic, metal, glass, scrap lumber, and concrete. Hazardous wastes may include unused or off-specification paint and primer, paint thinner, solvents, and vehicle and equipment maintenance-related materials, many of which can be recycled. Empty containers for such materials (e.g., drums and totes) may also be returned to vendors, if possible. Universal waste is also hazardous waste and includes batteries, pesticides, mercury-containing equipment, empty or nonempty aerosol cans, and lamps (fluorescent or high-intensity discharge) that may be generated during construction and demolition activities of the Project. Hazardous waste that cannot be recycled would be transported by a licensed hazardous waste hauler using a Uniform Hazardous Waste Manifest and disposed of at an appropriately permitted facility.

Due to the age of the current stadium (built in 1967) and information provided by the City of San Diego (City of San Diego 2015), LBP, asbestos, and ACM are likely present in the structure, and, if so, would be disturbed during the demolition process. In addition, while not observed during the Phase I ESA, based on the age of the original stadium, it is also possible that PCB-containing materials are present in the transformers. Facility personnel interviewed during the Phase I ESA site survey were unaware if upgrades to the transformers had historically been conducted. Therefore, based on the age of the subject property, the potential exists to encounter asbestos, ACM, LBP, and PCB-containing dielectric fluids during the demolition process.

Contaminated Soil and Groundwater

The Project includes the export of approximately 920,000 cy of soil and may also entail dewatering. As previously discussed, soils at the Project site may be impacted by residual concentrations of OCPs from historic agricultural uses that occurred on-site. In addition, historic contamination from the KMEP MVT release extended to the Project site, to both the locations of the current and new stadium footprints. KMEP is currently remediating soil and groundwater in the Project area under the oversight of the RWQCB. However, based on historic contamination related to the petroleum release, contaminated soil and groundwater may be encountered and/or excavated or extracted as part of site grading, dewatering, and development activities. It should be noted that a No Further Action letter from the RWQCB regarding the KMEP MVT remediation would not negate the need for soil and groundwater testing, as acceptable contaminant levels for remediation purposes and waste characterization/disposal purposes are different. In addition, the KMEP MVT release is not the only source of historic contamination at the Project site, as previously discussed.

In accordance with local, state, and federal regulations, hazardous waste, including contaminated soil and groundwater, generated at the Project site must be identified, characterized (as RCRA hazardous, California hazardous, or nonhazardous), and disposed of properly. As appropriate, based on the results of waste characterization, excavated soil would be disposed of at an appropriate disposal facility. Similarly, if contaminated groundwater is encountered and must be removed in order for Project development to continue, it would be extracted, containerized, characterized, and disposed of according to the characterization results (refer to Mitigation Measure HAZ-2).

Wastewater and Surface Water

Wastewater generated at the construction and demolition sites may include sanitary wastewater, drainage from dust suppression, storm water runoff, and equipment wash water. However, construction-related sanitary wastewater would be collected in portable self-contained chemical toilets and pumped and disposed of off-site periodically. Potentially contaminated equipment wash water would be contained at designated wash areas, characterized, and evaluated for further management and proper disposal. A construction SWPPP would also be developed with BMPs, if needed, to minimize the impact of contaminated runoff into waters of the U.S.

<u>Operation</u>

Stadium operations for the new facility would be similar to existing Qualcomm Stadium activities. Operation of the new stadium would involve the transport, use, and disposal of hazardous materials and hazardous waste such as fuels, grease, lubricants, transformer oil, waste oil, antifreeze, cleaning agents, paints, and solvents. In addition, as with the current stadium, maintenance activities associated with the turf playing field requires would involve the storage and use of pesticides and fertilizers. However, no on-site sewage treatment would occur and the proposed facility would connect to the sanitary sewer system. Project operational activities would comply with local, state, and federal regulations that apply to the transport, use, and disposal of hazardous materials and hazardous waste and would occur in accordance with the facility's HMBP and SPCC Plan, which the facility is required by law to prepare and maintain.

Significance of Impacts

Local, state, and federal regulations that govern the routine transport, use, and disposal of hazardous materials and hazardous waste are designed to protect worker safety, public health, and the environment. The Project's construction, demolition, and operational activities would comply with these regulations.

However, the potential also remains for the transport, use, or disposal of less typical hazardous materials (such as impacted soil or groundwater, asbestos or ACM, LBP, or PCB-containing material) to create a hazard to the public or environment, which represents a significant impact.

Implementation of Mitigation Measures HAZ-2, HAZ-5, HAZ-6, and HAZ-7 would reduce this impact to a less than significant level.

Issue 8: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment?

Impact Thresholds

A significant impact would occur if the project would expose the public or the environment to a significant hazard associated with a reasonably foreseeable upset or accident condition involving the release of hazardous materials into the environment.

Impact Analysis

The Project has the potential to expose the public and the environment to hazards associated with both on-site and off-site releases of hazardous materials into the environment. Several of these reasonably foreseeable events were already addressed within the analyses of Issues 4, 5, and 7, above, and potential releases are avoided or controlled through proper adherence to the applicable regulations and additional mitigation measures required by this EIR. Additional on- and off-site sources of potential upset and accident conditions related to hazardous materials releases that may affect workers or the public in the vicinity of the Project, as well as the environment, are discussed below.

<u>On-site Source of Upset Involving Hazardous Materials Release</u>

As discussed previously, the Project includes the demolition of the existing Qualcomm Stadium, which would follow construction of the new stadium directly northeast of the current stadium. Based on the anticipated implosion that would occur as part of the demolition process, the Project would involve the use of explosive materials. Implosion methods use highly specialized explosives to undermine the supports of a structure so it collapses either within its own footprint or in a predetermined path. The implosion process is especially suited for high-rise buildings and special structures (e.g., stadiums, cooling towers, smokestacks, boilers, steel mill furnaces). The implosion would target the existing Qualcomm Stadium structure and would occur over approximately 10 to 15 seconds. The Project proponent would be required to obtain an explosives permit from the City of San Diego Fire Chief. As part of the demolition permit process and to protect public health and safety, the Project proponent would be required to provide notification, submit a hazardous materials questionnaire and a site plan, provide for inspections of on-site wells, obtain a CalOSHA permit and a traffic control permit, and meet specific insurance requirements (City of San Diego Development Services Department 2014).

<u>Off-site Source of Upset Involving Hazardous Materials Release</u>

The KMEP MVT stores and blends flammable and combustible liquids (including gasoline, diesel fuel, and ethanol) in tanks ranging in capacity from 8,000 to 100,000 barrels and distributes them via a 10-inch pipeline (Kinder Morgan 2015). The southern portion of the KMEP MVT parcel, which extends to the north of Friars Road abutting I-15, includes approximately six tanks of various sizes surrounded by a single containment dike of approximately 300 feet across.

The north-northeast extent of the existing Qualcomm Stadium parking area, which is bounded by San Diego Mission Road west of the I-15 overpass, is approximately 250 feet from the center of the southern parcel of the KMEP MVT, and 200 feet from the edge of the nearest storage tank. At its closest point, the existing Qualcomm Stadium structure is approximately 1,450 feet from the center of the southern portion of the KMEP MVT and 1,400 feet from the edge of the nearest storage tank. In comparison, at its closest point, the new stadium structure would be approximately 600 feet from the center of the southern portion of the KMEP MVT and 550 feet from the edge of the nearest storage tank.

With the Project, if a large fire were to occur at the KMEP MVT facility, a fire hazard to the surrounding areas, including the Project site, may potentially result. Another type of potential hazard is the potential for a large spill at the KMEP MVT facility that does not ignite in which evaporation and winds may potentially cause a flammable vapor mixture to travel off-site. In this event, a vapor cloud fire or, an explosion (if the vapor cloud fire occurred in an enclosed area) may occur if an ignition source is encountered. This potential for upset exists with existing conditions, but with the new stadium there would be an increase in the degree of risk due to its location closer to the KMEP MVT facility.

The likelihood of a fire hazard from the KMEP MVT facility is considered relatively low under existing conditions and will remain low after completion of the Project. Design and operation of the KMEP MVT facility is governed by Title 49 U.S.C., Subtitle B, Chapter I, Subchapter D, Part 195 (Transportation of Hazardous Liquids by Pipeline), and other regulations. However, because nationwide there have been incidences of fires involving large fuel storage tanks, there is the potential for such an event to occur and result in harmful off-site consequences to the new stadium and users (Fire Rescue International 2010). A study of pool fires and flammable vapors for gasoline storage in California indicated that flammable vapor hazards may potentially extend out to 1,500 or more feet from a storage tank release (City of Carson 2014).

The location of the new stadium and parking lot would be within the distance that the referenced study indicated fire and flammability hazards may potentially be present in the event of a major release incident. Also within this distance are the existing Qualcomm Stadium and parking lot, existing roadways and freeways, and existing residential and commercial development. Relative to the existing Qualcomm Stadium location, the new configuration represents a greater degree of vulnerability to the stadium structure and users due to the location of the new stadium structure closer to the storage tanks and the popularity of the northeast corner of the Project site for outdoor parking lot events.

Significance of Impacts

The risk of upset to the public and the environment during the demolition of the existing Qualcomm stadium as a result of the use of explosive material represents a potentially significant impact. In addition to compliance with applicable regulations and to further ensure that explosive materials are properly handled, Mitigation Measure HAZ-8 is required. Implementation of this measure would reduce this impact to less than significant.

The risk of upset to the public and the environment as a result of the Project's proximity to the KMEP MVT and the chance that a fire hazards incident might occur and result in harmful off-site consequences to the Project site also represents a potentially significant impact. Although the likelihood of such an event is relatively low, the Project incorporates several design features to reduce the significance of the impact. In addition to compliance with applicable regulations by the Project and KMEP MVT, the Project design features include the use of fire-resistant and fire rated materials for the stadium exterior. Also, construction of a 12-20 foot retaining wall and stadium reinforcement on the northeastern property line between the parking lot and the KMEP MVT facility would improve upon existing conditions and reduce risk to the stadium structure and users as well as parking lot areas and users. Although likelihood of the potentially significant impact from this off-site land use is relatively low and design features would reduce the degree of the impact, in the unlikely event that an impact would occur it would be significant and unavoidable.

4.6.4 Mitigation, Monitoring, and Reporting

Following implementation of Mitigation Measures HAZ-1 through HAZ-8, identified below, the majority of impacts associated with public safety and hazards and hazardous materials would be less than significant. Although Project design features would reduce the severity of the potential impact associated with a risk of upset presented by the off-site KMEP MVT, this impact would remain significant and unavoidable.

Mitigation Measure for Issue 3: Emergency Response and Evacuation Planning

HAZ-1 Plans and policies pertaining to emergency response and evacuation procedures shall be updated to reflect the location and design of the new stadium. Such plans shall be submitted to the SDFD Fire Prevention Bureau and Unified San Diego County Emergency Services Organization for review and approval prior to issuance of building permits. Plans shall include, but not be limited to, maps of evacuation routes for both pedestrians and vehicle traffic; locations of hospitals, fire stations, and police stations; locations of fire extinguishers; and designation of responsible personnel and agencies. To the extent feasible, the City shall consult the U.S. Department of Homeland Security's Evacuation Planning Guide for Stadiums (2008) and implement measures recommended therein, as necessary.

Mitigation Measures for Issue 4: Government Section 65962.5 Site Listing

HAZ-2 A detailed Contaminated Soils and Groundwater Management Plan shall be developed prior to any on-site grading. The comprehensive Plan shall meet local, state, and federal regulations pertaining to the handling and disposal of impacted soil and groundwater. The Plan shall address both the construction and operations periods of the Project and be subject to review and approval of the County of San Diego Department of Environmental Health and the Regional Water Quality Control Board (RWQCB). At a minimum, the Plan shall include:

- A Soil and Groundwater Sampling Plan;
- A Health and Safety Plan, including employee training; and
- Details provided by the licensed contractor regarding how hazardous materials would be appropriately handled and disposed of during and following construction. The contractor shall provide:
    - A description of construction waste streams, including projections of frequency, amounts generated, and hazard classifications;
    - Management methods to be used for each waste stream, including temporary on-site storage and BMPs; treatment methods and companies providing treatment services; waste testing methods to ensure correct classification; methods of transportation; disposal requirements and sites; and recycling, reuse, and waste minimization/source reduction plans; and

- Spill control and management procedures for spill containment, collection, and treatment.

HAZ-3 Construction of the Project shall not proceed until the RWQCB has determined that remediation infrastructure in the vicinity of the current and new stadium is no longer necessary and can be closed and either removed from the site or abandoned in place (as directed); or until the City has submitted a plan for relocating or preserving on-site any remediation infrastructure that the RWQCB has determined is still necessary. The plan shall be submitted for review and approval by the RWQCB and City of San Diego Development Services Department. Required remediation infrastructure (including groundwater monitoring wells, groundwater extraction wells, and SVE units), if any, shall be incorporated into the Project design and site plans.

Mitigation Measures for Issue 6: Airport Hazards

HAZ-4 Upon finalization of the Project design and site and grading plans, Notices of Proposed Construction or Alteration with the FAA (FAA Form 7460-1) shall be filed due to its proximity to Montgomery Field Airport, the policies of the Montgomery Field ALUCP, and the anticipated maximum heights of the proposed stadium and construction equipment. In the event the FAA does not issue their approval via a "Determination of No Hazard to Air Navigation," an alternative design plan for the Project and/or alternative construction equipment shall be considered, and notification(s) with the FAA shall be refiled. Project development shall not proceed until a "Determination of No Hazard to Air Navigation" is made by the FAA.

Mitigation Measures for Issue 7: Transport, Use, and Disposal of Hazardous Materials

HAZ-5 A survey for asbestos and asbestos-containing material (ACM) shall be conducted prior to issuance of the demolition permit for the existing Qualcomm Stadium and associated infrastructure. If present, Regulated ACM and Category I/Class I Non-Friable and Category I/Class II Non-Friable ACM that is suspected to become friable shall be removed and disposed of in accordance with applicable regulatory requirements, including Titles 15, 29, and 40 of the U.S. Code of Federal Regulations (CFR), as well as San Diego Air Pollution Control District (SDAPCD) Rule 361.145.

HAZ-6 A survey for lead-based paint (LBP) shall be conducted prior to demolition of the existing Qualcomm Stadium and associated infrastructure. LBP material, if present, shall be removed and disposed of in accordance with applicable regulatory requirements, including Titles 15 and 40 of the U.S. CFR.

HAZ-7 Facility components that are suspected to contain polychlorinated biphenyls (PCB) materials or equipment (including transformers, light ballasts, or elevators) shall be inspected for the presence of PCBs prior to demolition of the existing Qualcomm Stadium and associated infrastructure. PCB-containing materials or equipment shall be removed and disposed of in accordance with applicable regulatory requirements, including Titles 15 and 29 of the U.S. CFR.

HAZ-8 Prior to demolition of the existing Qualcomm Stadium, a Demolition and Implosion Plan shall be prepared and submitted to the City of San Diego Development Services Department and City of San Diego Fire-Rescue Department (SDFD) Fire Prevention Bureau for review and approval. The Plan shall include, at a minimum:

- An engineering survey prior to demolition and implosion;
- Description of demolition equipment to be utilized;
- Fire and security precautions;
- Provisions for notification to the public of implosion;
- Emergency response protocol;
- Requirements for the retention of a licensed demolition contractor to transport, install, and detonate explosives to implode portions of the existing Qualcomm Stadium;
- Defined exclusion zone for implosion;
- Safe handling and use procedures for explosive materials, including vehicular transport of explosive materials;
- Post demolition and implosion inspection, including inspection of adjacent structures, including the adjacent new stadium; and
- Safe disposal procedures for demolition debris and deteriorated explosives.

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4.7 HISTORICAL RESOURCES

In accordance with the City of San Diego's Historical Resource Guidelines (City of San Diego 2001) and Land Development Code, this section describes the environmental effects of the construction and use of the Project on historical resources under the jurisdiction of the lead agency, the City of San Diego. For purposes of this analysis, historical resources include various types of cultural resources, including historical buildings, structures, objects, districts, and landscapes; traditional cultural places; and prehistoric and historic archaeological sites. The following provides a summary analysis of the steps taken to identify, evaluate, and consider the impacts to historical resources within and near the Project area.

4.7.1 Existing Conditions

RECORDS SEARCH AND LITERATURE REVIEW

Previously Conducted Investigations

A cultural resources records search and literature review was conducted at the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) on July 8, 2015 to identify previously conducted cultural resources investigations and previously identified cultural resources within the Project site and a quarter-mile radius. The records search indicated that a total of 29 investigations, dating to between 1973 and 2012, have been previously conducted within a quarter-mile radius of the Project (Appendix H). Nine of the 29 previous investigations included portions of the Project site but occurred subsequent to the development of Qualcomm Stadium.

Previously Identified Cultural Resources

In July 2015, a CHRIS cultural resources records search was also conducted at the SCIC for previously recorded cultural resources for the Project site and a quarter-mile search radius. The records search provides background information about the number and types of archaeological sites that might be present in the Project site and vicinity. No cultural resources have been recorded within the Project site, and only one cultural resource, an isolated metavolcanic flake (P-37-014959), was identified approximately 660 feet to the south of the Project site in the quarter-mile search buffer. The isolate was recorded and collected in 1990 during the Mission Valley Water Reclamation Survey (Clevenger 1990). No built environment resources were identified as part of the CHRIS records search.

To augment the searches completed with the SCIC, supplemental research was completed with numerous sources to identify other cultural resources that may be located in the Project Area. Research was completed at/with the following sources:

- City of San Diego Register of Historic Resources
- California Office of Historic Preservation Listed Resources
- National Park Service National Register of Historic Places (NRHP) Focus Database
- Caltrans Historic Highway Bridge Inventory – State and Local Bridges
- City of San Diego, Serra Mesa Community Plan
- City of San Diego, Mission Valley Community Plan
- Environmental Protection Agency NEPAssist Database

Qualcomm Stadium, previously known as Jack Murphy Stadium and originally as San Diego Stadium, was identified in the Cultural and Heritage Resources element of the Mission Valley Community Plan as a landmark. No cultural resources were identified within a quarter-mile search radius of the Project area using the sources listed above.

A Sacred Lands File Search was requested from the Native American Heritage Commission (NAHC) on July 9, 2015, for the Project site and a 1-mile radius (Appendix H). No response has been received to date.

In July 2015, Heritage Architecture and Planning prepared a Historical Resource Technical Report for the City of San Diego that evaluated the eligibility of resources located within the Project site (Heritage Architecture and Planning 2015) (Appendix H). The July 2015 San Diego Stadium Historical Resource Technical Report identified the San Diego Stadium as eligible for listing in the national, state, and local registries at the local level of significance for its association with significant civic and recreation/entertainment events and trends, its design as a distinctive Modern Brutalist building, and as the work of Master Architect Frank L. Hope Jr. The identified period of significance is 1967-1969. The report is not yet on file at SCIC.

Archaeological Context

The earliest prehistoric sites in San Diego County have been identified as the San Dieguito Complex. The peoples associated with this complex were hunter-gatherers who first arrived in the area approximately 9,000 years before the present. Various other names have been given to subsequent cultural complexes/traditions identified in the archaeological record in the ensuing years, culminating with the Late Prehistoric Period, which ended with the arrival of the Spanish in 1769. At this time, Spanish explorers described two Native American villages that were in proximity to the Project site. These were the village of *Cosoy*, reported to be located near the mouth of the San Diego River close to Presidio Hill, and the village of *Nipaguay*, which was reported to be where the location of Mission San Diego de Alcala is now.

Mission Valley would have been an attractive place for settlement during prehistoric times due to the relative abundance of resources available within an arid environment. Because of the alluvial nature of soil deposition in the valley, archaeological sites could be deeply buried within the Project site beneath the soils previously disturbed by construction. Many prehistoric sites have been identified within the valley with cultural remains recovered at depths up to 4 meters below the ground surface with intact deposits well below the water table.

The Project site is in an area of high archaeological sensitivity. While the construction of the San Diego Stadium likely destroyed most archaeological remains in the Project site, the possibility exists that intact significant archaeological deposits may be present in undisturbed soils beneath the developed area.

From the arrival of the Spanish until the mid-20th century, Mission Valley was primarily used for agricultural and dairy farming purposes. Prior to the construction of numerous hotels in Mission Valley, one of the first being the Town and Country Hotel in 1953, the area was agricultural land. Possible residences and commercial farm buildings are visible on a 1953 and a 1964 aerial photograph of the Project site prior to construction of Qualcomm Stadium. However, these buildings are no longer present on 1966 aerial photographs as they appear to have been demolished as part of the construction of Qualcomm Stadium, which began in December 1965 (NETR 2015). Due to the relatively recent nature of these agricultural activities, it is unlikely that deeply buried archaeological deposits related to agricultural land use are on the property. This, in conjunction with the level of disturbance related to the development of the property, has likely resulted in a low probability for archaeological remains from these historic activities to be encountered during construction for the Project. However, while the construction of Qualcomm Stadium likely destroyed most archaeological remains in the Project area, the possibility exists that intact significant archaeological deposits may be present in undisturbed soils beneath the developed area.

Mission Valley Historic Context

Located along the San Diego River, Mission Valley was first explored by Spanish explorers, led by Sebastian Vizcaino, who upon arriving in San Diego in 1602 ventured farther along the river and what would become Mission Bay, then known as False Bay. Despite such forays inland into the Mission Valley area, then known as la Canada de San Diego, or Glen of San Diego, no significant development in the area would occur for over 150 years until after 1769 when, finally, a new population of Spaniards, including Junipero Serra, came to San Diego with the intent to settle the area. As a first order of business, these settlers worked to quickly establish the first Mission and military post on a hill overlooking the San Diego River, known as the Presidio, with surrounding land of la Canada de San Diego utilized for agriculture and cattle ranching, which remained the chief industries in this area of San Diego through World War II.

Already the agricultural center of San Diego during the Mission Period, spanning the late 18th and early 19th centuries, la Canada would remain so through the emergence of the city under Mexican control in 1834 (within present-day Old Town) and the development of the New Town (which comprises downtown San Diego), beginning in 1850, and well into the 20th century (City of San Diego 2013; Papageorge 1971).

Throughout the first 200 years after European settlement, Mission Valley was slow to develop. During this time, the area suffered periodic and frequent flooding, which washed out roads and often wiped out whole fields. Such flooding became the single largest impediment to Mission Valley's development. Presented with such risk, individuals, businessmen, and even the government decided not to pursue development in the area. Despite several previous attempts at flood control, it was not until 1953 when the U.S. Army Corps of Engineers finished its work on a new control channel at the mouth of the San Diego River, which began years earlier in 1947, that the area's flooding was controlled to the point where expansion and development in Mission Valley became feasible. Once the channel was completed, flooding in Mission Valley no longer posed as great as a risk (Papageorge 1971).

Serviced by a variety of old dirt trails, existing since the early Spanish period, and a main dirt road bisecting the valley west to east, Mission Valley saw the construction of a paved, two-lane road in the early 1930s. Built by the San Diego County Highway Development Association, the new road was constructed to better facilitate trucking and freight services. Despite this, throughout the 1940s, efforts to develop Mission Valley remained scarce, especially as the Mission Valley Improvement Association fought against its commercialization, preferring instead to keep it a place of horse trails and small farms (Papageorge 1971). However, with the breaking of ground on the control channel projects, which adequately solved the area's flooding problem, and the increase in demand for land in San Diego caused by massive population expansion during and following World War II, business leaders looked at Mission Valley, and its immense potential, to serve the growing city (Papageorge 1971).

In anticipation of the improvements by the U.S. Army Corps of Engineers, developers moved quickly to have their ambitions realized, acquiring the land and spurring construction, starting with the creation of the Mission Valley Golf Club in 1947 (Papageorge 1971). Rapid development ensued and, during the 1950s, several projects were underway, including the construction of several hotels at what would become Hotel Circle, and the building of Westgate Park, home to the San Diego Padres, which opened in 1955 (Crawford 1995; Papageorge 1971). These initial projects served to fulfill early developers' original intention of catering the area to recreation/tourism (Crawford 1995). However, as San Diego's population continued to rapidly expand, so too did the ambitions of those wishing to take advantage of the area (Crawford 1995; Papageorge 1971).

In 1923, C.O. Inglefield was granted an oil and gas lease from the City permitting him to drill a well and develop 600 acres in Mission Valley (San Diego Union 1923). However, mechanical difficulties, in addition to flooding, derailed much of the development. The oil and gas industry reappeared in 1954, when storage tanks were installed between the newly developed U.S. Highway 80 (now I-8) and Friars Road. These tanks, then known as part of the Mission Valley Terminal and associated with the Santa Fe Pacific Pipeline, were replaced during the 1960s, from which time they became centrally important to the distribution of fuel throughout San Diego County.

Beginning in the late 1950s, with the construction of a replacement highway that would become Interstate 8, which facilitated higher volumes of visitors, Mission Valley saw a significant increase in urban development and commercialization. Included among many of these commercial achievements were the creation of the Mission Valley Shopping Center in 1958, the construction of San Diego Stadium (now called Qualcomm Stadium) in 1967, and the development of Fashion Valley Shopping Center in 1969.

During World War II, San Diego, already accommodating several military installations and serving as headquarters for several manufacturers in the defense industry, quickly established itself as an important hub for the military and defense activities. Subsequent expansion, which continued throughout the war and in the immediate decade after, necessitated the development of several new communities in the city, one of which was Serra Mesa. This community sits on the mesa to the north of Qualcomm Stadium and west of I-15.

Development of the Serra Mesa community started during the early 1950s, when, in 1952, to accommodate San Diego's expanding military population, plans were made to construct 895 residential units for Navy and Marine Corps personnel in the area, known then as Cabrillo Heights (San Diego Union 1952). The area quickly became an attractive area for development, and just 4 years later, several additional subdivisions expanded the new community, evidenced by the number of residential units, which jumped to 2,150 (San Diego Union 1956). In the next decade or so, growth furthered, mostly to the east and south, as new subdivisions were developed and several building phases occurred. This added more residential units in addition to new commercial spaces to service the area (San Diego Union 1956, 1959). Expansion of the community included the addition of the neighborhood of Mission Village and its subdivisions, designed by the American Housing Guild and constructed by builders from R.E. Hazard Jr. Inc. By the 1970s, the community's growth had leveled off, due largely to scarce available vacant land (Serra Mesa Community Planning Group 2000).

Contemporary and subsequent improvements, such as the construction of other major highways, including SR 163 and I-805, completed by 1971, and updates to the flood channel during the 1960s and 1970s, helped to increase mercantile and commercial development of the area (City of San Diego 2013; Papageorge 1971). By the 1970s, and certainly the 1980s, the last remnants of the region's historical agricultural economy were all but gone, having given way to enlarged commercialization (City of San Diego 2013).

San Diego Stadium (currently known as Qualcomm Stadium) Historic Context

This section summarizes a more detailed context prepared by Heritage Architecture and Planning (July 2015) and is included in Appendix H.

Opened in 1967 as a multipurpose stadium, San Diego Stadium (later called Jack Murphy Stadium and currently Qualcomm Stadium) is the current home of the National Football League's (NFL) San Diego Chargers and the San Diego State University Aztecs college football team. It was also the home of the Major League Baseball's (MLB) San Diego Padres from 1969 to 2003.

In the early 1960s, local sportswriter Jack Murphy began to build up support for a multipurpose stadium in San Diego. This resulted in the passage in 1965 of a $27 million bond to build the stadium in Mission Valley. Designed in the Brutalist substyle of Modern Architecture by local architect and engineering firm, Frank L. Hope and Associates, it exhibits blockish, geometric, and repetitive shapes. Originally, the design was intended to be a departure from the ubiquitous circular stadiums of the time, and its horseshoe shape allowed for better unobstructed views for both football and baseball fans. It was constructed between April 11, 1966, and August 15, 1967. In 1969, the San Diego Stadium received the distinguished American Institute of Architects Honor award, the highest national professional recognition for architectural excellence. It was the first major sports facility to receive such an honor. Other awards followed, noting both the architecture and the design as it related to the consideration for the ease of mobility for the visitors.

Over the years, San Diego Stadium has been a host to a number of events, some with a great deal of prestige. It has hosted the NFL Super Bowl three times (1988, 1998, and 2003) and numerous baseball events (including two MLB World Series in 1984 and 1998). It is the only sports stadium to host both the major football and baseball championships in the same year. It also hosts the Holiday Bowl and Poinsettia Bowl college football games every December. The capacity of the stadium was expanded in 1984 and 1997.

4.7.2 Regulatory Conditions

STATE LAWS, REGULATIONS, PLANS, AND POLICIES

California Environmental Quality Act (CEQA)

California Environmental Quality Act applies to all discretionary projects undertaken or subject to approval by the state's public agencies (CEQA Guidelines Section 15002(i)). California Environmental Quality Act (Public Resources Code [PRC] Section 21001(b), (c)) states that it is the policy of the State of California to "take all action necessary to provide the people of this state with… historic environmental qualities…and preserve for future generations examples of the major periods of California history." California Environmental Quality Act Guidelines require that historical and unique archaeological resources be taken into account during the environmental review process. Section 15064.5 of the Guidelines states that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment."

Historical Resources

California Environmental Quality Act Guidelines (Section 15064.5(a)) define a "historical resource" as including the following:

- A resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR);
- A resource listed in a local register of historical resources (as defined at PRC Section 5020.1(k));
- A resource identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. (Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR. See further discussion of the CRHR below.)

A project that causes a "substantial adverse change" in the significance of a historical resource may have a significant effect on the environment (CEQA Guidelines Section 15064.5(b)). CEQA Guidelines (Section 15064.5(b)(1)) define "substantial adverse change" as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Generally, the significance of a historical resource is "materially impaired" when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in or eligibility for the CRHR, or its inclusion in a local register of historical resources (CEQA Guidelines Section 15064.5(b)(2)).

Mitigation measures are discussed in CEQA Guidelines Section 15126.4. Generally, by following the Secretary of the Interior's Standards for the Treatment of Historic Properties or the Secretary of the Interior's Standards for Rehabilitation (Weeks and Grimmer 1995), impacts can be considered as mitigated to a level less than significant (CEQA Section 15064.5(b)).

Archaeological Resources

If the resource in question is an archaeological site, CEQA Guidelines (Section 15064.5(c)(1)) require that the lead agency first determine if the site is a historical resource as defined in Section 15064.5(a). If the site qualifies as a historical resource, potential adverse impacts must be considered in the same manner as a historical resource (CEQA Guidelines Section 15064.5(c)(2)). If the archaeological site does not qualify as a historical resource but does qualify as a unique archaeological resource, then the archaeological site is treated in accordance with CEQA Section 21083.2 (CEQA Guidelines Section 15064.5(c)(3)). In practice, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource.

California Environmental Quality Act Section 21083.2(g) defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions, and there is public information in that information.
- Has a special and particular quality, such as being the oldest or best example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources

The CRHR program was designed for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. A historical resource can include any object, building, structure, site, area, or place that is determined to be historically or archaeologically significant. The CRHR is an authoritative guide to the state's significant archaeological and historic architectural resources. The list of these resources can be used for state and local planning purposes, the eligibility determinations can be used for state historic preservation grant funding, and listing in the CRHR provides a certain measure of protection under CEQA. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR. A historical resource must be significant at the local, state, or national level under one or more of the following criteria defined in the California Code of Regulations Title 14, Chapter 11.5, Section 4850:

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values;

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Public Resources Code Section 5097.5, Section 5097.9 and Section 622.5

Public Resources Code Section 5097.5 states that a person shall not knowingly excavate, harm, or destroy any historic or prehistoric ruins or sites on public lands, unless granted permission by the public agency that has jurisdiction over those lands. Violations are classified as a misdemeanor, punishable by fine and/or imprisonment. The section outlines the specific parameters of addressing the violation.

Public Resources Code Section 5097.9 states consultation with the NAHC is required whenever Native American graves are found. Pursuant to Health and Safety Code (HSC) subdivision c of Section 7050.5 (see below), when the NAHC is notified of human remains, it shall immediately notify those persons it believes to be the Most Likely Descendants (MLDs). Section 5097.98 1(b) states: "Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section, with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment." It also states possible preferences the MLD may have for treatments, including preservation in place, nondestructive removal and analysis, relinquishment to the MLD, or other appropriate treatment.

Public Resources Code Section 622.5 establishes that any person, who is not the owner thereof, who willfully injures, disfigures, defaces, or destroys an object of archaeological or historical value on private or public lands is guilty of a misdemeanor.

Public Notice to California Native American Indian Tribes (Government Code Section 65092)

In the event of a public hearing, Government Code Section 65092 states that California Native American tribes on the contact list of the NAHC are included in the definition of "person" to whom notice of the public hearing will be sent to by local governments or agencies.

Health and Safety Code Section 7050.5

Health and Safety Code Section 7050.5 requires that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlay adjacent remains, until the County Coroner has examined the remains. If the Coroner determines, or has reason to believe, the remains to be those of a Native American, the Coroner shall contact the NAHC by telephone within 24 hours. In addition, any person who mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor.

Assembly Bill (AB) 52

Assembly Bill 52 (Chapter 532, Statutes of 2014) was passed on September 25, 2014, and applies to all projects that file a notice of preparation or notice of negative declaration or mitigated negative declaration on or after July 1, 2015. The bill requires that a lead agency begin consultation with a California Native American tribe if that tribe has requested, in writing, to be kept informed of proposed projects by the lead agency, prior to the determination whether a negative declaration, mitigated negative declaration, or environmental impact report will be prepared. The bill also specifies mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. Additionally, the Office of Planning and Research will revise the guidelines to separate the consideration of tribal cultural resources from paleontological resources by July 1, 2016.

REGIONAL AND LOCAL LAWS, REGULATIONS, PLANS, AND POLICIES

City of San Diego Municipal Code, Chapters 11, 12, and 14

The Historical Resources Board (HRB) has been established by the City Council in accordance with the City Charter, Section 43. The Land Development Code sets forth HRB's authority, appointment and terms, meeting conduct, and powers and duties; the designation process including the nomination process, noticing and report requirements, appeals, recordation, amendments or rescission, and nomination of historical resources to state and national registers; and development regulations for historical resources.

San Diego Municipal Code, Chapter 14, Article 3, Division 2 contains regulations to protect, preserve and, where damaged, restore the historical resources of San Diego, which include historical buildings, historical structures or historical objects, important archaeological sites, historical districts, historical landscapes, and traditional cultural properties. These regulations are intended to ensure that development occurs in a manner that protects the overall quality of historical resources. It is further the intent of these regulations to protect the educational, cultural, economic, and general welfare of the public, while employing regulations that are consistent with sound historical preservation principles and the rights of private property owners.

San Diego Municipal Code, Chapter 11, Article 3, Division 1 provides definitions of the different types of historical resource:

- Designated historical resource means a historical building, historical district, historical landscape, historical object, or historical structure, important archaeological site or traditional cultural property which has been designated by the HRB pursuant to Land Development Code Chapter 12, Article 3, Division 2, is included in the HRB Register, or has been listed in or determined to be eligible for listing in the CRHR or the NRHP;
- Historical building means a construction that possesses historical, scientific, architectural, aesthetic, or cultural significance that was created principally to shelter human activity;
- Historical district means a significant concentration, linkage, or continuity of sites, buildings, structures, or objects that are united historically, geographically, or

aesthetically by plan or physical development and that have a special character, historical interest, cultural or aesthetic value, or that represents one or more architectural periods or styles in the history and development of the City;

- Historical landscape means a modified feature of the land that possesses historical, scientific, aesthetic, cultural, or ethnic significance to a neighborhood or community;
- Historical object means a construction of historical, scientific, aesthetic, cultural, or ethnic significance that is usually by design or nature movable and primarily artistic in nature or relatively small in scale and simply constructed;
- Historical resource means a designated historical resource, historical building, historical structure, historical object, important archaeological site, historical district, historical landscape, or traditional cultural property;
- Historical structure means a functional construction that possesses historical, scientific, architectural, aesthetic, or cultural significance, usually made for purposes other than sheltering human activity;
- Important archaeological site means a site or location of past human occupation with significant subsurface deposits, where important prehistoric or historic activities or events occurred, that possesses unique historical, scientific, cultural, religious, or ethnic value of local, regional, state, or federal importance. Important archaeological sites include: (a) Archaeological sites listed in the HRB Register or listed in or determined to be eligible for listing in the CRHR or in the NRHP; (b) Areas of past human occupation where important prehistoric or historic activities or events occurred (such as villages or large camps); and (c) Locations of past or current traditional religious or ceremonial observances as defined by Public Resources Code Section 5097.9, and protected under Public Law 95-341, the American Indian Religious Freedom Act (such as burials, pictographs, petroglyphs, solstice observation sites, and sacred shrines); and,
- Traditional cultural property means a locale which has been, and may continue to be, of religious, mythological, economic, or social importance to an identifiable ethnic group. This includes sacred areas where religious ceremonies were or are practiced or that are central to a group's origins as a people (such as a mountain, river, or cave). Also included are areas where plants or other materials were or are gathered for food, medicine, or other economic purposes.

The City's Historical Resources Regulations (codified in the San Diego Municipal Code as Chapter 14, Article 3, Division 2, §143.0210) require that designated historical resources and traditional cultural properties be preserved unless deviation findings can be made by the decision maker as part of a discretionary permit. Minor alterations consistent with the Secretary of the

Interior's Standards for the Treatment of Historic Properties are exempt from the requirement to obtain a Site Development Permit but must comply with the regulations and associated historical resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.

Land Development Manual – Historical Resource Guidelines

The Historical Resources Guidelines, located in the Land Development Manual (City of San Diego 2001), provide property owners, the development community, consultants, and the general public explicit guidance for the management of historical resources located within the City's jurisdiction. These guidelines are designed to implement the Historical Resources Regulations contained in the Land Development Code (Chapter 14, Article 3, Division 2) and guide the development review process from the need for a survey and how impacts are assessed to available mitigation strategies and report requirements and include appropriate methodologies for treating historical resources located in the City.

Any improvement, building, structure, sign, interior element and fixture, feature, site, place, district, area, or object may be designated a historical resource by the City's HRB if it meets one or more of the following designation criteria:

a. It exemplifies or reflects special elements of the City's, a community's, or a neighborhood's, historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development;

b. It is identified with persons or events significant in local, state or national history;

c. It embodies distinctive characteristics of a style, type, period, or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;

d. It is representative of the notable work or a master builder, designer, architect, engineer, landscape architect, interior designer, artist, or craftsman;

e. It is listed or has been determined eligible by the National Park Service for listing in the NRHP or is listed or has been determined eligible by the State Historical Preservation Office for listing in the CRHR; or

f. It is a finite group of resources related to one another in a clearly distinguishable way or is a geographically definable area or neighborhood containing improvements which have a special character, historical interest or aesthetic value or which represent one or more architectural periods or styles in the history and development of the City.

City of San Diego Development Services Department CEQA Significance Determination Thresholds

The City has developed Significance Determination Thresholds (also known as Guidelines) to assist staff, project proponents, and the public in determining whether, based on substantial evidence, a project may have a significant effect on the environment, per CEQA Guidelines Section 21082.2, and therefore the environmental impact requires mitigation. The City's Significance Determination Thresholds for analyzing impacts to historical resources describe three kinds of impacts to historical resources: direct, indirect, and cumulative.

Direct impacts generally result from activities that will cause damage to or have an adverse effect on the resource. Indirect impacts (primarily for built environment resources but also applicable to archaeological resources) include the introduction of visual, audible, or atmospheric effects that are out of character with the historic property or alter its setting, when the setting contributes to the property's significance. For archaeological resources and traditional cultural properties, indirect impacts are often the result of increased public accessibility to resources not otherwise subject to impacts that may result in an increased potential for vandalism and site destruction. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. According to the City's Historical Resources Guidelines, the loss of a historical resource database due to mitigation by data recovery may be considered a cumulative impact. In the built environment, cumulative impacts most often occur to districts, where several minor changes to contributing properties, their landscaping, or to their setting over time could result in a significant loss of integrity to the district as a whole.

4.7.3 Impact Analysis

Issue 1: Would the project result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, object, or site?

Impact Thresholds

Impacts to historical resources may be significant if the Project would result in the alteration and/or the destruction of a prehistoric or historic building, including an architecturally significant building or site.

Impact Analysis

Archaeological Resources

As discussed in Section 4.7.1, no archaeological sites have been identified in or directly adjacent to the Project site. The records search did not identify any previously recorded archaeological sites within the Project site. Significant sites, including the ethnohistoric Kumeyaay village of *Nipaguay* and the Mission San Diego de Alcalá (CA-SDI-35/202), are however located in proximity east of the Project site. Based on the known prehistoric and historic-period use of the Mission Valley area and development of much of the area prior to implementation of CEQA, the area adjacent to the San Diego River is likely to have previously undiscovered prehistoric and historic sites. Additionally, significant prehistoric archaeological sites have also been discovered deep in alluvial soils in the San Diego River Valley (ASM 2004 in City of San Diego 2005). As such, the area of the Project site is considered to have a high archaeological sensitivity. Buried archaeological sites may be impacted by excavation or grading required for the Project.

Built Environment Resources

As discussed in Section 4.7.1, Heritage Architecture and Planning prepared a Historical Resource Technical Report for the City of San Diego that evaluated the eligibility of resources located within the Project site (Heritage Architecture and Planning 2015). The San Diego Stadium Historical Resource Technical Report identified the San Diego Stadium as eligible for individual listing in the NRHP, CRHR, and the City of San Diego Register of Historic Resources as a Historical Landmark at the local level. It is considered eligible for its association with significant recreation/entertainment events and trends, its design as a distinctive Modern Brutalist building, and as the work of Master Architect Frank L. Hope Jr. The identified period of significance is 1967-1969. No other eligible or listed resources were identified within the Project site. The proposed demolition of San Diego Stadium would result in significant direct impacts to the historical resource.

In accordance with the City's Significance Determination Thresholds, an indirect effects analysis was also completed to determine if the Project would cause the introduction of visual, audible, or atmospheric effects that are out of character with a historical resource or alter its setting, when the setting contributes to the property's significance. As discussed in Section 4.7.1, the CHRIS cultural resources records search found that there are no previously identified historical resources located within a 0.25-mile search radius of the Project; therefore, no indirect impacts would occur to previously identified historical resources.

Additional analysis, research, and field surveys were completed to further consider properties that may be indirectly impacted by the Project. The indirect impact analysis focused on properties located within one parcel from the San Diego Stadium boundaries or with direct views to the San Diego Stadium that are older than 45 years. This was accomplished through reviewing information available with the City and County regarding the age of all nearby properties, completing reconnaissance surveys to document and assess the viewsheds and visual relationships between the properties and the City, and completing supplemental background information to evaluate those properties. Two related groupings of properties were identified within this indirect impacts area: the Mission Village Unit 15 and Mission Village Annex Unit 4 and 5 Subdivision. These properties were recorded and evaluated on DPR 523 series forms included in Appendix H, and the following provides a summary of their eligibility to the NRHP, CRHR, and local register.

Mission Village Unit 15 and Mission Village Annex Unit 4 and 5 Subdivision

The Mission Village Unit 15 and Mission Village Annex Unit 4 and 5 Subdivision, located approximately 850 feet north of the Project, was developed as early as 1960, with several episodes of infill development, expansion, and new construction completed between 1980 and the present. The subdivision is located to the west and east of Mission Village Road, north of Friars Road, atop a steep hillside, and comprises single-family residences located along short rectilinear streets. The closest residences within the viewshed of the Project are located on Broadview Avenue, which is the southern limit of the Mission Village Unit 15 neighborhood, and Harcourt Drive, which is the southern limit of the Mission Village Annex Unit 4 and 5 neighborhoods. These properties primarily consist of single-story L-shaped ranch-style residences (with several heavily altered with a raised second story) or bi-level residences. Many have diminished historic integrity caused by new exterior finishes and coatings, large projections, or infill additions, such as 9371 Broadview Avenue, 2415 Moonstone Drive, and 9457 Harcourt Drive. In addition, altered overhead utility lines, consisting of wooden poles and lattice towers, are located within the viewshed of the subdivision and the Stadium.

While an example of a residential neighborhood or suburb constructed post-World War II, the Mission Village Unit 15 and Mission Village Annex Unit 4 and 5 Subdivision, as a whole, and its individual residences, are not a distinctive example of this property type, associated with a significant person or designer/builder/architect, and do not embody the trends and significant events associated with the property type during the post-war suburbanization of places like San Diego. Unlike most post-World War II suburbs, the subdivision is considerably smaller than others in the area (like the ones found in nearby Rolando Heights and Point Loma) and is not laid out on curvilinear streets with multiple cul-de-sacs, a form that was dictated in the FHA guidelines for neighborhood planning (Ames and McClelland 2002). By the early 1950s, suburban housing reflected the growing affluence of the country's citizens and their preference for more space. The ranch style house was the dominant suburban house style from the 1950s through the 1960s (and the type of residence style seen in the Mission Village Unit 15 and Mission Village Annex Unit 4 and 5 Subdivision). However, the subdivision is not an early example of this architectural style, since numerous similar suburbs were developed in this style during the 1950s. Further, the subdivision was not developed, planned, or designed by a prominent builder or architect significant to San Diego, like the Dennstendt Company, Jack Kendrick, and O.D. Arnold & Sons (who were constructing similar residences at the time), and is a relatively common example compared to other examples and lacks a variety of floor plans, community amenities (shopping centers, separate circulation networks), and a large-scale size, which would better illustrate this property type. In conclusion, based on this analysis, the subdivision, as a whole, and its individual residences, are not eligible for listing in the NRHP, CRHR, or local register, and therefore, would not be indirectly impacted by the Project.

Santa Fe Pacific Pipeline Facility

The Santa Fe Pacific Pipeline Facility is located immediately northeast of the Project, immediately north and south of Friars Road, and northwest of I-15. The facility was first developed in 1954, and consisted of a series of large cylindrical tanks and associated equipment (pumps, terminals, separators) arranged in simple rows, along the east portion of two irregularly sized parcels. Based on a review of historic imagery available through NETR and the Phase I ESA from 1953, 1964, and 1970s, it appears none of the original structures associated with the Santa Fe Pacific Pipeline Facility are still extant, and that larger tanks and new equipment have replaced the original structures. The facility was acquired by KMEP when they purchased the Santa Fe Pacific Pipeline company, which operated 3,300 miles of common carrier pipelines. The company had a large presence in Los Angeles, Orange, and Alameda counties, while its San Diego holdings were limited to the facility in Mission Valley, and was originally created out of the holdings from the Santa Fe Railroad in 1990.

Overall, the Santa Fe Railroad has a historic relationship with the City; this is best illustrated by its extensive railroad network and prominent stations. However, the development of the Santa Fe Pacific Pipeline Facility does not convey the importance of the company to the City, and the property, in its present appearance and form, does not resemble a tank and pipeline facility from the 1950s, due to the extensive alterations; new construction; expansion of the facility's footprint; and replaced historic materials, fabric, and arrangements. When compared to other facilities in California, larger and more significant examples exist within the Los Angeles, port areas, southwest San Bernardino County, and the Bay Area. These facilities are characterized by various intermodal methods to transport the oil and gas-related products, such as pipelines, railroads, ships, and highway transportation, whereas the San Diego facility is limited to just pipelines and highway transport. As a result, the pipeline facility does not have a significant association with events, trends, or patterns important to the history of the Santa Fe Railroad, its divested interests, or the City. Further, individuals important to the railroad or the history of oil and gas in California are not directly associated with this property, and therefore no link or significant relationship exists. The facility was not developed by a master engineer, and lacks any type of distinguishing design or a concentration of materials older than 45 years. In conclusion, the Santa Fe Pacific Pipeline Facility is not eligible for listing in the NRHP, CRHR, or local register, and therefore would not be indirectly impacted by the Project.

Significance of Impacts

Archaeological Resources

Previously unrecorded archaeological resources, if present within the Project site, could be substantially damaged or destroyed during ground disturbance undertaken for the Project. Adverse physical effects to or destruction of archaeological resources would result in a significant impact. Implementation of Mitigation Measure AR-1 would reduce Project impacts to archaeological resources to less than significant levels.

Built Environment Resources

Under the City of San Diego CEQA significance determination thresholds, direct impacts result from activities that will cause damage to or have an adverse effect on the resource. The Project would result in the destruction of an architecturally and historically significant building—San Diego Stadium. Destruction of the San Diego Stadium, which is eligible for listing in national, state, and local registers, constitutes a significant and direct impact.

Implementation of Mitigation Measures HR-1, HR-2, and HR-3 will provide a record of the historically significant building. In most cases, the use of drawings, photographs, and/or displays (such as outlined in HR-1 through HR-3) does not mitigate the physical impact on the environment caused by demolition or destruction of a historical resource (CEQA Guidelines Section 15126.4(b)). However, CEQA requires that all feasible mitigation be undertaken even if it does not mitigate below a level of significance. In this context, recordation serves a legitimate archival purpose. While recordation will eliminate one adverse impact of demolition (the loss of historical information), it will not prevent the physical loss of a historically significant resource. With the implementation of Mitigation Measures HR-1 through HR-3, the impacts to historical resources would be reduced, but not to a level of less than significant.

Since no significant historical resources were identified within the indirect impact analysis area, no significant or substantial indirect impacts would occur; therefore, mitigation measures have not been developed since the Project would have a less than significant indirect impact to properties.

Issue 2: Would the project result in any impact to existing religious or sacred uses within the potential impact area?

Impact Thresholds

Impacts to historical resources may be significant if the Project would result in any impact to existing religious or sacred uses within the potential impact area.

Impact Analysis

The CHRIS records search identified no existing religious or sacred uses within the Project site. The Project would have *no impact* to existing religious or sacred uses within the potential impact area.

Significance of Impacts

The Project would have no impacts to religious or sacred uses.

Issue 3: Would the project result in the disturbance of any human remains, including those interred outside of formal cemeteries?

Impact Thresholds

Impacts to historical resources may be significant if the Project would result in the disturbance of any human remains, including those interred outside of formal cemeteries.

Impact Analysis

As of the date of this document, there is no evidence indicating the possible presence of human remains in the Project site. Should human remains be encountered during ground-disturbing activities conducted as part of the Project, implementation of Mitigation Measure AR-1 would reduce Project impacts to less than significant levels.

Significance of Impacts

Implementation of Mitigation Measure AR-1 would reduce Project impacts to less than significant levels.

4.7.4 Mitigation, Monitoring, and Reporting

ARCHAEOLOGICAL RESOURCES

Measure AR-1:

I. Prior to Permit Issuance (for projects that include ground disturbance)

A. Entitlements Plan Check

1. Prior to issuance of any construction permits, including, but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, but prior to the first preconstruction (precon) meeting, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for archaeological monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

B. Letters of Qualification Have Been Submitted to ADD

1. The Project's cultural resources consultant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the Project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines. If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the Project's cultural resources consultant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the Project meet the qualifications established in the Historical Resources Guidelines.
3. Prior to the start of work, the Project's cultural resources must obtain written approval from MMC for any personnel changes associated with the monitoring program.

II. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site-specific records search (quarter-mile radius) has been completed. Verification includes, but is not limited to, a copy of a confirmation letter from SCIC, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.

2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

3. The PI may submit a detailed letter to MMC requesting a reduction to the quarter-mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the City shall arrange a precon meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American monitor shall attend any grading/excavation-related precon meetings to make comments and/or suggestions concerning the archaeological monitoring program with the CM and/or Grading Contractor.

   a. If the PI is unable to attend the precon meeting, the City shall schedule a focused precon meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Identify Areas to Be Monitored

   a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11 inches x 17 inches) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.

   b. The AME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation).

3. When Monitoring Will Occur

   a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.

   b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents that indicate site conditions such as depth of excavation and/or site graded to bedrock, etc. that may reduce or increase the potential for resources to be present.

III. During Construction

A. Monitor(s) Shall Be Present during Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full time during all soil-disturbing and grading/excavation/trenching activities that could result in impacts to archaeological resources as identified on the AME. The CM is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances, Occupational Safety and Health Administration safety requirements may necessitate modification of the AME.

2. The Native American consultant/monitor shall determine the extent of their presence during soil-disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B–C and IV.A–D shall commence.

3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The Archaeological Monitor and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVRs shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil-disturbing activities including, but not limited to, digging, trenching, excavating, or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.

2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered, shall evaluate the significance of the resource. If human remains are involved, follow protocol in Section IV below.

   a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.

   b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program that has been reviewed by the Native American consultant/monitor, and obtain written approval from MMC. Impacts to significant resources must be mitigated before ground-disturbing activities in the area of discovery will be allowed to resume. Note: If a unique archaeological site is also a historical resource as defined in CEQA, then the limits on the amount(s) that the Project may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.

   c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains, and the following procedures as set forth in CEQA Section 15064.5(e), California PRC (Section 5097.98) and State HSC (Section 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.

2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate Discovery Site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenance of the remains.

2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenance.

3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI whether the remains are, or are most likely to be, of Native American origin.

C. If Human Remains Are Determined to Be Native American

1. The Medical Examiner will notify the NAHC within 24 hours. By law, only the Medical Examiner can make this call.

2. The NAHC will immediately identify the person or persons determined to be the MLD and provide contact information.

3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California PRC and HSCs.

4. The MLD will have 48 hours to make recommendations to the City or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.

5. Disposition of Native American human remains will be determined between the MLD and the PI, and, if:
    a. The NAHC is unable to identify the MLD, or the MLD failed to make a recommendation within 48 hours after being notified by the Commission; OR;
    b. The City or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the City, then,
    c. In order to protect these sites, the City shall do one or more of the following:
        (1) Record the site with the NAHC;
        (2) Record an open space or conservation easement on the site;
        (3) Record a document with the County.
    d. Upon the discovery of multiple Native American human remains during a ground-disturbing land development activity, the City may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures, the human remains and cultural materials buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains Are Not Native American
1. The PI shall contact the Medical Examiner with notification of the historic era context of the burial.
2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for interment of the human remains shall be made in consultation with MMC, EAS, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

A. If Night and/or Weekend Work Is Included in the Contract
1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.

   a. No Discoveries

      In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8 a.m. of the next business day.

   b. Discoveries

      All discoveries shall be processed and documented using the existing procedures detailed in Sections III – During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

   c. Potentially Significant Discoveries

      If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III – During Construction and IV – Discovery of Human Remains shall be followed.

   d. The PI shall immediately contact MMC, or by 8 a.m. of the next business day, to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If Night and/or Weekend Work Becomes Necessary during the Course of Construction

1. The CM shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All Other Procedures Described Above Shall Apply, as Appropriate.

VI. Post Construction

A. Preparation and Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines that describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC for review and approval within 90 days following the completion of monitoring. It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe resulting from delays with analysis, special study results, or other complex issues, a schedule shall be submitted to MMC establishing agreed-upon

due dates and the provision for submittal of monthly status reports until this measure can be met.

a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation

The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI for revision or, for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to MMC for approval.

4. MMC shall provide written verification to the PI of the approved report.

5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued.

2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

3. The cost for curation is the responsibility of the property owner.

C. Curation of Artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing, and/or data recovery for this Project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.

2. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

3. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection 5.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC that the draft report has been approved.
2. The RE shall, in no case, issue the Notice of Completion and/or release of the Performance Bond for grading until receiving a copy of the approved Final Monitoring Report from MMC that includes the Acceptance Verification from the curation institution.

BUILT ENVIRONMENT RESOURCES

Measure HR-1:

Recording the Resource: The City of San Diego's Land Development Manual – Historical Resources Guidelines identifies preferred mitigation measures to avoid impacts, including avoidance of a significant resource through project redesign or relocation of the significant resource. Since the Project includes demolition of the San Diego Stadium, a full recording of the building should be done so that a record of the significant resource is maintained. Prior to demolition, Secretary of Interior-qualified professionals (in history or architectural history) shall perform photo-recordation and documentation consistent to the standards of the National Parks Service (NPS) Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) documentation. HABS/HAER documentation is described by the NPS as "the last means of preservation of a property; when a property is to be demolished, its documentation provides future researcher access to valuable information that otherwise would be lost" (Russell 1990). HABS/HAER documentation shall consist of measured drawings (or reproductions of historic drawings), photographs, and written data (e.g., historic context, building descriptions) that provide a detailed record that reflects San Diego Stadium's historical significance. San Diego Stadium should receive HABS/HAER documentation Level II, as described in NPS documentation for HABS/HAER (Russell 1990:4). If historical as-built drawings do not exist (or are not reproducible to HABS/HAER standards), then measured drawings shall be prepared to document the structure and its alterations. These shall adhere to the standards set for a Level I HABS/HAER report. Following completion of the HABS/HAER documentation and approval by Historical Resources staff, the materials shall be placed on file with the City, San Diego History Center, San Diego Central Library, and the Library of Congress.

Measure HR-2:

Architectural Salvage: Prior to demolition, the City shall make available for donation architectural materials from the site to museums, archives, and curation facilities; the public; and nonprofit organizations to preserve, interpret, and display the history of San Diego Stadium. The materials to become architectural salvage shall include historic-period elements that will be removed as part of the Project, and shall be identified and made available prior to the commencement of demolition activities, to ensure that materials removed do not experience further damage from removal/demolition. No materials shall be salvaged or removed until HABS/HAER recordation and documentation are completed and an inventory of key exterior and interior features and materials is completed by Secretary of Interior-qualified professionals. The inventory of key exterior and interior features and materials may be developed as part of HR-1. The materials shall be removed prior to or during demolition. Materials that are contaminated, unsound, or decayed will not be included in the salvage program and will not be available for future use or display. The City as lead agency will determine which materials are suitable for salvage (the City can utilize the assistance of qualified professionals to make such determinations).

Measure HR-3:

Interpretative Display and Educational Information: In concert with HABS/HAER documentation, the City shall develop and install interpretive signage or display panels in a publicly visible location at the Project site that describe the history and significance of San Diego Stadium. The interpretive signage and its location within the Project site must be approved by the City's Historical Resources staff, and shall include historic photographs and a brief narrative describing the history and significance of San Diego Stadium. In addition, educational/interpretive information which describes the history and significance of San Diego Stadium shall be made available to the public in a readily accessible format, such as a printed brochure and/or electronic format such as a webpage. This educational/interpretive material shall be available to schools, museums, archives and curation facilities, libraries, nonprofit organizations, the public, and other interested agencies. The interpretive signage/display and educational/interpretive material could be based on the photographs produced in the HABS/HAER documentation, and the historic archival research previously prepared as part of the Project.

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4.8 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrologic and water quality conditions within the Project area, identifies current applicable regulations, and evaluates potential hydrology and water quality impacts associated with implementation of the proposed Project. Avoidance and minimization measures are included as necessary.

4.8.1 Existing Conditions

Climate

San Diego is characterized by a semiarid Mediterranean climate with rainfall averaging approximately 10 inches annually, mostly occurring between December and March. Winter storms can unexpectedly create flash-flood conditions in the canyons and floodplains adjacent to the proposed Project site. Flooding in the Project area is most common during winter storm events, and occasionally during the summer when monsoonal moisture migrates northward from equatorial tropical storms. Temperatures range from an average summer temperature of 75 degrees Fahrenheit (°F) to an average winter temperature of 65°F.

Hydrology

The Project area is located in the Mission San Diego Hydrologic Subarea (HSA) (907.11) in the Lower San Diego Hydrologic Area (HA) within the San Diego River Hydrologic Unit (HU) (Figure 4.8-1). The San Diego River HU is the second largest HU in San Diego County encompassing approximately 440 square miles in the cities of San Diego, El Cajon, La Mesa, Poway, and Santee, as well as several unincorporated jurisdictions. The San Diego HU is drained by the San Diego River. Approximately 58.4 percent of the HU is undeveloped, mostly in the upper, eastern portion, while the lower areas are more urbanized, dominated by residential (14.9 percent), freeways and roads (5.5 percent), and commercial/industrial (4.2 percent) land uses (PCW 2015).

Local Surface Drainage Features

The San Diego River abuts the proposed Project site along the southern boundary. The San Diego River begins 50 miles to the east of the Project area in the Cuyamaca Mountains, flows past the Project site, and drains into the Pacific Ocean 5 miles to the west in the community of Ocean Beach.

Murphy Canyon Creek drains along the eastern perimeter of the proposed Project site and discharges into San Diego River southeast of the Project site. Currently, in this area Murphy Canyon Creek is contained in a flood control channel, which is elevated above the proposed Project's parking lot. A berm exists between the channel and the parking lot; however, during moderate storm events, water overtops the berm and floods the existing parking area.

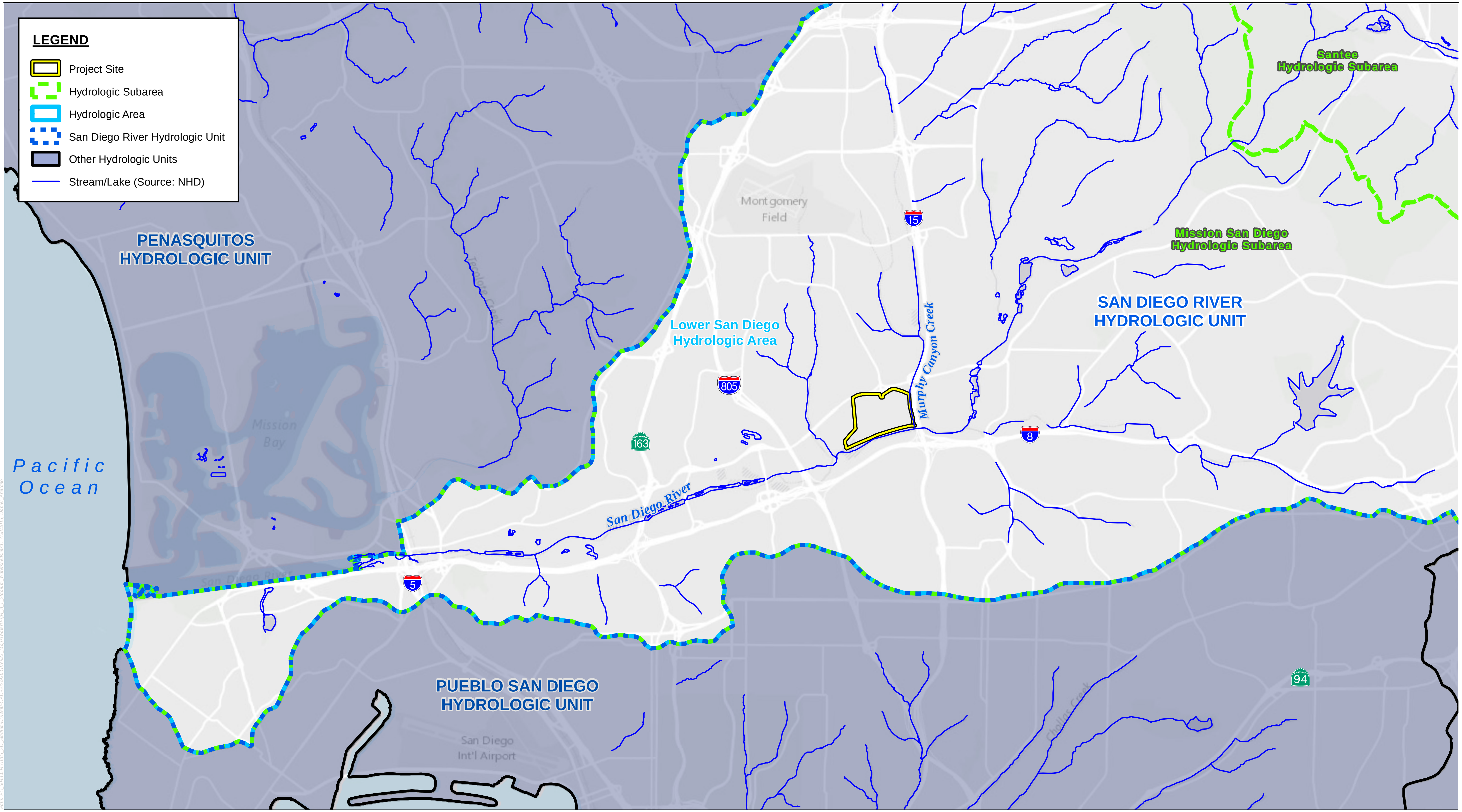
Groundwater Resources

The Mission Valley Groundwater Basin underlies the Project site and is bounded by the contacts of alluvium with semipermeable San Diego and Poway Formations and impermeable Linda Vista Formation (DWR 1967, as cited in DWR 2004). Quaternary alluvium forms the principal water-bearing unit within the basin (DWR 2004). These deposits typically consist of medium to coarse-grained sand and gravel. Average well production is approximately 1,000 gallons per minute (gpm) (DWR 2004). A source of recharge is infiltration of stream flow from the San Diego River. Groundwater elevations are dependent on seasonal precipitation, irrigation, and land use, among other factors, and vary as a result. Groundwater underlying the Project site is at elevations typically ranging from +38 to +42 feet per stabilized groundwater elevation readings made in 2014 (Arcadis 2014). Total storage capacity for the basin is estimated to be 40,000 acre feet (SDCWA 1997).

Due to historic groundwater contamination from the KMEP MVT adjacent to the proposed Project's northeast corner and on the north side of Friar's Road, a groundwater plume exists under the stadium and approximately 50 percent of the area under the parking lot. Between 1987 and 1991, gasoline releases from the MVT resulted in groundwater contamination of methyl tertiary butyl ether (MTBE) and tert-butyl alcohol (TBA) extending off the MVT property approximately 2,000 feet to the south and southwest beneath the proposed Project. In 1992, the San Diego Regional Water Quality Control Board issued Clean-up and Abatement Order 92-01 to begin the cleanup of contaminants that have been discharged into the groundwater. The cleanup process has not been completed.

Floodplains

The Project site is located within the Federal Emergency Management Agency (FEMA) floodplain of the San Diego River (Figure 4.8-2). The stadium was constructed on fill to a level above the floodplain; however, portions of the parking lot are within the FEMA mapped floodplain.



Source: Esri; USGS National Hydrography Dataset (NHD); CalWater/California Department of Water Resources.

1 0.5 0 1 Mile

Scale: 1 = 63,360; 1 inch = 1 mile

Figure 4.8-1
Watershed

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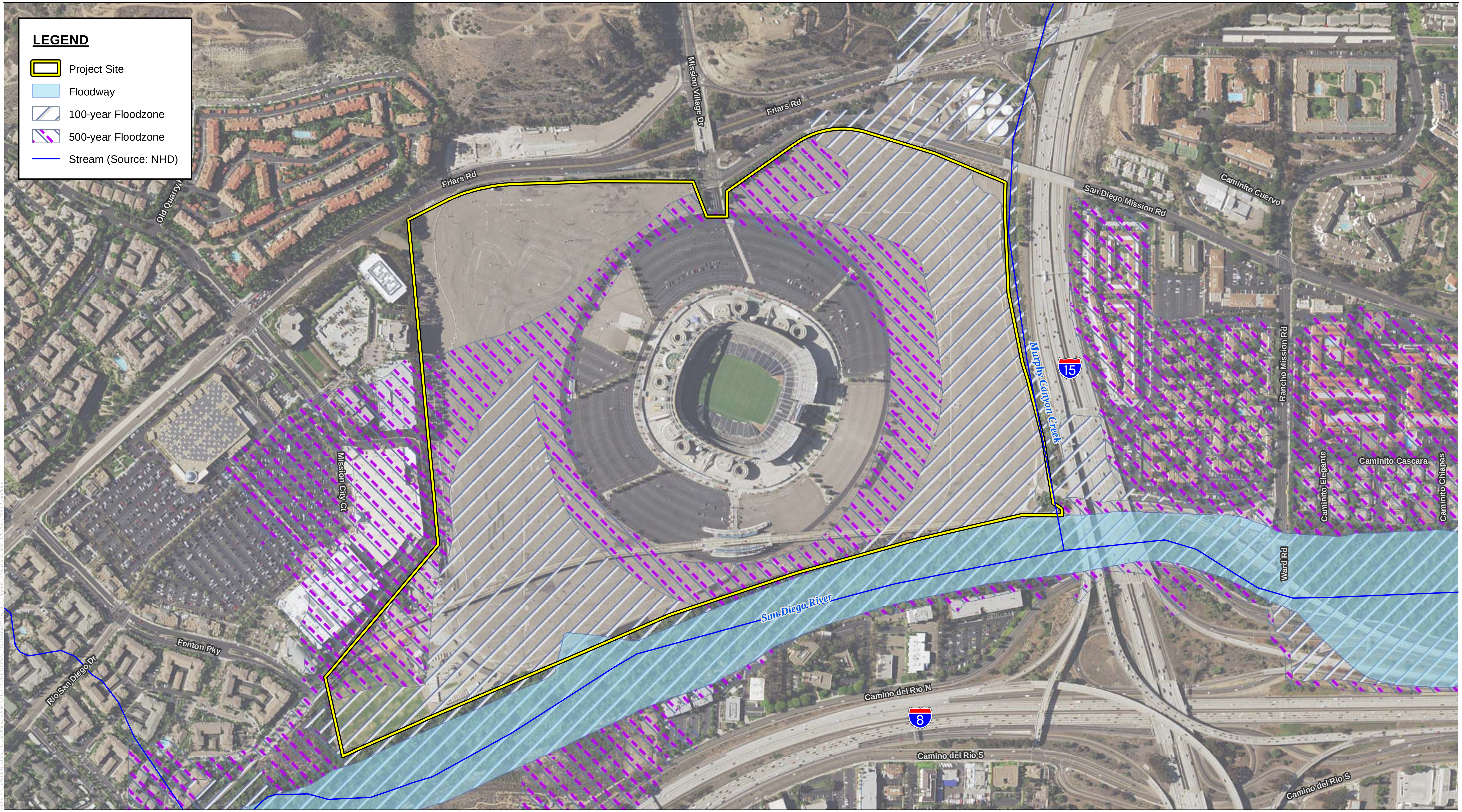

Source: NAIP 2014; FEMA; USGS National Hydrography Dataset (NHD).

500 250 0 500 Feet

Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.8-2
Floodzone

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Water Quality

Pollutants in storm water runoff are a primary cause of water quality degradation in urbanized areas due to inadequate runoff treatment and control prior to discharging to a natural drainage or watercourse (e.g., San Diego River). Rapid growth and urbanization in the San Diego region have placed increased pressure on improving the quality of storm water runoff and protecting local surface water resources. Urbanization has the potential to introduce more anthropogenic pollutants within a watershed, while also contributing to higher runoff volume (and subsequent receiving water impacts) from the increase in hardscape (impervious surfaces) that would otherwise infiltrate into the soil and be filtered naturally. The Project site was previously developed and is currently composed of buildings, grass turf, and pavement.

The Project site is surrounded by major roadways, interstates, existing development, and two surface-water features (San Diego River to the south and Murphy Canyon Creek to the east). Typical pollutants that can be expected from these land uses (human or wildlife) include sediment, nutrients, metals, organic compounds, trash and debris, oxygen-demanding substances, oil and grease, fertilizers, and bacteria. Therefore, increases in impervious surface can potentially result in a corresponding increase of these pollutants in storm water runoff and receiving waters.

The majority of site runoff is conveyed to three outlets that discharge directly into the San Diego River.

Beneficial Uses and Water Quality Objectives

Beneficial uses are the uses of water necessary for the survival or well-being of humans, plants, and wildlife.

Beneficial uses identified in the Water Quality Control Plan for the San Diego Basin (Basin Plan) (RWQCB 1994) for the San Diego River are:

- AGR: Agricultural Supply
- IND: Industrial Service Supply
- REC-1: Contact Water Recreation
- REC-2: Non-Contact Water Recreation
- BIOL: Preservation of Biological Habitats of Special Significance
- WARM: Warm Freshwater Habitat
- WILD: Wildlife Habitat
- RARE: Rare, Threatened, or Endangered Species

Under Section 303(d) of the 1972 Clean Water Act (CWA), states, territories, and authorized tribes are required to develop a list of water quality limited segments. Waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that states establish priority rankings for water bodies on the list and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. The lower San Diego River has been listed as impaired on the CWA Section 303(d) list (SWRCB 2011) for pathogens (i.e., fecal coliform bacteria), low dissolved oxygen, manganese, nitrogen, phosphorus, total dissolved solids (TDS), and toxicity. These impairments are a result of point/non-point sources, urban runoff/storm sewers, wastewater, flow modification, and unknown sources.

Beneficial uses identified in the Basin Plan (RWQCB 1994) for the Pacific Ocean shoreline are:

- IND: Industrial Service Supply
- NAV: Navigation
- REC-1: Contact Water Recreation
- REC-2: Non-Contact Water Recreation
- COMM: Commercial and Sport Fishing
- BIOL: Preservation of Biological Habitats of Special Significance
- WILD: Wildlife Habitat
- RARE: Rare, Threatened, or Endangered Species
- MAR: Marine Habitat
- AQUA: Aquaculture
- MIGR: Migration of Aquatic Organisms
- SPWN: Spawning, Reproduction, and/or Early Development
- SHELL: Shellfish Harvesting

The Pacific Ocean shoreline at the San Diego River outlet has also been listed as impaired on the CWA Section 303(d) list (SWRCB 2011) for pathogens (i.e., total coliform bacteria and *Enterococcus*) as a result of unknown point/non-point sources, urban runoff/storm sewers, and other unknown sources.

TMDLs for indicator bacteria (*Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region*) have been adopted by the San Diego RWQCB and USEPA for the lower San Diego River and Pacific Ocean shoreline (RWQCB 2010). Beneficial uses identified in the Basin Plan (RWQCB 1994) for groundwater within the Mission San Diego HSA are:

- AGR: Agricultural Supply
- IND: Industrial Service Supply
- PROC: Industrial Process Supply

Narrative and numeric water quality objectives (WQOs) for all surface waters and groundwater within the San Diego region are established for a variety of constituents (RWQCB 1994). WQOs for surface waters within the Mission San Diego HSA are established for TDS, chlorides, sulfate, percent sodium, nitrogen, phosphorus, iron, manganese, methylene blue activated substances (MBAS), boron, turbidity, and color. See Table 3-2 in the Basin Plan (RWQCB 1994) for specific WQO thresholds for surface waters within the Mission San Diego HSA. WQOs for groundwater within the Mission San Diego HSA are established for TDS, chlorides, sulfate, percent sodium, nitrate, iron, manganese, MBAS, boron, turbidity, color, and fluoride. See Table 3-3 in the Basin Plan (RWQCB 1994) for specific WQO thresholds for groundwater within the Mission San Diego HSA.

4.8.2 Regulatory Framework

Various governing laws and regulations serve to protect surface water quality and hydrology by establishing water quality compliance standards or waste discharge requirements (WDRs). These mandates require implementation of a number of design, construction, and operational controls that include structural and nonstructural BMP requirements for proper management and water quality treatment/protection. Applicable regulations and the associated agencies with regulatory authority and oversight are described below.

Federal Regulations

Federal Clean Water Act of 1972

The federal CWA of 1972 regulates surface water quality control and protection of beneficial uses of water. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters through prevention and elimination of pollution. The CWA applies to discharges of pollutants into waters of the U.S. The CWA establishes a framework for regulating storm water discharges from municipal, industrial, and construction activities under National Pollutant Discharge Elimination System (NPDES) regulations. In California, SWRCB administers the NPDES program. The following CWA sections are most relevant to the regulation of surface water in the Project site:

CWA Section 208

Section 208 of the CWA requires all states to assess damages to water quality from nonpoint source pollution and to develop either regulatory or nonregulatory programs to control the pollution. The state's Section 208 program must meet USEPA approval.

CWA Section 303(d)

CWA Section 303 requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of four elements:

- Designated beneficial uses of water bodies,
- Water quality criteria to protect designated uses,
- An anti-degradation policy to maintain and protect existing uses and high quality waters, and
- General policies addressing implementation issues.

Under CWA Section 303(d), states, territories, and authorized tribes are required to develop a list of water bodies that are considered to be "impaired" from a water quality standpoint. Water bodies included on this list either do not meet or are not expected to meet water quality standards, even after the minimum required levels of pollution control technology have been implemented to reduce point-source discharges. The law requires that respective jurisdictions establish priority rankings for surface water bodies on the list and develop action plans to improve water quality and manage TMDLs of pollutants to surface waters. A TMDL is a calculation of the maximum amount of a specific pollutant that a water body can receive and still meet federal water quality standards as provided in the CWA (USEPA 2012). TMDLs account for all sources of pollution, including point sources, nonpoint sources, and natural background sources.

The CWA Section 303(d) list of impaired water bodies provides a prioritization and schedule for development of TMDLs for states. The SWRCB, in compliance with CWA Section 303(d), publishes the list of water quality-limited segments in California, which includes a priority schedule for development of TMDLs for each contaminant or "stressor" affecting the water body (SWRCB 2011). The Final Staff Report recently released by the SWRCB (SWRCB 2015) provides updates for impaired waters in California, which states no changes for the San Diego region from the previous 2010 list.

CWA Section 401

Every applicant for a federal permit or license for any activity that may result in a discharge to a water body must obtain a CWA Section 401 Water Quality Certification for the proposed activity and must comply with state water quality standards prescribed in the certification. In California, these certifications are issued by the SWRCB under the auspices of nine RWQCBs. Most certifications are issued in connection with CWA Section 404 U.S. Army Corps of Engineers (USACE) permits for dredge and fill discharges.

CWA Section 402

CWA Section 402 sets forth regulations that prohibit the discharge of pollutants into waters of the U.S. from any point source without first obtaining an NPDES Permit. The SWRCB and nine RWQCBs administer the NPDES Permit program. The SWRCB implements the NPDES and the state's water quality programs by regulating point-source discharges of wastewater and agricultural runoff to land and surface waters to protect their beneficial uses. To comply with the CWA water quality regulations, nine RWQCBs in California develop and enforce water quality objectives and implementation plans, issue waste discharge permits, take enforcement action, and monitor water quality within their hydrologic areas.

Permitting the construction or modification of outfall structures, where the discharged effluent is authorized or otherwise complies with an NPDES Permit, also is governed under Section 404 as described below.

Although the NPDES Permit program initially focused on point source discharges of municipal and industrial wastewater that were assigned individual permits for specific outfalls, results of the Nationwide Urban Runoff Program identified contaminated storm water as one of the primary causes of water quality impairment. To regulate storm water discharges, the SWRCB and San Diego RWQCB have issued permits for controlling industrial, construction, and municipal storm water discharges.

CWA Section 404

CWA Section 404 establishes a permit program, administered by USACE, regulating discharge of dredged or fill materials into waters of the U.S., including wetlands. Activities in waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. CWA Section 404 permits are issued by USACE.

Under CWA Section 404(e), USACE can issue general permits to authorize activities that have minimal individual and cumulative adverse environmental effects. General permits can be issued for a period of no more than 5 years. USACE can issue nationwide permits, which is a general permit that authorizes activities across the country, unless revoked by a district or division commander. Nationwide permits authorize a wide variety of activities such as linear transportation projects, residential development, commercial and industrial developments, utility lines, road crossings, bank stabilization activities, wetland and stream restoration activities, and certain maintenance activities.

Rivers and Harbors Act of 1899 (USACE) Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the U.S. or for work outside the limits defined for navigable waters of the U.S. if the structure or work affects the course, location, or condition of the navigable water body. The law applies to any dredging or disposing of dredged materials, excavating, filling, rechanneling, or any other modifying of a navigable water of the U.S. It applies to all structures, including any infrastructure, permanent or semipermanent obstacle, or obstruction, including but not limited to wharfs, weirs, jetties, bank protection (e.g., riprap, revetment, bulkheads), mooring structures (e.g., pilings), navigation aids (e.g., buoys, dolphins), aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessels, tunnels, artificial canals, and boat ramps.

Activities regulated under Section 10 of the Rivers and Harbors Act generally are similar to those under Section 404 of the CWA, but the geographic extent of jurisdiction is more restricted, limited to identified navigable waters of the U.S.

Federal Antidegradation Policy

The federal antidegradation policy, now a part of the CWA, has been in existence since 1968. The policy protects existing uses, water quality, and national water resources. It directs states to adopt a statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.

- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, water quality shall be maintained and protected.

National Flood Insurance Act of 1968

New construction and redevelopment in potentially hazardous floodplain areas is principally regulated under local zoning codes that consider FEMA floodplain mapping. The Flood Insurance Rate Map (FIRM) is the official map created and distributed by FEMA and the National Flood Insurance Program (NFIP) that delineates the Special Flood Hazard Areas (areas subject to inundation by the base flood) for every county and community that participates in the NFIP. FIRMs contain flood risk information based on historic, meteorological, hydrologic, and hydraulic data, as well as open-space conditions, flood control works, and development.

The National Flood Insurance Act of 1968 established the NFIP. The NFIP is a federal program administered by the Flood Insurance Administration of FEMA. It enables individuals who have property within the 100-year floodplain to purchase insurance against flood losses. Community participation and eligibility, flood hazard identification, mapping, and floodplain management aspects are administered by state and local programs and support directorate within FEMA. FEMA works with the states and local communities to identify flood hazard areas and publishes a flood hazard boundary map of those areas.

Projects that affect the hydrologic or hydraulic characteristics of a flooding source and modify an existing regulatory floodway, effective Base Flood Elevations (BFEs), or a Special Flood Hazard Area (SFHA), may trigger the FEMA conditional letter of map revision (CLOMR)/letter of map revision (LOMR) process per 44 CFR 65.12, REVISION OF FLOOD INSURANCE RATE MAPS TO REFLECT BASE FLOOD ELEVATIONS CAUSED BY PROPOSED ENCROACHMENTS.

State Regulations

Porter-Cologne Water Quality Control Act of 1969

Division 7 of the California Water Code governs water quality. This law, titled the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and enacted in 1969, establishes a regulatory program to protect water quality and beneficial uses of state waters.

The Porter-Cologne Act is California’s comprehensive water quality control law and is a complete regulatory program, designed to protect water quality and beneficial uses of the state’s waters. It requires the nine RWQCBs to adopt water quality control plans (basin plans) for watersheds within their regions. These basin plans are reviewed triennially and amended as necessary by the RWQCBs, subject to the approval of the California Office of Administrative Law, the SWRCB, and ultimately USEPA. Moreover, pursuant to the Porter-Cologne Act, these basin plans become part of the California Water Plan when such plans have been reported to the legislature (California Water Code, Section 13141). The Porter-Cologne Act also regulates discharges into a state water body that are not under federal jurisdiction.

In some cases, an RWQCB may issue Waste Discharge Requirements (WDRs) under the Porter-Cologne Act that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

<u>State Antidegradation Policy (Resolution 68-16)</u>

The state's Antidegradation Policy restricts degradation of surface and ground waters. This policy protects water bodies where existing quality is higher than necessary for the protection of beneficial uses. The state policy establishes two conditions that must be met before the quality of high-quality waters may be lowered by waste discharges. The state must determine that lowering the quality of high-quality waters:

1) Will be consistent with the maximum benefit to the people of the state,
2) Will not unreasonably affect present and anticipated beneficial uses of such water, and
3) Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in Water Quality Control Plans).

Any activities that result in discharges to high-quality waters are required to:

1) Meet WDRs that will result in the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance, and
2) Maintain the highest water quality consistent with the maximum benefit to the people of the state.

The discharge would not be allowed under Resolution 68-16 if the discharge, even after treatment, would unreasonably affect beneficial uses or would not comply with applicable provisions of water quality control plans.

Cobey-Alquist Flood Plain Management Act

The Cobey-Alquist Act of 1967 encourages local governments to plan, adopt, and enforce land use regulations to accomplish floodplain management, in order to protect people and property from flooding hazards. This act also provides state financial assistance for flood control projects.

Although not a regulation, floodplain management in the state is also assisted by the California's Flood Future Report (DWR 2013), which includes information from more than 140 local, state, and federal agencies throughout California on exposure to flood risk, and identifies and addresses the barriers to improved flood management. The Flood Future Report provides information to assist decision making about policies and financial investments to improve public safety, foster environmental stewardship, and support economic stability.

Construction General Permit

Dischargers whose projects disturb one or more acres of soil, or less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the SWRCB's Order 2009-0009-DWQ (as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ), the Construction General Permit (SWRCB 2009). Construction and demolition activities subject to this permit include clearing, grading, grubbing, and excavation, or any other activity that results in a land disturbance equal to or greater than 1 acre.

Permit applicants are required to submit a Notice of Intent to the SWRCB and to prepare a Storm Water Prevention Pollution Plan (SWPPP). The SWPPP must identify best management practices (BMPs) that are to be implemented to reduce construction impacts on receiving water quality based on potential pollutants. The Construction General Permit also includes requirements for risk-level assessment for construction sites, a storm water effluent monitoring and reporting program, rain event action plans, and numeric action levels for pH and turbidity.

California Fish and Game Code Section 1602

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by California Department of Fish and Wildlife (CDFW), pursuant to the Fish and Game Code Section 1602. Section 1602 makes it unlawful for an entity (i.e., any person, state, local governmental agency, or public utility) to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without first notifying CDFW of such activity. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A Lake or Streambed Alteration Agreement must be obtained from CDFW for any activity that may substantially adversely affect an existing fish or wildlife resource.

San Diego Regional Water Quality Control Board

As described above, the Porter-Cologne Act requires that RWQCBs adopt water quality control plans (basin plans) for watersheds within their jurisdiction. These plans establish water quality standards for particular surface water bodies and groundwater resources.

The San Diego RWQCB (Region 9) is responsible for the basin plan for the San Diego Basin. The RWQCB implements management plans to modify and adopt standards under provisions set forth in Section 303(c) of the CWA and California Water Code (Division 7, Section 13240). In addition to basin plan requirements, the RWQCB issues water quality certifications under CWA Section 401. The RWQCB also regulates discharges to, and the quality of, groundwater resources through the issuance of WDRs. WDRs are issued for discharges that specify limitations relative to the Basin Plan (RWQCB 1994).

Water Quality Control Plan for the San Diego Basin (Basin Plan)

The basin plan for the San Diego Basin (RWQCB 1994) establishes WQOs for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water. Specifically, the basin plan:

1. Designates beneficial uses for surface and ground waters.
2. Sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to California's anti-degradation policy.
3. Describes implementation programs to protect beneficial uses of all waters in the region.
4. Describes surveillance and monitoring activities to evaluate the effectiveness of the basin plan.
5. Incorporates by reference all applicable State and Regional Board plans and policies.

San Diego Regional Municipal Storm Water Permit

The San Diego Regional Municipal Storm Water Permit (Order R9-2013-0001 [as amended by Order R9-2015-0001]) (Municipal Permit) regulates the conditions under which storm water and non-storm water discharges into and from municipal separate storm water systems (MS4s) are prohibited or limited. The 18 cities, County of San Diego government, County of San Diego Regional Airport Authority, and San Diego Unified Port District each owns or operates an MS4, through which it discharges storm water and non-storm water into waters of the U.S. within the San Diego region. These entities are the County of San Diego Copermittees (Copermittees) which, along with the applicable Orange County and Riverside County Copermittees, are subject to the requirements of the Municipal Permit.

The Municipal Permit establishes prohibitions and limitations with the goal of protecting water quality and designated beneficial uses of waters of the U.S. from adverse impacts caused by or contributed to by MS4 discharges. The Municipal Permit requires that each jurisdiction covered under the permit implement a Jurisdictional Runoff Management Program (JRMP) to control the contribution of pollutants to and the discharges from the MS4. The goal of the JRMPs is to implement water quality improvement strategies and runoff management programs that effectively prohibit non-storm water discharges into the Copermittees' MS4s and reduce pollutants in discharges from the Copermittees' MS4s to the maximum extent practicable.

The Municipal Permit requires that the Copermittees develop a Water Quality Improvement Plan (WQIP) for each of 10 Watershed Management Areas (WMAs) in the San Diego region. These plans identify the highest priority water quality conditions within each watershed and specific goals, strategies, and schedules to address those priorities, including numeric goals and action levels, and requirements for water quality monitoring and assessment. The Copermittees will implement strategies through their JRMPs to achieve the goals of the WQIPs. The San Diego River WQIP (LWA, et al. 2015) applies to the area of the proposed Project, which is described in further detail below.

The Copermittees have developed a Model BMP Design Manual (County of San Diego 2015) to conform to new development requirements of the Municipal Permit (Order R9-2013-0001). The Model BMP Design Manual provides procedures for planning, selecting, and designing on-site structural BMPs for new development and significant redevelopment projects in accordance with Provision E.3 of Order R9-2013-0001. The Model BMP Design Manual is expected to be implemented in December 2015 and will replace the current SUSMP.

The Model BMP Design Manual requires all projects to implement source-control BMPs to address specific sources of pollutants and apply site design BMPs to the development project site. If the project is a PDP, storm water pollutant control BMPs must be implemented and meet the following performance standards:

1. Retain on-site the pollutants contained in the volume of storm water runoff produced from a 24-hour, 85th percentile storm event by infiltration, evaporation, evapotranspiration, or harvest and reuse, and
    a. Treat the remaining volume infeasible to retain on-site through biofiltration, and
    b. Treat the remaining volume infeasible to treat through biofiltration with flow-through treatment control BMPs and participate in alternative compliance methods to mitigate for the pollutants not being retained on-site.
2. Or, the project may be allowed to participate in an alternative compliance program in lieu of fully complying with the on-site performance standards if such a program is available in the jurisdiction of the project. Flow-through treatment control BMPs would also need to be implemented on-site.

Under the Municipal Permit, Copermittees are required to implement storm water management requirements and controls, which include requirements for storm water BMPs during construction and post-construction, including implementing low impact development (LID) BMPs for development and significant redevelopment to reduce pollutants in storm water runoff from sites through more natural processes such as infiltration and biofiltration. The Model BMP Design Manual (County of San Diego 2015) provides guidance for the BMP selection process. Design techniques include minimizing impervious areas, conserving natural areas, and utilizing vegetation and landscaping for water quality treatment benefits.

Copermittees are also required to comply with hydromodification management requirements per the Model BMP Design Manual to mitigate the potential for increased erosion in receiving waters due to increased runoff rates and durations often caused by development and increased impervious surfaces.

Local Regulations and Plans

<u>2013 San Diego Integrated Regional Water Management Plan</u>

The 2013 San Diego Integrated Regional Water Management (IRWM) Plan (San Diego IRWM Program 2013) was prepared under the direction of a Regional Water Management Group consisting of the San Diego County Water Authority (SDCWA), the County of San Diego, and the City of San Diego. The IRWM Plan builds on local water and regional management plans within the San Diego region and is aimed at developing long-term water supply reliability, improving water quality, and protecting natural resources. The statewide IRWM Program is supported by bond funding provided by Department of Water Resources (DWR) to fund competitive grants for projects that improve water resources management. IRWM Plan goals are to:

- Improve the reliability and sustainability of regional water supplies.
- Protect and enhance water quality.
- Protect and enhance our watersheds and natural resources.
- Promote and support sustainable integrated water resource management.

Integrated Flood Management Planning Study

Appendix 7-B of the 2013 San Diego IRWM Plan (i.e., the Integrated Flood Management Planning Study) is a guidance document meant to facilitate an integrated water resources approach to flood management. The planning document defines general applicable strategies and approaches and provides planning level tools to guide flood management decision making on a watershed basis. The focus of integrated planning is on balancing the community flood management needs with environmental constraints and watershed resources to ensure an acceptable solution with the flexibility to adapt to future changes.

Dewatering Permit

Discharges from specified groundwater extraction activities (such as construction dewatering) must be permitted either by the San Diego RWQCB under the General Order R9-2008-0002 for groundwater waste discharges to surface waters or authorized by the agency with jurisdiction if discharged to an MS4. Discharge via either of these mechanisms must meet applicable water quality objectives, constituent limitations, and pretreatment requirements. Order R9-2008-0002 will expire in September 2015; the renewed permit, Order R9-2015-0013, will become effective on October 1, 2015.

City of San Diego General Plan – Conservation Element

The stated urban runoff management goals of the City of San Diego General Plan's Conservation Element are to protect and restore all water bodies and to preserve the natural attributes of both the floodplain and floodway without endangering life and property. The policies that have been adopted in order to meet these goals are as follows (City of San Diego 2008):

(1) Continue to develop and implement public education programs.

(2) Apply water quality protection measures to land development projects early in the process—during project design, permitting, construction, and operations—in order to minimize the quantity of runoff generated on-site, the disruption of natural water flows and the contamination of storm water runoff.

(3) Require contractors to comply with accepted storm water pollution prevention planning practices for all projects.

(4) Continue to participate in the development and implementation of Watershed Management Plans for water quality and habitat protection.

(5) Assure that City departments continue to use "Best Practice" procedures so that water quality objectives are routinely implemented.

(6) Continue to encourage "Pollution Control" measures to promote the proper collection and disposal of pollutants at the source, rather than allowing them to enter the storm drain system.

(7) Manage floodplains to address their multi-purpose use, including natural drainage, habitat preservation, and open space and passive recreation, while also protecting public health and safety.

City of San Diego Municipal Code

The San Diego Municipal Code defines the regulations concerning hydrology, water quality, and floodways/floodplains in Chapter 4, Article 3, Division 3; Stormwater Management and Discharge Control (Water Quality Controls), Chapter 14, Article 2, Division 2, Storm Water Runoff and Drainage Regulations (Drainage Regulations); and Chapter 14, Article 3, Division 1 (Environmentally Sensitive Lands Regulations)

The purpose of the Water Quality Controls Regulations are to further ensure the health, safety, and general welfare of the citizens of the City of San Diego by controlling and eliminating non-storm water discharges to the storm water conveyance system and reducing the pollutants in urban storm water discharges to the maximum extent practicable (MEP). The Water Quality Controls are pursuant to the Federal Water Pollution Control Act (CWA, 33 USC Section 1251 et seq.) and Municipal Permit Order R9-2013-0001 (as amended) in order to protect and enhance the water quality of the City’s watercourses, water bodies, and wetlands. The Water Quality Controls prohibit most non-storm water discharges to the MS4 and any discharge that results in or contributes to the violation of the Municipal Permit. Any activities that could introduce pollutants to the MS4 are required to implement BMPs to reduce pollutant discharges to the MEP.

All development must comply with the Drainage Regulations and implement measures designed to prevent erosion and control sediment, which serve to:

(1) regulate the development of, and impacts to, drainage facilities;
(2) limit water quality impacts from development;
(3) minimize hazards due to flooding while minimizing the need for construction of flood control facilities;
(4) minimize impacts to environmentally sensitive lands;
(5) implement the provisions of federal and state regulations; and
(6) protect the public health, safety, and welfare.

The purpose of development regulations for environmentally sensitive lands, including SFHAs, is to protect, preserve and, where damaged restore, the environmentally sensitive lands of San Diego and the viability of the species supported by those lands. These regulations are intended to ensure that development occurs in a manner that protects the overall quality of the resources and the natural and topographic character of the area, encourages a sensitive form of development, and reduces hazards due to flooding in specific areas while minimizing the need for construction of flood control facilities. These regulations are intended to protect the public health, safety, and welfare while employing regulations that are consistent with sound resource conservation principles and the rights of private property owners.

Development regulations for the Special Flood Hazard Areas (SFHA) is to provide regulations for development proposed within the floodway and floodplains. Development within areas of special flood hazard are allowed only if specific conditions are met.

<u>City of San Diego Drainage Design Requirements</u>

Drainage Design Manual

The 1984 City of San Diego Drainage Design Manual provides policies and procedures for projects to implement regarding hydrology, hydraulics, and design of associated infrastructure to attain reasonable standardization of drainage design throughout the City. The basic considerations are to protect the roadway and property against damage from artificial, storm, and subsurface waters; to provide for public health and safety; and to provide for low maintenance while taking into account the effect of the proposed improvement on traffic and property.

Council Policy 800-04

The purpose of Council Policy 800-04 Drainage Facilities is to establish guidelines for the construction and maintenance of stormwater drainage facilities and to identify and assign general financial responsibilities for the construction of various types of drainage facilities.

City of San Diego Storm Water Standards Manual

The primary objectives of the City Storm Water Standards Manual are to:

(1) Prohibit non-storm water discharges.

(2) Reduce the discharge of pollutants to storm water conveyance systems to the maximum extent practicable by implementing BMPs during the project’s construction and post-development (permanent) phases.

(3) Provide consistency with the Model SUSMP approved on March 24, 2009.

(4) Provide guidance for proper implementation of LID facilities and design approaches.

(5) Provide guidance for conformance with regional hydromodification management requirements.

This manual will be replaced in December 2015 to meet the requirements of the new Model BMP Design Manual in compliance with the Municipal Permit.

<u>City of San Diego Flood Mitigation Plan</u>

The City of San Diego prepared a citywide Flood Mitigation Plan (FMP) to meet the requirements of the FEMA Disaster Mitigation Act of 2000. The FMP meets the requirements for plans prepared under the FEMA program and addresses options for reducing flood hazards to repetitive loss properties (RLPs) and other properties insured under the NFIP.

The FMP has been developed to:

(1) identify the flooding sources affecting the City of San Diego’s RLPs and Severe Repetitive Loss Properties (SRLPs),

(2) provide specific guidance for potential mitigation measures and activities to best address the problems and needs associated with RLPs and SRLPs,

(3) establish floodplain management goals that minimize flood damage to areas vulnerable to natural and human-caused flood disasters,

(4) ensure the natural and beneficial functions of our floodplains are protected, and

(5) promote flood insurance awareness throughout the City of San Diego and neighboring communities.

Attainment of these objectives is accomplished through the utilization of existing programs and resources, involving those public agencies responsible for regulating development in SFHAs, and through verifying that policies and programs identified in the capabilities assessment are carried out.

The FMP is intended to facilitate cooperation between state and local authorities, prompting them to work together. It encourages and rewards local and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. This enhanced planning network is intended to enable local and state governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.

San Diego River Water Quality Improvement Plan

Provision B of the Municipal Permit requires the phased development and implementation of a WQIP for the San Diego River watershed. As mentioned earlier in the municipal storm water permit section above, the San Diego River WQIP (LWA et al. 2015) applies to the area of the proposed Project. The San Diego River WQIP prioritizes and addresses water quality conditions that are influenced by storm drain discharges by applying adaptive planning and management processes that are linked to the highest priority water quality condition (HPWQC) relative to these discharges and receiving water quality improvements.

Mission Valley Community Plan

The Mission Valley Community Plan (MVCP) identifies the San Diego River floodway, as well as the surrounding canyon and hillside landscapes, as major assets in the creation of an open space system available to all San Diegans. The MVCP seeks to take advantage of the opportunities presented by the unique physical environment of the valley in creating a "quality regional urban center, while recognizing and respecting environmental constraints and traffic needs, and encouraging the valley's development as a community."

While the MVCP recognizes the potential to establish a unique environment in the City of San Diego, it also notes several conditions that must be considered in future planning efforts. Foremost among these issues is flooding, a significant problem for the surrounding communities. Impacts of development along the river and throughout the watershed must be carefully considered. While the river can provide a significant scenic amenity, development strategies must be taken to protect the river and the sensitive habitat and species of the river corridor. All development in Mission Valley is regulated by the Mission Valley Planned District Ordinance (PDO) unless governed by an approved Specific Plan. The Mission Valley PDO regulates development with the intent to "implement the MVCP through the use of overlay districts regulating development intensity community wide and providing additional development criteria for projects in the San Diego River and Hillside sub-districts…" The San Diego River Subdistrict of the Mission Valley PDO establishes a River Corridor Area and River Influence Area, and identifies development regulations. In most development proposals, public and private projects within the river subdistrict are required to undergo a discretionary review process and apply for a Mission Valley Development Permit. All development with the floodway and floodplain would be required to be consistent with the Land Development Code, Section 143.0145, Flood Hazard Areas and the Design Guidelines of the San Diego River Park Master Plan (SDRPMP).

Development would follow recommendations from the DWR to protect water quality and promote groundwater recharge including:

- Use pervious paving material whenever feasible to reduce surface water runoff and aid in groundwater recharge.
- Encourage cluster development which can reduce the amount of land being converted to urban use. This will reduce the amount of impervious paving created and thereby aid in groundwater recharge.
- Preserve existing natural drainage areas and encourage the incorporation of natural drainage systems in new developments.
- Preserve floodplains and aquifer recharge areas which are the best sites for groundwater recharge as open space.

Flood-damage prevention measures required to protect proposed development in flood-prone areas would be based on the following guidelines:

- Protecting all building structures against a 100-year flood.
- Depicting the 100-year flood elevation and boundary in areas not covered by a FIRM or a Flood Boundary and Floodway Map issued by FEMA.
- Providing at least one route of ingress and egress to the project during a 100-year flood.
- Designing slopes and foundations for all structures based on detailed soils and engineering studies.
- Revegetating slopes as soon as possible.
- Assessing and mitigating the potential damage to the proposed project by mudflow.
- Limiting grading to dry months to minimize problems associated with sediment transport during construction.

San Diego River Park Master Plan

The San Diego River Park Master Plan SDRPMP is the primary policy document for land use policies along and adjacent to the San Diego River. The SDRPMP provides general and reach-specific recommendations for the entire planning area and design guidelines for development within two corridors directly adjacent to the river. In addition to the SDRPMP, recommendations and design guidelines are other applicable citywide planning policy documents that also play a role in the use and development of the river. These documents include the City's General Plan, Community Plans, Park Master Plans, the City's MSCP Subarea Plan, the San Diego WURMP, the Bicycle Master Plan Update, and the San Diego Pedestrian Master Plan.

The SDRPMP complies with the intent of the River Subdistrict regulations. In addition, the SDRPMP complies with the intent of the five guiding SDRPMP Principles (City of San Diego 2013).

1. Restore and maintain a healthy river system;
2. Unify fragmented lands and habitats;
3. Create a connected continuum, with a sequence of unique places and experiences;
4. Reveal the river valley history, and
5. Reorient development toward the river to create value and opportunities for people to embrace the river.

The SDRPMP includes the following features that support site planning for the River Corridor Area 100-Year Floodway:

- Development in the floodway should be in accordance with Land Development Code Section 143.0145 (Development Regulations for Special Flood Hazard Areas).
- The river bottom and sides should be natural or designed with natural materials and sized to accommodate a 100-year flood as well as provide for groundwater recharge capability.
- The use of gabions and native stone on river sides to dissipate flows should include design features to provide for or preserve wildlife habitats and wildlife movement corridors.
- Where floodway width permits, the bottom of the floodway should be a maximum of 5 percent cross slope to encourage river braiding and meander.

The SDRPMP includes the following guidelines that support Storm Water Drainage and Water Quality Design:

- Development within the River Corridor Area should comply with the Land Development Code, Chapter 14, Article 2, Division 2, (Storm Water Runoff and Drainage Regulations) and should implement the requirements of the City's Storm Water Standards Manual and the San Diego River Watershed Management Plan. In addition, all projects should include innovative approaches to storm water drainage and water quality management that incorporates the design principles of sustainable development. These design principles include the following best management practices:
    - "Source control" to reduce the initial contribution of pollutants into a water way, such as implementing educational programs on source control, maintenance practices on source control, and/or integrated pest control management.
    - "Site design" to reduce runoff and pollutants through the use of permeable surfaces, low water use landscaping, and open spaces which facilitate the reduction of runoff, pollutants and litter.
    - "Treatment control" to maximize pollutant removal from runoff flows in creative systems which provide multiple functions, such as incorporating landscaping filters (bioswales and detention basins) to reduce flow velocities, to filtering runoff to control erosive processes.

4.8.3 Impact Analysis

The potential impacts associated with the proposed Project are discussed relative to the hydrology and water quality issues below. The significance of these potential impacts is gauged in relation to the City's CEQA thresholds (City of San Diego 2011) with respect to each proposed Project alternative below.

Preferred Alternative (Northeast Footprint)

Issue 1: Would the project result in an alteration to on- and off-site drainage patterns or an increase in impervious surfaces that would substantially increase runoff flow rates or volumes?

Impact Thresholds

A significant impact may result if the proposed Project would substantially alter drainage characteristics or increase runoff through the creation of impervious surfaces, which could exacerbate existing flood hazards. Development within the 100-year floodplain could cause increased flooding on or off the proposed Project site and potentially induce significant impacts on upstream or downstream properties and to environmental resources in the San Diego River.

Because the Project site drains directly to the San Diego River, any changes to the existing drainage patterns or runoff amounts may induce significant impacts on existing river-based vegetation that would affect long- or short-term bank stability and habitat value. Projects that cause substantial changes to stream-flow velocities or discharge quantities may result in a significant impact to river hydrology and subsequent (or concurrent) impacts on downstream properties and/or environmental resources.

Impact Analysis

Floodplain

As shown in Figure 4.8-2, the 100-year floodplain extends northward from the San Diego River toward Friars Road on both sides of the existing stadium, as well as southward from Murphy Canyon Creek to the northern boundary of the Project, where the two floodplains meet. Placing a new stadium in the northeast corner of the existing Qualcomm Stadium site would infringe on and temporarily displace a portion of the 100-year and 500-year floodplains associated with the San Diego River and impede the flow of floodwaters south from the Murphy Canyon Creek floodplain.

Given an assumed oval shape similar to the existing stadium footprint, the proposed new stadium footprint would be located within approximately 1,200 feet of the San Diego River, and adjacent to Murphy Canyon Creek. During the construction period when both stadium foundations exist, the elevated dome for the new stadium would temporarily displace approximately 15 acres of 100-year floodplain and 12 acres of 500-year floodplain, associated with the San Diego River, on the site. There is anticipated to be approximately 500,000 cubic yards of fill placed at the new stadium location for this purpose. Along the northeast corner of the new stadium footprint, a retaining wall would be required to structurally support the stadium foundation pad, which would protect the new stadium from elevated flows in Murphy Canyon Creek that currently overflow into the Qualcomm Stadium parking lot.

The coexistence of both stadiums during the construction period would temporarily displace available on-site floodplain until the existing stadium is demolished and the foundation is regraded to an elevation consistent with the existing surrounding parking lot. Southerly flows from the Murphy Canyon Creek floodplain would also be impeded potentially propagating effects upstream. Once demolition of the existing stadium and regrading is complete, there would be approximately no net change in available floodplain on the site and the Murphy Canyon Creek floodplain would once again be allowed to flow onto the project site, around the elevated stadium.

In accordance with City of San Diego's Municipal Code Section 143.0145 (Development Regulations for Special Flood Hazard Areas) and Section 143.0146 (Supplemental Regulations for Special Flood Hazard Areas), the Project would be subject to the City Engineer and FEMA (or the Federal Insurance Administrator) to provide a degree of flood protection considered reasonable for regulatory purposes that is based on scientific and engineering considerations. It is noted within the Code that increased flood heights are possible from man-made or natural causes and that compliance with the Code would serve to avoid flooding or flood damages to land outside a SFHA (or uses permitted within such areas).

Specifically, under the enforcement of San Diego Municipal Code Section 143.0145 (f)(1), the Project would be required to meet the following conditions for constructing permanent structures and or placing fill for permanent structures, roads, and other development within the flood fringe of a SFHA:

- §143.0145 (f)(1)(A)—the development or fill will not significantly adversely affect existing sensitive biological resources on-site or off-site;
- §143.0145 (f)(1)(B)—the development is capable of withstanding flooding and does not require or cause the construction of off-site flood protective works including artificial flood channels, revetments, and levees nor will it cause adverse impacts related to flooding of properties located upstream or downstream, nor will it increase or expand a (FIRM) Zone A;
- §143.0145 (f)(1)(C)—grading and filling are limited to the minimum amount necessary to accommodate the proposed development, harm to the environmental values of the floodplain is minimized including peak flow storage capacity, and wetlands hydrology is maintained;
- §143.0145 (f)(1)(D)—the development neither significantly increases nor contributes to downstream bank erosion and sedimentation nor causes an increase in flood flow velocities or volume; and
- §143.0145 (f)(1)(E)—there will be no significant adverse water quality impacts to downstream wetlands, lagoons or other sensitive biological resources, and the development is in compliance with the requirements and regulations of the National Pollution Discharge Elimination System, as implemented by the City of San Diego.
- §143.0145 (f)(1)(F)—the design of the development incorporates the findings and recommendations of both a site specific and coastal watershed hydrologic study.

In addition to regulations identified above and those within the Regulatory Conditions section of this chapter, City requirements also mandate that the minimum elevation of the finished floor elevation of any building must be 2 feet above the 100-year frequency flood elevation to protect from flooding, and fully enclosed areas below the lowest floor that are subject to flooding must comply with FEMA's flood-proofing requirements. Under industry standards, the stadium base would be raised several feet above the base flood elevation (BFE). According to FEMA (44 CFR 60.3), development within the floodplain (or floodway fringe) is allowed within an area of an adopted regulatory floodway providing development does not increase BFE by more than one foot. Therefore, provided the Project would not result in a BFE rise within the San Diego River of more than one foot upstream or downstream of the Project, there would be no adverse flooding impacts along the San Diego River since the floodway has been established to accommodate this rise.

As noted above, the site is currently affected by run-on from Murphy Canyon Creek. According to on-site discussions with facility staff (City of San Diego 2015), run-on from Murphy Canyon Creek along the site's eastern border occurs due to an elevated flowline (i.e., thalweg) and the density of vegetation impeding proper drainage capacity, even during "moderate" rainfall. The City of San Diego recently conducted maintenance within the channel to restore it to the original 10-year storm event flow design capacity; however, a storm event larger than a 10-year event will continue to overtop the western bank.

The upstream reach of Murphy Canyon Creek just north of the Project site has a 50-year storm event flow capacity, which will overtop and potentially flow onto the Project site from the north in an event larger than a 50-year storm. Despite the existing run-on conditions associated with Murphy Canyon Creek, this watercourse is outside the proposed Project boundary and improvements to Murphy Canyon Creek are not proposed as part of the Project. However, the proposed Project site design would include improvements to address the run-on from Murphy Canyon Creek.

Through the environmental and construction permitting process to authorize project implementation, the Project proponents would be required to design site conditions such that floodplain impacts to upstream/downstream properties along the San Diego River and Murphy Canyon Creek are limited or eliminated to the satisfaction of the City of San Diego and FEMA. As part of this process, a CLOMR would be prepared and submitted to FEMA as an assurance measure that there will be no adverse impacts upstream or downstream along the San Diego River, and that there would be no increase or expansion of the (FIRM) Zone AE associated with Murphy Canyon Creek during the temporary construction period or the permanent post-project condition. The CLOMR would need to be accepted by FEMA before new stadium construction could commence, and a LOMR may be required after completion of the Project to delineate new permanent (if any) adjustments to the floodplain extent.

Hydrology and Hydraulics

As part of the environmental impact analyses, a report on the effects of the proposed Project was prepared to assess potential changes to hydrology and the impacts to on-site hydraulic flow management (AECOM 2015a; Appendix I). Given the nature of the Project site (i.e., approximately 98.6 percent impervious surfaces with constructed on-site and boundary drainage features), changes to site hydrology would not be significant. At Project completion (i.e., new facility operation and old facility demolition removal), hydrological impacts to the downgradient San Diego River would be reduced through the design and runoff management and treatment requirements mandated by the Municipal Permit, which are currently not present at the existing facility.

As described in the Municipal Permit, the proposed Project is exempt from hydromodification management requirements since it meets the following exemption:

> *All exempt river reaches have drainage areas in excess of 100 square miles and 100-year flow rates in excess of 20,000 cfs. In addition, all exempt river reaches are subject to significant upstream reservoir flow regulation, have wide floodplain or stabilized channel areas, and low gradients. This combination of factors, in association with field observations and years of historical perspective from the TAC members, justifies exemptions for direct discharges to the exempt river reaches provided that properly sized energy dissipation is provided at the outfall location.*

The storm water drainage into the San Diego River via existing discharge outlets under the preferred alternative is evaluated in the Preliminary Hydrologic Analysis in Appendix I. As shown by this technical evaluation, site drainage would be reduced compared to existing conditions as summarized in Table 4.8-1.

Table 4.8-1
Existing and Proposed Runoff Flow Rates

Drainage Area	Existing Q50 (cfs)	Proposed Q50 (cfs)	Existing Q100 (cfs)	Proposed Q100 (cfs)
A	264	238	283	255
B	169	131	178	139
C	31	31	33	33

cfs = cubic feet per second

Under the proposed Project, runoff rates for all rainfall events would decrease and reduce the current impact to existing river-based environmental resources and downstream conditions, features, or communities. This reduction in runoff is largely attributed to the following design considerations and requirements evaluated (and calculated) in the technical evaluation:

- Pollutant Control requirements per the Municipal Permit would require the project design to capture the rainfall volume associated with the 85th percentile storm (approximately 0.55 inch of rainfall across the entire site). This volume (or a portion thereof) would be retained on-site and not discharged, which includes the first flush runoff that is typically associated with the highest pollutant load. Hence, under the occurrence of smaller and more frequent storms, less runoff (and pollutants) would be discharged to the San Diego River than currently exists. This would be attributed to (but not be limited to) the following:
    - The inner stadium footprint, outside perimeter pedestrian areas, and parking lots would incorporate self-retaining areas (e.g., cisterns, porous paving, bioretention planters/tree pits, interspersed parking island landscapes, site edge treatments, etc.), reducing the existing impervious areas by the following percentages in the post-Project condition:
        - 5 percent of the stadium area,
        - 25 percent of the pedestrian circumference area outside the stadium structure, and
        - 15 percent of the parking area and site perimeter boundaries.
- Harvest and reuse BMPs would be incorporated into the Project design to capture and store storm water runoff for later use. The overall storm water discharge volume from the new stadium and its surrounding parking area would be reduced through the use of underground cisterns. These facilities would capture and treat storm water and thereby reduce the discharge of pollutants to the San Diego River, increase the time of concentration at the point of discharge (i.e., the river), and reduce the overall runoff volume released to the river. Reuse options for stored storm water include:
    - toilet and urinal flushing;
    - landscape and field irrigation (if natural turf);
    - evaporative cooling;
    - dilution water for recycled water systems;
    - industrial processes;

  - o stadium, seat, and/or vehicle washing; and
  - o and other non-potable uses.

  These systems would need to be designed to withstand the effects of rising groundwater during flooding conditions.

- Biofiltration would be a second (and complementary) option to storm water reuse if the amount of storm water runoff required to be retained is too great for the Project site's water harvesting needs. These systems would need to be designed and maintained for inundation by the San Diego River flood waters during the 100-year storm event, as well as on-site ponding in smaller storm events.

See the Storm Water Quality Management Plan (AECOM 2015b) (Appendix I) for detailed information and sizing calculations for underground cisterns and biofiltration BMPs.

Other than some redirection for new stadium connections in the northeast corner of the site, the proposed Project's storm water infrastructure (pipe) upgrades would not substantially change existing on-site drainage area configurations or their associated points of discharge to the San Diego River. Pipe sizes would remain the same as existing conditions, drainage patterns would remain similar to existing conditions, and the tributary area would remain the same to each outfall. See Table 4.8- for existing outfall details.

Table 4.8-2
Existing Outfall Conditions

Outfall	Existing Tributary Area (ac)	Proposed Tributary Area (ac)	Existing & Proposed Outfall	Existing & Proposed Outfall Capacity (cfs)	Existing Outfall Velocity (fps)
A	96	96	36-inch RCP @ 0.30%	37	5
B	62	62	36-inch RCP @ 0.76%	58	8
C	9	9	36-inch RCP @ 0.10%	21	3

ac = acres; cfs = cubic feet per second; fps = feet per second.

As shown in Tables 4.8-1 and 4.8-2, the existing on-site drainage facilities for the parking areas (i.e., Areas A and B) can only convey a fraction of the large storm events, and ponding would occur within the existing parking area along the southern property boundary. The ponded depth would only be as deep as the lowest point of the existing San Diego River berm, at which point the runoff would flow into the San Diego River. Ponded water below this berm height would be eventually conveyed to the San Diego River via the existing underground storm drain systems at its maximum capacity. The proposed design would therefore need to accommodate such parking area ponding or provide underground detention storage. The existing outlets into the San Diego River would not be upsized as part of the proposed Project.

The existing river outfall that drains the inside field area of the existing stadium (System C) would be redirected to connect to the new stadium field for storm water harvesting overflow control. The extension of System C would be designed to avoid ponding within the new stadium for a 50-year storm event and less by installing inlets at lower elevations than the stadium field. This would allow any backwater to pond within the parking area and not the stadium, improving the current condition. The flap-gate valve would be replaced, in the existing manhole within the stadium parking lot, with a duckbill reed valve design (e.g., Tide Flex) that would help to eliminate backwatering during high river floodwater elevations that pressurize the flap-gate and render it inoperable.

The existing San Diego River storm water outfalls would remain unchanged (same location and elevation below the 10-year river floodway). Flow rates into the San Diego River from each outfall during rainfall at or below the 85th percentile storm event would decrease compared to existing conditions. For larger rain events, site discharge flow would remain the same since the existing systems are undersized; however, the volume of runoff would decrease. Erosion protection in the form of riprap was not observed at the existing A and C outfalls; however, the outlet velocities are low enough to not warrant riprap protection. Outfall B was not accessible for observation but likely has dense vegetative cover similar to Outfall A and C that would provide appropriate erosion protection.

As noted earlier, the Murphy Canyon Creek drainage along the site’s eastern boundary causes on-site runon during storms above the 10-year recurrence interval. Runon is also anticipated from the 100-year floodplain of Murphy Canyon Creek to the north. Therefore, the proposed Project would require protective measures to mitigate on-site runon from the Murphy Canyon Creek overflow and floodplain. Protection measures would occur within the site footprint and would not disturb Murphy Canyon Creek and associated berms. These measures would include directing the runon around the stadium and toward the southern end of the eastern parking area, where it would be captured by the existing inlets and conveyed via the underground storm drain system. This is an existing condition and is not an impact of the Project.

Overall, the proposed Project would not result in negative impacts to local hydrology or decrease hydraulic conveyance capacity at the site. Storm water runoff would be reduced from current levels, which would decrease pollutant load contributions to the San Diego River. Infrastructure improvements on-site would reduce the existing impacts from flooding and would decrease maintenance needs. Relative to hydrology and hydraulics, the proposed Project would have beneficial impacts to the environment and would not negatively affect downstream facilities compared to existing conditions.

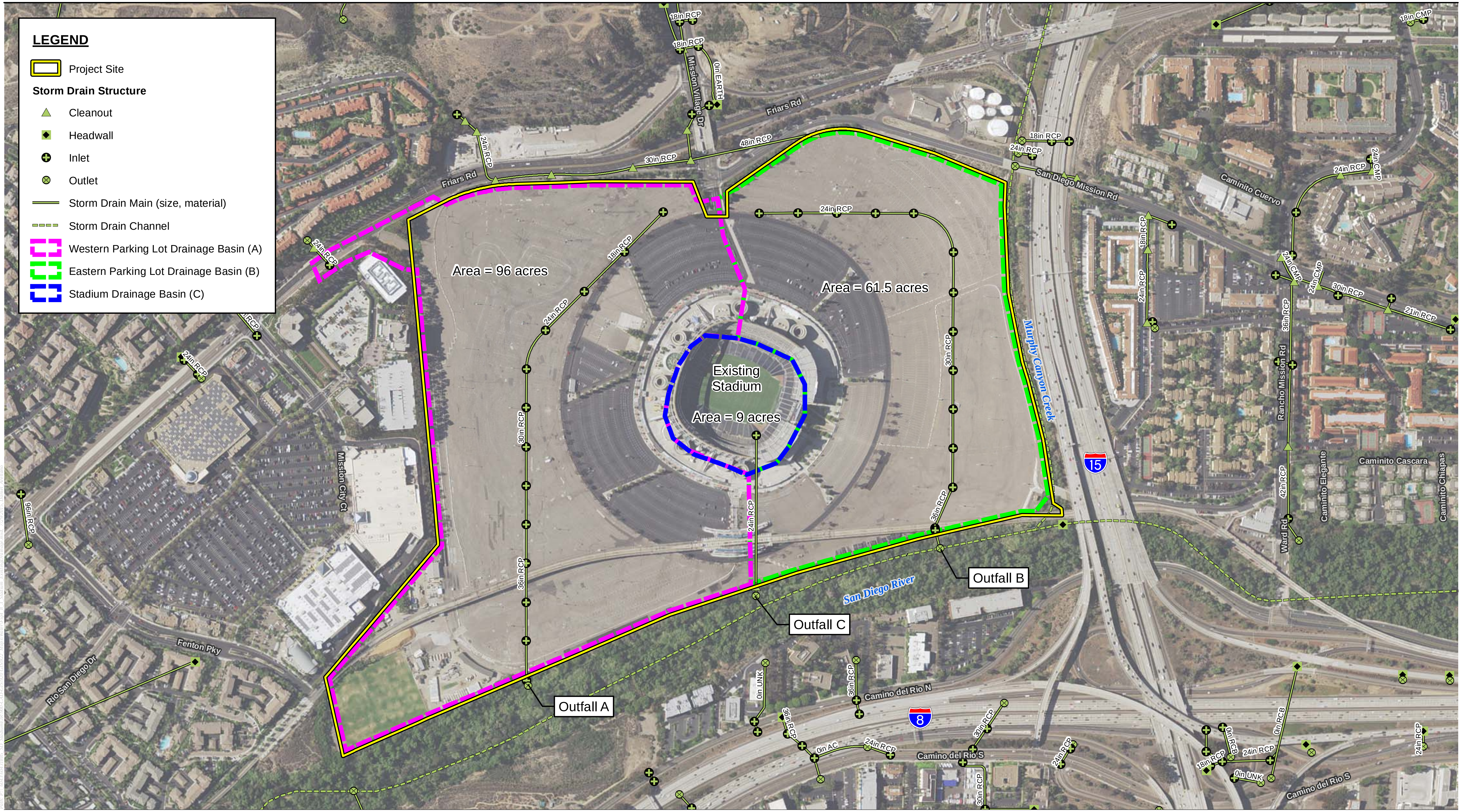
Existing storm drain systems, existing and proposed drainage areas, drainage management areas, and proposed underground cisterns and biofiltration areas are shown in Figures 4.8-3 through 4.8-5.

Significance of Impacts

Once the foundation for the new stadium has been built above the existing grade, a temporary significant and unavoidable impact to the area's floodplain would occur. This impact would apply to only catastrophic events associated with extremely large and rare storms that have a 1% probability of occurrence or less (i.e., 0.2% probability for 500-year storm) in any given year. As shown by Figure 4.8-2, approximately 15 acres of 100-year floodplain and 12 acres of 500-year floodplain would potentially be affected should these rare storms occur during the 3-to-5-year construction period. Although the CLOMR process would serve to analyze the potential flooding impacts and changes to floodplain delineation associated with the detailed stadium design and construction schedule (available once design is largely complete), the magnitude of the floodwaters associated with these large storms would not be mitigatable, as the entire area affected by the floodplain footprint would be submerged at some degree.

Apart from the temporary flooding impact from rare storm events described above, construction and post-construction activities would be required to adhere to various impact avoidance and minimization measures specified in Section 4.8.4 to minimize the potential for significant impacts associated with the increase in impervious surfaces, associated increased runoff, and potential flooding on- or off-site (for storms below the 100-year return frequency). Additionally, the Project would be designed in compliance with the Municipal Permit and the City's Storm Water Standards to help maintain existing hydrologic conditions. The Municipal Permit and City's Storm Water Standards mandate inclusion of LID and runoff management, which would reduce impervious surfaces and runoff volumes from current conditions. The incorporation of underground cisterns would capture and store stormwater runoff, thereby reducing runoff volumes.

Once demolition is complete and the Project is operational, impervious areas and runoff would be reduced relative to existing conditions, which would decrease existing flood hazards and its potential to impact upstream or downstream properties. At Project completion, there would be no significant change to the available floodplain for the San Diego River (100-year or 500-year). The net reduction in hydrological runoff to the river and how it is conveyed to the river's



Source: NAIP 2014; SanGIS.

500 250 0 500 Feet

Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.8-3
Existing Drainage Areas and Storm Drain Systems

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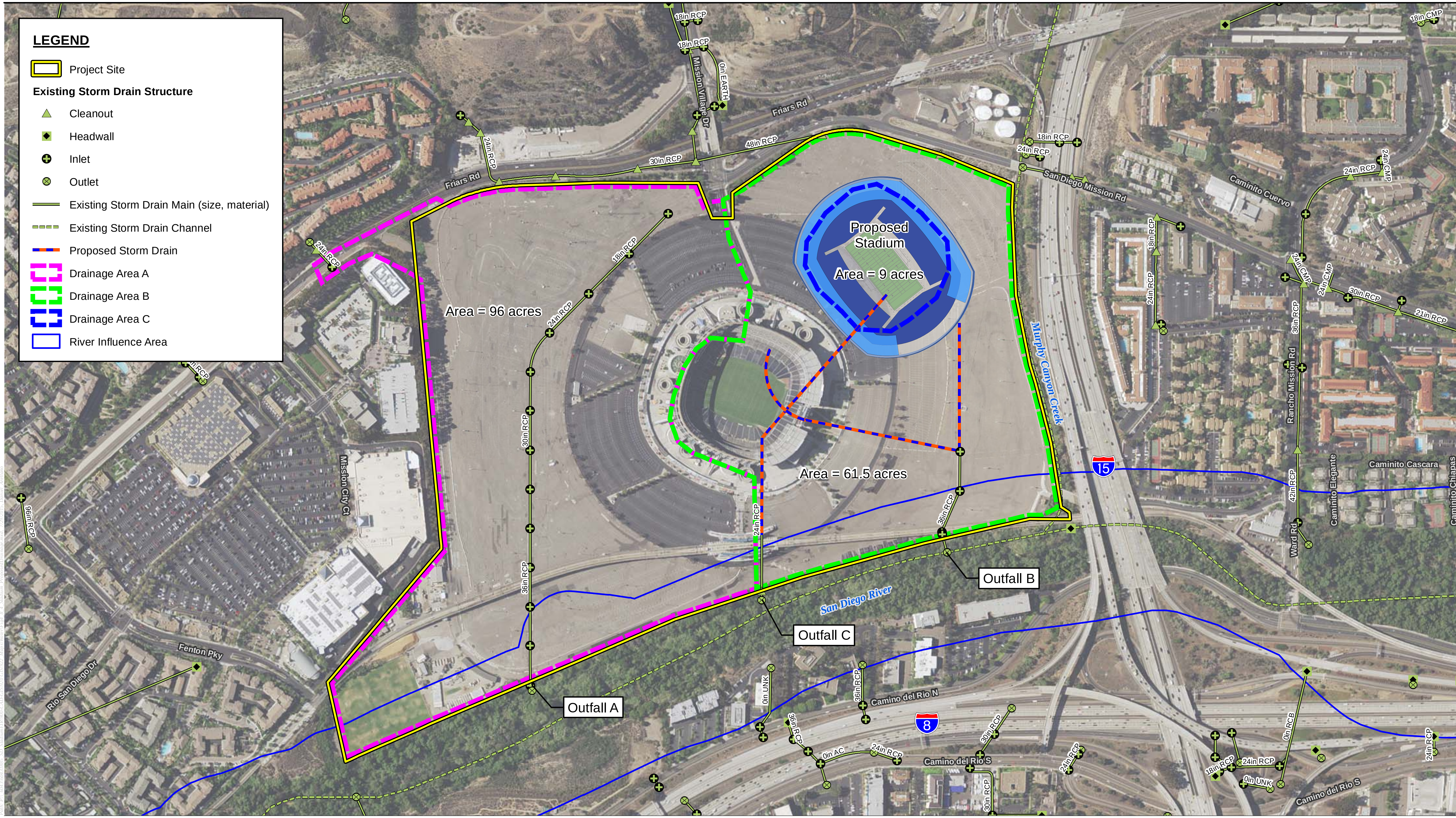

Source: NAIP 2014; SanGIS.

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Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.8-4
Proposed Drainage Areas and Storm Drain Systems

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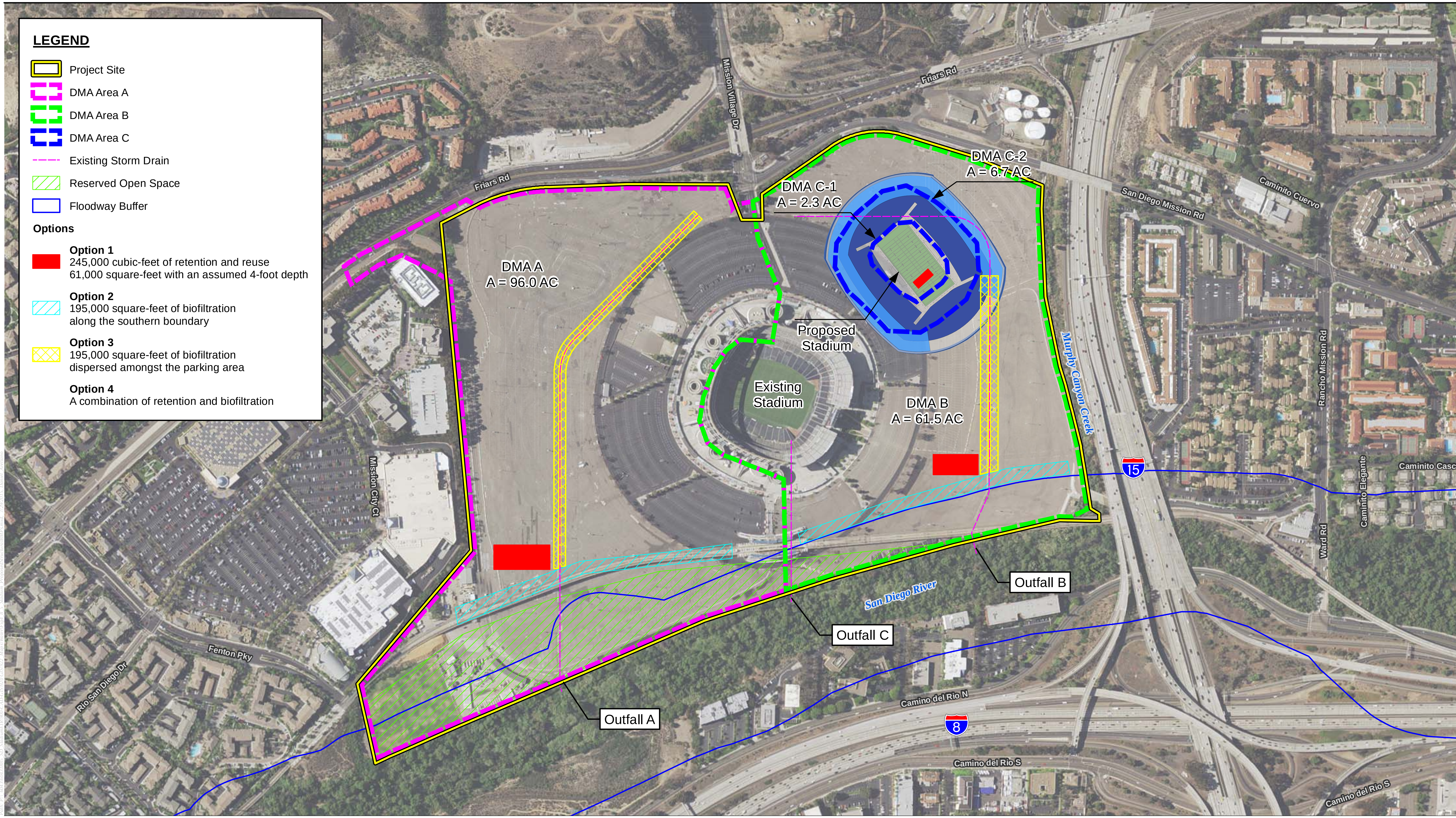

Source: NAIP 2014.

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Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.8-5
Proposed Drainage Management Areas and Structural BMPs

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floodplain would have a net benefit to flood protection and environmental resources in and along the San Diego River.

The Project would be required to adhere to floodplain regulations to minimize flood hazard impacts associated with the Project. By successfully complying with these measures, as well as the proper incorporation of necessary construction, operations, and site design standards and permits, the Project would have a less than significant impact on flood hazard and site runoff in its post-construction condition, but would have a significant and unavoidable impact to the area's floodplain during extremely large and rare storms (100-year or greater return frequency) during the 3-to-5-year construction period.

Issue 2: Would the project substantially reduce groundwater recharge?

Impact Thresholds

The proposed Project may change site conditions that change the ability to percolate rainfall and recharge groundwater resources. Decreases in aquifer recharge may significantly impact hydrologic conditions and well-water supplies. Reduced groundwater elevation can affect the availability of well water, floodplain vegetation health, and surface water replenishment (e.g., San Diego River flow).

Impact Analysis

As required by the development/redevelopment requirements of the Municipal Permit and the City's Storm Water Standards, the proposed Project would incorporate a variety of storm water capture-treat-retain BMPs. However, bioretention-type BMPs that are implemented would be required to recognize the need to avoid infiltration (and groundwater recharge) at the site due to historic groundwater contamination from the KMEP MVT adjacent to the site's northeast corner and on the north side of Friar's Road. As supported by documentation in Appendix I, the San Diego RWQCB issued a Clean-up and Abatement Order (CAO) to KMEP to clean up petroleum contaminants that were discharged into the groundwater from the KMEP MVT.

Gasoline releases from KMEP MVT resulted in a groundwater contamination plume extending off the MVT property approximately 2,000 feet to the south and southwest beneath Friars Road and the Qualcomm Stadium parking lot (RWQCB 2012). The subsurface plume extends through the soil, sediment, and aquifer beneath the Qualcomm Stadium site. Contamination may have migrated into and under the San Diego River and subsequently to the opposite (southern) shore of the river, as well as beneath portions of I-8 and the I-805 overpass (SDCGJ 2013).

In the San Diego RWQCB Executive Officer's Report of February 2012 (RWQCB 2012), it was noted that the amended CAO in 2005 required Kinder-Morgan to clean up the soil, along with the following:

- Remove residual light nonaqueous phase petroleum liquid (liquid gasoline referred to as LNAPL) from subsurface soil and groundwater beyond the KMEP MVT property.
- Reduce concentrations of dissolved phase petroleum hydrocarbon waste constituents in groundwater to attain background water quality conditions beyond the KMEP MVT property.

Although infiltration BMPs could be placed outside the contaminant plume (see Appendix I) with further study, infiltration BMPs are not being considered as a safeguard against further mobilizing or affecting contaminant migration. The groundwater is also less than 10 feet below the ground surface in many areas, which also limits the practicability for infiltration. Landscape-based BMPs would incorporate bottom liners to isolate media, soils, and planted material from potential contamination. Landscape BMPs would incorporate subdrain percolation pipes that would direct water from oversaturated soils to downgradient BMPs for subsequent (treatment train) pollutant removal, underground storage, or to one of the existing river bank outfalls. Vertical percolation through native (i.e., resident) soils would not be considered as part of the proposed Project design. The proposed Project does not involve any groundwater extraction for consumptive use, irrigation, or commercial/industrial processes. Although the proposed Project would have a net reduction in impermeable hardscape surface and an opportunity to provide groundwater recharge, its implementation would have no effect on existing groundwater replenishment.

During construction, subsurface excavation would be required to accommodate the proposed storm water harvesting cisterns for reuse, as well as the proposed storm drain infrastructure. The groundwater ranges from +38 to +42 feet per the stabilized groundwater elevation readings made in 2014 (Arcadis 2014) and would therefore potentially be encountered in deep excavations during the construction phase. Shallow excavations made during construction are anticipated to be above the groundwater level. As identified in the regulatory section, a dewatering permit would be required to handle, manage, and dispose of collected nuisance groundwater. Applicable permits, issued by the RWQCB, stipulate conditions for characterizing collected groundwater prior to disposal. They may be general dewatering permits or specifically issued with project-specific requirements, the latter of which would be anticipated for the proposed Project due to the subsurface contamination potential. By way of complying with these RWQCB-issued conditions, potential impacts to the environment and water resources would be minimized or avoided.

Significance of Impacts

Due to long-term, historic soil and groundwater contamination under the site, infiltration to, or extraction from, underlying aquifer resources would not occur as part of the proposed Project. Given the proper incorporation of necessary construction, operations, and site design standards as required by permits, the Project would have a less than significant impact to groundwater resources.

Issue 3: Would the project result in a substantial increase in erosion and sedimentation in downstream waterbodies?

Impact Thresholds

Impacts to sensitive surface waterbodies can occur if projects cause or contribute to upgradient erosion and sediment transport. If a project grades, clears, or grubs more than one acre of land, especially into slopes over a 25 percent grade, and drains into a sensitive water body or stream, impacts on stream hydrology may result from uncontrolled erosion and sediment transport to downstream waterbodies.

Impact Analysis

In its operational condition, the proposed Project would not create erodible surfaces that would cause sedimentation impacts in the downgradient San Diego River. However, construction of the new stadium and the demolition of the existing stadium pose potentially significant sources of erosion and sediment transport if not managed and controlled throughout the construction/demolition phase. Prior to construction commencement, the construction contractor would be required via the Construction General Permit to prepare and submit a construction SWPPP for the Project. The SWPPP would be required to assess the sediment and receiving water risk associated with the Project scope and the sensitivities of the San Diego River.

Although the lower San Diego River is not listed as being impaired for sediment, siltation, or turbidity (SWRCB 2011), which are the main pollutants of concern for construction storm water impacts for receiving waters, it is impaired for the following pollutants:

- *Enterococcus*
- Fecal coliform bacteria
- Low dissolved oxygen
- Manganese
- Nitrogen

- Phosphorus
- TDS
- Toxicity

The Final Staff Report recently released by the SWRCB (SWRCB 2015) provides updates for impaired waters in California, which states no changes for the San Diego region from the previous 2010 list. Nonetheless, during construction, and within the scope of the construction SWPPP, on-site management and source controls would need to provide specific attention to portable toilet facilities, landscaping materials, vehicle tracking, air dispersion, and hazardous materials to avoid exacerbating the existing impairments of the San Diego River. The construction SWPPP would be submitted to the SWRCB along with other pertinent Permit Registration Documents for coverage under the Construction General Permit. As the construction timeline is anticipated through three wet seasons or more, the SWPPP would incorporate protocols for rain event action plans to ensure construction activities do not cause storm water pollution and impact the San Diego River or Murphy Canyon Creek.

The existing site is relatively flat with little relief but ground surface slopes from approximately 100 feet AMSL in the northwest corner to approximately 50 feet AMSL near the San Diego River’s floodway. There would be no proposed slopes during construction or post-construction that would be over a 25 percent grade.

Standard construction phase BMPs would be required for the proposed Project in accordance with Construction general storm water permit such that runoff is properly controlled to mitigate erosion and downstream sedimentation impacts to receiving waters. Disturbed area (graded soils that are not stabilized) would be minimized and properly safeguarded against erosion and sediment transport during the wet season.

As discussed in the hydrology issues above, the flow rate via the existing San Diego River outfalls would decrease during storm events at or below the 85th percentile probability of occurrence with the implementation of the proposed Project, thereby reducing erosive scouring forces at the points of discharge under these conditions. This decrease would be attributed to the incorporation of new LID, runoff management, and storm water reuse opportunities, which would have a net beneficial impact on surface hydrology and storm water quality.

Post-construction phase BMPs would be required for the proposed project in accordance with the Municipal permit and the Model BMP Design Manual (County of San Diego 2015). Per the forthcoming Model BMP Design Manual, the Project would be required to comply with pollutant control requirements to assure such that runoff is properly controlled to mitigate erosion and downstream sedimentation impacts to receiving waters. These would include source control, site design, and/or treatment-control BMPs.

Significance of Impacts

Proper adherence to and compliance with the regulations cited above and various impact avoidance and minimization measures specified in Section 4.8.4 would minimize potentially significant impacts associated with erosion and sedimentation. As a result, the Project would have a less than significant impact**.**

Issue 4: Would the project result in an increase in pollutant discharge to receiving waters during construction or operation, including discharge to an impaired waterbody or violate federal, state, or regional water quality standards or waste discharge requirements?

Impact Thresholds

A significant impact may result if the proposed Project violates water quality standards or WDRs (as specified in Project-related permits). The Municipal Permit requires the development and implementation of storm water pollution BMPs, both during construction and post-construction phases to reduce pollutants discharged from the Project site to the maximum extent practicable. To address pollutants that may be generated from the new development once the site is in use, the Municipal Permit further requires that the City implements the City's Storm Water Standards Manual to avoid and/or minimize receiving water impacts during operation.

Impact Analysis

As discussed above, the San Diego River is a CWA Section 303(d)-listed waterbody for certain bacteria, various nutrients and metals, and toxicity. In compliance with the Municipal Permit, Construction General Permit, and the City's Storm Water Standards, the project-specific SWPPP and the post-construction design would address appropriate BMPs required to protect the river from further runoff-induced impairments. During construction, compliance with the Construction General Permit (Order 2009-0009-DWQ) would require:

- Monitoring and reporting of pH and turbidity in site storm water discharges;
- Assessing risk level and developing appropriate monitoring and reporting requirements per the assessed risk;
- Preparing a Rain Event Action Plan for each qualifying rain event;

- Submitting inspection and sampling data; and
- Providing specific training or certifications of key personnel (e.g., SWPPP preparers, inspectors) to ensure that their level of knowledge and skills are adequate to design and evaluate Project construction specifications that would comply with Construction General Permit requirements.

The SWPPP would also address pollutant protection BMPs relative to the following typical construction activities:

- Building foundation earthwork and excavation that could allow sediment to enter surface/receiving waters during storm events.
- Site preparation, demolition, and construction activities that would require the use of dust suppression methods (i.e., wet methods) to control dispersion of airborne particulates generated during these activities. Runoff from the spraying of soil and construction materials with water could enter surface/receiving waters during storm events unless control measures and BMPs are implemented.
- Demolition and/or construction activities that could involve spills or releases from associated equipment (e.g., spills during refueling and maintenance activities, oil leaks from equipment). These contaminants could enter surface/receiving waters during storm events unless control measures are implemented.

All Project-related construction and post-construction operations would be required to conform to the water quality standards and WDRs enforced by SWRCB/RWQCB. This would include applying for and complying with storm water permits, all relevant sections of the CWA, and all other relevant standards and regulations. Furthermore, the Project would incorporate measures to address pollutant concerns identified in the San Diego River WQIP, which aim to protect and enhance the river’s resources, including water quality, while adhering to all relevant water quality standards.

Any runoff during construction and post-construction operations would be required to be minimized and treated through recommended source control, site design, and/or treatment-control BMPs mandated by these measures. Erosion and sediment controls would be used, and a project-specific SWPPP would be in place during construction activities to identify methods to reduce the amount of soils disturbed, prevent erosion and sediment transport into receiving waters, and control/minimize pollutants in site runoff. Typical construction BMPs would include, but not be limited to, sediment traps/basins, fiber rolls, storm drain inlet protection, street sweeping and vacuuming, stabilized construction entrance/exit, containment of material delivery and storage areas, and management of concrete and other construction and hazardous materials/wastes. The selection and implementation of these and other BMPs would be contingent on construction/demolition approach, project duration, seasonal phasing, and equipment selection.

In a post-construction scenario, increased traffic from a corresponding increase in stadium events (e.g., games/matches, monster truck events, motocross, concerts, vehicle sales, auto races, newly expanded event types, etc.) would have the potential to affect storm water pollutant runoff concentrations in site runoff. As described earlier, a variety of BMP and LID treatment systems would be implemented in and around the site to capture and treat the 85th percentile storm event. These systems would be required to meet the requirements of the Municipal Permit and the City's Storm Water Standards Manual for water quality improvement, runoff management, and receiving water quality protection.

Operation of the Project is not expected to increase the potential for pollutant loading to the San Diego River but rather improve its environmental protection and gradual water quality improvement over current conditions.

As discussed above, construction and post-construction activities would be required to adhere to various federal, state, and regional water quality standards, such as the Municipal Permit and Construction General Permit, as well as the impact avoidance and minimization measures specified in Section 4.8.4. By successfully complying with these measures, impacts associated with water quality standards or WDRs would be minimized.

Significance of Impacts

Given the proper incorporation of necessary construction, operations, and site design standards and permits, the Project would have a less than significant impact to water quality standards and WDRs**.**

Issue 5: Would the project result in the creation of ponded water or degrade groundwater quality?

Impact Thresholds

The creation of ponded water can create stagnation, which can lead to vector breeding, water quality degradation, and public health issues.

Impact Analysis

As discussed in Issue 2 above, groundwater at the Project site is impacted from off-site contamination, which precludes any use of, or percolation to, underlying aquifer resources. As such, the various construction and post-construction BMPs proposed for the Project would incorporate isolation safeguards to avoid contact with underlying groundwater. BMPs for the proposed Project would not involve ponding water as they would incorporate subsurface harvesting (storage) and reuse configurations, or address storm water treatment/flow management via LID principles. Site grading changes for the proposed Project would not involve the creation of ground depressions that would cause ponding.

The storm water conveyance system upgrades that would occur as part of the proposed Project construction and operation would reduce current parking lot ponding. The current conveyance system is adequate to drain only small storm events and larger storm events induce parking lot ponding. This ponding starts to release to the San Diego River once the storm subsides. With the implementation of the proposed Project, site ponding would not occur during storms approximately equal to or less than the 85th percentile design storm. To reduce on-site ponding above this compliance threshold would require reconfiguration of the existing storm water outfalls, which is not proposed as part of the Project.

Significance of Impacts

Given the proper incorporation of necessary construction, operations, and site design standards and permits, the Project would have a less than significant impact to groundwater quality**.**

4.8.4 Avoidance and Minimization Measures

Construction and post-construction activities would be required to adhere to various federal, state, and local standards, as well as the measures specified below. By successfully complying with these measures, impacts associated with construction- and operation-related impacts would be minimized through LID design and/or structural BMPs mandated by these measures. Storm water flow rates, volumes, and associated pollutant loads would decrease relative to existing conditions through the implementation of the proposed Project. Drainage patterns would be essentially unchanged and remain similar to existing conditions. No significant impacts are anticipated to occur as a result of implementation of the Project.

The following describes how existing policies, regulations, and procedures would aim to reduce potential impacts related to hydrology and water quality that may otherwise occur with implementation of the Project.

In compliance with the Municipal Permit and the City's Storm Water Standards, site design of the proposed Project would be required to incorporate the following avoidance measures as applicable:

- Projects would implement structural BMPs and LID features for the long-term post-construction (operational) phase. Water-quality benefits would be provided through LID designs, source controls, and treatment controls. Depending on site conditions, purpose, and surrounding landscape, the following features would assist in mitigating Project-related impacts at a variety of levels:
    - Maximizing the use of underground or aboveground cisterns for the capture and reuse of rain water.
    - Optimizing the use of suitable pervious materials for hardscaped surfaces where applicable (e.g., porous pavements, gravel walkways, grass pavers).
    - Maximizing soft-bottom drainage that is amenable to vegetative planting and natural treatment of runoff.
    - Integrating natural rock or similar material for protection against scour and sediment transport at discharge points and on soft-bottom drainages.
    - Incorporating low-flow pathways for hardscaped impervious drainages (e.g., concrete channels) to concentrate dry-weather flows along the thalweg (i.e., lowest point of flow), minimize vegetative growth, and reduce long-term maintenance.
    - Selecting and designing access routes to minimize impacts to receiving waters, in particular the discharge of identified pollutants to an already impaired water body.
    - Designing Project attributes within the 100-year flood zone that minimize the risk of property loss, injury, or death from flooding events in compliance with FEMA and City of San Diego Municipal floodplain requirements. These design considerations would be evaluated during the CLOMR application process, which would serve to evaluate and minimize flooding impacts associated with the Project to the satisfaction of FEMA and the City of San Diego.

The following avoidance measures would be implemented prior to/during construction:

- Before initiation of proposed Project, compliance with the planning requirements established by the Construction General Permit Order 2009-0009-DWQ (as amended by

Orders 2010-0014-DWQ and 2012-0006-DWQ), would be established for traditional construction sites. Under the Construction General Permit, the following are required:

- The contractor would provide a Qualified SWPPP Developer (QSD) to complete a risk determination and prepare a draft SWPPP in accordance with the risk-level requirements in the Construction General Permit. The SWPPP would be prepared by a QSD certified by the California Storm Water Quality Association.
- The contractor would obtain coverage under the Construction General Permit by uploading Permit Registration Documents (i.e., Notice of Intent, SWPPP, and other compliance-related documents required of Order 2009-0009-DWQ) to the California Storm Water Multi-Application and Report Tracking System (SMARTS) website. A Waste Discharge Identification number would be received from SMARTS before initiation of any soil disturbance.
- Project construction would comply with all provisions described in the Construction General Permit, and would strictly follow the SWPPP under the direction of a Qualified SWPPP Practitioner (QSP) provided by the contractor and Water Pollution Control Plan as applicable. The QSP would maintain and update the SWPPP as necessary to track modifications, BMP locations and implementation, training, and other requirements. The certification statement would be included in the on-site SWPPP. The QSP would be a separate individual from the QSD.
- The contractor would be responsible for conducting all required inspections, sampling, recordkeeping, and corrective actions.
- The contractor would submit an Annual Report to the SWRCB through SMARTS. The Annual Report would have to be accepted by the SWRCB before the contractor could be released from the contract.
- After completion of construction activities, the contractor would prepare the Notice of Termination and supporting documentation to submit to the SWRCB via the SMARTS website. To terminate coverage, the Project would have to meet permanent stabilization requirements specified by the Construction General Permit, and an acceptance of the Notice of Termination would have to be received from the SMARTS system.

- The SWPPP would specify measures to avoid or minimize construction-related surface water pollution to include proper runoff controls, pollutant source controls, and runoff treatment controls (when other nontreatment controls are insufficient for reducing runoff pollutant loads). Project construction would comply with all provisions described in the Construction General Permit and would strictly follow the SWPPP. The QSD would provide SWPPP updates for the QSP to implement so that conditions at the Project site are in compliance as site conditions change, BMP locations and types are modified as necessary, and evolving training needs are met.

- The construction SWPPP would include the water quality protection and monitoring measures required in the Construction General NPDES Permit (Order 2009-0009-DWQ), but would also address the following project-specific practices:
  - Clearing and grading of native vegetation would be limited to the minimum amount needed to construct, allow access to, and provide fire protection for if earthwork is conducted during the wet season.
  - Advanced BMP treatment controls (e.g., active treatment systems employing sedimentation traps/ponds with flocculant addition, redundant BMPs, or treatment trains) would be considered when construction sites are less than 500 feet from sensitive receiving waters (i.e., San Diego River).
  - Materials and waste management programs would be implemented during construction within the Project limits and on equipment/material laydown areas. Programs would be for solid, sanitary, septic, hazardous, contaminated soil, concrete, and construction waste management; spill prevention; appropriate material delivery and storage; employee training; dust control; and vehicle and equipment cleaning, maintenance, and fueling. Each of these programs would address proper secondary containment requirements, spill prevention and protection, structural material storage needs, proper concrete washout design and containment, perimeter and surface protection for laydown and maintenance areas, and relaying all such requirements to construction staff. Storage, use, and disposal of hazardous materials would be conducted in accordance with local, state, and federal guidelines pertaining to handling, storage, transport, disposal, and use of such materials.
  - The SWPPP and storm water BMPs would be designed to avoid impacts to listed species and their habitats (i.e., discharge, dewatering).

- Storm water BMPs would include the following practices, which would be detailed in the SWPPP:
  - Storm water and sediment controls would be installed prior to soil disturbance on the construction site. Where determined necessary, silt fencing, straw wattles, temporary earthen berms, or similar runoff barriers would be properly installed along the perimeter of the Project site. Silt fencing would be buried at the bottom

and staked. Scour/erosion control would be employed at points of discharge from these BMPs or other points of concentrated runoff. Silt fencing, straw wattles, earthen berming, or a similar barrier would be placed around the perimeter of the Project site and properly installed and maintained.

- Stockpiles of soil, concrete, and other materials would be covered with a tarp or blanket and/or surrounded with straw wattles or gravel bags. Slopes would be protected with straw wattles or blankets. All straw wattles would be certified as weed-free.
- Whenever possible, grading would be phased to limit soil exposure and minimize potential sediment transport. Finished areas would be revegetated and/or hydroseeded as soon as possible with native species known to exist within the Project vicinity.
- Storm drain inlets would be protected using gravel bags or certified weed-free straw wattles, filter fabrics, absorbent socks, rubber covers, or other materials appropriate for the location. Construction entrances would be stabilized; laydown areas would be provided perimeter protection. Materials that could impact storm water runoff would be stored in lockers, on pallets, inside rubber berms, indoors, or under a cover. Material storage areas would be located away from existing storm drains and surface waters.
- Sedimentation basins would be constructed where appropriate and would include standpipe design discharge outlets that allow collected water to drain off at a controlled rate (i.e., drain within 72 hours). Supplemental BMPs for scour protection and erosion control would also be integrated at discharge outlet points, overflow spillways, or similar areas prone to concentrated flow.
- Check dams would be used to reduce runoff velocities where necessary.
- BMP structural facilities would be regularly inspected and repaired. Damaged or worn silt fences, wattles, gravel bags, and other BMPs would be replaced when they are found to be inadequate or ineffective.
- Fueling and maintenance of equipment would take place within existing paved areas or the identified laydown area, but not closer than 100 feet to drainages. Cleaning of vehicles and equipment would take place off-site to the greatest extent possible. If it is necessary to clean vehicles on-site, vehicles may be rinsed with water, and designated bermed areas would be used to prevent rinse water contact with storm water and other water bodies. Soaps or detergents would not be used. Collected rinsate would be transferred to a temporary holding tank or a vactor truck

(a vacuum truck with a tank on board for collecting wastewater and sediment) for discharge off-site (e.g., batch discharge to a sanitary sewer with proper authorization and clearance).

  - Construction equipment staging and access, and disposal or temporary placement of excess fill within drainages or other wetland areas, would be prohibited.

The following post-construction avoidance measures would be implemented:

- Once construction is completed, an operations and maintenance plan would be implemented in accordance with Municipal Permit, Order R9-2013-0001, which would be implemented for the life of the Project to ensure the continued effectiveness of post-construction BMPs. Maintenance activities would vary from area to area depending on the BMPs in place, but would include the following:
  - Perform maintenance of all structural BMPs as established in the owner operation manual.
  - Cleaning and removing debris from BMP inlets, outlets, or catchments after major storm events.
  - Mowing and maintaining vegetated BMPs (e.g., maintaining swales and/or detention/retention systems to original cross sections and infiltration rates).
  - Removing accumulated trash, debris, and/or sediment from BMPs before each wet season (i.e., September).
  - Seeding or sodding to restore or maintain ground cover.
  - Repairing erosion areas and stabilizing repairs with additional erosion-control measures.
  - Removing and replacing all dead and diseased vegetation as necessary to maintain vegetation coverage and minimize erosion. Replacement vegetation would not include any invasive species.
  - Managing fertilizer use (particularly in the wet season) and minimizing or avoiding herbicide or pesticide applications during all times of the year.
  - Maintaining BMP vegetation health (i.e., periodic irrigation or batch watering) without causing runoff from over-irrigation.
  - Prohibiting storage of uncovered hazardous substances in outdoor areas and implementing good housekeeping procedures on a routine basis.

- Inspecting and replacing inlet protection/filters as necessary.

4.8.5 Mitigation, Monitoring, and Reporting

No mitigation measures are proposed.

4.9 LAND USE

As stated in Chapter 2.0, Environmental Setting, development on the Project site is governed by the City's General Plan, the Mission Valley Community Plan (MVCP) (City of San Diego 2013a), the San Diego River Park Master Plan, the City's Land Development Code (including the Mission Valley Planned District Ordinance [MVPDO]) and the Montgomery Field Airport Land Use Compatibility Plan (ALUCP). A portion of the Project site is part of the Mission City Specific Plan. Additionally, the Project site is within the City's Multiple Species Conservation Program (MSCP) area as described in Section 4.2 Biological Resources.

This EIR section addresses the consistency of the Project with the development regulations of the Land Development Code and with the goals and policies contained in the City of San Diego General Plan, MVCP, MVPDO, City of San Diego MSCP Subarea Plan, the San Diego River Park Master Plan, and the Montgomery Field ALUCP. The determination of significance regarding any inconsistency with development regulations or plan policies is evaluated in terms of the potential for the inconsistency to result in physical changes to the environment that could result in the creation of secondary environmental impacts considered significant under CEQA.

4.9.1 Existing Conditions

Existing land uses within the project site, as well as the areas adjacent to the Project site, are characterized in the context of the City of San Diego General Plan, the MVCP, and the City's Land Development Code, including the MVPDO, as well as other adopted plans and policies. Existing land uses within the Project site include the existing Qualcomm Stadium with associated parking lot, a soccer field and recycling center in the southwest corner of the site, and the MTS Trolley Green Line station and trolley line that traverses the southern portion of the site. An MTS Trolley Electric Substation is located at the southeast corner of the site. The Project site is surrounded by major roadways, interstates, existing development, and two surface-water features (San Diego River to the south and Murphy Canyon Creek to the east). Office buildings and large commercial/retail uses are located to the west; higher density, multifamily residential land uses are located to the northwest and southwest of the Project site and east of I-15. A portion of the Kinder Morgan Energy Partners Mission Valley Terminal (KMEP MVT) is located to the northeast of the Project site at 9950 San Diego Mission Road, south of Friars Road and west of I-15. Figure 2-5 depicts the existing land uses at and around the Project site.

4.9.2 Regulatory Conditions

Numerous laws, regulations, plans, policies, programs, codes, and ordinances regulate land use development within the San Diego region. The local plans regulating land use development at the Project site include the City of San Diego General Plan, City's Land Development Code (including the MVPDO), the MVCP, the City of San Diego Multiple Species Conservation Program Subarea Plan, the San Diego River Park Master Plan (City of San Diego 2013b) and Montgomery Field ALUCP.

City of San Diego General Plan

As required by State Planning and Zoning Law, the City developed a "comprehensive, long-term plan for the physical development of the City, and of any land outside its boundaries which bears relation to its planning" (State of California 2000). For the City of San Diego, this plan is known as the General Plan (City of San Diego 2008). The General Plan consists of development policies in the form of Findings, Goals, Guidelines, Standards, and Recommendations for a variety of land use elements. The General Plan also references a series of community plans, which are intended to provide more area-specific guidance on development in San Diego. The General Plan's planned land use designation for the Project site is Commercial Employment, Retail, and Services for the majority of the site, and Park, Open Space, and Recreation for a portion of land along the east and southeast corners of the site (see Figure 2-5 General Plan Land Use).

The Land Use and Community Planning Element (Land Use Element) of the General Plan guides future growth and development into a sustainable citywide development pattern while maintaining or enhancing the quality of life. This element provides policies to implement the General Plan City of Villages strategy and establishes a framework to guide and govern the preparation of community plans tailored to each community. The relevant goals and policies of the Land Use Element for the Project are discussed below in the impact analysis section.

Mission Valley Community Plan

The MVCP was adopted by the San Diego City Council in June 1985, and was most recently amended in May 2013. The MVCP is intended to serve as a comprehensive guide for residential, recreational, industrial, commercial, office, and multi-use developments, open space preservation, and development of a transportation network within the plan area. As presented in Chapter 2.0, Environmental Setting, and depicted in Figure 2-6 Mission Valley Community Plan Land Use, the Project site is identified as Commercial-Recreation (MVCP-CR) and Public Recreation on the Mission Valley Community Plan Land Use map.

The MVCP comprises nine elements: Land Use, Transportation, Open Space, Development Intensity, Community Facilities, Conservation, Cultural and Heritage Resources, Urban Design, and Implementation. Objectives, proposals, and development guidelines of each element of the MVCP relevant to the Project are presented below in the impact analysis section.

Mission Valley Planned District Ordinance

Zoning regulations are set forth in the City's Land Development Code. The Project site is subject to the MVPDO in San Diego Municipal Code Chapter 15, Article 14, and is an additional relevant zoning ordinance for the Project site.

The purpose of the MVPDO is to implement the MVCP through the use of (a) overlay districts regulating development intensity community-wide and providing additional development criteria for projects in the San Diego River and Hillside subdistricts; (b) residential, commercial, industrial, and multiple land use zones providing basic development criteria; (c) special development regulations which address unique Mission Valley needs and are applied to all land uses, and (d) continued application of the city-wide Open Space-Floodplain Zone and Environmentally Sensitive Lands Regulations.

As presented in Chapter 2.0, Environmental Setting, and shown in Figure 2-7 Zoning, almost all of the Project site is zoned MVPD-MV-CV (Mission Valley—Commercial Visitor). The purpose of the commercial zones in Mission Valley is to "provide for office, hotel and retail commercial uses as defined in the Mission Valley Community Plan." The MVPD-MV-CV zone is applied to properties within the MVCP-CR (Commercial-Recreation) land use designation and is primarily intended to "provide for establishments catering to the lodging, dining, and shopping needs of visitors."

A small section at the southwest corner of the Project site is zoned Multi-Use/Specific Plan (MVPD-MV-M/SP). The MVCP states this zone is to provide for pedestrian oriented projects containing at least three functionally and physically integrated land uses and provides standards and guidelines for the development of large, undeveloped parcels through the processing of specific plans or discretionary permits. This area is part of the Mission City Specific Plan, which was adopted in 1998 to facilitate the development of Escala and Fenton Marketplace. The plan identifies the area as Planning Area 8, with a land use of Floodway and no development intensity.

City of San Diego Multiple Species Conservation Program/Multi-Habitat Planning Area

The San Diego County MSCP Subregional Plan is a comprehensive, long-term habitat conservation planning program designed to provide permit-issuance authority for "take" of covered species to local jurisdictions in the southwestern San Diego County region. Through implementation of its MSCP individual Subarea Plan, the City of San Diego is a participant in the County's MSCP Subregional Plan. The Subarea Plan designates the City's Multi-Habitat Planning Area (MHPA), a preserve area established to delineate core biological resource areas and corridors targeted for conservation, as shown in Figure 4.2-2, City of San Diego MHPA and Potential Jurisdictional Resources. Limited development in these areas is allowed to occur and is regulated by the Biology Guidelines for Environmentally Sensitive Lands (ESL) in the City of San Diego Land Development Code (City of San Diego 2012).

Section 1.4.2 of the City's MSCP Subarea Plan includes general planning policies and design guidelines for the planning of projects adjacent to or within the MHPA including land use adjacency guidelines in Section 1.4.3 and Appendix A of the City's MSCP Subarea Plan.

San Diego River Park Master Plan

The San Diego River Park Master Plan (City of San Diego 2013b) is a policy document that provides recommendations and design guidelines for the land use decisions along the San Diego River. The vision of the San Diego River Park Master Plan is to "reclaim the valley as a common, a synergy of water, wildlife and people." The Project site is located within the Lower Valley reach north of the San Diego River.

The River Corridor Area is defined as all areas within 35 feet of the Federal Emergency Management Agency (FEMA) 100-year floodway. The River Influence Area is defined as areas within 200 feet of the River Corridor Area. Portions of the River Corridor Area and the River Influence Area extend into the southern portion of the existing Qualcomm Stadium parking lot. The new stadium construction and the demolition of the existing Qualcomm Stadium are outside the River Corridor Area and River Influence Area. The only work that would occur within the River Influence Area would be maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines). Although the Project does not include a river-oriented community park as recommended by the San Diego River Park Master Plan, the Project design would not preclude the future implementation of plan recommendations for the area, and would provide opportunities for integration of future connections to the community park when it is ultimately developed.

Airport Land Use Compatibility Plans

The basic function of Airport Land Use Compatibility Plans (ALUCPs) is to promote compatibility between airports and the land uses that surround them to the extent that these areas are not already devoted to incompatible uses. With limited exception, California law requires preparation of an ALUCP for each public-use airport and military airport in the state. Most counties have established an Airport Land Use Commission (ALUC), as provided for by law, to prepare compatibility plans for the airports in that county and to review land use plans and development proposals, as well as certain airport development plans, for consistency with the compatibility plans.

In San Diego County, the ALUC function rests with the San Diego County Regional Airport Authority (SDCRAA), as provided in Section 21670.3 of the California Public Utilities Code. The City of San Diego implements the ALUCP policies and criteria with the Supplemental Development Regulations contained in the Airport Land Use Compatibility Overlay Zone (Chapter 13, Article 2, Division 15 of the City’s Municipal Code). The Project site is located within the Airport Influence Area (AIA), Review Area 2 for the Montgomery Field ALUCP.

Montgomery Field ALUCP

The Project site is located approximately 2 miles south/southeast of Montgomery Field and falls within Review Area 2 of the AIA.

The Montgomery Field AIA is defined as "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses." To facilitate implementation and reduce unnecessary referrals of projects to the ALUC, the AIA is divided into Review Area 1 and Review Area 2, as shown in Figure 4.9-1 Airport Influence Area, and consists of locations where noise and/or safety concerns may necessitate limitations on the types of land uses. Specifically, Review Area 1 encompasses locations exposed to noise levels of community noise level equivalent (CNEL) 60 decibels (dB) or greater, the safety zones, air space protection, and overflight, depicted on the associated maps in this EIR section.

The Montgomery Field ALUCP identifies the FAA Height Notification Boundary and Federal Aviation Regulation Part 77 Airspace Surfaces (discussed in Section 4.6 of this EIR). The Project is located within the FAA Height Notification Boundary and the Part 77 Surfaces for Montgomery Field (see Figures 4.9-2 through 4.9-4). Title 14 USC, Chapter 1, Subchapter E, Part 77 – Aeronautics and Space – Safe, Efficient Use, and Preservation of the Navigable Airspace, establishes requirements for notifying the FAA of certain construction activities and alterations to existing structures, in order to ensure there are no obstructions to navigable airspace. The boundary extends 20,000 feet from the runway. Within the boundary, Part 77 requires that the FAA be notified of any proposed construction or alteration having a height greater than an imaginary surface extending 100 feet outward and one foot upward (slope of 100:1) from the runway. Outside the boundary, projects that include construction or alteration exceeding 200 feet in height above ground level are required to notify the FAA.

4.9.3 Impact Analysis

Issue 1: Would the Project require a deviation or variance and the deviation or variance would in turn result in a physical impact on the environment, or would physically divide an established community?

Impact Thresholds

Significant land use impacts would occur if the Project would result in inconsistencies or conflicts with an adopted land use designation or intensity and result in a physical impact on the environment, or indirect or secondary environmental impacts, or physically divide an established community.

Impact Analysis

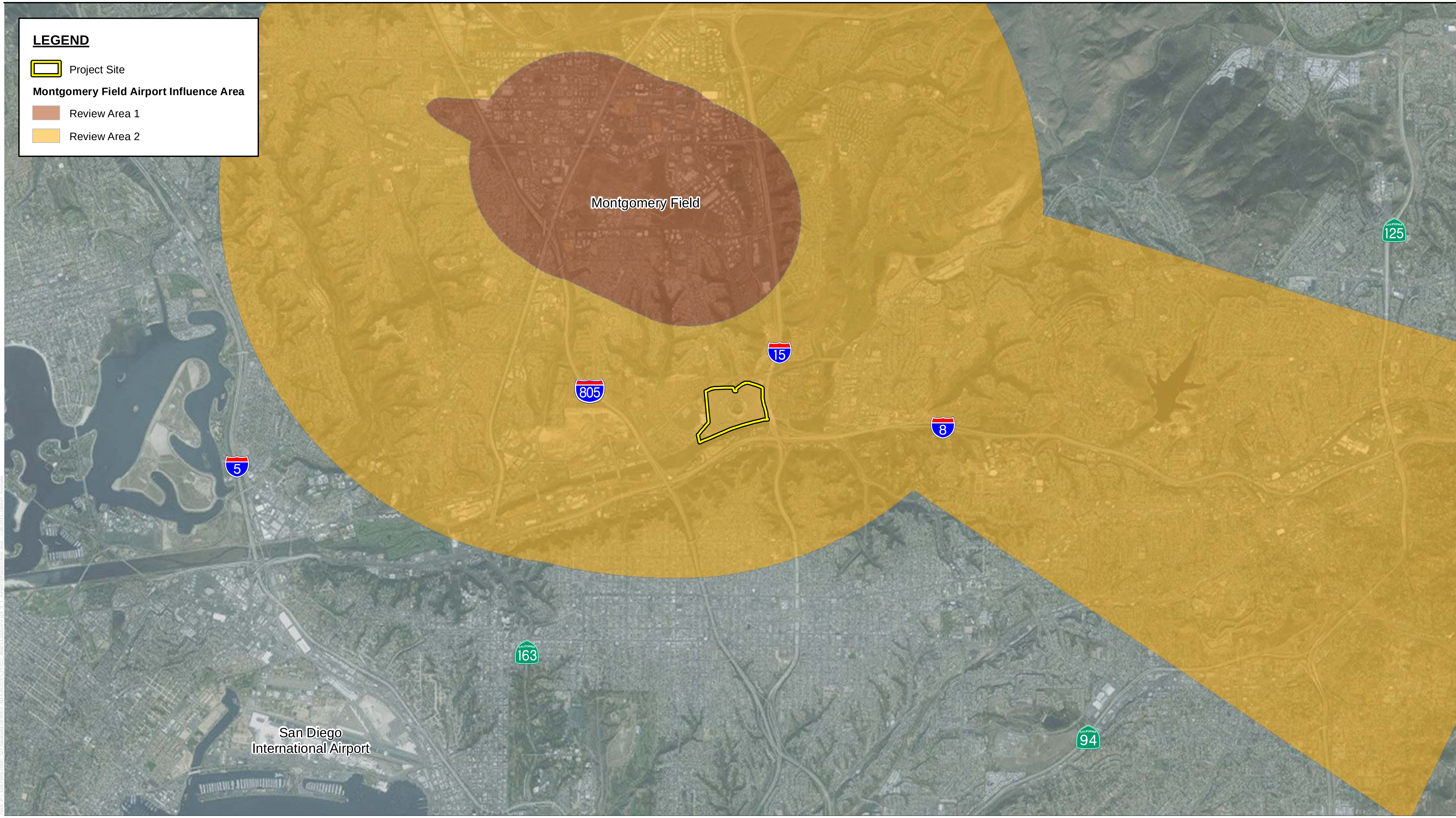
Zoning

As indicated above, the MVPDO is the zoning ordinance for the Project site. Commercial zones in the MVPDO are intended to "provide for office, hotel and retail commercial uses as defined in the Mission Valley Community Plan." The site is zoned MVPD-MV-CV (Mission Valley—Commercial Visitor). The MVPD-MV-CV zone is applied to properties within the MVCP-CR (Commercial-Recreation) land use designation and is primarily intended to "provide for establishments catering to the lodging, dining, and shopping needs of visitors."

According to Table 1514-03J, Commercial Zones Use of the MVPDO, the stadium use would be considered a Recreation Facility – Open Air and would require approval of a Conditional Use Permit (CUP), a Site Development Permit (SDP), and other approvals. Through the CUP/SDP process, the Project would be reviewed for compliance with the required development regulations. In addition, the required permit findings, include, in part, a finding that the Project will not adversely affect the applicable land use plan. Anticipated required approvals are further discussed in Chapter 3.4.2.

As described in Section 4.9.1, Existing Conditions, a small section at the southwest corner of the Project site is zoned Multi-Use/Specific Plan (MVPD-MV-M/SP). There is no development or improvements planned for that section of the site, and it would remain consistent with the Mission City Specific Plan designation of Floodway.

Being on an existing commercial site and operating as the same use that currently exists, the Project would not physically divide an established community.



Source: NAIP 2014; FAA 2015.

Figure 4.9-1
Airport Influence Area

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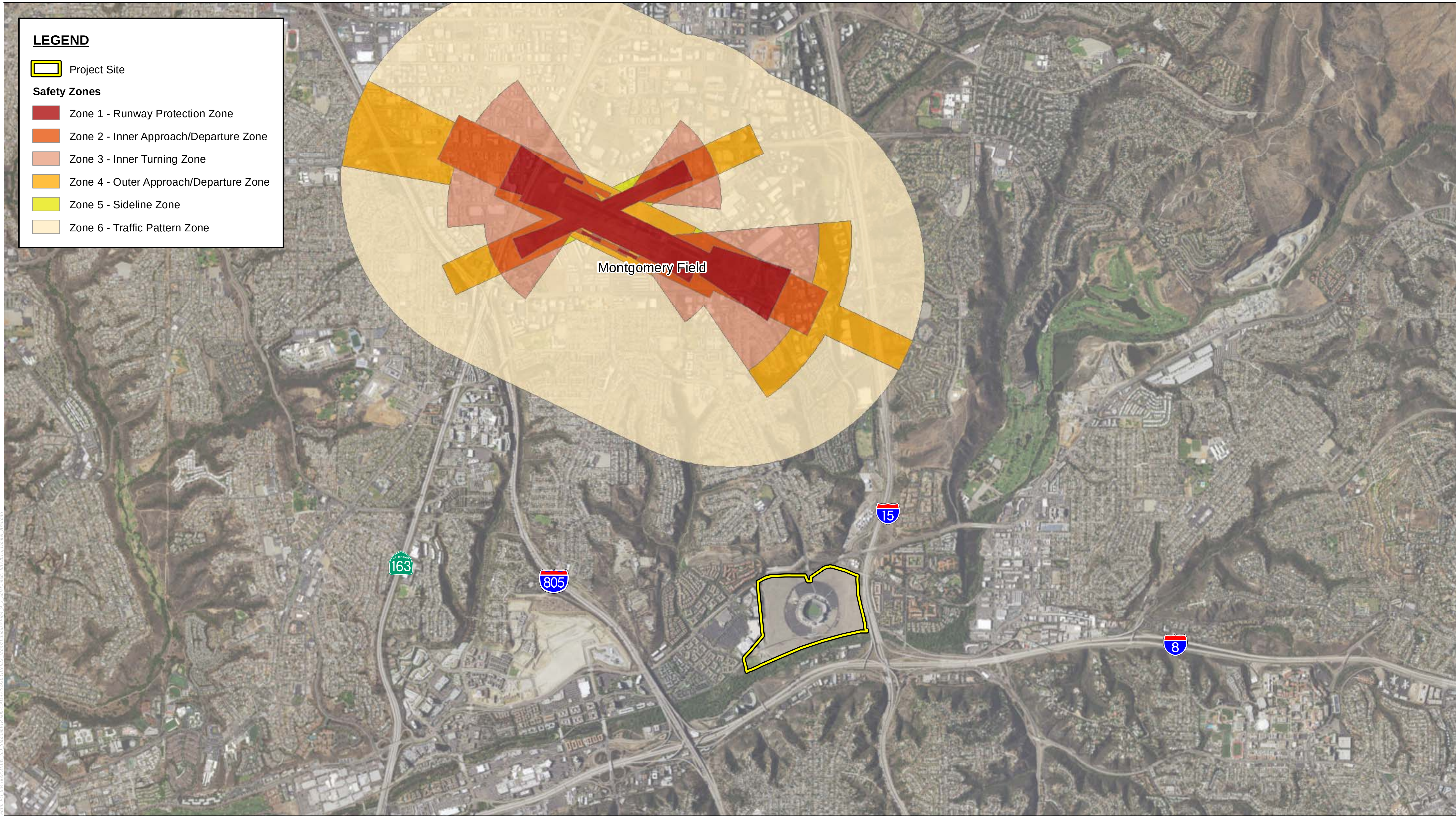

Source: NAIP 2014; FAA 2015.

3,000 1,500 0 3,000 Feet

Scale: 1 = 36,000; 1 inch = 3,000 feet

Figure 4.9-2
Safety

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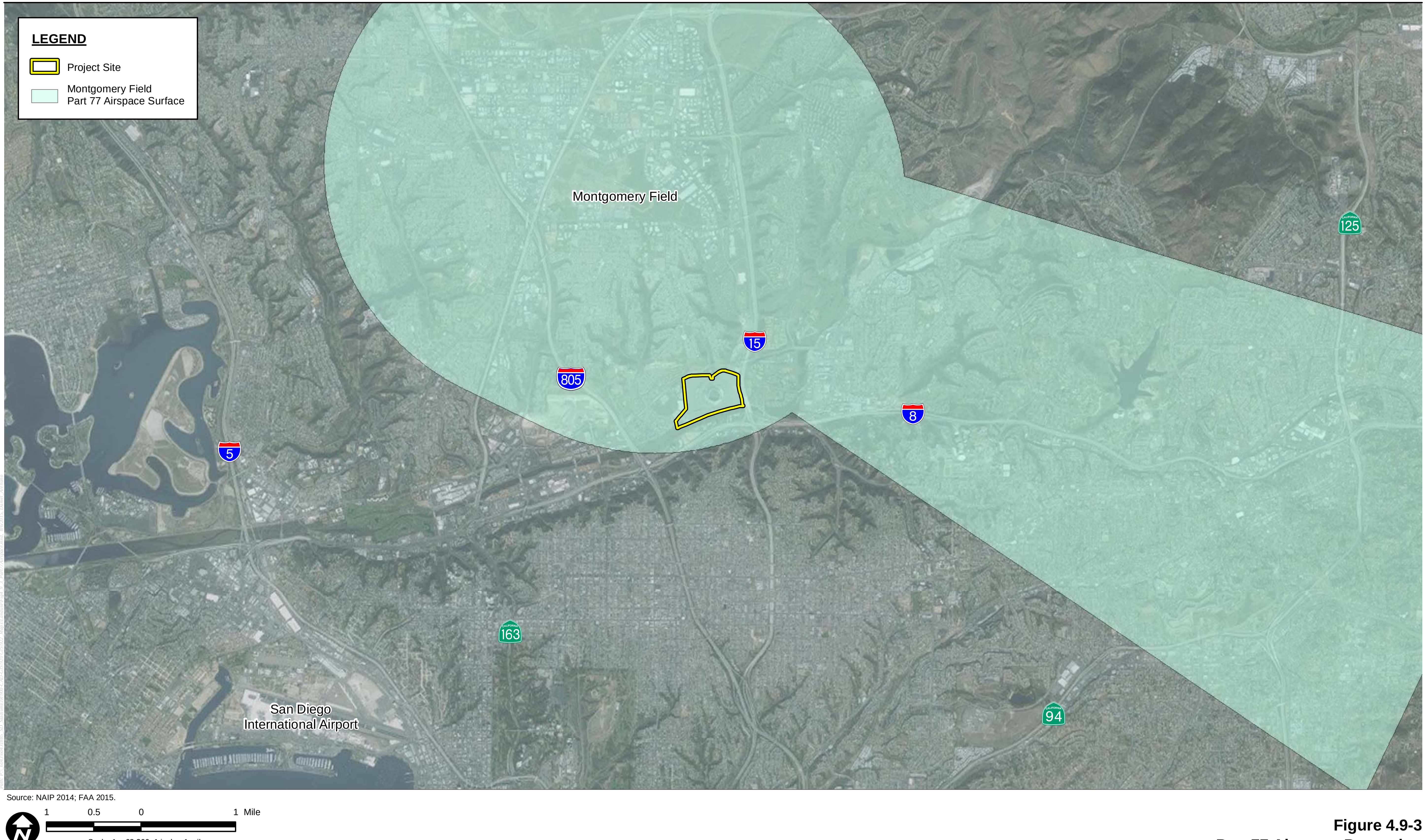

Figure 4.9-3
Part 77 Airspace Protection

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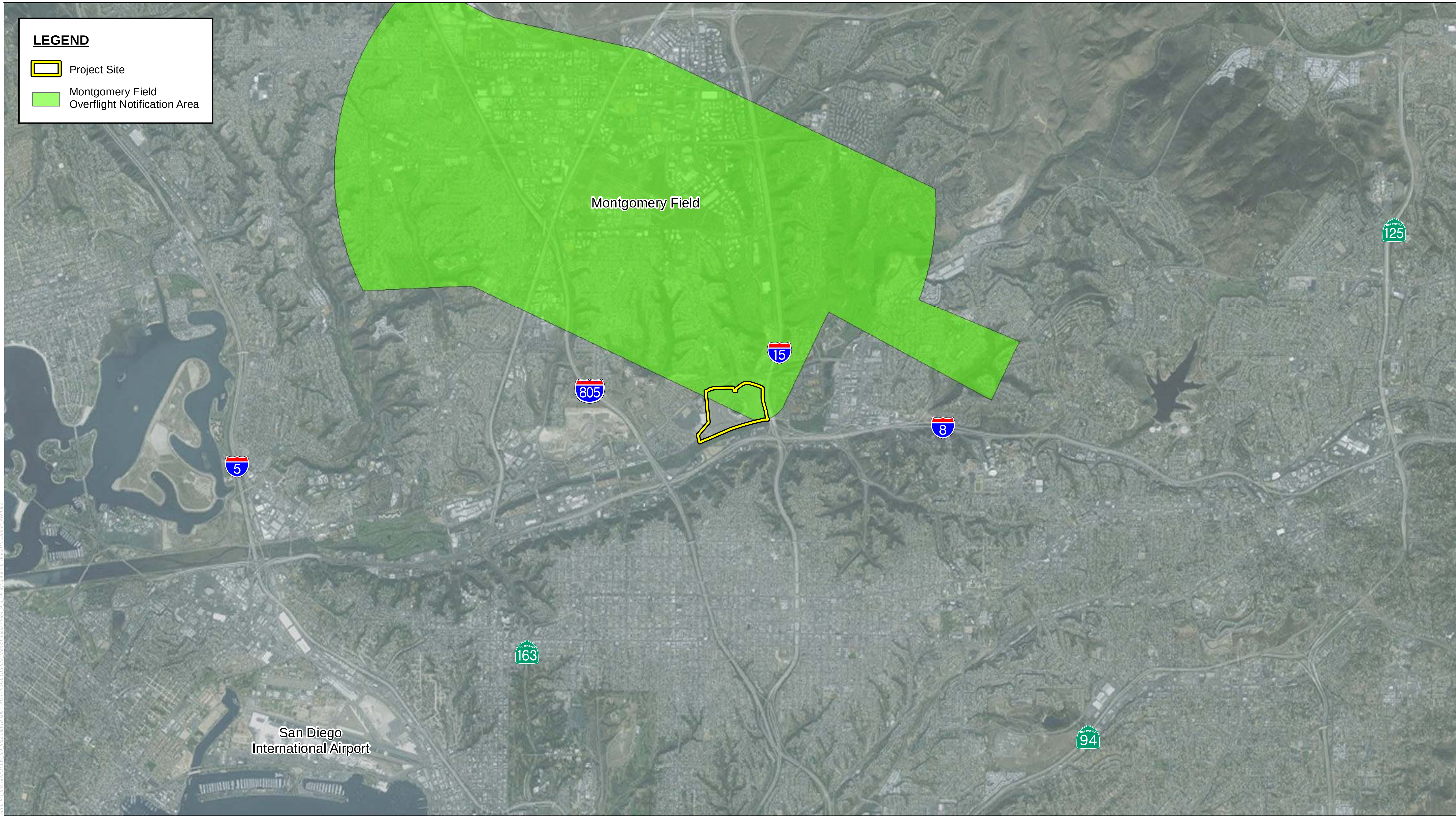

Source: NAIP 2014; FAA 2015.

1 0.5 0 1 Mile

Scale: 1 = 63,360; 1 inch = 1 mile

Figure 4.9-4
Overflight

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San Diego River Subdistrict (“River Subdistrict”)

MVPDO §1514.0302 defines the River Subdistrict to include the River Corridor Area and the River Influence Area. The River Subdistrict regulations apply to any project fully or partially within these boundaries. The southern portion of the Project is within the River Influence Area; however, only maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines) would occur within this area and the Project would not preclude the future implementation of the San Diego River Park Master Plan, and any potential inconsistency would not result in a physical impact to the environment. Therefore no adverse environmental effects would occur.

Development Intensity District

San Diego Municipal Code Chapter 15, Article 14: Mission Valley Planned District, Division 3: Zoning and Subdivision includes additional thresholds for development intensity. The proposed Project lies within Development Intensity Overlay District L within the Mission Valley Planned District. This overlay district limits development intensity to the levels allowed under the adopted Mission Valley Community Plan.

The gross square acreage of the Project site is 166 acres located in Development District L (as identified in Figure 4.10-7, Section 4.10 Mobility). The allowable ADT per §1514.0301 is 23,240 ADT (166 acres *140 ADT = 23,240 ADT).

The Project also qualifies for the additional Threshold 2 allotment of 267 trips per gross acre as shown in Table 4.10-7. The allowable ADT per Threshold 2 for Development District L is 53,618 ADT (1 acre * 267 ADT = 44,322 ADT). Therefore, the Project qualifies for Threshold 2 ADT allotments of 44,322 ADT for 267 ADT per acre.

As indicated in Section 4.10 Mobility, Project buildout ADTs would be 31,200 on weekdays and 26,200 on weekends compared to the existing ADT condition of 35,700 on weekdays and 29,600 on weekends. The Project buildout would result in less ADTs than existing Project conditions (see Section 4.10 Mobility for detailed analysis for build out forecast).

The Project is consistent with San Diego Municipal Code Section 1514.0404 of the MVPDO Supplemental Design Requirements, which limits buildings north of I-8 and south of Friars Road to 250 feet. The conceptual design of the new stadium would have a proposed height of approximately 200 feet, up to a maximum height of 250 feet above ground level, which includes stadium lights and architectural features.

A deviation to wall height regulations is proposed to allow a retaining wall to be built along the northeastern corner of the site. Depending on final design development, the retaining wall would be 15 feet high up to a maximum of 20 feet high. The wall is required for the fill work to elevate the Project site adequately. In addition, since the KMEP MVT is located across San Diego Mission Road from the Project site, in recognition of the potential for the risk of catastrophic upset related to the fuel tanks, the final design of the new stadium would include features such as a retaining wall along San Diego Mission Road, front and side architectural features, and/or architectural finishes to deflect or manage a risk of upset as a result of an event at the KMEP MVT. The deviation would be from San Diego Municipal Code Section 142.0340 Retaining Wall Regulations in All Zones, which limits a retaining wall along the yard setback to a maximum height of 9 feet.

Mitigation Measure VIS-1 requires a minimum of 50% landscape screening or berming between the retaining wall and the new Stadium and that 100% of the wall be texturized and colored to blend with surrounding development and help reduce visual impacts of the retaining wall.

Although the Project would require a deviation for wall height, the Project is an existing use, would not be inconsistent with the River Subdistrict and would generate less ADTs at Project buildout than existing conditions.

Significance of Impacts

To help reduce visual impacts of the retaining wall, Mitigation Measure VIS-1 requires a minimum of 50% landscape screening or berming between the retaining wall and the new Stadium and that 100% of the wall be texturized and colored to blend with surrounding development.

The wall height deviation would not result in a significant land use impact that would in turn result in a physical impact on the environment, or physically divide an established community. Additionally, any inconsistencies with the Development Intensity Overlay District L would not result in adverse physical effects on the environment. Therefore, impacts as a result of the Project would be less than significant for this issue area.

Therefore, with implementation of Mitigation Measure VIS-1, land use impacts associated with this issue area would be less than significant.

Issue 2: Would the project result in a conflict with the environmental goals, objectives, or recommendations of the Community Plan, City's MSCP Subarea Plan or other approved local, regional, or state habitat conservation plan in which it is located?

Impact Thresholds

A significant land use impact would occur if implementation would conflict with the environmental goals, objectives, or recommendations of the General Plan/Community Plan in which the Project is located; or if the Project would have a conflict with adopted environmental plans, including the City of San Diego's MSCP Subarea Plan, and the San Diego River Park Master Plan adopted for the purpose of conserving and enhancing the functions and values of the natural environment.

Impact Analysis

The General Plan elements, the Mission Valley Community Plan, and the Multiple Species Conservation Plan were reviewed to ensure that the Project would be consistent with the plans' goals, objectives, and recommendations. The criteria used for determining the applicability of (and, if necessary, conformance with) specific goals, objectives, recommendations, and design guidelines of the plans were based on the development features identified in the Project description, and the potential direct and indirect impacts of those features, as identified throughout this EIR.

City of San Diego General Plan

The General Plan guides development and addresses state requirements through the following 10 elements: Land Use and Community Planning; Mobility; Economic Prosperity; Public Facilities, Services, and Safety; Urban Design; Recreation; Historic Preservation; Conservation; Noise; and Housing. As presented in Chapter 2.0, Environmental Setting, and depicted in Figure 2-5 General Plan Land Use, the Project site is identified as Commercial Employment, Retail, and Services and Park, Open Space, and Recreation. While overall, the Project is consistent with the General Plan, Table 4.9-1 identifies the Project consistency with the applicable General Plan's elements.

Table 4.9-1
General Plan Consistency Analysis of Related Goals and Policies

Plan Component	Project Consistency	Conclusion
A. Public Facilities, Services, and Safety Element		
<u>Storm Water Infrastructure Goals:</u> Protection of beneficial water resources through pollution prevention and interception efforts. A storm water conveyance system that effectively reduces pollutants in urban runoff and storm water to the maximum extent practicable.	As discussed in EIR Section 4.8 Hydrology and Water Quality, water resources are located south and east of the Project site. Compliance with the General Construction, Municipal Storm Water Permit, and the Model BMP Design Manual for the San Diego Region will protect beneficial uses through pollution prevention and interception.	Consistent

Plan Component	Project Consistency	Conclusion
Policy PF-G.1: Ensure that all storm water conveyance systems, structures, and maintenance practices are consistent with federal Clean Water Act and California Regional Water Quality Control Board NPDES Permit standards.	As discussed in EIR Section 4.8 Hydrology and Water Quality, storm water improvements for the Project shall be designed and implemented to comply with federal Clean Water Act and California Regional Water Quality Control Board NPDES Permit standards.	Consistent
Wastewater Goals: Environmentally sound collection, treatment, re-use, disposal, and monitoring of wastewater. Increased use of reclaimed water to supplement the region's limited water supply.	Wastewater would continue to be collected and treated consistent with existing treatment methods. Reclaimed water is currently not available to the site, however reclaimed water infrastructure would be included in Project design to support future service should it become available (see Section 4.14. Public Utilities).	Consistent
Policy PF-F.4: Maintain conveyance and treatment capacity (wastewater).	The existing wastewater collection and treatment system has enough capacity for the Project and would be maintained consistent with existing treatment methods.	Consistent
Waste Management Goal: Maximum diversion of materials from disposal through the reduction, reuse, and recycling of wastes to the highest and best use.	The Project would comply with AB 939 and AB 341, SB 610, and City of San Diego Ordinance 0-17327 (Mandatory Reuse Ordinance) to meet the City's diversion goal of 75 percent by 2020. The Project would contribute to this goal by salvaging material such as steel, copper, other metals and equipment; and reusing material such as concrete, steel, and asphalt. To the extent feasible, the Project would recycle, salvage and reuse materials and then divert materials to the landfill. The Project would comply with these policies and therefore not result in a solid waste impact (see Section 4.14. Public Utilities) for detailed analysis.	Consistent
Public Utilities Goals: Public utility services provided in the most cost-effective and environmentally sensitive way. Public utilities that sufficiently meet existing and future demand with facilities and maintenance practices that are sensible, efficient, and well-integrated into the natural and urban landscape.	Existing utility services would be upgraded where necessary (see Section 4.14 Public Utilities and Facilities) for the Project with minimal extension and replacements. In addition, no utility work associated with the Project would be located within the River Influence Area.	Consistent
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 Project would replace an existing reinforced concrete structure with a seismically-compliant structure. The MVCP identifies the Project zoning of MVCP-CR. Stadium use is allowed with approval of a Conditional Use Permit. The approval of the CUP would ensure the Project is an appropriate land use and compliance with all seismic regulations.	Consistent

Plan Component	Project Consistency	Conclusion
	In addition, a Phase 1 ESA was prepared for the site and Mitigation Measures Haz-5 through Haz-8 would be implemented to reduce potential abated structural hazards with demolition of the existing stadium (see Section 4.6 Hazardous Materials/Human Health/Public Safety).	
Regional Facilities Goal: Regional facilities that promote and support smart growth and improve quality of life.	The Project would be designed as a LEED Gold rated building and develop a Transportation Management Plan which would include increased trolley service during events from existing service; use of remote parking lots and shuttle services; enhanced pedestrian and bicycle facilities. Improvements would include bike parking spaces in the main plaza around the stadium which could include bike racks, lockers, or corrals, on-site circulation including ADA accessible paths, lighted pedestrian linkages to the stadium to provide clear, safe pedestrian paths into and around the stadium.	Consistent
Policy PF-N.1: Assume an active leadership role in planning and implementing regional facility and infrastructure investments through collaborative efforts	The City has taken an active role to build a coalition to plan and implement this public facility. In April of 2015, the leaders from both the City and the County of San Diego unanimously approved a partnership between the two local government agencies to work collaboratively and share consultant costs for a potential new stadium.	Consistent
Policy PF-N.3: Encourage infrastructure investments in regional capital facilities that provide a positive economic impact and leverage for competitive advantages.	The Project is an investment in a new multipurpose facility that would keep the region competitive with other comparable metropolitan areas. The facility will attract tourists and support the local commercial, retail, and lodging establishments. In addition, it is anticipated the Project will lead to both temporary construction jobs and permanent jobs.	Consistent
PF-N.4: Coordinate the timing and development of new or expanded regional serving facilities to precede the development they will support.	In the Series 13 Regional Growth Forecast, SANDAG estimates the population in the City of San Diego to grow by 35%, and the entire San Diego region to grow by 29%. This regional public facility will help support multiple needs for a growing population.	Consistent
PF-N.5: Adopt an equitable mechanism to secure fair-share contributions for both regional infrastructure and regional-serving public facilities within the City which benefit other agencies, organizations, and private parties in the region.	As described above, it is envisioned that the financing for the Project will come from multiple sources including public and private funding.	Consistent

Plan Component	Project Consistency	Conclusion
B. Recreation Element		
Park and Recreation Guidelines Goal: Provision of parklands that keep pace with population growth through timely acquisition and development.	The Project would not create the need for new public parks or facilities as it is not introducing new housing or population to the community. As discussed in Section 4.13 Public Services, the Project is not required to create new parks to meet existing deficiencies. Portions of the stadium site would not be precluded from future development as a park.	Consistent
Preservation Goal: Preserve, protect and enrich natural, cultural, and historic resources that serve as recreation facilities.	The Project would preserve and protect the San Diego River to the south and Murphy Canyon Creek to the east. Both of these surface water resources would be maintained and not impacted. Only maintenance activities such as parking lot slurry seal, restriping and lighting upgrades (i.e. replacement of fixtures that are more energy efficient, shielding in compliance with MHPA guidelines). would occur within the River Corridor Area or River Influence Area as identified in the San Diego River Park Master Plan. However, impacts to historic resources would occur as a result of the Project due to Qualcomm's eligibility for listing as a historic structure (see Section 4.7 Historical Resources for assessment of impacts to historical resources and mitigation measures).	Inconsistent
C. Conservation Element		
Goal: Reduce the City's overall carbon footprint by improving energy efficiency, increasing use of alternative modes of transportation, employing sustainable planning and design techniques, and providing environmentally sound waste management.	The Project would utilize sustainable planning and design techniques, as the Project would be built as a LEED Gold building, which is the second highest LEED rating. MTS provides bus and trolley service (Green Line), which promotes alternative means of transportation to the site. The Project would comply with City of San Diego Ordinance O-17327 (Mandatory Reuse Ordinance) and would implement environmentally sound waste management by salvaging material such as steel, copper, other metals and equipment; and reusing material such as concrete, steel, and asphalt. To the extent feasible, the Project would recycle, salvage and reuse materials and then divert materials to the landfill.	Consistent
Policy CE-A.5: Employ sustainable or "green" building techniques for the construction and operation of buildings.	The Project would include sustainable planning and design techniques to achieve a LEED Gold rating.	Consistent

Plan Component	Project Consistency	Conclusion
Open Space and Landform Preservation Goal: Preservation and long-term management of the natural landforms and open spaces that help make San Diego unique.	The Project would not impact any landforms or open space. The site is adjacent to the San Diego River to the south and Murphy Canyon Creek to the east. Both of these surface water resources would be maintained and not impacted. No development would occur within Murphy Canyon Creek, or the River Corridor Area or River Influence Area as identified in the San Diego River Park Master Plan.	Consistent
Policy CE.B.1: Protect and conserve the landforms, canyon lands, and open spaces that: define the City's urban form; provide public views/vistas; serve as core biological areas and wildlife linkages; are wetland habitats; provide buffers within and between communities; or provide outdoor recreational opportunities.	The Project would contribute to the protection and conservation of Murphy Canyon Creek and the San Diego River by ensuring development is outside of the creek, the river, and the 200-foot River Influence Area. As discussed in Section 4.8 Hydrology and Water Quality, storm water runoff would be reduced from current levels, which would decrease pollutant load contributions to the San Diego River. Water quality protection measures as identified in the SWQMP assist in runoff and pollutant load reductions. The Project would comply with urban runoff management goals and recommended improvements may include runoff retention and reuse, biofiltration, and LID practices. These measures would improve the water quality of runoff entering the San Diego River from the Project site.	Consistent
Policy CE.B.4: Limit and control runoff, sedimentation, and erosion both during and after construction activity.	As discussed in Section 4.8 Hydrology and Water Quality, the Project shall comply with the General Construction, Municipal Storm Water Permit and the City of San Diego Storm Water Standards Manual, which regulate runoff, sedimentation, and erosion during and after construction and demolition activities.	Consistent
Urban Runoff Management Goals: Protect and restore water bodies, including reservoirs, coastal waters, creeks, bays, and wetlands. Preserve natural attributes of both the floodplain and floodway without endangering life and property.	The Project would protect the San Diego River to the south and Murphy Canyon Creek to east by keeping all construction activities away from these resources as indicated above. Moreover, water quality protection measures as identified in the SWQMP would be implemented to assist in runoff and pollutant load reduction. The Project would comply with urban runoff management goals and Project improvements may include runoff retention and reuse, biofiltration, and/or LID practices. These measures would improve the water quality of runoff entering the San Diego River from the Project site.	Consistent

Plan Component	Project Consistency	Conclusion
Policy CE-E.2: Apply water quality protection measures to land development projects early in the process-during project design, permitting, construction, and operations-in order to minimize the quantity of runoff generated on-site, the disruption of natural water flows and the contamination of storm water runoff.	The Project would maintain the existing drainage patterns and comply with water quality protection measures as identified in the SWQMP to assist in runoff and pollutant load reduction. The Project improvements may include runoff retention and reuse, biofiltration, and/or LID practices. These measures would improve the water quality of runoff entering the San Diego River from the Project site. The natural water flow would not be altered as a result of the Project.	Consistent
Policy CE-E.3: Require contractors to comply with accepted storm water pollution prevention planning practices for all projects	The Project would be required by the City of San Diego to comply with the NPDES permit, ensuring compliance with storm water pollution prevention practices during construction.	Consistent
Policy CE-E.4: Continue to participate in the development and implementation of Watershed Management Plans for water quality and habitat protection.	The Project would be consistent with the Watershed Management Plan for the San Diego River watershed by reducing runoff and pollutant loads entering the San Diego River from the Project site.	Consistent
Policy CE-E.7: Manage floodplains to address their multi-purpose use, including natural drainage, habitat preservation, and open space and passive recreation, while also protecting public health and safety.	Portions of the Project site are within the 100-year and 500-year floodplain. Impacts to the floodplain would be limited with implementation of the Project avoidance and minimization measures as identified in Section 4.8. Any modifications to the floodplain upstream or downstream of the Project would occur in compliance with Municipal Code and FEMA regulations. The Project would not alter existing natural drainage patterns. To protect existing habitat within the San Diego River, construction activities would not occur within the River Influence Area. Public health and safety would be addressed by constructing the new stadium above the floodplain.	Consistent
Air Quality Goal: Reduce greenhouse gas emissions effecting climate change.	The new Stadium would result in a 13% increase over the Qualcomm Stadium current annual energy use. However, the Project would install additional photovoltaic (PV) as required to meet “no net increase” in total annual energy consumption related to electricity and natural gas use over the existing Qualcomm Stadium. The Project would install 100-kilowatt (kW) solar PV that would, at a minimum, generate 185,000 kWh per year. The Project would also utilize sustainable planning and design techniques with the goal of achieving a LEED Gold rating. In addition, MTS	Consistent

Plan Component	Project Consistency	Conclusion
	provides bus and trolley service (Green Line), which promotes alternative means of transportation to the site. As stated in Section 4.5 Greenhouse Gas Emissions, the Project at full buildout would result in a 30.9% reduction in long-term operational GHG emissions from business as usual and would not generate GHG emissions that would not have a significant impact on the environment (see Section 4.5 for detailed analysis).	
<u>Biological Diversity Goal:</u> Preservation of healthy, biologically diverse regional ecosystems and conservation of endangered, threatened, and key sensitive species and their habitats.	The Project would contribute to the preservation of local ecosystem and conservation of endangered, threatened, and key sensitive species and their habitats by improving the water quality of runoff entering the San Diego River from the Project site. See Section 4.2 Biological Resources for a detailed discussion of biological resources impacts.	Consistent
<u>*Policy CE.G.1:*</u> Preserve natural habitats pursuant to the MSCP, preserve rare plants and animals to the maximum extent practicable, and manage all City-owned native habitats to ensure their long-term biological viability.	The Project would comply with the MSCP and would not impact any rare plants and or any City-owned native habitats. Operation related impacts from avian collisions would be significant and unavoidable. See Biological Resources Section 4.2 for analysis and mitigation measures.	Consistent
<u>Wetlands Goals:</u> Preservation of San Diego's rich biodiversity and heritage through the protection and restoration of wetland resources. Preservation of all existing wetland habitat in San Diego through a "no net loss" approach.	The Project would comply with the MSCP and MHPA and would preserve the existing wetland habitat; no net loss of wetland habitat would occur.	Consistent
<u>Sustainable Energy Goal:</u> Increase local energy independence through conservation, efficient community design, reduced consumption, and efficient production and development of energy supplies that are diverse, efficient, environmentally sound, sustainable, and reliable.	The new Stadium would result in a 13% increase over the Qualcomm Stadium current annual energy use. However, the Project would install additional photovoltaic (PV) as required to meet "no net increase" in total annual energy consumption related to electricity and natural gas use over the existing Qualcomm Stadium. The Project would install 100-kilowatt (kW) solar PV that would, at a minimum, generate 185,000 kWh per year. By utilizing sustainable planning and design techniques, building to LEED Gold rating, incorporating multimodal options (MTS bus and trolley service), and generating energy on-site, the Project will increase local energy	Consistent

Plan Component	Project Consistency	Conclusion
	independence through conservation, conserve energy, and reduce consumption at full buildout.	
D. Noise Element		
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.	The Project site is generally compatible with the General Plan, MVCP land use designations, and the MVPDO. However, the Project does not comply with some of the General Plan noise goals and policies. The Project would have additional conference and non-football uses but would result in similar exposure to noise as the existing Qualcomm Stadium. As identified in the EIR Section 4.11 Noise, existing ambient noise levels were monitored and existing Qualcomm Stadium noise levels during events were modeled. The results of this analysis concluded temporary noise impacts would be significant during construction. Operational noise levels would be less than significant except during concert events, which would result in a significant impact to the residential uses to the north. Noise mitigation measures have been included for both design and construction. See Section 4.11 for the complete noise analysis and mitigation measures.	Inconsistent
Policy NE-A.1: Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.	The Project would be separated from nearby residential uses by the existing parking lot, Friars Road and open space to the north, and I-15 to the east. Due to the existing roads/interstate, the area has an elevated ambient noise level due to existing vehicle noise traffic.	Consistent
Motor Vehicle Traffic Noise Goal: Minimal excessive motor vehicle traffic noise on residential and other noise-sensitive land uses.	Existing residential uses near the Project are surrounded by major roadways and/or interstates on three sides: Friars Road to the north, I-15 to the east, and I-8 to the south result in elevated ambient noise levels caused by existing vehicle traffic. The Project buildout would result in less ADTs and therefore reduce vehicle traffic noise (see Section 4.10 Mobility) onto existing residential. Temporary construction related noise impacts and concert events would result in significant impacts to some adjacent residential uses (see Section 4.11 Noise).	Inconsistent
Policy NE-B.1: Encourage noise-compatible land uses and site planning adjoining existing and future highways and freeways.	The Project site is compatible with the General Plan and MVCP land use designations, and the MVPDO. The Project is surrounded by major roadways	Consistent

Plan Component	Project Consistency	Conclusion
	and interstates on three sides: Friars Road to the north, I-15 to the east, and I-8 to the south that result is high ambient noise levels due to vehicle traffic. The Project would be slightly closer to I-15, which has an elevated ambient noise level, but would be a similar ambient noise level to the existing Qualcomm Stadium.	
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 will be designed consistent with CALGreen Building Code, which has provisions for noise attenuation to ensure the noise levels meet acceptable decibel limits. Stadiums are exempt from the acoustical control regulations because they are considered assembly facilities with few or no occupants, and those limited occupants are not likely to be affected by exterior noise. As discussed in Section 4.11 Noise, the Project build out would generate less traffic volumes on event days, and would not increase traffic noise on roadways adjacent to the stadium and nearby noise-sensitive receptors.	Consistent
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 site is served by an existing MTS Trolley stop (Green Line), which provides an alternative mode of transportation to the site to help reduce peak-hour traffic. MTS would provide have increased pre-event and post service headway. In addition, pedestrian and bicycle accommodations are provided on-site.	Consistent
Policy NE-B.5: Designate local truck routes to reduce truck traffic in noise-sensitive land uses areas.	Operational truck routes would remain the same. During construction, construction trucks and vehicles would utilize Friars Road for a short distance to access I-15.	Consistent
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 would have perimeter landscaping within the building setback to help screen the existing parking lot.	Consistent
Trolley and Train Noise Goal: Minimal excessive fixed rail-related noise on residential and other noise-sensitive land uses.	The Project site is served by an existing MTS Trolley stop (Green Line). A TDM would be developed for the project and would include increased pre-event and post service on event days. Increased rail service to the site would be short-term and not create excessive noise associated with light rail service.	Consistent
Commercial and Mixed-Use Activity Noise Goal: Minimal exposure of residential and other noise-sensitive land uses to excessive	The exposure to noise to the nearby residences would be similar to existing conditions, except as noted above during	Consistent

Plan Component	Project Consistency	Conclusion
commercial and mixed-use related noise.	concert events, which would have a significant impact to the residential uses to the north. See Section 4.11 Noise of this EIR for detailed noise analysis and project-specific mitigation measures.	
<u>*Policy NE-E.1:*</u> 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.	Noise attenuating methods would be encouraged and the final stadium design would have a partial rim, which would help attenuate noise onto nearby residential uses. See Section 4.11 for Mitigation Measures that contain sound control measures for design attenuating methods and/or features. In addition to standard construction practices to mitigate noise, project-specific mitigation measures in Section 4.11 have been incorporated to minimize construction-related noise impacts.	Consistent
<u>Construction, Refuse Vehicles, Parking Lot Sweepers, and Public Activity Noise Goal:</u> Minimal exposure of residential and other noise-sensitive land uses to excessive construction, refuse vehicles, parking lot sweeper-related noise and public noise.	As stated above, the Project contains mitigation measures in Section 4.11 Noise to minimize construction-related impacts on nearby residences.	Consistent
<u>Event Noise Goal:</u> Balance the effects of noise associated with events with the benefits of the events.	Additional event center use would occur with the new stadium which are not high noise generating events. Overall operational noise would be similar to the existing stadium. Section 4.11 identifies a significant impact to adjacent residential uses during concert events.	Inconsistent
E. Land Use & Community Planning Element		
<u>Airport Land Use Compatibility Goal:</u> Protection of the health, safety, and welfare of persons within an airport influence area by minimizing the public's exposure to high levels of noise and risk of aircraft accidents Protection of public use airports and military air installations from the encroachment of incompatible land uses within an airport influence area that could unduly constrain airport operations.	The Project will comply with the Title 14 U.S. Code of Federal Regulations, Chapter 1, Subchapter E, Part 77 – Aeronautics and Space – Safe, Efficient Use, and Preservation of the Navigable Airspace and Title 14 U.S. Code of Federal Regulations, Part 99, Subpart A, Section 99.7 – Aeronautics and Space – Special Security Instructions. The Project would be subject to FAA approval via a Determination of No Hazard to Air Navigation to ensure FAA; thereby minimizing the public's exposure to high levels of noise and risk of aircraft accidents. As identified in the Existing Land Uses Airport Environs of the Montgomery Field ALUCP (Exhibit IV-6), the Project has a land use designation of "Commercial Recreation" and is a consistent land use that will not unduly constrain airport operations.	Consistent

Plan Component	Project Consistency	Conclusion
Policy LU-G.5: Implement the height standards used by the FAA as defined by Code of Federal Regulations Title 14, Part 77 through development regulations and zoning ordinances.	According to the Montgomery Field ALUCP, height limitations are the only restrictions placed on land uses within Review Area 2. The parking lot area where the new stadium would be located is at elevations of approximately 60 to 100 feet AMSL, while elevations across Montgomery Field range from approximately 420 to 430 feet AMSL. The proposed height of the new stadium is a maximum of 250 feet. In addition, the Project shall file Notices of Proposed Construction or Alteration with the FAA due to the anticipated heights of the stadium and construction equipment. Both the design of the stadium and construction equipment would be subject to FAA review and approval via a Determination of No Hazard to Air Navigation, which would ensure height standards are implemented.	Consistent
Policy LU-G.6: Require that all proposed development projects (ministerial and discretionary actions) notify the FAA in areas where the proposed development meets the notification criteria as defined by Code of Federal Regulations Title 14, Part 77.	FAA notification criteria and regulations are described in greater detail in Section 4.6 Hazardous Materials/Human Health/Public Safety. The Project is located within the AIA of Montgomery Field, Review Area 2. The ALUCP for Montgomery Field includes two types of Airspace Protection Surfaces: the FAA Height Notification Boundary and Part 77 Airspace Surfaces. The Project is located within both zones. As stated above, all required notifications would be filed with the FAA for both the new stadium and construction equipment. FAA approval would be obtained via a Determination of No Hazard to Air Navigation, which would ensure compliance with all FAA requirements.	Consistent
Environmental Justice Goals: Equitable distribution of public facilities, infrastructure, and services throughout all communities. Improve mobility options and accessibility in every community.	The project is considered a regional public facility, and would be accessible by all community members in the region. In addition, the site includes a dedicated trolley stop, which provides more multimodal options for community members. The Project design would include enhanced multimodal infrastructure for bicycle and pedestrian access.	Consistent
F. Urban Design Element		
General Urban Design Goals: A built environment that respects San Diego's natural environment and climate.	The Project would be designed as a LEED Gold building to replace the existing structure identified as a landmark in	Consistent

Plan Component	Project Consistency	Conclusion
A pattern and scale of development that provides visual diversity, choice of lifestyle, opportunities for social intersection, and that respects desirable community character and context. A City with distinctive districts, communities, neighborhoods, and village centers where people gather and interact.	Mission Valley in the MVCP. The new stadium would have a visual diversity and contribute to the distinctive community character of Mission Valley.	
<u>*Policy UD-A.1*</u>*:* Preserve and protect natural landforms and features.	The Project would protect the San Diego River to the south and Murphy Canyon Creek to east by keeping all development away from these resources. Moreover, water quality protection measures as identified in the SWQMP would be implemented to assist in runoff and pollutant load reduction that would improve the water quality of runoff entering the San Diego River from the Project site.	Consistent
<u>*Policy UD-A.3.*</u> Design development adjacent to natural features in a sensitive manner to highlight and complement the natural environment in areas designated for development. *(g.)* Screen development adjacent to natural features as appropriate so that development does not appear visually intrusive, or interfere with the experience within the open space system. The provision of enhanced landscaping adjacent to natural features could be used to soften the appearance of or buffer development from the natural features. *(h.)* Use building and landscape materials that blend with and do not create visual or other conflicts with the natural environment in instances where new buildings abut natural areas. This guideline must be balanced with a need to clear natural vegetation for fire protection to ensure public safety in some areas. (*j*) Design and site building to permit visual and physical access to the natural features from the public right-of-way. (*l*) Protect views from public roadways and parkland to natural canyons, resource areas, and scenic vista. *(n.)* Provide public pedestrian, bicycle, and equestrian access paths to scenic view points, parklands, and where consistent with resource protection, in natural resource open space areas.	The Project would not impact the San Diego River to the south or Murphy Canyon Creek to east. The site layout was sensitive to the San Diego River and required all development along the river to be outside of the River Influence Area in conformance with the San Diego River Park Master Plan. Existing public views into the river from public roadways would not be impacted due to the proposed location of the new stadium and the elevation of the river. The Project would maintain the setback of the River Influence Area. See Section 4.15 Visual Effects and Neighborhood Character for a detailed analysis of visual impacts from public roadways and resources, and associated mitigation measures. In areas near the San Diego River, project design will include the use of building and landscape materials that blend with the natural environment where feasible. The Project design will include access paths through the site that will allow people to get from Friars Road to the future River Park site. In addition, a temporary bicycle and pedestrian pathway is currently being implemented by the City and SANDAG to facilitate this access until the River Park is developed per the Mission Valley Facilities Finance Plan, which will include the River Pathway.	Consistent

Plan Component	Project Consistency	Conclusion
Policy UD-A.4: Use sustainable building methods in accordance with the sustainable development policies in the Conservation Element.	As stated above, the Project would be built as a LEED Gold building that would preserve and protect natural features adjacent to the Project (San Diego River and Murphy Canyon Creek). Access to the multimodal options would remain the same for the Project as under existing conditions. Moreover, water quality protection measures as identified in the SWQMP would be implemented to assist in runoff and pollutant load reduction that would improve the water quality of runoff entering the San Diego River from the Project site.	Consistent
Policy UD-A.9: Incorporate existing and proposed transit stops or stations into project design.	The Project would maintain the existing trolley station within the overall site design and the TDM prepared for the Project would include increased pre-event and post-event transit service encourage higher ridership for the site on event days.	Consistent
Policy UD-A.13: Provide lighting from a variety of sources at appropriate intensities and qualities for safety.	As identified in Chapter 4.15 Visual Effects and Neighborhood Character, the Project would provide a variety of lighting including: emergency lighting; building perimeter lighting; pedestrian lighting to provide clear, safe pedestrian paths around the stadium; parking lot lighting; and stadium event lighting at appropriate locations and intensities and necessary for the Project. Lighting would also be designed to avoid light spillage onto adjacent properties. Lighting would also be designed to avoid intrusion into the MHPA and effects on wildlife.	Consistent
Public Spaces and Civic Architecture Goal: Distinctive civic architecture, landmarks, and public facilities.	The Project would be designed as a sustainable, multiuse stadium. The new stadium would have a visual diversity and distinctive architecture that would contribute to the identity and community character of Mission Valley.	Consistent
Policy UD-E.2. Treat and locate civic architecture and landmark institutions prominently. *(b.)* Incorporate sustainable building principles into building design (see also Conservation Element, Section A). *(c).* Civic buildings at prominent locations, such as canyon rims, sites fronting open space, sites framing a public vista, and those affording a silhouette against the sky should exhibit notable architecture.	The Project would be designed as a LEED Gold multiuse, stadium with innovative architecture. The new stadium would have a visual diversity. The stadium would be a highly visible, prominent focal point within the community. However, the development of this new civic building would require the removal of Qualcomm Stadium, which currently is a landmark in the Mission Valley community. The Project does not include the preservation of this structure.	Inconsistent

Plan Component	Project Consistency	Conclusion
(*d.*) Encourage innovative designs that distinguish civic and public buildings and landmarks from the surrounding neighborhood as a means of identifying their role as focal points for the community. *(e.)* Support the preservation of community landmarks.		
G. Mobility Element		
Transit First Goals: An attractive and convenient transit system that is the first choice of travel for many of the trips made in the City. Increased transit ridership.	The Project site has an existing trolley stop that is serviced by MTS (the Green Line). The Green Line would provide increased pre-event and post-event transit stops to the new stadium, including express service for NFL events than is currently provided. An extension to the Blue Line has been approved, which will extend service from the Old Town station to new stations as far north as University of California, San Diego and the University Town Center mall. This line, expected to open by 2020, would serve fans in the north-central area of San Diego. The Project encourages modal shift to alternative modes such as transit, cycling, and foot as well as encouraging remote parking and shuttles, which has been included in the mobility analysis as discussed in detail in Section 4.10 Mobility.	Consistent
Policy ME-B.2: Support the provision of higher-frequency transit service and capital investments to benefit higher-density residential or mixed-use area; higher-intensity employment areas and activity centers; and community plan-identified neighborhood, community, and urban villages; and transit-oriented development areas.	The Project qualifies as a higher-intensity activity center and the City coordinates with MTS for longer distances and higher-frequency transit service during stadium events to this commercial activity recreational land use. In addition to trolley services, bus and private shuttle services are available with a dedicated gated bus entry at the southeast corner of site at Rancho Mission Road.	Consistent
Policy ME-B.3: Design and locate transit stops/stations to provide convenient access to high activity/density areas, respect neighborhood and activity center character, implement community plan recommendations, enhance the users' personal experience of each neighborhood/center, and contain comfortable walk and wait environments for customers.	The Project site has an existing station and as stated above, the site has an existing trolley stop to service the high activity recreational creational land use that provides clear and convenient access to the building.	Consistent
TDM Goal: Improved performance and efficiency of the street and freeway system, by means other than roadway widening or construction.	As identified in Section 4.10 Mobility, the Project is not proposing widening of any roadways. The Project would assist in the performance and efficiency of the local street and freeway system by improving traffic flow management through modifying	Consistent

Plan Component	Project Consistency	Conclusion
	signal synchronization and ramp metering. The Project would have approximately 2,560 less seats and less parking spaces on-site than the existing Qualcomm Stadium. This would result in less post-construction vehicle trips for maximum capacity events.	
Policy ME-E.1: Support and implement TDM strategies including, but not limited to: alternative modes of transportation, alternative work schedules, and telework.	TDM strategies would be implemented to mitigate traffic and parking impacts during games and may include longer distances and higher-frequency transit service, employees' and patrons' use of remote parking lots and shuttle bus service; employers implementing reward system/incentive for using alternative modes of transportation; or possibly an increase in the parking fee.	Consistent
Policy ME-E.7: Consider TDM programs with achievable trip reduction goals as partial mitigation for development project traffic and air quality impacts.	The Project proposes TDM programs to achieve trip reduction to help mitigate parking and traffic impacts and to encourage increased transit ridership to the site. Measure ME-E.1 above identifies the type of TDM that could be implemented.	Consistent
Parking Management Goals: Parking that is reasonably available when and where it is needed through management of the supply. Solutions to community-specific parking issues through implementation of a broad range of parking management tools and strategies. Increased land use efficiencies in the provision of parking.	. The TDM for the Project would be developed to manage parking to reduce impacts on neighbors. Parking management would occur in coordination with the City on focuses on identifying remote parking with shuttle service, longer distances and higher-frequency transit service, increased ridership for both trolley and bus, and encouraging carpooling with employer incentives. Higher utilization of multimodal options would also contribute to a reduction in emissions.	Consistent
Policy ME-G.1: Provide and manage parking so that it is reasonably available when and where it is needed. (b) Implement strategies to address community parking problems using a mix of parking supply, management, and demand solutions.	Due to the loss of parking with the Project, management of the parking supply would occur in coordination with the City and could include the following strategies: identifying remote parking with shuttle service, higher-frequency transit service and increased ridership for both trolley and bus, and encouraging carpooling with employer incentives.	Consistent
Policy ME-G.5: Implement parking strategies that are designed to help reduce the number and length of automobile trips. Reduced automobile trips would lessen traffic and air quality impacts, including greenhouse gas emissions.	The proposed TDM including parking supply management, would reduce the number of single occupancy vehicle trips to the site, which would lessen traffic and air quality impacts, including greenhouse gas emissions.	Consistent
H. Economic Prosperity Element		
Regional Center and Subregional Employee Areas Goal: A city where new employment growth is encouraged in the existing regional center and subregional employment areas	The Project site is identified as a Subregional Employment Area in Figure EP-2 in the General Plan. Reconstruction of the stadium would be consistent with	Consistent

Plan Component	Project Consistency	Conclusion
connected by transit to minimize the economic, social, and environmental costs of growth.	this goal to connect employment, retail, and recreational activities serviced by multimodal transportation options (bus and trolley).	
Policy EP-C.1: Guide the development of the areas in the City identified on Figure EP-2 as regional and citywide employment nodes.	The Project is consistent with the subregional development as identified in Appendix C of the General Plan for the Mission Valley Community employment area. This subregional area identifies commercial uses, infill, and expansion of existing developments, which maximize the value of transportation infrastructure improvements, “most notably the Mission Valley Trolley Line”. The Project is a redevelopment of the existing site and consistent with the vision of the Mission Valley employment area.	Consistent
Community Infrastructure and Investment Goal: Public and private infrastructure that supports economic prosperity. Public and private infrastructure that supports economic prosperity.	The Project would provide the necessary infrastructure to support a new, sustainable, state-of-the-art stadium that would benefit the local economy.	Consistent
Policy EP-G.3: Invest in public infrastructure that supports and leverages private investment in communities.	It is envisioned that the financing for the Project will come from multiple sources including public and private funding.	Consistent
Policy EP-G4: Invest in public infrastructure that supports and leverages private investment in base sector industries that generate jobs with good wages, benefits, and opportunities for employee advancement.	The Project is an investment in a new multipurpose facility (financed by both private and public sources) that would keep the region competitive with other comparable metropolitan areas. The facility will attract tourists and support the local commercial, retail, and lodging establishments. In addition, it is anticipated the Project will lead to both temporary construction jobs and permanent jobs.	Consistent
Visitor Industries Goal: A city that encourages investments in the tourism industry that also benefit existing resident and support community reinvestment.	The Project is an investment in a new, modern stadium that would attract tourists and support the local commercial, retail, and lodging establishments.	Consistent
Policy EP-1.3. Support destination attractions in San Diego that enhance tourism trade in the City including but not limited to natural resource destinations, commercial recreational attractions, sporting events, convention and meeting facilities, and the cruise ship industry.	As stated above, the new stadium is a commercial recreational use that would enhance tourism in San Diego by providing a facility that meets NFL standards and would provide a facility to host other significant sporting events (e.g.) Super Bowl, college championship football games, World Cup soccer games) and concerts.	Consistent

Source: City of San Diego General Plan (2008)

A. Mission Valley Community Plan

The Project is located within the City of San Diego's Mission Valley Community Planning Area. Mission Valley is composed of a wide mix of uses, including residential, employment, commercial, and recreational, centered on the San Diego River and the light rail trolley. The MVCP (City of San Diego 2013a establishes goals, policies, and proposals for each of the following elements: Land Use, Transportation, Open Space, Development Intensity, Community Facilities, Conservation, Cultural and Heritage Resources, Urban Design, and Implementation. The MVCP designates the land use category at the Project site as Commercial Recreation.

Table 4.9-2 provides an analysis of the Project's consistency with the objectives, proposals, and development and design guidelines from the MVCP that were determined to be applicable to the Project. Chapter 4.15 Visual Effects and Neighborhood Character contains additional consistency analysis relative to transportation corridors, pedestrian areas, views, landmarks, energy conservation, light, and glare.

Table 4.9-2
Mission Valley Community Plan Consistency Analysis

Plan Component	Project Consistency	Conclusion
A. Land Use		
Objective: Encourage visitor-oriented commercial development.	The Project is identified as Commercial Recreation on the MVCP land use map, which is intended for visitor-oriented uses such as the new stadium.	Consistent
Development Guidelines: Connect various developments (new and existing) by transit, pedestrian, and bicycle routes to discourage intra-Valley auto traffic.	The site contains an existing trolley stop that provides access to the site. Currently, longer distance and higher frequency transit is provided during games to promote trolley use and that service would not change for the proposed stadium. In addition, Project would maintain existing bike paths.	Consistent
B. Transportation		
Objective: To facilitate transportation into, throughout, and out of the Valley while seeking to establish and maintain a balanced transportation system.	As identified in Chapter 4.10 Mobility, the Project would assist in facilitating modal shift from cars to transit, use of remote parking and shuttles throughout the valley, and making road modifications adjacent to the site to facilitate traffic flow.	Consistent
Proposal: Provide adequate access to developable and redevelopable parcels.	The access to the site would remain the same; however, as indicated above, modifications to signal synchronization and ramp metering would occur. TDM strategies would also be implemented to address parking issues during games.	Consistent

Plan Component	Project Consistency	Conclusion
Proposal: Improve traffic control techniques used during events at San Diego Jack Murphy Stadium.	The Project includes modifications to signal synchronization and ramp metering. TDM strategies would also be implemented to address parking issues during games to help improve traffic into and out of the stadium. Management of the parking supply would occur in coordination with the City and could include the following strategies: identifying remote parking with shuttle service, higher-frequency transit service and increased ridership for both trolley and bus, and encouraging carpooling with employer incentives.	Consistent
Proposal: Establish alternative methods of transporting capacity stadium crowds, especially now that the seating capacity of San Diego Jack Murphy Stadium has been expanded.	The Project site contains an existing trolley stop and the Green Line provides service to the site. MTS provides bus service, and private shuttle service is also available. Currently, longer distance and higher frequency transit is provided during games to promote trolley use and that service would remain the same for the new stadium. An extension to the Blue Line has been approved, which would extend service from the Old Town station to new stations as far north as University of California, San Diego, and the University Town Center mall. This line, expected to open by 2020, would serve the north-central area of San Diego.	Consistent
Public Transit		
Objective: Encourage the use of public transit modes to reduce dependency on the automobile.	MTS provides bus and trolley service to the site while private shuttle service is also available. Currently, longer distance and higher frequency transit is provided during games to promote trolley use and that service would remain the same for the new stadium.	Consistent
Proposal: Encourage a higher level of public transit service to the stadium during scheduled events.	During events at the existing Qualcomm Stadium, MTS longer distance and higher frequency transit service to the site encourages higher ridership; that service would remain the same for the Project. Modal shift to non-automobile trips into the site would be encouraged by the accommodation for bus and shuttle parking on-site, the connectivity on- and off-site to pedestrian and bicycle routes, and increased headways and capacity on the MTS Trolley.	Consistent

Plan Component	Project Consistency	Conclusion
Development Guidelines: Implement all means of reducing dependency on the automobile. In addition to public transit, bicycles, and new pedestrian facilities, private development should be encouraged to participate in the following modes of transportation and Transportation Systems Management Program (TSMP) techniques: Van-pooling; Car-pooling; Park-and-ride (public and private); Bicycle park-bus ride (public and private); Piggyback bicycle-bus transportation; Jitney Service; Taxis; Employer subsidies of transit passes for employees; Ridesharing; Flextime (staggered work hours); Preferential parking programs; or Any other current TSMP techniques which are available and may be applicable at the time of project review.	The Project encourages multimodal transportation to the site to reduce dependency on the automobile. The Project TDM that would be prepared would include management of the parking supply in coordination with the City to identify remote parking with shuttle service, encouraging carpooling; employer transit incentives; and possible increased parking fee. The City would also coordinate with MTS for higher-frequency transit service and increased ridership for both trolley and bus and park-and-ride lots.	Consistent
Development Guidelines: Encourage greater public use of the transit system to event at San Diego Jack Murphy Stadium by: a. Establishing more pickup points in heavily congested areas outside Mission Valley; b. Setting parking fees high enough to encourage people to car-pool or use buses; c. Developing faster ingress and egress routes and policies for buses.	The Project encourages multimodal transportation to the site to reduce dependency on the automobile; management of the parking supply in coordination with the City to identify remote parking with shuttle service, encouraging carpooling; employer transit incentives; and possible increased parking fee. Higher-frequency transit service and increased ridership for both trolley and bus and park-and-ride lots. A “buses only” access point currently exists at the Rancho Mission Road at the northeast corner of the site.	Consistent
C. Open Space		
Objective: Preserve and maintain the wetlands and riparian habitat areas along both sides of the river.	The Project would comply with the MSCP and MHPA and would preserve the existing wetland habitat; no net loss of wetland habitat would occur.	Consistent
Development Guidelines: All development with the floodway and floodplain shall be consistent with the Land Development Code, Section 143.0145, Flood Hazard Areas and the Design Guidelines of the San Diego River Park Master Plan.	Portions of the Project site are within the 100-year and 500-year floodplain. The Project would comply with Section 143.0145, Flood Hazard Areas, Chapter 15, Article 14, Division 2, MVPD, and the Design Guidelines of the San Diego River Park Master Plan.	Consistent
D. Community Facilities		
Maintain existing facilities, or expand as needed, to keep an adequate level of service.	The MVCP identifies San Diego Jack Murphy Stadium (Qualcomm Stadium) as a public facility. The Project would construct a new multiuse stadium to	Consistent

Plan Component	Project Consistency	Conclusion
	replace the existing Qualcomm Stadium. The new stadium would also serve as a community facility. New infrastructure improvements would be included to support the new stadium including wastewater, storm water, water infrastructure, and waste management.	
E. Conservation		
Objectives: Protect and enhance the quality of Mission Valley's air and water resources. Conserve the Valley's water, land, and energy resources. Conserve the Valley's water, land, and energy resources	The Project would utilize sustainable planning and design techniques as the new stadium would be built to LEED Gold standards, which would help conserve water and energy resources.	Consistent
Proposals: • Apply and enforce the recommendations of the Regional Air Quality Strategy (RAQS). Monitor potential sources of water contamination and take necessary steps to eliminate existing problems and to prevent potential problems. • Encourage water conservation through development and landscaping guidelines, and the use of recycled water. • Conserve energy by utilizing alternative energy sources and energy-efficient building and site design principles	The San Diego County Air Pollution Control District is responsible for RAQS development. The two pollutants addressed in the RAQS are volatile organic compounds (VOC) and oxides of nitrogen (NO_X), which are precursors to the formation of ozone. The Project would comply with the recommendations of the RAQS. Being a LEED Gold building, the Project would conserve water and energy resources.	Consistent
Development Guidelines: Improve air quality through the reduction of automobile trips.	The Project would result in construction-related GHG exhaust emissions for the Project from construction worker commutes, haul trucks, and the use of off-road equipment. As part of the project design, the Project would promote activities that maximize the use of current public transit infrastructure (i.e., San Diego MTS) and remote transit-oriented parking facilities to reduce regional vehicle miles traveled (VMT), preferred parking, public transit educational materials, pedestrian friendly access from public transit to the stadium. In addition, the Project would include design features to incentivize and promote alternatively-fueled and electric vehicles and use of mass transit	Consistent

Plan Component	Project Consistency	Conclusion
	to reach the Project (e.g., preferred parking, public transit educational materials, pedestrian friendly access from public transit to the stadium, renovate transit stop) See Sections 4.5 Greenhouse Gas and 4.10 Mobility for detailed analysis).	
Development Guidelines: Improve water quality. • Practice erosion control techniques when grading or preparing building sites. • Incorporate sedimentation ponds as part of any flood control or runoff control facility.	As discussed in EIR Section 4.8 Hydrology and Water Quality, storm water improvements for the Project would be designed and implemented to comply with federal Clean Water Act and California Regional Water Quality Control Board NPDES Permit standards, which would improve water quality prior to runoff entering the San Diego River. Retention basins would be located on-site as necessary to treat runoff from the 85th percentile storm to treat approximately 250,000 cubic feet of runoff.	Consistent
Development Guidelines: Conserve water. • Landscape with native, drought-resistant vegetation. • Use water saving devices in all new development projects.	As a LEED Gold rated building, water conservation including the use of native, drought-resistant vegetation would be utilized. The Project would meet or exceed uniform building code standards, and would use low water use fixtures throughout the structure.	Consistent
Development Guidelines: Encourage new development to make the best use of available energy. • Design the building to allow flow-through ventilation of air from outside, thus reducing mechanical ventilation costs and energy requirements. • Utilize building materials which will act as insulators or conductors, depending on the energy needs. • Use architectural designs, forms, materials and orientations which lend themselves to solar heating and cooling. Site location of new buildings should be carefully considered in order to avoid casting shadows on existing buildings so as not to preempt opportunities for solar heating and cooling for those buildings.	The new stadium would utilize energy-efficient building and site design principles to achieve a LEED Gold rating. The stadium would allow flow-through ventilation from outside area and use architectural designs, forms, materials, and orientations, which lend themselves to solar heating and cooling. The Project site does not contain nearby buildings. However, the new stadium location and height would be carefully considered in relation to public spaces. Plazas and other public spaces would not be kept entirely in shadows, and would be protected from excessive wind conditions.	Consistent

Plan Component	Project Consistency	Conclusion
E. Cultural and Heritage Resources		
Objective: Identify and preserve any archaeological or historic sites.	The MVCP identifies San Diego Jack Murphy Stadium (Qualcomm Stadium) as "probably the most distinct landmark in Mission Valley". Its award-winning design and regional importance as a professional sports facility have also made it a community landmark. It dominates the view from almost any vantage point in the eastern portion of Mission Valley. Qualcomm Stadium was assessed for eligibility for individual listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and the City of San Diego Register of Historic Resources as a Historical Landmark. The structure was assessed as eligible for all three registers at the local level (Heritage Architecture and Planning 2015). Demolition of Qualcomm Stadium would have a significant impact to historic resources. For a more detailed discussion, please refer to Section 4.7 Historical Resources for a detailed impact analysis. Constructing a new stadium on the site would be consistent with maintaining a visually prominent structure within Mission Valley.	Inconsistent
Proposals: • Maintain view corridors to identified community landmarks as a means of establishing the uniqueness and maintaining the visual qualities of the community and as a means of providing orientation within the valley. • Review of historic sites, and archeological resources, geological and paleontological resources and geologic hazards should be included as part of project review.	The Project includes demolition of the existing Qualcomm Stadium, which is identified as a landmark per the MVCP. As stated above, the structure was assessed as eligible for all three registers at the local level (Heritage Architecture and Planning 2015). Impact analysis and mitigation measures are included in Section 4.7 Historical Resources.	Inconsistent
F. Urban Design		
Design Guidelines: Development surrounding the San Diego Stadium should maintain view corridors and landscaped areas to enhance the views into this major civic and architectural	Although the existing Qualcomm Stadium is identified as a visual landmark in the MVCP, views into the site would be maintained so that the new stadium would maintain similar	Inconsistent

Plan Component	Project Consistency	Conclusion
landmark. **Solar Access** • Building location and height should be carefully considered in relation to public spaces. • Plazas and other public spaces should not be totally kept in shadows, and should be protected from excessive wind conditions. • Buildings should not solely depend on mechanical systems for ventilation. Building design should encourage natural ventilation. **Water Conservation** • Buildings should be designed with mechanisms that will reduce water consumption. The following water saving devices should be considered: Low flow plumbing fixtures; cycle adjustment machines; pressure regulators to maintain water pressure to desirable conservation levels; hot water pipe insulation; and, automatic sprinkler systems. • Water should be conserved by using low maintenance drought tolerant plant material, and the use of inert landscape materials (rocks, gravel, ornamental paving) and sculptured forms. • Lighting should be directed on-site. No lighting should be cast in the direction of the San Diego River.	visibility within the community. See Section 4.7 Historical Resources for detailed impact analysis and mitigation measures. As a LEED Gold building, the new stadium would utilize energy-efficient building and site design principles. The new stadium would allow flow-through ventilation from outside area and use architectural designs, forms, materials and orientations which lend themselves to solar heating and cooling. The Project site does not contain nearby buildings. However, the new stadium building location and height would be carefully considered in relation to public spaces. The building would be designed in a manner to reduce long-term shadows and excessive wind on public spaces. In addition, native, drought-resistant vegetation would be utilized and in compliance with MHPA. Lighting would be designed to avoid light spillage onto adjacent property and lighting would be shielded away from the San Diego River and Murphy Canyon Creek.	

Source: Mission Valley Community Plan Last Amended May 2013

B. City of San Diego Multiple Species Conservation Program Subarea Plan

In Section 1.4.3 of the MSCP Subarea Plan, the Land Use Adjacency Guidelines state that land uses adjacent to the MHPA will be managed to ensure minimal impacts to the MHPA. In Section 1.5.2 of the MSCP Subarea Plan, General Management Directives relevant to the entire City MHPA system are provided. Table 4.9-3 lists the relevant Land Use Adjacency Guidelines and General Management Directives that the MSCP Subarea Plan states shall be addressed in order to minimize potential impacts and maintain the function of the MHPA (see Figure 4.2-2 City of San Diego MHPA and Potential Jurisdictional Resources). Additional discussion of the Project's compliance with the MSCP can be found in EIR Section 4.2 Biological Resources. As identified in Table 4.9-3 the Project is consistent with the MSCP Land Use Adjacency Guidelines and General Management Directives; however, to ensure that implementation of the Project complies with the guidelines, project-specific mitigation measures identified in Section 4.2 Biological Resources would be implemented.

Table 4.9-3
City of San Diego MSCP Subarea Plan – Consistency Analysis

MSCP Guidelines	Project Consistency	Conclusion
Land Use Adjacency Guidelines		
Drainage: Developed areas in and adjacent to the preserve will not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA.	The Project site drains directly into the MHPA (i.e., San Diego River). The Project would not eliminate drainage into the MHPA, but would clean and reduce overall output into the river by utilizing porous paving, bioretention planters/tree pits, interspersed parking island landscapes, and site edge treatments, etc. to capture the rainfall volume associated with the 85th percentile storm. Additionally, stormwater harvesting and reuse BMPs would be incorporated into the Project design. Storm water runoff would be reduced from current levels, which would decrease pollutant load contributions to the San Diego River.	Consistent
Toxics: Land uses that use chemicals or generate materials that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA.	The Project would be LEED Gold certified and incorporate measures to control water quality and discharge of pollutants. Storm water runoff would be reduced from current levels, which would decrease pollutant load contributions to the San Diego River. Relative to hydrology, the Project would have beneficial impacts to the environment and would not negatively affect downstream facilities (i.e., MHPA) compared to existing conditions.	Consistent
Lighting: Lighting of all developed areas adjacent to the MHPA will be directed away from the MHPA. Where necessary, development will provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.	Project lighting during construction and operation would be directed away from the MHPA and shielded where necessary.	Consistent

MSCP Guidelines	Project Consistency	Conclusion
Noise: Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.	The Project would be designed to minimize noise impacts in the MHPA. Where necessary, berms or walls would be constructed to reduce noises that could impact or interfere with wildlife utilization of the MHPA.	Consistent
General Guidelines		
Fencing and other barriers shall be used where it is determined to be the best method to achieve conservation goals and adjacent land uses incompatible with the MHPA.	The Project would be consistent with this guideline through the use of fencing and other barriers (e.g., noninvasive vegetation, rocks/boulders, fences, walls, and/or signage as deemed appropriate) along the MHPA boundaries to direct public access away from the preserve.	Consistent
Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting.	Project lighting during construction and operation would be directed away from the MHPA and shielded where necessary. No wildlife crossings occur within or adjacent to the Project; however, Murphy Canyon Creek and the San Diego River provide movement corridors. No lighting would be placed in these areas and all adjacent lighting would be shielded away.	Consistent
General Management Directives (Materials Storage)		
Storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) shall be prohibited within the MHPA and ensure appropriate storage per applicable in any areas that may impact the MHPA, especially due to leakage.	No hazardous or toxic materials would be stored within or immediately adjacent to the MHPA.	Consistent

The following general planning policies and design guidelines will be incorporated into the design of the Project to ensure no significant impact occurs within the MHPA:

- Fencing and other barriers would be used where it is determined to be the best method to achieve conservation goals and adjacent land uses incompatible with the MHPA.
- Lighting would be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting.
- Signage adjacent to or within the MHPA would be limited to access and litter control and educational purposes.

- Storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) would be prohibited within the MHPA and ensure appropriate storage in any areas that may impact the MHPA, especially due to leakage.

In addition, the following land use adjacency guidelines (Section 1.4.3 and Appendix A of the City's MSCP Subarea Plan) will be applied during design of the proposed Project.

- All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA.
- Land uses that use chemicals or generate materials that are potentially toxic or impactful to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA.
- Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA.
- Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.
- New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.
- No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.

C. San Diego River Park Master Plan

The vision of the San Diego River Park Master Plan is to form a comprehensive and integrated approach to addressing physical needs, such as improving water quality and river health, and expanding wildlife habitat, as well as harder-to-quantify social and cultural opportunities, such as revealing the river's rich history and bringing people to the river.

This vision is supported by five principles that are the guiding ideas against which future design and implementation decisions will be measured. The five principles are:

1. Restore and maintain a healthy river system;
2. Unify fragmented lands and habitats;
3. Create a connected continuum, with a sequence of unique places and experiences;
4. Reveal the river valley history; and
5. Reorient development toward the river to create value and opportunities for people to embrace the river.

The San Diego River Park Master Plan identifies six distinct geographic areas or reaches of the river and the Project site is located within the Lower Valley reach. The Project would not develop within the River Corridor Area or River Influence Area, nor would the Project preclude the future development or implementation of the San Diego River Park Master Plan. The design of the Project would provide opportunities for connections to the future park, advancing the principle of creating a connected continuum.

The Project site currently drains into the San Diego River. The Project would not eliminate drainage into the river, but would treat and reduce overall output into the river as follows: the inner stadium footprint and outside perimeter pedestrian areas would be self-retaining (e.g., porous paving, bioretention planters/tree pits, interspersed parking island landscapes, site edge treatments, etc.) to capture the rainfall volume associated with the 85th percentile storm. Additionally, stormwater harvesting and reuse BMPs would be incorporated into the Project design to capture and store storm water runoff for later use. Storm water runoff would be reduced from current levels, which would decrease pollutant load contributions to the San Diego River.

Significance of Impacts

The Project is consistent with the land use designations and many of the goals and policies of both the General Plan, MVCP, MSCP, and SDRPMP. The new stadium would conflict with some of the goals and policies of the City of San Diego General Plan (Urban Design, Recreation, and Noise Element) and some objectives, guidelines and proposals of the MVCP (Urban Design and Cultural and Heritage Resources) identified in Table 4.9-2 and 4.9-3 due to the significant and unavoidable impacts to historical resources, noise, and views. However, the Project is consistent with the MSCP and General Plan in terms of land use and overall vision of development for the site as discussed in the MVCP.

Noise and historical mitigation measures have been proposed and are included in Sections 4.11.4 and 4.7.4 but impacts would still remain significant and unavoidable. Therefore the Project would have significant impacts in meeting some of the environmental goals, objectives, and/or recommendations of the General Plan and MVCP as identified in Tables 4.9-2 and 4.9-3.

Issue 3: Would the project result in land uses that are not compatible with an adopted Airport Land Use Comprehensive Plan (ALUCP)?

Impact Thresholds

A significant land use impact would occur if the Project would result in land uses that are not consistent with an airport land use plan or inconsistency with an airport's Comprehensive Land use Plan (ALUCP) as adopted by the Airport Land Use Commission (ALUC).

Impact Analysis

The Project site lies within the AIA of Montgomery Field and specifically within Review Area 2 of that Airport, as identified in Figure 4.9-1 Airport Influence Area. According to the Montgomery Field ALUCP (Exhibit IV-6), the Project site has a land use designation of Commercial Recreation (see Figure 4.9-5 Existing Land Uses Airport Environs), which is a consistent land use according to the Montgomery Field ALUCP.

As a result of the Project's location within the Airspace Protection Area and Overflight Notification Area of Montgomery Field, the Project proponent is required to file notifications with the FAA (Form 7460-1, Notice of Proposed Construction or Alteration), as construction or alteration is anticipated to exceed 200 feet above ground level and/or exceed an imaginary surface extending outward and upward at defined slopes, such as 100 feet outward and 1 foot upward for a horizontal distance of 20,000 feet from the nearest point of the nearest runway (San Diego County Airport Land Use Commission 2010). Although the new stadium could be taller than 200 feet, the Project would not encroach into the imaginary flight surface. Additional details regarding the FAA notification process are provided in Section 4.6 Hazardous Materials/Human Health/Public Safety of this EIR.

Significance of Impacts

As discussed, the Project would be located in the AIA of the Montgomery Field ALUCP. However, as the Project's proposed land uses are compatible with the Montgomery Field ALUCP, the Project would not result in conflicts associated with airport use and land use compatibility.

In addition, the Project shall file Notices of Proposed Construction or Alteration with the FAA due to its proximity to Montgomery Field and the anticipated heights of the stadium and construction equipment. As such, both the design of the stadium and construction equipment would be subject to FAA review, and if the FAA does not issue their approval via a

Source: NAIP 2014; FAA 2015; SanGIS.

Figure 4.9-5
Existing Land Uses Airport Environs

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Determination of No Hazard to Air Navigation, an alternative design plan for the stadium and/or alternative construction equipment must be considered and submitted for FAA review (refer to Section 4.6 and mitigation measure HAZ-4).

Due to the Project's conformity to the Montgomery Field ALUCP and its policies, the Project would not result in land use conflicts or conflicts with the Montgomery Field ALUCP. As mentioned above, FAA notification of the Project is addressed in Section 4.6 of this EIR, and by mitigation measure HAZ-4. For purposes of this EIR, adherence to FAA policy and notification to the FAA is analyzed as a potential safety impact, rather than a land use impact. With implementation of that mitigation measure to comply with FAA regulations, the Project would achieve compliance with the Montgomery Field ALUCP as well.

4.9.4 Mitigation, Monitoring, and Reporting

There are significant impacts to land use as a result of inconsistencies between the Project and some of the General Plan and MVCP goals, policies or guidelines. Mitigation measures for these issue areas are contained in Noise (Section 4.11.4) and Historical Resources (Section 4.7.4); even with implementation of the mitigation measures identified in Section 4.7 (Historical Resources) and Sections 4.11 (Noise), impacts would remain significant and unavoidable. Refer to Section 4.6 for Mitigation Measure HAZ-4, which addresses notifying the FAA of the Project; and Section 4.14 (Visual Effects and Neighborhood Character), which addresses mitigation for the retaining wall impacts.

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4.10 MOBILITY (CIRCULATION)

This EIR section analyzes the potential for significant impacts resulting from the Project on existing transportation and traffic conditions. This study was performed in accordance with City of San Diego traffic study and parking requirements (per the City Traffic Impact Study Manual, General Plan Circulation Mobility Element and Municipal Code).

4.10.1 Existing Conditions

Study Area

The Project study area was defined and is bounded by Friars Road from the north, I-8 to the south and I-15 and Mission Gorge Road to the east and SR-163 to the west. Figure 2-2 shows the Project location and study area intersections in context to the regional circulation system. The project area does not extend beyond the current stadium vicinity and does not require any additional property or land use changes. Figure 4.10-1 depicts the study area and intersections.

Site Access and Parking

The Project site is located near three major freeways, I-15 to the east, Interstate 8 (I-8) to the south, and State Route 163 (SR-163) to the west. From these freeways, vehicles access the Project site via the Main Gate at Mission Village Drive; the Marquee Gate from Friars Road eastbound to Mission Village Drive; Gate 1 from San Diego Mission Road; or Gates 2, 3, and 4 from Friars Road eastbound to Qualcomm Way at the western boundary of the parking lot.

Qualcomm Stadium parking lot has 18,870 vehicle parking spaces. The City contracts with ACE Parking to implement the stadium event Traffic Management Plan (TMP). The plan involves controlled ingress prior to events and egress after events using manual traffic control measures implemented by the San Diego Police Department.

Existing Roadway Network

Several regionally and locally significant roadways traverse the study area. The key roadways that form the study intersections within the Project study area are discussed below.

Freeways

I-8 – I-8 is an east-west ten lane highway facility with five general purpose lanes in each direction. I-8 is located south of the project site adjacent to the San Diego River. No direct on/off ramp is provided to the project site.

I-15 – I-15 within the Project study area is a north-south eight lane highway facility with four general purpose lanes in each direction. I-15 provides northbound and southbound on/off ramps at Friars Road, which provides access to the project site.

SR-163 – SR-163 is a north-south eight-lane highway facility with four general purpose lanes in each direction. No direct on/off ramp is provided to the project site.

Local Roadways

Alvarado Canyon Road – Alvarado Canyon Road, located east of the Project site, is an east-west, two-lane undivided local roadway with a posted speed limit of 30 miles per hour (mph). Alvarado Canyon Road provides direct access to the Project site via a full-access driveway on the east side of the Project.

Camino De La Reina – Camino De La Reina is an east-west, four-lane divided roadway raised median. The posted speed limit is 35 mph. Camino de la Reina turns into Camino Del Rio North at Qualcomm Way.

Camino Del Rio North – Camino Del Rio North is an east-west, four-lane divided roadway with a raised median located south of the project site. At I-805, Camino Del Rio North turns into four lane undivided roadway with a painted left turn middle lane. The posted speed limit on Camino Del Rio North is 45 mph. A Class II Bike Lane is located along the south side of Camino Del Rio North from Qualcomm Way to Mission City Parkway.

Fairmount Avenue – Fairmount Avenue is a north-south, two lane undivided roadway with a painted median located east of the project site. The posted speed limit on Fairmount Avenue is 35 mph.

Frazee Road – Frazee Road is a north-south two lane divided roadway with a raised median located east of the project site. Frazee Road runs from Murphy Canyon Road and terminates at Hazard Center Drive, into the Hazard Center commercial center. The posted speed limit is 25 mph.

Friars Road – In the Project study area, Friars Road is a six-lane divided roadway with a posted speed limit of 50 mph. Class II bicycle lanes are located on both sides of Friars Road. Friars Road provides direct access to the project site at Gate 2 and Mission Village Drive.

Source: NAIP 2014.

1,500 750 0 1,500 Feet

Scale: 1 = 18,000; 1 inch = 1,500 feet

Figure 4.10-1
Study Locations and Intersections

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Mission Gorge Road – Mission Gorge Road is a six-lane divided roadway with a raised median and a posted speed limit of 45 mph. Mission Gorge Road begins at Zion Road and Friars Road and extends through to the City of Santee.

Mission Village Drive – Mission Village Drive is a north-south two lane divided roadway with a raised median and a posted speed limit of 45 mph. Mission Village Drive terminates at the project site and provides direct access into Qualcomm Stadium. The intersection of Mission Gorge Road and Friars Road is the main access into the Project site parking area. A Class II bicycle lane is located on the west side of Mission Gorge Road.

Northside Drive – Northside Drive is a north-south, two-lane divided roadway with on-street parking located on the west side of the road. Posted speed limit is 25 mph and terminates into the Fenton Marketplace Shopping Center.

Qualcomm Way – Qualcomm Way is a north-south six-lane undivided roadway with a painted median. In some parts, the roadway is divided with a raised median. The posted speed limit is 40 mph. A Class II bicycle lane is located on the west side of Qualcomm Way.

Rancho Mission Road – Rancho Mission Road is a north-south, two-lane undivided roadway with a painted median with a posted speed limit of 35 mph. Rancho Mission Road extends from Camino Del Rio North to Friars Road.

San Diego Mission Road – San Diego Mission Road is an east-west two-lane undivided roadway. On-street parking is permitted intermittently along the corridor. The posted speed limit is 40 mph. San Diego Mission Road provides direct access to the project site at Gate 1.

Ward Road – Ward Road is a north-south, two-lane undivided roadway with on-street parking permitted on both sides of the road. The posted speed limit is 30 mph. Ward Road extends from Camino Del Rio North to Friars Road.

The study intersections, roadway segments, freeway segments and freeway ramps were selected in coordination with the City of San Diego. Selected study areas include major roadways in the project vicinity leading to the interstate and roadways that would be most likely impacted by the Project. Table 4.10-1 summarizes the twenty-seven (27) intersections evaluated within the vicinity of the Project site.

Table 4.10-1
Study Intersections

	North-South Arterial	East-West Arterial	Jurisdiction	Traffic Control
1	Mission Gorge Road	Friars Road	City of San Diego	Signalized
2	Mission Gorge Road	Twain Avenue	City of San Diego	Signalized
3	Fairmount Avenue	Twain Avenue	City of San Diego	Signalized
4	Mission Gorge Road	Fairmount Avenue	City of San Diego	Signalized
5	Fairmount Avenue	Alvarado Canyon Road	City of San Diego	Signalized
6	Fairmount Avenue	I-8 EB Ramps	Caltrans	Signalized
7	Rancho Mission Road	Friars Road	City of San Diego	Signalized
8	Rancho Mission Road	San Diego Mission Road	City of San Diego	Signalized
9	Rancho Mission Road	Ward Road	City of San Diego	Unsignalized
10	Ward Road	Camino Del Rio North	City of San Diego	Signalized
11	I-15 Northbound Ramps	Friars Road	Caltrans	Signalized
12	I-15 Southbound Ramps	Friars Road	Caltrans	Signalized
13	Mission Village Drive	Friars Road WB	City of San Diego	Signalized
14	Mission Village Drive	Friars Road EB	City of San Diego	Signalized*
15	Mission Village Drive	San Diego Mission Road		
16	Northside Drive	Friars Road	City of San Diego	Signalized
17	Fenton Parkway	Friars Road	City of San Diego	Signalized
18	Qualcomm Way	Friars Road Westbound	City of San Diego	Signalized
19	Qualcomm Way	Friars Road Eastbound	City of San Diego	Signalized
20	Qualcomm Way	Camino De La Reina	City of San Diego	Signalized
21	Qualcomm Way	I-8 WB Ramps	Caltrans	Signalized
22	Frazee Road	Friars Road	City of San Diego	Signalized
23	SR-163 Northbound Ramps	Friars Road	Caltrans	Signalized
24	Ulric Street	SR-163 Southbound On-ramp	City of San Diego	Unsignalized*
25	Ulric Street	Friars Road	City of San Diego	Signalized
26	Mission Center Road	Friars Road Westbound	City of San Diego	Signalized
27	Mission Center Road	Friars Road Eastbound	City of San Diego	Signalized

* Analyzed using HCM 2000 due to limitations in HCM 2010 analysis (more than 4 legs)

The following roadway segments in Table 4.10-2 are analyzed:

Table 4.10-2
Study Roadway Segments

Mission Gorge Road	
1	Friars Road to Vandever Avenue
2	Vandever Avenue to Twain Avenue
3	Twain Avenue to Mission Gorge Place
4	Mission Gorge Place to Fairmount Avenue
Fairmount Avenue	
5	San Diego Mission Road to Mission Gorge Road
6	Mission Gorge Road to Alvarado Canyon Road
7	Alvarado Canyon Road to I-8 Westbound Ramps
8	I-8 Westbound Ramps to I-8 Eastbound Ramps
San Diego Mission Road	
9	Fairmount Avenue to Rancho Mission Road
10	Rancho Mission Road to Mission Village Drive
Camino Del Rio N	
11	Fairmount Avenue to Ward Road
12	Ward Road to Mission City Parkway
Rancho Mission Road	
13	San Diego Mission Road to Caminito Cascara
Mission Village Drive	
14	North of Friars Road
Friars Road	
15	Mission Gorge Road to Santo Road
16	Santo Road to Rancho Mission Road
17	Rancho Mission Road to I-15 Ramps
18	I-15 Ramps to Mission Village Drive
19	Mission Village Drive to Northside Drive
20	Northside Drive to Fenton Parkway
21	Fenton Parkway to River Run Drive
22	River Run Drive to Rio Bonito Way
23	Rio Bonito Way to Qualcomm Way
24	Qualcomm Way to Gill Village Way
25	Gill Village Way to Mission Center Drive
26	Mission Center Drive to Frazee Road
27	Frazee Road to SR-163 Northbound Ramps
28	SR-163 NB Ramps to SR-163 Southbound Ramps
Qualcomm Way	
29	Friars Road to Rio San Diego Drive
30	Rio San Diego Drive to Camino Del Rio North

The following freeway segments in Table 4.10-3 are analyzed:

Table 4.10-3
Study Freeway Segments

Freeway	Segment
I-15	Aero Drive to Friars Road
	Friars Road to I-8
I-8	Waring Road to Fairmount Avenue
	Fairmount Avenue to I-15
	I-15 to I-805
	I-805 to Qualcomm Way
	Qualcomm Way to Mission Center Road
	Mission Center Road to SR-163
SR-163	Genesee Avenue to Friars Road
	Friars Road to I-8

The following freeway ramp locations in Table 4.10-4 are analyzed:

Table 4.10-4
Study Freeway Ramps

Freeway	Ramp
I-15	I-15 Northbound: Friars Road On-ramp
	I-15 SB: Westbound Friars Road On-ramp
	I-15 SB: Eastbound Friars Road On-ramp
I-8	I-8 Eastbound: SB Fairmount Avenue On-ramp

Existing Traffic Data

Existing traffic data was collected to describe current conditions and to establish baseline condition to which future conditions are built upon and compared. Vehicle counts were collected for the study intersections and roadway segments. In addition, freeway segment volumes were extracted from the Caltrans' Performance Management System (PeMS). Traffic counts are recorded on a typical weekday and aggregated into study peak hours (AM and PM) or Average Daily Traffic (ADT). In addition to weekday traffic counts, Saturday and Sunday counts were also collected for use in the weekend analysis requested by the City.

Peak hour turning movement volumes for study intersections and roadway segment ADT volumes were collected in July 2015. AM peak hour is between 7:00 a.m. and 9:00 a.m. while PM peak hour is between 4:00 p.m. to 6:00 p.m. for both weekday and weekend scenarios.

Freeway and ramp traffic counts were collected from the PeMS database for the months of April and May of 2015. To verify the validity of the subset of data collected, a systematic comparative analysis of the available arterial traffic data from other projects in the vicinity of the Project was performed as part of the data collection process. The daily roadway segment volumes and the AM/PM peak hour intersection turning movements are provided in the Traffic Impact Analysis Report, Appendix J.

Traffic Analysis Scenarios Evaluated

The following traffic analysis scenarios were analyzed:

- **Existing Conditions (2015 [2014]) –** Used to establish the current level of traffic and mobility operating conditions within the study area. Analysis conducted for weekdays, Saturdays, and Sundays.
- **New Stadium Construction and Qualcomm Stadium Demolition (2017 – 2020) –** Represents the traffic conditions for stadium construction and demolition activities from 2017 **–** 2020. Analysis conducted for weekdays, Saturdays, and Sundays.
- **Project Build Out (2035) –** Represents the traffic conditions of the full build out of the project both on days with no NFL games and with NFL game days. Analysis conducted for weekdays, Saturdays, and Sundays.

Game Days

An analysis of the worst case scenario to measure the most significant impacts was performed in this study. NFL game events draw the most attendees, on average 68,000 attendees per game. Therefore, only NFL game days were analyzed. The following nomenclature is used to describe the analysis scenarios:

- With Games: Days when an NFL team is playing a home game at the Project site. Game Days can occur on both weekdays and weekends.
- With No Games: Days when no events are occurring on the Project site (NFL and non-NFL events). Days with No Games can occur on both weekdays and weekends.

Existing Conditions Traffic Analysis

Existing conditions analysis includes evaluations of the study area intersections, roadway segments, freeway segments and ramp meters following the methodologies outlined in the Traffic Impact Analysis Report, Appendix J.

Existing Conditions with No Games

This section discusses the existing traffic conditions when no games are played. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersections

- Under existing conditions on weekdays with no games 26 study intersections operate at LOS D or better, while one intersection operates at LOS E or F.
- Under existing conditions on Saturdays with no games 25 study intersections operate at LOS D or better, while two intersections operate at LOS E or F
- Under existing conditions on Sundays with no games all intersections operate at LOS D or better

Roadway Segments

- Under existing conditions on weekdays with no games 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F.
- Under existing conditions on Saturdays and Sundays with no games, all roadway segments operate at LOS D or better.

Freeway Segment Traffic Volume

- Under existing conditions on weekdays with no games five freeway segments operate at LOS D or better, while five freeway segments operate at LOS E or F.
- Under existing conditions on Saturdays and Sundays with no games, all freeway segments operate at LOS D or better.

Ramp Meters

- Under existing conditions on weekdays with no games two ramp meters operate at an acceptable LOS (delay of 15 minutes or less), while two ramp meters operate with a delay of 15 minutes or more.

Existing Conditions with Game Days

Traffic conditions on game days at the project site vary from days when no games are played. This analysis considers the existing traffic conditions with game days during both AM and PM peak hour periods. Game day trips were generated using average historic parking data and trolley ridership provided by the City. Onsite parking gate counts and regional trip patterns were utilized to devise the game day trip distributions. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersections

- Under existing conditions on weekdays with game days 17 intersections operate at LOS D or better, while 10 intersections operate at LOS E or F.
- Under existing conditions on Saturdays with game days 22 intersections operate at LOS D or better, while 5 intersections operate at LOS E or F.
- Under existing conditions on Sundays with game days 18 intersections operate at LOS D or better, while 9 intersections operate at LOS E or F

Roadway Segments

- Under existing conditions on weekdays with game days 19 roadway segments operate at LOS D or better, while 11 roadway segments operate at LOS E or F.
- Under existing conditions on Saturdays with game days, 26 roadway segments operate at LOS D or better, while 4 roadway segments operate at LOS E or
- Under existing conditions on Sundays with game days 29 roadway segments operate at LOS D or better, while 1 roadway segments operate at LOS E or

Freeway Segment Traffic Volume

- Under existing conditions on weekdays with game days four freeway segments operate at LOS D or better, while six freeway segments operate at LOS E or F.
- Under existing conditions on Saturdays and Sundays with game days all freeway segments operate at LOS D or better.

Freeway Ramp Meters Traffic Volume

- Under existing conditions on weekdays with game days five ramp meters operate at an acceptable LOS (delay of 15 minutes or less), while three ramp meters operate with a delay of 15 minutes or more.

<u>Existing Mobility and Alternative Transportation</u>

Existing Transit Service

Local transit service to the project area is provided by the San Diego Metropolitan Transit System (MTS) in the form of trolley (light rail) and fixed route bus services. Regional rail transit service is provided by North County Transit District (NCTD) and Amtrak. The existing transit service is shown in Figure 4.10-2.

Trolley

The project area is served directly by one trolley transit line provided by MTS, the Green Line. Service is provided on 15-minute headways during the weekday commute and varies from 15 to 20 minutes headways on the weekend mid-day hours. On game days, pre-game operations typically have 5 minute headways from the west and 7.5 minute headways from the east. Post-game the westbound headway is 4 minutes and eastbound headway is 7.5 minutes. The Green Line provides service from Downtown San Diego to the City of Santee every day from approximately 5:00 am to midnight. The Green Line runs along I-8 and has a trolley stop at Qualcomm Stadium within the project site located at Gate 2. Each train can hold approximately 450 to 600 passengers with a throughput capacity of about 11,000 passengers per hour (20 arrivals per hour; 12 from the west, 8 from the east).

Many of the existing Qualcomm Stadium patrons ride the trolley for both NFL and San Diego State Aztecs football games. Approximately 22-28 percent of NFL game attendees ride the trolley to the project site. In 2014, the highest ridership for a NFL game was 17,838 for the Chargers vs. New England Patriots game on December 7, 2014. Patrons attending San Diego State Aztecs games also ride the trolley to the project site. During the academic year when students are on campus, approximately 12-15 percent of total attendance for Aztecs games travel by trolley. Other special events such as the Sky Show fireworks display would also attract a large trolley population. The Sky Show is a post-football (Aztecs) game event that occurs once a year. The highest ridership for the Sky Show in 2014 was 6,337 riders on November 8, 2014. The highest ridership noted was during the 2003 Super Bowl game at more than 32,000 riders (MTS) (San Diego Union Tribune 2015).

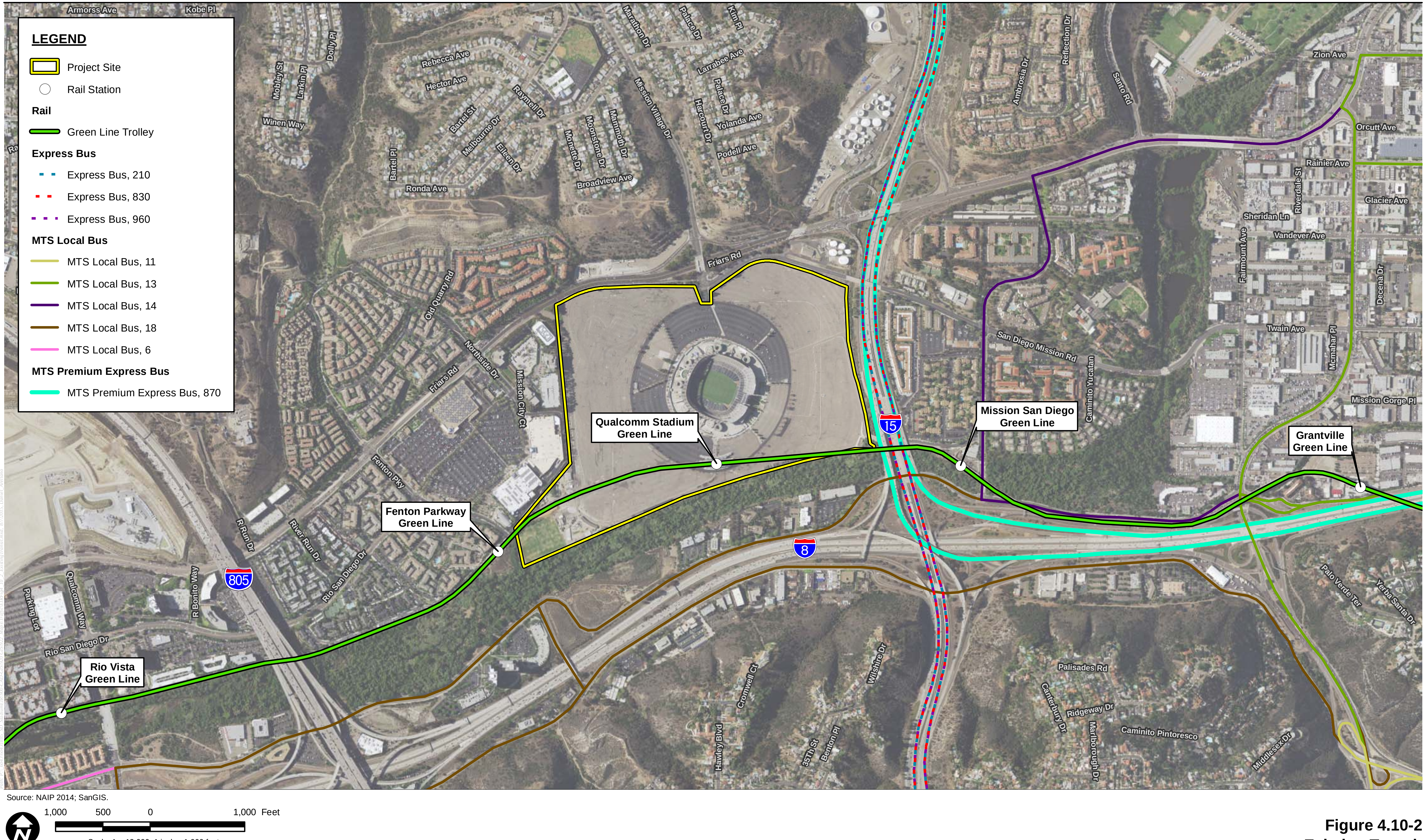

Figure 4.10-2
Existing Transit

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On game days, increased frequency and longer trains help get attendees to and from the stadium. Headways during pre-game operations are generally 5 minutes for trains in the westbound direction and 7.5 minutes for trains in the eastbound direction. Extra service begins running approximately 3 hours before events begin. Attendees can use any of the Green Line Park & Ride locations, or transfer to the Green Line from the Orange Line at Grossmont Center or from the Blue Line at 12th & Imperial.

Bus

MTS Bus Route 14 travels near the project site. The closest bus stop is located at Rancho Mission Road and San Diego Mission Road approximately 0.5 mile walk from Gate 1. Bus Route 14 connects to Grantville Trolley Station, SDSU Transit Center and 70th Street Trolley Station and other MTS bus routes.

Charter Bus and Shuttle Service

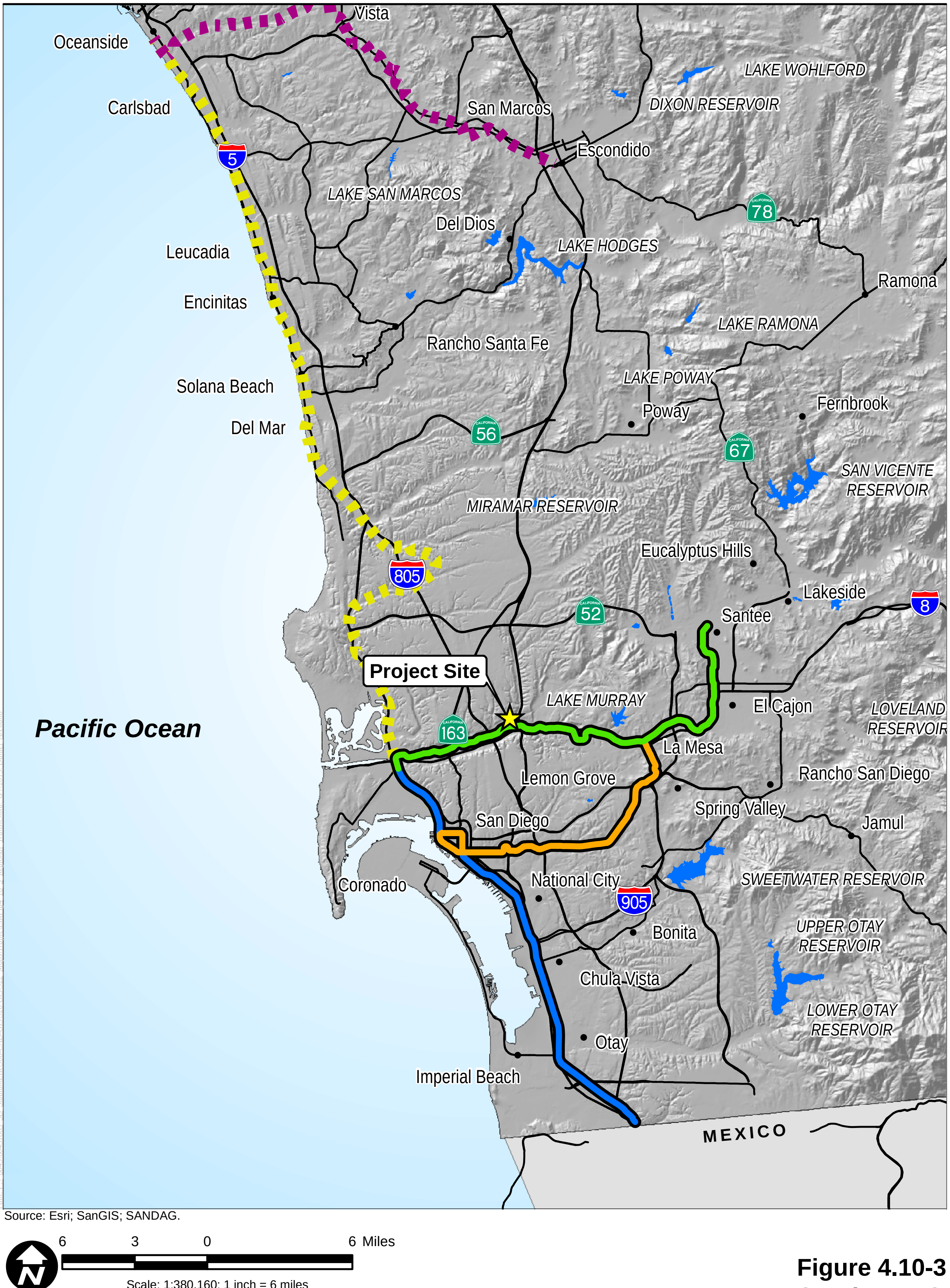
Private charter bus companies provide direct round-trip service from San Diego County, Orange County and Riverside County Locations. Express charter bus services also offer roundtrip bus transportation to all NFL pre-season and regular season home games, including Monday and Thursday night games. It is anticipated that private shuttles would continue to offer service to the new stadium. A typical charter bus has approximately 55 seats.

Regional Rail

Connections from regional rail services to the Green Line Trolley are provided at Old Town. Game day and non-game day service remains the same on all regional rail lines. Figure 4.10-3 from the 2014 Chargers Transportation Guide provides a regional map depicting the regional transit connections to the project site.

NCTD Coaster

The NCTD Coaster commuter train provides service to eight stations between the City of Oceanside and downtown San Diego. Service is provided on 30-minute headways during the weekday commute and one hour headways on the weekends. Access to the project site requires a transfer at the Old Town Station to the MTS Green Line trolley to Qualcomm Stadium.



Source: Esri; SanGIS; SANDAG.

Figure 4.10-3
Regional Transit

Amtrak Pacific Surfliner

The Amtrak Pacific Surfliner provides service throughout the Southern California Region including all three stations in San Diego. Trains are scheduled with approximately every hour on the weekdays and every 1.5 hours on the weekends. Access to the project site requires a transfer to the MTS Green Line Trolley at the Old Town Station to the Project site.

Taxi

A designated drop-off and pick-up area off-site for taxi services is provided outside the Project site. It is located on San Diego Mission Road near the Main Gate entrance. Attendees walk to the Project site once they are dropped off at the drop-off area.

Existing Bicycle Facilities

Several bicycle lanes and bicycle paths are located in the vicinity of the project site.

Class I Bike Paths

Class I bike paths or also shared-use or multi-use paths are paved right-of-way for exclusive use by bicyclists, pedestrians and those using non-motorized modes of travel. They are separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way.

- Murphy Canyon Bike Path – a multi-use Class I bicycle path that continues from the Qualcomm Stadium parking lot to the residential neighborhoods in the north.
- Qualcomm Way - from Friars Road extending into the University Heights neighborhood.

Class II Bike Lanes

Class II bike lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Bike lanes are one-way facilities on either side of a roadway.

- Camino del Rio North – A class II bike lane from Qualcomm Way to Fairmount Avenue on both sides of the roadway.
- Fenton Parkway - Class II bike lane from south of Friars Road to terminus located at the Fenton Parkway Trolley Station.

- Friars Road – Class II bicycle lane on both north and south sides of the roadway from SR-163 interchange connecting to Mission Gorge Road Class II bike lane.
- Mission Village Drive – A Class II facility from San Diego Mission Road to Ronda Avenue.
- San Diego Mission Road – Class II bike lane from Ward Road to Fairmount Avenue.

Class III Bike Route

Class III bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, but no stripping, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand.

- Mission Village Drive – Class III bicycle lane from Ronda Avenue to Ruffin Road

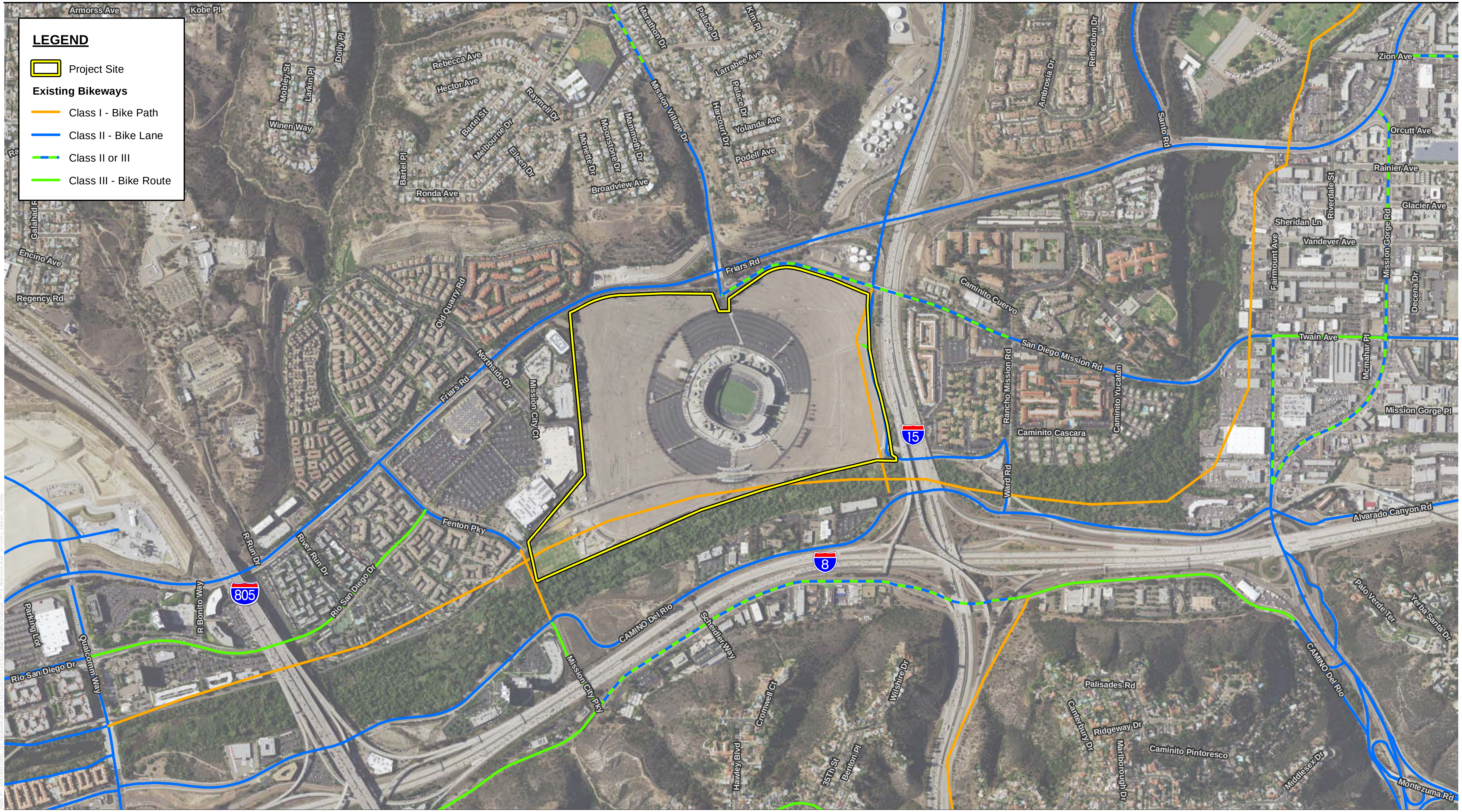
On-site Bicycle Parking

Bicycle parking is also provided on the project site. Twelve bicycle lockers and one wave-style bicycle rack is provided on the lower level of the Qualcomm trolley station and one toast-style bicycle rack is provided for 40 bicycles in the southeastern corner of the parking lot. The existing bicycle facilities within the study area are shown on Figure 4.10-4.

Existing Pedestrian Facilities

The following streets provide the primary pedestrian linkages to the Project site from the surrounding neighborhood. Pedestrians can access the project site at any of the entrance and exit gates.

- Friars Road – Friars Road provides the most pedestrian access to the stadium. Gates 1 and 4 both have pedestrian access along Friars Road. Sidewalks are located on the south side of the roadway.
- Rancho Mission Road – Rancho Mission Road is a residential street that connects directly to Gate 2/Bus Gate. There are sidewalks on both sides of the streets and crosswalks are provided to the project site.
- San Diego Mission Road – San Diego Mission Road provides pedestrian access to Gate 1 and has a continuous sidewalk on the south side of the roadway.



Source: NAIP 2014; SanGIS.

1,000 500 0 1,000 Feet

Scale: 1 = 12,000; 1 inch = 1,000 feet

Figure 4.10-4
Existing Bikeways

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- Mission Village Drive – Mission Village Drive leads directly to the main gate. Although Mission Village Drive is on an incline, attendees traveling from the neighborhood north of the project site can walk down the hill and enter the Project site through the Main Gate. Pedestrian crosswalks are provided on Mission Village Drive and San Diego Mission Road.
- Murphy Canyon Bike Path – The Murphy Canyon Bike path is a multi-use recreational trail that permits both pedestrian and bicycle access.

All signalized intersections have crosswalks and signal heads with pushbutton actuators for pedestrians. See the Traffic Impact Analysis Report, Appendix J for relevant excerpts from the City of San Diego Pedestrian Master Plan.

Existing Parking Facilities

Currently, the parking lot has approximately 18,870 parking spaces. Within the parking lot, there are areas designated for bus parking, RVs, and tailgating. A family lot (alcohol not permitted) with 120 spaces is provided north of Friars Road with access from Mission Village Drive. Figure 4.10-5 includes a map of the existing parking lot included in the Chargers Transportation Guide for the 2014 NFL Season.

Parking for attendees arriving after the start of a stadium event or later can also be accommodated on the practice field located in the southwestern corner of the parking lot. Approximately 700 cars can be accommodated utilizing a stacked parking configuration.

Employee parking is provided off-site at 2931 Camino Del Rio N, San Diego, CA 92108 and provides enough space for 1,000 vehicles. A circulating shuttle provides transportation to and from the employee parking lot and the project site.

Adjacent to the Project site are parking facilities that serve as overflow parking for the existing Qualcomm Stadium during events. Along the MTS Green Trolley Line, there are several park and ride lots that provide 4,345 free spaces and paid parking spaces in addition to the existing onsite parking lot. Table 4.10-5 includes the free and paid park and ride lots along the Trolley Green Line. Additional park and ride lots are located along the Trolley Blue and Orange lines that can be used by attendees transferring to the Green Line Trolley to travel to the stadium. Parking availability within 10 MTS trolley station stops of Qualcomm Stadium is included in the Table 4.10-6.

Table 4.10-5
Green Line Park and Ride Facilities

Station	Parking Spaces	Minutes to Stadium
12th and Imperial	Paid parking; some street parking	31
Gaslamp Quarter	Paid parking	29
Convention Center	Paid parking	27
Seaport Village	Street parking	25
Santa Fe Depot	Nearby paid parking	23
County Center / Little Italy	No free parking	22
Middletown	No free parking	20
Washington St.	Paid parking	18
Old Town	412 free spaces + 350 overflow spaces (additional parking at Caltrans at 4050 Taylor St.)	14
Morena/Linda Vista	199 free spaces (do not park at the YMCA)	11
Fashion Valley	63 free spaces (specified Trolley parking areas only)	8
Hazard Center	1,500 free spaces (during special events and games only; lower level only)	6
Mission Valley Center	Street parking	4
Rio Vista	Paid parking at Marriott Hotel	3
Fenton Parkway	Limited street parking	1
Qualcomm Stadium	+5,000, not during major events.	
Mission San Diego	Limited street parking	2
Grantville	238 (+300 in two overflow lots open during events)	4
SDSU	Several pay parking lots with some street parking	8
Alvarado Medical Center	Limited street parking	11
70th Street	118	13
Grossmont Transit Center	220	17
Amaya Drive (La Mesa)	236	19
El Cajon Transit Center	469	23
Arnele Avenue (El Cajon)	65	25
Gillespie Field	175	29
Santee	Shared parking with Santee Trolley Square shopping center	32

Source: MTS

Figure 4.10-5
Existing Stadium Parking

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Table 4.10-6
Orange Line Park and Ride Facilities near Qualcomm Stadium Station

Station	Address	Parking Spaces Available
Encanto / 62nd Street	6249 Akins Dr.	158 free spaces
Massachusetts Avenue	1787 San Altos Pl.	241 free spaces
Lemon Grove Depot	3443 Main St.	22 free spaces
Spring Street	4250 Spring St.	324 free spaces
La Mesa Blvd.	8248 La Mesa Blvd.	No free parking
Grossmont Transit Center	8601 Fletcher Pkwy.	220 free spaces (construction project in progress)
Amaya Drive	9100 Amaya Dr.	236 free spaces
El Cajon Transit Center	352 S. Marshall Ave.	469 free spaces

Available free parking spaces within 10 station stops from Qualcomm Station on the Orange Trolley Line total 1,670 spaces. The MTS Trolley System Map is included in the Figure 4.10-6 displaying the available park and ride lots on each of the trolley routes.

Travel Demand Model

The SANDAG Series 12 Traffic Volume Forecast was developed based on the population and employment information from the 2050 Regional Transportation Plan (RTP) completed in 2011. Models for forecast years 2015 and 2035 were adopted for the purpose of this traffic study to establish the traffic demand used for these analyses. The adjusted AM peak hour, PM peak hour and ADT volumes from the SANDAG model were used to forecast traffic volumes for the future year Baseline scenarios.

Model Post-Processing

To ensure the accuracy of regional model results at the project level (i.e. at specific arterial intersections or roadway segments), it was necessary to make further adjustments based on existing data to the model results to more closely replicate travel conditions. Future traffic volume post-processing relied on existing counts and model growths at each corresponding link extracted from the aforementioned model for forecast year 2015 and 2035. The model growths at the link level are applied to existing volumes for roadway and freeway segments, as well as for intersection approach and departure legs. All post-processed volumes are reviewed and appropriate adjustments are made to reflect local area land uses and known travel patterns.

Figure 4.10-6
San Diego MTS Trolley System Map

Source: San Diego MTS

For traffic projections in analysis year 2019 under Project construction and demolition conditions, annual growth rates were calculated assuming a linear traffic growth between years 2015 and 2035. For weekend traffic volume forecasting, model growths are adjusted to match existing relationships between weekday and weekend traffic volumes at the study locations.

Trip Generation

Existing game day trip generation was calculated using parking gate counts, trolley ridership, and recent attendance data from past games. Future trip generation was estimated based on projected event frequency and attendance, the reduction of on-site parking spaces, and the implementation of the Transportation Demand Management (TDM) plan. Average attendance to major NFL games at Qualcomm Stadium is approximately 65,000 and the most recent NFL games have been approximately 68,000. The majority of stadium attendees travel to the Project site by automobile, followed by trolley, express shuttle service, and lastly by other modes of transportation including taxi, bus, bicycling or walking.

Consistent with existing Qualcomm Stadium operations and functions, the Project site would be a flexible meeting space that could accommodate events of various sizes upon completion. The events would typically be held any time from daytime through evening hours.

As discussed in Chapter 3: Project Description, projected attendance for the miscellaneous events is not anticipated to exceed the existing usage for similar event types at Qualcomm Stadium. Therefore, no additional vehicle trips over existing conditions on a daily basis are anticipated.

There are currently 18,870 parking spaces available on-site. It should be noted that around 1,000 to 3,000 spaces are rendered unusable during major stadium events with the existing parking lot and site plan configuration due to event tents, tailgating activities, media zones, and increased bus/shuttle parking.

Mode Split

Table 4.10-7 summarizes existing transportation mode split which was derived using the following assumptions:

Table 4.10-7
Modal Split by Person Trips (Existing Conditions)

Day of Week	Attendee						Game Day Personnel			
	Auto	Shuttle/ Charter Bus	Taxi/ Drop Off	Walk/ Bike	Transit	Total	Car	Offsite Shuttle	Transit	Total
Transportation Modal Split (Person Trips)										
Weekday	63%	13%	1%	1%	22%	100%	57%	29%	14%	100%
Weekend	56%	14%	1%	1%	28%	100%	60%	29%	11%	100%
Trip Generation (Person Trips)										
Weekday	42,600	9,000	700	700	15,000	68,000	2,000	1,000	500	3,500
Weekend	38,100	9,500	700	700	19,000	68,000	2,100	1,000	400	3,500
Trip Generation (Vehicle Trips)										
Weekday	15,800	200	300	0	0	16,300	1,300	100	0	1,400
Weekend	12,700	200	200	0	0	13,100	1,400	100	0	1,500
Vehicle Occupancy Rate										
Weekday	2.7	45	2.7	--	--	--	1.5	20	--	--
Weekend	3.0	45	3.0	--	--	--	1.5	20	--	--

Automobile Trips

NFL games, especially weekday night games, are the worse-case scenario for traffic impacts. Therefore, the discussion will focus on NFL games as all other stadium events would not be as impacting.

Automobile trips refer to passenger cars parking on-site. Attendees could either drive alone (single occupancy) or with other family or friends in a carpool (multiple occupancy). The occupancy rate of each passenger car parking onsite determines the number of attendees that travel to the games by automobile. Weekday vehicle occupancy is expected to be lower as attendees would be less likely to carpool than on weekends. A major event with an attendance of 68,000 attendees is anticipated to generate approximately of 15,800 automobile trips on weekdays and a total of 12,700 automobile trips on weekends (prior to implementation of the TDM).

Game day personnel are also anticipated to arrive to the Project site via automobile trips. Approximately 1,000 spaces for employee parking are provided off-site, however there are a number of employees who would park onsite. These personnel auto trips total approximately 1,300 auto trips on weekday games and 1,400 auto trips on weekend games.

Transit Trips

Transit trips include trolley trips and other transit connections made to the trolley. The MTS Trolley Green Line services the project site in the southern portion of the parking lot and provides the most direct transit access. Bus Route 14 services the project area, but attendees who ride the bus to the Project site must walk and additional ½ mile to the Project site and are considered as pedestrians arriving to the Project site. Assuming an average game day attendance of 68,000 people, approximately 15,000 transit trips are generated on weekday games and approximately 19,000 transit trips on weekend game days.

Game day personnel also take the trolley to work from throughout the city and region. The number of game day personnel transit trips was calculated based on the onsite parking data provided by ACE parking and the limited number of employee parking spaces located offsite.

Bike and Walk Trips

Some attendees from the surrounding neighborhoods could reasonably bike or walk to the Project site, although considered to be a minimal number. Approximately 1% of the attendee trips or 700 people are estimated to bike or walk to the project site on both weekday and weekend game days. A very small number of employees bike or walk to the project site on weekday and weekend game days, so little so that when rounding those figures it amounts to zero person trips. Therefore, these person trips were not represented in Table 4.10-7.

Taxi/Drop Off

Taxi and drop off trips refer to attendees who travel to the Project site by taxi or other ride-sharing services or by passenger cars that do not park on-site. A taxi/drop off area is located off-site along San Diego Mission Road and Mission Village Drive. The number of taxi or drop off trips to this area is expected to be minimal as this intersection is very congested before events with automobiles queuing to enter the Main Gate. Approximately 1% of the attendees are anticipated to travel to the Project site by taxi or at the drop-off area. A major event with an attendance of 68,000 attendees is anticipated to generate approximately 200-300 vehicle trips on weekdays and weekends.

Shuttle/Charter Bus trips

Shuttle and charter bus trips include private charter buses or shuttles that pick up attendees from specific locations throughout the region before the game day event, park on-site for the duration of the event and depart after the event. Approximately 100 parking spaces for these vehicles are available onsite. The number of trips currently generated by shuttle and charter bus is approximately 9,000 person trips on weekday games and 9,500 person trips on weekends.

Offsite Shuttle

Game day personnel also use an offsite shuttle to travel to and from the employee parking lot located offsite. This shuttle drops off employees onsite and does not park onsite before, during or after the game. Many of these trips occur several hours before the peak period and before the game event ends. Approximately 1,000 parking spaces are provided on the offsite employee parking lot.

Future Trip Generation

Future game day vehicle trip generation to and from the site is anticipated to decrease from existing trip generation due to the implementation of the TDM. During the events in which the parking demands are to exceed capacity, a modal shift is anticipated since attendees are expected to seek alternative modes of transportation.

In estimating mode split under Project conditions, the maximum trolley capacity was used as a constraint in limiting the number of attendees that can shift from driving and parking on-site to riding the Trolley. The modal split and trips generated for all future scenarios assume trolley ridership would reach a conservative capacity rate of 20,000 riders on weekday game days and 23,000 riders on weekend game days.

Table 4.10-8 represents the modal split for all future conditions including Stadium Construction, Qualcomm Stadium Demolition, and Horizon Year 2035 Project Build Out.

Table 4.10-8
Modal Split by Person Trips (All Future Conditions)

Day of Week	Attendees						Game Day Personnel			
	Car	Shuttle/ Charter Bus	Taxi/ Drop Off	Walk/ Bike	Trolley	Total	Car	Shuttle	Trolley	Total
Transportation Modal Split (Person Trips)										
Weekday	54%	15%	1%	1%	29%	100%	50%	36%	15%	100%
Weekend	49%	15%	1%	1%	34%	100%	53%	36%	12%	100%
Trip Generation (Person Trips)										
Weekday	36,600	10,000	700	700	20,000	68,000	1,800	1,300	400	3,500
Weekend	33,100	10,500	700	700	23,000	68,000	1,800	1,300	400	3,500
Trip Generation (Vehicle Trips)										
Weekday	13,600	200	300	0	0	14,100	1,200	100	0	1,300
Weekend	11,000	200	200	0	0	11,400	1,200	100	0	1,300
Vehicle Occupancy Rate										
Weekday	2.7	45	2.7	--	--	--	1.5	20	--	--
Weekend	3.0	45	3.0	--	--	--	1.5	20	--	--

Approximately 36,600 auto trips are expected on weekday game days and 33,100 auto trips are expected on weekend game days under future Project scenarios. Overflow vehicles would be directed to off-site parking sites and shuttles would be provided between the off-site parking sites and the Project site. These shuttles would be circulating between the parking sites and the Project site and would not be parking on-site. Table 4.10-9 summarizes the daily vehicle trip generation under existing and Project conditions on both weekday and weekend game days. Table 4.10-10 further summarizes the vehicle trip generation during the AM and PM peak hours on weekday and weekend game days by transportation mode.

Table 4.10-9
Daily Vehicle Trip Generation on Game Days (Inbound and Outbound)

Day of Week	Auto (veh)	Shuttle / Charter Bus (veh)	Total Trips (PCE)
Existing			
Weekday	34,700	500	35,700
Weekend	28,600	500	29,600
Construction Phase			
Weekday	30,000	700	31,400
Weekend	25,000	600	26,200
Demolition Phase			
Weekday	30,000	800	31,600
Weekend	25,000	600	26,200
Project Build Out			
Weekday	30,000	600	31,200
Weekend	25,000	600	26,200

Note: Total daily trips were calculated using an assumed Passenger Car Equivalent (PCE) of 2 and rounded to the nearest 100 trips.

Table 4.10-10
Peak Hour Vehicle Trip Generation on Game Days

Day of Week	Peak Hour	Project Site						Off-Site Parking					
		Auto (Veh)		Bus/Shuttle (Veh)		Total Trips (PCE)		Auto (Veh)		Bus/Shuttle (Veh)		Total Trips (PCE)	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Existing													
Weekday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	6,322	164	131	0	6,580	160	0	0	0	0	0	0
Saturday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	5,097	147	138	0	5,370	150	0	0	0	0	0	0
Sunday	AM	1,777	0	10	0	1,800	0	0	0	0	0	0	0
	PM	181	8,431	0	189	180	8,810	0	0	0	0	0	0

Day of Week	Peak Hour	Project Site						Off-Site Parking					
		Auto (Veh)		Bus/Shuttle (Veh)		Total Trips (PCE)		Auto (Veh)		Bus/Shuttle (Veh)		Total Trips (PCE)	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
New Stadium Construction													
Weekday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	5,161	164	171	27	5,500	220	450	0	27	27	500	50
Saturday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	4,450	147	151	0	4,750	150	0	0	0	0	0	0
Sunday	AM	1,544	0	13	0	1,570	0	0	0	0	0	0	0
	PM	181	7,352	0	211	180	7,770	0	0	0	0	0	0
Qualcomm Stadium Demolition													
Weekday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	4,759	164	208	64	5,170	290	1,068	0	64	64	1,200	130
Saturday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	4,450	147	151	0	4,750	150	0	0	0	0	0	0
Sunday	AM	1,544	0	13	0	1,570	0	0	0	0	0	0	0
	PM	181	7,352	0	211	180	7,770	0	0	0	0	0	0
New Stadium Build Out													
Weekday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	5,453	164	144	0	5,740	160	0	0	0	0	0	0
Saturday	AM	0	0	0	0	0	0	0	0	0	0	0	0
	PM	4,450	147	151	0	4,750	150	0	0	0	0	0	0
Sunday	AM	1,544	0	13	0	1,570	0	0	0	0	0	0	0
	PM	181	7,352	0	211	180	7,770	0	0	0	0	0	0

Note: Shuttle and buses are converted to passenger-car equivalents (PCE of 2) when calculating total trips.
Total trips are rounded to the nearest 10s.

Arrival and Departure

Attendees and stadium personnel travel to the project site for games at a range of times starting from more than 5 hours prior to kick off to as late as less than 1 hour prior to kickoff. It is not uncommon for the stadium parking lot to be full approximately two hours before kickoff. Attendee arrival distribution for Qualcomm Stadium is typical of stadiums of similar size and type and the approximate times of arrival used for other similar stadiums were applied to the project site. Table 4.10-11 provides an estimate on the distribution of when attendees arrive at the project site for game days.

Table 4.10-11
Weekday Game Day Trip Arrival and Departure Patterns

Hours Prior to Kick-Off / After Game	Attendee		Stadium Personnel	
	Auto	Shuttle / Charter Bus	Auto	Shuttle / Charter Bus
Arrival Pattern				
>4 hours	14%	0%	90%	90%
3-4 hours	14%	2%		
2-3 hours	14%	5%		
1-2 hours	19%	28%	10%	10%
< 1 hours	39%	65%	0%	0%
Departure Pattern				
During Game	10%	10%	10%	10%
< 1 hours	65%	80%	40%	40%
1-2 hours	25%	10%	50%	50%

Source: ACE Parking July 2015.

Arrival of attendees overlap with both weekday and weekend traffic analysis periods. This increased demand on the roadway network during these analysis periods would most impact the study area transportation network. Tables 4.10-12 and 4.10-13 indicate the number of inbound trips to the Project site that arrive within the peak traffic analysis periods on weekdays and weekends and therefore would cause the most impact to the transportation system. The most impacted study analysis period is 4:00 p.m. – 5:00 p.m. on weekdays and 5:00 p.m. – 6:00 p.m. on Saturdays before the start of the game and 4:30 p.m. – 5:30 p.m. on Sundays after the game.

Table 4.10-12
Weekday Game Trip Generations during Analyzed Peak Hours

Hours Prior to Kick-Off / After Game	Total Trips		Weekday	
	Auto	Shuttle / Charter Bus	5 PM Game Time	7 PM Game Time
Arrival Pattern				
>4 hours	2,480	10	12 - 1 PM	2 - 3 PM
3-4 hours	2,740	20	1 - 2 PM	3 - 4 PM
2-3 hours	2,610	30	2 - 3 PM	4 - 5 PM
1-2 hours	3,220	60	3 - 4 PM	**5 - 6 PM**
< 1 hours	6,320	130	**4 - 5 PM**	6 - 7 PM
Departure Pattern				
During Game	1,740	30	Before 8:30 PM	Before 10:30 PM
< 1 hours	11,000	180	8:30 - 9:30 PM	10:30 - 11:30 PM
1-2 hours	4,640	50	9:30 - 10:30 PM	11:30 PM - 12:30 AM

Table 4.10-13
Weekend Game Trip Generation during Analyzed Peak Hours

Hours Prior to Kick-Off / After Game	Total Weekend Trips		Saturday	Sunday
	Auto	Shuttle / Charter Bus	6 PM Game Time	1 PM Game Time
Arrival Pattern				
>4 hours	2,060	10	1 - 2 PM	**8 - 9 AM**
3-4 hours	2,340	20	2 - 3 PM	9 - 10 AM
2-3 hours	2,200	30	3 - 4 PM	10 - 11 AM
1-2 hours	2,630	60	4 - 5 PM	11 AM - 12 PM
< 1 hours	5,100	140	**5 - 6 PM**	12 - 1 PM
Departure Pattern				
During Game	1,430	30	Before 9:30 PM	Before 4:30 PM
< 1 hours	8,990	190	9:30 - 10:30 PM	**4:30 - 5:30 PM**
1-2 hours	3,890	50	10:30 - 11:30 PM	5:30 - 6:30 PM

The trips generated from the worst peak hour for weekday, Saturday and Sunday were used for the intersection peak hour analyses.

Construction Trip Generation

Project construction and demolition would occur six days a week from Monday to Saturday and limited to the hours of 7:00 a.m. to 7:00 p.m. During weekday peak hour, the number of trips generated from construction is small and not expected to significantly affect peak hour traffic conditions. The most traffic impacts are anticipated to occur during key periods during the construction and demolition schedule where both workers and truck trips would reach highest frequency per day. These time periods include:

- New Stadium Construction from January 2017 to August 2019
- Qualcomm Stadium Demolition from September 2019 to October 2020

Table 4.10-14 summarizes the number of worker trips and truck trips during each of the specific construction phases described above.

Table 4.10-14
Construction Trip Generation (One Way)

Construction Phases with Heavy Truck Trips	Duration (week)	Truck Trips		On-Site Worker Trips	
		(PCE / Day)	(PCE / Peak Hour)	(PCE / Day)	(PCE / Peak Hour)
Project Construction Phase					
New Replacement Stadium Construction: earthwork	16	242	--	80	26
Project Demolition Phase					
Qualcomm Demolition: Remove & Sort Debris	8	108	--	80	26
Demolition: Asphalt Demolition and Earthwork	34	243	--	80	26

Note: Based on construction schedule
Truck Passenger Car Equivalent = 2

Worker Trips

Construction workers and contractors are anticipated to drive and park onsite. On average, approximately 80 workers and 25 visitors are anticipated to travel to the project site per construction day (AECOM 2015). As the construction hours are from 7:00 a.m. to 7:00 p.m., it is assumed that 75 percent of the workers would arrive to and depart from the project site during off-peak hours.

Worker trips during the construction of the new stadium and demolition of the existing Qualcomm Stadium are small in number and are not expected to change throughout the entire construction and demolition phase of the project. An average of 80 one-way worker trips is anticipated daily (one trip per person).

Truck Trips

The truck trips hauling fill and materials off-site to land fill would be the trips with the most traffic impacts. These heavy truck trips are anticipated to occur during both the new stadium construction and the Qualcomm Stadium demolition phases. A passenger-car equivalent (PCE) of 2 is assumed to convert the number of truck trips to passenger car trips. During the new stadium construction site work phase, most of the heavy truck trips would be hauling earth to the site in preparation for construction. This activity is anticipated to occur over 16 weeks with an estimated 242 PCE trips per day and assumed to occur outside the morning and evening peak commuting hours. Also during the Qualcomm stadium demolition phase, the most truck trips would be similar to the previous construction phase with 243 PCE per day during off-peak hours. These truck trips would have a minimal impact on the roadway network and traffic conditions during peak and non-peak hours.

Trip Distribution

Event Attendees

Attendees travel from all over the San Diego region to attend events at the project site. Tables 4.10-15 and 4.10-16 summarize the regional travel trends used to derive the game day attendees' trip origins and the access routes for each region. Trip distribution estimates were based on a variety of factors including location of residential areas, employment and commercial centers near the project site, information from similar stadiums studies and origins and destinations data from both the *2006 San Diego Household Travel Study* and the *2006 Interregional Travel Behavior Study*. Overall, attendees most frequently use I-15 and I-8, the two interstate highways adjacent to the project area, when traveling to the stadium.

Table 4.10-15
Trip Distribution Estimates by Region

Region	Trip Distribution	Access Route
San Diego County		
Central	19.3%	I-15 South / SR-163 South / I-8 West / Arterial
North City	28.9%	I-15 North / I-8 West / SR-163 North/Arterial
South County	10.8%	SR-163 South / I-15 South
East County	14.1%	I-8 East
North County West	12.6%	I-15 North / I-8 West
North County East	11.9%	I-15 North
Interregional		
Riverside County	1.5%	I-15 North
Imperial County	0.2%	I-8 East / I-15 North
Orange County	0.7%	I-8 West / I-15 North

Table 4.10-16
Trip Distribution Estimates by Access Route

Access Route	Trip Distribution
I-15 North	27%
I-15 South	12%
SR-163 North	4%
SR-163 South	12%
I-8 East	14%
I-8 West	24%
Local Arterial	7%
Total	**100%**

Currently there are four major accesses to the Project site: the Main Gate on Mission Village Drive, Gate 1 on San Diego Mission Road, the west driveway on Friars Road (to Gates 2, 3 and 4) and the Bus Gate at the end of Rancho Mission Road. See Figure 4.10-5 for a map of the gate locations. On major event days, general traffic can access the Stadium through any of the gates except for the Bus Gate, which is reserved exclusively for vehicles longer than 20 feet, ADA vehicles or vehicles with permits. Trip distribution and assignment in the immediate vicinity of the Project site was determined based on past parking gate counts and observed local travel patterns. The new stadium would maintain all the existing access points on major event days during the Project construction and demolition phases.

Construction Workers and Trucks

All related construction traffic would travel to and from the project site through the Main Gate via Friars Road and Mission Village Drive. All construction traffic is anticipated to access the area via I-15 and the Friars Road interchange at I-15.

Cumulative Projects

Table 4.10-17 summarizes the list cumulative projects by name, land use description and current project status. A conservative three percent per year cumulative growth factor was used for the purpose of accounting for these projects' influence to the study area as well as for other unanticipated growth within the study area, in lieu of itemized cumulative added trips which were not readily available from individual developers and other project proponents. This growth rate was applied to all intersections, roadways, freeway segments and ramps when analyzing future year traffic forecasts.

Table 4.10-17
Cumulative Project List

Project	Description	Status
Town and Country (MV Atlas)	Proposal is to amend the Atlas Specific Plan and apply for a Master Plan Development Permit	Initiation of MV-CP amendment process has begun
Riverwalk	Proposal is to amend the Levi-Cushman Specific Plan, create a new specific plan, and apply for discretionary permits.	Applicant has not yet submitted a project.
Camino del Rio Mixed Use Project (Bob Baker site)	Proposal is to demolish existing structures and surface parking lots, and construct a mixed-use project of 305 residential units, approximately 5,000 square feet of office space, approximately 4,000 square feet of retail space, and a six- level parking structure with a total building area of approximately 563,980 square feet	Approved on October 30, 2014 by the Planning Commission (Resolution 4629-PC-2). Demolition permits were approved on March 11, 2015. Building, electrical, mechanical, plumbing, and grading permits currently under review.
Civita (formerly known as Quarry Falls)	Proposal is for 4,780 residential units, 603,000 square feet of retail/commercial, and 620,000 square feet of office. Civita is in the Quarry Falls Specific Plan.	Phase I of the project is under construction

Project	Description	Status
Union Tribune Mixed Use Project	Proposal is to construct 286,000 square feet total building area including: two 7-story buildings, 200 residential units, 3,000 square feet retail, 60,000 square feet outdoor amenities space; and 212,000 square feet parking structure.	Project approved by Planning Commission, but an appeal has been filed to the City Council
University of San Diego Master Plan	Proposal for Conditional Use Permit (CUP), amending CUP #92-0568 and 1996 Master Plan/Design Guidelines, would increase student enrollment to a maximum of 10,000 full time equivalent students with proposed development over a 20 year period. The 180± acre site is located within the RS-1-7, RM-3-7, OR-1-1 and OP-2-1 zones within the Linda Vista Community Plan area.	Currently under multi-discipline review.
Hazard Center Redevelopment	Proposal to demolish existing commercial to construct new residential uses and parking on site. Five-story row homes (73 residential units) and 22-story tower (198 residential units), with additional commercial along Hazard Center Drive. Also 21-story tower (202 residential units) and commercial on northeast corner of Friars Road and Frazee Road. A 0.63- acre public park is proposed in the southwest corner of the project site.	Vesting Tentative Map, Site Development Permit, Planned Development Permit, and Land Use Plan approved by City Council on May 18, 2010. No applications for building permits have been received by the City.
Legacy International Center	Proposal is to construct a mixed-use development with religious, lodging, administrative, recreational, and commercial uses. The project is located south of I-8 at 875 Hotel Circle South and consists of two parcels, approximately 18.1 acres. Religious center and associated buildings approximately 400,588 square feet. Total of 878 parking stalls (195 surface and 683 subterranean or parking structure).	Design discussion at Mission Valley Planning Group Design Advisory Board in March 2015
Vagabond Inn	Proposal to increase number of hotel rooms on 2.77 acre site, from 131 rooms to 168 rooms.	Approved 2015
Discovery Center	Proposal to create a 17 acre nature park, community center, and discovery center. Discover Center River Trail also proposed. 9,450 square feet of indoor space, 120-seat outdoor classroom.	Currently under review
Shawnee LLC/CG 7600 Master Plan	Proposal is for a Master Plan that requires a Community Plan Amendment to alter the plan's Industrial uses to include a total of 1,023 multi-family residential units along with approximately 37,500 square feet of specialty retail which would generate 7,692 ADT. Proposal is at Mission Gorge Road at the intersection of Old Cliffs Road in the Navajo Community.	Approved by City Council in October 2012.

4.10.2 Regulatory Framework

Federal

Title 49, Code of Federal Regulations, Parts 171-177. Governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles. The administering agencies for the above regulation are the California Highway Patrol

(CHP) and the United States Department of Transportation (USDOT), Pipeline and Hazardous Materials Safety Administration (PHMSA).

Title 14, Code of Federal Regulations, Section 77.13(2)(i). Requires an applicant to notify the Federal Aviation Administration (FAA) of construction of structures with a height greater than 200 feet from grade or greater than an imaginary surface extending outward and upward at a slope of 10 to 1 from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length. The administering agency for the above regulation is the USDOT, FAA. The concept for the development of new stadium shows an approximately 180-250 feet structure height potentially requiring notification to the FAA. Additionally, the project site is within the Airspace Protection Surfaces (FAA height Notification Boundary, Part 77 Airspace Surfaces) described in the Montgomery Field's Airport Land Use Compatibility Plan (ALUCP Exhibit III-3) Part 77 Airspace Protection Compatibility Policy Map.

State

California Vehicle Code, Section 353. Defines hazardous materials as any substance, material, or device posing an unreasonable risk to health, safety, or property during transportation, as defined by regulations adopted pursuant to Section 2402.7. The administering agency for the above statute is the CHP. Per CHP guidelines, the Project would classify the potential hazardous materials utilized during construction. The Project would also comply with these codes by continuing to classify all hazardous materials in accordance with their clarification. Furthermore, as previously mentioned in an address to Federal Title 49, Code of Federal Regulations, Parts 171-177, vehicles designated to transport hazardous materials would be provided proper markings per guidelines of appropriate jurisdiction.

California Vehicle Code, Sections 2500-2505. Authorizes the Commissioner of Highway Patrol to issue licenses for the transportation of hazardous materials including explosives.

California Vehicle Code, Sections 13369, 15275, 15278. Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. Requires a commercial driver's license to operate commercial vehicles. Requires an endorsement issued by the Department of Motor Vehicles (DMV) to drive any commercial vehicle identified in Section 15278. The administering agency for the above statutes is the DMV.

California Vehicle Code, Sections 31303-31309. Requires that the transportation of hazardous materials be on the state or interstate highway that offers the shortest overall transit time possible. The administering agency is the CHP.

California Vehicle Code, Sections 31600-31620. Regulates the transportation of explosive materials. The administering agency for the above statutes is the CHP. Furthermore, the transporters are required to comply with Title 49, Code of Federal Regulations Parts 171-177 and California Vehicle Code Sections 2500-2505.

California Vehicle Code, Sections 32000-32053. Authorizes the CHP to inspect and license motor carriers transporting hazardous materials of the type requiring placards. The administering agency for the above regulation is the CHP. In addition, the transporters would comply with the aforementioned Title 49, Code of Federal Regulations Parts 171-177 and California Vehicle Code Sections 2500-2505.

California Vehicle Code, Sections 32100-32109. Requires that shippers of inhalation hazards in bulk packaging to comply with rigorous equipment standards, inspection requirements, and route restrictions. The administering agency for the above regulation is the CHP.

California Vehicle Code, Sections 34000-34100. Establishes special requirements for vehicles having a cargo tank and for hazardous waste transport vehicles and containers, as defined in Section 25167.4 of the Health and Safety Code. The administering agency for the above regulation is the CHP.

California Vehicle Code, Section 3500. Regulates the safe operation of vehicles, including those vehicles that are used for the transportation of hazardous materials. The administering agency for the above regulation is the CHP.

California Vehicle Code, Section 35550. Imposes weight guidelines and restrictions upon vehicles traveling upon freeways and highways. The administering agency for the above statute is Caltrans.

California Vehicle Code, Section 35780. Requires a Single-Trip Transportation Permit to transport oversized or excessive loads over state highways. The permit can be acquired through the Caltrans. The administering agency for the above statute is Caltrans.

California Streets and Highways Code, Section 117. Unless otherwise specifically provided in the instrument conveying title, the acquisition by the department of any right of way (ROW) over any real property for state highway purposes, includes the right of the department to issue, under Chapter 3 (commencing with Section 660), permits for the location in the ROW of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures. The administering agency for the above statute is Caltrans.

The California Streets and Highways Code, Sections 660, 670, 672, 1450, 1460, 1470, 1480 et seq. Defines highways and encroachment, requires encroachment permits for projects involving excavation in State Highways and City Roadways. The administering agencies for the above regulation are Caltrans and the City of San Diego Development Services Department.

California Health and Safety Code, Section 25160 et seq. Addresses the safe transport of hazardous wastes, requires a manifest for hazardous waste shipments, requires a person who transports hazardous waste in a vehicle to have a valid registration issued by the DTSC in his or her possession while transporting the hazardous waste. The administering agency for the above regulation is the DTSC.

California Department of Transportation Traffic Manual, Section 5-1.1. Requires a temporary traffic control plan be provided for "continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities" during any time the normal function of a roadway is suspended. The administering agency for the above regulation is the City of San Diego Development Services Department. A Traffic Control Plan must be filed prior to the start of construction.

Regional

San Diego Association of Governments: 2050 Regional Transportation Plan

Series 12: 2050 Regional Growth Forecast was used to determine the existing and future traffic conditions for the Project. This data was used to comply with adopted 2050 Regional Transportation Plan. The following discussion addresses the applicable policy objectives included in the SANDAG RTP and the Project's consistency with those policy objectives.

SANDAG: 2050 Regional Transportation Plan

Goal, Objective or Policy	Project Consistency
Provide convenient travel choices including transit, intercity and high speed trains, driving, ridesharing and biking	With implementation of the TDM plan, the Project would increase the use of public transit, ridesharing, biking and walking for large stadium events. The new stadium would encourage the use of transit, ridesharing, and biking by providing incentives and prioritized parking for alternative transportation modes to reduce the demand for onsite parking and encourage non-motorized transportation.

Goal, Objective or Policy	Project Consistency
Increase the use of transit, ridesharing, walking and biking in major corridors and communities.	The Project site is a major entertainment center in the Mission Valley community. The TDM plan, would encourage the use of transit, ridesharing, walking and biking by providing prioritized parking for alternative transportation modes to reduce the demand for onsite parking and encourage alternative transportation. See Transportation Demand Management Plan Section 8 in the Traffic Impact Analysis Report, Appendix J for the policies and programs to increase multi-modal transportation.

<u>SANDAG Regional Bicycle Plan: Riding to 2050</u>

The SANDAG Regional Bicycle Plan proposes a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities and programs to make bicycling more practical and desirable to a broader range of people in our region. The following goals and objectives are applicable to the project. The following demonstrates project consistency with goals and objectives included in the SANDAG Regional Bicycle Plan applicable to the Project.

SANDAG Regional Bicycle Plan

Goal, Objective or Policy	Project Consistency
Goal 5: Increase Community Support for Bicycling Increase community support for bicycling by supporting programs that raise public awareness about bicycling and encourage more people to bicycle.	Awareness for different modes of transportation would be promoted including bicycling. Secure bike parking would be provided. In addition, a combination of bike lockers, bike parking, and bike corrals would be provided in the main plaza around the stadium.
Objective 4: Ensure the provision of convenient and secure bicycle parking and support facilities region-wide.	The new stadium would provide bicycle parking on the project site in addition to the existing bicycle parking and lockers located at the Qualcomm Trolley Station.

Local

The City of San Diego has the following programs and policies which address mobility (circulation) that could be affected by construction and operation of the Project.

City of San Diego General Plan Mobility Element

The Mobility Element sets the direction for the development of a comprehensive, coordinated, and continuing transportation system for the City of San Diego. The following goals are applicable to the Project and the following discussion demonstrates Project consistency.

San Diego General Plan Mobility Element

Goal, Objective or Policy	Project Consistency
ME-C.8. Implement Traffic Impact Study Guidelines that address site and community specific issues. a. Give consideration to the role of alternative modes of transportation and transportation demand management (TDM) plans in addressing development project traffic impacts.	With implementation of the TDM plan, the Project would increase reliance on transit, ridesharing, and biking to games to alleviate the demand for parking. Trolley ridership and shuttle service is expected to increase demand during construction and continue to remain higher than average as attendees become more comfortable with riding transit.
ME-C.9. Implement best practices for multi-modal quality/level of service analysis guidelines to evaluate potential transportation improvements from a multi-modal perspective in order to determine optimal improvements that balance the needs of all users of the right of way.	With implementation of the TDM plan, which increases the use of transit, bicycle, pedestrian and ride-sharing, the parking demand would be alleviated while serving the same number of attendees and balancing the needs of all users along adjacent right of way. See Chapter 8 of the Transportation Demand Management Plan in the Traffic Impact Analysis Report, Appendix J.
ME-E.4. Promote the most efficient use of the City's existing transportation network.	With implementation of the TDM plan, the Project would increase ridership on the City’s existing transportation network in order to encourage a transportation modal shift to alleviate the demand for on-site parking during construction and long-term operation of the new stadium. See Section 8: Transportation Management Plan in the Traffic Impact Analysis Report, Appendix J.

Source: City of San Diego Mobility Element

Montgomery Field, Airport Land Use Compatibility Plan (ALUCP)

According to California Airport Land Use Planning Handbook (Handbook) and as cited in the Montgomery Field ALUCP, an Airport’s AIA is established as “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” The AIA is divided into Review Area 1 and Review Area 2.

The composition of each area is determined as follows:

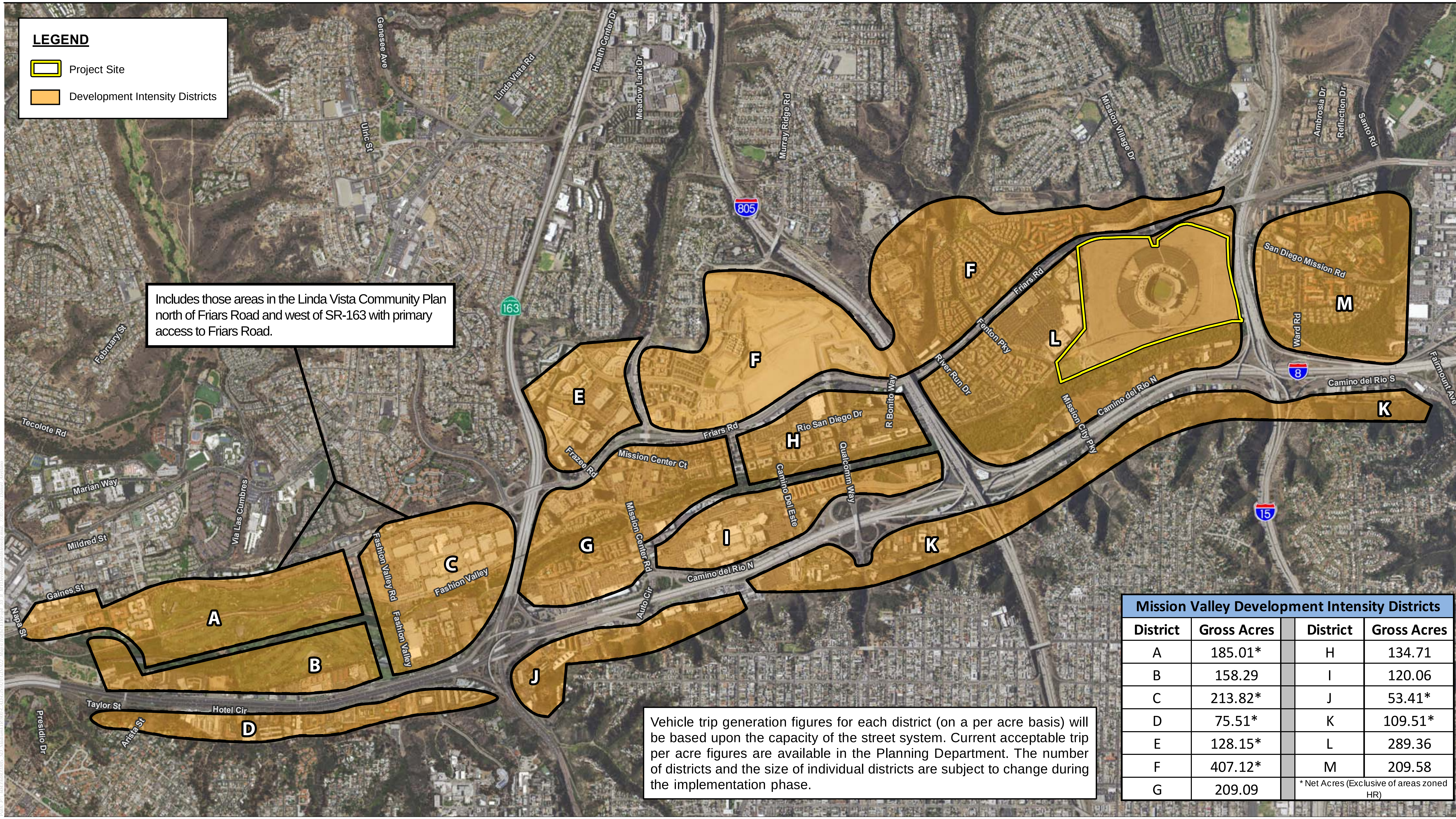
- Review Area 1 consists of locations where noise and safety concerns may necessitate limitations on the types of land use actions. Specifically, Review Area 1 encompasses locations exposed to aircraft noise levels of 60 dB CNEL or greater together with all of the safety zones depicted on the associated maps in this chapter.
- Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and overflight notification areas depicted on the associated maps in this chapter. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2. The recordation of overflight notification documents is also required in locations within Review Area 2.

As shown in Montgomery Field AIA (Exhibit III-5) the project site is within the boundaries of Review Area 1 and Review Area 2. The Project shall file Notices of Proposed Construction or Alteration with the FAA due to its proximity to Montgomery Field and the anticipated heights of the stadium and construction equipment. As such, both the design of the stadium and construction equipment would be subject to FAA review, and if the FAA does not issue their approval via a Determination of No Hazard to Air Navigation, an alternative design plan for the stadium and/or alternative construction equipment must be considered and submitted for FAA review (refer to Section 4.6 and mitigation measure HAZ-4).

<u>City of San Diego Municipal Code: Mission Valley Planned District</u>

San Diego Municipal Code Chapter 15, Article 14: Mission Valley Planned District, Division 3: Zoning and Subdivision includes additional thresholds for development intensity. The Project lies within Development Intensity Overlay District L within the Mission Valley Planned District. This overlay district limits development intensity to the levels allowed under the adopted Mission Valley Community Plan. The following development intensity thresholds are applicable to the Project and the following discussion demonstrates project consistency.

The Mission Valley Community Plan Transportation Element establishes Development Intensity Districts (see Figure 4.10-7) to regulate the traffic capacity within the circulation system of the Mission Valley Community. The Project's anticipated maximum traffic generation for any Project is 31,600 ADT (see Table 4.10-9). The gross Project acreage is 166 acres and the trips per acre are calculated to be 190 ADT/acre (31,600 ADT / 166 gross acres). The Municipal Code allows a traffic threshold of 140 ADT per acre for Threshold 1 and 267 ADT per acre for Threshold 2 (Table 4.10-18). The Project does not meet the Threshold 1 criteria, but successfully



Mission Valley Development Intensity Districts

District	Gross Acres	District	Gross Acres
A	185.01*	H	134.71
B	158.29	I	120.06
C	213.82*	J	53.41*
D	75.51*	K	109.51*
E	128.15*	L	289.36
F	407.12*	M	209.58
G	209.09	* Net Acres (Exclusive of areas zoned HR)	

Source: NAIP 2014; SANDAG.

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2,000 feet

Figure 4.10-7
Mission Valley Development Intensity Districts

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meets the Threshold 2 criteria. Also, the project is not anticipated to lower by any increment the level of service of any of the roadway facilities within the project study area.

Table 4.10-18
Mission Valley Development Intensity District

District	Trips Per Gross Acre	
	Threshold 1	Threshold 2
A	150[1]	338[1]
B	150	263
C	150[1]	417[1]
D	200[1]	380[1]
E	140[1]	353[1]
F	140[1]	140[1]
G	140	344
H	140	323
I	140	571
J	200[1]	671[1]
K	200[1]	424[1]
L	140	267
M	140	157

[1] Excluding acreage within steep hillsides.
Source: San Diego Municipal Code §1514.0301

Mission Valley Community Plan Transportation Element

The Mission Valley Community Plan Transportation Element recognizes that the ideally, "transportation systems should be well balanced between the individual needs of the various users and the necessary support of public transit convenience that will offer a wide choice of options to the traveling public within that particular community. The transportation system must offer residents and/or employees the maximum opportunity of transportation choices to fulfill their individual needs and provide a dynamic system for the growth of the community. (City of San Diego 1985). Below are objectives included as part of the Community Plan Transportation Element and the project consistency analysis.

Mission Valley Community Plan Transportation Element Project Consistency

Goal, Objective or Policy	Project Consistency
To facilitate transportation into, throughout and out of the Valley while seeking to establish and maintain a balanced transportation system	The Project would achieve and maintain a balanced modal split during large events and by increasing the use of alternative and efficient modes of transportation. This would help to maintain a balanced transportation system and utilize all possible transportation modes leading to and from the project site.

Goal, Objective or Policy	Project Consistency
Encourage the use of public transit modes to reduce dependency on the automobile	Approximately 30 percent of attendees would take the trolley to stadium events. The project would also provide a drop off area for buses and shuttles, and reduced parking prices for carpools shift the transportation modal split. See Section 8: Transportation Management Plan in the Traffic Impact Analysis Report, Appendix J.
Create an intra-community bikeway system which would provide access to the various land use developments within the Valley, and connect to the regional system.	With implementation of the TDM plan, the project would increase the number of attendees who bike to stadium events by utilizing the existing bicycle network including Murphy Canyon Trail and the planned River Walk path along the San Diego River. See Chapter 8 of the Transportation Demand Management Plan in the Traffic Impact Analysis Report, Appendix J for increase in bicycling performance metrics.
Encourage bicycle use in the Valley	With implementation of the TDM plan, the project would provide additional bicycle parking near the stadium entry in order to encourage attendees to bike to events. A bike valet would also be provided depending on the demand for bicycle parking to further encourage attendees to bike.

4.10.3 Impact Analysis

The traffic analyses prepared for this study were performed in accordance with the City of San Diego Traffic Impact Study Manual (July 1998) traffic study and parking requirements (per the City General Plan Circulation Element and Municipal Code) and the City of San Diego Significance Determination Thresholds (2011). Study roadway, freeway facilities and intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

Analysis Methodology

Intersections

The analysis of the signalized and unsignalized study intersection was conducted using the Highway Capacity Manual (HCM) 2010 Edition methodology which defines LOS in terms of vehicle delay The LOS criteria used for these techniques are described in Table 4.10-19. The computerized analysis of intersection operations was performed using SYNCHRO Version 8 analysis software, which calculates the HCM 2010 methodology.

Table 4.10-19
Level of Service Descriptions

Level of Service	Description of Operation	Signalized Intersection Control and Delay (s/veh)	Unsignalized Intersection Average Delay (s/veh)
A	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0-10	<10
B	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	>10 – 20	>10 and <15
C	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	>20 – 35	>15 and <25
D	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.	> 35 - 55	>25 and <35
E	LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.	>55 - 80	>35 and <50
F	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.	>80	>50

Notes:
LOS = Level of Service
s/veh = seconds per vehicle

Roadway Segments

Roadway segment analysis is based upon the comparison of the average daily traffic volumes (ADT) to the assumed roadway capacities. Table 4.10-20 provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics for the City of San Diego.

Table 4.10-20
City of San Diego Roadway Classifications, Levels of Service (LOS) and Average Daily Traffic (ADT)

Street Classification	Lanes	Cross Sections	Level of Service				
			A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

Notes:
1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.
2. 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 Segments

Analysis of freeway segments during AM and PM peak hours are based on Caltrans District 11 methodologies. Evaluation of freeway segments involves a procedure where the peak-hour volume of the mainline freeway segment is compared to the theoretical capacity of the freeway segment resulting in a v/c ratio. The capacity of the freeway segment is assumed to be 2,000 vehicles per lane per hour for mainline lanes and 1,200 vehicles per lane per hour for auxiliary lanes. The result is compared to acceptable ranges of v/c ratio values corresponding to levels of service designations for each type of facility defined in Table 4.10-21.

Table 4.10-21
Caltrans District 11 Level of Service Definitions

LOS	v/c Ratio	Congestion/Delay	Traffic Description
A	< 0.41	None	Free flow
B	0.41 – 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
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(1)	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

Notes: Based on the 1992 Caltrans guidelines.

<u>Freeway Ramp Meters</u>

Ramp metering analysis for this report utilizes the *fixed rate approach* that is based on specific time intervals at which the ramp meter releases traffic in a programmed fashion. The results produced from this method are theoretical and tend to produce unrealistic queue lengths and delays. In practice, ramp meters typically operate dynamically which allow vehicles to be discharged based on conditions on the freeway mainline. All freeway ramp meters were analyzed based on a range of ramp meter rates that were provided by Caltrans.

The following procedure details the steps of ramp metering analysis as outlined in the *City of San Diego Traffic Impact Study Manual, July 1998*:

1. Demand (veh/hour/lane) = number of vehicles expected to use the on-ramp during peak hour
2. Meter Rate (veh/hour/lane) = number of vehicles to be discharged during peak hour
3. Excess Demand (veh/hour/lane) = Demand – Meter Rate (or zero, whichever is greater)

4. Delay (min) = Excess Demand / Meter Rate x 60 min/hour
5. Queue (feet) = Excess Demand x 25 feet/veh

Ramp metering analysis was performed for weekday morning and evening peak hours only. No ramp meter operation is expected on weekends and was therefore excluded from the weekend analysis scenarios.

Thresholds of Significance

The City of San Diego has developed thresholds to determine the impacts to intersections, roadways and freeway segments and ramps intersections by identifying allowable increases in delay at intersections and volume to capacity ratios for roadway and freeway segments. The comparison between the existing condition analysis and the near term (2019) and horizon year (2035) determines where traffic impacts occur.

City of San Diego's Significance Determination Thresholds

A project is considered to have a significant impact if the project traffic degrades the operation of the surrounding roadways by a specific threshold. The City of San Diego utilizes the thresholds of significance shown in text below according to the City of San Diego's *Significance Determination Thresholds* dated January 2011 and also shown in Table 4.10-20**.**

The City's *Significance Determination Thresholds* categorizes transportation impacts in two types, direct and cumulative.

> *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 term (near term).
>
> *Cumulative traffic impacts* are those projected to occur at the time 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 the affected community plan area reaches full planned build out (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 case, the project may have direct impacts by 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.

Should the project exceed the thresholds in Table 4.10-22, the project is considered to have a significant direct or cumulative impact. Also, if the project causes any intersection, roadway segment or freeway segment to operate at LOS E or F under either direct or cumulative conditions, the project impact is considered to be significant. For each significant impact, a feasible mitigation measures must be identified.

Table 4.10-22
Allowable Increase Due to Project Impacts

Level of Service with Project*	**Freeways**		**Roadway Segments**		**Intersections**	**Ramp Metering**
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min)
E (or ramp meter delays above 15 min)	0.010	1.0	0.02	1.0	2.0	2.0
F (or ramp meter delays above 15 min)	0.005	0.5	0.01	0.5	1.0	1.0

Notes: The allowable increase in delay at 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.
* All LOS measurements are based on the upon the 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 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.
- If a proposed 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 would restore/maintain the traffic facility at an acceptable LOS. If the LOS with the project becomes unacceptable (see * note), 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.
Key: Delay = Average control delay per vehicle measured in seconds for intersections, or minutes for ramp meters.

Initial Study Checklist Questions

The following are taken from the City‘s Initial Study Checklist. They provide guidance on determining the potential significance of impacts to transportation, circulation systems, and parking:

Would the proposal result in:

1. Traffic generation in excess of specific community plan allocation?
2. An increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system?
3. Addition of a substantial amount of traffic to a congested freeway segment, interchange, ramp as shown in the table on the next page?
4. An increased demand for off-site parking?
5. Effects on existing parking?
6. Substantial impact upon existing or planned transportation systems?
7. Substantial alterations to present circulation movements including effects on existing public access to beaches, parks, or other open space areas?
8. Increase in traffic hazards for motor vehicles, bicyclists or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway)?
9. A conflict with adopted policies, plans, or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks)?

Significance Thresholds

The following are the thresholds determined by the City of San Diego to determine significant impacts related to transportation, circulation and parking.

- 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, the impact would be significant if the project exceeds the thresholds.
- At any ramp meter location with delays above 15 minutes, the impact would be significant if the project exceeds the thresholds.
- If a project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp, the impact may be significant.
- Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in the table below?

- If a project would increase traffic hazards to motor vehicles, bicyclists or pedestrians due to proposed non-standard design features (e.g., poor sight distance, proposed driveway onto an access-restricted roadway), the impact would be significant. Note: analysts should refer readers to a discussion of this issue in the Health and Safety section of the environmental document.
- If a project would result in the construction of a roadway which is inconsistent with the General Plan and/or a community plan, the impact would be significant if the proposed roadway would not properly align with other existing or planned roadways.
- If a project would result in a substantial restriction in access to publicly or privately owned land, the impact would be significant.

Parking Thresholds

The City of San Diego also has significance thresholds for parking. Parking requirements vary throughout the city by land use and location and dictated by the City of San Diego Municipal Code and City Council policies.

Significance thresholds specified by the City's Significance Thresholds Determination are as follows:

Non-compliance with the City's parking ordinance does not necessarily constitute a significant environmental impact. However, it can lead to a decrease in the availability of existing public parking in the vicinity of the project. Generally, if a project is deficient by more than ten percent of the required amount of parking and at least one of the following criteria applies, then a significant impact may result:

- The project's parking shortfall or displacement of existing parking would substantially affect the availability of parking in an adjacent residential area, including the availability of public parking.
- The parking deficiency would severely impede the accessibility of a public facility, such as a park or beach.

Traffic Analysis

Analysis Scenarios

- Near Term 2019 No Project with No Games
- Near Term 2019 Project with No Games

- Near Term 2019 No Project with Games
- Near Term 2019 Construction Phase with Games
- Near Term 2019 Demolition Phase with Games
- Horizon Year 2035 No Project with No Games
- Horizon Year 2035 No Project with Games
- Horizon Year 2035 Project Build Out with No Games
- Horizon Year 2035 Project Build Out with Games

Near Term 2019 No Project with No Games

This section describes the traffic conditions for year 2019 excluding the Project and when no games are played. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersections

- During Year 2019 No Project on weekdays with no games, 23 intersections operate at LOS D or better, while 4 intersections operate at LOS E or F.

- During Year 2019 on Saturdays and Sundays with no games, all 27 intersections operate at LOS D or better

Roadway Segments

- During Year 2019 No Project on weekdays with no games, 29 roadway segments operate at LOS D or better, while one roadway segments operate at LOS E or F.

- During Year 2019 No Project on Saturdays and Sundays with no games, all roadway segments operate at LOS D or better.

Freeway Segment Analysis

- During Year 2019 No Project on weekdays with no games, four freeway segments operate at LOS D or better, while six freeway segments operate at LOS E or F.

- During Year 2019 No Project on Saturdays and Sundays with no games, all freeway segments operate at LOS D or better.

Ramp Meter Analysis

- During Year 2019 No Project on weekdays with no games, two ramp meters operate at an acceptable LOS (delay of 15 minutes or less), while two ramp meters operate with a delay of 15 minutes or more.

<u>Near Term 2019 No Project with Games</u>

This section provides analysis of the traffic conditions occurring in analysis year 2019 excluding the Project when games are played. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersection Analysis

- During Year 2019 No Project on weekdays with game days, 14 intersections operate at LOS D or better, while 13 intersections operate at LOS E or F.
- During Year 2019 No Project on Saturdays with game days, 21 intersections operate at LOS D or better, while 4 intersections operate at LOS E or F.
- During Year 2019 No Project on Sundays with game days, 15 intersections operate at LOS D or better, while 10 intersections operate at LOS E or F.

Roadway Segment Analysis

- During Year 2019 No Project on weekdays with game days, 21 roadway segments operate at LOS D or better, while 9 roadway segments operate at LOS E or F.
- During Year 2019 No Project on Saturdays with game days, 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F.
- During Year 2019 No Project on Sundays with game days, 28 roadway segments operate at LOS D or better, while 2 roadway segments operate at LOS E or F.

Freeway Segment Analysis

- During Year 2019 No Project on weekdays with game days, 3 freeway segments operate at LOS D or better, while 7 freeway segments operate at LOS E or F.
- During Year 2019 No Project on Saturdays and Sundays with game days, 3 freeway segments operate at LOS D or better.

Freeway Ramps

- During Year 2019 No Project on weekdays with game days, two ramp meters operate at an acceptable LOS (delay of 15 minutes or less), while two ramp meters operate with a delay of 15 minutes or more.

<u>Year 2019 Construction Phase with No Games</u>

During the construction phase of the Project, construction traffic would travel from I-15 along Friars Road to Mission Village Drive to the Main Gate. During weekday peak hour, the number of trips generated from construction is small and not expected to significantly impact peak hour traffic conditions. The most traffic impacts are anticipated to occur during the new Stadium construction phase from January 2017 to July 2017 where both workers and truck trips would reach highest frequency per day.

Worker Trips

Workers are anticipated to drive and park onsite. On average, approximately 80 workers are anticipated to travel to the project site per construction day. As the construction hours are from 7:00 a.m. to 7:00 p.m., workers would travel to the project site during off-peak hours. Worker trips during the construction of the new stadium and demolition of the existing Qualcomm Stadium are small in number and are not expected to change throughout the construction and demolition phase of the Project. Only 80 one-way worker trips per day (one trip per person) and approximately 26 worker trips would be added during the peak hour. These worker trips would have a minimal impact on the roadway network and traffic conditions during peak and non-peak hours.

Truck Trips

The truck trips hauling fill and materials off-site to the land fill would be the trips with the most traffic impacts. These heavy truck trips are anticipated to occur during both the new stadium construction and demolition phases of construction. The passenger car equivalency (PCE) used is 2 or one truck is equivalent to two passenger cars. During construction site work phase, most of the heavy truck trips would be hauling earth to the site in preparation for construction. This activity is anticipated to occur over 16 weeks with an estimated 242 PCE/Day and 20 PCE/Peak Hour. These truck trips would have a minimal impact on the roadway network and traffic conditions during peak and non-peak hours

Year 2019 Construction Phase with Games

This section provides analysis of the traffic conditions in analysis year 2019 during the new stadium construction phase and when games are being played. On game days, it is assumed that construction activities are suspended for the day. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersection Analysis

- During Year 2019 Construction Phase on weekdays with game days, 16 intersections operate at LOS D or better, while 11 intersections operate at LOS E or F.
- During Year 2019 Construction Phase on Saturdays with game days, 21 intersections operate at LOS D or better, while 4 intersections operate at LOS E or F.
- During Year 2019 Construction Phase on Sundays with game days, 18 intersections operate at LOS D or better, while 7 intersections operate at LOS E or F.

Roadway Segment Analysis

- During Year 2019 Construction Phase on weekdays with game days, 21 roadway segments operate at LOS D or better, while 9 roadway segments operate at LOS E or F.
- During Year 2019 Construction Phase on Saturdays with game days, 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F.
- During Year 2019 Construction Phase on Sundays with game days, 28 roadway segments operate at LOS D or better, while 2 roadway segments operate at LOS E or F.

Freeway Segment Analysis

- During Year 2019 Construction Phase on weekdays with game days, 3 freeway segments operate at LOS D or better, while 7 freeway segments operate at LOS E or F.
- During Year 2019 Construction Phase on Saturdays and Sundays with game days, all freeway segments operate at LOS D or better

Ramp Meter Analysis

- During Year 2019 Construction Phase on weekdays with game days, two ramp meters operate at an acceptable LOS (delay of 15 minutes or less), while two ramp meters operate with a delay of 15 minutes or more.

Year 2019 Demolition Phase with No Games

In analysis year 2019, no attendee trips are generated on non-game days during the demolition phase of the Project. Demolition-related traffic would travel from I-15 along Friars Road to Mission Village Drive to the Main Gate. During weekday peak hour, the number of trips generated from demolition is small and not expected to significantly impact peak hour traffic conditions. The most traffic impacts are anticipated to occur during the demolition phase from June 2019 to June 2020 where both workers and truck trips would reach highest frequency per day.

Worker Trips

Workers trips during the demolition phase are anticipated to be identical to the worker trips taken during the construction phase of the Project. See section Year 2019 Construction Phase with No Games above.

Truck Trips

During the Qualcomm stadium demolition phase, the most truck trips would be similar to the previous construction phase with 243 PCE/day and 20 PCE/Peak Hour. These truck trips would have a minimal impact on the roadway network and traffic conditions during peak and non-peak hours.

Year 2019 Demolition Phase with Games

This section provides analysis of the traffic conditions in analysis year 2019 during the demolition of the existing Qualcomm Stadium phase and when games are being played. On game days, it is assumed that demolition activities are suspended for the day. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersection Analysis

- During Year 2019 Demolition Phase on weekdays with game days, 16 intersections operate at LOS D or better, while 11 intersections operate at LOS E or F.
- During Year 2019 Demolition Phase on Saturdays with game days, 21 intersections operate at LOS D or better, while 4 intersections operate at LOS E or F.
- During Year 2019 Demolition Phase on Sundays with game days, 18 intersections operate at LOS D or better, while 7 intersections operate at LOS E or F.

Roadway Segment Analysis

- During Year 2019 Demolition Phase on weekdays with game days, 21 roadway segments operate at LOS D or better, while 9 roadway segments operate at LOS E or F
- During Year 2019 Demolition Phase on Saturdays with game days, 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F
- During Year 2019 Demolition Phase on Sundays with game days, 29 roadway segments operate at LOS D or better, while 1 roadway segments operate at LOS E or F

Freeway Segment Analysis

- During Year 2019 Demolition Phase on weekdays with game days, 4 freeway segments operate at LOS D or better, while six freeway segments operate at LOS E or F
- During Year 2019 Demolition Phase on Saturdays and Sundays with game days, 4 freeway segments operate at LOS D or better

Freeway Ramps

- During Year 2019 Demolition Phase on weekdays with game days, two ramp meters operate at an acceptable LOS (delay of 15 minutes or less), while two ramp meters operate with a delay of 15 minutes or more.

<u>Year 2019 Mobility Analysis</u>

During the stadium construction and demolition phase of the Project, a reduction in available onsite parking is anticipated. Approximately 14,530 parking spaces during the stadium construction phase and 13,500 parking spaces during the Qualcomm Stadium demolition phase are anticipated to be available onsite. The Near Term 2019 scenario presents a decrease in parking, which therefore requires stadium attendees to rely on other modes of transportation and ride-sharing. A modal shift is needed to accommodate the parking deficit. See Section 6.2 of the Traffic Impact Analysis Report, Appendix J for the Near Term 2019 Mobility Analysis.

As discussed above, the baseline used for NFL gameday analysis was 68,000 based on attendance at the most recent 2014 games. An analysis was also performed of 65,000 and 60,000 to provide a more conservative approach and the impact analysis would not substantially differ due to the reduction of on-site parking spaces and the implementation of the TDM plan. Weekday NFL games are not a regular occurrence and none occurred in 2014, and on average there are 0 to 2 weekday games in San Diego per year. Of the 10 most recent weekday games, attendance ranged from just below 60,000 to over 68,000.

Horizon Year (2035)

The traffic volumes analyzed for this scenario include forecasted future traffic volumes and traffic generated by approved cumulative projects in addition to the fully built project.

<u>Horizon Year 2035 No Project with No Games</u>

This section discusses the traffic conditions for the study area intersections, roadway segments, freeway segments and freeway ramps for the Horizon Year 2035 No Project when no games are played. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersection Analysis

- During Horizon Year 2035 No Project weekdays with no games, 18 intersections operate at LOS D or better, while 9 intersections operate at LOS E or F.
- During Horizon Year 2035 No Project Saturdays with no games, 22 intersections operate at LOS D or better, while 3 intersections operate at LOS E or F.
- During Horizon Year 2035 No Project Sundays with no games, 24 intersections operate at LOS D or better, while 1 intersection operates at LOS E or F.

Roadway Segment Analysis

- During Horizon Year 2035 No Project weekdays with no games, 23 roadway segments operate at LOS D or better, while 7 roadway segments operate at LOS E or F.
- During Horizon Year 2035 No Project Saturdays with no games, 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F.
- During Horizon Year 2035 No Project Sundays with no games, all 30 roadway segments operate at LOS D or better.

Freeway Segment Analysis

- During Horizon Year 2035 No Project weekdays with no games, one freeway segment operates at LOS D or better, while nine freeway segments operate at LOS E or F.
- During Horizon Year 2035 No Project Saturdays with no games, nine freeway segments operate at LOS D or better, while one freeway segment operates at LOS E or F.
- During Horizon Year 2035 No Project Sundays with no games, all ten freeway segments operate at LOS D or better.
- Ramp Meter Analysis: During Horizon Year 2035 No Project weekdays with no games, one ramp meter operates at an acceptable LOS (delay of 15 minutes or less), while three ramp meters operate with a delay of 15 minutes or more.

<u>Horizon Year 2035 No Project with Game Days</u>

This section discusses the traffic conditions for the study area intersections, roadway segments, freeway segments and freeway ramps for the Horizon Year 2035 excluding the Project and when games are played. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersection Analysis:

- During Horizon Year 2035 No Project weekdays with game days, 12 intersections operate at LOS D or better, while 15 intersections operate at LOS E or F.
- During Horizon Year 2035 No Project Saturdays with game days, 10 intersections operate at LOS D or better, while 15 intersections operate at LOS E or F.
- During Horizon Year 2035 No Project Sundays with game days, 13 intersections operate at LOS D or better, while 12 intersections operate at LOS E or F.

Roadway Segment Analysis

- During Horizon Year 2035 No Project weekdays with game days, 12 roadway segments operate at LOS D or better, while 18 roadway segments operate at LOS E or F.
- During Horizon Year 2035 No Project Saturdays with game days, 22 roadway segments operate at LOS D or better, while 8 roadway segments operate at LOS E or F.

- During Horizon Year 2035 No Project Sundays with game days, 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F.

Freeway Segment Analysis:

- During Horizon Year 2035 No Project weekdays with game days, all ten freeway segments would operate at LOS E or F.
- During Horizon Year 2035 No Project Saturdays with game days, nine freeway segments operate at LOS D or better, while one freeway segment operates at LOS E or F.
- During Horizon Year 2035 No Project Sundays with game days, nine freeway segments operate at LOS D or better, while one freeway segment operates at LOS E or F.

Ramp Meter Analysis

- During Horizon Year 2035 No Project weekdays with game days, one ramp meter operates at an acceptable LOS (delay of 15 minutes or less), while three ramp meters operate with a delay of 15 minutes or more.

<u>Horizon Year 2035 Project Build Out with No Games</u>

See above analysis for the Horizon Year 2035 No Project analysis with no games for all roadway facility analyses. Traffic conditions are identical between the 2035 No Project with no games and the Project Build Out with no games since the Project the trips generated would remain constant on days with no games whether or not the full Project build out would be implemented or not.

<u>Horizon Year 2035 Project Build Out with Game Days</u>

This section discusses the traffic conditions for the study area intersections, roadway segments, freeway segments and freeway ramps for Horizon Year 2035 Project Build conditions and when games are played. Roadway facilities experiencing LOS E or F may occur during AM and/or PM peak periods or on a daily level. See Traffic Impact Analysis Report, Appendix J for detailed calculations and worksheets.

Intersection Analysis

- During Horizon Year 2035 Project Build Out weekdays with game days, 12 intersections operate at LOS D or better, while 15 intersections operate at LOS E or F.

- During Horizon Year 2035 Project Build Out Saturdays with game days, 10 intersections operate at LOS D or better, while 15 intersections operate at LOS E or F.
- During Horizon Year 2035 Project Build Out Sundays with game days, 17 intersections operate at LOS D or better, while 10 intersections operate at LOS E or F.

Roadway Segment Analysis

- During Horizon Year 2035 Project Build Out weekdays with game days, 10 roadway segments operate at LOS D or better, while 15 roadway segments operate at LOS E or F.
- During Horizon Year 2035 Project Build Out Saturdays with game days, 23 roadway segments operate at LOS D or better, while 7 roadway segments operate at LOS E or F.
- During Horizon Year 2035 Project Build Out Sundays with game days with Project, 27 roadway segments operate at LOS D or better, while 3 roadway segments operate at LOS E or F.

Freeway Segment Analysis

- During Horizon Year 2035 Project Build Out weekdays with game days, all ten freeway segments would operate at LOS E or F.
- During Horizon Year 2035 Project Build Out Saturdays with game days, nine freeway segments operate at LOS D or better, while one freeway segment operates at LOS E or F.
- During Horizon Year 2035 Project Build Out Sundays with game days, all freeway segments operate at LOS D or better.

Ramp Meter Analysis

- During Horizon Year 2035 Project Build Out weekdays with game days, one ramp meter operates at an acceptable LOS (delay of 15 minutes or less), while three ramp meters operate with a delay of 15 minutes or more.

<u>Horizon Year 2035 Mobility Analysis</u>

At full build out of the project, the new stadium and parking would require a transportation modal shift to alternative modes of transportation to adjust to the reduction of parking spaces from the existing stadium parking lot to the full build out of the project. See Section 7.2 of the Traffic Impact Analysis Report, Appendix J for the Horizon Year 2035 Mobility Analysis.

Transportation Demand Management Plan

As required by Mitigation Measure MOB-2, a transportation demand management (TDM) Plan would be prepared to mitigate circulation impacts identified in this section and the significant parking impacts of the Project. The objective of the TDM Plan would be to develop enforceable policies and operational practices that would achieve a transportation mode shift to reduce the passenger car traffic arriving at the stadium on game days and other large stadium events. The following targeted TDM goals have been developed to create a synergetic approach across applicable modes of transportation and parking to address both near-term (construction/ demolition phases) and long-term operational Mobility needs of the Project. These goals must be achievable, enforceable as well as financially sustainable over time.

Goal 1 – Trip Reduction - Promote carpooling with the goal of meeting a 2.7 pa*ssenger car occupancy or higher and discourage single occupancy v*ehicle (SOV) mode by incentivizing those who walk, bike, use transit, and carpool.

Goal 2 – Reduce Onsite Parking Demand - Discourage onsite parking by incentivizing use of offsite parking via enhanced (free or discounted fare) shuttle services, free or reduced parking fees, and secure parking lots. *Also e*nhance collaboration between Stadium and public and private sectors *by identifying* viable parking areas and enter into cooperate parking agreements to avail of excess parking inventory and joint use of parking facilities.

Goal 3 – Increase Transit Ridership - Promote and encourage trolley use during weekday *and weekend* game days with the goal of 20,000 *and 23,000* riders or higher. *C*oordinate with MTS to improve bus system use and connectivity with the MTS Green Line. Currently, the nearest bus stop for MTS Bus Route 14 is 0.5 miles away from the Project site. *Also, expand* parking shuttle services *by* encourage transit ridership.

Goal 4 – Increase Walking and Bicycle Use - *Provide* safe pedestrian and bicycle facilities *to encourage* the campus community to walk and bike.

The following metrics provide the needed tool and data to assess the effectiveness of the TDM measures implemented to achieve the TDM goals described above.

<u>Metric 1 – Mode Split</u>

Mode split data is the primary tool in evaluating goals associated with auto trip reduction, parking, transit ridership, pedestrian and bicycle use. This metric is accomplished by comparing the results of before and after surveys to determine if goals were met. As part of the TDM, data would be collected annually to determine if expectations are being met and to reinforce as necessary any TDM measure that need improvement.

<u>Metric 2 – Traffic Counts</u>

Manual intersection and machine collected roadway segment traffic count data not only provide traffic volume information but can be designed to extract and collect vehicle classification, time of day volume as well as vehicle occupancy.

<u>Metric 3 – Parking Counts</u>

As a part of the TDM, regular parking survey would be conducted to determine parking use on-site as well as at select offsite parking sites during major events. See Section 8: Traffic Demand Management Plan of the Traffic Impact Analysis Report, Appendix J.

Significant Impacts and Mitigation Measures

Issue 1: Would the project generate traffic in excess of the specific community plan allocation?

Impact Thresholds

Impacts to transportation/traffic circulation/parking would be considered significant if the following occur:

- A project would result in the construction of a roadway which is inconsistent with the General Plan and/or a community plan,
- If the proposed roadway would not properly align with the other existing or planned roadways.

Impact Analysis

The Project design does not include construction of additional roadways. All existing roadways facilities would remain the same in the Project conditions. The Project would not change the existing roadway network and would maintain all existing vehicular access points to the project site. No major alterations to the circulation or roadway network would occur due to the Project

The Project's anticipated maximum traffic generation for Project phases is 31,600 ADT (see Table 4.10-9). The gross Project acreage is 166 acres and the trips per acre are calculated to be 190 ADT/acre (31,600 ADT / 166 gross acres). The Municipal Code allows a traffic threshold of 140 ADT per acre for Threshold 1 and 267 ADT per acre for Threshold 2. The Project does not meet the Threshold 1 criteria, but successfully meets the Threshold 2 criteria.

The Project would not lower by any increment the level of service of any of the streets, freeways and roadway facilities within the project study area from what was anticipated in the community plan. In all scenarios, with implementation of the TDM, the number of trips generated is reduced in comparison to conditions with no Project shown in Table 4.10-9. Therefore, the Project is anticipated to not lower the level of service of the traffic study locations in the document.

Significance of Impacts

The Project would not generate traffic in excess of the Mission Valley Planned District ADT allotment thresholds. As a result, the Project would have a *less than significant impact.*

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

Impact Thresholds

According to the City of San Diego's Significance Determination Thresholds, impacts to transportation/traffic circulation would be considered significant if:

- Any intersection, street segment, or freeway segment affected by a project would operate at LOS E or F, or the project would degrade the facility from LOS D to LOS E, under either direct or cumulative conditions, the impact would be significant if the project exceeds the thresholds shown in Table 4.10-22; or,
- At any ramp meter location with delays above 15 minutes, the impact would be significant.

Impact Analysis

The potential impacts associated with the project relative to Mobility, Transportation and Circulation are discussed in this section. The significance of these potential impacts is gauged in relation to the City's CEQA thresholds (City of San Diego 2011). Project impacts were analyzed for both the Near Term (2019) and Project Build Out (2035) scenarios. Mitigations measures are recommended for any facilities that are projected to exceed the significance thresholds as set forth by the City of San Diego. These improvements were proposed to improve traffic operations to a level of “no significant” impact.

See Table 4.10-22 for the City’s significance determination thresholds. Analysis worksheets for mitigation measures for all facilities are provided in the Traffic Impact Analysis Report, Appendix J.

Year 2019 Construction Phase with Games

Project related traffic impacts during the construction phase with games are summarized below.

Intersections

The following intersection is anticipated to experience significant impacts during the 2019 Construction Phase on weekday game days:

- Rancho Mission Road / Ward Road – additional 18.8 second delay on weekdays during PM peak hour.

The following mitigation is required to improve the intersection to operate at an acceptable level under Project construction conditions:

MOB-1: Rancho Mission Road / Ward Road – implement manual all-way stop control to the current two-way stop controlled intersection. The improved intersection would operate at an acceptable LOS C under Project construction conditions. Since the intersection is not anticipated to be significantly impacted by the Project on non-game days, the improvement measures must only be implemented manually on game days or similar sized other events.

Mitigation measures are discussed in Section 4.10-4.

Roadway Segments

None of the roadway segments are expected to experience significant impacts under Project conditions during the 2019 Construction Phase on weekdays with games. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on roadway segments during the 2019 Construction Phase with Game Days.

Freeway Segments

None of the freeway segments are expected to experience significant impacts during the 2019 Construction Phase weekdays with games. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on freeway segments during the 2019 Construction Phase with Game Days.

Ramp Meters

None of the ramp meters are expected to experience significant impacts during the 2019 Construction Phase weekdays with games. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on freeway segments during the 2019 Construction Phase with Game Days.

<u>Year 2019 Demolition Phase with Games</u>

Project related traffic impacts during the 2019 Demolition Phase with games are summarized below.

Intersections

The following intersection is anticipated to experience significant impacts during the 2019 Demolition Phase on weekday games:

- Rancho Mission Road / Ward Road – additional 138 seconds of delay on weekdays during PM peak hour.

The following mitigation is required to improve the intersection to operate at an acceptable level under Project demolition conditions:

- MOB-1: Rancho Mission Road / Ward Road – implement manual all-way stop control to the current two-way stop controlled intersection. The improved intersection would operate at an acceptable LOS C under Project demolition conditions. Since the intersection is not anticipated to be significantly impacted by the Project on non-game days, the improvement measures must only be implemented manually on game days or similarly sized other events.

Roadway Segments

None of the roadway segments are expected to experience significant impacts during the 2019 Demolition Phase on weekday game days. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on roadway segments during the 2019 Demolition Phase on weekday game days.

Freeway Segments

None of the freeway segments are expected to experience significant impacts during the 2019 Demolition Phase on weekday game days. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on freeway segments during the 2019 Demolition Phase on weekday game days.

Ramp Meters

None of the ramp meters are expected to experience significant impacts during the 2019 Demolition Phase on weekday game days. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on freeway segments during the 2019 Demolition Phase on weekday game days.

<u>Horizon Year 2035 Project Build Out with Games</u>

Project related traffic impacts during the Horizon Year 2035 Project Build Out conditions with games are discussed in this section.

Intersections

None of the intersections are expected to experience significant impacts under Project conditions during the 2035 Project Build Out Conditions with games. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on intersections during the Project Build Out Conditions.

Roadway Segments

None of the roadway segments are expected to experience significant impacts under Project conditions during the 2035 Project Build Out Conditions with game days. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on roadway segments during the Project Build Out Conditions.

Freeway Segments

None of the roadway segments are expected to experience significant impacts under Project conditions during the 2035 Project Build Out Conditions with game days. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on freeway segments during the Project Build Out Conditions.

Ramp Meters

None of the ramp meters are expected to experience significant impacts under Project conditions during the Horizon Year 2035 Project Build Out Conditions with games. See Traffic Impact Analysis Report, Appendix J for the detailed significant impact analysis on intersections during the Project Build Out Conditions.

Significance of Impacts

Intersection facilities have been identified to operate at an unacceptable level of service in the study scenarios. Therefore, with the implementation of the mitigation measures in Section 4.10-4, the impact would be less than significant.

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

Impact Thresholds

Impacts to transportation/traffic circulation/parking would be considered significant if: the project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in Table 4.10-21.

Impact Analysis

The study freeway segments and study ramp meters are currently congested. None of the congested freeway segments and ramp meters are expected to experience significant impacts under the project conditions under all Project scenarios.

Significance of Impacts

The Project is not anticipated to generate additional traffic at congested study freeway segments and ramps during the construction and demolition scenarios. Therefore, Project would have a *less than significant impact.*

Issue 4: Would the project result in an increased demand for off-site parking or in a substantial impact on existing parking?

Impact Thresholds

City of San Diego Municipal Code parking requirements vary by land use and location. Noncompliance with the City's parking ordinance does not constitute a significant impact. However, it can decrease the availability of existing public parking in the vicinity of the project. Generally, a significant impact would occur if a project is deficient by more than 10% of the required amount of parking and at least one of the following occurs:

- The project's parking shortfall or displacement of existing parking would substantially affect the availability of parking in an adjacent residential area, including the availability of public parking.
- The parking deficiency would severely impede the accessibility of a public facility such as a park or beach.

Impact Analysis

The project site is governed by the City's Municipal Code and the land use designation for the project site is Mission Valley Planned District (MVPD-MV-CV). The project site does not have a parking minimum and the City parking ordinance does not specify a minimum number of parking spaces for the Project site. Therefore, the Project would not create a deficiency of parking exceeding more than 10 percent of the required amount of parking as there is no minimum requirement for the Project site. Although there is no identified parking requirement by the City, the parking demand during the Demolition phase exceeds the availability of onsite parking by greater than 10 percent. Therefore, during the Demolition Phase of the Project, the Project would cause a significant parking impact to occur.

Attendees would be encouraged to take the trolley to reduce parking demand. The Project would not significantly impact the existing parking in adjacent residential areas near the Project site. A TDM Plan is required to address parking deficiency and offsite parking locations. See Section 8: Transportation Management Plan in the Traffic Impact Analysis Report, Appendix J. Access to parking for public facilities such as a park or beach would not be impacted by the Project. Vehicular access to such public facilities is not located within the vicinity of the Project site.

Significance of Impacts

The TDM which would result in conjunction with a shift to alternative modes of transportation would mitigate the parking deficiency during the demolition phase of the Project. Therefore, the *impact* would be *less than significant with mitigation.*

Issue 5: Would the project result in a substantial impact upon existing or planned transportation systems?

Impact Thresholds

Impacts would be significant, if the project would have a substantial impact upon existing or planned transportation systems including MTS and other multi-modal systems.

Impact Analysis

The Project assumes a high transit ridership on game days during all study scenarios. The existing trolley ridership is 22 - 28% of an event with 68,000 attendees as shown in Table 4.10-7. The Project assumes a trolley ridership for all future scenarios to be 29% - 34% of an event with 68,000 attendees. These ridership assumptions reflect the existing trolley operations and available passenger capacity. The trolley currently has approximately 15,000 – 19,000 riders during NFL games. The highest ridership noted by MTS is 32,000 riders during the 2003 Super Bowl, at a time when passenger capacity of trolley cars was lower than at the present time. The capacity of the trolley cars (Siemens S-70) currently in use is approximately 8.7 percent greater than the capacity of the trolley cars (Siemens SD-100) in use in 2003. The current capacity and operations was held constant in the future scenario analysis and therefore the MTS trolley line would not be impacted.

Significance of Impacts

The capacity and operations of the MTS trolley line are assumed to remain the same as existing conditions for all future scenarios. Therefore, the impact is *less than significant*. It must be noted that future trolley expansion such as the northerly extension of the Blue Line would further provide additional multi-modal solutions to the Project’s mobility needs.

Issue 6: Would the project result in substantial alterations to present circulation movements including effects on existing public access to beaches, parks, or other open space areas?

Impact Thresholds

The impact would be significant if the project would result in a substantial restriction in access to publicly or privately owned land.

Impact Analysis

No major alterations to the circulation or roadway network would occur due to the Project. All existing gates and present circulation movements to access those gates would remain the same in Project conditions, which would not result in a significant impact. Access to parking for public facilities including parks or beaches would not be impacted by the Project. Vehicular access to such public facilities is not located within the vicinity of the Project site and therefore would not be a significant impact.

Significance of Impacts

All circulation movements would largely remain the same as existing conditions, which would not result in a significant impact. Access to parking for public facilities including parks or beaches are not located within the vicinity of the Project site, and therefore access would not be a significant impact. As a result, the Project would have a *less than significant impact.*

4.10.4 Mitigation, Monitoring and Reporting

The following facilities are projected to be significantly impacted under Project conditions. The table below identifies Mitigation Measures for each of the roadway facilities to mitigate the significant impacts occurring in each of the future scenarios. Refer to the Traffic Impact Analysis Report, Appendix J for the complete significant impact analysis on the roadway facilities for each of the Project scenarios.

Impact Issue Area	Impact Significance Prior to Mitigation	Mitigation Measure(s)	Impact Significance With Incorporation of Mitigation
2019 Construction Phase			
Issue 2: Intersection: Rancho Mission Road at Ward Road	Additional 18.8 second delay on weekdays during PM peak hour	**Mitigation Measure MOB-1: Implement All-way Stops on Stadium Event Days.** Implement manual all-way stop control to the current two-way stop controlled intersection at Rancho Mission Road and Ward Road. Since the intersection is not anticipated to be significantly impacted by the Project on non-game days, the City should implement the improvement measures temporarily on days with major events only.	Mitigated to LOS C with manual all-way stop control on days with major events only.
2019 Demolition Phase			
Issue 2: Intersection: Rancho Mission Road at Ward Road	Additional 138 second delay on weekdays during PM peak hour	**Mitigation Measure MOB-1: Implement All-way Stops on Stadium Event Days.** Implement manual all-way stop control to the current two-way stop controlled intersection at Rancho Mission Road and Ward Road. Since the intersection is not anticipated to be significantly impacted by the Project on non-game days, the City should implement the improvement measures temporarily on days with major events only.	Mitigated to LOS C with manual all-way stop control on days with major events only.
Issue 4: Available public parking	Parking Deficiency	**Mitigation Measure MOB-2: Transportation Demand Management Plan.** A Transportation Demand Management Plan would be prepared by the City of San Diego. This TDM Plan would set performance goals and metrics to achieve a modal split that would address the parking deficiency of 1,780 parking spaces by reducing parking demand and/or locating offsite parking locations. The TDM Plan would be prepared before the start of the new stadium construction phase and would be implemented throughout the life of the Project and long-term operation.	Parking deficiencies of 1,780 parking spaces would be addressed by a modal shift or reduce in parking demand by the implementation of the Transportation Demand Management Plan.

4.11 NOISE

This section evaluates potential noise impacts associated with the Project, specifically the potential for the Project to cause a substantial temporary or permanent increase in ambient noise levels within or around the Project site, or to expose people to noise levels that exceed applicable noise standards.

4.11.1 <u>Existing Conditions</u>

Fundamentals of Environmental Acoustics

Noise is generally defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB); decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

<u>Human Perception of Noise</u>

The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called "A-weighting" is used to filter sound level, approximating the frequency response of an average young ear when listening to most ordinary everyday sounds. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. In this report, all noise levels are A-weighted and "dBA" is understood to identify the A-weighted dB. Table 4.11-1 provides typical noise levels associated with common activities.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA (increase or decrease); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (Caltrans 2011).

Table 4.11-1
Common Indoor and Outdoor Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 1,000 feet	100	
Gas Lawn Mower at(3 feet	90	
Diesel Truck at 50 feet, at 50 mph	80	Food Blender at 3 feet Garbage Disposal at 3 feet
Noisy Urban Area, Daytime Gas Lawn Mower, 100 feet	70	Vacuum Cleaner at 10 feet
Commercial Area Heavy Traffic at 300 feet	60	Normal Speech at 3 feet
Quiet Urban Daytime	50	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
	0	Lowest Threshold of Human Hearing

Source: Caltrans 2013

Averaging Noise Levels

In addition to noise levels at any given moment, the duration and averaging of noise levels over time is also important for the assessment of potential noise disturbance. Community noise levels vary continuously and most environmental noise includes a conglomeration of frequencies from distant sources that create a relatively steady background noise in which no particular source is identifiable. Noise levels varying over time are averaged over a period of time, usually hour(s), expressed as dBA L_{eq}, which typically assumes a 1-hour average noise level, as used in this analysis. The maximum noise level (L_{max}) is the highest sound level occurring during the averaging period, while L_{min} is the minimum noise level.

Time of day is also an important factor to consider when assessing potential community noise impacts, as noise levels that may be acceptable during the daytime (i.e., 7:00 a.m. to 7:00 p.m.) may create disturbance during evening (i.e., 7:00 p.m. to 10:00 p.m.) or at night (i.e., 10:00 p.m. to 7:00 a.m.), when people are typically at home and sleeping. To characterize average noise levels over a 24-hour period, the Community Noise Equivalent Level (CNEL) descriptor is used, which is calculated from hourly L_{eq} values, adding 5 dBA to each of the evening hourly L_{eq}

levels and adding 10 dBA to each of the night hourly L_{eq} levels, to reflect the heightened noise sensitivity and greater disturbance potential from evening and nighttime noise, respectively.

Noise Attenuation

From the noise source to the receiver, noise level changes both in level and frequency as it traverses the path between these two points. The most obvious change is the decrease in noise levels as the distance from the source increases. For a stationary noise source (or point source), such as the existing Qualcomm Stadium, the attenuation rate or drop-off in noise level would be at least -6 dBA for each doubling of unobstructed distance between source and the receiver. For a linear noise source, such as vehicle traffic, the attenuation rate or drop-off in noise level would be approximately -3 dBA for each doubling of unobstructed distance between source and the receiver.

In addition to distance, noise levels may be further reduced due to ground absorption, atmospheric effects and refraction, shielding by natural terrain and man-made geographic features (e.g., noise barriers), diffraction, and reflection. An acoustically “soft” ground surface, characterized as being porous and thus sound absorptive, between source and receiver can further reduce noise levels by up to -5 dBA. For this analysis, such acoustically absorptive ground effect can reasonably be expected due to the Project surroundings that represent a mix of urban development, shrub-covered hillsides and riparian landscapes. In addition, a large barrier between a noise source and a receiver can significantly attenuate noise levels (i.e., from 5 to 10 dBA) at that receiver. The amount of attenuation provided by this “shielding” depends on many factors that include barrier height, extent, materials of composition, and its proximity to either the source or the receiver. Barriers can include natural terrain features, such as hills and dense woods, as well as man-made features, such as buildings and walls. Walls or berms are often specifically created to reduce noise.

Existing Noise Conditions

Noise Sources (No Qualcomm Stadium Event)

The existing noise environment surrounding the Project site (non-event) is primarily influenced by noise from vehicle traffic on the roadways adjacent to and in proximity to the Project site. The Project site is bounded by Friars Road to the north, San Diego Mission Road to the northeast, I-15 to the east, and Qualcomm Way to the south and west. Camino Del Rio North and I- 8 are located approximately 675 and 750 feet south, respectively, of the Project site’s southern boundary. The predominant traffic noise is from I-15 and I-8 based on average daily traffic (ADT) volumes, which are provided for the Project roadways in Section 4.10 Mobility (Circulation) of this EIR.

Secondary noise sources of the Project site (non-event) are activities at the surrounding industrial, commercial, office, and residential areas, the MTS Trolley system, and aircraft flyovers. The MTS Trolley (Green Line) runs east-west along the southern portion of the Project site approximately every 15 to 30 minutes in both directions, stopping at the Trolley's Qualcomm Station on non-event days. Random aircraft flyovers occur in the vicinity of the Project site from high altitude commercial and military jets; low elevation traffic and news helicopters, and low elevation single-engine fixed wing aircraft. The closest airports to the Project site include San Diego International Airport (SDIA) (approximately 5 miles to the southwest) and Montgomery Field (approximately 2 miles to the north). The Project site is not within SDIA's Airport Influence Area and is located approximately 2 miles north of the SDIA approach flight path (east-west) (SDRAA 2014). The Project site is within Montgomery Field's Airport Influence Area, however, only for overflight notification and airspace protection (SDRAA 2010).

Noise Sources (Qualcomm Stadium Event)

The existing noise environment of the Project site and the surrounding area during a Qualcomm Stadium event is primarily influenced by traffic noise from vehicle traffic on the roadways adjacent to and in proximity to the Project site, and secondarily, from the noise generated by the Qualcomm Stadium event. As discussed in Chapter 3, major events occurring at Qualcomm Stadium include:

- NFL football games (including pre-season, regular season, post-season games)
- College football games (including regular season, post-season bowl games)
- Music concert events
- Motor sports events (including monster truck rally, American Motorcycle Association [AMA] Supercross)

NFL games typically occur on Sundays, generally starting at 1:00 to 1:30 p.m. and lasting for a duration of approximately 3 hours. The existing Qualcomm Stadium parking lot opens 4 hours prior to official game start-time and closes approximately 2 hours after game conclusion. Occasionally, NFL games are played on Sunday (5:30 p.m.), Monday (5:30 p.m.), Thursday (7:00 p.m.), or Saturday (at 5:00 p.m.) (San Diego Chargers 2015). College football games (primarily San Diego State University [SDSU] Aztecs) typically occur on Saturdays starting at 7:30 p.m. and last approximately 3 hours. The existing Qualcomm Stadium parking lot is open 3 hours prior to start time and approximately 2 hours after game conclusion. In December, two college bowl games are played at a time and date which are determined each year. Music concerts occur infrequently based on other available music venues in San Diego, and typically occur in the evening of any given day. The existing Qualcomm Stadium parking lot is open several hours prior to concert start and conclusion. The motor sports events typically occur on Saturday evenings.

Noise-Sensitive Receptors

Noise-sensitive receptors are land uses associated with indoor and/or outdoor activities (sleeping, studying, or convalescing) that may be subject to stress and/or significant interference from noise. Noise-sensitive receptors typically include residential dwellings, dormitories, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities (i.e., classrooms), passive recreation areas, daycare facilities, and libraries. The Noise Element of the City’s General Plan defines noise-sensitive land uses to include, but not necessarily limited to, residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, places of worship, child care facilities, and certain types of passive recreational parks and open space (City of San Diego 2008).

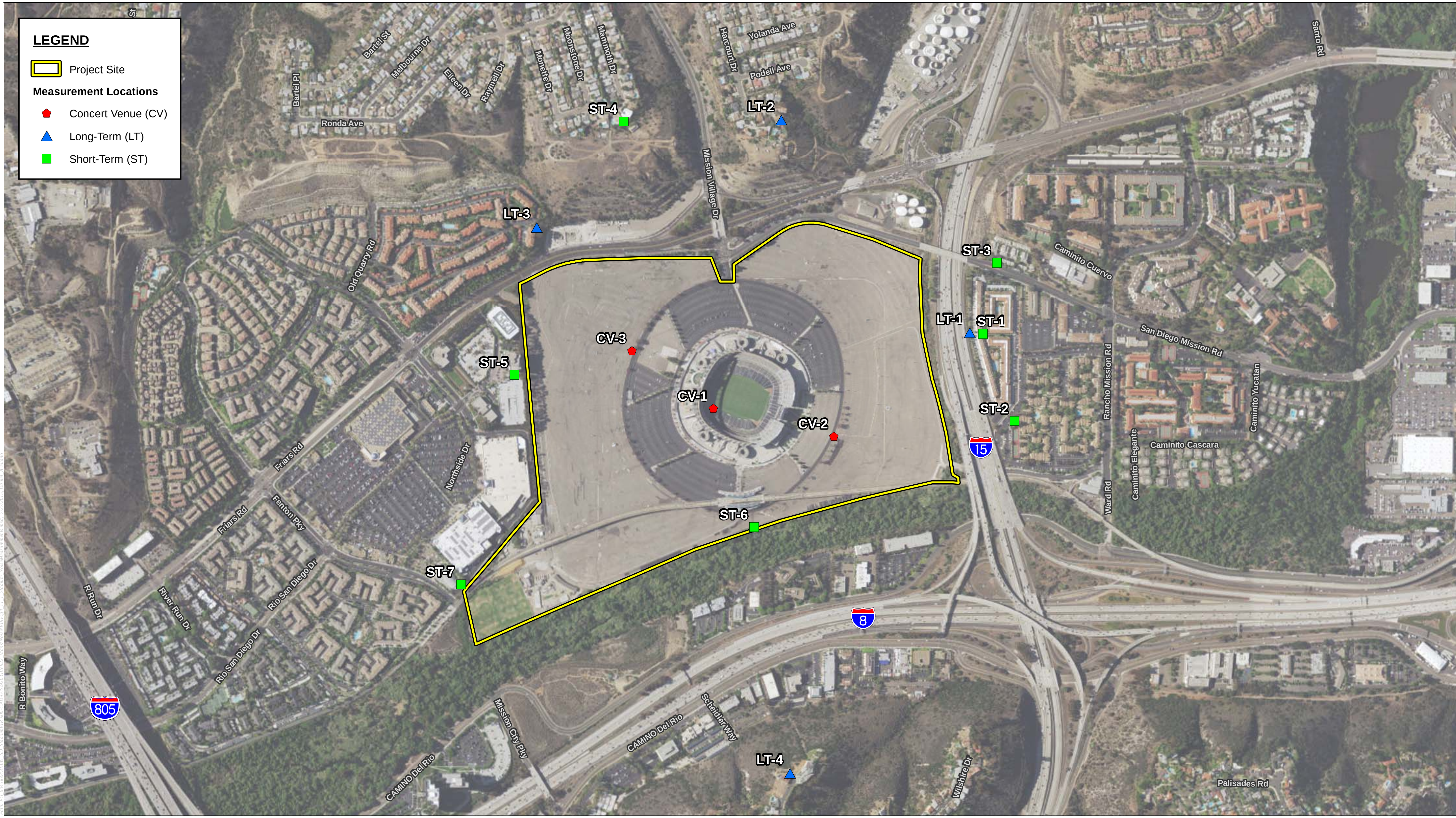
There are no noise-sensitive receptors on the Project site. The nearest human noise-sensitive receptors in proximity to the Project site boundary are off-site residences, as shown in Figure 4.11-1. Multifamily housing is approximately 175 feet to the northwest across Friars Road at an elevation of approximately 150 feet AMSL with a direct line-of-sight of the existing Qualcomm Stadium, which has an elevation of approximately 85 feet AMSL at its base. Additional multifamily housing is approximately 400 feet to the east across I-15 at an elevation of approximately 70 feet AMSL with I-15 obstructing the line-of-sight of the existing Qualcomm Stadium. Additional multifamily housing is approximately 500 feet to the east across I-15 and San Diego Mission Road at an elevation of approximately 100 feet AMSL with an obstructed line-of-sight of the existing Qualcomm Stadium. The nearest single-family housing is approximately 700 feet to the north of the existing Qualcomm Stadium boundary across Friars Road at an elevation of approximately 275 feet AMSL on the north rim of Mission Valley with a direct line-of-sight of the existing Qualcomm Stadium. Additional single-family housing is approximately 1,800 feet to the south across I-8 at an elevation of approximately 400 feet AMSL on the south rim of Mission Valley with a direct line-of-sight of the existing Qualcomm Stadium.

In addition to human receptors, protected special-status bird species and their habitats may be considered noise-sensitive receptors during their breeding season. Special-status species have been afforded protection or special recognition by federal, state, or local resource agencies or organizations, and typically have relatively limited distribution and may require specialized habitat conditions.

Noise Measurements

To characterize the existing ambient noise environment, noise measurements and observations were performed on the Project site and at nearby noise-sensitive receptors in proximity to the Project site. Ambient noise levels were measured at the nearest residences, to the north, northwest, east, and south of the stadium site; a public library west of the Project site; and at noise-sensitive bird habitat of the floodplain of the San Diego River at the southern boundary of the stadium site near the MTS Trolley Station – Qualcomm Stadium. A combination of short-term ("ST", 15-minute duration) and long-term ("LT", 24-hour day-night) noise measurements were performed during the existing Qualcomm Stadium event and non-event days. The LT measurements were performed at the single-family and multifamily residences nearest to the existing Qualcomm Stadium and the Project site. Three additional measurements were performed at the existing Qualcomm Stadium during the One Direction concert on Thursday, July 9, 2015. These concert venue (CV) measurements (CV-1, CV-2, and CV-3) were conducted for the purpose of collecting data to support a prediction model of typical stadium concert event noise. The noise measurement locations are shown in Figure 4.11-1. Noise measurement locations and observations are summarized in Table 4.11-2.

Noise measurements were taken by AECOM noise specialists using sound level meters (SLMs) manufactured by Larson-Davis, Inc. (LD). ST noise measurements were made with LD Model 820 SLM, and LT measurements with LD Models 820, 720, and LxT SLM. The SLMs were programmed in "slow" response mode, and to record noise levels with A-weighting. All noise measurements were taken approximately 5 feet above ground level using stationary tripods. SLM calibration was field-checked before and after each measurement using LD Model CAL 200 and CAL 150 calibrators. During the measurements, the weather was generally clear and dry, with winds 0 to 9 mph, and temperatures ranging between 65 to 89 degrees Fahrenheit.



Source: NAIP 2014.

750 375 0 750 Feet

Scale: 1 = 9,000; 1 inch = 750 feet

Figure 4.11-1
Noise Measurement Locations

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Table 4.11-2
Noise Measurement Locations

Site ID*	Location	Distance and Direction from Qualcomm Stadium	Representative Land Use	Dominant Noise Source
LT-1	I-15 along fence line behind backside of Bella Posta Apartments	1,450 feet east	Location used to measure I-15 traffic noise only, not adjacent housing area.	Vehicle traffic on I-15
LT-2	9477 Goodwick Court, east of Mission Village Drive	1,800 feet north	Single-family housing north of stadium site, exterior use area	Vehicle traffic on Friars Road and I-15
LT-3	Monte Vista Apartments Unit 3302 Northwest of Friars Road and Qualcomm Stadium	1,500 feet northwest	Multifamily housing	Vehicle traffic on Friars Road
LT-4	5262 Cromwell Court south of I-8 and Qualcomm Stadium, at end of Cromwell Court	2,400 feet south	Single-family housing	Vehicle traffic on I-8
ST-1	Bella Posta Apartments east of I-15 and north of San Diego Mission Road	1,550 feet northeast	Multifamily housing within interior courtyard	Vehicle traffic on I-15
ST-2	Rancho Mission Villas Unit 209, east of I-15 and Qualcomm Stadium	1,750 feet east	Multifamily housing next to porch deck	Vehicle traffic on I-15
ST-3	Mission Terrace Apartments Unit 7 east of I-15, north of San Diego Mission Road	1,850 feet northeast	Multifamily housing at top of stairs next to residence	Vehicle traffic on I-15 and San Diego Mission Road
ST-4	9391 Broadview, north of Friars Road, west of Mission Village Road	1900 feet northwest	Single-family home on back deck	Vehicle traffic on Friars Road, Stadium concert event
ST-5	2365 Northside Drive west of Qualcomm Stadium south of Friars Road	1,375 feet west	Commercial Space, Office building at outdoor use area	Vehicle traffic on Friars Road, Saturday car racing
ST-6	Qualcomm Stadium south parking lot boundary	600 feet south	Parking lot, river habitat Trolley station	Vehicle traffic on I-8 and trolley noise
ST-7	Mission Valley Public Library north of Fenton Parkway and Trolley line	2.200 feet southwest	Library outdoor use area	Vehicle traffic on I-8 and trolley noise, soccer announcer

* The Site ID corresponds to locations shown in Figure 4.11-1.

Ambient Noise Levels

On Wednesday, July 8, 2015, LT ambient noise measurements (LT-1 through LT-4) were initiated at the residences nearest the Project site. From July 8–13, 2015, ST noise measurements were regularly taken near these residences (ST-1 through ST-4), the southern boundary of the Project site (ST-6), an office/commercial area (ST-5), and a public library (ST-7). On Monday, July 13, 2015, the LT measurements were concluded. Measured noise levels are summarized in Table 4.11-3, and detailed in Appendix K.

Table 4.11-3
Ambient Noise Measurement Data

Site ID*	Type	Weekday			Saturday			Sunday		
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
LT-1	MFH	76	74	71	75	74	72	74	74	70
LT-2	SFH	63	62	58	62	61	60	61	60	58
LT-3	MFH	59	60	52	64	56	54	57	56	53
LT-4	SFH	67	66	61	67	66	63	67	66	62
ST-1	MFH	61	59	56	59	58	56	59	59	55
ST-2	MFH	71	70	66	70	69	67	69	69	65
ST-3	MFH	69	69	65	69	68	66	68	68	64
ST-4	SFH	57	58	48	54	46	44	54	53	50
ST-5	Office	57	58	50	62	54	52	53	52	49
ST-6	River	62	60	55	58	57	54	59	58	54
ST-7	Library	51	51	46	62	61	58	n/a	n/a	n/a

* The Site ID corresponds to locations shown in Figure 4.11-1.
MFH = Multifamily Housing; SFH = Single-family Housing; n/a = not applicable
All noise levels are expressed as dBA L_{eq}

As shown in Table 4.11-3, ambient average noise level measurements ranged from 44 to 76 dBA L_{eq}. Noise sources were primarily from vehicle traffic on adjacent roadways of Friars Road, I-15, or I-8. Weekday measurements do not include the concert event on Thursday, July 9, 2015, when the existing Qualcomm Stadium hosted a music concert by the group One Direction, which was recorded to be utilized for the modeling of the existing Qualcomm Stadium concert event noise.

Vibration

In addition to noise, Project construction activities generate vibration (i.e., energy transmitted as waves through the soil mass and rock strata between a source and a receiver location), which dissipate with distance from the vibration source due to geometrical divergence and frictional losses. The energy transmitted through the ground as vibration, if adjacent to structures and of sufficient magnitude, can result in structural damage under the right conditions.

Typical outdoor sources of perceptible groundborne vibration are railroad operations, vehicle traffic on rough (i.e., unpaved or uneven) roads, and some industrial processes such as metal stamping. Construction activity can also result in varying degrees of groundborne vibration, depending on the type of equipment, methods employed, distance between source and receptor, duration, number of perceived vibration events, and local geology.

Project demolition and construction activities would generate perceptible vibration levels from the operation of heavy equipment (e.g., heavy trucks and earth-moving equipment) or impact equipment (e.g., pavement breakers, pile drivers) in the immediate vicinity of structures and people. Heavy equipment would generate perceptible groundborne vibration within approximately 50 feet of the operation area. Impact equipment such as pile drivers would generate perceptible groundborne vibration within approximately 100 feet of the pile-driving operation area. Vibration is measured in terms of peak particle velocity (ppv), in units of inches per second (in/sec). The vibration threshold for structural damage is 0.12 in/sec ppv (Federal Transit Administration (FTA) 2006).

4.11.2 Regulatory Conditions

State of California

CEQA Guidelines

CEQA contains guidelines to evaluate the significance of noise effects resulting from a proposed project. The City of San Diego has developed CEQA Significance Determination Thresholds (City of San Diego 2011), which outline the criteria and thresholds used to determine whether project impacts are significant.

California Administrative Code, Title 24

Title 24 requires that residential structures, other than detached single-family dwellings, be designed to prevent the intrusion of exterior noise so that the interior with windows closed and attributable to exterior sources does not exceed 45 dBA CNEL in any habitable room.

City of San Diego

General Plan, Noise Element

The Noise Element of the San Diego General Plan provides land use and noise compatibility guidelines (City of San Diego 2008), which are provided in Table 4.11-4. The City's exterior unconditional noise level standard for noise-sensitive areas is 60 dBA CNEL. Multiple dwelling units are "compatible" with exterior noise levels lower than 60 dBA CNEL and, in areas with exterior noise levels of up to 70 dBA CNEL, are "conditionally compatible" provided that the building structure attenuates interior noise levels to 45 dBA CNEL. Commercial uses (i.e., existing Qualcomm Stadium) are "conditionally compatible" with noise levels up to 75 dBA CNEL and "compatible" with noise levels up to 65 dBA CNEL. The City assumes that current standard construction techniques provide a 15 dB reduction of exterior noise levels to an interior receiver (City of San Diego 2008). With these criteria, standard construction could be assumed to result in interior noise levels of 45 dBA CNEL or less when exterior sources are 60 dBA CNEL or less. When exterior noise levels are greater than 60 dBA CNEL, consideration of specific construction techniques is required. In addition, the Noise Element provides goals and policies that address mixed-use developments, sensitive receptors, site planning, operations, circulation, and noise attenuating measures. The goals and policies applicable to the Project site include:

Goal A: Noise and Land Use Compatibility

- Consider existing and future noise levels when making land use planning decisions to minimize people's exposure to excessive noise.

  Policy NE-A.1. Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.

Goal B: Motor Vehicle Traffic Noise

- Minimal excessive motor vehicle traffic noise on residential and other noise-sensitive land uses.

  Policy NE-B.1. Encourage noise-compatible land uses and site planning adjoining existing and future highways and freeways.

  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.

  Policy NE-B.5. Designate local truck routes to reduce truck traffic in noise-sensitive land uses areas.

  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.

Goal G: Construction, Refuse Vehicles, Parking Lot Sweepers, and Public Activity Noise:

- Minimal exposure of residential and other noise-sensitive land uses to excessive construction, refuse vehicles, parking lot sweeper-related noise and public noise.

Goal H: Event Noise:

- Balance the effects of noise associated with events with the benefits of the events.

  Policy NE-H.2. Ensure that the future residential and other noise-sensitive land uses adjacent to the ballpark and stadium are compatible with event noise levels.

Table 4.11-4
Land Use Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure [dB(A) CNEL]				
	60	65	70	75	
Open Space, Parks, and Recreational					
Community and Neighborhood Parks; Passive Recreation					
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Water Recreational Facilities; Horse Stables; Park Maintenance Facilities					
Agricultural					
Crop Raising and Farming; Aquaculture, Dairies; Horticulture Nurseries and Greenhouses; Animal Raising, Maintaining and Keeping; Commercial Stables					
Residential					
Single Units; Mobile Homes; Senior Housing		45			
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations		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, Beverage, 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; Radio and 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 Services 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	

	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 General Plan Noise Element 2008

Noise Ordinance

The City's noise ordinance is contained in the City's Municipal Code, Chapter 5, Article 9.5, Noise Abatement and Control (City of San Diego 2010). Section 59.5.0401 Sound Level Limits of the noise ordinance regulates operational noise generated by on-site sources and provides sound level limits for various land uses by time of day, as shown in Table 4.11-5.

Table 4.11-5
Sound Level Limits

Land Use Zone	Time of Day	One-Hour Average Sound Level (dB)
1. Single-Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
2. Multi-Family Residential (Up to a maximum density of 1/2,000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
3. All Other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
4. Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
5. Industrial or Agricultural	Any time	75

Source: City of San Diego 2010

Section 59.5.0404 Construction Noise of the City's noise ordinance regulates construction noise. Construction activities are prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays and legal holidays, except in case of emergency. Construction noise levels are limited to an average sound level of 75 dBA at or beyond the property lines of any property zoned residential during the 12-hour period from 7 a.m. to 7 p.m. (City of San Diego 2010).

Significance Determination Thresholds

The City of San Diego's CEQA Significance Determination Thresholds (City of San Diego 2011) outline the criteria and thresholds used to determine whether project impacts are significant. The following applicable thresholds have been used in this analysis for identifying significant noise impacts applicable to the Project.

Interior and Exterior Noise Impacts from Traffic Generated Noise

The City's CEQA significance determination thresholds provide guidance on implementing the City's noise policies and ordinances, including the general thresholds of significance for uses affected by traffic noise in Table 4.11-6 Traffic Noise Significance Thresholds.

Table 4.11-6
Traffic Noise Significance Thresholds

Structure of Proposed Use That Would Be Impacted by Traffic Noise	Interior Space	Exterior Useable Space[1]	General Indication of Potential Significance
Single-family detached	45 dB	65 dB	Structure or outdoor useable area[2] is <50 feet from the center of the closest (outside) lane on a street with existing or future ADTs >7,500
Multi-family, school, library, hospital, day care center, hotel, motel, park, convalescent home	Development Services Department (DSD) ensures 45 dB pursuant to Title 24	65 dB	
Office, church, business, professional uses	n/a	70 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >20,000
Commercial, retail, industrial, outdoor spectator sports uses	n/a	75 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >40,000

1 If a project is currently at or exceeds the significance thresholds for traffic noise described above and noise levels would result in less than a 3-dB increase, then the impact is not considered significant.
2 Exterior useable areas do not include residential front yards or balconies unless the areas such as balconies are part of the required useable open space calculation for multi-family units.
Source: City 2011

As shown in Table 4.11-6, the noise level at exterior usable open space for single- and multifamily residences should not exceed 65 dBA.

Noise from Adjacent Stationary Uses (Noise Generators)

The City's Noise Ordinance also limits property line noise levels for various land uses by time of day for noise generated by on-site sources associated with project operation (Table 4), (e.g., for multifamily residential, 55 dBA L_{eg} from 7 a.m. to 7 p.m., 50 dBA L_{eg} from 7 p.m. to 10 p.m., and 50 dBA L_{eg} from 10 p.m. to 7 a.m.). A project which would generate noise levels at the property line which exceed the City's Noise Ordinance Standards is considered potentially significant (such as potentially a carwash or projects operating generators or noisy equipment). If a non-residential use, such as a commercial, industrial or school use, is proposed to abut an existing residential use, the decibel level at the property line should be the arithmetic mean of the decibel levels allowed for each use as set forth in Section 59.5.0401 of the Municipal Code (Table 4.11-5). Although the noise level generated from the source at the property line could be consistent with the City's Noise Ordinance Standards, a noise level above 65 dB (A) CNEL at the residential property line could be considered a significant environmental impact.

Temporary Construction Noise and Sound Level Limits

Temporary construction noise which exceeds 75 dB (A) Leq at a sensitive receptor would be considered significant. Construction noise levels measured at or beyond the property lines of any property zoned residential shall not exceed an average sound level greater than 75-decibels (dB) during the 12-hour period from 7:00 a.m. to 7:00 p.m. In addition, construction activity is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, that would create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator, in conformance with San Diego Municipal Code Section 59.5.0404. Additionally, where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, a significant noise impact may be identified.

Noise/Land Use Compatibility

The City's General Plan Noise Element, Table 4.11-4, indicates the City's exterior unconditional "compatible" noise level standard for noise-sensitive areas is 60 dBA CNEL. The City assumes that standard construction design techniques would provide a 15-dB reduction of exterior noise levels to interior noise levels of 45 dBA CNEL or less when exterior sources are 60 dBA CNEL or less. When exterior noise levels are greater than 60 dBA CNEL and the interior threshold is 45 dBA CNEL, consideration of specific construction techniques is required. Areas with exterior noise levels of up to 70 dBA CNEL are "conditionally compatible" provided that the building structure attenuates interior noise levels to 45 dBA CNEL.

4.11.3 Impact Analysis

Issue 1: Would the project result in a significant increase in the existing ambient noise level?

Impact Thresholds

Noise impacts may be significant if the Project would result in:

- A substantial temporary or periodic increase in existing ambient noise levels at noise-sensitive receptors in the project vicinity due to the project.

Construction noise is typically considered temporary and short term (i.e., its effect on the environment ceases upon conclusion of construction activities). A substantial temporary increase in ambient noise levels is defined as a direct Project-related increase of 10 dBA L_{eq} or greater, based on the noise standard that a 10 dBA increase is perceived by the human ear as twice as loud (FTA 2006).

Noise impacts may be significant if the proposed Project would result in:

- A significant permanent increase in existing ambient noise levels at noise-sensitive receptors due to the Project.

Operational noise is typically considered permanent, i.e., for the duration of the operation of the constructed facility, and in the case of a stadium, not operating continuously, but only operating when the stadium is hosting an event (in progress).

A significant permanent increase is conservatively defined as a direct Project-related permanent ambient increase of 3 dBA L_{eq} or greater, where exterior noise levels currently exceed the City's noise ordinance noise level limits (i.e., 50 dBA L_{eq} daytime for single-family residential land uses). An increase of 3 dBA is perceived by the human ear as a barely perceptible increase.

Impact Analysis

Construction

Methodology

Construction noise is considered temporary and short term. Construction noise at its source varies depending on construction activities and duration, and the type and usage of equipment involved. Noise impacts from construction are dependent on the construction noise levels generated, the timing and duration of the construction activities, proximity to sensitive receptors, and noise regulations and standards. Construction equipment can be stationary or mobile. Stationary equipment operates in one location for various periods of time with fixed-power operation, such as pumps, generators, and compressors, or a variable noise operation, such as pile drivers, rock drills, and pavement breakers. Mobile equipment moves around the construction site such as bulldozers, graders, and loaders (FTA 2006). Heavy construction equipment typically operates for short periods at full power followed by extended periods of operation at lower power, idling, or powered-off conditions. Typically, site preparation involves demolition, grading, compacting, and excavating, which would include the use of backhoes, bulldozers, loaders, excavation equipment (e.g., graders and scrapers), pile drivers, and compaction equipment. Finishing activities may include the use of pneumatic hand tools, scrapers, concrete trucks, vibrators, and haul trucks. Typical maximum noise levels generated by various pieces of construction equipment are listed in Table 4.11-7.

As shown in Table 4.11-7, maximum noise levels range from 70 to 95 dBA L_{max}, depending upon the piece of equipment operating (FTA 2006). In typical construction projects, grading and impact activities typically generate the highest noise levels. Grading involves the largest, heaviest equipment and typically includes bulldozers, excavators, dump trucks, front-end loaders, and graders with maximum noise levels range from 80 to 85 dBA L_{max}. Impact equipment includes pile drivers, rock drills, pavement breakers, concrete crushers, and industrial/concrete saws with maximum noise levels range from 90 to 95 dBA L_{max}. Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some phases would have higher continuous noise levels than others, and some have high-impact noise levels.

Typical construction projects, with equipment moving from one point to another, work breaks, and idle time, have hourly average noise levels (L_{eq}) that are lower than loud short-term, or instantaneous, peak noise events shown in Table 4.11-7. The L_{eq} of each phase is determined by combining the L_{eq} contributions from each piece of equipment used in that phase (FTA 2006). Therefore, typically, hourly average noise levels would be approximately 75 to 80 dBA L_{eq} at

Table 4.11-7
Construction Equipment Noise Levels

Equipment	Noise Level (dBA L_{max}) at 50 Feet
Auger Drill Rig	85
Backhoe	80
Blasting	94
Chain Saw	85
Clam Shovel	93
Compactor (ground)	80
Compressor (air)	80
Concrete Batch Plant *	80
Concrete Crushing Plant **	86
Concrete Mixer Truck	85
Concrete Pump	82
Concrete Saw	90
Crane (mobile or stationary)	85
Dozer	85
Dump Truck	84
Excavator	85
Front End Loader	80
Generator (25 KVA or less)	70
Generator (more than 25 KVA)	82
Grader	85
Hydra Break Ram	90
Impact Pile Driver (diesel or drop)	95
Insitu Soil Sampling Rig	84
Jackhammer	85
Mounted Impact Hammer (hoe ram)	90
Paver	85
Pneumatic Tools	85
Pumps	77
Rock Drill	85
Scraper	85
Tractor	84
Vacuum Excavator (vac-truck)	85
Vibratory Concrete Mixer	80
Vibratory Pile Driver	95

Source: Thalheimer 2000, *FTA 2006, **Ldn Consulting, Inc. 2011
KVA = kilovolt amps

50 feet from the center of the non-impact construction activities area is assumed to occur, with 90 dBA L_{eq} at 50 feet for impact equipment. Noise levels of other activities would be less. Noise levels from construction activities would attenuate with distance at a rate of 6 dBA per doubling of distance over acoustically hard sites, such as streets and parking lots. Intervening structures and/or topography would further attenuate noise levels. These factors generally limit the distance construction noise travels and ensure noise impacts from construction are localized.

Modeling

Construction noise from each of six distinct categories of activity was predicted at the representative nearby noise-sensitive receivers with a technique based on the "general assessment" methodology as appearing in Chapter 12 of the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment* (FTA 2006) guidance report. In summary, this technique presumes the two loudest pieces of equipment associated with an activity are operating at full power and located at the geographic center of a construction area or zone. The following details the expected major noise producer(s) based on available anticipated roster of Project construction equipment and schedule, and their location for each studied construction activity phase.

- *Demolition of the Parking Lot (Project site)* –Vibrator plates (88 dBA L_{eq} at 50 feet) located up to 550 feet away from the center point of the existing Qualcomm Stadium and 450 feet away from the centerpoint of the new stadium site; concrete/asphalt-crushing plant (86 dBA L_{eq} at 50 feet) centered approximately 1,000 feet east of the existing Qualcomm Stadium footprint.
- *Project Site Preparation* – Scrapers (92 dBA L_{eq} at 50 feet) located up to 550 feet away from the center point of the existing Qualcomm Stadium and 450 feet away from the center point of the new stadium site.
- *Pile-driving at the Project site*– One impact or vibratory-type pile driver (88 dBA L_{eq} at 50 feet) as close as the perimeter of the new stadium site.
- *Project Facility Construction* – Pettibones and other lifts (95 dBA L_{eq} at 50 feet) at the center of the new stadium site; concrete batch plant (80 dBA L_{eq} at 50 feet) centered approximately 1,000 feet east of the existing Qualcomm Stadium footprint.
- *Demolition of the Existing Qualcomm Stadium* – Fans and track hoes (86 dBA L_{eq} at 50 feet) at the center of the existing Qualcomm Stadium footprint; concrete-crushing plant (86 dBA L_{eq} at 50 feet) centered approximately 1,000 feet east of the existing Qualcomm Stadium footprint.
- *Project Parking Lot* –Saw cutters and scrapers (92 dBA L_{eq} at 50 feet) located as close as the Project boundary on the northern, eastern and western sides, as close as 235 feet from the southern Project boundary (i.e., the river floodline), and not in the far southwest corner of the Project site.

Reference data from the Federal Highway Administration (FHWA) *Roadway Construction Noise Model* (RCNM) *User's Guide* (FHWA 2006) was used to define the sound source levels and acoustical usage factors (i.e., what percentage of time would equipment operate at full power) of construction equipment or activities indicated in the above bullets. The six construction phases listed above were assumed to occur sequentially—not concurrently. Sound propagation between these construction noise sources and the representative receivers was estimated with an Excel spreadsheet model that incorporates algorithms and data based on International Organization of Standardization (ISO) 9613-2 standards, accounting for geometric divergence and acoustical absorption from air and ground effects.

Analysis

Project construction and demolition activities would occur on the Project site. Construction activities of the new stadium would occur in the northeast area of the Project site, with construction staging areas east of Qualcomm Stadium. The demolition of Qualcomm Stadium would occur on the Qualcomm Stadium site in the center area of the Project site.

Project construction noise would be generated during the following project construction phases of:

(1) demolition of parking pavement for the new stadium portion of the Project footprint,
(2) site preparation including import and placement of fill,
(3) pile driving for reconstructed stadium foundation,
(4) construction of the new stadium,
(5) demolition of the existing Qualcomm Stadium, and
(6) reconstruction of the parking lot.

Project noise analysis is based on project construction/demolition phases occurring separately, i.e., without overlapping. Construction and demolition noise would be localized at the specific areas of construction activity and anticipated to occur during daytime hours of 7 a.m. to 7 p.m., Monday through Saturday (i.e., within the allowable hours of construction of 7 a.m. to 7 p.m., Monday through Saturday of the City's noise ordinance). Project construction activities relating to parking lot pavement removal and/or replacement near the northern and eastern Project site boundary would be closest to residences, that are approximately 500 feet to the east (ST-1 and ST-2), approximately 600 feet to the northeast (ST-3), approximately 300 feet to the northwest (LT-3), and approximately 700 feet to the north (LT-2). Pile driving activities would be farther within the Project site footprint, and somewhat farther away from the nearest residences, resulting in distances from pile-driving as follows: approximately 1,050 feet to the east (ST-1); approximately 1, 050 feet to the northeast (ST-3); and approximately 800 feet to the north (LT-2).

Estimated construction noise levels for each phase were calculated at each receptor and logarithmically added to the measured existing ambient noise levels (from Table 4.11-3). These log-summed ambient-plus-construction noise levels were then compared to the existing ambient noise levels to determine the net increase ambient noise levels at each receptor due to construction noise. Then the net increase was compared to the threshold for a substantial temporary increase in ambient noise levels of 10 dBA L_{eq} or greater. The temporary net increase in ambient noise levels at each receptor for weekday are shown in Table 4.11-8.

Table 4.11-8
Temporary Net Increase in Ambient Noise Levels, Weekday

Receptor Location ID	Increase over Existing Ambient, per phase, weekday					
	Phase 1 Demolish Parking Area for New Stadium	**Phase 2 Site Prep for New Stadium**	**Phase 3 Pile Driving for New Stadium**	**Phase 4 Construct New Stadium**	**Phase 5 Demolish Existing Qualcomm Stadium (excludes blasting)**	**Phase 6 Reconstruct Project Site Parking Lot**
LT-2	2	4	2	3	1	3
LT-3	1	2	1	1	2	**15**
LT-4	0	0	0	0	0	0
ST-1	3	3	1	4	3	8
ST-2	0	0	0	0	0	1
ST-3	0	1	0	1	0	2
ST-4	2	3	1	3	2	5
ST-5	2	4	1	2	4	**22**
ST-7	3	5	1	3	5	**13**

All increase values expressed as dBA L_{eq}
Exceedance is shown in **bold**.

As shown in Table 4.11-8, daytime construction noise levels resulted in substantial predicted increases in ambient noise levels during the daytime on a weekday at locations LT-3, ST-5, and ST-7.

As shown in Table 4.11-9, daytime construction noise levels resulted in substantial predicted increases in ambient noise levels on Saturday at locations LT-3, ST-1, and ST-5.

Demolition of the existing Qualcomm Stadium would be initiated by implosion of the structure using explosives in one coordinated event. Implosion methods are very effective for bringing down tall structures that would be difficult to demolish with typical construction equipment, or are too expensive to demolish from the top downward. An implosion also reduces the length of time sensitive receptors are subject to the noise from a long duration of conventional demolition. Implosion methods use highly specialized explosives to undermine the supports of a structure so it collapses either within its own footprint or in a predetermined path. The implosion process is especially suited for high-rise buildings and special structures (e.g., stadiums, cooling towers, smokestacks, boilers, steel mill furnaces) (CEC 2014). Project-specific demolition methods and explosives for the demolition of existing Qualcomm Stadium would be determined in a demolition plan prepared prior to demolition.

Table 4.11-9
Temporary Net Increase in Ambient Noise Levels, Saturday

Receptor Location ID	Increase over Existing Ambient, per phase, weekday					
	Phase 1 Demolish Parking Lot Area for New Stadium	Phase 2 Site Prep for New Stadium	Phase 3 Pile Driving for New Stadium	Phase 4 Construct New Stadium	Phase 5 Demolish Existing Qualcomm Stadium (excludes blasting)	Phase 6 Reconstruct Project Site Parking Lot
LT-2	2	4	2	3	1	4
LT-3	0	1	0	1	1	**10**
LT-4	0	0	0	0	0	0
ST-1	4	4	2	5	4	**10**
ST-2	0	0	0	0	0	2
ST-3	0	1	0	1	0	2
ST-4	3	5	2	5	4	8
ST-5	1	2	0	1	2	**17**
ST-7	0	1	0	0	1	4

All increase values expressed as dBA L_{eq}
Exceedance is shown in **bold**.

The purpose of a demolition plan is to establish methods and procedures to follow for a safe and resourceful demolition (DSI 2012). A demolition plan includes, but is not limited to:

- Structure description: dimensions, materials, and foundation.
- Demolition guidelines: permits required, utility companies notification; temporary perimeter fencing; structural survey; environmental survey (i.e., asbestos and lead-based paint); universal waste stream removal; pre-demolition meeting on-site; site security; blasting plan; dust suppression methods; and debris handing, sorting, reuse, stockpiling, transport, hauling, and disposal location at an appropriate landfill.
- Safety procedures: public protection, fire protection and prevention.
- Daily housekeeping procedures.
- Worker personal protective equipment.
- Waste streams collection: debris, masonry, metals, universal waste.
- Emergency procedures and contacts.
- Public notifications and complaint process.
- Applicable federal, state, and local laws and regulations.

The noise level of the implosion event would be specific to the methods used and parameters such as charge weight, delay, and position that are not known at this time. However, implosion of concrete structures has resulted in maximum noise levels in the range of 120 to 135 dB at the source, which last only a brief period of time (typically less than 8 seconds), with human safety standoff distance of approximately 1,000 feet during the implosion (AED 2011). Since the implosion event would be under 1 minute; the 1-hour average daytime noise level (L_{eq}) would not increase substantially due to the implosion event itself. Demolition noise levels would be predominantly from the continuous sorting, collecting, crushing, and hauling of demolished materials using heavy equipment, as previously calculated and discussed.

Construction noise would be generated off-site by Project construction-related vehicle traffic trips to and from the job site on local roadways including daily worker commute vehicle trips and by heavy truck trips from construction equipment and materials deliveries, import of fill material (approximately 490,000 cy (24,500 truck trips)), export of excavated material from the new stadium footprint (approximately 920,000 cy [48,091 trips]), and export of demolished concrete from the Qualcomm Stadium and demolished asphalt from the parking lot (totaling approximately 54,000 cy [5,400 trips]). These hauling phases would not overlap, therefore, the export of excavated material (approximately 920,000 cy [48,091 trips]) would be the worst-case hauling scenario based on number of truck trips required within the required schedule and would equate to:

- Assuming a 16-week schedule to haul the import fill, 6 construction days per week, over an 8-hour day, equates to 125 truck roundtrips per hour.
- Adjusting 125 truck trips to equivalent passenger vehicles, results in approximately 375 equivalent passenger vehicles.

The proposed truck haul route would leave the Project site through the main gate of the Project site and travel east along Friars Road to its interchange with I-15. Vehicle traffic on Friars Road is approximately 41,800 AADT (SANDAG 2015) or 1,742 average hourly traffic volume, which would increase by 375 for a total increased volume of 2,117, or a 22 percent increase. Doubling of traffic volumes (i.e., a 100 percent increase) results in a 3 dB increase, which is barely perceptible to the human ear. The worse-case Project construction truck traffic increase of 22 percent during the hauling of excavated material would result in a 0.9 dBA L_{eq} increase in noise levels along, i.e., Friars Road, which is not a perceivable change in noise level.

<u>Operation</u>

Methodology

Stadium event noise was modeled at the existing Qualcomm Stadium and for the new site to identify event-related noise levels at nearby noise-sensitive receptors. The Cadna/A® Noise Prediction Model (Version 4.5.147) was used to estimate the noise levels from nominal Project operations at the studied noise-sensitive receptors appearing in Figure 4.11-1. Cadna/A® is a Windows® based software program that uses algorithms compatible with ISO 9613-2 standards for outdoor sound propagation calculation. The model accepts sound power levels as user-defined input parameters for sources of sound emission. The software's calculations account for classical sound wave geometric divergence, plus attenuation factors resulting from air absorption, basic ground effects, and barrier/shielding. To account for terrain effects, available topographical data was incorporated into Cadna/A® as part of the three-dimensional (3D) model space.

In the case of this operational noise analysis, the existing Qualcomm Stadium and the new stadium were both rendered as a tall, round barrier with three stacked decks of horizontal area sources within, each pitched to resemble the existing seating area architecture and arrangement. For four typical events studied, as listed below, each seating area was populated with shouting spectators at a density reflecting actual or average attendance (from publicly-available online sources) including:

- NFL – San Diego Chargers home football game (average 2014 season attendance = 65,432) (ESPN 2015)
- College – SDSU Aztecs football game (average 2014 season attendance = 32,294) (SDSU 2015)
- AMA Supercross (SX) event (2014 attendance = 56,828) (San Diego Supercross 2015)
- Concert (using recent July 9, 2015 One Direction event attendance = 52,831) (San Diego Union Tribune 2015)

For an NFL game, a college football game, and an SX event, Cadna/A-modeled crowd noise was calibrated with "crow's nest" location measurement data from an NFL game at Candlestick Park as appearing in Appendix K of the 49ers Santa Clara Stadium Project Draft EIR (City of Santa Clara 2009). This information was used because it provides a representative noise venue. This measurement data from the Candlestick Park noise study includes acoustical contribution from fireworks, cheering (with notable rises in sound level during touchdowns), and nominal stadium audio/visual system operation. Such calibrated crowd noise was also applied to the prediction model of noise emission from an SX event, to which the noise from motorcycles on a closed-circuit track within the existing Qualcomm Stadium was added.

Sound measurements taken within the existing Qualcomm Stadium during the One Direction concert (CV-1, CV-2, and CV-3) provided data to help calibrate the Cadna/A model of crowd noise and amplified music for such an event. The concert model also accounted for the partial seating deck usage and the addition of a floor-level spectator area. Cadna/A-modeled predictions of noise, without contribution of nearby roadway traffic, were then logarithmically added to representative time periods of measured traffic noise levels, so that Project-plus-traffic ambient sound levels can be compared between two categories of cases: (1) events at existing Qualcomm Stadium, and (2) potential future events at the new stadium.

Analysis

Project operation would generate operational noise levels similar to those from the existing Qualcomm Stadium. However, the new stadium would be located in the northeast corner of the existing Qualcomm Stadium parking lot, closer to noise-sensitive receptors located to the east (ST-1), northeast (ST-3), and north (LT-2). For all of the event scenarios modeled at the existing Qualcomm Stadium and the Project, the net increase in ambient noise levels at all of the ambient monitoring locations (i.e., residences) was less than the significance threshold of a 3 dBA L_{eq} or greater increase for a significant permanent increase in ambient noise levels, except at LT-2 from a concert event at the Project site, which results in a 4 dBA L_{eq} increase. Based on this operations noise analysis, this 4 dBA L_{eq} increase at the noise-sensitive receiver represented by LT-2 is a significant and unavoidable noise impact.

In addition to evaluating Project impacts based on the one-hour average (L_{eq}), a similar analysis was evaluated based on day-night average (CNEL), and a significant permanent increase defined as a direct Project-related permanent ambient increase of 3 dBA or greater, where exterior noise levels would already exceed the City’s significance threshold (i.e., 65 dBA CNEL daytime for single-family residential land uses) (City of San Diego 2011). In this case, the predicted operations noise from the existing Qualcomm Stadium and the Project were considered with respect to an entire diurnal cycle and not merely the anticipated duration of a typical event in progress. At all nine nearby representative locations (LT-2, LT-3, LT-4, ST-1, ST-2, ST-3, ST-4, ST-5, ST-7), the net increase in CNEL is expected to be less than 3 dBA and would be considered less than significant for the types of studied events (NFL game, SDSU Aztecs game, Supercross, concert).

While both operation noise impact assessment methods predictively evaluate the net outdoor ambient increment due to the Project, this noise analysis includes an L_{eq} metric usage as a more conservative approach to determining potential impacts and potential noise mitigation need. Hence, the net ambient noise increment involving Project operation predicted at LT-2 would still be considered a significant impact.

Noise Level Contours

To help illustrate the anticipated potential changes in the outdoor ambient sound environment in the vicinity of the Project, Figures 4.11-2 and 4.11-3 provide modeled noise level contours at the existing Qualcomm Stadium and at the nearest residences in the surrounding area for non-event and event days, respectively. The depiction of noise contours in Figure 4.11-2 represents only the predicted acoustical contribution of nearby road traffic noise and does not account for other sources in the outdoor ambient environment. However, based on available annual average daily traffic (AADT) volumes (Caltrans 2015 and SANDAG 2015) this traffic noise was modeled to yield L_{eq} values that are within ±3 dBA of the measured values at the long-term locations from the field survey of existing ambient noise. Figure 4.11-3 depicts the added acoustical contribution of the typical NFL game to the traffic-only noise of Figure 4.11-2. The noise contours of Figure 4.11-4 present the predicted acoustical combination of modeled road traffic and noise during a typical NFL game from the new stadium position.

Significance of Impacts

Construction Noise

Project construction noise levels would result in a substantial temporary net increase in ambient noise levels during Project construction activities at noise-sensitive receptors in proximity to construction activities. This is a significant impact and Mitigation measures NOI-2, NOI-3, NOI-4, and NOI-5 are required. Even with Project mitigation, impacts would remain significant and unmitigated.

The increase in traffic volume due to Project construction-related traffic would result in a less than 1 dBA L_{eq} increase in noise levels along adjacent roadways, which is not considered a perceivable change in noise level. This is a less than significant impact.

Operational Noise

Project operational noise levels would potentially result in a significant permanent increase in ambient noise levels (3 dBA L_{eq} or greater) at noise-sensitive receptors in proximity to the new stadium. This is a significant impact and Mitigation measure NOI-1 is required. Even with Project mitigation, impacts would remain significant and unmitigated.

Issue 2: Would the project result in the exposure of people to noise levels which exceed the City's adopted noise ordinance?

Impact Thresholds

Noise impacts may be significant if the Project would result in the following:

- Exposure of people to noise levels that exceed the City's adopted noise ordinance for construction and operation.

The City's noise ordinance limits construction noise levels to not exceed 75 dBA L_{eg} at the affected residential property line during the allowable construction hours of 7 a.m. to 7 p.m. Monday through Saturday.

The ordinance also limits operational noise levels at adjacent property lines for various land uses by time of day for noise generated by on-site sources associated with Project operation (Table 4.11-7) (e.g., 50 dBA L_{eg} for single-family residential from 7 a.m. to 7 p.m., and 45 dBA L_{eg} from 7 p.m. to 10 p.m.).

Impact Analysis

<u>Construction</u>

As discussed under Issue #1 Construction (i.e., temporary ambient noise level increase during Project construction), construction noise would be generated by construction equipment during the Project construction phases in proximity to noise-sensitive receptors and construction and demolition traffic. Project noise impacts would be significant if the Project would exceed the City's noise ordinance limits for construction noise levels of 75 dBA L_{eg} at the affected residential property line during the allowable construction hours of 7 a.m. to 7 p.m. Monday through Saturday. Project construction activities at the northeastern boundary of the new stadium site would be closest to the residences located approximately 500 feet to the east (ST-1 and ST-2); approximately 600 feet to the northeast (ST-3); approximately 300 feet to the northwest (LT-3); and approximately 700 feet to the north (LT-2).

Daytime construction noise levels for each construction phase were calculated at each receptor, as shown in Table 4.11-10, and compared to the City's construction noise level limit of 75 dBA L_{eg} at affected residential property lines during the allowable construction hours of 7 a.m. to 7 p.m. Monday through Saturday.

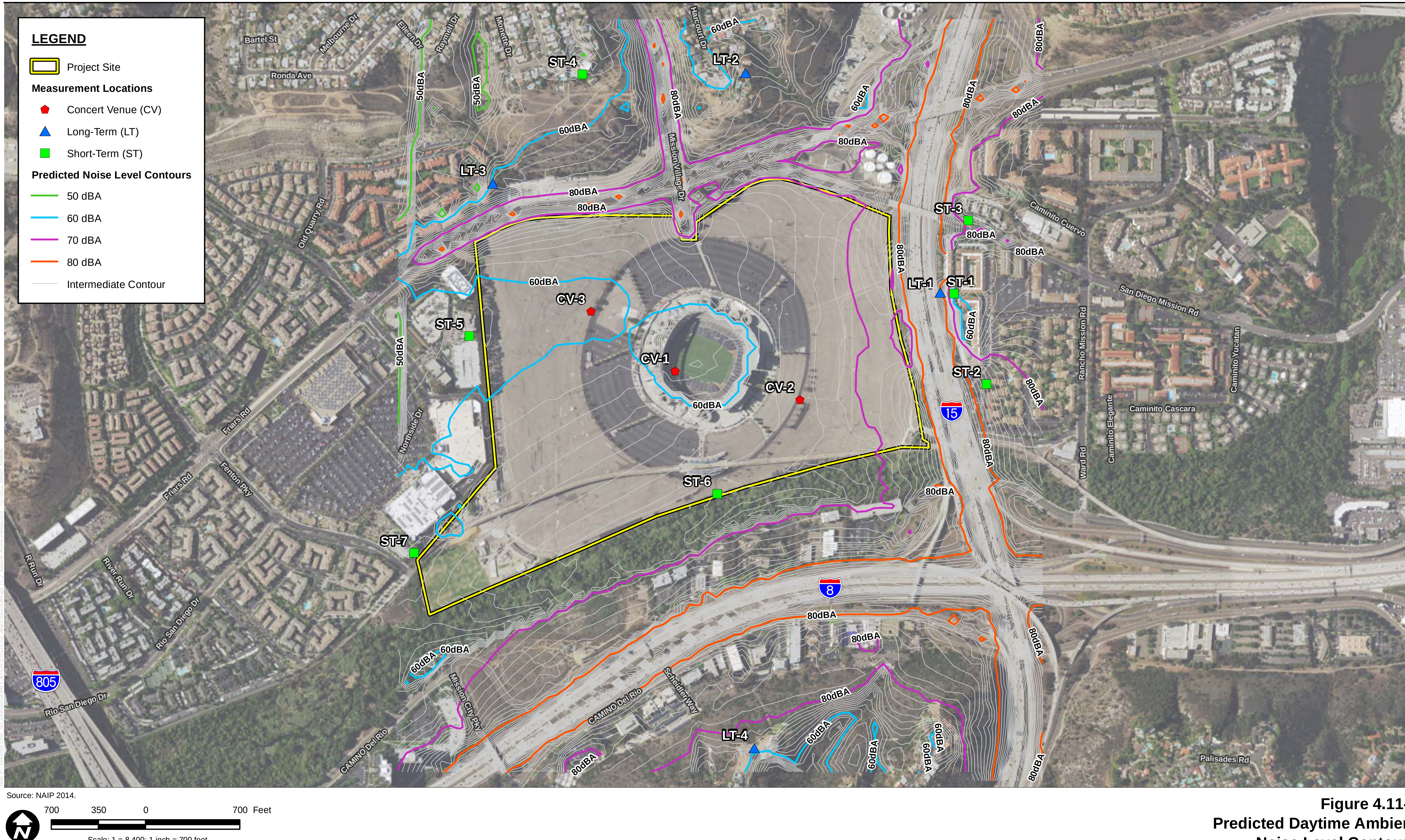

Figure 4.11-2
Predicted Daytime Ambient
Noise Level Contours

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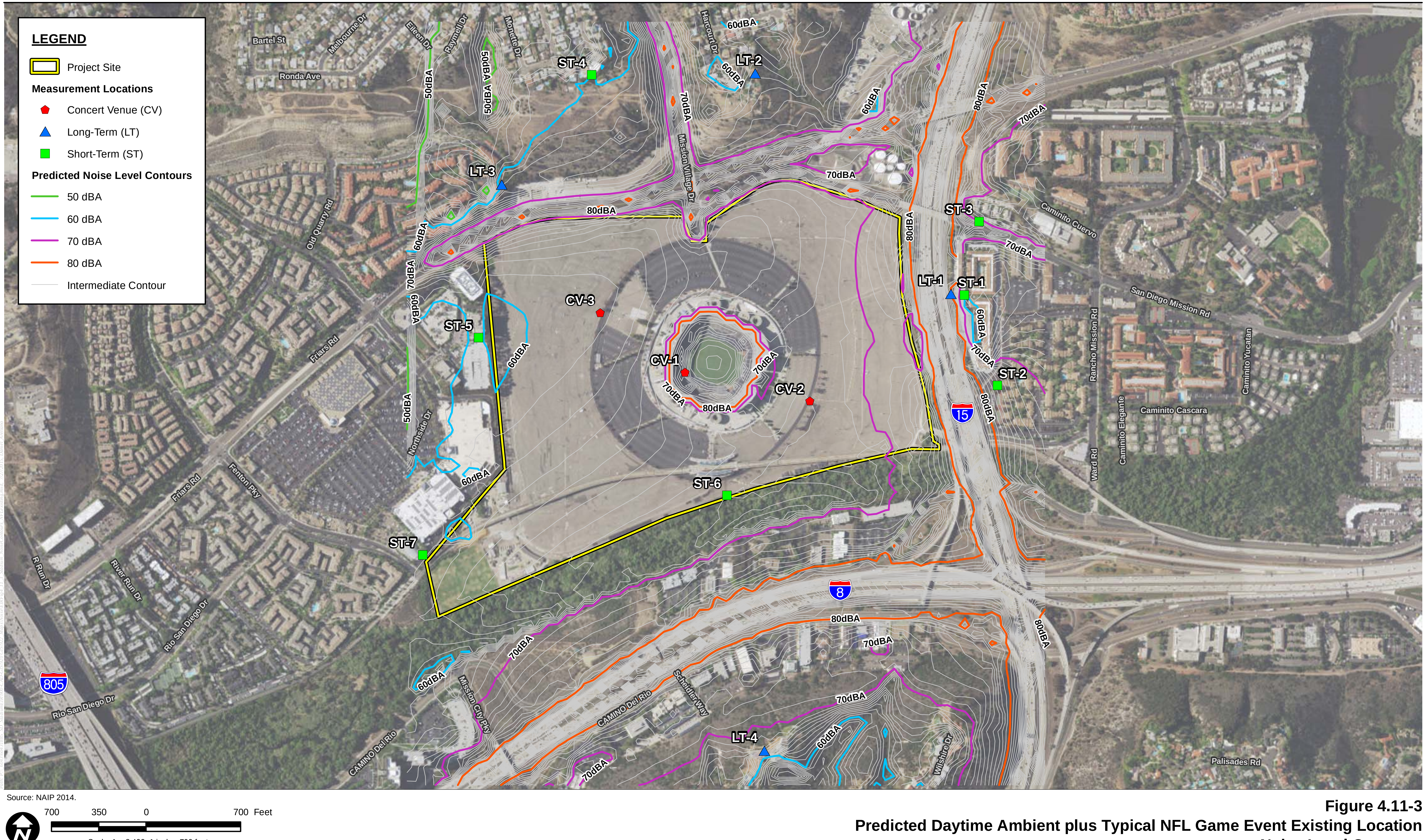

Figure 4.11-3
Predicted Daytime Ambient plus Typical NFL Game Event Existing Location Noise Level Contours

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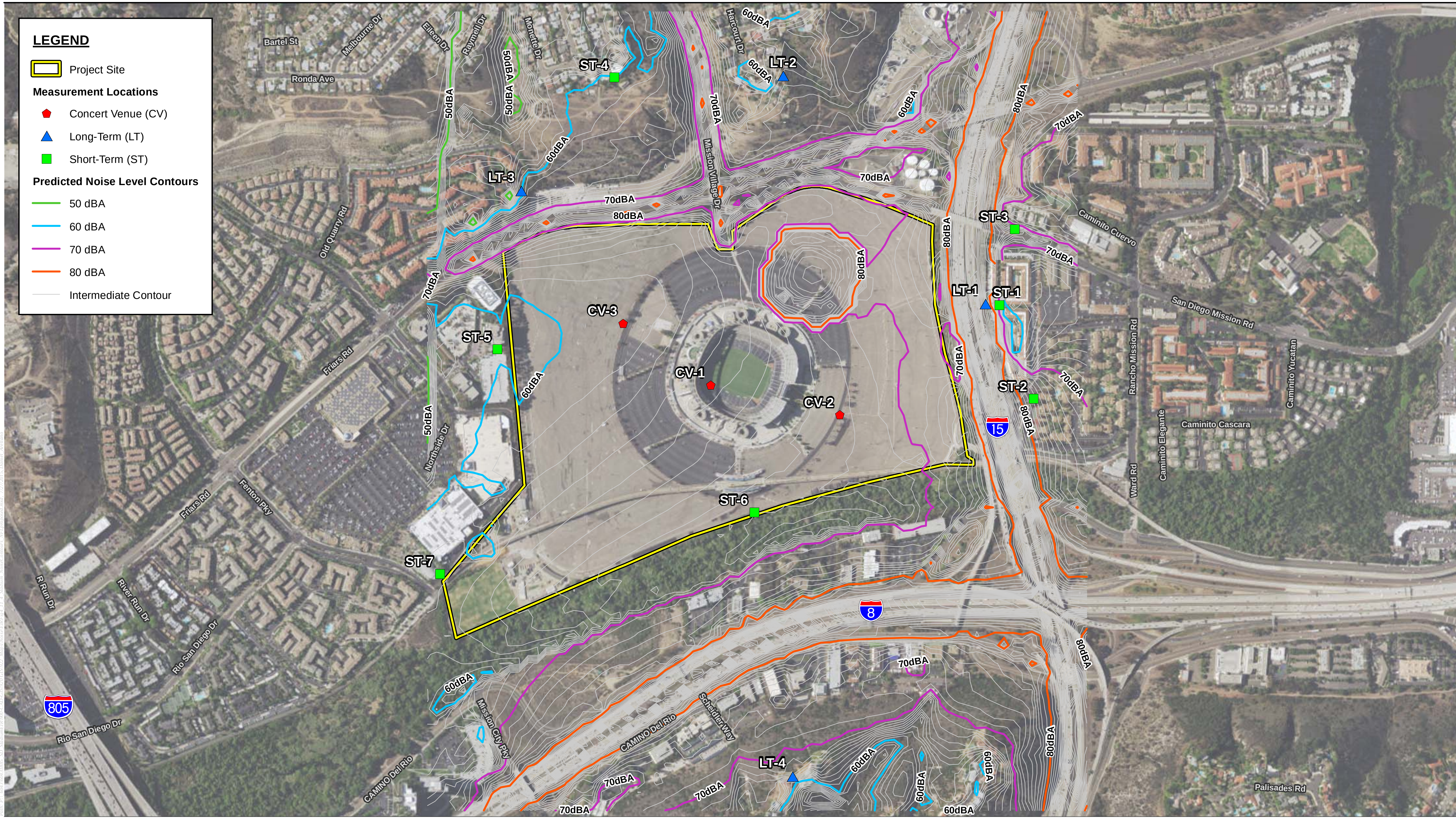

Source: NAIP 2014.

700 350 0 700 Feet

Scale: 1 = 8,400; 1 inch = 700 feet

Figure 4.11-4
Predicted Daytime Ambient plus Typical NFL Game Event Proposed Location Noise Level Contours

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Table 4.11-10
Construction Noise Levels at Receptors

Receptor Location ID	Construction Noise (dBA L_{eg}) at Receptor, per Phase					
	Phase 1 Demolish Parking Area for New Stadium	Phase 2 Site Prep for New Stadium	Phase 3 Pile Driving for New Stadium	Phase 4 Construct New Stadium	Phase 5 Demolish Existing Qualcomm Stadium (excludes blasting)	Phase 6 Construct Parking Lot
LT-2	61	64	59	62	57	64
LT-3	53	57	50	55	57	74
LT-4	49	52	44	51	53	53
ST-1	60	61	56	63	60	68
ST-2	57	57	53	61	59	67
ST-3	59	61	57	61	58	67
ST-4	53	57	52	57	55	61
ST-5	55	59	49	55	58	**79**
ST-7	50	54	45	51	54	64

All noise levels expressed as dBA L_{eg}
Exceedances is shown in **bold**.

As shown in Table 4.11-10, daytime construction noise levels would not exceed City's construction noise level limit of 75 dBA L_{eg} at receptors during all construction phases, except at ST-5 during Phase 6; however, ST-5 is an office building, which is not a noise sensitive receptor (i.e., residence).

Operational Noise

As discussed under Issue #1, Project operation of the new stadium (i.e., events in progress) would generate operational noise levels similar to those from the existing Qualcomm Stadium. However, the new stadium would be located in the northeast corner of the existing Qualcomm Stadium site, closer to noise-sensitive receptors located to the east (ST-1 and ST-2), northeast (ST-3), and north (LT-2). The City's noise ordinance limits operational noise levels at adjacent property lines for various land uses by time of day for noise generated by on-site sources associated with Project operation (Table 4.11-5) (e.g., 50 dBA L_{eg} for single-family residential from 7 a.m. to 7 p.m., and 45 dBA L_{eg} from 7 p.m. to 10 p.m.). Based on ambient noise levels measured for the Project (Table 4.11-3), ambient noise levels at noise-sensitive receptors to the east (ST-1 and ST-2), northeast (ST-3), and north (LT-2) currently exceed the sound level limits of the City's Noise Ordinance (Table 4.11-5).

In addition, as discussed under Issue #1, under all of the event scenarios modeled at the existing Qualcomm Stadium and at the new stadium, the net increase in ambient noise levels at all of the ambient monitoring locations (i.e., residences) was less than a significant increase in ambient noise levels (i.e., less than a 3 dBA L_{eq} increase), except a 4 dBA L_{eq} increase at LT-2 from a concert event at the Project site.

As discussed under Issue #1, the worst-case truck hauling scenario during construction would result in a less than 1 dBA L_{eq} increase in noise levels along roadways adjacent to the Project site (i.e., Friars Road), which is not a perceivable change in noise level.

Significance of Impacts

Construction Noise

Project construction noise levels on the Project site would not exceed the construction noise level limit of 75 dBA L_{eg} at affected residential property lines during the allowable construction hours of 7 a.m. to 7 p.m. Monday through Saturday. This is a less than significant impact.

Operational Noise

Project operational noise levels (i.e., during stadium events) would exceed the operational noise levels of the City's noise ordinance at the property lines for various land uses by time of day for noise generated by on-site sources associated with Project operation (Table 4.11-7) This is a significant impact and Mitigation measure NOI-1 is required. Even with Project mitigation, impacts would remain significant and unmitigated.

Issue 3: Would the project expose people to current or future transportation noise levels that exceed standards established in the Noise Element of the General Plan?

Impact Thresholds

Noise impacts may be significant if the Project would result in the following:

- Expose people to current or future transportation noise levels that exceed standards established in the Noise Element of the General Plan (interior standard of 45 dBA CNEL residential; exterior standard of 65 dBA CNEL residential).

Impact Analysis

Construction Noise

Project construction would generate construction traffic from daily construction worker trips, construction equipment and materials delivery truck trips, and demolition materials truck hauling. However, construction vehicles would access the project site using I-8 and I-15, where project construction trips would be a minor contribution to the ADT volumes of I-8 and I-15, which include a high percentage of truck volumes. Exterior ambient noise levels at noise-sensitive receptors located adjacent to I-15 and I-8 are currently likely to exceed standards established in the Noise Element.

Operational Noise

The Project includes the construction of a new stadium and the demolition of the existing Qualcomm Stadium. The new stadium would have a slightly lower seating capacity and parking area than the existing Qualcomm Stadium; however, increased attendance is anticipated at the new stadium over the existing Qualcomm Stadium. As discussed in Section 4.10 of this EIR, vehicle trips generated by game day events would be reduced for the new stadium in comparison to the existing Qualcomm Stadium. Therefore, the Project would generate less traffic volumes on gameday events and therefore, would not increase traffic noise on roadways adjacent to the stadium and nearby noise-sensitive receptors.

Significance of Impacts

Construction Noise

Project construction traffic would not expose people to current or future transportation noise levels that exceed standards established in the Noise Element of the General Plan. This is a less than significant impact.

Operational Noise

Project operational traffic would not expose people to current or future transportation noise levels that exceed standards established in the Noise Element of the General Plan. This is a less than significant impact.

Issue 4: Would the project expose people to, or generate excessive groundborne vibration or groundborne noise levels?

Impact Thresholds

Noise impacts may be significant if the Project would result in the following:

- Expose people or structures to construction vibration levels which exceed vibration guidelines for structural damage and human annoyance.

Impact Analysis

Structures in proximity to the Project site are located approximately 400 feet or greater from where major construction activities would occur. The KMEP MVT on the north side of San Diego Mission Road is located 400 feet from where the nearest pile driving would occur. At this distance, vibration from pile driving (approximately 1.5 in/sec ppv at 25 feet) would attenuate to 0.02 in/sec ppv, which is substantially below the vibration threshold of 0.12 in/sec ppv for structural damage (FTA 2006). The existing Qualcomm Stadium implosion event would be specific to the methods used and parameters such as charge weight, delay, and position that are not known at this time. However, implosion of concrete structures would last only a brief period of time (typically less than 8 seconds), with human safety standoff distance of approximately 1,000 feet during the implosion (AED 2011). Project-specific demolition methods and explosives for the demolition of the existing Qualcomm Stadium would be determined in a demolition plan prior to demolition to ensure no damage to structures due to vibration. Therefore, groundborne vibration generated by construction of the Project would not be perceptible at nearby people or houses and would not result in cosmetic or structural damage to nearby structures.

Significance of Impacts

Vibration from Project construction would not expose people or structures to excessive vibration levels that would result in structural damage or human annoyance. This is a less than significant impact.

4.11.4 Mitigation, Monitoring, and Reporting

Operation

The following operational noise reduction measure is required to reduce and minimize noise levels during Project operation associated with an event in progress:

NOI-1 Implement Sound Amplification Controls – Incorporate electronic controls or limits into the final design of the new stadium audio/visual sound system, as well as tie-ins from hosted performers to control amplified speech and music noise at the source.

Construction

The following construction noise reduction measures are required to reduce and minimize noise levels during construction:

NOI-2 Implement Noise Complaint Reporting – The Project (via construction contractor) would establish a telephone hot-line for use by the public to report any significant adverse noise conditions associated with the construction and operation of the Project. If the telephone is not staffed 24 hours per day, the contractor shall be required to include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This hot-line telephone number shall be posted at the Project site during construction in a manner visible to passersby. This telephone number shall be maintained until the Project has been considered commissioned and ready for operation.

NOI-3 Implement Noise Complaint Investigation – Throughout the construction of the Project, the contractor shall be required to document, investigate, evaluate, and attempt to resolve all Project-related noise complaints. The contractor or its authorized agent shall be required to:

- Use a Noise Complaint Resolution Form to document and respond to each noise complaint;
- Contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to attempt to determine the source of noise related to the complaint; and
- Take all reasonable measures to reduce the noise at its source.

NOI-4 Implement Construction Practices – The following are typical field techniques for reducing noise from construction activities, with the purpose of reducing aggregate construction noise levels at nearby noise-sensitive receivers. The contractor or its authorized agent shall be required to:

- Adjust all audible back-up alarms downward in sound level, reflecting locations that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness. Consider signal persons and strobe lights, or alternative safety equipment and/or processes as allowed, for reducing reliance on high-amplitude sonic alarms.
- Place stationary noise sources, such as generators and air compressors, away from affected noise-sensitive receivers to the farthest extent practical on the Project site. Place non-noise-producing mobile equipment such as trailers in the direct sound pathways between suspected major noise-producing sources and these sensitive receivers. To minimize flanking underneath or through

vertical gaps, the construction contractor shall cover the openings with at least 0.5-inch-thick plywood, hay bales, or other sufficiently dense material.

NOI-5 Equipment Noise Reduction – The following are typical practices for construction equipment selection (or preferences) and expected function that can help reduce noise and shall be implemented:

- Use concrete crushers or pavement saws rather than impact devices such as jackhammers, pavement breakers, and hoe rams for tasks such as concrete or asphalt demolition and removal.
- Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
- Provide impact noise producing equipment (i.e., jackhammers and pavement breaker[s]) with noise attenuating shields, shrouds or portable barriers or enclosures, to reduce operating noise.
- Line or cover hoppers, storage bins, and chutes with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Provide upgraded mufflers, acoustical lining, or acoustical paneling for other noisy equipment, including internal combustion engines.
- Use alternative procedures of construction and select a combination of techniques that generate the least overall noise and vibration.
- Use construction equipment manufactured or modified to reduce noise and vibration emissions, such as:
  - Electric instead of diesel-powered equipment.
  - Hydraulic tools instead of pneumatic tools.
  - Electric saws instead of air- or gasoline-driven saws.

4.12 PALEONTOLOGICAL RESOURCES

4.12.1 Existing Conditions

This section addresses the impact of the Project on paleontological resources. Paleontological resources are those remains of prehistoric organisms preserved as fossils in geologic deposits. Paleontological resources are nonrenewable resources that contribute to our knowledge of extinct and extant organisms and their past environments.

A records search from the San Diego Museum of Natural History was performed. Literature searches were conducted to determine whether any previously recorded fossil localities occur within the Project site, as well as to research the paleontological potential, stratigraphy, and general geology of the formation in the Project site based on previous research. No paleontological survey was conducted for this Project due to complete development of the Project site and lack of any native ground or soil exposures to examine. The geologic units from maps of the area were analyzed for their potential paleontological sensitivity based on existing literature and known localities.

San Diego is in the coastal plain subprovince of the Peninsular Ranges physiographic province of California. The Project lies in the floodplain of the San Diego River within the Mission Valley community portion of the City of San Diego. Geologic mapping of the La Jolla quadrangle (Kennedy 1975) and of the La Mesa quadrangle (Kennedy and Peterson 1975) shows the current location of Qualcomm Stadium and areas to the northwest as situated upon unnamed Quaternary stream-terrace deposits (Qt), which those map authors interpret as being of late Pleistocene age (Figure 4.12-1). The Friars Formation (Tf) of middle Eocene age occurs in the immediate area of the Project at depths of 55 to 63 feet below ground surface (Geofirma Engineering Ltd. and INTERA Inc. 2015, Appendix A). The San Diego Formation, the Mission Valley Formation, and the Stadium Conglomerate also occur within a mile of the Project (San Diego Natural History Museum 2015a). No fossil localities were identified within the Project site. Please see EIR Appendix L, Paleontological Records Search, for discussion of fossil localities within 1 mile of the Project site. As described in Section 4.4.1 and discussed below, artificial fill of varying depths also underlies portions of the Project site. The formations and fill beneath the Project site are discussed below.

- **Unnamed stream terrace deposits (Qt):** The unnamed stream terrace deposits are considered to be of late Pleistocene age (Kennedy 1975; Kennedy and Peterson 1975). Jefferson (1991a, 1991b) records no localities producing Pleistocene vertebrate fossils in the vicinity of the Project site. Moderate or low resource sensitivity is generally assigned to these terrace deposits (City of San Diego 2002; County of San Diego 2007). However, Deméré and Walsh (1993) suggest that any excavations extending into previously undisturbed terrace deposits have the potential to cause impacts to paleontological resources, and terrestrial vertebrate fossil assemblages have been recovered from the same unnamed stream terrace deposits underlying the Project site only 1.2 miles west of the site (San Diego Natural History Museum 2015a).

- **Friars Formation (Tf):** The Friars Formation consists mainly of sandstones, siltstones, mudstones, and cobble conglomerate. It is characterized by both marine and fluvial strata. The San Diego area Eocene conglomerate mass, as well as finer grained formations such as the Friars Formation, represent deposition on a large low-angle alluvial fan and fan delta complex (Peterson and Abbott 1977). The finer grained formations, such as the Friars and Mission Valley formations, have been interpreted as overbank accumulation along main channel systems and also back-filings of tributary stream valleys leading down to the main river system (Peterson 1971; Peterson and Abbott 1977). The Friars Formation is from the middle part of the Eocene epoch (approximately 45 to 46 million years old). Eleven localities producing snails, frogs, birds, artiodactyls, bats, insectivores, opossums, brontotheres, primates, rodents, turtles, crocodilians, and lizards are known within a mile of the Project site, including three directly adjacent to the northeast corner of the Project site (San Diego Natural History Museum 2015a). The Friars Formation is assigned a high paleontological resource sensitivity due to the diverse fossil assemblage it has yielded (City of San Diego 2002; County of San Diego 2007).

- **Artificial Fill:** These units have been emplaced or heavily disturbed by human activities. As discussed in Section 4.4.1, fill consisting primarily of Stadium Conglomerate (clayey sand and gravel) and some of the underlying Friars formation (likely clay, silt, and sand) sourced from cutting into the hills to the north was placed across the property in 1966 as part of the original site grading. While fill thicknesses are estimated to be as high as 35 feet (more in localized areas) around the perimeter of Qualcomm Stadium, cuts and fills appear to have been minor in the area of the proposed new stadium, at approximately 5 feet or less. Cuts up to 35 feet were excavated in the northwestern quadrant of the Project site and, while some fill was likely placed and compacted, fill depths are not known. Due to the fully developed nature of the Project site, it is likely that additional artificial fill that has not been mapped covers large portions of the site. Artificial fill has no paleontological resource sensitivity.

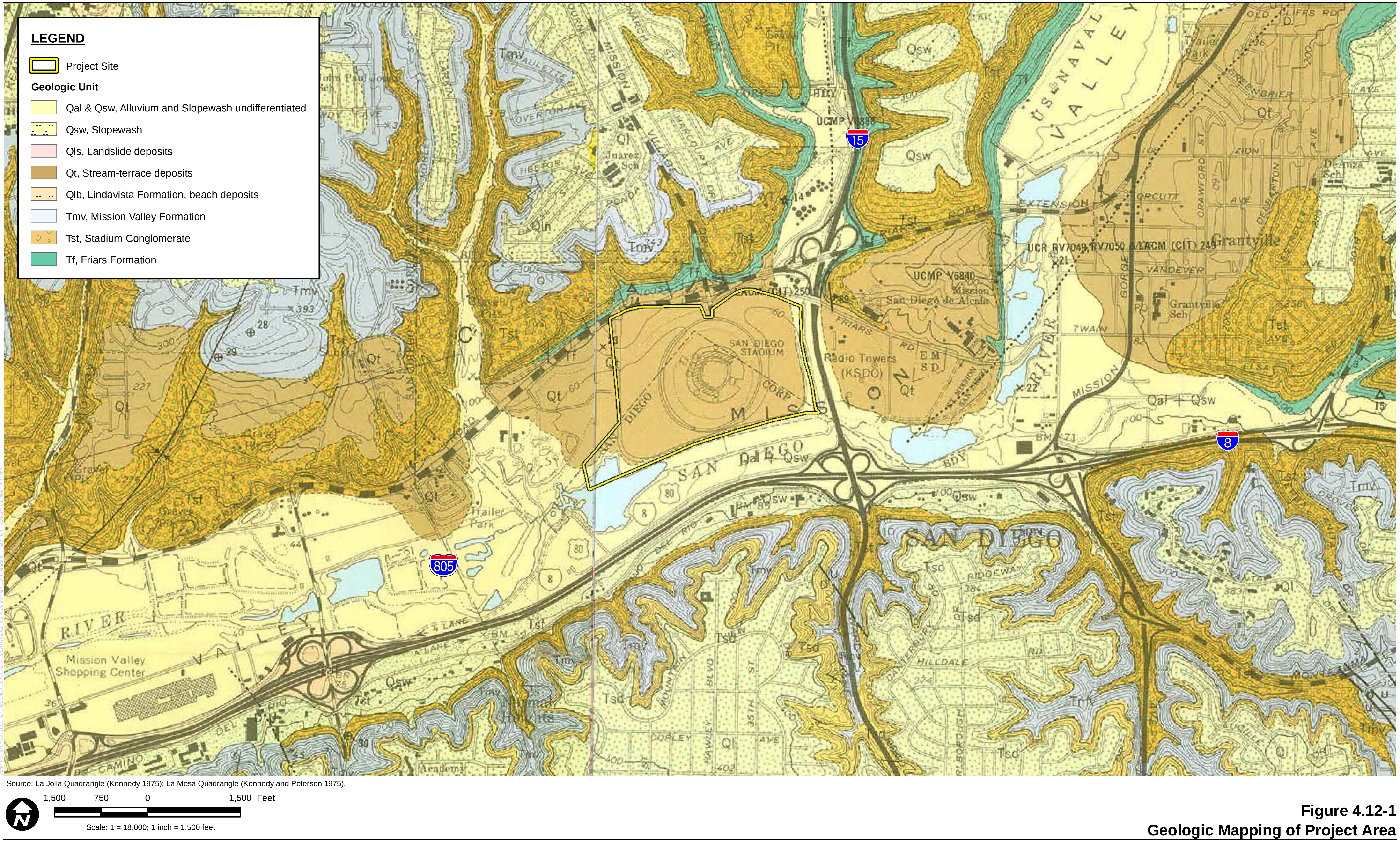

Figure 4.12-1
Geologic Mapping of Project Area

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4.12.2 Regulatory Framework

State of California

California Environmental Quality Act

The City of San Diego is the CEQA lead agency for the Project. CEQA Guidelines require a determination as to whether a proposed project would directly or indirectly destroy a unique paleontological resource or site. If a project would destroy a unique paleontological resource or site, a paleontological assessment and mitigation and monitoring plan should be designed and implemented.

Public Resources Code

State requirements for paleontological resources assessment and management are codified in California Public Resources Code Chapter 1.7 Sections 5097.5 and 30244. Section 5097.5 defines any unauthorized disturbance or removal of a fossil site or fossil remains on public lands, including land under the jurisdiction of any city or city agency, as a misdemeanor and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources. Section 30244 requires reasonable mitigation of adverse impacts on paleontological resources that occur as a result of development on public lands.

Local

City of San Diego

Neither the City of San Diego General Plan nor the San Diego Municipal Code mentions paleontological resources. However, the City of San Diego Paleontological Guidelines (2002) provide steps to identify and mitigate significant impacts to paleontological resources, including implementation of Mitigation, Monitoring and Reporting Programs (MMRPs) for both public and private projects. The Mission Valley Community Plan (City of San Diego 1985, amended 2013) includes in its Culture and Heritage section recommendations (1) to conduct archaeological and paleontological surveys, when warranted, for projects requiring a discretionary permit, and (2) that a review of historic sites, and archeological resources, geological and paleontological resources, and geologic hazards should be included as part of project review. The City's CEQA Significance Determination Thresholds (City of San Diego 2011) also provide technical guidance in evaluating a project's impact on paleontological resources. These guidelines provide a grading threshold triggering required paleontological monitoring, provide a geological unit paleontological sensitivity determination matrix, and set monitoring requirements based on project activity location, excavation depth, and paleontological sensitivity.

Professional Standards

The Society of Vertebrate Paleontology (SVP), a national scientific organization of professional vertebrate paleontologists, has established standard guidelines (SVP 1995, 1996) that outline acceptable professional practices for conducting paleontological resource assessments and surveys; monitoring and mitigation; data and fossil salvage; sampling procedures; and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically spelled out in its standard guidelines. The SVP's standard guidelines were approved by a consensus of professional paleontologists and are the standard against which all paleontological monitoring and mitigation programs are judged. Many federal and California regulatory agencies have either formally or informally adopted the SVP's "standard guidelines" for the mitigation of construction-related adverse impacts on paleontological resources as a measure of professional practice.

Briefly, SVP guidelines recommend that each project have literature and museum archival reviews; a field survey; and, if there is a high potential for disturbing significant fossils during project construction, a mitigation plan that includes monitoring by a qualified paleontologist to salvage fossils encountered, identify salvaged fossils, determine their significance, and place curated fossil specimens into a permanent public museum collection (such as the San Diego Natural History Museum).

4.12.3 Impact Analysis

Impacts to paleontological resources are calculated by examining the likelihood of the impacted geologic units to contain paleontological resources, and the degree to which the contemplated project would affect those geologic units.

Issue 1: Would the project excavate over 1,000 cubic yards of material in an area of high paleontological sensitivity; or excavate over 2,000 cubic yards of material in an area of moderate paleontological sensitivity?

Impact Thresholds

Impacts to paleontological resources may be significant if the Project would disturb previously undisturbed sedimentary rocks. As described in the City of San Diego Draft General Plan Final Program EIR (City of San Diego 2007):

> Impacts to paleontological resources occur when excavation activities cut into fossiliferous geological deposits, and cause physical destruction of fossil remains. Fossil remains, fossil sites, fossil producing geologic formations, and geologic formations that have the potential for containing fossil remains are all considered paleontological resources or have the potential to be paleontological resources. Fossil remains are considered important if they are: 1) well preserved; 2) identifiable; 3) type/topotypic specimens; 4) age diagnostic; 5) useful in environmental reconstruction; and/or 6) represent new, rare, and/or endemic taxa (City of San Diego 2002).

The CEQA threshold for significant impacts to paleontological resources is whether the Project would certainly or possibly directly or indirectly destroy a unique paleontological resource. The City of San Diego has described its own thresholds for identifying significant impacts to paleontological resources under CEQA (City of San Diego 2011). The determination of whether a project has the potential to significantly impact paleontological resources is based on an assessment of the sensitivity of the geologic units to be affected and the amount of excavation proposed for the project. The threshold for sedimentary units given a moderate paleontological sensitivity is 2,000 cubic yards (cy) of excavation at a depth of 10 or more feet from existing ground surface. Any project expected to disturb that quantity of sediment with that sensitivity rating must undertake paleontological resource monitoring and mitigation. For sedimentary units given a high paleontological sensitivity, the threshold is 1,000 cy of excavation at a depth of 10 or more feet from existing ground surface. There is no potential for impact when grading in fill material. Additionally, a potential for significant impact to paleontological resources should always be identified when grading any amount of material on or near a known fossil recovery site as indicated on published maps (City of San Diego 2011).

Impact Analysis

Artificial fill underlying portions of the Project site has no paleontological sensitivity; however, the paleontological records search revealed that there are many known vertebrate fossil localities near the Project in other rock units known to underlie the Project site (San Diego Natural History Museum 2015a).

The City of San Diego Paleontological Guidelines (City of San Diego 2002) indicate that the Friars Formation has a high paleontological sensitivity rating, and three localities in this unit are directly adjacent to the northeast corner of the Project site. While the City guidelines indicate that the unnamed stream terrace deposits unit has moderate paleontological sensitivity in some communities, the paleontological sensitivity determination matrix specifies a low paleontological sensitivity in Mission Valley. However, the paleontological records search documents significant paleontological resources at a locality in this sedimentary unit only 1.2 miles away. That locality is within Mission Valley and was recently excavated in 2011 and 2014 (San Diego Natural History Museum 2015b), after the latest revision to the paleontological significance determination thresholds and publication of the Paleontological Monitoring Determination Matrix (City of San Diego 2011). The paleontological records search considers the unnamed stream terrace deposits in Mission Valley to have moderate paleontological sensitivity. Furthermore, the County of San Diego Guidelines for Determining Significance of Paleontological Resources (County of San Diego 2004) and Paleontological Resources of the County of San Diego, California (Deméré and Walsh 2003) both assign moderate paleontological sensitivity to unnamed river terrace deposits anywhere in the coastal plain of San Diego County. Therefore, the unnamed stream terrace deposits in the Mission Valley community of San Diego should be considered of moderate paleontological sensitivity for the purposes of impact analyses for the Project.

While fill may be present at depths up to 35 feet around the perimeter of Qualcomm Stadium, the Project proposes to grade the northeast quadrant of the Project site prior to emplacement of 490,000 cy of fill and remove 980,000 cy of subsurface material as part of the demolition of Qualcomm Stadium and regrading and resloping of the Project site. It is estimated that at least 2,000 cy of material (0.002 percent of total estimated material being removed) in the moderate sensitivity unnamed stream terrace deposits would be excavated, meeting the grading threshold for required paleontological monitoring under City guidelines.

Significance of Impacts

It is possible that the subsurface disturbance estimated for the Project would directly or indirectly destroy a unique paleontological resource. Under the City’s significance thresholds for paleontological resources, the Project has the potential to adversely impact paleontological resources. Additionally, a potential for significant impact on paleontological resources is present based on the proximity of three fossil localities directly adjacent to the Project site. With the incorporation of Mitigation Measure PA-1, impacts to paleontological resources would be reduced to a less than significant level.

4.12.4 Mitigation, Monitoring, and Reporting

Mitigation measures designed to minimize the impact of construction activities of the Project to paleontological resources are discussed in this section. Implementation of these measures would reduce the Project's impact to significant paleontological resources to a less than significant level. These measures conform to the standard guidelines developed by the SVP for the purpose of mitigating the impact of such construction activity to significant paleontological resources (SVP 1995, 1996).

PA-1:

I. Prior to Permit Issuance

A. Construction Plan Check

1. Prior to Notice to Proceed (NTP) for any construction permits, including but not limited to, the first Grading Permit, Demolition Permits and Building Permits, but prior to the first preconstruction (precon) meeting, whichever is applicable, the City shall verify that the requirements for paleontological monitoring have been noted on the appropriate construction documents.

B. Letters of Qualification Have Been Submitted to the City

1. The Project's paleontological consultant shall submit a letter of verification to the City identifying the Principal Investigator (PI) for the Project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.

2. The City shall provide a written confirmation of the qualifications of the PI and all persons involved in the paleontological monitoring of the Project.

3. Prior to the start of work, the Project's paleontological consultant shall obtain approval from the City for any personnel changes associated with the monitoring program.

II. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to the City that a site-specific records search has been completed. Verification includes, but is not limited to, a copy of a confirmation letter from San Diego Natural History Museum,

other institution, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.

2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring, the Applicant shall arrange a precon meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and the City. The qualified paleontologist shall attend any grading/excavation-related precon meetings to make comments and/or suggestions concerning the paleontological monitoring program with the CM and/or Grading Contractor.

   a. If the PI is unable to attend the precon meeting, the Applicant shall schedule a focused precon meeting with the City, the PI, RE, CM, or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Identify Areas to Be Monitored

   a. Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate construction documents (reduced to 11x17) to the City identifying the areas to be monitored including the delineation of grading/excavation limits. The PME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation).

3. When Monitoring Shall Occur

   a. Prior to the start of any work, the PI shall also submit a construction schedule to the City through the RE indicating when and where monitoring shall occur.

   b. The PI may submit a detailed letter to the City prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents that indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.

III. During Construction

A. Monitor Shall Be Present during Grading/Excavation/Trenching

1. The monitor shall be present full time during grading/excavation/trenching activities as identified on the PME that could result in impacts to formations with high and moderate resource sensitivity. The CM is responsible for notifying the RE, PI, and the City of changes to any construction activities.

2. The monitor shall document field activity via the Consultant Site Visit Record. The Consultant Site Visit Records shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of any discoveries. The RE shall forward copies to the City.

3. The PI may submit a detailed letter to the City during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.

B. Monitor Shall Be Present during Augering/Drilling

1. Because augering and/or drilling may impact formations of high sensitivity (Friars Formation), or moderate sensitivity, and because significant paleontological resources are known to have been recovered from augering and drilling (Radbruch and Schlocker 1959; Lander 2010; URS 2012, 2013), the monitor shall be present full time during grading/excavation/trenching activities as identified on the PME that could result in impacts to formations with high and moderate resource sensitivity.

2. As it cannot be determined during the augering of a hole whether the sediment sample from that hole contains significant paleontological specimens, the monitor would sample and process a 5-gallon sample of Friars Formation matrix from each auger or drill hole that impacts the Friars Formation up to 120 samples (~6,000 pounds). If fewer than 120 auger holes are planned, multiple samples would be taken and processed from some or all holes until 6,000 pounds have been processed.

3. The monitor shall document field activity via the Consultant Site Visit Record. The Consultant Site Visit Records shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of any discoveries. The RE shall forward copies to the City.

4. The PI may submit a detailed letter to the City during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.

C. Discovery Notification Process

1. In the event of a discovery, the Paleontological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.

2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify the City by phone of the discovery, and shall also submit written documentation to the City within 24 hours by fax or email with photos of the resource in context, if possible.

D. Determination of Significance

1. The PI shall evaluate the significance of the resource.

   a. The PI shall immediately notify the City by phone to discuss significance determination and shall also submit a letter to the City indicating whether additional mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.

   b. If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval from the City. Impacts to significant resources must be mitigated before ground-disturbing activities in the area of discovery shall be allowed to resume.

   c. If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a nonsignificant discovery has been made. The Paleontologist shall continue to monitor the area without notification to the City unless a significant resource is encountered.

d. The PI shall submit a letter to the City indicating that fossil resources shall be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.

IV. Night Work

A. If Night Work Is Included in the Contract

1. When night work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.

a. No Discoveries

(1) In the event that no discoveries were encountered during night work, the PI shall record the information on the CSVR and submit to the City via fax by 9 a.m. the following morning, if possible.

b. Discoveries

(1) All discoveries shall be processed and documented using the existing procedures detailed in Section III – During Construction.

c. Potentially Significant Discoveries

(1) If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III – During Construction shall be followed.

d. The PI shall immediately contact the City, or by 8 a.m. the following morning to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If Night Work Becomes Necessary during the Course of Construction

1. The CM shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, or BI, as appropriate, shall notify the City immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), which describes the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to the City for review and approval within 90 days following the completion of monitoring,

a. For significant paleontological resources encountered during monitoring, the Paleontological Recovery Program shall be included in the Draft Monitoring Report.

b. Recording Sites with the San Diego Natural History Museum

(1) The PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.

2. The City shall return the Draft Monitoring Report to the PI for revision or for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to the City for approval.

4. The City shall provide written verification to the PI of the approved report.

5. The City shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Fossil Remains

1. The PI shall be responsible for ensuring that all fossil remains collected are cleaned and catalogued.

2. The PI shall be responsible for ensuring that all fossil remains are analyzed to identify function and chronology as they relate to the geologic history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate

C. Curation of Fossil Remains: Deed of Gift and Acceptance Verification

1. The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this Project are permanently curated with an appropriate institution.

2. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and the City.

D. Final Monitoring Report(s)

1. The PI shall submit two copies of the Final Monitoring Report to the City (even if negative), within 90 days after notification from the City that the draft report has been approved.

2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from the City, which includes the Acceptance Verification from the curation institution.

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4.13 PUBLIC SERVICES AND FACILITIES

This section includes a description of existing public services and facilities, a summary of applicable regulations, and analyses of potential short-term and long-term impacts of the Project.

4.13.1 Existing Conditions

Public services and facilities are functions and facilities that serve residents on a community-wide basis. Public services are provided to an area based on population. According to the 2010 United States Census, the population of Mission Valley was 18,849 in that year. Since then, SANDAG has estimated that the population has grown to 21,303 in 2014, an increase of 13.0 percent. SANDAG forecasts that the population of Mission Valley will increase to 36,340 people by 2050 (SANDAG 2015). The 2010 census documented a total of 11,233 housing units in Mission Valley, while SANDAG estimated that number to be 12,052 by 2014. The number of housing units is expected to increase to a total of 20,734 by 2050 (SANDAG 2015).

4.13.2 Regulatory Framework

Police

Police protection within the City of San Diego is provided by the San Diego Police Department (SDPD). Police services for the Project would be provided by officers from the Eastern Division station, located at 9225 Aero Drive in the City of San Diego, 1.6 miles to the north of the Project site. This station serves the existing Qualcomm Stadium site west of I-15, along with other nearby neighborhoods. The total service area of the Eastern Division station is approximately 47.1 square miles, with a population of 155,892 (SDPD 2015). The Project site is located specifically in Beat 316 of the Eastern Division. The SDPD has mutual aid agreements with all other law enforcement agencies in San Diego County.

Beat 316 is staffed only during existing Qualcomm Stadium events, by Special Events Staff and is set up to respond to emergency situations only at Qualcomm Stadium during those events. Special Events Staff is set up by the SDPD to serve any special event within their service area. Any officer, detective, or sergeant in the SDPD can submit their availability to work at a special event, and may be selected to staff that event. Staffing of special events is rotated throughout the SDPD, and is based on the availability of those officers, detectives, and sergeants. Police remain on-site at all times during events and only receive calls for Qualcomm Stadium during events. During non-event times, calls from the Project site are responded to by the Eastern Division.

Eastern Division is currently staffed with 65 sworn personnel and two civilian employees. Officers work 10-hour shifts. Staffing consists of three shifts, which operate 6:00 a.m. to

4:00 p.m. (First Watch), 2:00 p.m. to midnight (Second Watch), and 9:00 p.m. to 7:00 a.m. (Third Watch). Using the SDPD's recommended staffing guidelines, Eastern Division currently deploys a minimum of nine patrol officers on First Watch, 11 patrol officers on Second Watch, and eight patrol officers on Third Watch. The goal citywide is to maintain 1.48 officers per 1,000 population ratio, which the SDPD is currently meeting based on a 2011 estimated total City residential population of 1,311,882.

The SDPD currently utilizes a five-level priority call dispatch system, which includes priority E (Emergency), 1, 2, 3 and 4 priority calls. The calls are prioritized by the phone dispatcher and routed to the radio operator for dispatch to the field units. The priority system is designed as a guide, allowing the phone dispatcher and the radio dispatcher discretion to raise or lower the call priority as necessary based on the information received. Priority E and priority 1 calls involve serious crimes in progress or calls that could result in a potential for injury. Priority 2 calls would include vandalism, disturbances, and property crimes. Priority 3 includes calls after a crime has been committed such as a cold burglary or loud music. Priority 4 calls include parking complaints or lost and found reports.

Table 4.13-1 below lists the SDPD's response-time guidelines, the 2015 citywide average response times for each priority call level, and the 2015 average response times for each priority level call within Eastern Division. As indicated in Table 4.13-1, average response times for Eastern Division are higher than the SDPD goals for priority call types E, 1, and, 2, and are lower than the SDPD goals for priority 3 and 4 calls. The SDPD strives to maintain the response time goals identified in Table 4.13-1. Response times are one of the various measures used to assess the level of service to the community.

Table 4.13-1
Eastern Division Call Priority Response Times

Call Priority	SDPD Goal Response Times	2015 Citywide Average Response Times	2015 Eastern Division Average Response Times
Priority E – Imminent threat to life	Within 7 minutes	6.9 minutes	8.1 minutes
Priority 1 – Serious crimes in progress	Within 12 minutes	12.9 minutes	15.4 minutes
Priority 2 – Less serious crimes with no threat to life	Within 30 minutes	29.7 minutes	33.2 minutes
Priority 3 – Reported after a crime has been committed	Within 90 minutes	73.0 minutes	66.6 minutes
Priority 4 – Parking complaints and lost and found reports	Within 90 minutes	66.4 minutes	68.3 minutes

Sources: City of San Diego 2008a; SDPD 2015b.

Fire and Emergency Services

The City of San Diego Fire-Rescue Department (SDF-RD) provides fire protection and emergency services to the Project site through existing facilities. Currently, a temporary fire station operates at the existing Qualcomm Stadium (referred to as Station 45). This temporary station on-site had an average response time of 8.23 minutes in 2014 (SDF-RD 2015a). This temporary station will be replaced by a permanent Fire Station 45, which is currently under construction at 9366 Friars Road, approximately 0.1 mile north of the Project site. This facility is projected to be completed and operational in the fall of 2015.

Four other fire stations are available to serve the Project site: Fire Station 39 at 4949 La Cuenta Drive, Fire Station 18 at 4676 Felton Street, Fire Station 31 at 6002 Camino Rico, and Fire Station 28 at 3880 Kearny Villa Road. These fire stations are approximately 2.5 miles northeast, 1.1 miles south, 2.9 miles east, and 2.4 miles northwest of the Project site, respectively.

Response time estimates for the Project are calculated using San Diego Fire-Rescue 911 Computer Aided Dispatch System point-to-point routing. This application uses the road network generating the closest path from the fire station address to the requested location.

In June 2011, the City adopted the recommendations of the Fire Service Standards of Response Coverage Deployment Study for the City of San Diego Fire-Rescue Department Report, also known as the Citygate Report. Based on the Citygate Report, the City adopted the performance measure that first due-units to treat medical patients and control small fires should arrive within 7.5 minutes 90 percent of the time from the receipt of the 911 call in fire dispatch (Citygate 2011; City of San Diego 2011). This equates to a 1-minute dispatch time, 1.5-minute company turnout time and 5-minute drive time in the most populated areas. To confine fires near the room of origin, to stop wildland fires to fewer than 3 acres when noticed promptly, and to treat up to five medical patients at once, a multiple unit response of at least 17 personnel should arrive within 10.5 minutes from the time of 911 call receipt in fire dispatch 90 percent of the time. This equates to a 1-minute dispatch time, 1.5-minute company turnout time, and 8-minute drive time spacing for multiple units in the most populated areas.

Schools

The Project site is located within the boundaries of the San Diego Unified School District (SDUSD). The Project site is served by the following existing public school facilities: Juarez Elementary School (grades K through 5) at 2633 Melbourne Drive, Taft Middle School (grades 6 through 8) at 9191 Gramercy Drive, and Kearny High School (grades 9 through 12) at 7651 Wellington Street. Juarez Elementary School is roughly 0.5 mile to the north, Taft Middle

School is approximately 1.1 miles to the north, and Kearny High School is roughly 2.3 miles to the northwest of the Project site.

As shown in Table 4.13-2, in 2014 Juarez Elementary School had 207 students enrolled, Taft Middle School had 489 students, and Kearny High School had 1,494 students enrolled (CDE 2015). As stated in the City of San Diego General Plan, elementary schools in the SDUSD have an allowable capacity of 700 students, middle schools have a maximum enrollment set at 1,500 students, and high schools have a maximum capacity of 2,000 students (City of San Diego 2008a). Although the Project is not increasing school facilities, all schools have sufficient capacity to meet existing condition demands in Mission Valley. The Project will be used for commercial use and would not generate any new students in the Project area.

Table 4.13-2
School Capacity and Student Generation

School	Allowable Capacity	2014–2015 Enrollment	Projected Student Generation
Juarez Elementary	700	207	0
Taft Middle	1,500	489	0
Kearny High	2,000	1,494	0

CDE, 2015; City of San Diego 2008

Libraries

The Project is located within the City of San Diego Public Library system. The City of San Diego General Plan states that the library system is a vital learning presence in the community, providing information objectively and offering lifelong learning opportunities through the system's Central Library and 35 branch libraries located throughout the city. The library system routinely evaluates the services provided to adapt to service demands, to access and incorporate constantly evolving technology, and to provide for facility construction and maintenance costs. Regular assessments allow facilities to adjust and provide adequate and varied collections that are responsive to needs of different communities. The facility requirements for branch libraries establish a minimum of 15,000 square feet of dedicated library space and should include features and services that address community specific needs (City of San Diego, 2008a). Fenton Library is located next to the Project site to the west at 2123 Fenton Parkway.

Parks and Recreational Facilities

According to the Recreation Element of the City of San Diego General Plan, the City of San Diego has over 38,930 acres of park and open space lands that offer a diverse range of recreational opportunities. Parks can improve the quality of life by assisting in maintaining physical well-being. Parks can also provide other benefits, including visual relief from urban development, passive recreational opportunities, and healthy activities for youth (City of San Diego 2008b). The City operates three different types of parks for residents and visitors, including population-based parks (neighborhood and community), resource-based parks that include natural or man-made resources intended to serve the citywide population, and open space parks that allow public access to undeveloped natural landforms. The Project is located within the Mission Valley Community Planning area, which is within the North Central Region of the City's Recreation Element. This area includes Clairemont Mesa, Kearny Mesa, Linda Vista, Mission Valley, Serra Mesa, and University. Table 4.13-3 provides the total parks space within the North Central Region.

Table 4.13-3
North Central Region Parks and Open Space

Population	Population Based Parks (acres)	Resource Based Parks (acres)	Open Space Lands (acres)	Other Park Lands (acres)	Total Parks and Open Space (acres)
208,099	450.0	476.8	1,993.6	0.0	2,920.4

City of San Diego 2008b

Based on the MVCP Land Use map, the community has a total of 498 acres of park and open space land. Of these 498 acres, approximately 446 acres are designated open space, approximately 31 acres are designated public recreation, and approximately 15 acres are designated public facility land.

The City's Recreation Element establishes a minimum standard of 2.8 acres per 1,000 people for population-based parks. This standard can be met through neighborhood and community park acreage, as well as park equivalencies. Mission Valley currently has approximately 8 acres of existing public park land at Sefton Field. Sefton Field consists of four baseball fields, located at 2508 Hotel Circle along the Ocean Beach Bike Path, approximately 4 miles west of the Project site (City of San Diego Park and Recreation Department, 2015).

The San Diego River is zoned as open space and is located to the south of the Project site. The river is currently fenced to help control access into the river. There is no standard for open space or resource-based parks in the City's Recreation Element.

Based on the 2010 United States Census population of Mission Valley of 18,849, however, SANDAG has estimated that the population of Mission Valley has grown 13.0 percent to 21,303 in 2014. Based on SANDAG 2014 population estimates for Mission Valley, park acreage requirements would be approximately 59.65 acres, or an additional 51.64 acres.

In addition, there are limited semiprivate recreational facilities at the western end of Mission Valley. The Mission Valley YMCA is a semiprivate facility located at 5505 Friars Road approximately 4 miles west of the Project site. The YMCA provides both indoor and outdoor recreational opportunities in a park-like setting along the river. There are many regional parks located throughout the city, many of which can be accessed by public transportation. Larger park facilities in the vicinity of the Project site include Balboa Park approximately 2.6 miles to the north, Mission Bay Park approximately 4.8 miles to the west, Mission Trails Regional Park approximately 4 miles to the northeast, and Presidio Park approximately 4 miles to the southwest (City of San Diego Park and Recreation Department, 2015).

While the majority of the Project site is designated as Commercial Employment, Retail, and Services, the City's General Plan's designation for the Project site also includes Park, Open Space, and Recreation for a portion of land. Mission Valley Community Land Use Plan identifies the Project site as Public Commercial-Recreation and Public Recreation. The MVCP indicates that two additional park-like recreation areas are planned for future development by the City on City-owned land in Mission Valley. One location is identified in the vicinity of the Project site, and the second location is near the existing YMCA. In addition, acres of park space needed for the neighboring Navajo Community was transferred to the vicinity of the Project site as part of the Grantville Focused Plan Amendment because adequate acreage was not available within the Navajo Community.

4.13.3 Impact Analysis

Issue 1: Would the proposed project have an effect upon, or result in a need for new or altered governmental services to police protection, fire/life protection, libraries, parks or other recreational facilities, schools, or roads?

Impact Thresholds

A significant impact to public services and facilities would occur if the Project had the potential to result in physical impacts from construction or alteration of government facilities; if the Project would conflict with the community plan in terms of number, size, and location of public service facilities; and if there are direct impacts from construction of proposed new public service facilities needed to serve the Project.

The City's Significance Determination Thresholds also specify the following thresholds relating to SDF-RD services if the Project exceeds the threshold of 75 dwelling units or 100,000 square feet of nonresidential construction:

- Is the project located in a brush fire hazard area, hillside, or an area with inadequate fire hydrant services or street access;
- Does the project involve the use, manufacture, or storage of toxic, readily combustible, or otherwise hazardous materials;
- Would the project's location provide for adequate San Diego Fire Department access as determined by Fire and Life Safety staff to be in conformance with the California Fire Code and Fire and Hazard Prevention Services Policy A-00-1; and
- Would the project substantially affect police or fire-rescue response times (i.e., increase the existing response times in the project area).

Impact Analysis

Police Protection

The existing Qualcomm Stadium is served by Beat 316 adjacent to the Mission Valley East neighborhood, which is located within the service boundary of the Eastern Division of the SDPD. The Eastern Division Police Station that serves Beat 316 is located 1.6 miles to the north at 9225 Aero Drive and would continue to provide service to the Project site. Table 4.13-1 above indicates that the response times for the priority E through priority 2 calls within the Eastern Division are higher than the SDPD goal response times, while response times for priority 3 and 4 calls within the Eastern Division are below the SDPD goal response times.

As stated above, Beat 316 is staffed only during Qualcomm Stadium events by Special Events Staff. Beat 316 designated as a service area to be staffed by officers, detectives, and sergeants of the SDPD selected based on their availability to serve and respond to emergency situations only at Qualcomm Stadium during those events. Police remain on-site at all times during events. Therefore, Beat 316 does not receive radio calls requesting services for surrounding areas, so there is no response time data for police leaving this area to respond to an emergency elsewhere.

The new stadium would have approximately 2,560 less seats than the existing Qualcomm Stadium, and would therefore decrease the number of attendees coming to the site that could potentially require police services. Due to the structure of services provided on-site at Qualcomm Stadium only during events (police officers on-site at all times), response times are not applicable to Beat 316.

There are no current plans for additional police substations in the immediate area. The SDPD is currently reaching its targeted staffing ratio of 1.48 sworn officers per 1,000 residents based on a

2011 estimated City residential population of 1,311,882. Existing police facilities would continue to serve the Project site and would not require the construction of new facilities because the new stadium would not result in additional persons onsite that would require additional police services. The additional convention center events at the stadium would be staffed in the same manner with Special Events Staff, which is staffed by existing members of the SDPD that have submitted applications to work the event. The Project does not conflict with the MVCP; therefore, no impacts to police protection resources would occur.

Fire/Life Protection

Currently, the SDF-RD operates a temporary fire station at the Project site (referred to as Station 45).The temporary fire station is planned be replaced with a new fire station (Fire Station 45) that is currently under construction at 9366 Friars Road, approximately 0.1 mile north of the Project site and would serve the existing Qualcomm Stadium and surrounding communities, such as Mission Valley East, the western portion of Grantville, and the southeastern portion of Serra Mesa.

According to email and personal communication with SDF RD staff (SDF-RD 2015a), the current average response time for temporary Fire Station 45 is 8 minutes and 23 seconds for 2nd alarm unit calls. Additionally, the SDF-RD utilizes a system called "live routing," which keeps track of the location of service vehicles at any given time. This system allows for service vehicles nearest to the vicinity of the call location to respond.

It is not anticipated that the Project would result in an increase in average response time for the area because the replacement stadium would not result in additional persons onsite that would require additional services. Additionally, the replacement stadium would not require the construction of new facilities as Station 45 is currently under construction. The increased frequency in stadium events may increase the number of days that a call for service at the Project site could occur, but would not affect the ability of the SDF-RD to adequately respond or achieve the appropriate response times. The Project would not require an amendment to the MVCP and does not involve the use, manufacture, or storage of toxic, readily combustible, or otherwise hazardous material. During construction and demolition activities, fire and life protection services may be required. The Project proponent would be required to coordinate with emergency service providers and obtain the appropriate permits for certain activities, such as an explosives permit from the City of San Diego Fire Chief and review and approval from the SDFD for the Demolition and Implosion Plan, as described in Section 4.6 Hazard Materials/Human Health/Public Safety. This coordination would assist emergency service providers in preparing for a potential increase in calls for service at the Project site during construction and demolition. The Project's location does provide for adequate SDF-RD access as determined by Fire and Life Safety staff to be in conformance with the California Fire Code and

Fire and Hazard Prevention Services Policy A-00-1. Therefore, there would be no impacts to fire and life protection resources.

Schools

As stated in the existing conditions, the existing schools that serve the area surrounding the Project site are currently operating at below-capacity enrollment levels. The Project would not cause an increase in the number of students residing in the area because it is a commercial use and there are no residential components included in the Project that could directly increase population and result in an increase in student enrollment levels. Additionally, the employment opportunities that would result from the Project are similar to those associated with the existing Qualcomm Stadium and would generate approximately 80-100 new jobs/employees in the area but given the existing enrollments levels, the Project is not would not exceed enrollment numbers. The Project would not cause the enrollment of the schools to increase, and would therefore not have an impact on existing school facilities in the area and would not require construction of new facilities.

Libraries

The Mission Valley Library, which operates as a part of the San Diego Public Library system, is located next to the Project site to the west at 2123 Fenton Parkway. The San Diego Public Library system consists of the Central Library in downtown San Diego and 35 branch libraries throughout the city. Since the Project would not directly increase populations residing in the area, there would be no increased wear on the existing library, and no impacts would occur to library facilities.

Parks and Recreational Facilities

Mission Valley currently does not meet the City's General Plan minimum standard of 2.8 acres per 1,000 people for population-based parks. Based on SANDAG 2014 population estimates for Mission Valley, park acreage requirements would be approximately 59.65 acres. The community currently has a park deficit of approximately 51.64 acres.

Sefton Fields is the only population-based park currently in Mission Valley. The park is approximately 8 acres and contains four baseball fields. The Project does not include the development of a park or open space land. The Mission Valley and Navajo Community Plans and Facilities Finance Plans identify a proposed community park in the vicinity of the Project site. Approximately 15 percent of the Project site has a Community Plan land use designation of Public Recreation and a General Plan Land Use designation of Park, Open Space, and

Recreation, which could support the development of a future park as identified in the MVCP in the vicinity of the Project site.

The Project would not create the need for new public parks or facilities as it is not introducing new housing or population to the community. However, approximately 34 acres must be available in the vicinity of the Project site to meet the parks needs identified in the community plans and facilities finance plans for the Mission Valley and Navajo communities, as well as the SDRPMP.

Table 4.13-4
Mission Valley and Navajo Park Space

Planning Document	Park Space Required
Mission Valley Community Plan and Facilities Finance Plan	20 acres
Navajo Community Plan and Facilities Finance Plan	10 acres
SDRPMP	2-4 linear acres fronting the San Diego River

The Project is not proposing any new construction or construction staging within the Influence Area of the San Diego River Park Master Plan to allow for future implementation of the San Diego River park. By restricting all Project improvements to the area north of the River Influence Area (as described by the MVPDO), more than 34 acres are left available in the vicinity of the Project site as required by the planning documents.

Significance or Impacts

The Project would not preclude the future development of a park as adequate acreage in appropriate locations on the Project site is not proposed for construction and would be available for future park development as identified in the MVCP. The Project would not be inconsistent with the MVCP or Facilities Finance Plan. Impacts to police protection, fire and life protection services, schools, libraries, and parks and recreational facilities would be less than significant.

4.13.4 Mitigation, Monitoring, and Reporting

There are no significant impacts to public services; therefore, no mitigation measures are required.

4.14 PUBLIC UTILITIES

This section presents an overview of the public utility systems for the Project that includes water, wastewater, storm drainage, electric, natural gas, communications, and solid waste disposal.

Public utilities technical memorandums prepared for the Project include Water Utility Technical Memorandum, Sanitary Sewer Technical Memorandum, and Preliminary Waste Management Plan. The technical memorandums are summarized below along with other applicable information, and are included in Appendices M-1, M-2, and M-3, respectively.

4.14.1 Existing Conditions

Water, Wastewater, Storm Drainage, Electric, Natural Gas, Communications, and Solid Waste Disposal

Metropolitan Water District of Southern California (MWD)

MWD is a consortium of 26 cities and water districts that provides potable and raw water to nearly 19 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura counties. MWD currently delivers an average of 1.7 billion gallons of water per day within a 5,200-square-mile service area (MWD 2008). MWD imports water from two sources, the Colorado River (via the Colorado River Aqueduct [CRA]) and the State Water Project (SWP). The CRA is owned and operated by MWD, and extends approximately 242 miles from the Colorado River at Lake Havasu, Arizona to Lake Matthews in Riverside County. From there, a series of canals, siphons, pipelines, and pump stations moves water west to several MWD reservoirs for local distribution (MWD 2015a). The principal structure conveying water south in the SWP, the California Aqueduct, extends approximately 444 miles south from the Sacramento-San Joaquin Delta (along with a series of related dams/reservoirs, pumping plants, canals and siphons (MWD 2015b). The California Aqueduct conveys SWP water into northern San Diego County via two aqueducts encompassing five large-diameter pipelines. The San Diego County Water Authority (SDCWA) takes ownership of these facilities just south of the County line, and conveys SWP water farther south for distribution to member agencies.

Through its 2010 Integrated Resources Plan (IRP), MWD identified a mix of imported and local resources to provide long-term water supplies, including a planning buffer intended to address potential future supply and demand fluctuations. With proper management, identified supplies are anticipated to meet future long-term demands in Southern California, including San Diego County.

San Diego County Water Authority (SDCWA)

SDCWA supplies water to the western third of San Diego County, including the Project site. As indicated in the SDCWA 2010 Urban Water Management Plan (UWMP), demand for water in SDCWA's service area falls into two categories; Municipal and Industrial (includes residential, commercial, industrial, and institutional purposes), and Agricultural, with municipal and industrial uses making up about 80 to 85 percent of water usage.

The 2010 UWMP estimates that, by 2035, total normal water demands are expected to reach 885,595 acre-feet (AF), which is an almost 30 percent increase from the average 681,426 AF of demand that occurred over the period from 2005 to 2010.

In FY 2007, water demand in the SDCWA service area was 741,893 AF. This dropped to 566,443 AF by 2010 (SDCWA 2011) due to supply allocations, mild weather, and water use restrictions. The 2010 UWMP projects water demands through 2035 using an econometric model to develop long-range demand forecasts. SDCWA's model is known as CWA-MAIN, and it relates historic water demand patterns to variables including household incomes, price of water, and weather. The model also incorporates demographic and economic projections from SANDAG's 2050 Regional Growth Forecast. Based on the CWA-MAIN model, projected normal water demands are forecasted. The total regional baseline demand forecast for 2015 is 654,022 AF; for 2020 is 722,040 AF; for 2025 is 790,229 AF; 2030 for 850,899 AF; and for 2035 is 903,213 AF.

As part of its Capital Improvement Program, SDCWA implemented the Emergency and Carryover Storage Projects to increase storage capacity, enhance supply reliability, and more efficiently manage water supplies during catastrophic events and periods of drought. SDCWA also implements a demand management (or water conservation) program to reduce imported water consumption and enhance supply reliability through efforts such as public education; residential water use surveys; and financial incentives for low-flow plumbing retrofits (toilets and showerheads), high-efficiency appliances, and low-water use landscaping.

City of San Diego

The City is the largest of SDCWA's 24 member agencies, serving 210,726 acres and approximately 1.4 million people. Water storage, treatment, and delivery services are managed by the City Public Utilities Department. The City purchases about 85 to 90 percent of its water from SDCWA. The City water system extends over 400 square miles and delivers over 200 million gallons per day (mgd) of water (City 2013). The City also has recycled water distribution systems extending over 80 miles. In addition, the City sells to four wholesale customers, including the Santa Fe Irrigation District, the San Dieguito Water District, City of Del Mar, and the California American Water Company, as well as emergency connections to Otay Water District. The City's 2012 Long Range Water Resources Plan projects 17 percent growth in water demand from 2015 to 2035.

Existing Water Infrastructure Utilities

The Project site is currently served by a 48-inch diameter steel cylinder rod-wrapped pipe (SCRW) water pipeline known as the Alvarado 2nd Pipeline (Figure 4.14-1). It is located in the City's 536 pressure zone. This 48-inch SCRW water transmission main runs along the south side of Friars Road, then turns and runs along the north side of the Project boundary, just west of Mission Village Drive. Near the northeast corner of the Project boundary, the alignment turns south, parallel to and slightly west of I-15 until the southeast corner of the property, where the 48-inch SCRW water transmission main exits the Project site and crosses beneath I-15.

Within the northeastern quadrant of the Project site are ancillary facilities, including a Pressure Reducing Station (PRV) and a connection with a 16-inch diameter ductile iron pipe which ultimately serves the existing Qualcomm Stadium and the surrounding area. The PRV station steps down the pressure from the 536 pressure zone to a 390 pressure zone. From the noted 16 inch diameter ductile iron water distribution main, a single looped system consisting of a 12-inch diameter asbestos cement (AC) water pipeline feeds a 10-inch diameter AC water pipeline that circles the existing Qualcomm Stadium. Proposed annual water demands were calculated using the City Public Utilities Capital Improvements (CIP) Guidelines and Standards (City's CIP Guidelines and Standards) and multiple years of actual water demand data from other NFL natural grass stadiums.

Existing potable and fire flow demands are supplied by the same pipelines. At this time, recycled water facilities are not available to the Project site.

Wastewater

Wastewater collection and treatment services are provided by the Wastewater Branch of the City Public Utilities Department. The City wastewater system consists of two components:

- The Metropolitan Sewerage Sub-System treats the wastewater from the City and 15 other cities and districts from a 450-square-mile area. An average of 160 mgd of wastewater is treated. Planned improvements will increase wastewater treatment capacity to serve an estimated population of 2.8 million through the year 2050.

- The Municipal Wastewater Collection Sub-System is responsible for the collection and conveyance of wastewater from residences and businesses in the City, serving a 330-square-mile area.

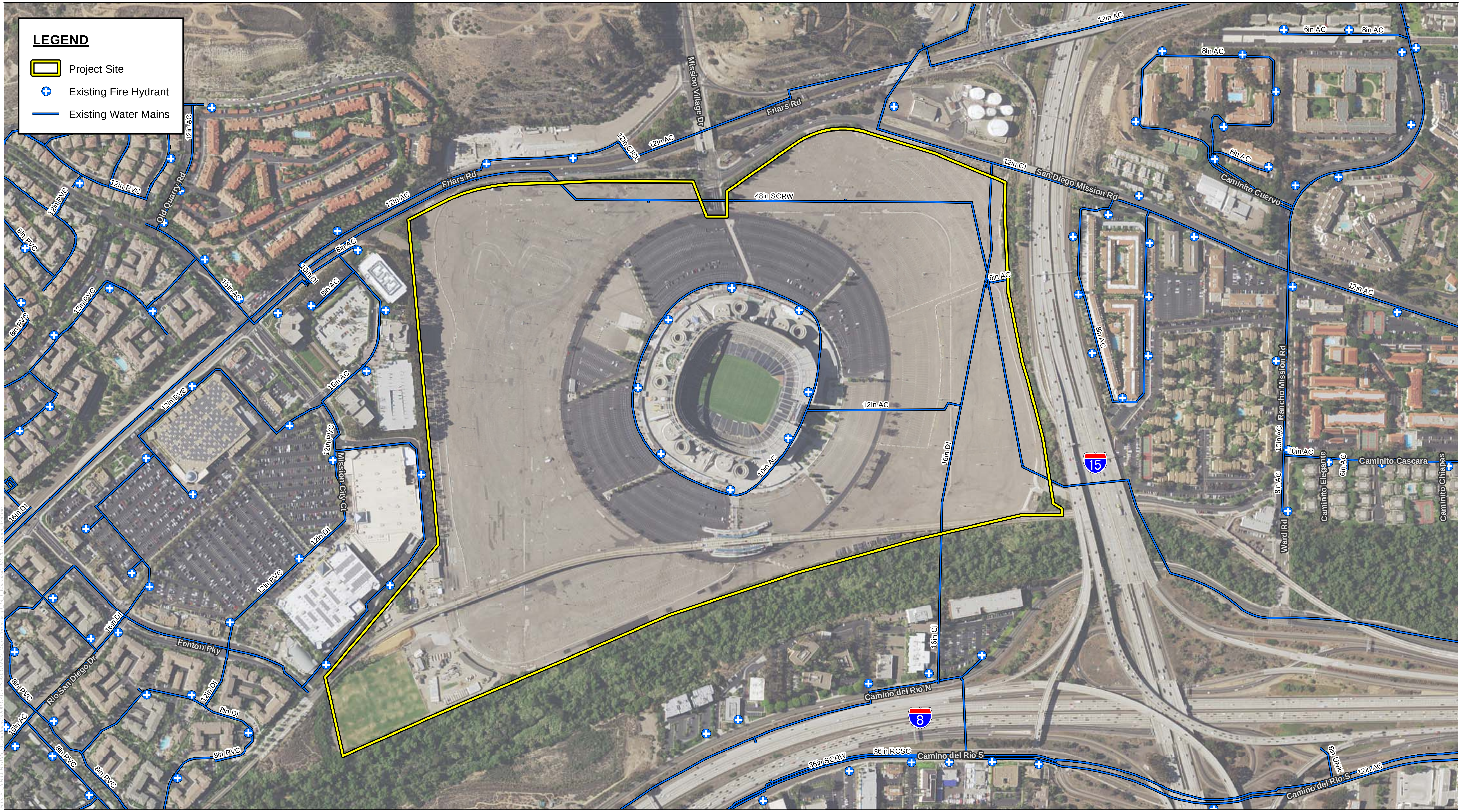
The City's wastewater facilities include the Point Loma Wastewater Treatment Plant, the North City Water Reclamation Plant, the South Bay Water Reclamation Plant, and the Metro Biosolids Center. The Point Loma Wastewater Treatment Plant would serve the Project and treats approximately 150 mgd of wastewater and has a treatment capacity of 240 mgd (City 2015b).

The existing wastewater system exits the existing Qualcomm Stadium at seven separate locations through 8-inch and 6-inch diameter pipelines (Figure 4.14-2). An 8-inch vitrified clay pipe that was constructed in 1966 circles the outside of Qualcomm Stadium collecting wastewater from these seven locations. This pipe feeds into an 18-inch PVC lateral that was rebuilt in 1990 that flows westerly from the 8-inch collector pipe to another 18-inch PVC pipe located on the western side of the Project site that flows to the south. An existing 8-inch sewer main enters the property from the north and connects at the same manhole where the two 18-inch pipes connect. The 18-inch pipeline has a capacity of 4.3 mgd. The 18-inch pipe continues south along the western side of the site until it joins with existing City infrastructure, the North Mission Valley Interceptor Sewer (NMVIS). This infrastructure is a 78- to 84-inch diameter plastic lined reinforced concrete pipe (PLRCP) that runs east to west near the southern property boundary. It then discharges to the 108-inch North Metro Interceptor which it conveys wastewater to Pump Station Number 2, where it is then pumped to the Point Loma Wastewater Treatment Plant for treatment.

<u>Storm Drainage</u>

The Project site is located in the San Diego River Watershed, an area of 440 square miles that drains to the San Diego River and discharges to the Pacific Ocean at the community of Ocean Beach. The river generally flows from the northeast to the southwest through urban areas and is the Project site's receiving waters, located along the southern Project site boundary.

Storm water runoff from the Project site is conveyed directly to the San Diego River via three underground storm drain systems (Figure 4.14-3). The easterly system is comprised of 24-inch to 30-inch to 36-inch reinforced concrete pipes (RCP) running north to south through the existing Qualcomm Stadium's east parking lot. The middle system consists of a 24-inch to 36-inch RCP draining south from the existing Qualcomm Stadium to drain the stadium structure and playing surface, and the westerly system is comprised of 18-inch to 24-inch to 30-inch RCP, to a 4-foot by 2-foot reinforced concrete box culvert, to a 36-inch RCP that drains the western portion of the site. The majority of storm water runoff sheets flows across the site to the nearest inlet and is



Source: NAIP 2014; SanGIS.

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Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.14-1
Water Utilities

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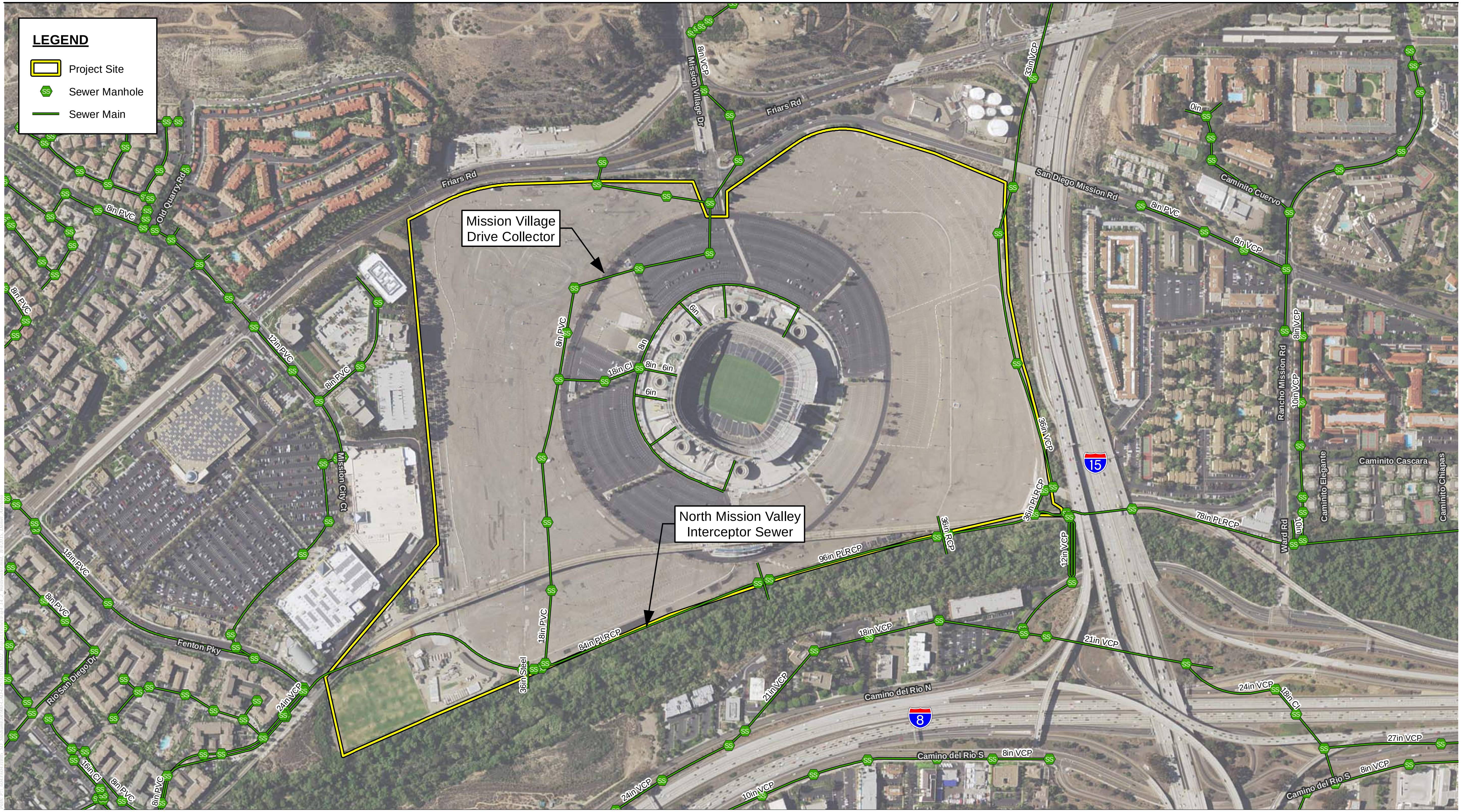

Source: NAIP 2014; SanGIS.

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Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.14-2
Wastewater Utilities

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Source: NAIP 2014; SanGIS.

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Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.14-3
Storm Drain Utilities

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conveyed directly into one of these three storm drain systems. All three of the storm drain systems flow through the existing North Mission Valley Trunk Sewer along the southern boundary. Each storm drain section through the sewer consists of a 34-inch steel pipe encased in a 36-inch steel sleeve and all three systems outlet to the river in separate 36-inch RCP pipes.

Electric and Natural Gas Infrastructure

Existing energy use is discussed in Section 4.3 Energy. Electricity and natural gas to the Project site is currently served by SDG&E. SDG&E is the owner and operator of electric transmission and distribution facilities and natural gas infrastructure over a 4,100 square mile service area within San Diego County. SDG&E is a public utility regulated by the California Public Utilities Commission (CPUC), which sets electric and gas rates for SDG&E. In 2013, San Diego County used 19,264.5 million kilowatt hours (kWh) of electricity (12,489.2 million kWh non-residential; 6775.3 million kWh residential). San Diego County total natural gas usage was 537.8 million therms (219.5 million therms non-residential; 318.3 million therms residential) (CEC 2013).

Based on City provided utility bill data, from February 2014 through May 2015, total electric consumption at Qualcomm Stadium was 7,143,272 kWh. Per SDG&E Electric Asset Maps, electricity is provided to the existing Qualcomm Stadium through an underground distribution system consisting of two 12-kilovolt (kV) circuits that provide preferred service (primary power source) and alternate service (back-up power source). For redundancy purposes, these power sources are fed from two different SDG&E circuits (149 and 362). A secondary service also exists to the east of Qualcomm Stadium as shown on Figure 4.14-4. Electric service to an MTS Trolley line electric substation located at the southeast corner of the site is fed from the east. Existing electrical facilities owned by MTS run from the southeast corner of the site to the MTS Trolley line station located at the Project site.

Natural gas is provided to the site from a 2-inch, 60 pounds per square inch (psi) pipeline that is fed from a 3-inch gas main located in Friars Road. Per City of San Diego provided utility bill data, total gas usage from February 2014 through May 2015 was 56,416 therms.

Communications

Communication facilities are provided to existing Qualcomm Stadium by both AT&T and Cox Communications. AT&T provides copper wire telephone service from the east side of the site (Figure 4.14-5). AT&T also provides fiber optic facilities from the north that enter Qualcomm Stadium on the west side. Existing Cox Communications fiber optic facilities enter the site from the east side.

Solid Waste Disposal

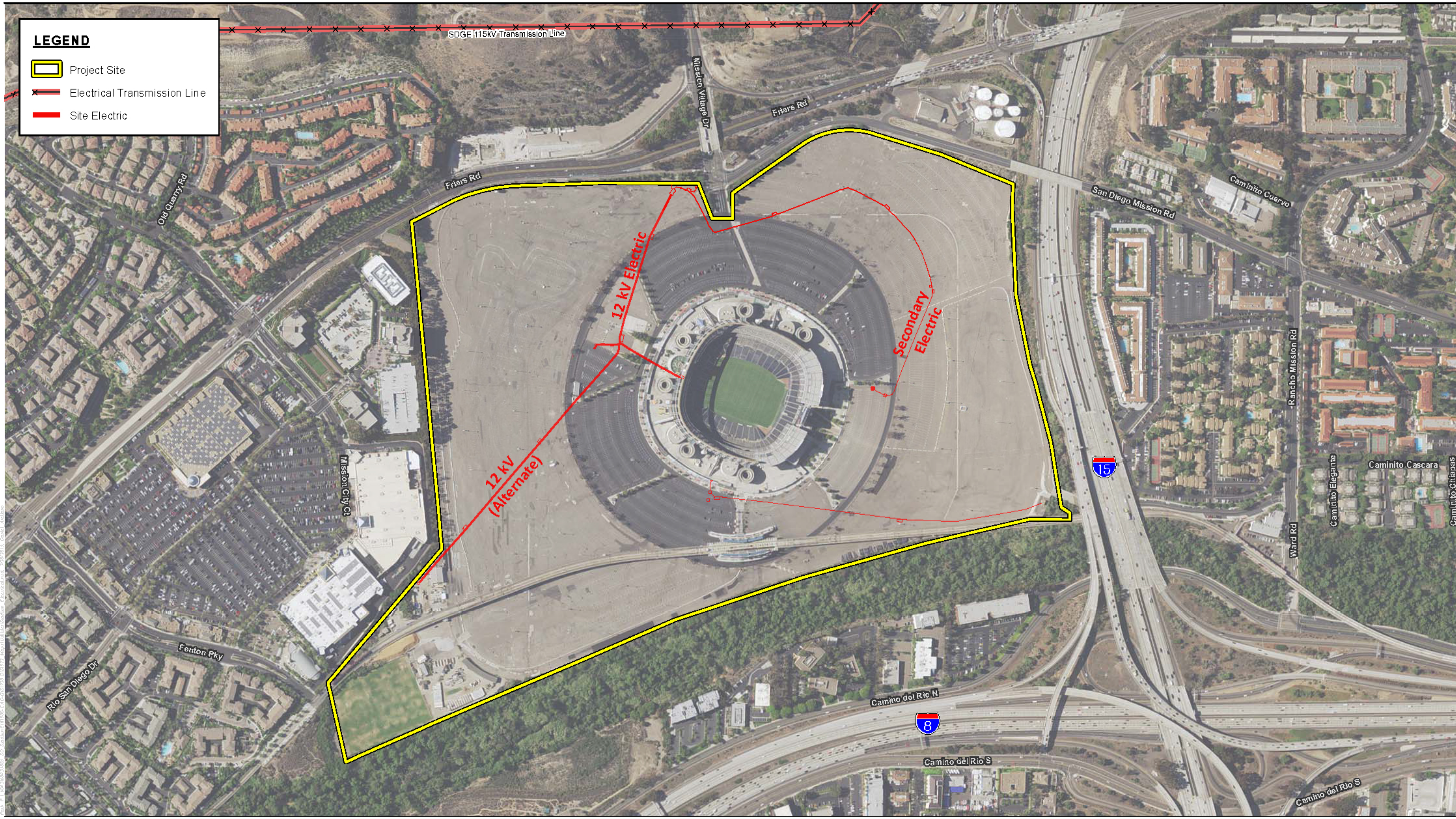
Solid waste disposal at the existing Qualcomm Stadium is provided by the City of San Diego Environmental Services and private collectors (Allied Waste/Republic Services). For events in which the existing Qualcomm Stadium is full/sold out, the site utilizes 150 40-yard dumpsters and 150 portable restrooms. For smaller events the dumpsters and restrooms are reduced proportionately.

Solid waste management involves collection, disposal, and diversion from disposal. The City is required to demonstrate adequate capacity for long-term solid waste disposal (15 years), pursuant to applicable requirements under the California Integrated Waste Management Act (Assembly Bill (AB) 939, as described in Section 4.14.2). Specifically, the assessment is based on landfill capacity and related data provided in the Countywide Siting Element, which is prepared by the San Diego County Department of Public Works. Based on data from the most current Siting Element Review Report and other applicable sources, the following summary information is provided regarding existing landfill locations and capacities. West Miramar Landfill is the nearest active solid waste facility to the project site and is located approximately 7 miles from Qualcomm Stadium. The West Miramar Landfill is permitted to receive 8,000 tons per day, and on average it receives less than 1,000,000 tons per year. As of June 30, 2014, the West Miramar Landfill had a remaining capacity of 15.5 million cubic yards (cy), with a maximum permitted capacity of 87.8 million cy and a projected closing date of August 31, 2025 (CalRecycle 2014).

Additional active solid waste landfills within the San Diego County include Borrego Springs Landfill, Otay Landfill, Sycamore Landfill, San Onofre Landfill, and Las Pulgas Landfill. Of these, the two closest facilities are Sycamore Landfill and Otay Landfill (CalRecycle 2012).

Sycamore Landfill is located approximately 12 miles from the site, with a remaining capacity of approximately 42.2 million cy as of February 28, 2011. The Sycamore Landfill is permitted to receive a maximum of 3,800 tons per day and has a maximum permitted capacity of 71.2 million cy with a projected closing date of October 1, 2031 (CalRecycle 2015). In order to meet the region’s long-term (year 2050) solid waste needs, the Sycamore Landfill expansion has been proposed. The Sycamore Landfill Master Plan proposes to increase the landfill capacity to 157 million cubic yards, which would allow an increase from 3,800 tons per day to approximately 11,450 tons per day. With the proposed expansion, the landfill would be operational until approximately 2050. This increase in landfill capacity is not currently approved or permitted, and therefore cannot be guaranteed at this time.

Otay Landfill is located approximately 18 miles from the project site, with a remaining capacity of approximately 24.5 million cy as of March 31, 2012. This landfill is permitted to receive a



Source: NAIP 2014; SDG&E 2003.

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Scale: 1 = 6,000; 1 inch = 500 feet

Figure 4.14-1
Electrical Utilities

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Source: NAIP 2014.

Figure 4.14-2
Communications Utilities

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maximum of 5,830 tons per day with a maximum permitted capacity of 61.1 million cy (CalRecycle 2015). The projected closing date is February 28, 2028.

In an effort to address landfill capacity and solid waste concerns, the California Legislature passed the Integrated Waste Management Act in 1989 (AB 939), which mandated that all cities reduce waste disposed in landfills from generators within their borders by 50 percent by the year 2000. In response, the City Environmental Services Department (ESD) developed the Source Reduction and Recycling program that outlines waste management policies and programs to meet the City's long-term disposal needs and achieve the mandated waste reduction. Since 2004, the City has diverted more than 50 percent of its generated waste stream from disposal. The City adopted the Recycling Ordinance (City of San Diego 2007) in November 2007, and phased implementation of the ordinance over the next two years. The State enacted AB 341 in 2011, which established a policy goal for California that not less than 75 percent of solid waste generated, be source-reduced, recycled, or composted by 2020. In July 2012, the City updated the Recycling Ordinance (City of San Diego 2012) to lower the exemption threshold for required recycling, thereby requiring all privately serviced businesses, commercial/institutional facilities, apartments, and condominiums generating four or more cubic yards of trash per week to recycle. On July 13, 2015, the City approved the Zero Waste Plan.

The City partners with the Urban Corps of San Diego County in a Buyback Recycling Center located at the southwest end of the Qualcomm Stadium parking lot. Their hours of operation are Thursday through Saturday from 8:30 a.m. to 3:30 p.m. and on game days another Recycling Center is located at the northeast parking lot by Gate 1 (City of San Diego 2015c).

4.14.2 Regulatory Framework

State Regulations

Assembly Bill 939

In 1989, California AB 939, known as the Integrated Waste Management Act, was passed to address the increasing trend in waste stream generation and the corresponding decrease in landfill capacity. AB 939 mandates reductions of waste disposal, with jurisdictions required to meet diversion goals of 25 percent by 1995 and 50 percent by 2000. "Diversion" means diversion from disposal in landfills. "Diversion" includes source reduction, or not generating waste in the first place, recycling, composting, and, to a limited degree, transformation. Pursuant to AB 939, the amount of waste "generated" is the sum of the amount disposed plus the amount diverted. AB 939 established a California Integrated Waste Management Board (CIWMB) to oversee the disposal reporting system and facilities. The CIWMB has been replaced by a department entitled CalRecycle. In 2011, AB 341 established a policy goal for California that not less than 75 percent of solid waste generated, should be source-reduced, recycled, or composted by 2020.

California Senate Bill 610

Sections 10910 through 10915 of the California Water Code were amended by the enactment of Senate Bill (SB) 610 in 2002. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by a project, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Under SB 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912(a)) subject to CEQA. For the purposes of SB 610, "project" means any of the following:

1. A proposed residential development of more than 500 dwelling units.
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
3. A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
4. A proposed hotel or motel, or both, having more than 500 rooms.
5. A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square of floor area.
6. A mixed-use project that includes one or more of the projects specified in this subdivision.
7. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

California Urban Water Management Planning Act

UWMPs are prepared by California's urban water suppliers to support resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 AF of water annually or serves more than 3,000 or more connections is required to assess the reliability of its water sources over a 20-year planning horizon considering normal, single-dry, and multiple-dry years. This assessment is to be included in its UWMPs, which are to be prepared every 5 years and submitted to the Department of Water Resources (DWR). DWR then reviews submitted plans to ensure they have completed the requirements identified in the Urban Water Management Planning Act (Division 6 Part 2.6 of the Water Code §10610–10656).

California Executive Order B-29-15

California Executive Order (EO) B-29-15 orders State Water Resources Control Board (Water Board) to impose restrictions to achieve a 25 percent reduction statewide in potable urban water usage through February 28, 2016. It further requires water suppliers, such as the City, to reduce usage as compared to the amount used in 2013. The EO updates the State Model Water Efficient Landscape Ordinance to increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture and limiting the portion on landscapes that can be covered in turf.

Local Regulations

City of San Diego Zero Waste Plan

On July 13, 2015 the City Council approved a Zero Waste Plan. The Zero Waste Plan is a framework of potential sustainable diversion strategies for future action that would be implemented in incremental steps to achieve 75 percent diversion by 2020, 90 percent diversion by 2035, and Zero Waste by 2040 (City 2015d). The City is working on a Climate Action Plan, which would likely be adopted towards the end of this year.

City of San Diego Ordinance 0-17327 (Mandatory Reuse Ordinance)

This ordinance, adopted by the City Council in 1989, requires that “recycled water shall be used within the City where feasible and consistent with the legal requirements; preservation of public health, safety, and welfare; and the environment.” Compliance with this ordinance for new development is made a condition of tentative maps, land use permits, etc., based on the project’s location within an existing or proposed recycled water service area.

City of San Diego Municipal Code

In compliance with AB 939 and AB 341, the City is currently at a waste diversion rate of 67 percent. The City has adopted programs and policies requiring individual developments to incorporate recycling and waste reduction measures, and waste reduction and recycling programs have been implemented to assist the City in reducing waste in compliance with state law.

The following sections of the Municipal Code target waste reduction:

- Chapter 6, Article 6, Division 6. This section (and related ordinances) requires project applicants to submit a Waste Management Form with the building permit or demolition/removal permit, to provide a general estimate of total project waste generation, including how much will be recycled. The code requires a minimum diversion rate of 50 percent for building permits or demolition/removal permits issued within 180 calendar days of the effective date of the ordinance. A minimum diversion rate of 75 percent is required for building permits or demolition/removal permits issued more than 180 calendar days after the effective date of the ordinance, provided that a certified recycling facility that accepts mixed construction and demolition debris operates within 25 miles of the City Administrative Building, located at 202 C Street, San Diego (City of San Diego 2015e). The Preliminary Waste Management Plan identifies the certified Otay C&D/Inert Debris Processing Facility in Chula Vista.
- Chapter 6, Article 6, Division 7 (Recycling Ordinance). This section requires all single-family, multifamily, and commercial uses to participate in a recycling program by separating recyclable materials from other solid waste and depositing the recyclable materials in approved recycling containers.
- Chapter 14, Article 2, Division 8 (Refuse and Recyclable Material Storage Regulations). This section is intended to encourage solid waste recycling through requirements to provide permanent, adequate, and convenient space for the storage and collection of refuse and recyclable material. Specific requirements for new nonresidential development include the provision at least one exterior refuse and recyclable material storage area per building, with related storage area capacity based on the gross floor area of associated buildings.

City of San Diego Drought Restrictions

Effective July 1, 2015, the City implemented mandatory watering restrictions limiting the watering of outdoor landscaping to a maximum of 2 days per week, 5 minutes per day, if using a standard sprinkler system to achieve the state mandated 16 percent reduction in water usage. Other restrictions include:

- Stop operation of ornamental fountains, except to the extent needed for maintenance purposes.
- Use a hand-held hose equipped with a positive shut-off nozzle or timed sprinkler system to water landscaped areas.

- Irrigation is not permitted during a rain event or for at least 48 hours following a rain event.
- The washing of automobiles, trucks, trailers, airplanes and other types of transportation equipment is only allowed between 6 pm-10 am, and water shall not enter the storm drain.

  NOTE: Mobile equipment washings are exempt from these regulations where the health, safety and welfare of the public are contingent upon frequent vehicle cleanings, such as garbage trucks and vehicles to transport food products, livestock and perishables. Washing is permitted at any time at a commercial car wash.
- Boats and boat engines are permitted to be washed down after use.
- Use recycled or non-potable water for construction purposes when available
- Use of water from fire hydrants will be limited to firefighting, as well as meter installation by the Public Utilities Department as part of its Fire Hydrant Meter Program, and related activities necessary to maintain the health, safety and welfare of the citizens of San Diego.
- Construction operations receiving water from a fire hydrant or water truck will not use water beyond normal activities.
- Irrigation is permitted any day at any time as follows:
  1. As required by a landscape permit.
  2. For erosion control.
  3. For establishment, repair or renovation of public use fields for schools and parks.
  4. For landscape establishment following a disaster. (City 2015f).

City of San Diego Storm Water Standards

For storm water regulatory framework see Section 4.8, Hydrology and Water Quality.

4.14.3 Impact Analysis

Issue 1: Would the Project result in the need for new systems or require substantial alterations to existing utilities, including those necessary for water, sewer, storm drains, natural gas and electricity, and solid waste disposal? If so, what physical impacts would result from the construction of these facilities?

Impact Thresholds

Per the City's Significance Determination Thresholds, impacts to utilities may be significant if the project would:

- Result in the use of excessive amounts of fuel or energy (e.g., natural gas)
- Result in the use of excessive amounts of power
- Use excessive amounts of water
- Use predominantly non-drought-resistant landscaping

In addition, the City's Significance Determination Thresholds identify the following guidance that should be considered in determining whether the removal, construction, or relocation of a utility could have significant environmental effects. Specifically, these criteria require the assessment of whether the project would:

- Be compatible with existing and adjacent land uses (see Section 4.9, Land Use).
- Change drainage or affect water quality/runoff (see Section 4.8, Hydrology and Water Quality).
- Affect air quality (see Section 4.1, Air Quality and Odor).
- Affect biological resources including habitat (see Section 4.2, Biological Resources).
- Have a negative aesthetic effect (see Section 4.15, Visual Effects and Neighborhood Character).
- Impact historical resources (see Section 4.7, Historical Resources)
- Increase noise levels to existing receptors (see Section 4.11, Noise).

It should also be noted that the potential energy impacts resulting from implementation of the project are discussed separately in Section 4.3, Energy.

Impact Analysis

<u>Water, Wastewater, Storm Drain, Electric, Natural Gas, Communications, and Solid Waste</u>

Water

As previously identified, the Project is within the City of San Diego water service area. Regional potable water supplies are provided by SDCWA and the City. The Project site land use designation is Commercial Employment, Retail, and Services. Proposed annual water demands were compiled from estimates of three demand scenarios: 1) days where the new stadium does not host any event, 2) days where the new stadium hosts non-NFL events, such as SDSU Aztecs football, soccer games, concerts, motocross, or any event with less than 30,000 attendees and 3) days when the Project hosts NFL games.

These water demands and service criteria were then compared to actual water consumption data for the existing Qualcomm Stadium, from 2012 to 2014. Qualcomm Stadium used an average of approximately 18,500,000 gallons per year which is just less than 51,000 gallons per day (gpd) or 2,125 gallons per hour or 35 gallons per minute (gpm) (City of San Diego 2015a). A summary of the existing and projected water demands are shown below in Table 4.14-1. Additional detail is included in the Water Utility Technical Memorandum which is included in Appendix M-1.

Table 4.14-1
Existing and Projected Project Water Demands

Demand Scenario	Number of Event Days per Calendar Year	Existing Water Demand (AFY)	Projected Water Demand (AFY)	Existing Water Demand (gpd)	Projected Water Demand (gpd)	Increased Onsite Water Demand (gpd)	Projected Water Peak Hour Demand (gpm)
No Event Day	332	39.6	86.6	51,000	85,000	34,000	59
Non-NFL Event Day	20	9.2	20.1	196,260	327,100	130,840	227
NFL Event Day	13	8.0	17.5	263,760	439,600	175,840	1,500
Total		56.8	124.2				

The Project does not meet any of the seven types of projects that require preparation of a Water Supply Assessment (WSA) per the SB 610 guidelines. The final parameter in the SB 610 guidelines states that if project water demand equals or exceeds the water required for 500 dwelling units (150 AFY to 250 AFY), then a WSA must be prepared. The City of San Diego has a water use metric of 99 AFY for a 500 multi-family unit development. Since water use at the existing Qualcomm Stadium averages 56.8 AFY, the additional water demand for the Project would be 67.4 AFY (total projected demand of 124.2 AFY, less existing demand of 56.77 AFY, equals projected additional demand of 67.4 AFY). Therefore, the additional Project water demand would be below the 99 AFY and not require preparation of a WSA.

According to the SANDAG Series 12 Regional Growth Forecast for 2035, the City’s existing and planned water supplies are sufficient to accommodate development of the Project site up to the intensities in the Regional Growth Forecast in normal, single-dry year, and multiple-dry water year forecasts. The planned water supplies are included in the City’s 2010 UWMP, and include imported water purchases from SDCWA as well as local runoff and the incorporation of conservation measures.

The Project would include the following measures to further reduce water demand pursuant to the California Code Green Building Standards (California Code of Regulations [CCR] Title 24, Part 11, Chapter 5; available at http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf), and the California Plumbing Code (CCR Title 24, Part 5, Chapter 4, available at http://www.iapmo.org/Pages/2010CaliforniaPlumbingCode.aspx):

- Use of ultra-low-flow toilets;
- Implement a water conservation plan, including measures such as use of native and/or drought-tolerant landscaping, irrigation management (e.g., use of pressure/moisture sensors and shut-off valves), public/tenant water conservation education, and restrictions on practices such as wet washing of equipment and paved areas; and
- Use of recycled water for purposes such as landscape irrigation and industrial applications to the maximum extent feasible.

Replacement of the onsite water distribution system would occur due to the materials and age of the infrastructure. From the existing connection to the 16-inch diameter ductile iron water distribution main, the existing 12-inch diameter AC water pipeline and 10-inch diameter AC water ‘looped’ pipelines would be replaced with new 16-inch C905 polyvinyl chloride (PVC) and 12-inch C900 PVC water pipelines, respectively. The connection to the existing 16-inch ductile iron pipeline would be master metered. These facilities would serve the potable water demands for the Project. Drought resistant landscaping would be installed to reduce the amount of water needed for irrigation.

To meet current City fire flow demands, the 48-inch steel cylinder rod wrapped (SCRW) water transmission main and 16-inch diameter ‘stub-outs’ along that pipeline would be used as available connection points. The new 16-inch C905 PVC water pipeline installed for the potable water demand would provide fire flow through in the potable ‘looped’ system that would circle the new stadium.

Project impacts from water service to the new stadium would involve rerouting and extending the water distribution system on the site. It would not affect offsite transmission facilities or affect City potable water resources. Peak hour water demand would be higher than existing during the 3 to 4 hours of an NFL game’s duration and especially during the 15 minute game half-time. The capacity of the water system can handle the peak flows that would occur for a few hours, 8 times a year. Therefore, impacts related to Project water facilities would be less than significant.

Wastewater

The Project would utilize a similar piping layout as currently exists for wastewater exiting the building, with a collector sewer located around the Project and multiple points of connection. It is anticipated that 8-inch pipes would be installed to exit the stadium, be collected in an 18-inch pipe and connect to the existing 18-inch pipeline on-site that serves the residential neighborhood to the north and connects to the NMVIS. The new 18-inch sewer network to the stadium would be PVC pipe with a minimum slope of 0.75 percent, and have 4-foot diameter concrete manholes located a maximum distance of 400 feet apart and where sewer alignment change is necessary. The sewer pipes would be constructed with sufficient slope to generate self-cleaning velocities.

With a dry-weather capacity of 240 mgd and a 5-year average flow of 150 mgd, the Point Loma Wastewater Treatment Plant has an excess capacity of 85 million gallons. The Project would include two cooling towers with three 750-ton cells each. The peak wastewater discharge from the cooling towers is calculated to be 270 gpm based on the manufacturer's data. The water service evaluation also calculated a maximum day flow of 675 gpm and a peak hourly flow of 1,500 gpm. It assumed that 80 percent of the water demand would be used for irrigation, and would not contribute to the wastewater flows to the sanitary sewer system. This translates into a maximum day wastewater flow of 550 gpm and a peak hourly flow of wastewater of 1,200 gpm for an NFL game. The combined flows of the cooling towers and peak hourly flow of wastewater would be 1,470 gpm. The combined wastewater flows with the onsite flow from the 8-inch Mission Village Drive Collector of 50 gpm is within the current capacity of the existing 18-inch sanitary sewer pipe connection of 2,700 gpm.

Project impacts from wastewater service to the new stadium would involve rerouting and extending the sewer collection system on the site. It would not affect offsite trunk sewer pipelines or pumping or treatment facilities. Peak hour use would be higher than existing during the 3 to 4 hours of an NFL game's duration and especially during the 15 minute game half-time. The capacity of the wastewater system can easily handle the peak flows that would occur for a few hours, 8 times a year. Therefore, impacts related to Project wastewater facilities would be less than significant.

Storm Drainage

New storm drains would be installed throughout the Project site. These new systems would be connected to the existing three drainage systems and discussed under Storm Drainage in Section 4.14.1 and shown on Figure 4.14-3. The existing system outfalls would not be upsized. Each of the three drainage systems would continue to drain a similar amount of tributary area in the post-project condition as in the existing conditions. Existing drainage patterns would remain, as would the outfall to the San Diego River. Runoff amounts would be slightly lower because water quality regulations would require installation of best management practices (BMPs) to retain, detain, and/or treat runoff. Runoff would also contain less pollutant load due to the implementation of these measures. Section 4.8, Hydrology and Water Quality, discusses existing and proposed storm drain systems, tributary watersheds, and water quality.

The Project would not negatively affect the existing storm drain systems or other adjacent properties. Storm water treatment facilities proposed above ground such as landscape planter areas or biofiltration swales would enhance the visual aesthetics of the Project area, reduce runoff amounts due to an increase in pervious area and provide storm water treatment resulting in a decrease in pollutant load. The Project would result in a reduction in runoff and would improve water quality due to the installation of storm water treatment best management practices that do not currently exist on the site. Therefore, Project storm drainage impacts would be less than significant.

Electricity and Natural Gas

The Project would require that existing electric and natural gas facility service lines be relocated and/or extended onsite to serve the new stadium. Changes to existing off-site electric and gas transmission facilities would not be required.

Projected electric and gas demands were modeled based on Levi Stadium (Santa Clara 2009a), since it involved the recent construction of a similarly sized NFL stadium, and calibrated using electric and gas data meter readings from the existing Qualcomm Stadium between February 2014 and January 2015 to estimate Project energy use.

Table 4.14-2
Proposed Project Annual Electric and Gas Use

	Qualcomm Stadium (Existing Utility Meter Data)	Stadium Reconstruction (Projected Usage)
Annual Electric (kWh)	5,769,086	6,309,341
Annual Gas (therms)	44,383	56,810

Although electric and gas consumption would increase, the existing electric and gas services have adequate capacity to supply the Project and would not require new systems or substantial alteration. Energy conservation measures are included in Section 4.3, Energy.

Project impacts from electric and gas infrastructure improvements to serve the new stadium would involve rerouting and extending on-site electric and gas facilities within the Project construction area. It would not affect offsite electric or gas supply facilities. Peak hour use would be higher than existing during the 3 to 4 hours of an NFL game's duration. The capacity of SDG&E electric and gas resources are capable of supplying the peak demand that would occur for a few hours, 8 times a year. Therefore, impacts related to Project electric and natural gas facilities would be less than significant.

Communications

The Project would require that existing on-site communications facilities owned by AT&T and Cox Communications be relocated and/or extended on-site to serve the new Stadium. Off-site improvements would not be required.

Project impacts from communication infrastructure improvements to serve the new stadium would involve rerouting and extending on-site communication facilities. It would not affect offsite facilities. Peak hour use would be similar to existing use during the 3 to 4 hours of an NFL game's duration. There are sufficient communication resources available to serve the peak demand that would occur for a few hours, 8 times a year. Therefore, impacts related to Project communication facilities would be less than significant.

Solid Waste Disposal

Implementation of the Project would result in a substantial increase in solid waste during construction and demolition. After the completion of construction and demolition, the Project operations would result in the generation of slightly more solid waste than existing Qualcomm Stadium due to a slight increase in attendees. During stadium events, solid waste would include trash from concessions, bathrooms, and tailgating activities. Non-NFL events would have the same type of waste with the exception of the waste generated by tailgating.

The Project is required to comply with numerous ordinances to assist the City in exceeding a 75 percent diversion rate from landfill disposal. Additionally, pursuant to the City's Solid Waste Significance Determination Thresholds, a Waste Management Plan (WMP) will be prepared for the Project, due to the construction, demolition, and/or renovation of 40,000 square feet or more of building space, as it may generate approximately 60 tons of waste or more and is considered to have cumulative impacts on solid waste facilities. A preliminary WMP, which evaluates waste reduction efforts associated with the pre-construction, demolition/construction, and operation of the new stadium, is included in Appendix M-3.

Sustainable construction practices are part of the Project's overall waste management strategy. It is estimated that demolition of Qualcomm Stadium and utility infrastructure would generate approximately 430,000 tons of construction waste (Santa Clara 2009b). The volume/quantity of waste from the demolition of Candlestick Park (old San Francisco 49ers stadium) was used for guidance as it is a recent similar effort involving the demolition and new construction of a similarly sized professional football stadium. Disposal ratios were based on City waste management guidelines. Efforts would be made to reuse materials onsite to minimize the need for offsite disposal. Materials that can be reused would be crushed and recycled into suitable base material for the new parking area that would be located where the demolished Qualcomm Stadium had been.

The density of loose asphalt and concrete construction waste averages 2,400 pounds per cubic yard. Some construction and demolition debris would be reused on-site. Existing asphalt and concrete would be removed, crushed, reconditioned, and reused for the new parking lot area subbase and pavement.

The Project would comply with City of San Diego Ordinance 0-17327 (Mandatory Reuse Ordinance) and would implement environmentally sound waste management by salvaging material such as steel, copper, other metals and equipment; and reusing material such as concrete, steel, and asphalt. To the extent feasible, the Project would recycle, salvage and reuse materials and then divert materials to the landfill.

A preliminary WMP has been prepared for the Project and is included in Appendix M-3. It identifies the project conditions and measures that would be applied regarding solid waste disposal. Demolition activities would generate approximately 430,000 tons of solid waste with 350,200 diverted and 79,800 tons disposed to landfill. Construction of the new stadium would generate approximately 2,236 tons of solid waste with 1,690 tons diverted from landfill disposal and 546 tons diverted to landfill disposal. The Project would divert approximately 81.4 percent of solid waste from landfill disposal. Therefore, Project impacts from solid waste will be less than significant.

Significance of Impacts

Implementation of the Project would result in relocation of existing on-site utilities. It would not affect off-site utilities or impact current levels of service. Implementation of the Project would not result in the need for new transmission or distribution facilities including those necessary for gas, electricity, water, sewer, storm drain, and communications. Solid waste disposal would result in approximately 62,000 cubic yards and Miramar Landfill has a remaining capacity of 14.8 million cubic yards. Current levels of service would be maintained. Project related impacts from public utilities would be less than significant.

Issue 2: Would the Project result require or result in the construction of new energy facilities or the expansion of such facilities to adequately meet projected demands, the construction of which could cause a significant environmental effect?

Impact Thresholds

Per the City Significance Determination Thresholds, and as noted above, electrical power and natural gas service is commonly provided by SDG&E throughout the San Diego metropolitan area. Power and gas requirements for development projects are handled on a case-by-case basis, and SDG&E consults with developers to incorporate energy-saving devices into project design, where feasible. Forecasting future electric power and natural gas consumption demand is performed on a continual basis by SDG&E. In situations where projects with large power loads are planned, these new large power loads are considered together with other existing or anticipated future loads in the project vicinity, and electrical substations are upgraded or new substations are built if the capacities of existing substations are exceeded. Direct impacts to electrical and natural gas facilities are addressed and mitigated by SDG&E at the time incoming development projects occur and are not typically evaluated by City staff, per the City's Significance Thresholds.

Impact Analysis

The Project would not require the expansion of new energy facilities to meet projected demands. The maximum number of spectators at an NFL game in the new stadium (68,000) would be less than at Qualcomm Stadium (70,560). The condition of a full stadium represents the worst case condition; all other stadium uses would be have less impact. In addition, the new stadium would be constructed to achieve LEED Gold certification and would be more energy efficient than the existing Qualcomm Stadium.

Significance of Impacts

Impacts would be less than significant.

4.14.4 Mitigation, Monitoring, and Reporting

No mitigation required.

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4.15 VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER

This section describes the aesthetic setting and regulatory framework and discusses the potential effects of the Project on views and visual character and in relation to light and glare.

4.15.1 Existing Conditions

Views and Visual Character[12]

Mission Valley Area

Mission Valley is a major river valley in San Diego trending east to west that is flanked by mesas on the northern and southern sides. Mission Valley follows the San Diego River toward the Pacific Ocean. The San Diego River Trail also follows the river throughout the valley.

Mission Valley is also an east-west path for I-8 that is crossed by I-5, I-805, SR 163, and I-15, listed west to east, respectively. The MTS Trolley Green Line Trolley also runs through Mission Valley. Primary commercial and entertainment centers within Mission Valley include the Mission Valley and Fashion Valley malls and Qualcomm Stadium. As such, Mission Valley is characterized by freeways and interchanges as well as MTS Trolley lines and stations and the surrounding development to which they provide access.

The Mission Basilica San Diego de Alcalá, the first of 21 missions along the California coast, is an important visual resource and cultural landmark within Mission Valley east of I-15. In addition, El Camino Real, the historic road connecting California's 21 missions (along with a number of sub-missions), four presidios, and three pueblos and stretching from this southernmost Mission San Diego de Alcalá in San Diego northward to Mission San Francisco Solano in Sonoma, traverses Mission Valley from the coast to Mission Basilica San Diego de Alcalá.

Long east-west views are available throughout Mission Valley, while short north-south views are also available. Some short north-south landmark/sensitive views are identified at five locations within the MVCP as shown in Figure 4.15-1 MVCP Landmark/View Sensitive Areas. Two of these north-south landmark/sensitive views include (1) what was previously referred to as the San Diego Stadium and then the Jack Murphy Stadium and is now referred to as Qualcomm Stadium and (2) the Mission Basilica San Diego de Alcalá. Qualcomm Stadium is the most distinct visual resource in Mission Valley given that its award-winning design and regional

[12] In this CEQA context, views include specific views from publicly accessible areas, and visual character includes the general visual context from publicly accessible areas.

importance as a professional sports facility has made it a community visual resource. It dominates the view from almost any vantage point in the eastern portion of Mission Valley.

Existing Project Site

The existing Qualcomm Stadium site is located in the eastern portion of Mission Valley immediately to the north of the San Diego River and to the west of I-15. The Stadium site is overlooked by mesas to the north and south and can also be viewed from cars traveling south and north on I-15 and east and west on I-8. Commercial and office land uses are located immediately west of the site. The relatively flat Project site has an elevation ranging from 50 to 100 feet AMSL and is lower than the land areas in its immediate vicinity, with the exception of the San Diego River. Primary views of the site are available from I-15 and I-8 as well as from Friars Road and Mission Village Drive. The site is not located adjacent to any designated State Scenic Highways, but it is located near the historic El Camino Real route as well as I-8, which is eligible for designation as a State Scenic Highway.

The Project site is characterized by the visually prominent existing Qualcomm Stadium structure, which is 120 feet tall, and surrounded by approximately 151 acres of surface parking lots. There are existing trees included in the landscaped areas immediately outside the existing Qualcomm Stadium. In addition, the existing trees along the San Diego River natural area are the most visible vegetation in the area. These trees and other vegetation along the river partially screen views to and from areas within the southern portions of the Project site. However, in longer range views from points outside of the Project site, especially from the west, the trees and vegetation do not obscure the views of the existing Qualcomm Stadium.

Site visual surveys were conducted at and near the Stadium site in July 2015 to observe and document the existing visual quality and character of the site. Table 4.15-1, aerial image (Figure 4.15-2), written text, and photographs (Figures 4.15-3 through 4.15-14) identify and describe specific locations near the site that provide a representative cross section of visual images that provide information about the existing aesthetic of the site and its immediate surroundings. These locations represent views that may be seen by a variety of observers in the area, ranging from motorists traveling in automobiles to pedestrians walking along sidewalks.

Other nearby popular publicly accessible locations, Mission Basilica San Diego de Alcalá and the San Diego River Park, were also visited to determine whether the Project site could be seen from certain locations within these cultural and recreation spots. In both cases, the site was difficult to distinguish at this distance, as the site blends into the City’s urban fabric and/or is primarily obscured by vegetation and other structures. From nearly all vantage points north and south of Mission Valley, the site is not visible due to distance, varied topography, and

Figure 4.15-1
Mission Valley Community Plan, Landmark/View Sensitive Areas

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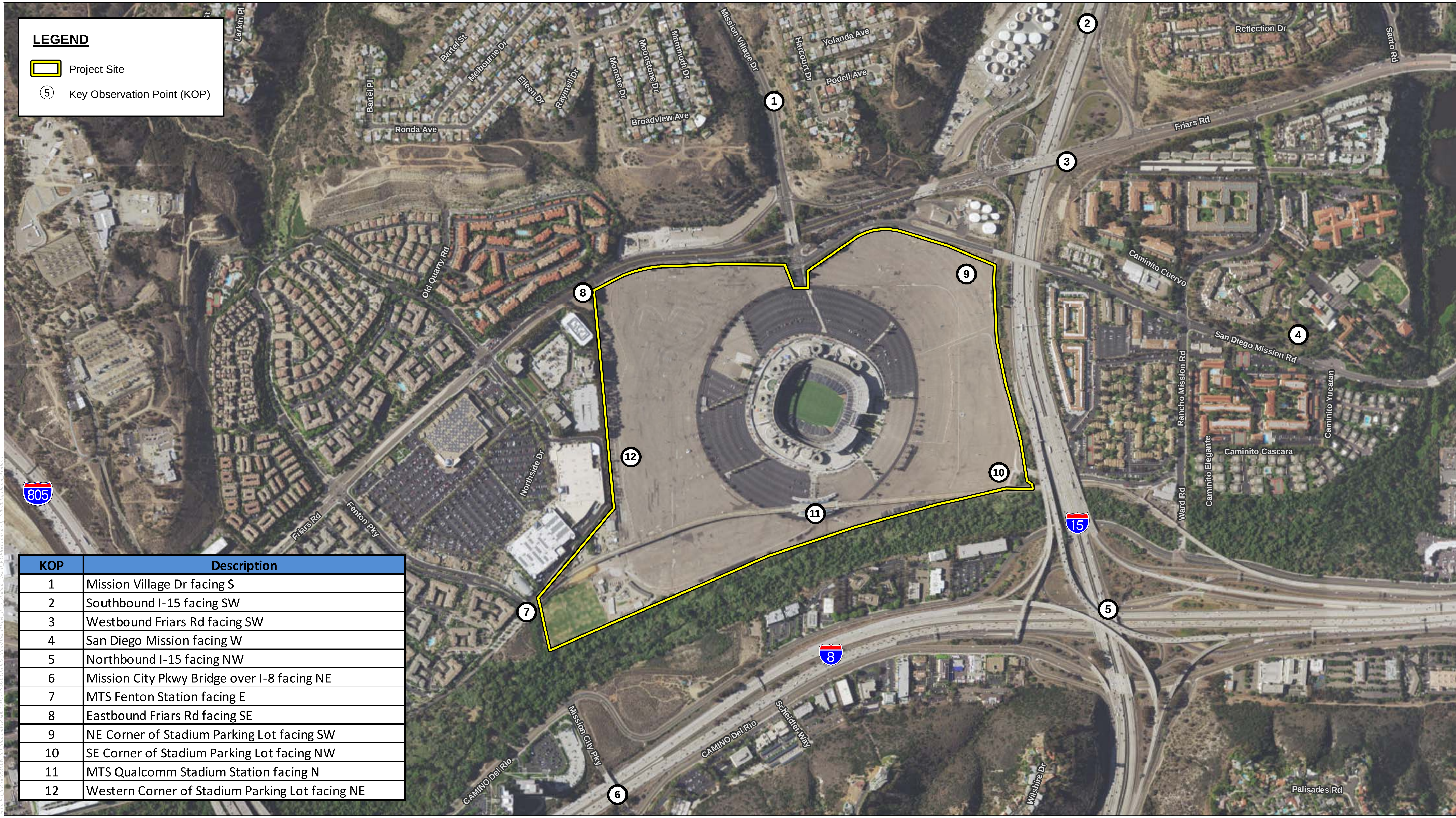

KOP	Description
1	Mission Village Dr facing S
2	Southbound I-15 facing SW
3	Westbound Friars Rd facing SW
4	San Diego Mission facing W
5	Northbound I-15 facing NW
6	Mission City Pkwy Bridge over I-8 facing NE
7	MTS Fenton Station facing E
8	Eastbound Friars Rd facing SE
9	NE Corner of Stadium Parking Lot facing SW
10	SE Corner of Stadium Parking Lot facing NW
11	MTS Qualcomm Stadium Station facing N
12	Western Corner of Stadium Parking Lot facing NE

Figure 4.15-2
Key Observation Point Locations

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intervening vegetation and structures. Only a portion of the site can be seen when standing at the outside edge of Mission Basilica San Diego de Alcalá, if an observer focuses his or her view up the street that leads to the site.

Table 4.15-1
Existing Qualcomm Stadium Site View Locations

View No.	View Description
View 1	Southward View of Existing Project Site from Mission Village Drive
View 2	Southwestward View of Existing Project Site from I-15
View 3	Southwestward View of Existing Project Site from Friars Road
View 4	Westward View of Existing Project Site from San Diego Mission
View 5	Northwestward View of Existing Project Site from I-15
View 6	Northeastward View of Existing Project Site from Mission City Parkway Bridge over I-8
View 7	Eastward View of Existing Project Site from MTS Fenton Trolley Station
View 8	Eastward View of Existing Project Site from Friars Road
View 9	Southwestward View of Existing Project Site from Stadium Parking Lot Corner
View 10	Northwestward View of Existing Project Site from Stadium Parking Lot Corner
View 11	Northward View of Existing Project Site from MTS Stadium Trolley Station
View 12	Northeastward View of Existing Project Site from Stadium Parking Lot

Note: View locations or photograph viewpoints are also sometimes referred to as Key Observation Points (KOPs).
Source: Compiled by AECOM in 2015

View 1

The photo location along Mission Village Drive, shown in Figure 4.15-3, offers a southward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium and corresponding main entrance as experienced by motorists and pedestrians traveling south along Mission Village Drive toward the existing Qualcomm Stadium. Partial views are also available of the hillsides behind the existing Qualcomm Stadium on the southern side of Mission Valley. Mission Village Drive and the Stadium are the prominent features in this view.

View 2

The photo location along I-15, shown in Figure 4.15-4, offers a southwestward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists traveling south on I-15. Partial views are also available of the hillsides behind the Stadium on the southern side of Mission Valley. I-15 and Kinder Morgan Energy Partners Mission Valley Terminal (KMEP MVT) in front of the existing Qualcomm Stadium are the prominent features in this view.

Figure 4.15-3 View 1—Southward View of Existing Project Site from Mission Village Drive

Figure 4.15-4 View 2—Southwestward View of Existing Project Site from I-15

View 3

The photo location along Friars Road, shown in Figure 4.15-5, offers a southwestward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists and pedestrians traveling west along Friars Road. Friars Road is the prominent feature in this view.

View 4

The photo location from the San Diego Mission, shown in Figure 4.15-6, offers a westward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by pedestrians at the San Diego Mission. This view of the existing Qualcomm Stadium is mostly obstructed by vegetation. As such, the more proximate development and vegetation is the prominent feature in this view.

View 5

The photo location along I-15, shown in Figure 4.15-7, offers a northwestward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists traveling north along I-15. This view of the existing Qualcomm Stadium is mostly obstructed by the elevated ramp structures associated with the I-15/I-8 interchange. As such, the elevated interchange is the prominent feature in this view.

View 6

The photo location from the Mission City Parkway Bridge over I-8, shown in Figure 4.15-8, offers a northeastward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists and pedestrians traveling north along Mission City Parkway over I-8. Partial views are also available of the hillsides behind the existing Qualcomm Stadium on the northern side of Mission Valley. I-8 is the prominent feature in this view.

View 7

The photo location from the MTS Fenton Trolley Station, shown in Figure 4.15-9, offers an eastward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by pedestrians at the MTS Fenton Station. The MTS Trolley Green Line track and associated power lines and the existing Qualcomm Stadium are the prominent features in this view.

Figure 4.15-5 View 3—Southwestward View of Existing Project Site from Friars Road

Figure 4.15-6 View 4—Westward View of Existing Project Site from San Diego Mission

Figure 4.15-7 View 5—Northwestward View of Existing Project Site from I-15

Figure 4.15-8 View 6—Northeastward View of Existing Project Site from Bridge over I-8

Figure 4.15-9 View 7—Eastward View of Existing Project Site from MTS Fenton Station

View 8

The photo location along Friars Road, shown in Figure 4.15-10, offers an eastward view, though not within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists and pedestrians traveling east along Friars Road. The existing Qualcomm Stadium parking lot and entrance are the prominent features in this view.

View 9

The photo location from the northeastern corner of the Qualcomm Stadium parking lot, shown in Figure 4.15-11, offers a southwestward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists and pedestrians within the northeastern corner of the parking lot. The Stadium parking lot and the existing Qualcomm Stadium are the prominent features in this view.

Figure 4.15-10 View 8—Eastward View of Existing Project Site from Friars Road

Figure 4.15-11 View 9—Southwestward View of Existing Project Site from Parking Lot Corner

View 10

The photo location from the southeastern corner of the Qualcomm Stadium parking lot, shown in Figure 4.15-12, offers a northwestward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists and pedestrians within the southeastern corner of the parking lot. Partial views are also available of the hillsides behind the existing Qualcomm Stadium on the northern side of Mission Valley. The Stadium parking lot, the existing Qualcomm Stadium, and the hillsides are the prominent features in this view.

View 11

The photo location from the MTS Stadium Trolley Station, shown in Figure 4.15-13, offers a northward view, though not within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by pedestrians exiting the MTS Stadium Trolley Station in the southern parking lot area heading toward the existing Qualcomm Stadium. The existing Qualcomm Stadium is the prominent feature in this view.

View 12

The photo location from the western side of the Qualcomm Stadium parking lot, shown in Figure 4.15-14, offers a northeastward view, within a City-designated View Sensitive Area, of the existing Qualcomm Stadium as experienced by motorists and pedestrians within the western portion of the parking lot. The Stadium parking lot and existing Qualcomm Stadium are the prominent features in this view.

Figure 4.15-12 View 10—Northwestward View of Existing Project Site from Parking Lot Corner

Figure 4.15-13 View 11—Northward View of Existing Project Site from MTS Stadium Station

Figure 4.15-14 View 12—Northeastward View of Existing Project Site from Western Parking Lot

Light and Glare[13]

Mission Valley Area

The Mission Valley area contains a diversity of land uses, each contributing to the urban fabric of San Diego. The portions of Mission Valley near the Mission Valley and Fashion Valley malls are visually dominated by groups of mid-rise commercial, office, and residential buildings that are internally lit and also have associated outdoor entry and security lighting. The eastern portion of the Mission Valley area is anchored by the existing Qualcomm Stadium, which is a source of nighttime lighting on the occasions when it hosts sporting or other events. In addition to these light sources, other commercial, residential, and industrial buildings create sources of light. The area is also extensively lit by streetlights, motor vehicles, and transit vehicles traveling through the area on City streets, freeways, and MTS Trolley lines.

The majority of the Mission Valley area (west of the Project site) is also urbanized and contains a large number of lighting sources, including City streets and freeways, as well as internally lit

[13] In this CEQA context, light is nighttime illumination that stimulates sight and makes things visible, and glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight.

commercial, residential, and office buildings and their associated entry and exterior security lighting.

Mid-rise buildings in the Mission Valley area are occasional sources of glare, during periods when their windows and light-colored reflective building materials reflect the sun's rays. However, these occurrences are relatively minor and intermittent.

Existing Project Site

The 166-acre Project site is located in central San Diego near the eastern end of Mission Valley. The site is bounded on the north by Friars Road and KMEP MVT, on the east by I-15 right-of-way, on the south by the San Diego River, and on the west by commercial uses and associated parking lots. The surrounding lands uses, with the exception of the San Diego River, contain sources of nighttime light. Surrounding land uses within the Mission Valley community are also a source of glare, given that the area is mostly developed.

The Project site is developed with Qualcomm Stadium, MTS Stadium Trolley Station, and surface parking lots, all of which are equipped with exterior lighting fixtures. The trolley facilities have nighttime lighting that is required for safety and security. Because the majority of activity on the Stadium site takes place during daytime hours, nighttime lighting consists primarily of low-level security lights used around structures and the parking lot and is not substantially noticeable to viewers in the surrounding area. However, stadium floodlights are utilized when occasional night events occur at the existing Qualcomm Stadium, during which ambient nighttime lighting levels are increased and noticeable to viewers in the surrounding area. But with the existing Qualcomm Stadium being generally set back from the property boundaries, existing stadium-event nighttime lighting does not spill onto surrounding land uses.

The Project site is not a substantial source of glare, as there are not many large uninterrupted expanses of windows and other light-colored reflective materials that could reflect the sun's rays. In addition, building fenestration is intermixed with nonreflective building materials, minimizing the amount of glare caused by the existing Qualcomm Stadium.

4.15.2 <u>Regulatory Framework</u>

State

California Scenic Highway Program

The California Scenic Highway Program, administered by the California Department of Transportation (Caltrans 2015), protects designated State Scenic Highway corridors from changes that would diminish the aesthetic value of lands adjacent to these highways. There are no officially designated State Scenic Highways within the vicinity of or with views of the Project. I-8, south of the Project site, is the only highway in the area that is classified as eligible for scenic designation.

Local

San Diego General Plan Urban Design Element

The City of San Diego General Plan (City of San Diego 2015) includes the following Urban Design Element policies related to visual resources that would be applicable to the Project, and the Project is indicated as consistent or not consistent with an explanation at the end of each policy.

Policy UD-A.3(j). Design and site buildings to permit visual and physical access to the natural features from the public right-of-way.

Consistent: *The Project would not substantially or negatively alter views of natural features from public roadways and parklands. Rather, by relocating the new stadium from the middle to the northeastern portion of the Project site, new public views to the San Diego River and Mission Valley hillsides, specifically looking southward from Mission Village Drive, would be available.*

Policy UD-A.3(l). Protect views from public roadways and parklands of natural canyons, resource areas, and scenic vistas.

Consistent: *The Project would not substantially or negatively alter views of natural canyons, resources areas, or scenic vistas from public roadways and parklands. Rather, the new location within the existing Project site would provide new public views to the San Diego River and Mission Valley hillsides compared to what is currently available, specifically looking southward from Mission Village Drive.*

Provide public pedestrian, bicycle, and equestrian access paths to scenic viewpoints, parklands, and, where consistent with resource protection, in natural resource open space areas.

Policy UD-A.3(n). Consistent: *The Project would maintain and update pedestrian paths to and from the San Diego River Park immediately south of the Project site. The Project would also maintain the existing bicycle path on the east side of the existing Qualcomm Stadium parking lot along Murphy Canyon Creek.*

Mission Valley Community Plan (MVCP) Urban Design Element

Urban design in Mission Valley is a process of identifying the form and function of the community and recommending guidelines for future development that will enhance that form and function and tie the various components of the community together. There are five functional categories that require special design considerations and guidelines: (1) Design Protection Areas (San Diego River, hillsides, and landmarks; (2) Transportation corridors (freeways, major roads, local streets, parking areas, light rail transit, and pedestrian areas); (3) Energy and Conservation (solar access, water, and noise); (4) Street Graphics; and (5) Water Reclamation Plant. These categories are analyzed for consistency from a Mission Valley-wide perspective.

<u>Design Protection Areas</u>

San Diego River

Since the Project would not be constructed within nor affect the San Diego River Corridor or Influence Area of the San Diego River Park Master Plan, the Design Protection Area Design Guidelines, related to the San Diego River Park Master Plan, would not be applicable to the Project (City of San Diego 2007).

Hillsides

Since the Project would not be constructed on nor affect the Mission Valley hillsides, the Design Protection Area Design Guidelines related to hillsides would not be applicable to the Project.

Landmarks

Since the Project would be constructed within or in proximity to two of the five identified community visual landmarks, specifically Mission San Diego de Alcalá and the existing Qualcomm Stadium, the following Design Protection Area Design Guidelines related to visual landmarks would be applicable to the Project. The Project is indicated as consistent or not consistent with an explanation at the end of each guideline.

- New development located nearby should complement the landmarks, and should be sited so as not to hide them from view. Special development considerations should be established within the landmark view sensitive areas of the Plan.

Consistent: *The Project would not conflict with nor hide from view the San Diego Mission de Alcala landmark. Furthermore, the new stadium would be approximately 0.6 mile from the Mission.*

- Development near the Mission should be low in scale and complementary to the Spanish period architecture.

  Consistent: *The Project would not alter the scale and architectural style of development near the San Diego Mission de Alcala. Furthermore, the new stadium would be approximately 0.6 mile from the mission and, thus, would not result in development near the Mission.*

- Development surrounding the San Diego stadium should maintain view corridors and landscaped areas to enhance the views into this major civic and architectural landmark.

  Not Consistent: *The Project would be very visible and prominent within Mission Valley, and many view corridors of the new stadium would be open into the site. The Project would also be landscaped in a manner to enhance views of the Project. However, the existing Qualcomm Stadium was assessed for eligibility for individual listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and the City of San Diego Register of Historic Resources as a Historical Landmark. It was assessed as eligible for all three registers at the local level and would be demolished as part of the Project. Thus, view corridors of this landmark would not be maintained. For a more detailed discussion, see Section 4.7 Historical Resources.*

- The gateways, or entrances into the community, are another type of landmark. Being crisscrossed by regional freeways, Mission Valley has many of them. Each should provide a clear view into, as well as through the community. New development located at these entrances will also become community landmarks and should be designed with that thought in mind.

  Consistent: *The Project would construct the new stadium in a very visible and prominent area within Mission Valley in order to maintain views, including those from gateways and freeways. As such, the Project entrances would become prominent community visual resources.*

<u>Transportation Corridors</u>

Freeways, Major Roads, and Local Streets

The Transportation Corridor Design Guidelines state that I-8 is eligible for designation as a State Scenic Highway and future consideration should be given to designating it as a State Scenic

Highway. However, since I-8 is not an official State Scenic Highway at this time and the Project would not adversely affect views from Mission Valley freeways, major roads, or local streets; the Transportation Corridor Design Guidelines related to freeways, major roads, or local streets would not be applicable to the Project.

Parking Areas

Since the Project would be constructed within and in proximity to approximately 151 acres of parking area, specifically the existing Qualcomm Stadium parking lot, the following Transportation Corridor Design Guidelines related to parking areas would be applicable to the Project, and the Project is indicated as consistent or not consistent with an explanation at the end of each guideline.

- Trees and other plants should be dominant elements of major entries into projects, particularly those entries into parking areas.

  Consistent: *The Project would include trees and other plants as dominant elements of its major entries.*

- Round headed, rather than upright trees should be utilized in parking areas.

  Consistent: *The Project would include round-headed trees in its parking areas.*

- Parking lot trees should have a mature height and spread of at least 30 feet. They should also be long-lived (60 years), clean, require little maintenance, and be structurally strong, insect and disease-resistant, and require little pruning.

  Consistent: *The Project would include mature, long-lived, and structurally strong trees with a height and spread of at least 30 feet in its parking areas.*

- A minimum ten percent of the parking lot area should be landscaped. Landscaping areas should be distributed between the periphery and interior landscaping islands and be designed to break up large paved areas. Landscaping islands should be a minimum ten feet wide.

  Consistent: *The Project would have at least 10 percent of its parking areas landscaped.*

- Parking lot landscaping should include primarily ground cover and tall-canopied trees, instead of bushes or short bushy trees.

  Consistent: *The Project would primarily include tall-canopied trees and ground cover in its parking areas.*

- To screen parking lots and structures from the street, large dense shrubs may be massed at the edge of the parking area. Trees and shrubs can be combined with earth berms to screen adjacent parking areas.

  Consistent: *The Project would include large, dense trees and shrubs along the edge of its parking areas adjacent to streets to screen the parking lot.*

- Turf areas should be minimized except where recreation areas are required. Turf for strict visual reasons (except at major entries) should be minimized because of the high water use and maintenance costs.

  Consistent: *The Project would not include turf areas within its parking areas. Turf may only be utilized on the new stadium field itself.*

Light Rail Transit

Since the Project would be constructed within and in proximity to light rail transit, specifically the MTS Stadium Trolley Station, the following Transportation Corridor Design Guidelines related to light rail transit would be applicable to the Project, and the Project is indicated as consistent or not consistent with an explanation at the end of each guideline.

- LRT (light rail trolley) stops should be located to maximize access from more intensely developed areas, and to optimize connections with other transit services. Transit stops should be pedestrian oriented. In order to provide the design orientation, transit stops should include shelters, canopies, and patterned sidewalks, information kiosks, benches, and other pedestrian-oriented amenities. LRT stops located within building developments are highly desirable. Development proposals should consider such location in terms of their public spaces, access, zoning and adjacent land uses.

  Consistent: *The Project would not relocate or change the existing MTS Stadium Station, which includes canopies, benches, and pedestrian access to parking. However, pedestrian connections from the trolley station to the new stadium through the parking lot would be provided and contain appropriate signage, access, and other pedestrian-oriented amenities.*

Pedestrian Areas

Since the Project would be constructed within and in proximity to pedestrian areas, specifically from the MTS Qualcomm Stadium Trolley Station and Qualcomm Stadium parking lot to the new stadium, the following Transportation Corridor Design Guidelines related to pedestrian areas would be applicable. The Project is indicated as consistent or not consistent with an explanation at the end of each guideline.

- Pedestrian areas should include safe routes between developments, preferably separated from vehicular traffic. They should provide interest to the walker so as to promote their use. Interest can be created by paving materials, undulating slopes, landscaping, retail uses, public events (concerts, sidewalk sales, other gatherings, etc.), selling of food (cafes or vendors), and public art such as urban sculpture. Pedestrian areas should also include sitting areas and adequate lighting. Along the river corridor, pedestrian areas might also include observation areas and walks with exhibits featuring wetland habitat descriptions.

  Consistent: *The Project would not relocate or change existing MTS Stadium Trolley Station pedestrian areas, which include canopies, benches, and pedestrian access to parking. However, pedestrian connections from the MTS Stadium Trolley Station as well as from public sidewalks along Friars Road to the new stadium through the parking lot would be provided and, in order to provide interest and promote use, would contain appropriate separation from vehicular traffic, signage, access, and other pedestrian-oriented amenities.*

- All pedestrian walks should have a minimum width of six feet in order to encourage pedestrian use. In areas of higher development intensity, widths of ten feet to 20 feet should be considered. Pedestrian sidewalk width guidelines are incorporated in the street design section of this section.

  Consistent: *The Project would include pedestrian walkways to the new stadium through the parking lot that would be at least 6 feet in width, and those anticipated to have heavy pedestrian traffic would consider widths of 10 to 20 feet.*

- Pedestrian crossings of streets or parking lots should be identified through special paving and design materials. This technique should be used to provide access pedestrian areas across low volume and low speed streets. Pedestrian areas should incorporate patterned paving to give them more visual prominence, human scale, and beauty.

  Consistent: *The Project would include pedestrian walkways to the new stadium through the parking lot that would include appropriate signage and demarcations and patterns on the paving.*

- Continuous indirect lighting should be incorporated into skyways and bridges as well as interior building pathways to supplement natural light sources and to increase security.

  Consistent: *The Project would include pedestrian walkways to and within the new stadium that would include appropriate lighting for security purposes.*

Energy and Conservation

Since the Project would be constructed to LEED Gold standards and, thus, include conservation considerations, the Energy and Conservation Design Guidelines would be applicable to the Project, and the Project is indicated as consistent or not consistent with an explanation at the end of each guideline.

- Building location and height should be carefully considered in relation to public spaces. Plazas and other public spaces should not be totally kept in shadows, and should be protected from excessive wind conditions.

  Consistent: *The Project would be designed in a manner to reduce long-term shadows and excessive wind in public spaces.*

- Building facades should incorporate overhangs or canopies to shade direct sun and reduce heat gain.

  Consistent: *The Project would be designed with a partial roof overhang to reduce direct sun and reduce heat gain.*

- Sloped roof surfaces ideally should be located facing the south, and at an angle that can accommodate later retrofitting for solar energy.

  Consistent: *The Project would include installation of solar photovoltaic (PV) panels in the form of fixed PV panels mounted on up to five acres of new carport structures within the northwestern portion of the stadium surface parking lot and/or on the partial roof of the new stadium. Thus, to the extent feasible, the Project would be designed with sloped partial roof surfaces facing south at an angle that can accommodate later retrofitting for solar photovoltaic infrastructure.*

- In commercial buildings, nearly 50 percent of the energy is used for lighting purposes. Approximately 33 percent of the total building energy is consumed by environmental comfort systems. Natural daylight should be used as a conservation technique.

  Consistent: *The Project, including the new stadium, would be primarily open air and, thus, provide for natural lighting opportunities. In addition, the Project would include windows for enclosed office and other portions in order to use natural daylight to the fullest extent possible.*

- Buildings should not solely depend on mechanical systems for ventilation. Building design should encourage natural ventilation.

Consistent: *The Project, including the new stadium, would be primarily open air and, thus, have natural ventilation. In addition, the Project would use natural ventilation for enclosed office and other portions to the fullest extent possible.*

- To reduce solar reflection on buildings, parking areas with large paved surfaces should be located to the east and north of adjacent buildings.

  Not Consistent: *The new stadium would be located within the northeastern parking lot and, thus, the large paved surfaces of the parking areas would be located west and south of the stadium structure.*

- Evergreen trees should be placed on the west side of buildings to provide protection from prevailing winds.

  Consistent: *The Project would include landscaping in the ground level plaza around the stadium. Through the final design development process, evergreen trees would be incorporated to provide protection from prevailing winds.*

- The installation of active solar hot water and solar heating systems should be considered for buildings. Rooftop solar energy collectors should be designed as an integral part of the building form. The roof slopes necessary for the energy collector are important and possible determinants of architectural shapes. If rooftop solar energy collectors are to be utilized by a building complex subsequent to original building construction, an appropriate add-on design that integrates the collectors into the building form should be required.

  Consistent: *The Project would be constructed to LEED Gold standards and, thus, would include installation of solar hot water and solar heating systems as part of the stadium design.*

- Buildings should be designed with mechanisms that will reduce water consumption. The following water saving devices should be considered: Low flow plumbing fixtures; cycle adjustment machines; pressure regulators to maintain water pressure to desirable conservation levels; hot water pipe insulation; and, automatic sprinkler systems.

  Consistent: *The Project would be constructed to LEED Gold standards and, thus, would include installation of mechanisms that reduce water consumption as part of the stadium design. This would include low-flow fixtures in bathrooms and drip-irrigation systems for purposes of watering of the field and landscaped parking lot areas. The new stadium would include more water-saving devices than currently occurs within the existing Qualcomm Stadium.*

- Water should be conserved by using low maintenance drought tolerant plant material, and the use of inert landscape materials (rocks, gravel, ornamental paving) and sculptured forms.

  Consistent: *The Project would be constructed to LEED Gold standards and, thus, would include installation and use of drought-resistant plants and landscape materials as part of the stadium design.*

- Drip irrigation systems should be encouraged.

  Consistent: *The Project would be constructed to LEED Gold standards and, thus, would include installation and use of drip irrigation systems as part of the stadium design.*

- Reclaimed water use should be encouraged, particularly for large master planned projects.

  Consistent: *The Project would be constructed to LEED Gold standards and, thus, would include installation of reclaimed water infrastructure to support future service should it become available.*

- Mechanical equipment in buildings should either be buffered and hidden from view, or should be sculptural. For example; cooling towers, when necessary, could be designed as fountains.

  Consistent: *The Project would include mechanical equipment such as cooling towers that would be buffered and hidden from view as part of the stadium design.*

- Non-sensitive land uses, such as garages, parking lots, or recreational areas should be sited adjacent to major noise producing roadways and freeways.

  Consistent: *The Project would be a commercial recreational area that would be sited adjacent to a major noise producing roadway (Friars Road) and freeways (I-15 and I-8), as part of the stadium design.*

Street Graphics

Since the Project would utilize both public and private signage at the Project site within Mission Valley, the following Street Graphics Design Guidelines related to stadium site signage would be applicable to the Project, and the Project is indicated as Consistent or Not Consistent with an explanation at the end of each guideline.

- Signs should perform the function of providing directions and information to both the motorist and the pedestrian.

Consistent: *The signage associated with the new stadium would provide appropriate directions and information to both motorists and pedestrians.*

- Signage should be designed to complement the architectural design of buildings and developments.

  Consistent: *The signage associated with the new stadium would be designed to complement the architectural design of the new stadium.*

Water Reclamation Plant

Since the Project would not be constructed near nor affect a water reclamation plant, the Water Reclamation Plant Design Guidelines would not be applicable to the Project.

Mission Valley Community Plan (MVCP) Cultural and Heritage Resources Element

Landmarks

Since the Project would be constructed within or in proximity to two of the five identified community landmarks, specifically Mission San Diego de Alcala and San Diego Jack Murphy (now Qualcomm) Stadium, the following Design Protection Area Design Guidelines related to landmarks would be applicable to the Project, and the Project is indicated as Consistent or Not Consistent with an explanation at the end of each guideline.

- Maintain view corridors to identified community landmarks as a means of establishing the uniqueness and maintaining the visual qualities of the community and as a means of providing orientation within the valley. This can be accomplished, in part, through the use of Specific Plans and Planned Development permits.

  Not Consistent: *The existing Qualcomm Stadium was assessed for eligibility for individual listing in the NRHP, CRHR, and the City of San Diego Register of Historic Resources as a Historical Landmark. It was assessed as eligible for all three registers at the local level and would be demolished as part of the Project. Thus, view corridors of this landmark would not be maintained. For a more detailed discussion, see Section 4.7 Historical Resources.*

4.15.3 Impact Analysis

Issue 1: Would the project create any substantial obstruction of any vista or scenic view from a public viewing areas identified in the community plan?

Impact Threshold

The City's CEQA Significance Determination Thresholds provide guidance for evaluation of environmental impacts related to public views. Impacts to scenic vistas or views from public viewing areas may be considered significant if the Project would:

- Substantially block a view through a designated public view corridor as shown in an adopted community plan, the General Plan, or the Local Coastal Program;
- Cause substantial view blockage from a public viewing area of a public resource that is considered significant by the applicable community plan; and/or
- Exceed the allowed height or bulk regulations, and this excess results in substantial view blockage from a public viewing area.

Impact Analysis

<u>Operation</u>

The Project would include the operation of a new stadium on the Project site. The new stadium would consist of approximately 1.75 million square feet, with a structure footprint of approximately 750,000 square feet. For design flexibility, the new stadium would have a maximum height of 180 to 250 feet above the ground surface, including lighting and architectural features on top of the structure. The concept for the development is at approximately 200 feet height. The new stadium would exceed the height (120 feet) of the existing Qualcomm Stadium on the Project site.

The new stadium would be located in the northeastern quadrant of the existing Qualcomm Stadium parking lot, which is visible from most of the same public viewpoints outside the Project site boundaries as the existing Qualcomm Stadium. Similar to the existing Stadium, the new stadium would be visually dominant relative to the approximately 151 acres of flat surface parking area surrounding the stadium. Therefore, the Project would have a potentially significant visual impact with respect to public views and the visual character of Mission Valley.

The Project would be intermittently visible from the San Diego River Park. The San Diego River Park contains trails that allow access by pedestrians. Visitors can travel along a trail that parallels the San Diego River, from which the new stadium would be intermittently visible through existing vegetation and the elevated MTS Stadium Trolley tracks. From areas where views are unobstructed, pedestrians would be able to clearly observe the existing MTS Stadium Trolley Stations and the new stadium at the Project site. These observers are considered sensitive to changes in the area's visual character because they pass through the area for recreational purposes and are familiar with the scenery as part of their regular trail experience. Although it would be noticeable from the San Diego River Park, the new stadium would not be inconsistent with the character or scale of the existing Qualcomm Stadium in this area and would be visible only intermittently through the heavy vegetation along the River and the elevated MTS Stadium Trolley tracks.

The Project would also be intermittently visible from nearby freeways and roadway, primarily including I-15, I-8, Friars Road, Mission Village Drive, and Mission City Parkway. The orientation of the new stadium playing field would generally mirror the current setup of the existing Qualcomm Stadium. This would locate the end zones in the northwest and southeast sides of the stadium and allow the stadium maximum visibility for motorist traveling along I-15 and I-8. As a visual resource for the City, the new stadium would always be visible for approaching attendees as they arrive whether by the MTS Trolley, buses, or cars.

However, the new stadium would also be built with materials, colors, and massing designed to fit within the context of the MVCP Urban Design Guidelines (City of San Diego 2013), thereby minimizing its visual effect. With implementation of the Project, trees would be planted throughout the stadium parking lot and along the perimeters adjacent to public roadways, which would screen views of the parking lot. For a specific analysis based on visual simulations[14] showing views with implementation of the Project, see the discussion below, which concludes that impacts to these views would be less than significant. As such, implementing the Project would result in a less than significant operational impact related to public views and visual character.

View 1

The visual simulation shown in Figure 4.15-15 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking southward along Mission Village Drive. The new stadium is primarily in the left side of this view, and a new view is now available of the San Diego River area and across the river to the hillsides on the southern side of Mission Valley. The new stadium would not be the prominent feature in this view. As such, the Project would enhance and create views from public roadways to natural resource areas by moving the

[14] Visual simulations within this section represent the general massing, height, and footprint location. The design depicted in these visual simulations is considered a typical NFL stadium design intended to represent the general outline of a stadium structure within the footprint and height specified in the EIR for purposes of determining visual impacts under CEQA. Final design would comply with City design standards and would require design review and approval.

stadium out of the way of public views to the river and hillsides. This would be a beneficial impact that would be less than significant.

View 2

The visual simulation shown in Figure 4.15-16 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking southwestward along I-15. The new stadium and the KMEP MVT in front of the stadium are prominent features in this view. The new stadium would have a greater visual presence (height and bulk) in its proposed location than the existing Qualcomm Stadium (Figure 4.15-4). However, the character of the site would not change, and the new stadium height and bulk is allowed at the Project site, and the Project would not substantially block a view within a City-designated View Sensitive Area. In addition, partial views would still be available of the hillsides (a natural resource) behind the stadium on the southern side of Mission Valley. This would be a less than significant impact.

View 3

The visual simulation shown in Figure 4.15-17 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking southwestward along Friars Road. The new stadium and Friars Road would be the prominent features in this view. In this view, the new stadium would have a greater visual presence (height and bulk) in its proposed location than the existing Qualcomm Stadium (Figure 4.15-5). However, the new stadium height and bulk is allowed at the Project site, and the Project would not substantially block a view within a City-designated View Sensitive Area. This would be a less than significant impact.

View 4

The visual simulation shown in Figure 4.15-18 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking westward from Mission Basilica San Diego de Alcalá, which is considered a landmark in the MVCP (City of San Diego 2013). The new stadium would be primarily blocked by vegetation in this view. As such, the more proximate development and vegetation would remain the prominent features in this view, and there would not be substantial change in this view. This would be a less than significant impact.

Figure 4.15-15 View 1—Southward View of Project from Mission Village Drive

Figure 4.15-16 View 2—Southwestward View of Project from I-15

Figure 4.15-17 View 3—Southwestward View of Project from Friars Road

Figure 4.15-18 View 4—Westward View of Project from San Diego Mission

View 5

The visual simulation shown in Figure 4.15-19 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking northwestward along I-15. The new stadium would be primarily blocked by the elevated I-15/I-8 interchange ramps in this view. As such, the more proximate interchange would remain the prominent feature in this view, and there would not be substantial change in this view. This would be a less than significant impact.

View 6

The visual simulation shown in Figure 4.15-20 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking northeastward from the Mission City Parkway Bridge over I-8. I-8 in front of the new stadium would remain the prominent feature in this view. In addition, views would remain of the hillsides behind the new stadium on the southern side of Mission Valley, and there would not be substantial change in this view. This would be a less than significant impact.

View 7

The visual simulation shown in Figure 4.15-21 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking eastward from the MTS Fenton Trolley Station. The MTS Trolley Green Line track and overhead power lines would remain the prominent features in this view, while the new stadium would be farther back in this view. Thus, there would not be substantial change in this view. This would be a less than significant impact.

View 8

The visual simulation shown in Figure 4.15-22 offers a publicly accessible view, though not within a City-designated View Sensitive Area, of the Project site looking eastward along Friars Road. The new stadium would be primarily blocked by vegetation in this view. In addition, the one-story-tall carport solar structures in the northwestern portion of the stadium parking lot could be visible in this view. However, the carport solar structures would not adversely affect this view, due to the existing built character of the Project site. Thus, there would not be substantial change in this view. This would be a less than significant impact.

Figure 4.15-19 View 5—Northwestward View of Project from I-15

Figure 4.15-20 View 6—Northeastward View of Project from Bridge over I-8

Figure 4.15-21 View 7—Eastward View of Project from MTS Fenton Station

Figure 4.15-22 View 8—Eastward View of Project from Friars Road

View 9

The visual simulation shown in Figure 4.15-23 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking southwestward from the northeastern corner of the stadium parking lot, which is not a significant public resource. Given the relocation of the new stadium, the new stadium would be the prominent feature in this view and have a greater visual presence (height and bulk) in its proposed location than the existing Qualcomm Stadium (Figure 4.5-11). However, the new stadium height and bulk is allowed at the Project site, and the Project would not substantially block a view within a City-designated View Sensitive Area or from a significant public resource. This would be a less than significant impact.

View 10

The visual simulation shown in Figure 4.15-24 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking northwestward from the southeastern corner of the Stadium parking lot, which is not a significant public resource. The stadium parking lot and the new stadium would be the prominent features in this view. In addition, the one-story-tall carport solar structures in the northwestern portion of the stadium parking lot would be visible in this view. However, the character of the site would not change, and the new stadium height and bulk is allowed at the Project site. In addition, the new stadium would be much taller than the height of the carport solar structures, which would not visually stand out, and would be compatible with the existing built character of the Project site. Furthermore, partial views would still be available of the hillsides (a natural resource) behind the new stadium and solar carport structures on the northern side of Mission Valley, and the Project would not substantially block a view within a City-designated View Sensitive Area or from a significant public resource. This would be a less than significant impact.

View 11

The visual simulation shown in Figure 4.15-25 offers a publicly accessible view, though not within a City-designated View Sensitive Area, of the Project site looking northward from the MTS Stadium Trolley Station. The new stadium would be the prominent feature in this view even while farther away (Figure 4.15-13). However, the Project would have enhanced views from this public transit area to natural resource areas by moving the stadium out of the way of public views to the hillsides on the northern side of Mission Valley. This would be a beneficial impact that would be less than significant.

Figure 4.15-23 View 9—Southwestward View of Project from Parking Lot Corner

Figure 4.15-24 View 10—Northwestward View of Project from Parking Lot Corner

Figure 4.15-25 View 11—Northward View of Project from MTS Stadium Station

View 12

The visual simulation shown in Figure 4.15-26 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site looking northeastward from the western portion of the stadium parking lot, which is not a significant public resource. The stadium parking lot and new stadium would be the prominent features in this view. In addition, the one-story-tall carport solar structures in the northwestern portion of the stadium parking lot could be visible in this view. However, the character of the site would not change, and the new stadium height and bulk is allowed at the Project site. In addition, the new stadium would be much taller than the height of the carport solar structures, which would not visually stand out, and would be compatible with the existing built character of the Project site. Furthermore, partial views would still be available of the hillsides (a natural resource) behind the new stadium and solar carport structures on the northern side of Mission Valley, and the Project would not substantially block a view through a City-designated View Sensitive Area or from a significant public resource. This would be a less than significant impact.

Figure 4.15-26 View 12—Northeastward View of Project from Western Parking Lot

Construction

Implementation of the Project would include construction of a new stadium in the northeastern quadrant of the existing Qualcomm Stadium parking lot followed by demolition of the existing Qualcomm Stadium. During the construction phase, both the new stadium and the existing Qualcomm Stadium would temporarily exist side-by-side on the Project site. The new stadium with a height of 180 to 250 feet above the ground surface and the existing Qualcomm Stadium with a height of 120 feet above the ground surface would be located on the same site.

The dual stadium presence would be visible from most of the same public viewpoints outside the Project site boundaries as the existing Qualcomm Stadium. In addition, the dual stadium presence would be visually dominant relative to the approximately 144 acres of flat surface parking area surrounding the stadiums that would remain available during this interim period. Therefore, the Project would have a potentially significant temporary construction visual impact with respect to public views and the visual character of Mission Valley.

The dual stadium presence would be intermittently visible from the San Diego River Park, the existing MTS Stadium Trolley, and nearby freeways and roadway, primarily including I-15, I-8, Friars Road, Mission Village Drive, and Mission City Parkway. However, the dual stadium presence would only exist for about one year. Although the dual stadium presence would be noticeable from the aforementioned locations, the new stadium would not be inconsistent with the character or scale of the existing stadium recreation use in this area and would be visible only intermittently and temporarily during new stadium construction and existing Qualcomm Stadium demolition.

The dual stadium presence could be most likely visible from existing public view locations 1, 2, 6, and 8, which are shown in Figures 4.15-3, 4.15-4, 4.15-8, and 4.15-10. For a specific analysis based on visual simulations showing the dual stadium presence during construction with respect to these views, see the discussion below, which concludes that impacts to these views would be less than significant. As such, the Project would result in a less than significant construction impact related to public views and visual character.

View 1

The visual simulation shown in Figure 4.15-27 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site during the construction phase looking southward along Mission Village Drive. The new stadium would be in the left side of this view, and the existing Qualcomm stadium would be in the center of this view. Similar to existing conditions, no view would be available of the San Diego River area behind the existing stadium. The dual stadium height and bulk is allowed at the Project site, and views would still be available of the hillsides (a natural resource) behind the stadiums on the southern side of Mission Valley. In addition, the dual stadium presence would be temporary in nature, and the Project would not substantially block a view through a City-designated View Sensitive Area. This would be a less than significant impact.

View 2

The visual simulation shown in Figure 4.15-28 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site during the construction phase looking southwestward along I-15. The existing Qualcomm stadium would not be visible in this view, as it would be hidden by the new stadium. The new stadium and the KMEP MVT would be the prominent features in this view. However, views would still be available of the hillsides (a natural resource) behind the stadiums on the southern side of Mission Valley, and the temporary dual stadium presence would not substantially block a view through a City-designated View Sensitive Area. This would represent a less than significant impact.

Figure 4.15-27 View 1—Southward View of Project during Construction Phase from Mission Village Drive

Figure 4.15-28 View 2—Southwestward View of Project during Construction Phase from I-15

View 6

The visual simulation shown in Figure 4.15-29 offers a publicly accessible view, within a City-designated View Sensitive Area, of the Project site during the construction phase looking northeastward from the Mission City Parkway Bridge over I-8. The existing Qualcomm stadium would be barely visible in this view, as it would be primarily hidden by the new stadium. I-8 in front of the existing and new stadiums would remain the prominent feature in this view. However, views would still be available of the hillsides (a natural resource) behind the stadiums on the northern side of Mission Valley, and the dual stadium presence would not substantially block a view through a City-designated View Sensitive Area. Furthermore, the dual stadium presence would be temporary in nature. This would represent a less than significant impact.

View 8

The visual simulation shown in Figure 4.15-30 offers a publicly accessible view, though not within a City-designated View Sensitive Area, of the Project site during the construction phase looking eastward along Friars Road. The existing Qualcomm Stadium would remain visible, similar to existing conditions, in this view. The new stadium would be primarily blocked by vegetation in this view. As such, the existing Qualcomm stadium and stadium parking lot and entrance would remain the prominent features in this view. In addition, the one-story-tall carport solar structures in the northwestern portion of the stadium parking lot could be visible in this view. However, the carport solar structures would not adversely affect this view, due to the existing built character of the Project site. Thus, there would not be substantial change in this view. Furthermore, the dual stadium presence would be temporary in nature. This would represent a less than significant impact.

Significance of Impacts

Less Than Significant Impact

Figure 4.15-29 View 6—Northeastward View of Project during Construction Phase from Bridge over I-8

Figure 4.15-30 View 8—Eastward View of Project during Construction Phase from Friars Road

Issue 2: Would the project result in the creation of a negative aesthetic site or project?

Impact Threshold

Impacts to aesthetics/ neighborhood character may be considered significant if the Project would:

- Create a disorganized appearance and would substantially conflict with City codes;
- Significantly conflict with the height, bulk, or coverage regulations of the zone and does not provide architectural interest;
- Includes crib, retaining, or noise walls greater than six feet in height and 50 feet in length with minimal landscape screening or berming where the walls would be visible to the public;
- Be large and result in exceeding monotonous visual environment; and/or,
- Includes shoreline protection device in a scenic, high public use area, unless the adjacent bluff areas are similarly protected.

Impact Analysis

<u>Operation</u>

The new stadium would include a fixed partial roof over a portion of the seating area and would be described as a multiuse art sports and entertainment stadium. Whereas the existing Qualcomm Stadium is a concrete stadium, the new stadium would be a steel-structured stadium meeting all state and local seismic standards. For design flexibility the new stadium would have a maximum height of 180 to 250 feet above the ground surface including lighting and architectural features on top of the structure. The concept for the development is at approximately 200 feet height. The new stadium is proposed in the northeast quadrant of the existing site with a northwest-southeast orientation, and landscaping would be provided that would break up a potential monotonous visual environment across the parking lot expanse to the west and south of the new stadium.

A conceptual design for the new stadium was developed by utilizing design plans from other new and recently upgraded NFL stadiums. The new stadium design concept includes the standard features in the latest generation of NFL stadiums. Final design would comply with City design standards (i.e., for use of glass/glare/shading), and final design would require design review and approval.

To support the volume of fill for the Project site, a 20-foot-tall retaining wall would be included along San Diego Mission Road immediately northeast of the location of the new stadium. Since the wall would be greater than 6 feet in height and 50 feet in length and visible to the public, there would be a potential impact related to creation of a negative aesthetic site. However, with implementation of Mitigation Measure VIS-1 (see Section 4.15-4 for details), the potential negative aesthetics appearance associated with the wall would be minimized. Therefore, a less than significant operational impact would occur with regard to creation of a negative aesthetic site.

<u>Construction</u>

Implementation of the Project would include construction of a new stadium in the northeastern quadrant of the existing Qualcomm Stadium parking lot, followed by demolition of the existing Qualcomm Stadium. During the construction phase, both the new stadium and the existing Qualcomm Stadium would temporarily exist side-by-side on the Project site. The dual stadium presence would be visually dominant relative to the approximately 144 acres of flat surface parking area surrounding the stadiums that would remain available during this interim period. While the dual stadium height and bulk is allowed at the Project site, two stadiums on the same site would represent a negative aesthetic site. However, this would be a temporary construction visual impact given that the existing Qualcomm Stadium would be demolished within one year of construction of the new stadium. Therefore, a less than significant construction impact would occur with regard to creation of a negative aesthetic site or project.

Significance of Impacts

Less Than Significant Impact with Mitigation.

Issue 3: Would the project's bulk and scale, materials, or style be incompatible with the surrounding development?

Impact Threshold

Impact to aesthetics/neighborhood character may be considered significant if the Project would:

- Exceed the allowable height or bulk regulations and height and bulk of existing patterns of development in the vicinity of the project by a substantial margin;

- Have an architectural style or use building materials in stark contrast to adjacent development where the adjacent development follows a single or common architectural theme;
- Result in physical loss, isolation, or degradation of a community identification symbol or landmark (e.g., a stand of trees, coastal bluff, historic landmark) that is identified in the General Plan, applicable community plan or local coastal program; and/or
- Be located in a highly visible area and would strongly contrast with the surrounding development or natural topography through excessive height, bulk, signage, or architectural projections.

Impact Analysis

The Project would not change the development density or type on the Project site. The new stadium would be approximately 140 feet taller than the existing Stadium but on a 2-acre smaller footprint. Since there is no adjacent development and the new stadium would be closer to the tall northern hillsides of Mission Valley than the existing stadium, the Project could not result in stark contrast to adjacent development styles or themes. The new stadium would remain highly visible in a similar manner as the existing stadium. In addition, final design would comply with City design standards (i.e., for use of glass/glare/shading), and final design would require design review with regard to architecture, signage, materials, mass, bulk, and height.

However, the existing stadium is a landmark/sensitive view as indicated in the MVCP (see Figure 4.15-1) and would be demolished. Even with implementation of Mitigation Measures HR-1, HR-2, and HR-3, implementing the Project would result in a significant and unavoidable impact related to a community identification symbol or landmark being physically removed and, thus, affecting the aesthetic/neighborhood character of the area and compatibility with surrounding development.

Significance of Impacts

Significant and Unavoidable Impact.

Issue 4: Would the project cause a substantial alteration to the existing or planned character of the area?

Impact Threshold

Impacts to aesthetics/neighborhood character may be considered significant if the Project would have a cumulative effect by opening up a new area for development or changing the overall character of the area.

Impact Analysis

The new stadium would be located in the northeastern quadrant of the existing Qualcomm Stadium parking lot, which is visible from most of the same public viewpoints outside the Project site boundaries as the existing Qualcomm Stadium. Although it would be noticeable from the San Diego River Park, the new stadium would not be inconsistent with the character or scale of the existing Qualcomm Stadium in this area and would be visible only intermittently through the heavy vegetation along the San Diego River and the elevated MTS Stadium Trolley tracks.

The new stadium would also be built with materials, colors, and massing that would be designed to fit within the context of the MVCP Urban Design Guidelines (City of San Diego 2013), thereby minimizing its visual effect. With implementation of the Project, trees would be planted throughout the stadium parking lot and along the perimeters adjacent to public roadways, which would screen views of the parking lot. The Project would not preclude the River Park or be constructed within the San Diego River Corridor or Influence Area. As such, implementing the Project would result in a *less than significant* impact related to the existing or planned visual character of the area.

Significance of Impacts

Less Than Significant Impact.

Issue 5: Would the project cause a loss of any distinctive or landmark tree(s), or stand of mature trees as identified in the community plan?

Impact Threshold

Impacts to aesthetics/neighborhood character may be considered significant if the Project would result in the physical loss, isolation, or degradation of a community identification symbol or landmark, which is identified in the General Plan, applicable community plan, or local coastal program.

Impact Analysis

The Project would remove some ornamental trees in the existing Qualcomm Stadium northeastern parking lot for purposes of constructing the new stadium in that area. However, these trees are not identified as distinctive, a landmark, or mature within the MVCP (City of San Diego 2013). In addition, the Project would plant new trees as part of its landscaping component. Since removal and replacement of ornamental trees would not constitute a loss of any distinctive or landmark trees or a stand of mature trees, the Project would result in a *less than significant* impact related to tree changes effect on the aesthetic/neighborhood character of the area.

Significance of Impacts

Less Than Significant Impact.

Issue 6: Would the project cause a substantial amount of light or glare that would adversely affect daytime or nighttime views?

Impact Threshold

Light, glare, and shading impact may be significant if the project would:

- Be moderate to large in scale-more than 50% of any single elevation of a building's exterior is built with a material with light reflectivity greater than 30% and the project is adjacent to a major public roadway or public area; and/or,
- Shed substantial light onto adjacent property or emit a substantial amount of ambient light into the nighttime sky.

Impact Analysis

The new stadium would include lighting consisting of stadium event lighting and exterior stadium lighting (i.e., building perimeter lighting and parking lot lighting), as well as interior emergency lighting. The event lighting is proposed to be outdoor metal light emitting diode (LED) or similar energy-efficient luminaire floodlights with internal reflector systems to control light spill and glare. The lighting would be a minimum of 1,500 watts per fixture and the fixtures would be mounted at a lower level than the proposed partial roof overhang in order to provide a more uniform light-level at field level, which is needed for TV broadcasting requirements. The exact quantity of lights would be determined by the manufacturer's ability to achieve the performance criteria required for players, attendees, and TV broadcasts. These criteria would apply to the entire playing field and an additional 15 feet beyond the end zones and sidelines. Lighting levels in the stands would gradually taper off from the maximum light intensity levels on the playing field. Similar lighting needs are anticipated for other large non-NFL nighttime events.

Exterior lighting near the new stadium would be designed to provide clear, safe pedestrian paths around the stadium. Existing parking lot lighting would be upgraded to more energy-efficient lights. The emergency lighting would provide approximately two-foot candles average illumination for emergency exit from the seating area and from the playing field. The stadium lighting has little to no effect on the illuminance levels in the parking lot (Appendix N). As such, the lighting on the parking lot would be affected by lamp posts and not the stadium floodlighting (AECOM 2015a).

The Project would include installation of solar photovoltaic (PV) panels in the form of fixed PV panels mounted on up to five acres of new carport structures within the northwestern portion of the stadium surface parking lot and/or on the partial roof of the new stadium. If solar carports are installed, they would connect via underground conduits to an inverter/frequency converter at the new stadium, which would receive the incoming solar-generated power. The carport solar structures would be one story with up to approximately 15 feet in height. In addition, the carport solar structures would require a supporting post about every 20 feet, and each post installation would disturb about 4 square feet and require about 1.7 cubic yards of earth removal. Holes would need to be drilled through the existing paved parking area and would extend into the soil about 12.5 feet below grade. All systems would adhere to California Building Codes/Standards and California Energy Commission technical and installation specifications.

Final design would comply with City design standards (i.e., for use of glass/glare/shading), and final design would require design review with regard to architecture, signage, materials, mass, bulk, height, orientation, and tilt. In addition, the Project design would be reviewed for consistency with the San Diego Municipal Code related to lighting and materials.

With use of exterior lighting, fixed solar PV panels, and light-colored materials, the Project would increase the ambient lighting of the nighttime sky during stadium events and increase the glare during sunny days in the Project area. As such, there could be a potentially significant impact related to nighttime lighting and daytime glare. However, with implementation of Mitigation Measures VIS-2 and VIS-3 (see Section 4.15-4 for details), nighttime lighting and daytime glare would be minimized so as not to result in a substantial change related to reflection of light or emission of ambient light into the nighttime sky. Therefore, a *less than significant* impact would occur with regard to nighttime lighting and daytime glare.

Significance of Impacts

Less Than Significant Impact with Mitigation.

Issue 7: Would the project create a substantial change in the existing landform?

Impact Threshold

Impacts to landform may be considered significant if the Project would alter more than 2,000 cy of earth per graded acre by either excavation or fill. Grading of a smaller amount may still be considered significant in highly scenic or environmentally sensitive areas.

Impact Analysis

The existing gently sloping 166-acre Project site has an elevation ranging from 50 to 100 feet AMSL and is lower than the land areas in its immediate vicinity, with the exception of the San Diego River corridor. The initial stages of construction would include removal of the existing parking lot northeast of the existing Qualcomm Stadium. This area has an existing elevation ranging 60 to 85 feet AMSL and, thus, is approximately 5 to 30 feet below the 90-foot plaza entrance elevation of the existing Qualcomm Stadium. To help avoid future drainage, flooding, and terrain issues in the Project area, approximately 490,000 cy of fill material would be imported to elevate the overall approximately 50-acre graded area (including new stadium footprint and surrounding area that would be graded and receive fill) to an elevation of approximately 60 to 95 feet AMSL. After establishing a new, gently sloping plaza elevation of 90 to 105 feet in the northeast portion of the parking lot, the new stadium would be constructed on this 17-acre footprint. In addition, the existing Qualcomm Stadium would be demolished, and that site would be graded and reconstructed as part of the overall stadium parking lot.

With approximately 490,000 cy of fill placed across approximately 50 acres of graded area, the Project would alter approximately 9,800 cy of earth per graded acre by fill. As such, there would be a potentially significant impact related to alternation of an existing landform. However, no ridgeline, other highly scenic landform, or environmentally sensitive area would be altered, as the slightly lower elevation of the northeast corner of the parking lot would simply be raised by a range of 20 to 30 feet compared to its existing elevation. Given that this would constitute making the northeast area of the parking lot consistent in elevation with most of the rest of the existing

166-acre Project site, this would not represent a substantial change in an existing landform. Therefore, a *less than significant* impact would occur with regard to landform alteration.

Significance of Impacts

Less Than Significant Impact.

4.15.4 Mitigation, Monitoring, and Reporting

VIS-1 Minimize Appearance of Retaining Wall. The Project shall provide a minimum of 50% landscape screening or berming between the retaining wall and the new stadium and texturize and color 100% of the wall to blend with surrounding development.

VIS-2 Minimize Reflectivity of Materials. The Project shall utilize low-reflective Glass and diffuse coating materials and vary fenestration to break up large expanses of light-colored materials.

VIS-3 Implement Stadium Floodlighting Good Practices. The Project shall implement the following stadium floodlighting good practices:

- Professionally recommended lighting levels for each activity shall be designed by a professional electrical consulting engineer to meet minimum illumination levels while preventing over-lighting and reducing electricity consumption.
- The location, height, cutoff, and angle of all lighting shall be correctly focused on the field to avoid stadium lighting being directed at neighboring areas.
- The beam spread of each floodlight shall be selected to put the maximum amount of light on the field without producing a hot spot.
- Shielded fixtures with efficient light bulbs shall be used in the parking lot to prevent any glare and light spillage beyond the property line.

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